NATIONAL TRAFFIC AND MOTOR VEHICLE SAFETY AUTHORIZATION ACT OF 1972

HEARING

BEFORE THE

COMMITTEE ON COMMERCE
UNITED STATES SENATE

NINETY-SECOND CONGRESS

SECOND SESSION

ON

S. 3474

TO AMEND THE NATIONAL TRAFFIC AND MOTOR VEHICLE SAFETY ACT OF 1966 TO AUTHORIZE APPROPRIATIONS, AND FOR OTHER PURPOSES

JUNE 13, 1972

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NATIONAL TRAFFIC AND MOTOR VEHICLE SAFETY AUTHORIZATION ACT OF 1972

TUESDAY, JUNE 13, 1972

U.S. SENATE,
COMMITTEE ON COMMERCE,
Washington, D.C.

The committee met, pursuant to notice, at 10:40 a.m. in room 1202 New Senate Office Building, Hon. Vance Hartke, presiding.

Present: Senators Hartke and Stevens.

Senator HARTKE. We have a problem this morning in the fact that the Finance Committee is giving final consideration to the Social Security and Reform bill and I am going to have to go back and forth between the hearings.

This morning the committee is considering the authorization for appropriations for implementing the National Traffic and Motor Vehicle Safety Act of 1966, which will lapse on June 30. The Office of Management and Budget for NHTSA has requested a total of $37,361,000 for implementation of those duties mandated under the act. This represents an increase of $6,717,000 over last year's appropriation.

The scope of this morning's hearing will be limited to the issue of the authorization. I have tentatively scheduled additional hearings on July 19, 20, 25, 26, and 27 to consider the proposed amendments to Public Law 89–563 and to oversee the NHTSA performance of the past year.

(The bill and agency comments follow:)

Staff members assigned to this hearing: S. Lynn Sutcliffe and Edward Cohen.

92D CONGRESS
2D SESSION

S. 3474

IN THE SENATE OF THE UNITED STATES

APRIL 11, 1972

Mr. MAGNUSON (by request) introduced the following bill; which was read twice and referred to the Committee on Commerce

A BILL

To amend the National Traffic and Motor Vehicle Safety Act of 1966 to authorize appropriations, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "National Traffic and Motor Vehicle Safety Authorization Act of 1972".

SEC. 2. Section 106 of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1395) is amended by adding at the end thereof the following new subsection:

"(d) (1) The Secretary is authorized to conduct investigations of the facts, circumstances, conditions, and causes of motor vehicle accidents for the purposes of gathering information to identify design failures or defects relating

to motor vehicle safety, collecting data to assist in the preparation of Federal motor vehicle safety standards for new and used motor vehicles, and conducting other studies to carry out the purposes of this Act. In making such investigations, the Secretary shall cooperate with appropriate State and local officials to the greatest extent possible consistent with the purposes of this subsection.

"(2) For the purpose of carrying out the provisions of this subsection, officers or employees duly designated by the Secretary, upon presenting appropriate credentials and a written notice to the owner, operator, or agent in charge, are authorized (1) to enter, at reasonable times and in a reasonable manner, any premises where a motor vehicle or item of motor vehicle equipment involved in a motor vehicle accident is located; (2) to impound temporarily for a period not to exceed seventy-two hours, such motor vehicle or item of motor vehicle equipment; and (3) to inspect such motor vehicle or item of motor vehicle equipment.

"(3) Whenever the Secretary inspects or temporarily impounds for the purpose of inspection any motor vehicle under this subsection (other than a vehicle subject to part II of the Interstate Commerce Act), he shall pay reasonable compensation to the owner of such vehicle to the extent that such inspection or impounding results in the denial of

the use of the vehicle to its owner or in the reduction in value of the vehicle.

"(4) The Secretary is authorized to obtain, with or without reimbursement, a copy of the report of the autopsy performed by State or local officials on any person who dies as a result of having been involved in a motor vehicle accident.

"(5) No portion of any statement or information relating to a motor vehicle accident which has been furnished by an individual to the Secretary pursuant to this section and no portion of any report of the Secretary relating to such accident or the investigation thereof shall be admissible in any subsequent criminal, civil, or administrative proceeding.

"(6) As used in this subsection, 'motor vehicle accident' means an occurrence associated with the operation of a motor vehicle in or as a result of which any person suffers death or personal injury, or in which there is property damage."

SEC. 3. Subsection (a) of section 108 of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1397) is amended by changing the period at the end of subsection (a) (4) to a semicolon and adding at the end of subsection (a) the following new paragraphs:

"(5) fail or refuse to permit entry, impounding, or inspection, as required under section 106;

"(6) fail to comply with any rule, regulation, or order issued under this title.".

SEC. 4. (a) The first sentence in subsection (a) of section 109 of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1398) is amended by deleting immediately after "any provision of section 108" the following: ", or any regulation issued thereunder,".

(b) The second sentence in subsection (a) of section 109 of such Act is amended by deleting immediately after "a provision of section 108" the following: ", or regulations issued thereunder,".

SEC. 5. (a) The first sentence of subsection (a) of section 110 of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1399) is amended by inserting immediately after "pursuant to this title," the following: "or to contain a defect which relates to motor vehicle safety,".

(b) The next to the last sentence in subsection (a) of section 110 of such Act is amended by deleting the period at the end thereof and adding the following: "or to remedy the defect.".

SEC. 6. (a) Subsection (a) of section 112 of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1401) is amended to read as follows:

"(a) The Secretary is authorized to conduct such inspection and investigation as may be necessary to enforce

this title and any rules, regulations, or orders issued thereunder. He shall furnish the Attorney General and, when appropriate, the Secretary of the Treasury any information obtained indicating noncompliance with this title or any rules, regulations, or orders issued thereunder, for appropriate action.".

(b) The first sentence of subsection (b) of section 112 of such Act is amended by inserting immediately after "purposes of enforcement of this title," the following: "or any rules, regulations, or orders issued thereunder,".

(c) Subsection (c) of section 112 is amended to read as follows:

"(c) Every manufacturer of motor vehicles and motor vehicle equipment shall establish and maintain such records and make such reports, and every manufacturer, dealer, or distributor shall provide such information, as the Secretary may reasonably require to enable him to determine whether such manufacturer, dealer, or distributor has acted or is acting in compliance with this title or any rules, regulations, or orders issued thereunder and shall, upon request of an officer or employee duly designated by the Secretary, permit such officer or employee to inspect appropriate books, papers, records, and documents relevant to determining whether such manufacturer, dealer, or distributor has acted or is acting in compliance with this title or any rules, regulations, or orders

issued thereunder. Nothing in this subsection shall be construed as imposing reporting or recordkeeping requirements on distributors or dealers.".

SEC. 7. (a) Subsection (b) of section 113 of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1402) is amended by inserting immediately after "required by subsection (a)" the following: "or (e)".

(b) Subsection (c) of section 113 of such Act is amended to read as follows:

"(c) The notification required of a manufacturer by subsection (a) or (e) pursuant to the determination of the existence of a defect related to motor vehicle safety or of a failure to comply with an applicable Federal motor vehicle safety standard shall contain a clear description of such defect or failure, an evaluation of the risk to traffic safety reasonably related to such defect or failure, and a statement of the measures to be taken to remedy such defect or failure.".

SEC. 8. Section 121 of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1409) is amended to read as follows:

"SEC. 121. There are authorized to be appropriated such funds as are necessary to carry out the purposes of this Act.".

SEC. 9. Section 123 of the National Traffic and Motor

Vehicle Safety Act of 1966 (15 U.S.C. 1410) is amended to read as follows:

"(a) Except as provided in subsection (d) of this section, upon application by a manufacturer at such time, in such manner, and containing such information as the Secretary shall prescribe, the Secretary shall, after publication of notice and opportunity to comment and under such terms and conditions and to such extent as he deems appropriate, temporarily exempt a motor vehicle from any motor vehicle safety standard established under this title if he finds (1) that compliance would cause such manufacturer substantial economic hardship or that such temporary exemption would facilitate the development of new motor vehicle safety features or that such temporary exemption would facilitate the development of vehicles utilizing a propulsion system other than or supplementing an internal combustion engine, and (2) that such temporary exemption would be consistent with the public interest and the objectives of this Act. Notice of each decision to grant a temporary exemption and the reasons for granting it shall be published in the Federal Register.

"(b) The Secretary shall require, in such manner as he deems appropriate, notification to the dealer and first purchaser of an exempted motor vehicle (not including the dealer of such manufacturer) that such vehicle has been

exempted from certain motor vehicle safety standards, and the standards from which it is exempted.

"(c) No exemption granted under this section shall remain in effect after three years after the date such exemption is granted.

"(d) No manufacturer whose total motor vehicle production, as determined by the Secretary, exceeds ten thousand annually shall be eligible for an exemption under this section.".

SEC. 10. (a) The first sentence of subsection (a) of section 301 of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1431) is amended by deleting all that precedes "except that" and inserting in lieu thereof the following:

"SEC. 301. (a) The Secretary of Transportation is authorized—

"(1) to plan, design, and construct new facilities,

"(2) to alter existing facilities,

"(3) to lease facilities, and

"(4) to acquire or lease real property for use as sites for new facilities or the alteration of existing facilities, suitable to conduct research, development, and compliance and other testing in traffic safety, including highway safety and motor vehicle safety,".

(b) The first sentence of subsection (a) of section 301 of such Act is further amended by striking "or construction", each place it appears in the sentence, and inserting in lieu thereof the following: "constructing, altering, or leasing".

(c) The second sentence of subsection (a) of section 301 of such Act is amended by deleting "or constructed" and substituting in lieu thereof the following: "constructed, altered, or leased".

(d) The second sentence of subsection (a) of section 301 of such Act is further amended by deleting "and" at the end of clause (3), by deleting the period at the end of clause (4) and inserting in lieu thereof a semicolon and by adding a new clause (5) as follows:

"and (5) a statement of justification of the need for leasing any facilities or real property.".

COMPTROLLER GENERAL OF THE UNITED STATES,
Washington, D.C., June 9, 1972.

XXXXXXX

Hon. WARREN G. MAGNUSON,
Chairman, Committee on Commerce,
U.S. Senate.

DEAR MR. CHAIRMAN: With respect to your request of May 24, 1972, for our views on an amendment to S. 3474, a bill to amend the National Traffic and Motor Vehicle Safety Act of 1966 to authorize appropriations, and for other purposes, this is to advise that we have no comment to offer.

There is a technical change that we would like to bring to the Committee's attention. On page 2, line 3, "title 15" should be "title 5".

Sincerely yours,

E. H. MORSE, JR.
(For the Comptroller General of the United States).

Senator HARTKE. This morning, two sets of witnesses will present testimony with respect to the authorization request. First, Mr. Douglas Toms, Administrator of the National Highway Traffic Safety Administration, accompanied by various members of his staff will present their authorization request. Second, Mr. Clarence Ditlow and Mr. Carl Nash of the Public Interest Research Group will present their analysis of the NHTSA budget request.

We shall proceed with Mr. Toms.

STATEMENT OF HON. DOUGLAS W. TOMS, ADMINISTRATOR, NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION; ACCOMPANIED BY JOHN EDWARDS, ASSOCIATE ADMINISTRATOR, RESEARCH AND DEVELOPMENT; ROBERT CARTER, ASSOCIATE ADMINISTRATOR, MOTOR VEHICLE PROGRAMS; DANA SCOTT, ASSOCIATE ADMINISTRATOR, ADMINISTRATION; AND LAWRENCE SCHNEIDER, CHIEF COUNSEL

Mr. TOMS. Thank you, Mr. Chairman.

I appreciate this opportunity to appear before you in support of the Department of Transportation's proposal, S. 3474 to amend the National Traffic and Motor Vehicle Safety Act of 1966. We are requesting the Congress to authorize appropriation of such funds as are necessary to carry out the purposes of this act. This authorization is particularly important since the House, in passing the departmental appropriations bill, deferred action on our vehicle safety appropriation until authorization has been secured.

While we have requested an open-ended authorization to allow for maximum flexibility in alloting our funds, our current projections show a proposed program for fiscal year 1973 of $37.4 million. We believe that these resources will enable us to do the job we feel should be done, consistent with the economic constraints and overall priorities of the President's budget.

In addition, we are pleased to report that Federal efforts under this act have served as a catalyst to domestic and foreign manufacturers. The automotive industry has stepped up its safety activities greatly. To cite just two examples, Ford and General Motors are participating in the experimental safety vehicle program. Each has produced an experimental car at a cost to the Federal Government of $1 each. Ford is also making production model cars equipped with air bags available to us for a GSA fleet test at a nominal cost. Foreign countries

and firms are also participating in the experimental safety vehicle program at an approximate expenditure of $100 million of their own funds.

But our efforts must be intensified. Although the fatality rate has been declining, there is currently a very disturbing trend in the absolute number of motor vehicle fatalities. Motor vehicle fatalities through March 1972, totaled 11,880 compared to 11,130 for the same period in 1971. This is in stark contrast to the results obtained over the past 3 years in stabilizing and actually decreasing the number of motor vehicle fatalities from 1969 to 1971. Based on the first 4 months experience during this year, we are projecting a 1972 fatality total of 57,500 compared to 55,000 in 1971, an increase of 4.5 percent. If this prediction is borne out, the total will set an annual record for highway carnage. This rise in motor vehicle fatalities and the ever-increasing number of vehicles, drivers and vehicle miles driven demand that we do everything in our power to introduce new and improved motor vehicle and equipment safety standards. Further, we must insure, through our compliance and defects analysis activities, that the level of safety performance enunciated in our Federal Motor Vehicle Safety Standards is being met.

Our projected program for fiscal year 1973 of an estimated $37.4 million will provide for an increase in program activity of approximately 20 percent over fiscal year 1972. Our fiscal year 1972 program level, as appropriated by the Congress, is $30.7 million. The requested increase of $6.7 million for fiscal year 1973 will enable us to do the job we feel must be done.

Approximately 40 percent of our fiscal year 1973 program under this act will be devoted to the crash survivability and experimental safety vehicle programs. These programs, together with our alcohol countermeasures program, which is authorized under the Highway Safety Act, are our three priority programs. Our preliminary analyses continue to indicate that these programs offer the highest potential payoff in saving lives and reducing injuries due to motor vehicle accidents. The $15.2 million we are requesting for crash survivability and experimental safety vehicles programs represents an increase of $3.8 million or approximately 33 percent over our fiscal year 1972 program level.

In crash survivability program, we have tested current passive restraint systems, with human volunteers, at speeds up to 30 miles per hour with no injury. We have also demonstrated that a full-sized car can be crashed into a rigid pole at 60 miles per hour without any intrusion into the occupant compartment. The automobile used in the demonstration was equipped with an energy-absorbing front-end and passive restraints. From this and other studies has emerged the concept of a crashworthy vehicle consisting of two subsystems. The first is an occupant packaging subsystem employing devices such as collapsible steering columns and passive restraints to afford protection to the passengers inside the car compartment.

The second is an energy-managing structure which will collapse in a controlled manner absorbing the force of the impact and forcing the engine downward to prevent it from penetrating the passenger compartment. We must greatly intensify our crash survivability efforts so that when motor vehicle accidents do occur, the occupants will emerge from most crashes unharmed.

To optimize our efforts, we must know the crash speed at which most fatal accidents occur. Through the initiation of a crash recorder program, we anticipate the ability to verify past assumptions, while acquiring actual precrash and crash data. This undertaking, which calls for the installation of recording devices in a sample of 100,000 cars by fiscal year 1974, 15,000 of which will be installed in fiscal year 1973, is designed primarily to determine actual impact velocities and precrash data such as speed, brake line pressure, steering angle and accelerations. This knowledge is essential for establishing realistic design requirements and test conditions for occupant crash protection at speeds in excess of 30 miles per hour. It will also allow us to relate injury levels with specific crash velocities. Crash recorders will also assess driver performance in precrash and crash situations and provide other vital data needed to advance the accident avoidance phase of the safety program.

We are continuing our efforts in the field of occupant packaging. Our research is examining ways to improve the passenger protection capability of current air cushion systems as well as examining other promising passive restraint systems including passive seat belts. We are conducting a program to fleet test production air cushions on the road. This program will extend our knowledge on air cushion maintainability and demonstrate the system's reliability under all conditions.

The progress of the experimental safety vehicle program has been encouraging. The objectives of the program are to demonstrate the feasibility of advanced safety ideas, to stimulate public awareness of advanced automobile safety designs, to encourage the automotive industry to accelerate safety development work, and to apply the knowledge gained to improve safety standards. These objectives have all been advanced significantly during the past year. In January 1972, DOT received prototype ESV's from American Machine and Foundry and Fairchild Industries. A comprehensive test program has been initiated to determine which contractor has best met or exceeded the safety specifications and will, therefore, be awarded a followup contract for additional test vehicles.

The progress of the ESV international program has exceeded all expectations with agreements on foreign ESV development now existing between the United States and six other countries.

Resources requested in fiscal year 1973 for the experimental safety vehicle program are needed to advance the family sedan phase to the fabrication and testing of additional optimized vehicles to demonstrate what can be achieved through an integrated systems approach to vehicle design. This effort will also serve to establish a data base for more effective rulemaking.

In the area of motor vehicle and equipment standards and the compliance and defects analysis programs, we are requesting $9.2 million which will provide for a program level at an increase of $1.4 million or 18 percent above fiscal year 1972. This includes needed engineering support for the standard writing process, for a projected workload expansion in the number of vehicles and items of equipment to be tested, and for additional field investigations and defect recall campaign audits.

We believe that it is mandatory to continue a vigorous compliance program. The cumulative failure rate for all tests conducted since the

inception of the program stood at 6.7 percent as of May 31, 1972, down from the 7.3 percent cumulative program failure rate as of June 1971. This reduction in failure rate reflects an improvement in industry's efforts, influenced in no small measure by our standards enforcement testing.

One of the new techniques we are using in our program to investigate safety related defects in vehicles is an analysis of automobile club member information. This information provides us with a quick reference source of substantial numbers of particular vehicle makes and models. This enables us to focus on a particular vehicle to determine if reported defects are significantly inherent in that vehicle to warrant further investigation.

We are requesting $5.1 million for the accident avoidance program, an increase of $1.0 million over the fiscal year 1972 program level. Our multidisciplinary accident investigation teams are finding increasing evidence that driver factors are much more prominent than vehicle factors in crash causation. Therefore, we are concentrating on providing substantial safety performance improvements in those systems which contribute to the avoidance of crashes. Increasing attention will be given to vehicle systems that relate to driver capabilities and limitations. These include vehicle/driver interaction, handling, braking, tires and vehicle degradation as a function of use.

In the field of vehicles-in-use, I have recently approved a program plan which will produce meaningful criteria and cost-effective inspection programs for the States to use so that unsafe vehicles can be removed from the road. Our research has indicated that vehicle defects contribute directly to at least 6 percent of all crashes and indirectly to as many as 17 percent of all crashes. We have established that in the 6 to 17 percent range where these defects are present, 81 percent of the defects are related to the following vehicle components—brakes, tires, and steering and suspension. We have persuasive data which indicate that the more frequent and thorough the inspection, the less likely the presence of defects.

Therefore, we have discarded the old concept of issuing standards for vehicles-in-use and instead will concentrate on establishing safety criteria and model inspection programs. We are determining the relationship of component degradation as a function of use and age to the safety of vehicle systems. We will develop diagnostic inspection equipment that is dependable, cost-effective, and adaptable for use by the different State inspection systems. We are convinced that this approach will result in viable and effective motor vehicle inspection programs.

The vehicle-in-use safety criteria we are developing will be stated as inspection criteria and will be validated through the District of Columbia demonstration project. The results will then be developed into a prototype inspection program for adoption by the States through the demonstration process. The inspection technology development and demonstration programs will be funded under the authority of the Highway Safety Act.

We are requesting $2.4 million for our accident investigation and information analysis program. This activity includes maintaining the Driver Register, authorized under the Vehicle Safety Act, and the work of the multidisciplinary accident investigation teams. The find-

ings of these teams have been instrumental in identifying the need for improved or new motor vehicle standards and have provided data needed for the evaluation of effectiveness of existing standards. As our teams and analysis of the data become more sophisticated, we will be able to learn more about crashes and better ways to avoid them or reduce their severity.

We are also requesting $5.5 million for support of our programs. This includes salaries of cadre employees for the Compliance Test Facility which is scheduled for operational status in fiscal year 1974. It also supports our in-house evaluation of the effect in motor vehicle standards in reducing fatalities and injuries.

In summary, we have programed our increases where we believe they will be most effective and where the payoff will be greatest. We have requested an increase of $3.7 million in the area of crash survivability, $2.0 million of which will be for the crash recorder program and $1.7 million for experimental safety vehicles. The requested increase of $1.0 million for the new vehicle-in-use program and vehicle handling research will strongly support our efforts in accident avoidance. Compliance and defects analysis efforts, which we feel are so necessary, will be strengthened by an increase of $1.4 million.

Mr. Chairman, this concludes my statement. I will be pleased to answer any questions that you or members of the committee have concerning our programs and authorization request.

Senator HARTKE. Thank you, Mr. Toms.

Before proceeding with specific questions, I want to underscore the point that I made earlier, and that is simply that the questions basically are going to be limited as much as possible to the authorization request. Although I do have a lot of questions I would like to ask concerning the activities of the NHSTA programs during the past year, we will reserve them for the hearings next month.

So the thrust of our questions will be geared toward insuring that the administration has requested a level of personnel and funding with which it can carry out the mission mandated by the Congress, and that it can be carried out thoroughly and effectively in the coming year.

For that reason, I will put in a copy of the NHTSA authorization request for the National Traffic and Motor Safety Vehicle Act in the record at this time.

(The authorization request follows:)

Traffic and highway safety motor vehicle programs for fiscal year 1973, Congress request

	Thousands
Salaries, benefits, and supporting programs	$12, 262
Contract program	25, 038
Program direction and coordination	180
Motor vehicle programs	4, 700
Standards enforcement and defects investigation	4, 000
Quick reaction test	500
Cost and leadtime analysis	100
Supporting engineering systems	100
Research and analysis	17, 745

Traffic and highway safety motor vehicle programs for fiscal year 1973, Congress request—Continued

	Thousands
Vehicle structures	2, 300
Occupant packaging	1, 200
Biomechanics	1, 100
Passive restraint field test	1, 000
Crash recorder field test	2, 000
Operating systems	2, 100
Experimental safety vehicle	6, 300
Driver vehicle interaction	1, 200
Vehicles in use	545
Accident investigation and data analysis	2, 053
Staff and administration support	360
Total	37, 300

Senator HARTKE. In regard to your overall authorization request, to fulfill those duties which were mandated under the National Traffic and Motor Vehicle Safety Act, you requested a total of $37,361,000. Is that right?

Mr. TOMS. That is correct, Mr. Chairman.

Senator HARTKE. That includes an increase of $461,000 for the increase in pay; is that correct?

Mr. TOMS. That is correct.

Senator HARTKE. That is what accounts for the difference between that figure and the original figure of $36,900,000. It is a total increase, then, of $6,649,000 over last year. Is that correct?

Mr. TOMS. That is correct.

Senator HARTKE. Are you satisfied you will be able to get the job done that Congress has assigned to you under the act with this level of spending?

Mr. TOMS. We believe that within the constraints of the President's budget and the competition with other agencies for the tax dollar, that this amount will give us a good chance to make some significant progress in motor vehicle safety.

Senator HARTKE. Well, I will tell you, that is a good hedge. That sounds just like a political answer.

Mr. TOMS. It is a political year, Mr. Chairman.

Senator HARTKE. Well, you will have a good chance to make real progress. That means absolutely everything or absolutely nothing; right?

Mr. TOMS. We are convinced that we are going to make substantial headway.

Senator HARTKE. How much money did you request from the Office of Management and Budget for your activities under the Motor Vehicle Safety Act?

Mr. TOMS. I don't have that figure at my fingertips, Mr. Chairman.

Senator HARTKE. Will you provide that for the record? That is, the total, and the breakdown of the request; the amount that the Department of Transportation requested and the Office of Management and Budget allocation.

In other words, the three steps including your request to the Department, the Department's request to OMB, and OMB's final amount.

Mr. TOMS. Yes, sir.

(The following information was subsequently received for the record:)

BREAKDOWN OF FISCAL YEAR 1973 PROGRAMS ASSIGNED TO PUBLIC LAW 89-563

[In thousands of dollars]

Budget activities	Fiscal year 1973		
	Budget request, DOT	Budget request, OMB	OMB allowance
Program direction and coordination	1,700	1,584	1,584
Motor vehicle programs	12,386	10,353	9,460
Research and analysis	32,667	26,452	22,789
Staff and administrative support	3,751	3,555	3,528
Total	50,504	41,944	37,361

Senator HARTKE. In summary, what effect will the OMB cuts have on your October 1971 program plan, just briefly?

Mr. TOMS. I would guess that the changes are in our program of crash avoidance and in the development of our fleet testing activity. In some of these areas, we probably won't be able to go as rapidly as we would like to. I would point to the areas of crash avoidance and crash survivability as areas in which I think we would like to be able to make more progress.

Senator HARTKE. Maybe you can provide for the record the specifics of exactly what it will do to your program plan in 1971. Will you do that?

Mr. TOMS. Yes, sir.

(The following information was subsequently received for the record:)

EFFECT OF OMB FUND CUT ON 1973 PROGRAMS

The OMB cut resulted in a total reduction of $4.6 million in NHTSA's FY 1973 budget request for programs assigned to PL. 89-563. The largest reduction was applied to Motor Vehicle Research activities amounting to $3.7 million. The Standards Enforcement and Defects Investigation contractual area was reduced by $0.4 million. Smaller reductions were also, applied to Cost and Lead-Time efforts. Additional positions requested in FY 1973 for Motor Vehicle activities were reduced by 25 positions, of which 18 positions were deleted because of scheduling changes in the Compliance Test Facility. Thirty-eight positions were deleted in the Research and Analysis areas principally because of reductions applied by OMB to the Motor Vehicle Research contractual effort.

Senator HARTKE. You have requested an authorization for 865 employees. That is an increase of 24 over last year's authorization. Is that correct?

Mr. TOMS. Yes, sir.

Senator HARTKE. Of the 841 positions which were authorized last year, how many positions were not filled?

Mr. TOMS. Dana, can you answer that? We have that figure specifically, I believe.

Mr. SCOTT. At the present time, Mr. Chairman, we have filled 716 of the 841 positions.

Senator HARTKE. That means 65 have been left vacant?

Mr. SCOTT. The number vacant is 125; 841 were authorized, 716 are filled.

Senator HARTKE. 125 have been left vacant?

Mr. SCOTT. That is correct, sir.

Senator HARTKE. Why were so many positions left vacant?

Mr. SCOTT. An employment ceiling of 721 positions has been established for NHTSA as of June 30.

Senator HARTKE. As a result of the President's order?

Mr. SCOTT. Yes, sir.

Senator HARTKE. Or the DOT? Whose order?

Mr. SCOTT. As a result of the President's order, the Department was given a significant reduction in its employment ceiling from that originally contemplated, and the proration of the overall ceiling resulted in the assignment of an operational budget ceiling of 721 positions.

Senator HARTKE. Are you satisfied that an authorization for 865 employees will provide sufficient personnel to fulfill those duties which were mandated by the Congress under the act for the coming year?

Mr. TOMS. Well, Mr. Chairman, we are advocates of safety. We always feel that we need more resources. I am also, as the Administrator of NHTSA, confident that in the competition for additional positions in DOT that we have done well. But we would always like more positions.

Senator HARTKE. What you are really telling me is no.

Mr. TOMS. Well, I think that the——

Senator HARTKE. You are saying no, but you will do the best you can?

Mr. TOMS. We have to work within certain constraints.

Senator HARTKE. I understand that.

Mr. TOMS. I think those of us who are in the highway safety field believe strongly that we would like to bring the 55,000 deaths way down. We know that there is obviously a direct relationship between the amount of money you put in a program and the payoff.

Senator HARTKE. Is the substance of this cutback really reflected in the DOT cutback on your request, or is it really in the Office of Management and Budget?

Mr. TOMS. I think the cutback reflects a combination of factors that ranges from our appropriations, to OMB, to the Department, to considerations within NATSA. We have to operate within the levels that are established at all of those points.

Senator HARTKE. All right.

Mr. SCOTT. Mr. Chairman, may I point out that the President's budget for fiscal year 1973 does show an estimated yearend employment for NHSTA of 830, as compared to the authorization request of 865. This gives us great room for optimism. We feel that in the case of NHSTA the employment ceiling will constitute in the final analysis a deferral of hiring rather than a permanent cutback in positions.

We look forward confidently to being able to fill in fiscal year 1973 well over 100 positions above our present level.

Senator HARTKE. Will you supply for the record, as soon as you receive that material, any information which would be helpful to us in determining how soon you can really increase that number?

Mr. SCOTT. We certainly will, sir.

(The following information was subsequently received for the record:)

INCREASE IN NHTSA PERSONNEL

NHSTA has a total of 468 permanent positions authorized under the National Traffic and Motor Vehicle Act for FY 1972, with a related year-end ceiling of 399 positions. The FY 1973 budget request calls for 486 authorized positions with a year-end ceiling of 466 positions. If approved as requested, the FY 1973 budget would therefore provide the addition of 67 employees to the payroll by June 30, 1973.

On the basis of total budget approval, and in contemplation of appropriation enactment by July 1, 1972, and apportionment approval by the Office of Management and Budget by August 1, an accelerated staffing plan would be undertaken to fill the 67 additional positions as soon as possible after the latter date. In order to have all the new positions on the payroll by June 30, 1973, it would be necessary to recruit an average of six to seven employees per month between September 1972 and June 1973. A reduction in the year-end ceiling proposed in the 1973 budget, resulting from action taken by Congress or OMB, would curtail the proposed staff expansion accordingly.

Senator HARTKE. Under your program plan published in June 1970, which was revised in October 1971, you had two different plans, correct? One of them was published in June 1970 and then revised in October 1971?

Mr. TOMS. You are referring to the motor vehicle program?

Senator HARTKE. That is right.

Mr. TOMS. Yes; sir.

Senator HARTKE. Now in comparing those two, I have noted that the implementation and revision of many standards has been postponed.

Specifically I would point out there were delays in improvement of the standard 101 relating to control location, identification, and illumination; revision of standards 103 and 104 relating to windshield defrosting, defogging, and washing and wiping systems; development of standards for brake components such as shoe and pad assemblies; revision of standard 107 relating to reflecting surfaces, to name a few.

In addition on January 18, 1972, rulemaking was suspended on 22 dockets.

Please provide for the record an analysis of the revisions in proposed rulemaking activities between the first program plan and the second program plan of October 1971, and state specifically the reasons for delay of any proposed or anticipated rulemaking or the postponement of the effective date of a standard.

Mr. TOMS. We would be pleased to, Mr. Chairman.

Senator HARTKE. In addition to that, I want you to state affirmatively that no delay was a result of a lack of funding for a particular program, or insufficient staff working on a specific project.

However, in the event it was, I want you to state the nature of the insufficient staffing or the insufficient funding. I know you don't have that material today, but it is important for us to have a complete evaluation.

I want you to also designate the amount of money or personnel which would have been sufficient to promulgate the standards on schedule, and the reason why such funds were not requested. Note whether sufficient funds have been requested to enable the standards to be promulgated as specified in the October program plan.

In substance this information is what we need, and I don't mind telling you our objective, we are trying to get you into a place where you won't come back to Congress. I have told Senator Stevens this,

and we are trying to get you into a situation where if there is any type of delay in the field of safety, we do not want you to return and say it is Congress' fault. We are going to be on the side of safety. We are going to provide the personnel for you, and provide the money, as long as you can show a justifiable reason for it.

Mr. TOMS. We deeply appreciate that.

Senator HARTKE. On the other side of the coin, we are going to put the finger of blame, we hope, in the place where it belongs, because 50,000 deaths on the highway must be brought down at a more rapid rate than at the present time.

Mr. TOMS. We deeply appreciate your sincere personal interest in highway safety, Mr. Chairman.

(The following information was subsequently received for the record:)

PROGRAM PLAN FOR MOTOR VEHICLE SAFETY STANDARDS—REVISIONS, POSTPONEMENTS, ETC.

The "Program Plan for Motor Vehicle Safety Standards", as its title implies, is a planning document. It began as an in-house document to provide management with an overall picture of those rulemaking activities which were deemed attainable in light of available information at a given time.

Of the many factors affecting the initiation of rulemaking and the effective date of a rule, the most important are:

Estimated safety payoff (lives saved, injuries prevented);

Availability of research data (basis for a rule);

Manufacturers production schedules (new model introduction dates, etc.);

Availability of a validated test procedure to measure compliance to the proposed rule;

Estimated benefit/cost ratio of the proposed rule.

The schedules proposed in the Plan are target dates contingent on the reliable assessment of each of the above mentioned factors. Inconclusive, inadequate or insufficient data in any of these areas will trigger a delay or revision in the rulemaking process or a postponement of an effective date. The effective date of a standard is strongly influenced by manufacturers' production schedules. Sufficient leadtime must be allowed for tooling changes, etc. prior to implementation of a standard and to obviate the charge that a given standard is unreasonable within the meaning of Public Law 89–563.

Considering current constraints on the budget, we regard the planned funding and staffing levels to be satisfactory for carrying out the program plan.

Senator HARTKE. On motor vehicle programs, how many positions were authorized last year in the motor vehicle program?

Mr. SCOTT. Four hundred sixty-eight, sir.

Senator HARTKE. How many vacancies are there in that program?

Mr. SCOTT. Sixty-nine, sir.

Senator HARTKE. Do you have a breakdown on the positions which have not been filled and each of the organizational elements in the motor vehicle program?

Mr. SCOTT. Yes, sir.

Senator HARTKE. Can you put that in the record?

Mr. SCOTT. Yes, sir.

(The following information was subsequently received for the record:)

VACANCIES IN MOTOR VEHICLE PROGRAMS

The 69 vacancies in motor vehicle programs are reflected by each respective office as follows:

Motor vehicle programs

	Vacancies
Motor vehicle activity:	
Associate Administrator	1
Office of Standards Enforcements	3
Office of Operating Systems	2
Office of Crashworthiness	10
Office of Defects Investigation	5
Compliance test facility	23
Regional offices	9
Subtotal	53
Research and analysis activity:	
Office of Vehicle Structures Research	5
Office of Operating Systems Research	3
Experimental safety vehicle	1
Safety Systems Laboratory	1
Subtotal	10
Administrative and staff support	6
Grand total	69

Senator HARTKE. With a conversion to the systems approach rather than the component or subsystem approach of standards formulation, do you anticipate filling these vacant positions?

Mr. TOMS. Yes, I think so.

Senator HARTKE. In regard to cost and leadtime analysis, the final report of the ad hoc committee constituted by the White House to study the cumulative regulatory effects on automotive transportation, called RECAT, estimated the increased cost of automobiles due to safety and emission standards. However, the estimates from NHSTA were not supplied. Why not?

Mr. TOMS. I thought they were. I think the RECAT committee chose not to use them. As I understand it, we did supply estimates to them.

Senator HARTKE. There is a place for them in the book and they weren't printed.

Mr. TOMS. We have these estimates, and I am sure they were supplied to the committee. I don't know why they were not included in the final report.

As I understand it, Mr. Chairman, they simply chose not to use them.

Senator HARTKE. On page XVI the committee staff projections and the U.S. regulatory agencies use two asterisks. Under the safety standards of 1971 and the safety standards to the 1976 model, it says "No estimates were provided to the committee."

Mr. TOMS. That is simply not true. We did supply our estimates. I don't know why they didn't use them.

Senator HARTKE. Will you find out what happened?

Mr. TOMS. Well, there are a lot of things we would like to find out with regard to some of those questions. But we will attempt to.

(The following information was subsequently received for the record:

Lack of NHTSA Figures in Cost Analysis of Standards
(see p. xvi of RECAT Report)

Cost figures were supplied the RECAT Committee but apparently not in time for inclusion in its report.

The NHTSA's benefit cost study, entitled "Benefits and Costs of Motor Vehicle Safety, Standards Planned for Passenger Cars", is enclosed. Also, a comparison of estimated per vehicle cost of standards is attached.

ESTIMATED PER-VEHICLE COST[1] OF STANDARDS

Source	1968–71 cost	1972–76 cost
RECAT [2]	[3] $89.50	$523
NHTSA		348
Bureau of Labor Statistics	81.50	
Industry [2]		880

[1] Initial modification cost only.
[2] RECAT final report, February 1972.
[3] Partial cost; 5 standards only.

Benefits and Costs of Motor Vehicle Safety Standards Planned for Passenger Cars

Staff Report—February 1972 (Second Revision) December 1971 (First Revision) October 1971

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION ASSOCIATE ADMINISTRATION FOR PLANNING AND PROGRAMMING OFFICE OF SYSTEMS ANALYSIS

Abstract

Benefits and costs have been roughly estimated for motor vehicle safety standards applicable to passenger cars planned to become effective 1972–76. Estimates are presented in aggregated form corresponding to major standard grouping and cover an implementation period of 1972 through 1980. Post 1980 run-out benefits and costs are included. Benefits reflect reductions in fatalities, injuries, and property damage. Costs consist of additional fuel, maintenance and repair expenses as well as the new vehicle price increases attributable to the standards.

Total benefits for all standards are projected at 76 billion dollars. Corresponding costs are about 28 billions, giving a net benefit in excess of 48 billion dollars. The overall benefit-cost ratio is 2.7:1. Greatest net benefit is associated with the set of standards designated Occupant Compartment System, forecast at almost 25 billion dollars. Maximum economic leverage is projected for the Handling and Stability group for which the benefit-cost ratio is estimated at 5.3:1.

Introduction

Initial projections of the benefits and costs of the NHTSA Program Plan for Motor Vehicle Safety Standards,[1] as it is expected to impact passenger cars, have been made for vehicles modified during the period 1972–1980. Included are run-out benefits and costs occurring beyond 1980. The year 1980 was selected as the cut-off because it coincides with the Secretary's target date for reducing traffic deaths to one-half current levels. Conceivably this date could also be the time at which NHTSA would convert from sub-system add-on requirements to a fully integrated safety vehicle patterned after an evolutionary form of the ESV. Finally, though somewhat arbitrarily, 1980 is the termination of a decade—a convenient planning period. With one exception projections were carried out at a coarse grained level corresponding to the five major groupings within the broad program areas of Crash Survivability and Crash Avoidance. By virtue of its uniqueness in having a predominantly property damage reduction pay-off, the Exterior Protection Standard was analysed separately and not charged against the Crash Energy Management set of standards.

Benefits accruing to the standards are expressed in economic equivalents of the estimated reductions in fatalities, injuries and property damage. Costs attributable to the standards are the incremental consumer costs associated with time-phased implementation. Included are cost components which account for initial vehicle modification and for additional operating and maintenance expenses incurred over the life of the vehicle.

[1] Reference 1.

Projections of benefits and costs presented in this study should be regarded as rough estimates of these measures. In addition, estimates of effectiveness, from which benefits are calculated, can be characterized as tending to the upper limit of potential safety gain. This is due to some probable double counting of individual pay-offs where interacting or overlapping countermeasures are involved. A preliminary look at the interdependency between crash avoidance and crash injury reduction countermeasures indicates that, for the program combinations and levels of effort that can reasonably be anticipated in NHTSA, the double counting effect is in the order of 5 percent or less.

Results

Taken as a whole, the passenger car safety standards planned to become effective from 1972 to 1976 are forecast to be very cost-effective. Total benefits are projected at 76 billion dollars and total run out costs are estimated to be nearly 28 billion dollars, giving a net benefit in excess of 48 billion dollars, and a benefit-cost ratio of about 2.7:1.

Looking at the major standard groupings the results are fairly predictable. The greatest net benefit appears to be derivable from the Occupant Compartment standards, for which gross benefits have been forecast at over 37 billion dollars and costs figured at less than 13 billion dollars, for a net of nearly 25 billions and a benefit cost ratio of about 3.0:1. The least net benefit as well as benefit-cost ratio is associated with the Exterior Protection Standard for which these indices were estimated at 1.5 billion dollars and 1.2:1 respectively.[2] Greatest economic leverage was estimated in the areas of Handling and Stability and Crash Energy Management which showed benefit-cost ratios of 5.3:1 and 4.5:1, respectively.

Table I summarizes the evaluation outcomes for each of the major standard areas and the Exterior Protection Standard, together with a summation of these estimates. The table also contains for each grouping an estimate of the fatality reduction forecast for the year 1980, predicated on all other NHTSA safety programs stabilizing traffic fatalities at the current levels. In other words an increase in risk during the 1970 decade due to greater exposure as measured by licensed drivers, vehicle registration, travel, etc. will be offset by the increasing effectiveness of motor vehicle standards and traffic safety programs instituted prior to 1972. This is not unreasonable in the light of the recent tendency of the fatality count to level off.

The cumulative distribution of benefits and costs over time are depicted in Figure 1. At the outset costs actually exceed benefits so that net benefits are negative until 1975.[3] Thereafter during the implementation period (1972–80) benefits accumulate at an increasingly faster rate than costs, resulting in a continual expansion of net benefits. In the run-out period beyond 1980, only residual effects are felt and therefore benefits accumulate somewhat more slowly than before. However, costs are also diminishing rapidly, since only operating expenses are accruing, and thus net benefits continue to experience a vigorous growth almost to the point of maximum accumulation of total benefits. This relative growth in net benefits is also evident from the benefit-cost ratio trend curve in which can be seen to be monotonically increasing throughout the entire period.

Evaluation procedure

Prime inputs for evaluating cost and effectiveness were initial vehicle modification costs and fatality reduction. These were largely obtained from MVP staff and working papers. Initial unit costs for vehicle modification were those prepared by the various standards specialists or by cost and lead time analysts. In a few instances these were adjusted if a review of the cost factors indicated not all elements had been fully taken into account. Individual standard costs were aggregated into the five major groupings plus the Exterior Protection Standard. Table II[4] gives these costs for the calendar year in which the standard is planned to become effective, both on a per vehicle and total annual production volume basis. Production volume has been fixed at 10 million units annually. The figures presented are incremental costs and therefore must be accumulated for all prior years when computing total costs attributable to any one standard or set of standards.

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[2] This finding, in the case of the Exterior Protection Standard, is especially sensitive to the evaluation ground rules applied in this study. A more comprehensive evaluation, examining indirect as well as direct benefits, would yield much higher values for the benefit-cost indices. See additional remarks in the Discussion Section.

[3] Not surprising since a resource investment must always precede a beneficial return and benefits can be expected to lag costs initially during a build-up in a capital intensive activity.

[4] See end of report for all other tables except Table I.

Effectiveness estimates expressed in terms of fatality reduction were the starting point for the benefit portion of the analysis. These data were chiefly derived from the impact analysis performed by MVP as part of their reevaluation of proposed rulemaking preparatory to the October 1971 re-issuance of the Program Plan. One major exception was the fatality reduction projections for the Occupant Crash Protection Standard (FMVSS 208) which were a composite of estimates developed in References 2 and 3. Effectiveness estimates are tabulated in Table IV for the aggregated standards. These are reductions in fatalities by year in which the standards become effective, assuming implementation over 100 percent of the total vehicle population. Once 100 percent implementation has been achieved these are also incremental estimates to be accumulated for total effectiveness.

To account for the time phasing of the standards the prime cost and effectiveness estimates were allocated over a 10-year life. For simplicity the annual production volume was assumed to be constant at 10 million units and the benefits were distributed uniformly over the period. More precise estimates, based on production trends and distributions of vehicle travel by age are available, but their use was not warranted in the gross evaluation being conducted. Table IV shows the distributed effectiveness and cost. Effectiveness figures are pro-rated at one-tenth the 100 percent implementation level each year, incremented in those years in which additional benefits appear, and accumulated annually. The total effectiveness figures include the residual benefits accruing from vehicles remaining in use in the post-1980 period. Costs are simply the annual total production costs incremented whenever additional costs are incurred due to new requirements. Costs have been expressed in undiscounted 1971 dollars.

To obtain total benefits commensurable with costs, fatality reductions were first converted to dollars at the rate of $203,000 per life saved. These figures were then multiplied by injury and property damage factors, as appropriate, to obtain total direct safety benefits. These factors were derived from Reference 4, using the estimates of national societal costs of fatalities, all injuries, and property damage, and are given in Table V.

Both costs and benefits were discounted at a net of 7 percent to give present worth. A 7 percent net discount rate is recommended in Reference 4 as a reasonable compromise between high and low values in current use. The annual, discounted values are presented in Table VI.

Subsequent to discounting, initial vehicle modification costs were increased by certain factors to account for vehicle operating costs. In this instance operating costs comprise those expenditures made for repair, maintenance, and fuel consumption. Two overall cost factors, one for maintenance and repair and the other for fuel consumption, were computed using data reported by FHWA in Reference 5 for the cost per mile of operating motor vehicles up to 100,000 miles. These factors were derived by dividing each of the two operating cost elements by the depreciated cost of the vehicle, all on a unit or per mile basis. Further adjustments were made to these baseline percentages to reflect the relative contribution the individual elements were judged to make to the total cost in each of the five major standard groupings. Source, baseline, and adjusted data are given in Table VII.

Discussion

Certain simplifications were employed in this evaluation to facilitate computations. Several have already been mentioned; these pertain to the rate at which benefits accumulate and diminish and the numbers of passenger cars produced over the period of interest. Some other important simplifications concern the ratio of injury and property damage costs to fatality costs, the net discount rate, and the point at which benefits and costs are considered to begin accumulating. These, together with certain assumptions and the quality of the input data will be discussed in the ensuing paragraphs.

Distributing benefits according to the non-uniform rate at which mileage is accumulating on a vehicle rather than on a fixed annual percentage would yield greater benefits early in time. With discounting this would give greater present value benefits. Thus the effect is to under-estimate benefits.

Whether motor vehicle production will actually increase, decline, or remain relatively constant is debatable. New passenger car registrations over the past 7 years have ranged from 8.1 to 9.4 millions, averaging just under 8.9 million units.[5] However, a definite upward trend can be observed over this period. In

[5] Reference 6, pg. 16

1971, for example, production increased about 20 percent over that in 1970. A linear projection of this trend would place the registrations at nearly 10 million units in 1976, the mid-point of the time span of interest. Accordingly, a constant 10 million unit annual production volume appears to be an acceptable approximation for evaluating investment costs during the 1972–80 time frame. This approximation probably tends to overestimate cost and therefore casts benefit margins in a conservative light.

Injury and accident reduction estimates were made as a part of the standards impact analysis performed by MVP. For the most part these benefits were estimated by applying fixed ratios to the lives saved, as determined from NSC figures for total injuries and fatalities. Translating these ratios into total dollar ratios yields approximately the same factors used in this evaluation. Thus this simplification appears justified. For more refined analysis, especially of individual standards, this approximation would not be warranted.

Both benefits and costs were discounted at 7 percent which represents a compromise between the 10 percent reference and 5 percent minimum rates set by OMB for economic evaluations.[6] Inflation effects were not explicitly considered.

A more sophisticated analysis might attempt to project trends for both inflation and rate of return on investment, which historically are known to vary. Also different rates might be applied to standards in which maintenance, repair or other largely service type commodities are importantly involved. This would account for the differential productivity between manufacturing and service type industries. Again, this complexity is not warranted for the kind of evaluation being done here.

Most often, effective dates for planned rules are scheduled in the latter half of the calendar year so that, for computational precision, benefits and costs should be allocated for only a fractional part of the first year. This refinement was not incorporated in the analysis, the economic consequences being computed for the entire twelve month period. The effect is to increase both gross benefits and costs slightly but to have almost negligible effect on net benefits or benefit-cost ratios for the period of the analysis.

Except in the case of FMVSS 215, operating costs for each group of standards were computed using derived percentages of the initial vehicle modification cost. This procedure was necessitated by the total lack of any information on an individual standard basis. The principal components of operating costs are fuel consumption and repair and maintenance. Grossly, fuel consumption is directly related to engine horsepower which is approximately proportional to vehicle weight. On a weight basis, then, safety improvements can be expected, on the average, to influence fuel consumption in the same manner as other vehicle systems. Similarly, it can be argued that, in the aggregate, safety features are typical vehicle systems with respect to maintenance and repair requirements. Thus, it would appear reasonable that lumped operating costs for all standards would bear the same approximate relationship to the depreciated capital investment as obtains for a new vehicle and that the baseline factors presented in Table VII are justified.

As a first attempt to differentiate the relative apportionment of operating costs among the several standards area, the degree of operational similarity between individual areas and the vehicle taken as a whole was subjectively assessed. This comparison resulted in multipliers of either ½ or 1 being used with the baseline factors, depending on whether these factors were judged to be either partially or fully applicable to the particular group of standards being considered. Where the safety improvements entailed primarily the addition of major weight producing structural or other inert designs, the impact on fuel consumption can be expected to be large. Accordingly, these standards were assigned adjustment factors of 1 for fuel consumption and ½ for maintenance and repair. For systems consisting largely of electro-mechanical or other operating devices, or where safety is gained largely through redesign the inverse is more likely to be true, and an adjustment factor of ½ was used for fuel consumption and 1 for maintenance and repair. A similar rationale was employed to make judgments where neither characteristic predominated but both were importantly involved.

The validity of the entire evaluation hinges very strongly on the reliability of the prime input data. For the most part the effectiveness estimates must be characterized as heavily subjective. Generally there was some statistical data available to indicate an approximate population that would be potentially affected by the standard. More often than not, however, the degree to which the standard

[6] Reference 4.

would be effective was a matter of engineering judgment. The lack of sophistication in analytic technique as well as of data quality makes it quite probable that a significant amount of double counting of effectiveness has taken place in certain standard areas. Assuming, however, that there was equal likelihood of under-estimating as well over-estimating benefits, the double-counting error should be somewhat diminished by treating the standards in the aggregate form used in this evaluation. Moreover, with few exceptions, estimates were developed employing a credible rationale. Overall the estimates are thought to tend only slightly toward optimism.

Cost data is regarded to be somewhat less reliable than the effectiveness estimates. In some cases estimates were not available and in others the supporting rationale was thin or non-existent. There were several important exceptions to this, however. These were FMVSS's 208 and 215 which comprise about two-thirds the cost of all the planned rulemaking. Estimates in these cases were generated as the result of in-depth analyses using comparatively hard inputs and are therefore considered acceptable reliable.

Component and sub-assembly prices furnished by prospective vendors were used in analysing FMVSS 208. A Ford Motor Co. estimate (Ref. 7) of the cost of a full size, family sedan in the 4000 pound class was the starting point for estimating the average unit investment cost of FMVSS 215. Ford's estimate of $110 was adjusted downward to $90 per unit so as to account for the reduced cost in modifying bumpers in lighter weight vehicles. Since the standard's impact performance requirements are tied to vehicle weight, it is reasonable to assume bumper mass and cost will be approximately proportional to vehicle weight, on the average. Weight of the vehicle population was found to be roughly distributed one-fourth in the 2000 lb. class, one-fourth in the 3000 lb. class, and one-half in the 4000 lb. class according to data derived from reference 8.

The areas in which costs are assessed as being most wanting are Handling and Stability and Lighting and Visibility, mainly because the requirements are not defined well enough to visualize typical designs needed to prepare estimates. Highest confidence in the cost figures resides with the Occupant Compartment standards and the Exterior Protection Standard for the reason previously noted.

One further point of importance in assessing these estimates is to note that only direct safety effects and corresponding costs have been considered. Indirect consequences (e.g., environmental, administrative, political) and their attendant costs have not been dealt with as they should in an evaluation of the total benefits and costs to society. These components are generally less tangible and less amenable to quantification than the direct safety elements. Although their evaluation was not attempted two of the more important beneficial effects falling in this category will be discussed briefly. These are the reductions in what might be termed the public service costs and the public discommodity costs.

The first of these costs stem from the need to provide accident investigation, clean up and various administrative, engineering, and judicial remedial services as a consequence of an accident. Public discommodity results from the disruption to the traffic stream with its attendant adverse effects on personal schedules, driver behavior, vehicle operation, environmental quality etc.

The foregoing factors are particularly significant in the case of the Exterior Protection Standard (FMVSS 215) since the class of accidents it is designed to ameliorate constitute nearly one-third of all accidents that occur. To illustrate this significance the savings connected with just one component of the public service factor, police traffic services, is estimated to offset, approximately, the increased vehicle maintenance and operating expenses caused by implementing FMVSS 215. A recalculation of the benefit-cost indices in consideration of this component alone would hike net benefits and the benefit-cost ratio to the order of $4 billion and 2:1, respectively.

Conclusions

Despite the number of uncertainties and questionable quality of some of the source data, the estimates developed in this evaluation do serve to define the orders of magnitude and tentatively point out the trends to anticipate in benefits and costs for passenger car standards. For example, the estimates corroborate the establishment of Crash Survivability as a priority program. Noting that this program comprises the Occupant Compartment and Crash Energy Management standards, it can be observed from Table I that, although a very large safety investment is required, the net benefit derived is three-fold what can be expected from the crash avoidance standards.

In the area of crash avoidance there is some indication that handling and stability might be the best area for concentration. Because of the data deficiencies

noted earlier this is still a very soft conclusion. The area that appears least attractive on a comparative basis is Exterior Protection. However, as stated before, it is also the area for which the hardest data is at hand.

In summary, as observed previously about the standards in general, effectiveness is thought be be over-estimated slightly and cost under-estimated to a somewhat greater degree. Thus, it may well be that, with more sophisticated and refined evaluations in the future, the benefit-cost profiles of may of the standards will more nearly resemble that exhibited by FMVSS 215.

TABLE I.—BENEFITS AND COSTS OF PLANNED FMVSS FOR PASSENGER CARS 1972–80 [1]

Standard area	Benefit [2] (billions)	Cost [3] (billions)	Net benefit (billions)	Benefit cost ratio	1980 fatality reduction [4] (thousands)
Occupant compartment	[5] $37.4	$12.8	$24.6	3.0:1	11.67
Crash energy management [6]	[5] 12.2	2.7	9.5	4.5:1	3.70
Exterior protection	[7] 9.8	8.3	1.5	1.2:1	
Handling and stability	[8] 8.0	1.5	6.5	5.3:1	1.98
Visibility	[8] 6.0	1.9	4.2	3.2:1	1.83
Driver environment	[8] 2.5	.6	1.9	4.2:1	.77
Total	75.9	27.8	48.1	2.7:1	19.95

[1] Benefits and costs are projected for standards planned to become effective 1972–76, inclusive, according to October 1971 draft of NHTSA MVSS program plan.
[2] Benefits are those accruing from modification of vehicles placed on road during the 1972–80 period, including residual, safety effects of modified vehicles in post-1980 period. Benefits computed using an average cost of $201,000 per fatality 7,300 per injury, and $300 per property damage involvement, discounted at 7 percent to present (1971) value. Fatality and injury costs include $3,000 and $1,250, respectively, for vehicle related costs.
[3] Estimated incremental consumer cost for modifying an average of 10,000,000 vehicles annually in order to meet standards. Additional operating, maintenance, and replacement costs during the 1972–80 and post-1980 runout period if any, are also included.
[4] Estimate of lives saved in 1980, predicated on all other NHTSA safety programs stabilizing fatalities at current level.
[5] Benefits consist of fatality and injury reductions only.
[6] Excludes FMVSS 215, exterior protection (bumpers).
[7] Property damage reduction only.
[8] Benefits comprised of fatality, injury, and property damage reductions.

TABLE II—AVERAGE UNIT COST INCREASE OF PASSENGER CARS ATTRIBUTABLE TO FMVSS PLANNED TO BECOME EFFECTIVE 1972–76 IN EACH PROGRAM AREA [1]

Program area	Effective date (calendar year) 1972	1973	1974	1975	1976	Total
Occupant compartment	[2] $20	$35		$82	$25	$162
Crash energy management [3]	4	9			25	38
Exterior protection	40	50				90
Handling and stability	2	10	$1			13
Visibility	1	1			36	38
Driver environment	1	6				7
Total	68	111	1	82	86	348

[1] Initial modification cost, only, except for exterior protection which includes replacement cost. Maintenance and operating costs not included.
[2] Dollar per vehicle or $10,000,000 for 10,000,000 units annually.
[3] Excludes FMVSS 215 exterior protection (bumpers).

TABLE III.—FATALITY REDUCTION AT 100 PERCENT IMPLEMENTATION OF FMVSS PLANNED TO BECOME EFFECTIVE FOR PASSENGER CARS 1972–76

[Thousands of lives saved]

Program area	Calendar year 1972	1973	1974	1975	1976	Total [1]
Occupant compartment	2.3	6.54	0	3.95	4.0	16.79
Crash energy management	.01	3.98	0	0	1.0	4.99
Handling and stabilty	.05	2.34	.10	0	0	2.49
Visibility	.05	.05	.40	.20	2.70	3.40
Driver environment	.05	.09	0	0	1.3	1.44
Total	2.46	13.00	.50	4.15	9.00	29.11

[1] Based on draft NHTSA program plan for motor vehicle safety standards, August 1971.
[2] Excludes FMVSS 215 exterior protection (bumper) for which no substantial life saving benefit has been projected.

TABLE IV.—ANNUAL DISTRIBUTION OF FATALITY EFFECTIVENESS AND INITIAL COSTS FOR PASSENGER CAR STANDARDS PLANNED FOR 1972–76 AND IMPLEMENTED 1972–80

	Calendar year											
	1972	1973	1974	1975	1976	1977	1978	1979	1980	1972–80	Post-1980	Total
Effectiveness [1]												
Occupant compartment	0.23	1.11	1.99	3.27	4.95	6.63	8.31	9.99	11.70	48.2	52.4	100.6
Crash energy management [2]	—	.40	.80	1.20	1.70	2.20	2.70	3.20	3.70	15.9	16.6	32.5
Handling and stability	—	.24	.49	.74	.99	1.23	1.48	1.73	1.98	8.9	8.9	17.8
Visibility	—	.01	.06	.13	.47	.81	1.15	1.49	1.83	6.0	8.3	14.3
Driver environment	—	.02	.03	.05	.19	.34	.48	.63	.77	2.5	3.5	6.0
Total	.23	1.78	3.37	5.39	8.30	11.21	14.12	17.04	19.98	81.5	89.7	171.2
Exterior protection [1]	$148	$344	$540	$736	$932	$1,128	$1,324	$1,520	$1,716	$8,388	$7,705	$16,093
Costs (millions): [3]												
Occupant compartment	200	550	550	1,370	1,620	1,620	1,620	1,620	1,620	10,770	----------	10,770
Crash energy management [2]	40	130	130	130	380	380	380	380	380	2,330	----------	2,330
Handling and stability	20	120	130	130	130	130	130	130	130	1,050	----------	1,050
Visibility	10	20	20	20	380	380	380	380	380	1,970	----------	1,970
Driver environment	10	70	70	70	70	70	70	70	70	570	----------	570
Exterior protection [3]	400	900	900	900	900	900	900	900	900	7,600	----------	7,600

[1] Effectiveness expressed in lives saved execpt for exterior protection which is property damage costs avoided in millions of undiscounted 1971 dollars.

[2] Excluding FMVSS 215.

[3] Cost of initial modification only in 1971 undiscounted dollars, except for exterior protection which includes replacement costs.

Table V.—Injury and property damage benefit factors [1]

Total accident costs: [2]	(Billion)
Fatality	$11. 2
Injury (all severities)	27. 7
Property damage	7. 2

[1] Multiplicative factors to be applied to fatality benefits to obtain injury and property damage benefits.
[2] Source: Estimating Societal Costs of Motor Vehicle Accidents, NHTSA/Planning and Programming/ Office of Systems Analysis, September 1971.

Injury benefit factor for crash survivability standards:

$$\frac{\text{Injury costs}}{\text{Fatality costs}} = \frac{\$27.7\ \text{B}}{\$11.2\ \text{B}} = 2.47$$

Combined injury and property damage factor for crash avoidance standards:

$$\frac{\text{Injury and property damage costs}}{\text{Fatality costs}} = \frac{\$(27.7+7.2)\text{B}}{11.2\ \text{B}} = 3.12$$

TABLE VI.—DISCOUNTED BENEFITS AND COSTS FOR PASSENGER CAR STANDARDS BECOMING EFFECTIVE 1972–76 AND IMPLEMENTED 1972–80[1]

[In millions of dollars]

	Calendar years											
	1972	1973	1974	1975	1976	1977	1978	1979	1980	1972–80	Post-1980	Total
Benefits[2]:												
Occupant compartment	152	684	1,140	1,760	2,490	3,120	3,640	4,100	4,470	21,560	15,800	37,400
Crash energy management[3]		246	461	645	853	1,030	1,190	1,310	1,420	7,160	5,040	12,200
Handling and stability		177	334	474	589	684	770	840	902	4,770	3,190	7,960
Visibility		8	45	82	280	474	600	724	831	3,040	3,000	6,040
Driver environment		12	21	33	111	190	251	309	350	1,280	1,240	2,520
Exterior protection[4]	153	334	490	623	739	835	915	984	1,037	6,110	3,670	9,780
Total	305	1,464	2,491	3,612	5,064	6,333	7,371	8,259	9,014	43,920	31,940	75,860
Costs[5]												
Occupant compartment	260	660	630	1,440	1,730	1,480	1,380	1,290	1,200	10,050	2,760	12,810
Crash energy management	51	156	147	137	374	348	328	305	286	2,130	610	2,740
Handling and stability	28	159	160	150	140	132	123	114	117	1,120	370	1,490
Visibility	12	21	20	19	340	316	306	278	260	1,570	310	1,880
Driver environment	12	76	71	66	62	59	54	52	47	500	100	600
Exterior protection	475	1,000	933	873	816	760	713	666	622	6,860	1,450	8,310
Total	840	2,070	1,960	2,680	3,460	3,100	2,900	2,700	2,530	22,230	5,600	27,830

[1] Discounted at 7 percent to present (1971) value.

[2] Includes fatality and injury benefits for crash survivability standards and fatality, injury, and property damage benefits for crash avoidance standards.

[3] Excludes FMVSS 215, exterior protection.

[4] Property damage benefits only.

[5] Costs comprising initial modification and operating (fuel consumption and maintenance and repair) expenses discounted at 7 percent to present (1971) value.

TABLE VII.—OPERATING COST FACTORS AS FRACTION OF INITIAL MODIFICATION COST

Standards grouping	Repairs and maintenance factor			Fuel consumption factor			Combined factor
	Baseline [1]	Adjustment [2]	Resultant	Baseline [3]	Adjustment [2]	Resultant	
Occupant compartment	0.48	1	0.48	0.54	½	0.27	0.75
Crash energy management	.48	½	.24	.54	1	.54	.78
Exterior protection [4]				.54	1	.54	.54
Handling and stability	.48	1	.48	.54	1	.54	1.02
Visibility	.48	½	.24	.54	½	.27	.51
Driver environment	.48	½	.24	.54	½	.27	.51
Average							.60

[1] Ratio of repair and maintenance to depreciated vehicle per mile costs of 1.52 cents and 3.19 cents, respectively; "Cost of Operating an Automobile," DOT/FHWA/Office of Highway Planning February 1970.

[2] Multiplicative factor which estimates degree of functional-structural similarity between safety features and overall vehicle in particular cost area. Safety systems that are predominantly structural or employ inert designs are adjusted downward ½ for maintenance and repair; systems in which electro-mechanical and other active designs predominate are adjusted downward ½ for fuel consumption.

[3] Ratio of fuel consumption to depreciated vehicle per mile costs of 1.73 cents and 3.19 cents, respectively; Ibid.

[4] No repair and maintenance factor applied; input data contained these costs.

REFERENCES

1. Program Plan for Motor Vehicle Safety Standards, DOT/NHTSA, October 1971.
2. Safety Benefits of the Occupant Crash Protection Standard, Conrad H. Cooke, Office of Crashworthiness, MVP, NHTSA, January 1971.
3. Economic Analysis of the Occupant Crash Protection Standard, NHTSA/Planning and Programming/Office of Systems Analysis Staff Report, April 1971.
4. Estimating Societal Costs of Motor Vehicle Accidents, Preliminary Report, NHTSA/Planning and Programming/Office of Systems Analysis, September 1971.
5. Cost of Operating an Automobile, DOT/FHWA/Office of Highway Planning/Highway Statistics Division, February 1970.
6. 1971 Automobile Facts and Figures, Automobile Manufacturers Association, Inc., Detroit, Michigan, 1971.
7. Automotive Bumper Design Implications on Damageability, Statement to U.S. Senate Commerce Committee on Senate Bill S. 976, Ford Motor Co., Dearborn, Michigan.
8. Automotive News Almanac, 1970 issue.

Senator HARTKE. I know you agree with us that the cost and leadtime analysis is very important. You stated before the House Appropriations Committee that "We have a real need to do a more thorough job of leadtime analysis and determining cost standards we are proposing."

You have a contract program for cost and leadtime analysis for which you have requested $100,000. Is that correct?

Mr. TOMS. That is correct.

Senator HARTKE. This is the same amount of money expended for the same function in 1972. Is that right?

Mr. TOMS. Yes.

Senator HARTKE. Are you confident that this is sufficient?

Mr. TOMS. We believe on the question of leadtime that we have been making good progress. We are quite satisfied with the information that is presently being supplied to us. We have cost and leadtime analysis broken down differently than we did a couple of years ago. We have a number of different people on it. I think we are now coming up with some of the best cost and leadtime information that can be found. I am not so sure that we really have a need for greatly expanded resources in that area.

Senator HARTKE. Are you doing any work in addition to the contract program in this field?

Mr. TOMS. Yes; we are doing a lot of work internally.

Senator HARTKE. In shop?

Mr. TOMS. Yes, sir.

Senator HARTKE. Could you provide for the record the total expenditures, including the contracts, that the NHSTA spends on leadtime and cost analysis?

Mr. TOMS. We would be happy to do so.

Senator HARTKE. Include in this information the number of man-hours spent by the staff members on the various alternatives.

Mr. TOMS. Yes, sir.

Senator HARTKE. Has the leadtime and cost analysis program been staffed with individuals whose sole function is to conduct such studies, or are they detailed to other functions in addition?

Mr. TOMS. One of the things we have tried to do is take the people that have this capability and spread them through the program activities of the Administration. In this way, they are intimately involved in the program and understand what is going on. I feel that this approach has been fairly successful.

Senator HARTKE. I wonder if you will provide for the record the number of positions that have been authorized for leadtime and cost analysis activities. Include in that information the positions which are currently vacant.

Mr. TOMS. We would be pleased to do so.

Senator STEVENS. How many are currently vacant?

Mr. SCOTT. There are a total of 10 positions devoted to cost and leadtime analysis within the Administration. I am not sure of the exact number of vacancies.

Mr. TOMS. I don't think there are any.

Senator STEVENS. Are they within the 69 you mentioned?

Mr. SCOTT. Yes, sir.

Senator HARTKE. Were all funds appropriated for cost and leadtime analysis utilized?

Mr. TOMS. I would have to check that, but I assume they were.

Senator HARTKE. Provide that information for the record.

(The following information was subsequently received for the record:)

COST AND LEADTIME ACTIVITY

The Office of Cost and Leadtime was abolished in June 1971. The functions of this Office were distributed to the operating offices, namely: Operating Systems, Crashworthiness, and the Engineering Systems Staff. Cost and Leadtime personnel in each of the offices are supported by standards engineers in their efforts. It is estimated that 10,000 man-hours (approximately five man-years) were expended in this activity during FY 1972 at an estimated cost of $95,000. No contract requirements were developed in this area during FY 1972 and the allocated funds were reapportioned within motor vehicle programs.

Senator HARTKE. Was NHTSA forced to withdraw any standards as a result of cost, leadtime or reliability?

Mr. TOMS. Not to my knowledge.

Senator HARTKE. Are you satisfied with the level of staffing and funding of the NHTSA effort in the area of cost and leadtime analysis research?

Mr. TOMS. Yes, sir.

Senator HARTKE. In regard to standard-setting activities, I want you to provide for the record a copy of each new standard developed and promulgated in 1970, 1971, and 1972.

Mr. TOMS. Yes, sir.

(The following information was subsequently received for the record:)

STANDARDS PROMULGATED DURING THE LAST THREE FISCAL YEARS (WITH INDICATED ISSUANCE DATES)

FISCAL YEAR 1972

Regulation Part 566—Manufacturer Identification—October 22, 1971
Standard No. 216—Roof Crush Resistance—December 3, 1971—PC
Standard No. 122—Motorcycle Brake Systems—March 1, 1972
Standard No. 125—Warning Devices—March 1, 1972—EQ
Standard No. 124—Accelerator Control Systems—March 31, 1972—PC, MPV, TR & B
Standard No. 123—Motorcycle Controls and Displays—April 4, 1972
Standard No. 217—Bus Window Retention and Release—May 3, 1972

FISCAL YEAR 1971

Standard No. 118—Power Operated Window Systems—July 17, 1970—PC, MPV
Standard No. 214—Side Door Strength—October 22, 1970—PC
Regulation Part 574—Tire Identification and Recordkeeping—November 5, 1970—EQ
Standard No. 302—Flammability of Interior Materials—December 31, 1970—PC, MPV, TR & B
Regulation Part 573—Defect Reports—February 10, 1971
Standard No. 121—Air Brake Systems—February 19, 1971—TR, B & TL
Regulation Part 568—Vehicles Manufactured in Two or More Stages—April 8, 1971
Standard No. 215—Exterior Protection (Bumpers)—April 7, 1971—PC
Standard No. 117—Retreaded Pneumatic Tires—April 14, 1971—PC

FISCAL YEAR 1970

Standard No. 213—Child Seating Systems—March 23, 1970—EQ

In addition to the above listed standards, 105 amendments to existing standards were issued during FY 70, 71 and 72. These are listed below and include the passive restraint amendment to Federal Motor Vehicle Safety Standard No. 208.

AMENDMENTS ISSUED TO EXISTING RULES AND REGULATIONS DURING THE LAST THREE FISCAL YEARS (WITH INDICATED ISSUANCE DATES)

FISCAL YEAR 1972

Standard No. 208—Occupant Crash Protection—PC, MPV, TR & B—May 3, 1972
Standard No. 117—Retreaded Pneumatic Tires—PC—March 17, 1972
Standard No. 208—Occupant Crash Protection—PC, MPV, TR & B—February 17, 1972
Standard No. 121—Air Brake Systems—TR, B & TL—February 16, 1972
Regulation Part 566—Manufacturer Identification—January 24, 1972
Standard No. 108—Lamps, Reflective Devices and Associated Equipment—PC, MPV, TR, B, TL & MC—January 19, 1972
Standard No. 108—Lamps, Reflective Devices and Associated Equipment—PC, MPV, TR, B, TL & MC—January 6, 1972
Standard No. 206—Door Locks & Door Retention Compartments—PC, MPV & TR—January 4, 1972
Standard No. 108—Lamps, Reflective Devices and Associated Equipment—PC, MPV, TR, B, TL & MC—December 22, 1971
Standard No. 110—Tire Selections and Rims—PC—December 15, 1971
Standard No. 109—New Pneumatic Tires—PC—December 15, 1971
Standard No. 117—Retreaded Pneumatic Tires—PC—December 21, 1971
Standard No. 215—Exterior Protection—PC—December 9, 1971

Standard No. 208—Occupant Crash Protection—PC, MPV, TR & B—December 9, 1971
Regulation Part 567—Certification Regulation—December 8, 1971
Standard No. 208—Occupant Crash Protection—PC, MPV, TR & B—December 3, 1971
Standard No. 101—Control Location, Identification and Illumination—PC MPV, TR & B—November 24, 1971
Standard No. 116—Hydraulic Brake Fluids—EQ—November 8, 1971
Standard No. 110—Tire Selection and Rims—PC—October 21, 1971
Standard No. 109—New Pneumatic Tires—PC—October 21, 1971
Standard No. 117—Retreaded Pneumatic Tires—PC—October 22, 1971
Standard No. 215—Exterior Protection—PC—October 18, 1971
Regulation Part 567—Certification Regulation—October 6, 1971
Regulation Part 575—Consumer Information—PC & M—September 28, 1971
Standard No. 208—Occupant Crash Protection—PC, MPV, TR & B—September 29, 1971
Standard No. 116—Hydraulic Brake Fluids—EQ—September 21, 1971
Standard No. 209—Seat Belt Assemblies—PC, MPV, TR & B—August 26, 1971
Standard No. 108—Lamps, Reflective Devices and Associated Equipment—PC, MPV, TR, B TL & MC—August 20, 1971
Regulation Part 574—Tire Identification and Recordkeeping—August 12, 1971
Standard No. 110—Tire Selection and Rims—PC—July 22, 1971
Standard No. 109—New Pneumatic Tires—PC—July 22, 1971
Standard No. 210—Seat Belt Assembly Anchorages—PC, MPV, TR & B—July 21, 1971
Regulation Part 574—Tire Identification and Recordkeeping—July 20, 1971
Standard No. 109—New Pneumatic Tires—PC—July 13, 1971
Standard No. 110—Tire Selection and Rims—PC—July 13, 1971
Standard No. 101—Control Location, Identification and Illumination—PC (MPV, TR & B—9/1/72)—July 9, 1971
Standard No. 208—Occupant Crash Protection—PC, MPV, TR & B—July 2, 1971

FISCAL YEAR 1971

Standard No. 213—Child Seating Systems—EQ—June 23, 1971
Standard No. 116—Hydraulic Brake Fluids—EQ—June 16, 1971
Standard No. 215—Exterior Protection—PC—June 15, 1971
Standard No. 109—New Pneumatic Tires—PC—May 24, 1971
Standard No. 110—Tire Selection and Rims—PC—May 24, 1971
Regulation Part 574—Tire Identification and Recordkeeping—May 21, 1971
Standard No. 208—Seat Belt Assembly Anchorages—TR, B, MPV—May 21, 1971
Standard No. 210—Seat Belt Assemblies—TR B & MPV—May 21, 1971
Standard No. 109—New Pneumatic Tires—PC—May 21, 1971
Standard No. 108—Lamps, Reflective Devices and Associated Equipment—May 13, 1971
Regulation Part 12—Importation—May 3, 1971
Standard No. 109—New Pneumatic Tires—PC—April 16, 1971
Standard No. 110—Tire Selection and Rims—PC—April 16, 1971
Standard No. 101—Control Location, Identification and Illumination—PC, MPV TR, & B—April 29, 1971
Regulation Part 567—Certification—April 8, 1971
Standard No. 213—Child Seating Systems—PC MPV, TR & B—April 7, 1971
Standard No. 209—Seat Belt Assemblies—PC, MPV, TR & B—March 23, 1971
Regulation Part 574—Tire Identification and Recordkeeping—March 4 & 17, 1971
Standard No. 209—Seat Belt Assemblies—PC, MPV, TR & B—March 3, 1971
Standard No. 210—Seat Belt Assembly Anchorages—PC, MPV, TR & B—February 26, 1971
Standard No. 109—New Pneumatic Tires—PC—February 26, 1971
Standard No. 108—Lamps, Reflective Devices and Associated Equipment—January 28, 1971
Regulation Part 574—Tire Identification and Recordkeeping—January 19, 1971
Standard No. 109—New Pneumatic Tires—PC—January 19, 1971
Standard No. 101—Control Location, Identification and Illumination—PC, MPV, TR & B—December 31, 1970
Standard No. 109—New Pneumatic Tires—PC—November 20, 1970

Standard No. 210—Seat Belt Assembly Anchorages—PC, MPV, TR & B—November 20, 1970
Standard No. 208—Occupant Crash Protection—PC, MPV, TR & B—October 29, 1970
Standard No. 108—Lamps, Reflective Devices and Associated Equipment—October 22, 1970
Srandard No. 109—New Pneumatic Tires—PC—October 22, 1970
Standard No. 110—Tire Selection and Rims—PC—September 28, 1970
Standard No. 109—New Pneumatic Tires—PC—September 28, 1970
Standard No. 210—Seat Belt Assembly Anchorages—PC, MPV, TR & B—September 23, 1970
Standard No. 207—Seating Systems—PC, MPV, TR & B—September 23, 1970
Standard No. 208—Seat Belt Installations—PC, MPV, TR & B—September 23, 1970
Standard No. 213—Child Seating Systems—PC, MPV, TR & B—September 17, 1970
Standard No. 110—Tire Selection and Rims—PC—August 31, 1970
Standard No. 109—New Pneumatic Tires—PC—August 31 1970
Standard No. 109—New Pneumatic Tires—PC—July 8, 1970

FISCAL YEAR 1970

Standard No. 110—Tire Selection and Rims—PC—June 4, 1970
Standard No. 109—New Pneumatic Tires—PC—June 4, 1970
Standard No. 105—Hydraulic Brake Systems—EQ—May 18, 1970
Regulation Part 575—Consumer Information Regulation—PC—April 23, 1970
Standard No. 110—Tire Selection and Rims—PC—April 21, 1970
Standard No. 109—New Pneumatic Tires—PC—April 21, 1970
Standard No. 109—New Pneumatic Tires—PC—February 26, 1970
Standard No. 110—Tire Selection and Rims—PC—February 26, 1970
Standard No. 108.—Lamps, Reflective Devices and Associated Equipment—January 23, 1970
Standard No. 109—New Pneumatic Tires—PC—January 5, 1970
Standard No. 110—Tire Selection and Rims—PC—January 5, 1970
Standard No. 110—Tire Selection and Rims—PC—December 3, 1969
Standard No. 109—New Pneumatic Tires—PC—December 3, 1969
Regulation Part 375—Consumer Information Regulation—MC—November 24, 1969
Standard No. 110—Tire Selection and Rims—PC—October 21, 1969
Standard No. 109—New Pneumatic Tires—PC—October 21, 1969
Regulation Part 375—Consumer Information Regulation—PC & MC—October 16, 1969
Standard No. 109—Lamps, Reflective Devices and Associated Equipment—September 17, 1969
Standard No. 110—Tire Selection and Rims—PC—September 13, 1969
Standard No. 109—New Pneumatic Tires—PC—September 13, 1969
Standard No. 109—New Pneumatic Tires—PC—August 20, 1969
Standard No. 110—Tire Selection and Rims—PC—August 20, 1969
Standard No. 206—Door Latches—PC, MPV & TR—August 14, 1969
Standard No. 110—Tire Selection and Rims—PC—July 16, 1969
Standard No. 109—New Pneumatic—PC—July 16, 1969
Regulation Part 375—Consumer Information Regulation—PC & MC—July 14, 1969
Standard No. 110—Tire Selection and Rims—PC—July 2, 1969
Standard No. 109—New Pneumatic Tires—PC—July 2, 1969
Regulation Part 367—Certification—July 7, 1969
Legend:
PC—Passenger Cars
MPV—Multipurpose Passenger Vehicles
TR—Trucks
B—Buses
TL—Trailers
MC—Motorcycles
EQ—Equipment

Senator HARTKE. How many employees are currently assigned to the responsibility of development motor vehicle and motor vehicle equipment safety standards in the Office of Operating Systems?

Mr. TOMS. About 68.

Mr. CARTER. That is total rulemaking staff. The Office of Operating Systems currently has 33 positions and the Office of Crash Worthiness has 34 for a total of 67 as Mr. Toms indicated.

Senator HARTKE. Is this the same authorization for next year that is requested?

Mr. CARTER. The authorization requested for next year, sir, is for 39 in operating systems and 42 in Office of Crash Worthiness. We have requested one additional slot for the Office of Crash Worthiness, a structure specialist.

Senator HARTKE. Are there a sufficient number of people working on standards setting function in the Office of Operating Systems?

Mr. TOMS. I am not sure that we are placing as much of our resources in that area as we would really like to. Again, we have to operate under certain constraints. I think that we are making progress here. However, this is probably an area that would have some payoff if we could focus more energy on it.

Senator HARTKE. What authorization have you requested for the Office of Operating Systems?

Mr. SCOTT. Thirty-nine positions.

Senator HARTKE. How much in money?

Mr. TOMS. Can we supply that for the record? We don't have it before us.

Senator HARTKE. All right.

(The following information was subsequently received for the record:)

OPERATING SYSTEMS

The following table depicts personnel requested for the Office of Operating Systems (fiscal year 1973):

Budget Request, DOT	43
Budget Request, OMB	39
OMB Allowance	39

Funding figures for this office are unavailable.

Senator HARTKE. All right. Are you satisfied that this authorization level will be sufficient to develop and promulgate all safety standards that have been announced in the program plan on schedule?

Mr. TOMS. I think the requested authorization is sufficient for us to meet the goals that we have set for ourselves in the program plan.

Senator HARTKE. Your 1973 staffing request for the Office of Crashworthiness is 43, one more employee than last year's authorization. Is that correct?

Mr. TOMS. Yes.

Mr. CARTER. Yes, sir.

Senator HARTKE. In what area will this additional employee be placed?

Mr. CARTER. He will be working principally in the area of structures and restraints to devise a model for putting these two subsystems into a single occupant protection system.

Senator HARTKE. Is the additional employee, only one, sufficient to do the work in this area?

Mr. CARTER. One employee can make a large contribution here, Mr. Chairman.

Senator HARTKE. That is a good answer. One will make more than none, is that what you are telling me? Is that enough? How many do you need?

Mr. TOMS. We would be willing to try to project some estimates as to the number of positions and supply them to you, Mr. Chairman.

Senator HARTKE. Will you give me an answer for the record to that then?

Mr. TOMS. Yes, sir.

Senator HARTKE. What funding level have you requested for the Office of Crashworthiness?

Mr. TOMS. I am sorry, we will have to supply that for the record, also.

Senator HARTKE. All right. Also, when you supply that figure state whether you are satisfied that this authorization level will be sufficient to enable you to promulgate on schedule all safety standards that the office is responsible for as announced in the program plan.

Mr. TOMS. Yes, sir.

Senator HARTKE. You begin to get the idea.

Mr. TOMS. Yes, sir.

(The following information was subsequently received for the record:)

CRASHWORTHINESS

The following table depicts personnel requested for the Office of Crashworthiness (fiscal year 1973):

Budget request, DOT	56
Budget request, OMB	42
OMB allowance	42

Funding figures for this office are unavailable.

SEPTEMBER 28, 1972.

Mr. DOUGLAS TOMS,
Administrator, National Highway Traffic Safety Administration,
Department of Transportation,
Washington, D.C.

DEAR MR. TOMS: I have just read the hearing inserts that the National Highway Traffic Safety Administration submitted for inclusion in the Record of the June 13, 1972 authorization hearing. I note that on pages 30, 30A, and 31, Senator Hartke requested funding figures for the Office of Operating Systems and the Office of Crashworthiness. You note in your insert "funding figures for this office are unavailable." I once again request that you provide these figures to be included in the Record.

The Senate Commerce Committee can not fulfill its oversight and authorization functions under the National Traffic and Motor Vehicle Safety Act if we are not going to be provided the information requested. I fully expect your response within one week.

Sincerely yours,

WARREN G. MAGNUSON, *Chairman.*

U.S. DEPARTMENT OF TRANSPORTATION,
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION,
Washington, D.C., October 6, 1972.

Hon. WARREN G. MAGNUSON,
Chairman, Committee on Commerce,
U.S. Senate,
Washington, D.C.

DEAR MR. CHAIRMAN: Thank you for your letter of September 28, 1972.

I regret the confusion that developed in connection with your request for funding figures for the Office of Operating Systems and the Office of Crashworthiness.

In the development of budget requests, it has been the practice to show salary and supporting expense requirements at the major activity level rather than at the

individual Office level. To illustrate, the funding requirements for the above-mentioned Offices are included, but not separately identified, in the total funding requirements for the Motor Vehicle Programs activity in the Traffic and Highway Safety appropriation. In order to respond to your request, however, we have extracted from the activity totals funding requirements which would be applicable to the areas of interest, as shown in the enclosure.

I am sorry for any inconvenience the delay in the receipt of this information may have caused you.

Sincerely,

DOUGLAS W. TOMS,
Administrator.

Enclosure.

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION, FISCAL YEAR 1973 FUNDING REQUIREMENTS

	Fiscal year 1973 budget request DOT	Fiscal year 1973 budget Request OMB	Fiscal year 1973 OMB allowance
Office of Operating Systems: Positions	43	39	39
Funding requirements:			
Salaries	$913,900	$828,900	$828,900
Personnel benefits	78,600	7,1300	71,300
Other supporting expenses [1]	100,000	90,000	90,000
Total	1,092,500	990,200	990,200
Office of Crashworthiness: Positions	56	42	42
Funding requirements:			
Salaries	$1,180,400	$885,300	$885,300
Personnel benefits	101,500	76,100	76,100
Other supporting benefits	132,500	100,000	100,000
Total	1,414,400	1,061,400	1,061,400

[1] Includes travel, printing, supplies, and similar expenses.

Senator HARTKE. On the experimental safety vehicle, that is under the Associate Administrator for Research and Development, right?

Mr. TOMS. Yes, John Edwards, Mr. Chairman.

Senator HARTKE. You requested 14 positions in that office, is that correct?

Mr. EDWARDS. Yes, sir.

Senator HARTKE. That is the same number you requested last year, right?

Mr. EDWARDS. Yes, Mr. Chairman.

Senator HARTKE. Is this office sufficiently staffed?

Mr. EDWARDS. We think that we can meet our requirements for fiscal year 1973 with this level of staffing.

Senator HARTKE. How much money have you requested for this office?

Mr. EDWARDS. We have requested $6.3 million, not including salaries and operating expenses.

Senator HARTKE. What did the Office of Management and Budget allocate to you?

Mr. EDWARDS. 6.3 million.

Senator HARTKE. What did you ask for?

Mr. EDWARDS. 6.3 million.

Senator HARTKE. You received what you asked for?

Mr. EDWARDS. Yes, sir.

Senator HARTKE. Okay. You got what you asked for from the Department?

Mr. EDWARDS. Yes, sir.

Senator HARTKE. All of the way through?

Mr. EDWARDS. Yes, sir.

Senator HARTKE. Are you satisfied that this will be a sufficient amount of money to operate the Office of Experimental Safety Vehicles?

Mr. EDWARDS. For this current fiscal year, we believe it is.

Mr. TOMS. The ESV program has been very successful, Mr. Chairman.

Senator HARTKE. We are really not discussing that in detail here today, but there is a question along that line. We will permit that to be in the area of self-serving declarations. In addition to the Office of ESV, what other funds are spent on the ESV program by NHTSA, such as contracts with outside research groups?

Mr. EDWARDS. Well, the $6.3 million is the total ESV effort. In addition, the work done in the areas of crash survivability research contribute and provide input for ESV design.

Senator HARTKE. That is a total figure, including outside contracts?

Mr. EDWARDS. Except for salaries.

Senator HARTKE. Do you have any outside contracts?

Mr. EDWARDS. The ESV is a contract program.

Senator HARTKE. They are all contracts?

Mr. EDWARDS. Yes, sir.

Senator HARTKE. There is no expenditure then, other than the outside contracts?

Mr. EDWARDS. In the Office of Experimental Safety Vehicles, that is correct.

Senator HARTKE. All right.

Mr. EDWARDS. The salaries and expenses for this office are not a part of the $6.3 million requested, but are a part of the management budget.

Senator HARTKE. To go back to the motor vehicle program, what is the total expenditure of NHTSA for its standard-setting activities? What is the total amount of money requested for the Office of Crashworthiness and Operating Systems?

Mr. TOMS. $3.4 million, Mr. Chairman.

Senator HARTKE. $3.4 million.

And the other is $6.3 million, right?

Mr. TOMS. Yes. $6.3 million for the ESV program.

Senator HARTKE. The reason I am comparing these two figures is that I am trying to ascertain the emphasis that NHTSA places on these two programs, and to try to determine which NHTSA considers to be more important. I am particularly concerned in view of the article by Helen Kahn which appeared in yesterday's issue of Automotive News. She discusses the confusion among automakers on whether the program plan articulates the direction in which NHTSA plans to go or whether the ESV program holds the key to the future for the automobile standards.

The article points out, for example, that the ESV emphasizes the manufacturing of cars with a so-called "soft nose." The program plan seems not to support the soft nose concept and may, in fact, emphasize the "hard nose." This difference is vital when considering crashes between a large and small vehicle so that the former doesn't penetrate the latter.

On the basis of your authorization request, is there any conclusion that can be drawn with respect to your intended direction?

Mr. TOMS. First, I congratulate Helen for her perspicacity in this field. In recent months, we have been working very hard on the question of how the results of our ESV program should influence our overall program plan.

We probably will hold some type of technical retreat this summer, where we attempt to evaluate the latest information generated by the French on ESV program aggressivity and adapt our program plan and motor vehicle standards to that kind of work.

Frankly, Mr. Chairman, we think that in the next 6 months or a year we will probably be making a number of changes in our program plan based on recent discoveries that have taken place in the ESV program.

We recognize as clearly as anyone the desirability of measuring our program plan in motor vehicle standards with new data from the ESV program. The last ESV conference we had in D.C. was the best we have ever had. I would say that more technical data came out of that conference than came from any other conference we have attended. This new data will help us immeasurably to make changes in the motor vehicle standards program.

Senator HARTKE. Let me ask you, as of now, are they more or less on a collision course?

Mr. TOMS. Yes, they are.

There have been, until now, distinct differences of opinion as to how we should proceed. But now a preponderance of the evidence is beginning to develop in support of one side so we can tell which way we should proceed.

Senator HARTKE. Which is leading?

Mr. TOMS. I think that——

Senator HARTKE. In other words, is the ESV program leading the standard-setting program?

Mr. TOMS. Yes. To an extent, I think it is. However, it is not leading in every category. In the past we have emphasized that you must have crash survivability space in the automobile. If there is intrusion into this space, you can't really manage the crash energy and you can't expect to get survivability.

Very small cars obviously must have a very, very hard nose in order to have crash survivability in a crash with a big car. Conversely, a big car must have a softer nose in order to accommodate the little car.

If we wanted to set requirements as to size of vehicles, that approach would simplify this problem. However, as long as we accept to the propositions that there will be small and big cars on the same road and that they will sometimes crash into each other, we must come up with some kind of aggressivity index so that we can accommodate the size differences.

The ESV program particularly the French one, has given us a great deal of information, as to ways in which the problems of crashes of different sized vehicles might be successfully approached. This new information, in part, makes obsolete some of the older information that we had been following about very rigid structures.

Senator HARTKE. Who ultimately is responsible for making the decision to avoid the collision? I am not talking about the auto-

mobile collision. I am talking about the collision inside the department?

Mr. TOMS. I am.

I will be very candid with you. I encourage an adversary approach within the administration. I like to have professional engineers, some of whom are obviously partial about their own speciality, argue their points of view as hard as they can.

I like to have all the alternative approaches to a particular problem presented to me so that I can decide which is best.

I may not always be right, but we try to give all sides a chance to argue their approach.

Senator HARTKE. From every standard, we must think about this. Of course ultimately we are thinking about the user. I guess he would like to, sone day, have an automobile which he believes is going to give him a better chance of surviving. The manufacturer, also, in their highest altruistic moments, would have the same concern, but in the meantime, they have an economic concern.

Mr. TOMS. Yes, the manufacturer wants to sell his cars and make a profit.

Senator HARTKE. Yes, he has an economic concern as to which is ultimately going to prevail. Therefore, the question comes when can we expect this substantial difference of opinion to be reconciled?

How long are we faced with, in time?

Mr. TOMS. I think we would begin to make public information about aggressivity indices next winter. In other words, we would do it about 6 to 8 months from now.

Senator HARTKE. All right.

Mr. TOMS. But I doubt whether at that time the aggressivity indices will have been sufficiently studied so that we would be able to initiate rulemaking on that subject. Our next ESV conference will be held in Japan, perhaps in March or February of next year. At that time, we hope to have worked enough with the leading researchers in this field so that we will have a pretty good idea of how rulemaking in this area might work.

Senator HARTKE. Let me ask you a question. Is it not true that so little was known about this topic until you became involved, that this is part of the cause for this apparent collision?

Mr. TOMS. Yes, absolutely.

Senator HARTKE. Does it seem pathetic for all those people who claim that the automobile safety law would have no material affect on safety, to claim everything was being done in this field, as totally wrong, in fact so wrong that it almost deals with being pathetic.

Mr. TOMS. Yes.

As a matter of fact, we can cite very interesting little analogies. The Chevrolet Impala is well known as a soft-nose vehicle. Within the same company, a Vega is fairly hard nosed.

Chrysler Corp. cars are considered to be stiff or hard nosed. Yet, it has only been in the last couple of years that engineers and researchers in the highway safety field have begun to handle hard-nose, soft-nose question and concern themselves with the crash properties of these different kinds of structures. Before the present time not much thought was really given to this question.

Now that the crash properties of each type are fairly well understood, I think we can go ahead and begin to try to find out how they will interact in a collision.

The interaction in a head-on collision is the easiest to understand. But you must also consider the angular collisions. Cars are definitely designed with softer corners. The question of how to develop a soft corner, which is desirable, and at the same time get the aggressivity needed for survivability in the front and rear end structure will take some time to answer. This is part of what Mr. Carter meant when he said that we would like the office of crashworthiness to come up with some models that will help us attach some aggressivity indices to different structure and restraint systems.

Senator HARTKE. In this field of ESV, the winner of the competition between Fairchild Hiller and AMF will be awarded a contract to manufacture 12 additional vehicles, is that correct?

Mr. TOMS. That is the present plan. We may modify that plan. We are presently negotiating to find out whether we need to have that many additional vehicles.

Senator HARTKE. I see.

When do you anticipate a decision on that?

Mr. TOMS. In August.

Mr. EDWARDS. We are going to award a contract before the end of this month.

Mr. TOMS. We will award the contract this month with a caveat that we can review our testing procedures and decide how many cars we need to crash. We don't want to build any more than we need to in order to get the information that is desired.

Senator HARTKE. Is this a fair interpretation to say that the ESV program really is developing the safety features for America?

Mr. TOMS. It is contributing very heavily to the development of safety features. There are other activities——

Senator HARTKE. But if you had to point to one thing, you would say is in this field, correct?

Mr. TOMS. Yes.

Senator HARTKE. Now, the fact is that many of the original ESV approaches have been criticized as being too heavy, overdesigned, and not adequate for passenger protection. Is this request for authorization to be interpreted as not being geared toward the development of a production prototype ESV?

Mr. TOMS. No. We are moving toward the development of a production-type car. A large part of the last ESV conference was directed toward discussion as to how we can get out of the experimental stage and into the production stage.

Senator HARTKE. I note that you are requesting a $200,000 expenditure for your participation on the NATO Committee on Challenges of Modern Society, correct?

Mr. TOMS. That is correct.

Senator HARTKE. Does this committee include work on the ESV?

Mr. TOMS. Not directly, but they contribute to the ESV program indirectly.

Senator HARTKE. What are the other functions of the committee?

Mr. TOMS. They are involved in such programs as pedestrian safety, accident investigation, and emergency medical services. In addition the NATO committee members are often the same people who are involved with the European ESV efforts so there is an intermix there.

Senator HARTKE. How does this participation by the NHTSA compare with that of other countries?

Mr. TOMS. We are the most heavily involved. I would say that most of the other participating countries have only one project. There might be a couple of countries that have two.

Senator HARTKE. Do you think additional funding or staff support is needed to insure meaningful participation by the United States on this committee?

Mr. TOMS. It is my judgment, Mr. Chairman, that we probably do not need more funding here.

Senator HARTKE. All right.

Now in motor vehicles in use, you have requested an authorization for nine positions in the Office of Standards for Vehicles in Use, is that correct?

Mr. TOMS. That is right.

Senator HARTKE. What level of spending have you requested for the office?

Mr. TOMS. The Office of Standards for Vehicles In Use incurs obligations for salaries and operating expenses only, which total approximately $170,000. Research and demonstration projects for vehicles in use are funded elsewhere.

Senator HARTKE. I understand that NHTSA is on the verge of adopting a new motor-vehicle-in-use program plan which abandons the congressionally mandated goal of developing motor-vehicle-in-use standards, and instead substitutes the development of a prototype MVIU periodic inspection system. Is this correct?

Mr. TOMS. That is correct.

Senator HARTKE. Will this new program be operated from the existing Office of Standards for Vehicles in Use?

Mr. TOMS. Yes.

Senator HARTKE. How much would it have cost to develop those standards as required by section 108(b)(1) of Public Law 89–563?

Mr. TOMS. I would have to submit that figure for the record. I don't have it immediately available.

(The following information was subsequently received for the record:)

MOTOR VEHICLE-IN-USE STANDARDS

When the Department issues new motor vehicle safety standards, the standards are directly applicable to all manufacturers of motor vehicles and equipment unless certain exemptions are granted. Used motor vehicle standards do not have the same effect. They must be implemented and enforced through the States.

The principal means that the States use to enforce the removal from the road of unsafe motor vehicles is through the States' Highway Safety Inspection Programs. Therefore, it is through these inspection programs that we must attack the used vehicle safety problem.

As a consequence of the above, uniform Federal motor vehicle performance standards for used motor vehicles as required under Section 108(b)(1) of the Motor Vehicle Safety Act will be implemented in a different form. The Department plans to establish used motor vehicle performance criteria and inspection procedures in model inspection programs for the States. Thus, the used vehicle standards as originally contemplated under the Motor Vehicle Safety Act will be in the form of vehicle inspection criteria and procedures.

In a plan approved by the Administrator of the National Highway Traffic Safety Administration (see "Vehicles-In-Use Program Plan" dated April 1972 attached), demonstration inspection programs will be established in selected States beginning in FY 1974. These demonstration programs will evaluate and

validate the model inspection programs. If these programs are found to be workable and effective, we will issue appropriate guidance and standards to the States to modify existing inspection programs.

The estimated funding to accomplish this effort for the first three years is as follows:

[In thousands of dollars]

	Fiscal year—		
	1973	1974	1975
Motor vehicle safety research (Public Law 89–563)	545	2,300	2,300
Highway safety research and development (Public Law 89–564, S. 403)	1,380	2,520	3,030

Senator HARTKE. Was lack of funding the reason for not developing MVIU standards?

Mr. TOMS. No. We have been very concerned about the question of the payoff of programs dealing with vehicles in use. We have stepped up activities in our compliance and defects program, but we have grave doubts as to whether certain kinds of State inspection programs or standards on vehicles in use are effective. We just don't want to concentrate our resources in programs where there are big questions about the payoff.

Mr. SCHNEIDER. I might add, Mr. Chairman, that we feel we are being totaly consistent with the mandate of Congress in section 108 in that the inspection criteria that Mr. Toms is referring to is for all intents and purposes, the same thing as what Congress meant when they talked about vehicle-in-use standards.

Senator HARTKE. I am going to go down to the Finance Committee again, and Senator Stevens has consented to continue this line of questioning.

Mr. TOMS. Thank you Mr. Chairman. Good questions.

Senator STEVENS (presiding). You will pardon me if I am just a little punchy. I just got back from Alaska yesterday and am still operating on Alaska time, which is 6:30.

Mr. TOMS. Your timeclock is not adjusted.

Senator STEVENS. In addition to the request for the Office of Motor-Vehicles-in-Use plan, what is the value of the contracts that have been administered by NHTSA relating to vehicle in use program?

Mr. TOMS. Can we submit that figure for the record, Mr. Chairman?[1]

Senator STEVENS. Yes. Give us that figure and also a brief summary of those contracts.

Mr. TOMS. We would be pleased to do so.

Senator STEVENS. Are these contracts of the Office for Standards for Vehicles in Use the only expenditure by NHTSA on the vehicle-in-use project?

Mr. EDWARDS. I believe that the reference to contracts is a reference to our contract program in the Research Institute.

Mr. TOMS. Then the answer would be yes, Mr. Chairman.

Senator STEVENS. Was a lack of funding the cause for the delay in the final establishment of the motor vehicle-in-use program plan?

Mr. TOMS. No.

Senator STEVENS. What was it?

Mr. TOMS. The delay was caused by our efforts to determine what approach would produce the maximum payoff. We have a number of

[1] See p. 86.

research projects underway which are attempting to identify the possible programs that would do the job we think needs to be done.

Senator STEVENS. Are you satisfied that you now have the proper level of funding and staff necessary to move forward with the VIU program as articulated in the new program plan?

Mr. TOMS. Yes, we are. Another reason for our delay in the establishment of a final VIU program plan is that we feel that we should not initiate any kind of a vehicle-in-use inspection program that would run counter to EPA's clean air program.

Senator STEVENS. Under the Clean Air Act, the EPA must develop a system of State inspections to meet tests for emission standards compliance.

Have you requested sufficient funding and staff to adequately correlate the NHTSA prototype periodic motor vehicle inspection program with the program now contemplated by EPA?

Mr. TOMS. Yes. However, we have not yet, Mr. Chairman, had an opportunity to go into detailed joint planning with EPA. We are ready for this stage. However, I have not had an opportunity to find out how far along EPA is with its program plan yet.

Senator STEVENS. What have you done to date to coordinate efforts with EPA?

Mr. TOMS. We have written to them and repeatedly sent out people to visit them. We have told them that we are ready to go ahead as soon as they are.

Senator STEVENS. Are they not ready, is that the point?

Mr. TOMS. I don't know. I do know that they have had a lot of difficulties. I assume that they are awaiting the results from some of their current rules before they embark on their VIU program.

Senator STEVENS. Will you provide for the record a description of the costs and results that have been effected by the NHTSA support of the District of Columbia Inspection Stations?

Mr. TOMS. Yes, sir.

(The following information was subsequently received for the record:)

D.C. MOTOR VEHICLE INSPECTION DEMONSTRATION PROJECT

The estimated cost of the D.C. Motor Vehicle Inspection Demonstration Project is as follows:

	Fiscal year—		
	1973	1974	1975
Highway safety research and development (Public Law 89-564, S. 403)..	[1] $544,000	$600,000	$600,000

[1] Includes $469,000 for District of Columbia demonstration project and $75,000 for fixed demonstration retrofit costs.

Since the project is just beginning, it is too early to evaluate the effectiveness at this time.

Senator STEVENS. Would you also supply for the record the appropriation for the vehicle-in-use projects in 1968, 1969, 1970, 1971 and 1972 and how much was actually expended in that year?

And not only the appropriation, but how much you actually spent.

In addition, will you provide the NHTSA projected expenditures for the VIU programs for 1973, 1974, and 1975?

Mr. TOMS. Yes, Mr. Chairman.

(The following information was subsequently received for the record:)

VEHICLES-IN-USE PROGRAM

Since the beginning of FY 1968, approximately $4.3 million in contractual research funding has been obligated by NHTSA for the Vehicles-In-Use program. This total amount is broken down between the Motor Vehicle Safety Research and Highway Safety Research and Development programs as follows:

[In thousands of dollars]

	Fiscal year—					
	1968	1969	1970	1971	1972	Total
Motor vehicle safety research (Public Law 89-563)	800	250	550	394	400	2,394
Highway safety research and development (Public Law 89-564 S. 403)	580	220	195	445	445	1,885
Total	1,380	470	745	839	845	4,279

For the FY 1973–FY 1975 time period, NHTSA has projected estimated obligations of $12.1 million, which will be authorized under Motor Vehicle Safety Research and Highway Safety Research and Development as follows:

[In thousands of dollars]

	Fiscal year—			
	1973	1974	1975	Total
Motor vehicle safety research	545	2,300	2,300	5,145
Highway safety research and development	1,380	2,520	3,030	6,930
Total	1,925	4,820	5,330	12,075

Senator STEVENS. Also provide for the record an outline of the amount of money that has been spent and that will be spent specifically in the area of degradation problems of vehicles in use?

Mr. TOMS. Yes, sir.

(The following information was subsequently received for the record:)

VEHICLES–IN–USE PROGRAM

For the beginning of FY 1968 through the end of FY 1972, approximately $2.4 million has been obligated by NHTSA to: define and identify Vehicles-In-Use components, subsystem and system failures and to advance present knowledge of the effect of vehicle components, subsystem or system degradation on vehicle braking and handling performance and its associated influence on vehicle safety.

Funding provided by NHTSA for each respective fiscal year is reflected in the previous table provided for the record.

Senator STEVENS. Could you give us a copy of the task force report leading to the new vehicle-in-use plan and any implementation plans now being considered?

Mr. Toms. Yes, sir.[1]

Senator STEVENS. You have requested 43 positions in the Office of Standards Enforcement. This is the same staffing as 1972. Are you satisfied that enforcement activities can be carried out thoroughly by a staff of the same size?

Mr. TOMS. Yes, sir.

Senator STEVENS. What level of expenditures did you request from the Department in this area?

[1] See p.86.

Mr. TOMS. Well, as you know, we just completed a rather major shift in both resources and personnel in the compliance and defects programs. We think that this program is functioning very well now. We have known for sometime that we needed to make these changes. We don't want to put an abnormal amount of effort into the defects and compliance area, because we don't feel the payoffs are high there. We do realize that our policing effort is very important since it is critical to the program that the standards we promulgate be followed.

However, we think that the present level of activity in standards enforcement is sufficient.

If our experience this year indicates that we need to step this effort up, we will of course ask for more resources and move in that direction. But right now what we really need is more information coming in from the field rather than the ability to step up our actual defects investigations.

Senator STEVENS. I am a little worried about your payoff concept. Do I misunderstand you that EPA has been unwilling to sit down with you to discuss your State inspection systems to test emission standards?

Mr. TOMS. No, no, that is not true. EPA has been more than willing to discuss their emission standards. However, at the present time, I am not sure whether they can indicate what kind of an actual vehicle inspection program they want. I don't know whether or not they have finalized the procedures or techniques that they want to use for testing the cars.

Senator STEVENS. Are we going to end up with a system where the motorist has to go one place to get a test for emission standards, and another place to get a test to comply with District of Columbia standards, and another one to get your tests?

Mr. TOMS. That is exactly the situation that we want to avoid. We want to be sure that whatever vehicle-in-use program is mandated by the Federal Government and adopted by the States is such that a man goes to only one location to have his car tested for compliance with all standards.

Senator STEVENS. I am informed that the city of New York asked you for money for an experimental system to incorporate all testing stations into one station, is that right?

Mr. TOMS. I am not personally aware of this request. They may have submitted an unsolicited proposal to our Agency that I have not seen.

Senator STEVENS. I am told they asked you for a million dollars and that EPA has given them $200,000.

No, EPA gave them the $200,000.

Mr. TOMS. That could be.

Senator STEVENS. But you didn't provide them with any assistance?

Mr. TOMS. I am not sure that New York asked us for assistance. They may have asked EPA.

Senator STEVENS. Would you look into that and let us know? The staff informs me that fairly recently there has been an attempt to try to get these things put together in New York.

(The following information was subsequently received for the record:)

NEW YORK CITY VEHICLE INSPECTION ADMINISTRATION PROJECT

The NHTSA has received just recently, in June, 1972, a request for funds from the New York City Taxi and Limousine Commission. The proposed project involves the periodic diagnostic inspection for safety, noise and meter-accuracy of each in-use taxicab and limousine in the City of New York. The proposal is being evaluated, it has neither been accepted nor rejected.

Mr. TOMS. We realize that a single testing location is absolutely necessary. Everything we have done so far in the standards compliance program has been pointed in that direction. EPA has also indicated that recognize this. They too want a single automobile inspection location.

We are now ready and able to implement this idea as soon as EPA notifies us that they have finalized their enforcement plan.

Senator STEVENS. I don't like to get provincial, but I was in a little village in Alaska called Bethel the other day. When a cab breaks down in Bethel, they put a new one on a Hercules and fly it out, because there is no one there to repair it.

Are your people contemplating the effect these standards will have on very rural communities where they don't have the people to effect the necessary repairs to keep the mechanisms going.

Mr. TOMS. As a matter of fact, the effect of our standards on rural areas is something we have worried about a lot. The needs of a motor vehicle owner in New York City may be definitely different than the needs of a motor vehicle owner an automobile in Bethel.

Senator STEVENS. Yet, this should not jeopardize our efforts to obtain the highest standards we can possibly accomplish.

Mr. Toms, you revealed in hearings before the House Appropriations Committee that of the 13,188 tests run to check compliance with the Federal Motor Vehicle Safety Standards, 607 tests were recorded as failures. Is that right?

Mr. TOMS. We have been running a 6.72 cumulative failure rate, I believe.

Senator STEVENS. Have any fines been levied on the manufacturers of the noncomplying pieces of equipment?

Mr. TOMS. Yes, definitely.

Senator STEVENS. Could you give us a statement for the record as to what has been done?

Mr. TOMS. Surely.

(The following information was subsequently received for the record:)

CIVIL PENALTIES

Calendar year	Company	Violation	Amount
1969	Fiat Motor Co	Std. 111: Rearview mirrors	$15,000
	General Tire	Std. 109: Passenger car tires; 2 different brand tires	50,000
	Mohawk	Std. 109: Passenger car tires	25,000
1970	Dunlop	do	22,500
	Mansfield	do	7,500
	General Motors	Std. 108: Backup lights	50,000
	Firestone	Std. 109: Passenger car tires	3,000
	Checker Motors	Std. 210: Seat belt anchorage	2,500
	Birge—Tire dealer	Std. 109: Passenger car tires, farm use only	400
	Fisher—Tire dealer	do	600
	Vespa of Miami	Import regs. (19 CFR 12.80)	3,000
1971	Uniroyal	Std. 109: Passenger car tires	7,000
	Fiat Motor Co	Std. 204: Steering wheel, rearward displacement	100,000
	Armstrong Tire	Std. 109: Passenger car tires	6,500
	Chrysler Corp	Std. 207: Anchorage of seats	5,000
	B. F. Goodrich	Std. 109: Passenger car tires	35,000

CIVIL PENALTIES—Continued

Calendar year	Company	Violation	Amount
1971	Goodyear	do	$18,000
	Seiberling	do	4,000
	International Harvester	Std. 108: Lighting	15,000
	Chrysler Corp	Std. 108: Lighting	10,000
	TVR	Import regs. (19 CFR 12.80)	1,000
	T & M Motors	do	800
	Avanti	Std. 108: Lighting	750
	Ernest B. Holmes	do	2,000
	Gregg Garrison	Import regs. (19 CFR 12.80)	1,750
	E. B. Wills	Std. 108: Lighting	2,000
	British Leyland	Std. 105: Brakes	20,000
	Subaru	Consumer inform. regs	1,500
1972	General Motors (Opel)	Std. 212: Windshield mounting	90,000
	Hale Trailers	Std. 108: Lighting and certification regs	5,000
	Bob Brown Buick	Import regs: (19 CFR 12.80)	500
	Pride Trimble	Std. 213: Child seating	500
	Frank F. Taylor	do	500
	Cosco	do	500
	Buckeye	do	500
	British Leyland	Consumer inform. regs	1,500
	Tyoy Kogyo	Std. 105: Brake warning indicator	1,500
	Yarbrough Manufacturing Co.	Std. 108: Lighting	500
	Dunlop	Std. 109: Passenger car tires	1,000
	British Leyland	Std. 208: Seat belts	12,000
	B. F. Goodrich	Std. 109: Passenger car tires	17,500
	Aspen Coach	Std. 206: Door hinges	500

Manufacturer Efforts To Improve Compliance With Standards

The overall aim of the enforcement program is to encourage manufacturers to more diligently pursue their own in-house control programs and thus control and minimize, at the source, the incidence of noncompliance to FMVSS. There have been encouraging signs that this is, indeed, occurring. It is known, for instance, that tire manufacturers have instituted new and more rigorous controls within their plants which, in the words of tire dealers, has resulted in a better quality product reaching the marketplace. In the case of one major tire manufacturer alone, an increase of 75 percent in available test wheel positions was authorized in a single year, representing a significant capital investment in the cause of quality and compliance to FMVSS. Our experience would lead us to believe that other manufacturers, both vehicle and equipment, are, similarly, upgrading their in-house programs.

Senator STEVENS. How extensive has that activity been?

Mr. TOMS. We have just passed the $500,000 mark in fines.

Senator STEVENS. How many of the 600 failures were fined?

Mr. TOMS. I don't recall that, Mr. Chairman. I will supply it for the record.

(The following information was subsequently received for the record:)

Out of 13,000 compliance tests, 607 resulted in failure. How many of these failures resulted in civil penalties?

In considering this question, it should be recognized that civil penalties are not imposed on a sole basis of failures encountered in the test program. Technically, a failure initiates an investigation with multiple failures of a related product line, where they occur, being grouped as a single investigation. In point of application, the 607 failures referenced in this particular question resulted in the initiation of 134 investigations. Of these, 7 have resulted in civil penalties so far, 16 others are under consideration by the Office of the Chief Counsel based upon completed engineering evaluation, and 23 are still under investigation by the engineering staff. Administrative decisions to close the remaining 88 cases with no further action have been made.

Senator STEVENS. To what period of time does that $500,000 figure apply?

Mr. SCHNEIDER. From the beginning of 1969 to the present time.

Senator STEVENS. Do you have figures available regarding how many recalls have been effected by virtue of your program?

Mr. SCHNEIDER. Yes, sir.

Senator STEVENS. How many have there been?

Mr. SCHNEIDER. A total of about 11 million vehicles have been influenced by NHTSA activity out of a total of 26 million total vehicles recalled since the passage of the Vehicle Safety Act. I don't have that figure broken down by campaigns, but we can provide that for the record.[1]

Senator STEVENS. That would be very interesting to have. How many pending investigations of vehicles or equipment which may contain safety-related defects or failures are currently in progress? Would you please specify for the record the length of time each investigation has been pending.

Mr. TOMS. There are about 30 pending investigations of vehicles or equipment. But I would like to submit the exact figure for the record.

Senator STEVENS. Please.

(The following information was subsequently received for the record:)

[1] See p. 107.

SUBJECTS OF CURRENT SAFETY RELATED DEFECT INVESTIGATIONS

I. INVESTIGATIONS—PRIORITY

Case number and make	Model	Year	Component	Date initiated	Number of months
060—Volkswagen	All	1958–69	Windshield wiper arms	October 28, 1968. Closed, December 27, 1968; reopened, September 1, 1971.	9
098—Ford	Mustang/Cougar	1966–70	Ford drop in fuel tank vent	March 18, 1969. Closed, August 27, 1969; reopened, July 8, 1971.	11
132—General Motors	All	1965–66	Quadrajet carburetors	September 25, 1969. Closed, January 7, 1970; reopened, November 10, 1971.	7
140—Ford	Mustang/Cougar	1968–69	Seat back pivot arm	September 8, 1969. Closed, April 27, 1971; reopened, August 31, 1971.	9
161—General Motors, Chrysler, American Motors Corporation, Ford.	All	1963–71	Power brake vacuum check valve	October 30, 1969. Closed, November 17, 1970; reopened, August 31, 1971.	9
212—Ford	Full size	1965–69	Lower control arms	March 20, 1970, Closed (police cars), September 16, 1970; reopened (passenger cars), November 2, 1970.	19
228—Volvo	140,164, P–1800	1969	Accelerator linkage	May 14, 1970	24
233—General Motors	General Motor schoolbus	1965–70	Brake wheel cylinder	June 3, 1970	24
236—Michelin	XRB size 37.5–39		Tires	June 12, 1970	24
249.b—Volkswagen	Volkswagen	Pre-1963	Heater	October 28, 1970	19
252—Chevrolet	½-ton van and passenger cars	1969	Tie rod	October 13, 1970	19
258—General Motors—Buick, Pontiac, Cadillac, Oldsmobile.	All models	1965–69	Engine mounts	October 28, 1970	19
265—Ford	do	1970–71	Locking pawl grommet, shoulder harness	December 4, 1970	18
266—Ford	Full size	1969	Ignition switch	Dec. 10, 1970	18
278—Volkswagen	All	1965–71	Seat and seat track	Feb. 23, 1971	17
279—Chevrolet	Corvair	1960–63	Chassis and suspension	Mar. 2, 1971	15
283—International Harvester	Loadstar	1969	Rear axle housing	Mar. 24, 1971	14
287—Ford	Galaxie	1968–69	Front wheel spindle	Apr. 5, 1971	14
289—British Leyland	Austin America/All models	1971	Exhaust system	Apr. 12, 1971	14
297—Firestone	Front tires on GMC PD 4903 and PD 4905.	1969–70	Tires	Apr. 30, 1971	13
C2–10—Peterson Manufacturers	Model 63	All	Child seating	July 19, 1971	11
C2–21—General Motors	Chevrolet	1965	Frame	Sept. 28, 1971	8
C2–23—Mack trucks	Mack Truck tractor	1969–70	Front suspension, saddle block and U-bolt	Sept. 27, 1971	8
C2–35—General Motors	Vega	1971	Throttle solenoid bracket breakage	Jan. 4, 1972	5
C2–40—General Motors	Full size and Chevelle	1971–72	Drag link	Feb. 29, 1972	3

PRIORITY II SUBJECTS OF CURRENT SAFETY RELATED DEFECT INVESTIGATIONS

II. INVESTIGATIONS

Case number and make	Model	Years	Component	Date initiated	Number of months
051—In litigation			3-piece wheel	Sept. 11, 1968	45
128—Ford	16-in. 2-piece wheels for light trucks	Various	Wheels	July 24, 1969	34
150—Firestone, K–H & Budd	RH5° wheels for medium trucks	do	Wheel	Oct. 6, 1969	32
169—Bonanza	15/17 ft. trailers	do	Wheel lug bolts	Dec. 10, 1969	30
190—All manufacturers	Travel trailers	1965–70	Wheels/axles/tires	Dec 30, 1969	29
209—Chevrolet	Biscayne	1969	Rear track bar	Mar. 11, 1970	27
236—Michelin					
248—IH	1600/1700S/1800 Bus	1958–70	Brake shoe	Aug. 27, 1970	21
264—Dodge	S500 chassis	1964–67	Brake drum	Dec. 2, 1970	18
276—IH	1200D	1970	Front spring U-bolts	Feb. 18, 1971	16
282—Ford	Standard size	1965–70	15 by 5 wheel	Mar. 22, 1971	14
282.b—Ford	Ford sedan	1968–71	15 by 6.5 wheels	do	14
296—Rockwell-Standard	Various size trucks	Various	Torque arms	Apr. 30, 1971	13
C2–307—Western Unit Corp	Butler trailers	Various	Drawbar and dollybar	May 24, 1971	12
C2–05—American Motors Corp	Jeepster	1971	Service brakes	July 19, 1971	10
C2–06—Ford	Capri	1971	Evaporative emission system	do	10
C2–08—International Harvester	Step-in-van	1970–71	Steering linkage	do	10
C2–09—All manufacturers	All	All	Motorcycle helmets	do	10
C2–18—Rockwell Standard	Various trucks	1970–71	Front axle hub	Sept. 16, 1971	8
C2–19—Rockwell Standard	Tandem axle trailer	1960–63	Axle spindles	do	8
C2–20—General Motors	Oldsmobile Cutlass	1971	Service brakes	Sept 27, 1971	8
C2–25—Ford	Schoolbus	1966	Brake lines	do	8
C2–28—Warner Electric Brake Co	Various	Various	Electric brakes	do	8
C2–30—Mack Trucks	do	do	Rear spring retention	Nov. 19, 1971	6
C2–31—Ford	Ford standard size	1971	Steering tie rod	Dec. 1, 1971	6
C2–32—General Motors	GMC/Chevrolet pickup	Various	15 in. and 16 in. single piece wheel	Dec 3, 1971	6
C2–33—General Motors	Pontiac Firebird	1972	Lowe B-post	Dec. 17, 1971	6
C2–37—Ford	Standard size	1969	Master cylinder	Feb. 8, 1972	4
C2–38—Webb Wheel Division	Various	Various	20 in. wheel	Feb. 15, 1971	4
C2–39—Trailmobile Division, Pullman, Inc	40-ft. trailer	1966	Axle	Feb. 22, 1972	3
C2–45—Hamill Manufacturing Co	Protecta-tot model 9013	Various	Child seat	Mar. 21, 1972	2
C2–46—Ford	LTD	1972	Power steering hose	Apr. 27, 1972	1
C2–49—IH	Travelall	1971	Lower control arm support bracket	May 11, 1972	1
C2–50—Ford	Schoolbus		Airbrake hose	May 24, 1972	0
C2–51—Avco Motor Homes	Grand Lodge	1971	Gas tank location	do	0

III. SURVEYS AND AUDITS

81–S—All makes	Various	Various	Parts return program	Dec. 15, 1969	29
26–S—All makes	Recreational-type vehicles	do	Axle, wheels, tires, dolly, and drawbar	Aug. 20, 1971	9
40–A—Chrysler	Simca	1969–70	Master cylinder	July 6, 1970	22
49–A—Chevrolet	Corvair	1961–69	Heater	Sept. 10, 1970	20
11–A—IH	Various	1971 and older	Brakes and power steering	July 9, 1971	11
22–A—Saab, U.S.A	96–65	1970	Flexible fuel lines	July 22, 1971	10
2–36—Ford	Capri/Cortina	1970–71	Steering wheel	Feb. 2, 1972	4
2–41—British Leyland	Triumph GT6–MKII	1971–72	Brake hoses	Mar. 1, 1972	3
2–42—IH	Various models	1970	Drag link assembly	Mar. 20, 1972	2
2–48—Mack trucks	Bosh fuel pump	Various	Accelerator rod	May 11, 1972	1

Senator STEVENS. I am informed that you have requested a staffing level of 39 employees for the Office of Defects Investigation which is equal to your 1972 request.

As more and more standards become effective, won't it become necessary to increase the size of this office?

Mr. TOMS. I think that as the years go by it will be necessary to increase the size of the Office of Defects Investigation. However, we believe that its present size will be adequate for this year.

Senator STEVENS. You now have 39 positions. How many did you ask for?

Mr. SCOTT. We did not ask for an increase over the 39. We effected a reprograming action within the last year which increased the staffing level from 30 to 39.

Senator STEVENS. In other words, last year's request was not at this level, it was 30?

Mr. SCOTT. At the outset of the current fiscal year we had an authorization of 30. As a result of a study of the activity of the office, we increased its staffing level by 30 percent.

Senator STEVENS. Do you see a need to beef up the operation of defects investigation in view of the fact that there are investigations pending, I am informed, from as far back as 1968?

Mr. TOMS. In most cases, Mr. Chairman, where there are long-standing investigations, the reason for the delay is not that the Office of Defects Investigation hasn't had the ability to obtain the information, but rather that there was a lack of raw data from investigations teams or from accidents. It is not that we couldn't find the information, but that the information does not exist, and that without it we have no basis to make an adequate decision on a suspected defect that would stand up under scrutiny.

Senator STEVENS. Why not?

Mr. TOMS. Well, there are many cases in which we get a lead on a possible defect but when we go out and try to check the lead, we find our investigation doesn't produce any results. We suspect that there is a problem, but there is a total lack of information in police agencies, in State records, and at the vehicle manufacturers which would permit us to close the case and make a finding as to the existence of a defect.

Senator STEVENS. I am informed you had defect investigations on the Ford shoulder harness and the VW windshield wiper. For how long have these been in effect?

Mr. TOMS. The windshield wiper case is before me now and the shoulder harness case will be presented to me this week or next.

Senator STEVENS. How old are they?

Mr. TOMS. I don't know when they were initiated, I don't recall. We can provide that information if you like.

Senator STEVENS. Would you do that please?

(The following information was subsequently received for the record:)

VW WINDSHIELD WIPER INVESTIGATION

Case #060—Opened 10–28–68—Closed 12–27–68 Due to Lack of Sufficient Information and Reported Low Failure Rate.

Reopened 1–21–71 Due to Additional Consumer Input.

FORD OVER SHOULDER BELT INVESTIGATION

Case #265—Initiated 1-26-71.

Senator STEVENS. In your opinion is the lack of action on these potential defects attributable to a lack of perssonnel or funding?

Mr. TOMS. In most cases, the delay is not attributable to lack of personnel or funding. I wouldn't say that the lack of either is never a factor. There are some large cases for which we may need larger resources. However, I don't believe that we should staff for the rare peaks of our activity. It is more prudent to keep our staffing at the level needed for our normal caseload.

For example, when the Chevrolet engine-mounts case and the Torino rear axle case came up, we could have used a hundred people. However, after the cases ended, we had more than adequate resources to do the job.

Senator STEVENS. Don't you think you need some sort of a contingency fund that you could dip into during the peak periods?

Mr. TOMS. A contingency fund might be very helpful. It is something that has not been proposed, but it is a good idea.

Senator STEVENS. Why don't you think that over and tell us what level of funding would be sufficient and under what conditions it ought to be used?

Mr. TOMS. I think that a contingency fund may be a good idea. We would be very happy to work out some estimates on it and make a proposal.

(The following information was subsequently received for the record:)

CONTINGENCY FUNDS—DEFECTS INVESTIGATION

Following appropriation enactment, NHTSA allocates total available funds to the program areas identified in the budget justifications. If workload were to develop in the Defects Investigation area which could not be met under the original allocation, a review would be undertaken of progress in other programs to establish the capability to reassign additional funds for Defects activity. The identification of reprogramming capability is deemed to constitute a more effective means to cope with unforeseen workloads increases than the use of a contingency reserve, which tends to tie up resources.

Senator STEVENS. I am told that in the Washington Post on May 12 you were quoted as saying the Corvair handling defect would be released in 1 month.

Mr. TOMS. I am waiting for that case to be presented to me right now. As you know, we have a special panel of professional engineers working on that case. I am told that they will soon be making their report to me.

Senator STEVENS. How long has that been pending?

Mr. TOMS. The Corvair handling investigation is 2 or 3 years old.

Senator STEVENS. And the report hasn't been released yet?

Mr. TOMS. No; I might add that the Corvair case has been very controversial. There have been profound differences of opinion among well-qualified experts as to whether or not a defect exists. It has been one of our most difficult cases.

Senator STEVENS. Is the delay a question of inadequate funding?

Mr. TOMS. No; in fact, we put a lot of money into the investigation to go into special testing. After we completed our first investigation, there were sufficient questions raised that we issued a contract to TTI——

Senator STEVENS. Were there any problems with this study due to the personnel level?

(The following information was subsequently received for the record:)

Estimate of man-years spent in fiscal year 1972 on campaign audits—current manpower rate is the same

	Man-years
Administration of pt. 573, CFR: Defects Reports, including adequacy of campaign corrective action and completion status	3
Field audit phase	1
Total	4

NOTE.—4 man-years times 2,000 hours per year equals 8,000 man-hours.

Mr. TOMS. None.

Senator STEVENS. How many people are engaged in your auditing recall campaigns?

Mr. CARTER. Sir, that is a part of the Office of Defects Investigations. There are 33 people in that office, all of whom participate to some degree in the recalls. Is that what you mean?

Senator STEVENS. They were in the people we just talked about previously?

Mr. CARTER. Yes, sir.

Senator STEVENS. Can you give us an estimate of the man-hours involved in the recall audits?

Mr. TOMS. We will supply that information for the record, Mr. Chairman.

Mr. CARTER. Mr. Chairman, the industry has to provide us with quarterly reports on how every recall is going, including the number of motor vehicles that have been brought in. Is that the thrust of the question?

Senator STEVENS. How much money are you putting into the recall audit program?

Mr. CARTER. The Office of Defects Investigations was allocated $1 million dollars in fiscal year 1972. Its allocation will be about $1.8 million for 1973. These figures do not include salaries and expenses.

Senator STEVENS. Do you have statistics compiled by these recall auditors for the past 4 years?

Mr. CARTER. Yes, sir.

Senator STEVENS. Would you give us those for the record, please?

Mr. CARTER. Yes, sir.

(The following information was subsequently received for the record:)

	Average completion rate (percent)
1. 1969 survey, campaigns between Sept. 9, 1966, and Sept. 30, 1968	69. 0
2. NHTSA audits, calendar year 1971	78. 5
3. District of Columbia inspection, August 1971 through December 1971	79. 5

Senator STEVENS. From my understanding, the problem stems from the fact that we want to break down the audit expenditures from the investigation expenditure, and see what the balance is between the two.

Mr. TOMS. All right.

Mr. SCHNEIDER. Mr. Chairman, the subject that Mr. Carter was referring to before I think is appropriate to elaborate on. Much of the need for in-house recall audits has been obviated by the defect reporting regulations we have issued. These regulations put the onus on the manufacturer to do a lot of the work we could otherwise do in-house. So by regulatory efforts, we are doing a great deal in the way of auditing recalls.

Senator STEVENS. Mr. Toms, we have some other witnesses. There is a sizable group of similar questions on your continuing activities, your program direction, coordination, planning and programing in research and analysis. I would suggest it would be just as easy for all of us if we asked you to submit the answers to the questions for the record.

Mr. TOMS. We would be pleased to.

Senator STEVENS. One last question regarding the advanced state of the art safety car program. What are the goals of this program, and how does it differ from the ESV program?

Mr. EDWARDS. It is part of the ESV program. We have proposed a feasibility study phase for the fiscal year 1973 project of approximately $300,000.

Senator STEVENS. That is within your $6.3 million?

Mr. EDWARDS. Yes, sir. This program provides an opportunity to discuss the car of the future, the 10-years-plus car. We consider such questions as what kinds of exotic metals may be applied to future vehicles that have some ultimate production possibilities; what kinds of sensing systems can be applied; what kinds of radar braking techniques or sonar techniques could be used for not only signaling the driver, but actuating his brakes; what are the possibilities for integrating this series of advanced components and systems into a total package.

The initial phase of this program will be in 1973 and we are not committed to, nor do we plan to be actually going into, a real hardware phase. It is a study project.

Senator STEVENS. Have you had any difficulty in obtaining funding for this program?

Mr. EDWARDS. No. sir.

Senator STEVENS. It is a new program this year?

Mr. EDWARDS. No, sir; it is part of the $6.3 million ESV program.

Senator STEVENS. As I understood your answers, you got the money which you requested?

Mr. EDWARDS. In the experimental safety vehicle program, we received all the funds requested.

Senator STEVENS. I am hesitant to ask you what you are doing about the passive restraint system in this authorization.

Mr. TOMS. One of our major objectives in the area of passive restraints right now is to get started with extensive fleet testing. I think that most of the world's highway safety experts agree that most people have not been using their seatbelts and that the publicity campaigns or public information campaigns have failed to increase seatbelt usage significantly.

So we must go either to passive restraints or some kind of interlock restraints.

In cars manufactured since the first of the year there is a type of interlock restraint system that has a warning light and a buzzer that go on when the seatbelt is not used.

We feel that where an interlock restraint system such as this might be objectionable to some drivers, passive belts or airbags would provide an adequate solution.

Senator STEVENS. I am told you have a million dollars in this budget, in addition to last year, for the installation of a passive restraint system in 750 vehicles.

Mr. TOMS. That is correct.

Senator STEVENS. Why so few?

Mr. TOMS. Well, we would rather have private fleet users install passive restraint equipment in their vehicles, than have the Government buying the vehicles and installing the equipment.

One of our highest priority programs is our present attempt to encourage fleet users across the Nation to install passive restraint systems of whatever type they choose in their automobiles. We will then monitor these fleet tests.

Senator STEVENS. You are going to leave it up to the customer to choose the type of restraint?

Mr. TOMS. We think it is very important that a legitimate choice be offered to the consumer. All the Government's job ought to be is being sure that whatever type of passive restraint system is put in a car provides the minimum levels of protection that we set in our standards.

Senator STEVENS. I may differ from other members of this committee, but, being from the north country, I have always been highly suspicious of the air bag program.

Are you continuing your activities in relation to the air bag?

Mr. TOMS. Yes; we feel the air bag has the greatest lifesaving potential of the current passive restraint systems.

We recognize that there might be difficulties with the production of the air bag system. However, we believe that when this device is perfected and placed into production, it will probably do a better job than any device that we know of today.

Senator STEVENS. Notwithstanding the recent tests?

Mr. TOMS. Any time that experimental systems are being developed, some problems are bound to occur.

We regret that some of these air bag failures have occurred, but we don't think that this necessarily reflects in any way on the lifesaving potential of the air bag. We admit that the human error that was involved in the recent failures is terribly regrettable, and that probably greater precautions should have been taken to avoid them.

The point still remains that in all of our scientific testing, air bags have performed better than any other kind of restraint device.

Knowing this, and recognizing the air bag's lifesaving potential, we feel obligated to do whatever we can to have the air bag used for the public's benefit.

Senator STEVENS. I am told that we have got 5 full days in July to talk about the air bag and the staff seems to be anxious to get moving along.

Mr. TOMS. We will be ready, and willing in July to talk more about the air bag.

Senator STEVENS. I would hope that we can have a balanced program to assure that there is a consumer freedom of choice.

Mr. TOMS. We are dedicated to that proposition, Mr. Chairman.

Senator STEVENS. Legislative standards are one thing, but legislative mechanisms to achieve the standards I think is another where we will have disagreements.

Mr. TOMS. You can be assured that all the problems you have mentioned are being carefully considered in NHTSA and that your concerns are shared by many of us.

However, we want to save lives, and we recognize that bold programs must be initiated if we are going to bring the number of motor vehicles fatalities down. So we are trying to pick our way through the pros and cons of the air bag question and bring its lifesaving benefits to production automobiles as rapidly as possible.

The fleet test should answer many of our questions. This is the project we have to concentrate our resources on right now.

Senator STEVENS. Fine. I am sure the committee is indebted to all five of you gentlemen. So there will be no misunderstanding, I would say that I am fairly certain that the statement made by Senator Hartke is shared on both sides of the aisle completely in this committee—that is if we are going to go through the authorization procedure like this, we don't really contemplate coming to the point where someone says to us we would like to do what you suggest we do, but can't do it because we don't have enough authorization for the funds involved.

I would hope that you would again examine this authorization and make sure that it is sufficient for contingencies because I for one don't believe in the Bureau of the Budget getting control over this budget process in the authorization stage. I think we make a big mistake if we don't ask for enough authorization to cover contingencies, because there is no chance for a supplemental then without also getting a supplemental authorization, which to me is nonsense.

I think that that is a common feeling on the committee.

We do appreciate your help, gentlemen, and thank you very much on behalf of the committee.

Mr. TOMS. Thank you, Mr. Chairman.

(The following information was subsequently received for the record:)

U.S. SENATE,
COMMITTEE ON COMMERCE,
June 13, 1972.

Mr. DOUGLAS W. TOMS,
Administrator, National Highway Traffic Safety Administration,
Washington, D.C.

DEAR MR. TOMS: Pursuant to your request for authorization considered at this morning's hearing, I am enclosing additional questions to which I ask you to respond for the Record. Please supply the answers to these questions in addition to the information which you were asked to supply for the Record at the hearing immediately so that the Committee can act next week on the authorization.

Sincerely yours,

VANCE HARTKE,
Chairman, Surface Transportation Subcommittee.

Enclosure.

QUESTIONS—PROGRAM DIRECTION AND COORDINATION

Funding for your Program Direction and Coordination request comes from both the National Traffic and Motor Vehicle Safety Act and the Highway Safety Act. Is That Correct?

How much of this Program Direction and Coordination effort is authorized from the Motor Vehicle Safety Act?

If the information is not immediately available, please submit it for the Record.

The House Appropriations Committee cut $2 million from your requested appropriation for the Selective Traffic Enforcement Program (STEP). Although the STEP project is authorized under the Highway Safety Act, I am concerned with it here because you request an additional professional position in the Office of Civil Rights to assist in the review of contractors and subcontractors who will be participating in the proposed accelerated STEP project. If the $2 million is not restored, is this additional position in the Office of Civil Rights still needed?

Is the budget request for the Office of Consumer Affairs contained under the general heading "Program Direction and Coordination?"

How many Consumer Protection Bulletins have been published in the last year and with what did they deal?

What is your budget allocation for Consumer Protection Bulletins? For other consumer information programs?

Do you anticipate publishing more Bulletins in FY 1973 than you did in FY 1972?

Does NHTSA need authority and funds to produce Consumer Protection Bulletins to be used on electronic media, such as television, as a public service announcements? (Defect recalls, information bulletin, etc.)

The Office of the Chief Counsel has requested a total of 23 positions. There has been some criticism that this office has not participated actively enough in the development and promulgation of standards, that legal enforcement of the standards has not been vigorous, and that rulemaking proceedings are backlogged because of inadequate legal staff.

Are you satisfied that 23 positions is sufficient staffing for this office?

How much money has been allocated to operate the Office of the Chief Counsel, including salaries?

Are you satisfied that this is a sufficient amount of money?

PLANNING AND PROGRAMING

What is the Scientific and Technical Information file?

How much money and how many people have been assigned to administer it?

Are you satisfied with these funding and staffing levels?

What is the NHTSA Information and Data System?

How much money and how many people have been assigned to administer it?

Are you satisfied with these funding and staffing levels?

QUESTIONS—RESEARCH AND ANALYSIS

If we can direct our attention now to the Program Office for Research and Development, you have requested an increase of $7,875,000 over the 1972 appropriation for the contract program. The increases will be used in the areas of crash survivability, alcohol research and testing, and accident investigation and analysis.

Can you break this request down by those programs which are authorized by the Motor Vehicle Safety Act?

Please discuss in greater detail those new projects which will be undertaken in your contract program under this Act.

Are you satisfied that this authorization will be sufficient to include all contract programs necessary to carry out the projects you plan for the upcoming year?

Have any specific projects been deleted by OMB? Which ones?

Section 203 of PL 89–563 required the establishment of a tire grading system within 2 years of enactment of the Act to enable consumers to make an informed choice in purchasing motor vehicle tires That was 1966. What is the status of those standards?

Was the tardy development of those standards a result of a lack of funding for research programs? If not, what was the cause?

Were the standards which were first proposed and which were later severely criticized, inadequate due to a lack of funding?

If not, why was the wrong approach taken by NHTSA?

Why didn't these original standards include provisions for tread wear and traction? Was this due to a lack of funding?

Has NHTSA requested sufficient funding to plan a program by which the public will be aware of, and able to use these standards? Why or why not?

NHTSA plans to initiate an Advanced State-of-the-Art Safety Car Program.

Please describe what the goals of the program are and how it differs from the ESV project?

How much money have you requested for the program for this initial year?

What is your timetable for this program?

Do you anticipate any problem from OMB in obtaining sufficient funding for future years?

Are you satisfied that the level of funding that you have requested will enable you to maintain this program on the timetable that you have designed?

How many personnel have been allocated for this function?

Are you satisfied that this level of personnel strength will be adequate to administer the program as anticipated?

NHTSA plans for research and development work to include the procurement and installation of crash recorders in 15,000 vehicles.

How much money is being requested for this program?

Will more than 15,000 vehicles be utilized in this program in subsequent years? If so, show many and what authorizations will be required in the future to support it?

Do you anticipate approval of the future program by OBM?

Are you satisfied that the amount of money you have requested will be sufficient to support this program?

You have cited three key systems—brakes, tires and steering/suspension as being the real culprits relating to mechanical failures.

But your budget request does not ask for any additional personnel for the Office of Operating Systems Research, however.

Are you satisfied that this Office has sufficient personnel to develop the necessary research on these three systems?

You do request an additional $440,000 in operating expenses.

Is that correct?

What will these funds be used for?

Are you satisfied that you will have sufficient funding to accomplish the research goals that you have set for the Office of Operating Systems Research?

The contract program relating to Occupant Packaging asks for a total of $1.2 million for advanced work in the area of passive restraints systems.

Is that correct?

What is the nature of these research projects?

Are you satisfied that this level of funding will be sufficient to complete those research goals you have set for the upcoming year in the area of passive restraints?

Are you satisfied that sufficient personnel have been allocated to administer this program?

Will problems such as damaging noise levels of the detonating device and systems to prevent misfiring be resolved with those funds?

NHTSA has requested (1,000,000 this year in addition to the $1,000,000 appropriated last year to complete installation of a passive restraint system in 750 vehicles.

Will this be the only test fleet installed with an experimental passive restraint system?

Are you in need of any greater funding for passive restraint research?

COMPLIANCE TEST FACILITY:

Your largest staff increase request is for the Compliance Test Facility.

When will it be operational?

Once the Faculty is operational, will it still be necessary to contract with outside laboratories for compliance testing?

You are requesting 13 employees to staff the facility even though it will not be completed until the end of 1974.

What will they do until the facility is completed?

Will 13 employees be sufficient to complete this task?

How many employees do you anticipate will be necessary to fully staff the Compliance Test Facility when it is complete?

How much will it cost to test for total compliance for one motor vehicle once the Facility is completed?

Is the manufacturer assessed this cost?

QUESTIONS FROM DITLOW AND NASH TESTIMONY

Is a lack of trained personnel a factor contributing to the number of vacancies in NHTSA?

Does NHTSA need to undertake a retraining program to prepare currently unemployed engineers for work in the auto safety field? If so, what level of funding would be necessary?

Are additional personnel needed for the Office of Defects Investigation. Does ODI have need for additional funds for testing motor vehicles for defects, hiring experts, gathering statistical data on the existence of defects and for warning the public of the existence and potential dangers of particular defects?

Is funding needed to provide for ongoing studies to be conducted on the application of research to the Motor Vehicle Safety Standards Program and Vehicle In Use program?

QUESTION ANSWERS—FUNDING FOR PROGRAM DIRECTION AND COORDINATION

a. Yes

b. Of the total FY 1973 request of $2,370,000 for Program Direction and Coordination, $1,529,000 has been allocated to the National Traffic and Motor Vehicle Act.

c. Covered by b.

Question 2

ADDITIONAL POSITIONS REQUESTED FOR PROGRAM DIRECTION AND COORDINATION

a. The additional position requested for the Office of Civil Rights was justified on the basis of additional workload for both the STEP program and the State and Community Highway Safety grant program. Therefore, there would be a need for the position if the additional funds requested for either program, which were denied by the House, are restored as we have requested.

b. Yes.

Question 3

CONSUMER PROTECTION BULLETINS

In FY 1972, three Consumer Protection Bulletins were issued, by date and subject as follows:

February 29, 1972—17–72, Mack Truck Recalls
June 12, 1972—59–72, Windshield Wiper Failures
October 15, 1971—97–71, Engine Mount Failures

It should be noted that a *Consumer Protection Bulletin,* in NHTSA's terminology, refers to a special type of publication arising in the process of a formal investigation for a specific vehicle defect. It is used whenever an investigation has progressed to a point allowing us to forewarn the vehicle owner of a known use-risk, and to provide dependable advice on how he may obtain either a remedy or avoid the risk.

On general matters of highway safety, whether or not a formal investigation is in progress, NHTSA may issue *Public Advisories* to protect the public. These Advisories require an equal amount of research and fact-finding in ——— complete information may be given the public, but they do not issue *only* as a result of activities of the Office of Defects Investigation. A list of Public Advisories, for the same period as above, is as follows:

7–11–71 #75: Advisory on Motorcycle Helmet deficiencies and needs
8–11–71 #72: Advisory on Minibikes and Parental Responsibilities
2–25–72 #12: Advisory on Chassis Rusting, measures to prevent and inspect
3–18–72 #21: Advisory on Tire Identification, and Consumer responsibility at time of purchase

A. These Bulletins reflect investigative effort and research completed, in all cases funded and conducted in other divisions of MVP and the Research divisions. Thus, no specific allocation for the end-product, which is purely informational, can be isolated.

B. The Consumer Protection Bulletin is, by design and purpose, a means of warning the consumer of apparent vehicle use-risks whenever the progress of an NHTSA investigation has progressed sufficiently to provide dependable protective information. Thus, the frequency of these Bulletins is dependent upon the frequency of situations demanding investigation and the progress made. Judging from current activity, we would expect to issue these Bulletins with increasing frequency during FY 1973, but accurate prediction as to number is not feasible.

C. An authorization sufficient to upgrade both the frequency and quality of timely consumer-protection information—leaving open the selection of media so that the best suited may at all times be utilized—would be of significant benefit to the consumer.

Since the choice of media should be dictated by the subject matter to be presented, an authorization allocable to any or all media would be preferable to one which specified either electronic or print. But it is also an obvious limitation on choice when, in the severe limitation of funds, this effort must be pursued only through the most economical (print) medium.

The authorization suggested, specific or general, would be of considerable benefit.

Question 4

POSITIONS IN OFFICE OF CHIEF COUNSEL

a. Considering the fiscal pressures facing the President and the constraints he must necessarily impose, we are satisfied that 23 positions represents a reasonable allocation of positions under the 1973 budget approved for submission to Congress.

b. Funds of $420,000 are assigned to pay salaries and associated expenses of the Chief Counsel's under the 1973 budget.

c .This amount is sufficient to cover the level of 23 positions.

Question 5

What is the Scientific and Technical Information file?

The Scientific and Technical Information File is a collection of bibliographic citations of research reports, technical papers and literature related to vehicle and traffic safety. The file is automated and is used to conduct literature searches and provide current awareness.

There is a continuing need for knowledge of completed and on-going research. There is no other single organization that covers the entire subject area. The products and services avoid duplication of research effort by not only NHTSA but the entire safety community which is provided support.

How much money and how many people have been assigned to administer it?

The document screening and selecting is performed by in-house staff consisting of two professionals. The cataloging, indexing and abstracting is performed by a contractor, due to lack of staff, at an annual cost of $100,000. The announcement and literature search functions are performed in-house by two professionals plus one clerk.

Computer support for file maintenance storage and retrieval costs approximately $75,000 per year.

Are you satisfied with these funding and staffing levels?

Considering current constraints on the budget, we are satisfied with the funding and staffing levels.

Question 6

What is the NHTSA Information and Data System?

The IDS is that function which creates or locates and acquires the data and information to plan, implement, and evaluate the national highway traffic safety program. It is only through the establishment, maintenance, processing, and analysis of the files pertaining to our research and our countermeasure programs that we can determine what is happening in any phase of motor vehicle transportation and whether our programs are having the expected effect—or any effect at all.

a. How much money and how many people have been assigned to administer it?

The following table shows the FY 73 assignments by major activities within the two functional modules established to date:

Functional Module and major activity	Fiscal year 1973	Personnel
NHTSA operations (275,000 with 14 persons):		
System directory	$25,000	3
Scientific and technical information file	100,000	4
Indepth accident files	50,000	2
Supplemental data acquisition	100,000	5
Basic States (1,345,000 with 6 persons):		
Fatality analysis file	1,095,000	2
National accident summary	250,000	4
Total	1,620,000	20

b. Are you satisfied with these funding and staffing levels?

Considering current constraints on the budget, we are satisfied with the funding and staffing levels.

Question 7

RESEARCH AND DEVELOPMENT

a. Authorized by Motor Vehicle Safety Act

1. Crash survivability	+2,140
2. Operating systems	+440
3. Experimental safety vehicle	+1,800
4. Driver/vehicle interaction	+500
5. Vehicles in use	+145
6. Accident investigation and data analysis	+425
Total	+5,450

b(1) Crash Survivability—The increase for FY–73 will be utilized to fund the Crash Recorder Fleet Test Program. This program will establish a capability through crash recording devices to determine actual impact velocities, and record some precrash events involved in accidents. The data to be derived will improve the understanding of the causes and results of accidents and the effectiveness of motor vehicle safety standards.

The 1973 budget plan calls for the identification of appropriate fleets for the crash recorder program and the procurement and installation of crash recorders into approximately 15,000 vehicles. Data collection and analysis techniques will also be developed for the evaluation of information secured through crash recorders in addition to the retrieval and analysis of approximately 1,000 crash records.

b(2) Operating Systems—The increase in funds for FY–73 will be utilized to establish safe handling performance limits for vehicles, to develop tire dynamics criteria for vehicle handling, and work will begin on the development of integral truck and articulated vehicle handling test procedures.

b(3) Experimental Safety Vehicle—The increase in funds for FY–73 will be used for the fabrication and test of a sample of additional vehicles to develop the rulemaking data base being developed in this program. The competition winner between AMF and Fairchild will begin fabrication of 12 follow-on vehicles and the test activity will increase as delivery of these vehicles begins. In addition, both General Motors and Ford will deliver their prototype ESV's for Government testing and approximately four follow-on vehicles each will be acquired. Work will also be initiated to evaluate various alternatives to determine the feasibility of an Advance State-of-the-Art Safety Car Program, whose testing would have ultimate rule-making impact in the late 1970's period.

b(4) Driver/Vehicle Interaction—The increased funds for FY-73 will be utilized to develop: performance requirements for rear-view systems, defog, defrost and wiper systems; data to describe glare values as reflected off vehicle surfaces; data which describe the driver's forward field of view requirements necessary for safe vehicle operation; data to standardize the location, coding, and operation of vehicle controls and instruments; and data to establish performance requirements for improved forward illumination systems, improved turning, and stopping systems which will enhance signal detectability and interpretation.

b(5) Vehicles-in-Use—The increased funds for FY–73 will be used to develop additional data on the effects that degradation of vehicle braking systems, steering and suspension systems have on vehicle performance; and to initiate research to determine the modes and levels of exhaust system and tire degradation which are safety hazards.

b(6) Accident Investigation and Data Analysis—The increased funds for FY–73 will be used to continue work in accident investigation to identify critical areas for new motor vehicle rulemaking actions and to conduct effectiveness evaluations of current standards. Work will also continue in Information and Data Systems to develop a more meaningful multidisciplinary accident investigation reporting system; to complete and install the Fatality Analysis File; and to develop new information data files where required.

c. Under the existing manpower constraints, we are of the opinion that this authorization will be sufficient to fund the current major emphasis programs.

d. OMB reduction reduced the overall planned level of activity in the following areas:

1. Vehicle Structures
2. Occupant Packaging
3. Biomechanics
4. Operating Systems
5. Vehicles-in-Use
6. Accident Investigation and Data Analysis

The OMB reductions totalled $3,660,000.

Question 8

BACKGROUND

The importance of the safety of motor vehicle tires was recognized by Congress in Title II (Tire Safety) of the National Traffic and Motor Vehicle Safety Act of 1966, Public Law 89–563, September 9, 1966. This Act specifically directs regulations for labeling motor vehicle tires, the use of tires at their design load, restrictions on the use of regrooved tires and finally, Section 203 directs that: "In order to assist the consumer to make an informed choice in the purchase of motor vehicle tires, the Secretary shall, through standards established under Title I of this Act, prescribe by order and publish in the *Federal Register*, a uniform quality grading system for motor vehicle tires. . ."

To initiate the formulation of a uniform tire quality grading system, an advanced Notice of Proposed Rulemaking was published on May 16, 1968. A review of the responses to this docket indicated that the tire and related industries disagreed with an approach which would establish such a system. The few comments received confirmed that this would be a controversial issue and that developing the required data base to ensure an enforceable regulation would be an involved problem.

An industry survey made by the Vehicle Systems Research Institute of the National Bureau of Standards indicated that a grading system for tires involving the following characteristics would help the consumer:

High Speed
Strength
Endurance
Treadwear
Traction

The Bureau of Standards started to accumulate data in support of these parameters realizing that the grading of treadwear and traction would require extensive programs. The vehicle Research Institute joined the NHTSA Research Institute in 1971 as the Systems Safety Laboratory (SSL) and is continuing to accumulate data. In September 1971, an NPRM was issued on a Phase I system covering high speed, strength, endurance and uniformity. A rule was anticipated in April 1972 for Phase I, to be followed by a rule for Phase II (Treadwear and Traction) in 1973.

A Technical Meeting held in November 1971 was well attended by the tire and automotive industry.

CURRENT STATUS

The response to the Phase I NPRM both in the docket and at the Technical Meeting was extensive and substantially negative. Aside from a few encouraging comments from Mrs. Knauer, Senator Nelson, and at least one public opinion poll,

all of the material in the docket appears to be opposed to the proposed system. In view of the questionable acceptance of the Phase I proposal, the rule which was scheduled for April 1972 will not be issued. Additional pressure has been applied since January 1972 by Mrs. Knauer writing to the presidents of the major tire companies. Various consumer groups have also become active in urging action from industry.

FUTURE PLANS

Recently, three major tire companies have independently come forth with proposals for a Uniform Tire Quality Grading System for three parameters, treadwear, traction, and high speed. Private surveys have shown that the consumer is primarily interested in these parameters when buying tires.

It has been decided to issue a new NPRM in August 1972 on the basis of (1) new submissions to be docket (2) data have been accumulated which are adequate to permit the grading of treadwear and traction (3) research contracts now in process investigating these subjects should be completed in six months.

The new proposal will emphasize the grading of treadwear, traction, and high speed in a manner which will be understandable to the consumer. Tire characteristics such as strength, wheel endurance, and other minimum requirements will remain in FMVSS No. 109. In other words the customer will be buying a tire which has been certified to certain minimum requirements but in addition he will get a rating on the tire for treadwear, traction and high speed.

As of April 1972 data have been accumulated showing that traction and treadwear can be rated. High speed will remain a wheel test as it has been since FMVSS No. 109 was issued. Research contracts now in process will supply a data base in approximately six months to provide backing for a rule to be issued later in 1972.

It is planned to initiate additional public opinions polls just prior to issuing the final rule. An effective date for the rule of mid-1973 appears realistic.

GENERAL COMMENTS

The development of the standard was not tardy due to the lack of funds.

The first report from the National Bureau of Standards, who was conducting the research for the Administration by an inter-agency agreement, in 1968, proposed research on a system based on the three mechanical performance characteristics of high speed, breaking energy, endurance and the two functional characteristics of treadwear and traction. However, because of totally unpredictable difficulties which are characteristic of research in uncharted areas, of the five highest priority research categories pursued by the National Bureau of Standards through 1970, only the high speed, endurance and breaking energy projects produced meaningful sound engineering data to promulgate a standard. The major relevant conclusion of the National Bureau of Standards data generated for the treadwear and traction was that the research conducted to date wa inconclusive in these categories.

The Administration believed that the issuance of a two-phased program was warranted due to the congressional mandate and the lack of sound data by which tread and traction could be included within a single-system approach.

The promulgation of the Uniform Tire Quality Grading System proposed by NHTSA was to be conducted in two phases. Phase I, which was to include high speed performance, strength, endurance and uniformity, was based on sound engineering data accumulated in the research effort at the National Bureau of Standards and was to be issued in April 1972.

Phase II, which would amend the system, by adding treadwear and traction, was to be issued in 1973.

NHTSA believes it has requested adequate funding for the solution of the Uniform Tire Quality Grading System. Within the last two months we have initiated two additional research contracts in the areas of treadwear and traction to provide meaningful information by which a consumer can purchase a motor vehicle tire. The requested funding will also allow for follow-on projects within these areas.

Question 9

NHTSA plans to initiate an Advanced State-of-the-Art Safety Car Program.

a. Please describe what the goals of the program are and how it differs from the ESV project?

The current and planned work on the U.S. family sedan project and the efforts being expended by foreign manufacturers on the lighter weight and smaller size

safety vehicles are all utilizing near-term state-of-the-art design solutions for application to production vehicles of the late 1970's. With these programs defined and proceeding, it is now imperative that studies be initiated, aimed at meeting the needs which will arise in the early 1980's. Economic and ecological considerations will bring pressures to bear on the transportation system which will require changes in the character of the nation's traffic. Solutions for these problems must be found by the application of advanced techniques which are well beyond those required for the existing programs. Significant safety-related problems include the integration of automatic accident avoidance features, crash compatability between vehicles of different sizes, low pollution power sources and other future needs into reliable and servicable vehicles.

b. How much money have you requested for the program for this initial year?

A concept definition phase is planned for initiation in FY 1973 at a cost of $300,000.00. One or more study contracts will be conducted to identify promising concepts followed by feasibility studies to guide hardware development.

c. What is the timetable for this program?

FY 73—Concept and feasibility studies.

FY 74—Hardware development would commence. Development would continue through FY 75 and FY 76 with prototype delivery in FY 76. Testing of prototypes would commence in FY 76.

d. Do you anticipate any problems from OMB in obtaining sufficient funding for future years?

To date, OMB has supported all ESV program funding requests. Hopefully, this support will continue.

e. Are you satisfied that the level of funding that you have requested will enable you to maintain this program on the timetable you have designed?

We believe that the current funding for this program is adequate to support the near-term plan. Out-year funding requirements are now being refined.

f. How many personnel have been allocated for this function?

Two professionals have been requested to support this program in FY 73, and other existing office personnel will be phased into this program as the near-term project phases out.

g. Are you satisfied that this level of personnel strength will be adequate to administer the program as anticipated?

Yes, considering the program phasing vis-a-vis the ESV family sedan project.

Question 10

CRASH RECORDER FLEET TESTS

a. *Resource Requirements ($K)*

FY *72*: 400.

FY *73*: 2,000.

b. *Activities*

FY 72: Complete crash recorder development and production engineering; produce 200 recorders; evaluate production recorders.

FY 73: Purchase and install 15,000 recorders; monitor fleets and report data; analyze approximately 500 crash records.

FY 74: Purchase and install 85,000 recorders; monitor fleets and report data; analyze approximately 7,500 crash records.

FY 75: Retrieve and analyze approximately 13,500 crash records; prepare preliminary conclusions.

FY 76: Retrieve and analyze approximately 10,000 crash records; conclude and recommend.

c. Yes.

d. Yes.

Question 11

The vehicles-in-use program plan has to date identified the brakes, tires and steering/suspension systems as being safety critical. Research projects are either underway or planned for FY 73 in these areas that represent an increased level of manpower and expenditures. Two additional engineers were hired during FY 72 and have been oriented into the vehicle-in-use program goals and objectives. Thus the vehicles-in-use manpower level is now considered sufficient to efficiently manage its FY 73 research program. However, a need for additional manpower is anticipated for FY 74 commensurate with the expanded FY 74 work load and funding level.

Question 12

A. The $440K increase over FY '72 requirements is for contracting in operating systems research and not operating expenses.

B. The increased funds ($440K over the FY '72 requirements) will be utilized to expand activity in tires, brakes and vehicle handling.

C. Yes.

Question 13

OCCUPANT PACKAGING

13. The contract program relating to Occupant Packaging asks for a total of 1.2 million for advanced work in the area of passive restraints systems.

a. Is this correct? Yes.

Passive restraint development	$800, 000
Sensor development	400, 000
Total	1, 200, 000

b. What is the nature of these research projects?

(1) Advanced development for frontal protection of drivers and front seat occupants of subcompact cars.

(2) Advanced development for frontal protection of front seat occupants of standard size cars.

(3) Development of improved inflation techniques to reduce deployment time without introducing problems of rapid inflation.

(4) Development of occupant motion sensors.

(5) Conclude anticipatory sensor study.

(6) Development of advanced crash sensor to meet long term requirements.

c. Are you satisfied that this level of funding will be sufficient to complete those research goals you have set for the upcoming year in the area of passive restraints?

Yes, short range, near term goals will be satisfied assuming all projects are successful in accomplishing their objectives.

d. Are you satisfied that sufficient personnel have been allocated to administer this program?

Considering current constraints on the budget, we are satisfied with the staffing levels.

e. Will problems such as damaging noise levels of the detonating device and systems to prevent misfiring be resolved with these funds?

Although noise is not considered the problem it once was, program (3) under question b above will address the noise problem. Preventing misfiring is strictly a matter of tighter quality control of the systems.

PASSIVE RESTRAINTS FLEET TESTS

Resource Requirements:

FY 72: $500,000.

FY 73: $1,000,000.

Activities:

FY 72: Purchase 125 1972 Mercury Montereys equipped with air bags.

FY 73: Acquire approximately 625 air bag equipped 1973 Chevrolets; conduct fleet vehicle verification crash tests.

FY 74: Acquire passive restriant equipped 1974 vehicles; conduct verification and replica crash tests; analyze fleet and crash test data.

a. After FY 72, the NHTSA will no longer purchase equipped fleet vehicles, but rather will fund only the cost difference associated with the passive restraint systems for such vehicles for a few fleets. In addition, the Administration will coordinate the surveillance and research efforts for many passive restraint fleets. For example, GM alone is planning at least 1000 1973 Chevrolets equipped with air bags, and up to 25,000 1974 vehicles so equipped. The NHTSA will continue to identify appropriate fleet owners who will buy passive restraint equipped vehicles and cooperate in fleet testing and evaluation.

b. Considering current constraints on the budget, we are satisfied with the funding levels currently planned.

COMPLIANCE TEST FACILITY

a. The present design, construction and equipping schedule calls for the facility to perform initial testing in the second half of FY 74, with equipment installation to be completed in the first quarter of FY 75 and full operational status to be reached in FY 76.

b. Yes. It is intended that the facility will operate at a continuing level workload designed to handle the majority of our compliance testing requirements, with supplemental contractor testing still being used to meet cyclic peak demands and test requirements beyond the capabilities of the facility.

c. Until the facility is completed, the 13 employees requested (the nucleus of a phased orderly staff buildup prior to operational status) will be engaged in organization planning, facility design review, test equipment and tool specification review, detailing of testing procedures, and preparation for the training of laboratory personnel in FY 1974.

d. It is expected that the 13 employees requested will be sufficient to accomplish the tasks planned for FY 73.

e. Approximately 250 employees will be needed to staff the Compliance Test Facility for full operation.

f. At the present time, it is estimated that the cost to test one motor vehicle for total compliance with the standards in effect is $30,000. It must be noted that to accomplish this, several vehicles are required because some tests are destructive. This figure also includes the cost of moving test vehicles from contractor to contractor, because no lab is equipped to test all standards, and the contractors' overhead and profit. By the time the facility if fully operational (FY–76), several new standards and amended standards of increased spphistication will be in effect. However, it is expected that the cost ($30,000) still will be reduced somewhat by the elimination of the time and cost associated with moving vehicles from contractor and by the elimination of profit inherent in private testing.

g. No. The cost of compliance testing by NHTSA is borne by the U.S. Government.

Question 16

PERSONNEL TRAINING

The employment ceiling for NHTSA as of June 23, 1972, is 726 and all of these positions are filled. As a result of the President's Order, the Department was given a significant reduction in its employment ceiling from that originally contemplated and the proration of the overall ceiling resulted in the assignment of an operating budget ceiling of 721. Although it is the normal practice in employee development to establish special and/or additional training when an organization changes its program emphasis without an increase in staff, this is not currently a contributing factor "to the number of vancies in NHTSA."

Question No. 17

OFFICE OF DEFECTS INVESTIGATIONS PERSONNEL AND FUNDS NEEDS

It is estimated that the authorized positions for the Office of Defects Investigations will be sufficient to accomplish the tasks planned for FY 73.

An authorization request of 1.8 million dollars for the FY 73 contract program in defects investigation represents an increase of $800,000 over FY 72. This increased allocation will provide ODI additional ability to use outside contractors to extend and expand existing in-house investigative capabilities and to provide for specific expertise of technical requirements. The intermittancy of occurence of defects, the wide diversity of expertise required, and the variable duration of individual investigations precludes having permanent employees with the high degrees of specialization required, to say nothing of the laboratory facilities frequently involved.

Question 18

ONGOING STUDIES ON THE APPLICATION OF RESEARCH TO THE MOTOR VEHICLE SAFETY STANDARDS PROGRAM AND VEHICLE IN USE PROGRAM

The research requirements of future Motor Vehicle Safety Standards are generated by the rulemaking office in accordance with the Program Plan (an in-house document projecting FMVSS over a 5 to 6 year span). These requirements then form the basis for research projects, the results of which are used to develop Motor Safety Standards. Within the constraints of the President's budget it is felt

that the positions/funds requested for the rulemaking offices in FY 73 are sufficient to accomplish the anticipated tasks.

With regard to the Vehicle-In-Use program, the department plans to establish used motor vehicle performance criteria and inspection procedures in model inspection programs for the States. Thus, the used vehicle standards as originally contemplated under the Motor Vehicle Safety Act will be in the form of vehicle inspection criteria and procedures.

In a plan approved by the Administrator of the National Highway Traffic Safety Administration, demonstration inspection programs will be established in selected States beginning in FY 1974. These demonstration programs will evaluate and validate the model inspection programs. If these programs are found to be workable and effective, we will issue appropriate guidance and standards to the States to modify existing inspection programs.

The estimated funding to accomplish this effort for the first three years is as follows:

[In thousands of dollars]

	Fiscal year—		
	1973	1974	1975
Motor vehicle safety research (Public Law 89-563)	545	2,300	2,300
Highway safety research and development (Public Law 89-564, S. 403)	1,380	2,520	3,030

Senator STEVENS. Mr. Ditlow and Mr. Nash.

STATEMENT OF CLARENCE DITLOW; ACCOMPANIED BY CARL NASH, PUBLIC INTEREST RESEARCH GROUP

Mr. NASH. Senator Stevens, we appreciate the invitation of this committee to appear before you and testify on the proposed budget for the National Highway Traffic Safety Administration (NHTSA). My name is Carl Nash and my colleague is Clarence Ditlow. We are members of the Public Interest Research Group, a group of attorneys, scientists, and engineers established by Mr. Ralph Nader.

MOTOR VEHICLE SAFETY STANDARDS

Motor Vehicle Safety Standards (MVSS) are central to the Government's program for traffic safety. Safety standards are the language through which the theory of traffic safety is translated into practice in the vehicles we all use. As they are presently codified, the MVSS seem almost completely devoid of input from the NHTSA's Research Institute which has spent tens of millions of dollars on motor vehicle research and the experimental safety vehicle program. In fact, judging from the NHTSA's latest program plan, this unwritten policy will continue for the most part through the 1977 model year.

Let me give you an example. "Motor Vehicle Instrument and Control, Location, Accessibility and Identification," a report from Man Factors, Inc. of San Diego, was received in July 1969 under contract FH-11-6907 from the NHTSA. This paper not only gave detailed criteria for control and display design, it gave a critique of current vehicle control and display designs and made specific suggestions on the writing of a standard governing this area. The report closed by suggesting areas for future research.

In 1970, the Guggenheim Center for Aerospace Health and Safety of the Harvard School of Public Health submitted a report under contract FH-11-6569 entitled "Static and Dynamic Measurements of Motor Vehicle Drivers." This report contains extensive information

about the size of adults, children, and pregnant women, including detailed measurements of the arm reach of adults of all sizes.

One would have thought that with the receipt of these reports, the Office of Operating Systems would have proposed a new MVSS 101, control location, identification, and illumination, utilizing the knowledge and information of these reports. In fact, it appears that the Operating Systems people did not even read these reports.

On April 15, 1970, a Notice of Proposed Rule Making was issued for standard 101 in which the only significant change from the original rule was the addition of vague control illumination and identification requirements. The rule is still totally unenforceable because of its vague requirements such as that the controls must be operable by "a person" seated at the controls and correctly restrained by the safety belts. The Harvard report notwithstanding, the rule contains no definition of "a person." Incidentally, the next major revision of MVSS 101 is scheduled to apply to the 1977 model cars.

Is this typical of all the standards? For the most part, it is. In February of this year, I completed an analysis of the deficiencies of the Motor Vehicle Safety Standards and of the administration's plans for upgrading them. I am submitting this as further evidence for the record.

Senator STEVENS. Let me ask you, I don't quite understand why they would be vague, because they didn't define a person, when the requirement is they must be operable by a person seated at the controls. Are you saying that they ought to exclude a baby, is that what you are saying?

Mr. NASH. As the Office of Standards Enforcement currently interprets the standard, if Wilt Chamberlain can reach a control and he is properly belted into a car, the car can pass the standard, even if you or I cannot. If they can find some person that can reach the controls, the car passes the standard. So the Consumer Reports, for instance, typically finds that in a fair minority of the cars they test that a properly belted driver of ordinary size cannot reach certain of the controls required for the proper operation of the motor vehicle.

Senator STEVENS. It's important not to define a "person," but to define the operator range of statistics in regard to the size and proportion, and what not?

Mr. NASH. That is correct.

Senator STEVENS. But it is not the definition of a person you want. It is the physical characteristics of the driver, his limits and ranges; right?

Mr. NASH. Yes, right, so that you know 90 percent of the drivers who typically use motor vehicles, who are licensed to operated motor vehicles in this country, can operate them safely when they are completely restrained by their safety belts. There is nothing more discouraging than getting into a car and putting on your lap and shoulder belt and then not being able to reach the handbrake, for example, to begin the operation of the vehicle.

Senator STEVENS. Pardon me if I smile. I was remembering the Model A, where the handbrake was located in that model.

Mr. NASH. Another aspect of the lack of communication within the agency is that the Office of Standards Enforcement and the Office of Defects Investigation seem to have only a limited impact on the

safety standards. For example, several years ago, the Office of Standards Enforcement sent a secret internal memorandum to the Office of Operating Systems. This memo discussed difficulties encountered in the enforcement of the MVSS which were vaguely written and noted some standards whose requirements contribute little or nothing to traffic safety.

An example of the lack of communication between the defect investigators and the standards writers is the case of accelerator control systems. This must be the largest single cause of defect recalls, and yet there is no rule governing these systems.

A rule was proposed in October 1969, and again in September 1970, to require that throttle controls be partially fail-safe. At present, the NHTSA gives as the earliest effective date of the rule September 1973.

However, since the issuance of the rule is 6 months overdue according to their own program plan, it is doubtful that this deadline will be met.

Obviously, no sense of urgency has been communicated from the Office of Defects Investigation to the Office of Operating Systems.

MVSS 203, Impact Protection from Steering Controls, was heavily criticized before this committee in 1967, even before it was issued. In 1969, General Testing Laboratories of Springfield, Va., confirmed that this standard could be met without the use of an energy absorbing steering column, and the standard has not been tested since that time. Since energy absorbing columns are virtually standard in this country, a significantly upgraded standard could be met with current production models. But the NHTSA's proposed standard will not take effect until the introduction of the 1974 models, if then.

Again, the findings of the Office of Standards Enforcement seemed to have no impact on the standards writers.

You are being asked to appropriate nearly $17 million for motor vehicle research this year. If the past performance of the agency is any indication, this money will produce a good deal of elegant research which will overfill the NHTSA's now crowded library, and some interesting experimental vehicles. I don't want to give you the impression that this appropriation should not be approved.

The request is very modest compared to the magnitude of the traffic safety problem or to this country's unused capability for motor vehicle safety research.

To remedy the waste of the Research Institute's efforts, I would like to propose two amendments to the appropriations legislation.

1. That a minimum of 5 percent of the total budget of the Research Institute be devoted to application of its other research, including the experimental safety vehicle program, to motor vehicle safety standards and to standards for vehicles in use.

2. That the Offices of Operating Systems and of standards for vehicles in use be required to submit to the Congress, within 1 year, an analysis of the applicability of all pertinent research carried out for the NHTSA to the upgrading of the present motor vehicle safety standards and the promulgation of new standards. This analysis should indicate how the research will be applied to future rulemaking, or why the research cannot or should not be so used.

Senator STEVENS. I can understand one, but two I don't quite understand. Research certainly ought to be an on-going thing. To

require people to stand still and look at what they have done, to see how effective it has been before they go on, seems to be a good idea. I would hope you would get some concept of a GAO analysis of that prior to moving ahead. In other words, before you spend more money, make sure you have accomplished something.

Mr. NASH. No; I would not suggest they simply cease doing any future research until they have reviewed everything they have done. But one gets the distinct impression when one looks at new proposed rulemaking, that kind of thing, that nobody at NHTSA who is involved in the promulgation of standards actually reviews the research that has been done by the agency.

The two examples I gave you on standard 101 for control location and identification, there is no indication whatsoever in the proposed rulemaking that those reports were read.

Senator STEVENS. I think we can require that without an analysis of all research carried out. It would seem to me that everyone ought to be able to go ahead and look to the future and still be sure that they are accomplishing something.

Mr. NASH. You can draw one of two conclusions: Either the research that has been done has been a fraud on NHTSA and is worthless and can't be applied, or there is a lot of probably useful research that has already been completed in the area of motor vehicle safety. I would tend to think the latter is probably the case and someone should go through and find out if they have some, perhaps a gold mine, of information available through which they could upgrade their safety standards.

PERSONNEL

During the appropriations hearings in the House of Representatives in March of this year, it was brought out that of the 225 authorized positions in the motor vehicle program, only 170 had been filled in fiscal 1972. The figure given this morning was that at present, 125 positions in NHTSA, in total, are vacant.

This indicates that there may be a shortage of people trained to take the various jobs in auto safety. At the same time, we all know that there are many unemployed scientists and engineers who could probably be retrained within a year to take up these positions. I would like to suggest that a pilot program of research associateships be started for this purpose both within the Research Institute and in some of its contractor's facilities.

I might add that having such an independent fund of people would at least alleviate the current practice of taking people from the automobile industry into NHTSA, who have strong preconceived notions about the nature of auto safety that they get from the automobile industry.

It is good to have some of these people, but not an overabundance of them. Mr. Ditlow will continue with our statement.

Senator STEVENS. Fine.

Mr. DITLOW. The Office of Defects Investigation is one of the most understaffed, underfinanced, and low-priority units within the NHTSA. And undeservedly so. ODI is responsible for determing the existence of safety-related defects in motor vehicles, tires, and items of motor vehicle equipment. The potential safety payoff in ODI is at least twofold. First, the existence of motor vehicle safety related

defects will be determined and the motor vehicle owners notified so that the defects can be corrected before harm or injury therefrom results. Second, by ODI taking an alert, aggressive, and efficient stance, market pressures will compel the manufacturers to adopt better engineering design procedures, more quality controls and defect monitoring measures because the cost of conducting recalls discovered by ODI will exceed the cost of instituting more effective defect prevention and discovery measures at an earlier point in the motor vehicle manufacturing and supply process.

From the initiation of the first defect investigation on October 27, 1967,[1] investigatory action by ODI has slowed to a snail's pace.

From a study of ODI's skimpy public files [2] the first 19 months of defect investigation—(October 27, 1967 through May 1969)—resulted in the completion of 111 investigations with an average pendency of 3.2 months. The second 19 months of defect investigation—(June 1969 through December 1970)—resulted in the completion of only 72 defect investigations with an almost doubled average pendency of 5.8 months.

Since December 1970, delays in defect investigations have increased. The latest available pending defect investigation list—April 30, 1972)—contains one investigation initiated in 1968, seven initiated in 1969 and 10 initiated in 1970.[3] Even if all these investigations were completed as of today, the average pendency would be an incredible 27.9 months, over 2 years. At this investigation rate, the potential defects may well eliminate many of these motor vehicles from the road before the ODI completes its investigations thereon.

In regard to the question of the initiation date of the VW windshield wiper case, that was October 1968, and the Ford shoulder belt was January 1971. These are excellent examples of long over-pendencies on defect investigations.

The NHTSA proudly points to the recent announcement of the record recall of 6.8 million Chevrolets for engine mount defects as a mark of excellence for ODI's effectiveness in conducting defect investigations. This is more fiction than fact. Indeed, the engine mount defect could be considered the classic example of ODI's ineffectiveness in the face of the multibillion-dollar corporation protecting its pocketbook.

ODI initiated its Chevrolet engine mount defect investigation on October 20, 1969. ODI assigned this investigation an inactive status on December 12, 1969, after General Motors revealed only 14 complaints of engine mount failure causing jammed accelerators on 1969 Chevrolets. ODI apparently did not have the staff to pierce GM's veiled reply to find out how many complaints there were on other model year vehicles and on jammed accelerators where the owners did not realize broken engine mounts cause the jamming or how many replacement mounts GM had made or sold. Nor did ODI apparently have the funds to conduct its own customer surveys or testing of Chevrolets with failed engine mounts.

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[1] This investigation, IR–001, into hydraulic hose failure in the windshield wiper system on 1967 Lincoln Continentals was assigned to an inactive status without the finding of a defect as have been the vast majority of its successor investigations.

[2] This study was conducted during January 1972 by two students from Albertus Magnus College. Diane Peternac and Janet Riether. At that time there was no public record of any investigation initiated after January 1971 which had been completed.

[3] A copy of this list is submitted for the hearing record.

The Chevrolet engine mount investigation continued in a moribund state until September 1, 1971, when Mr. Ralph Nader, by letter to Administrator Toms of the NHTSA, urged an accelerated investigation. Publicity of this letter and an October 1971 NHTSA Consumer Protection Bulletin resulted in the receipt of hundreds of consumer complaints by both Mr. Nader and the NHTSA. But not until December 4, 1971, over 2 years after the NHTSA initially began its investigation, did GM agree that Chevrolet engine mounts were indeed defective. During these 2 years, thousands of Chevrolet engine mounts failed, hundreds of accidents occurred and at least six deaths resulted. Many of these occurrences could have been prevented if the NHTSA had acted quickly and effectively when first aware of the Chevrolet engine mount problem.

But despite the announcement of the recall on December 4, 1971, the Chevrolet engine mount case presents almost as serious a safety problem as when first discovered. Today, 6 months after the recall announcement, only 1 million Chevrolets have had the bailing wire restraints installed; leaving 5.8 million Chevrolets on the road with defective engine mounts. The NHTSA has had neither the resources nor the courage to expedite this recall.

In order to upgrade the effectiveness of ODI, four areas must be strengthened or added. First, this Office must be given additional personnel to initiate and carry out defect investigations. Second, ODI must be given additional funds for testing motor vehicles for defects, for hiring expert witnesses, for gathering statistical data on the existence of defects and for warning the public of the existence and potential dangers of the particular defect. Third, ODI needs permanently assigned legal counsel to guide it in gathering evidence for judicially upholdable defect determinations. Fourth, ODI needs additional resources for insuring the engineering soundness of recall corrections and for insuring the rapid completion of recalls through auditing.

Additional personnel are needed to overcome the present ODI practice of initiating and actively pursuing defect investigations on a priority basis determined by the current investigative workload.[4] An investigation should not be closed or denied opening simply because of insufficient staff. The staff should be increased to handle the entire investigative workload. The investigative workload in an area directly affecting the public health and safety should not be adjusted to the size of the available staff.

Additional funding is essential to free ODI from its dependence on the manufacturers for defect information. ODI should not and cannot depend on tests run by the manufacturers at the manufacturers' proving grounds. The adverse interest of the manufacturers is apparent. ODI should be able to routinely contract out testing and hire expert witnesses to substantiate its defect determinations.

ODI should be able to afford surveys on the incidence and existence of defects rather than rely on the manufacturers' warranty claim rates or other suspect data. The public information policy on defects

[4] This practice was disclosed to Mr. Ralph Nader by letter of July 30, 1971, from Acting Associate Administrator Robert L. Carter in response to Mr. Nader's request for reopening of the defect investigation on front seat pivot arm breakage on 1968–69 Mustangs and Cougars. A copy of Mr. Carter's letter is submitted for the hearing record.

should be expanded beyond the Consumer Protection Bulletin which is released on only about 2 percent of all defect investigations.

Legal counsel is essential to the performance of ODI's investigatory functions. In contrast to the NHTSA, the Environmental Protection Agency which is responsible for motor vehicle recalls for emission control defects assigns lawyers to investigations of emission control defects. Indeed, these lawyers are frequently trained engineers also. This type of multidisciplinary approach is essential to investigations of technical matters.

If a recall notice or repair is ineffective or if a recall campaign is only partially carried out, then the determination of a defect is negated. ODI needs funds to effectively monitor both the recall repair and the recall campaign to insure the repair remedies the defect and the campaign is completed as quickly as possible.

OFFICE OF CHIEF COUNSEL

The Office of Chief Counsel is woefully understaffed. Pending litigation including major suits on defect notification (*United States* v. *General Motors*) and on the passive restraint requirement of Standard 208 is enough to almost fully occupy the legal staff. But the Office of Chief Counsel must also assist in pending rulemaking by considering petitions for rulemaking, petition for reconsideration and comments on rulemaking. This Office also advises the Office of Defects Investigation on legal issues in investigations. Freedom of Information Act requests are considered by the Chief Counsel. Compliance with safety standards and violations thereof are largely legal matters.

The shortage of legal staff creates delays throughout the Agency. Delays in rulemaking frequently occur. Thus, Mr. Ralph Nader submitted a petition for rulemaking on defect notification regulations in January 1972. A notice of proposed rulemaking on the petition was not issued until May 1972. Safety standard rulemaking frequently falls behind schedule. Decisions on defect determinations are delayed until the Office of Legal Counsel reviews the sufficiency of evidence. Long delays are experienced in getting material available under the Freedom of Information Act because the nonlegal staff is unfamiliar with the act. Assistance from the Office of Legal Counsel must be sought before it is released. Additional legal staff is essential to clearing up these and other delays.

That concludes our statement, Senator.

Senator STEVENS. Thank you very much.

We just checked, and the chairman will not be able to return because of his Finance Committee involvement.

We have a statement of Senator Hartke's and questions that he would ask if he were here. I will ask that the reaction statement be placed in the record and the questions for you, Mr. Ditlow, and Mr. Nash, be provided to you so that you may provide the answers for the record.

Unfortunately I must also go, and I understand that you are the last two witnesses in this phase of the hearing. We would appreciate your cooperation on this point.

(The statement follows:)

STATEMENT OF HON. VANCE HARTKE, U.S. SENATOR FROM INDIANA

I find your statement to be extremely provocative. I know that you both have spent a great deal of time studying NHTSA and probably know more about the functions of the Administration than any other outsiders. I state now that I plan to submit to Mr. Toms a list of questions based on your testimony for which a response will be requested within 7 days. I believe that your proposals are sound ones and should be considered by the Committee in judgment of this authorization request.

Senator STEVENS. The subcommittee will recess subject to the call of the Chair.

(Thereupon, at 12:30 p.m., the hearing was concluded.)

ADDITIONAL ARTICLES, LETTERS, AND STATEMENTS

QUESTIONS OF SENATOR HARTKE FOR CLARENCE DITLOW AND CARL NASH

1. You have stated that the Office of Operating Systems doesn't appear to utilize the research that is done by outside contracting agents. Do you attribute this failure to a lack of trained personnel who have the ability and competency to translate raw research into tightly drawn standards? If not, to what do you attribute it?

2. In referring to FMVSS 101, you state that it is totally unenforceable because of its vague requirements. Is this a result of insufficient inter-play in the standards development process by the Office of the General Counsel?

3. Assuming the Motor Vehicle Safety Standards were written to your satisfaction, do you think that the NHTSA's enforcement of the standards would be adequate to insure that the standards would be completely effective?

4. You propose two amendments to remedy the waste of the Research Institute's efforts. One of your proposals is that a minimum of 5% of the total budget of the Research Institute be devoted to application of its research to Motor Vehicle Safety Standards and to Standards for Vehicles in Use. Could you expand upon your proposal?

5. The fact that 55 authorization positions were not filled in the Motor Vehicle Program leads you to the conclusion that there may be a shortage or people trained to fill such positions. Do you know for a fact that this is the reason for the vacant positions?

6. Do you have any idea what it might cost to establish a pilot program for training engineers in the field of automotive safety?

7. I have a difficult time understanding how on the one hand you can present statistics indicating the average pendancy of a defect investigation rose from 3.2 months to 5.8 months during two successive 19 month periods while on the other hand, NHTSA testifies that the Office is not understaffed and underfunded. What would lead the NHTSA group and your group to such diametrically opposed conclusions taken from the same data?

8. Does the Office of Defects Investigation actively seek any of its own information with respect to the magnitude of potential defects or is its information supplied solely from consumer letters, inquiries to manufacturers, etc? That is, does it conduct any of its own surveys?

9. In your opinion, is the level of funding that NHTSA has requested for defect audit sufficient based on their performance in the past two years?

10. You state on page 7 of your testimony that "An investigation should not be closed or denied opening simply because of insufficient staff." Do you know for a fact that this is done? Can you give some examples?

PUBLIC INTEREST RESEARCH GROUP,
Washington, D.C., June 30, 1972.

Senator WARREN MAGNUSON,
Old Senate Office Building,
Washington, D.C.

DEAR SENATOR MAGNUSON: We appreciate the opportunity given us to testify at the recent authorization hearings for the National Highway Traffic Safety Administration. Following are our answers to the written questions submitted to us at the close of the hearing.

Sincerely,

CLARENCE M. DITLOW.
CARL NASH.

1. There is either a lack of such trained people in the Office of Operating Systems, or the people in that office are not utilizing the services of the Research Institute. The Office of Operating Systems should be making its research needs known to the Research Institute and should utilize the research when it is completed.

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In the process of setting standards, the strongest statement of a standard is usually the Notice of Proposed Rule Making. After the proposal is made, the standard is generally weakened in accordance with the comments of the auto industry. The industry very rarely makes constructive comments which would lead to tighter standards, but rather makes extensive comments in an attempt to weaken or postpone the standard. Only when the standard is well drawn up in the proposal is it likely to weather the onslaught of requests to water down the standard from the industry.

Thus, it appears that the reasons that the Motor Vehicle Safety Standards are not tightly drawn are that they are not well formulated when proposed, and that because of their technical weakness, they are easy targets for the industry.

2. I don't think that the Office of the Chief Counsel is responsible for the uneforceability of FMVSS 101. In my testimony, I stated that I thought that the lack of communication responsible for this standard being weak was between the Research Institute and the Office of Operating Systems.

Basically, a standard which cannot be enforced is no standard at all. It is possible that there would be no safety advantage in having a standard for control location, identification, and illumination. This has not been scientifically demonstrated, but if a strong standard 101 could not be justified, then the present standard 101 should be removed from the books.

It is not clear whether there is simply a lack of resolve in promulgating strong standards, a lack of communication between the Research Institute and the Office of Operating Systems, or that the Office of Operating Systems was not aware that the Office of Standards Enforcement did not even consider FMVSS 101 worth testing.

3. At the present time, the Office of Standards Enforcement tests vehicle standards on a piecemeal basis. There is no comprehensive testing of all makes and models to see that they meet all of the FMVSS. The failure rate in these compliance tests is 6.7% cumulative to the end of May, according to Mr. Toms.

In 1968, General Testing Laboratories of Springfield, Virginia submitted an unsolicited proposal to do just such testing on a production basis. The cost for this testing was to have been $11,053,00 per car. In a recent communication from Mr. A.M. Meher, President of General Testing, it was indicated that GTL would still be able to provide this testing service, and that the cost would not have risen more than about 30% since the initial proposal was made.

It seems to me that the NHTSA should seriously consider this kind of testing program and asked for bids from their present testing contractors and others for such a program. The result would be that the seventy odd makes and models commonly sold in this country could be comprehensively tested each year for a cost on the order of $1,000,000. In combination with an aggressive policy of enforcement where compliance failures are detected, such testing should be completely adequate to protect the public from vehicles which do not currently meet even our present standards.

I am enclosing a copy of General Testing Laboratory's proposal for your interest. [Printed at end of statement.]

4. There are several ways that my proposal could be carried out. Contractors could be required to allocate 5% of their contract funding to an analysis of how the research could be applied to the setting of vehicle standards. Alternatively, the Research Institute could have an independent analysis of the applicability of its research to the setting of standards either by further contracting or by having the analysis done in the institute itself.

The intent of the proposal is not that the Research Institute write standards for vehicles, but rather that they indicate the needs for the standards, the minimum requirements for such standards, and an analysis of the relationship between cost of implementing standards and the expected benefits.

5. According to Mr. Scott's comments after Mr. Tom's testimony, the reasons for the unfilled positions is that there was an executive order putting an employment ceiling of 721 on the NHTSA. This does not necessarily mean, however, that there would have been qualified people to fill the positions had they been available. The NHTSA has been understaffed for most of its history, and has taken a fair portion of its staff from industry. Although this is not necessarily bad, an independent source of qualified professionals would give a better balance to the NHTSA.

6. With stipends ranging between $8,000 and $12,000 depending on previous training and experience, the total cost per trainee should be between $20,000 and $25,000 for a one year period. Thus, between 20 and 25 people could be retrained in this kind of a program for around $500,000.

7. The difference is most likely due to low priority within the National Highway Traffic Safety Administration. In other words, the NHTSA is content to maintain the staff and resources of the Office of Defects Investigation at the same levels and observe the average pendancy of defect investigations grow longer and longer. The serious consequences of allowing defective motor vehicles to remain on the road for the additional time now required to complete defect investigations are simply discounted.

8. Until recently, the Office of Defects Investigation has taken no initiative whatsoever to acquire information on the magnitude of potential defects. Now it acquires information from an automobile club diagnostic center on defects discovered during inspections. This effort is inadequate as defects frequently occur in particular geographic areas which may not include the diagnostic center. Other fruitful sources of information such as large fleets, insurance records, state inspection data and direct owner surveys are still ignored.

9. The level of NHTSA funding for defect audits is clearly insufficient as it precludes systematically checking the efficacy of a particular repair in a recall before the manufacturer proceeds with the recall. Further, it precludes direct field examination of motor vehicles to see whether or not a reported repair has been performed. We have received reports that recall repairs are frequently not performed or are performed incorrectly even though the manufacturer's records disclose that the repair has been performed.

10. As indicated in footnote 4 of our statement, this practice was revealed to Mr. Nader by Acting Associate Administrator Carter in regard to Mr. Nader's request that the NHSTA reopen the 1968–1969 Mustang-Cougar pivot arm defect investigation. A more general statement of this policy was given by the Director of the Office of Defects Investigation in a November 16, 1971, letter to Ms. Joan Claybrook, where he stated, "A safety defect investigation, once initiated, will be deactivated . . . by a NHSTA decision that other priorities necessitate discontinuation of the investigation for the present." A copy of this letter is submitted for the hearing record.

GENERAL TESTING LABORATORIES, INC.,
Springfield, Va., December 27, 1968.

FEDERAL HIGHWAY ADMINISTRATION,
Contract and Procurement Division,
Washington, D.C.
(Attention: Mr. H. G. Gale, Contract Officer).

GENTLEMEN: General Testing Laboratories is pleased to submit the enclosed Unsolicited Proposal to Perform Vehicular Test and Evaluation in accordance with Federal Motor Vehicle Safety Standards.

General Testing Laboratories is a small business firm. An approach is proposed which will allow the Government to achieve significant cost savings due to three factors.

(1) Multiple safety standard testing per run.
(2) Unique test equipment necessary to achieve reliable, reproducible results.
(3) The affect of Washington area location on the total cost to the Government.

If there are any questions regarding the attached proposal please do not hesitate to contact me.

Very truly yours,

C. J. BRUTZA, *Vice President.*

GENERAL TESTING LABORATORIES, INC.,
Springfield, Va., January 21, 1969.

Subject: General Testing Laboratories Unsolicited Proposal Identification Number U.P. 1236.

U.S. DEPARTMENT OF TRANSPORTATION,
Federal Highway Administration,
Contracts and Procurement Division, Washington, D.C.
(Attention: Mr. H. G. Gale, Contracting Officer).

GENTLEMEN: The receipt of your letter in reference to the subject proposal is hereby acknowledged. Our proposal does not contain restrictive or proprietary information and its evaluation by the administration is requested.

The enclosures should be added to and become part of our unsolicited proposal dated December 13, 1968.

We appreciate your continued interest in our laboratory and are looking forward to working with you on this program.

Very truly yours,

C. J. BRUTZA, *Vice President.*

Enclosures: A. Budget Cost and Price Analysis. B. List of Personnel Involved in the proposed project. C. Starting and Ending Dates for Performance of the work. D. Location of Facilities Where Work will be performed.

BUDGET COST AND PRICE ANALYSIS FOR PASSENGER CARS ONLY

Safety standard No.	Title	Estimated time (days)	Estimated total cost per car
101	Control location and identification		$135
102	Transmission shift lever sequence, starter interlock, and transmission braking effect		135
103	Windshield defrosting and defogging	4	816
104	Windshield wiping and washing systems	2	670
105	Hydraulic service brake, emergency brake, and parking brake systems	2	1,166
111	Rearview mirrors		200
112	Headlamp concealment devices	1	516
113	Hood latch system, visual	1	125
114	Theft protection		125
115	Vehicle identification		125
201	Occupant protection in interior impact	2	683
202	Head restraints	2	550
203	Impact protection for the driver from the steering control system	1	824
204	Steering control rearward displacement	3	2,700
207	Anchorage of seats	1	458
208	Seat belt installations, static		
209	Seat belt assemblies, static	2	525
210	Seat belt assembly anchorages, static		
211	Wheel nuts, wheel disks, and hubcaps		125
301	Fuel tanks, fuel tank filler pipes, and fuel tank connections		125
	Comprehensive test report		1,000
	Total	21–25	11,053

Note: The mentioned estimated test cost includes the price of a detailed test procedure for each standard.

[Enclosure B]

Personnel who would be involved in the proposed project

Name	*Degree*
Leslie M. Anstey	B.S., University of London, England.
Thomas C. Roberts	B.S.M.E., Lehigh University.
Harley E. Holt	B.M.E., University of Virginia.
Milton T. Simpson	B.S.E.E., Virginia Military Institute.
Douglas T. Seal	B.S., mathematics, Lincoln Memorial University
Michael V. McGrath	E.E., Fairleigh Dickinson University.
Richard Boyd	B.S.M.E., Fairleigh Dickinson University.

[Enclosure C]

STARTING AND ENDING DATES FOR PERFORMANCE OF THE WORK

Based on performing the tests as detailed in Enclosure A, it is estimated that a 30 day test time will be required to complete the test series. A two to four passenger car rate per month can be maintained since proper scheduling will allow several cars to be processed simultaneously.

This schedule would be in effect after complete installation and checkout of the required test facilities. It is estimated that 5 to 6 months would be required for this phase.

[Enclosure D]

LOCATION OF FACILITIES WHERE WORK WILL BE PERFORMED

All tests as detailed will be performed at the General Testing Laboratories, Virignia locations:

1. Springfield, Virginia
2. Hartwood, Virginia

UNSOLICITED PROPOSAL TO PERFORM VEHICULAR TEST AND EVALUATION IN ACCORDANCE WITH FEDERAL MOTOR VEHICLE SAFETY STANDARDS, DECEMBER 13, 1968

National Highway Safety Bureau, Department of Transportation,
Washington, D.C.

General Testing Laboratories is pleased to submit this unsolicited proposal to the National Highway Safety Bureau of the Department of Transportation to perform vehicular tests in accordance with Federal Motor Vehicle Safety Standards with Amendments and Interpretations through August 6, 1968. All tests and facility layouts will be designed to accommodate, wherever possible, trucks and buses, in addition to standard automobiles.

BACKGROUND

General Testing Laboratories is an independent test and evaluation laboratory. We are not a manufacturing firm. No conflict could arise, therefore, either from our interest in the automobiles and components under test or from the proper selection of specialized test equipment to be used during the test program. The National Highway Safety Bureau can be assured that all test and evaluation work will be done in a professional, unbiased manner.

Our facilities are located in the Washington, D.C., and New York areas. In the Washington area there are two sites: our corporate offices and main laboratory are located in Springfield, Virginia, just off the Capital Beltway; our 90-acre test facility is located in Hartwood, Virginia, just off Interstate 95, about an hour's drive south of Washington.

In addition to the shock, vibration, and climatic environmental simulation, General Testing Laboratories' present scope of activities in Virginia includes the following automotive related test programs:

Test and evaluation of engine and motor-driven power generating equipment

Performance and endurance tests of gasoline and diesel engines

Performance and endurance testing of engine and motor-driven forklifts

Performance and qualification testing of vehicles such as jeeps, cranes, and earth-moving equipment

Performance and endurance testing of various arc lamps ranging up to 30 kw.

These test programs require a competent staff of mechanical and electrical engineers, as well as experienced, capable technicians. Facilities related to automotive testing include standard ramps and grades and an indoor MIL–STD–268 test course. An infinitely variable tilt table 12 feet wide and 20 feet long can lift 55,000 pounds to an inclination of 45 degrees. The surface of the tilt table can be treated with a material procured from the 3M Company which produces any coefficient of friction desired for a particular test. Plans have been made to expand the test course area to include outdoor side slopes and gradability slopes.

TECHNICAL APPROACH

Alternatives:

Three philosophies of vehicular testing are possible:

(1) A particular component, such as an energy absorbing steering column, can be fixtured so as to simulate the item's usage, and the component can be tested in accordance with the applicable procedure.

(2) An automobile can be obtained, the component instrumented, and the automobile impacted against a suitable barrier to provide the forces required to test a particular component.

(3) A vehicle or a major portion of a vehicle can be mounted to a sled with suitable tiedowns, and the sled can be impacted against a hydraulic ram producing the desired dynamic pulse to the component under test.

We recommend that the National Highway Safety Bureau consider the second approach or the third approach, both of which utilize the entire vehicle. The difference between these two methods is primarily one of cost. The second approach of course, provides realistic results but it means that a vehicle can be tested only once and therefore is extremely expensive. The third approach requires an elaborate setup; however, the vehicle is neither destroyed nor damaged significantly during a particular test.

Although individual component testing is important and provides meaningful results, it should not be used for several reasons—reasons which are based on our recent experience in a test program related to energy absorbing steering columns: Procuring components from the automotive industry which will yield a random sample accurately depicting those same components in use, is virtually

impossible. Steering columns, for example, must either be assembled by dealer personnel who are not familar with assembly procedures or must be selected randomly from the manufacturer's line. In the second case skilled test personnel carefully mount the column to a suitable fixture. It should be clear that results obtained will vary if the same steering assembly were installed in a vehicle by production line personnel working to a strict time schedule. A complete vehicle evaluation tests not only the energy absorbing portions of the steering column but also the steering column assembly as it relates to the system. During a visit to the General Motors' Technical Center it was found that personnel were so concerned about the effects of the automobile itself that on the steering column assembly they used a short cell cowl as a test fixture.

Proposed Method:

We propose that entire vehicles be tested to provide random sampling and confidence in the capability of the components to pass present safety standards. Important factors in head restraint tests, for example, include the type and makeup of the seat, the back of the seat, and the means of seat attachment, as well as the floor pan itself. Clearly, utilization of a sled to propel the vehicle or major parts of the vehicle will provide more realistic tests of a number of components for each vehicle; to name a few, energy absorbing steering columns, interior impact, seat belts, seat belt anchorage, and head restraint. Figure 1 is a drawing of a test sled to which an entire vehicle can be mounted. This sled accelerates on a 120-foot tract and impacts against a hydraulic ram to provide the desired dynamic pulse. Barrier collision data will provide adequate information for programming the hydraulic ram. If required, more barrier collision tests can be made for verification purposes.

Proper analysis of information obtained from this test not only will provide the National Safety Highway Bureau with unbiased data of passenger car components as actually used but will also provide the Bureau with the valuable data it needs to enhance present safety standsrds. Of course, use of the entire vehicle concept will yield maximum savings to the Bureau because test vehicles would not be destroyed until tests are made at different levels at different times.

TEST STANDARDS AND PROCEDURES

For several months we have performed tests for the National Highway Safety Bureau on energy absorbing steering columns under Contract FH-11-6896. Some conclusions based upon the experience gained during the MVSS 203 program can be applied to all testing. We propose to perform tests in accordance with these Motor Vehicle Safety Standards:

MVSS 101: Control Location and Identification of Passenger Cars.

MVSS 102: Transmission Shift Lever Sequence, Starter Interlock, and Transmission Braking Effect of Passenger Cars, Multi-Puropose Passenger Vehicles, Trucks and Buses.

MVSS 103: Windshield Defrost and Defogging of Passenger Cars and Multi-Purpose Passenger Vehicles.

MVSS 104: Windshield Wiping and Washing Systems of Passenger Cars.

MVSS 105: Hydraluic Service Brake, Emergency Brake, and Parking Systems in Passenger Cars.

MVSS 111: Rear View Mirrors in Passenger Cars and Multi-Purpose Passenger Vehicles.

MVSS 112: Headlight Concealment Devices in Passenger Cars, Multi-Purpose Vehicles, Trucks, Buses and Motorcycles.

MVSS 113: Hood Latch Systems in Passenger Cars, Multi-Purpose Passenger Vehicles, Trucks and Buses

MVSS 114: Theft Protection of Passenger Cars.

MVSS 115: Vehicle Identification Number of Passenger Cars.

MVSS 201: Occupant Protection and Interior Impact of Passenger Cars.

MVSS 202: Head Restraints in Passenger Cars.

MVSS 203: Impact Protection for the Driver from the Steering Column System of Passenger Cars.

MVSS 204: Steering Column Rearward Displacement of Passenger Cars.

MVSS 207: Anchorage of Seats in Passenger Cars.

MVSS 208: Seat Belt Installations in Passenger Cars.

MVSS 209: Seat Belt Assemblies in Passenger Cars, Multi-Purpose Passenger Vehicles, Trucks and Buses.

MVSS 210: Seat Belt Assemblies Anchorages in Passenger Cars.

MVSS 211: Wheel Mounts, Wheel Discs and Hub Caps in Passenger Cars and Multi-Purpose Passenger Vehicles.

MVSS 301: Fuel Tanks, Fuel Tank Filler, and Fuel Tank Connections in Passenger Cars.

We will evaluate each standard and propose a detailed test procedure which will provide maximum repeatability from test to test. All the tests outlined in this proposal will be performed on each car submitted to us and a comprehensive report will be issued for each vehicle. The tests and the reports will be based upon procedures developed during the course of the program. A separate procedure will be developed for each test.

TEST FACILITIES

It is evident that such comprehensive testing will require a number of vehicles; therefore, the test facilities in existence and the ones to be set up for this program will require relatively large areas. We propose to accomplish the bulk of the program at our Hartwood Test Site, which can be reached in an hour's drive south of Washington, D. C. This facility encompasses 90 acres and is expandable to 400 acres. Adequate parking and storage facilities are available, and, since this site operates on a 24-hour-a-day, 7-day-a week schedule, all items will be maintained under proper surveillance.

Although most of the program will be conducted at Hartwood, some tests—such as the MSVV 103, the Windshield Defrost and Defogging Systems, which require a chamber large enough to accept the entire passenger vehicle—will be made at our Springfield test facility. This facility is located just off the Capital Beltway.

TEST PROGRAM COSTS

To perform all work described in this proposal—complete with test procedures, test reports, and test procedural updating as required—General Testing Laboratories propose a firm fixed price of $11,053.00 for each vehicle. A test program involving a minimum of 20 vehicles would be conducted within one year, each auto being completely tested in 30 days. Test schedules for various numbers and combinations of vehicles will be supplied upon request.

SUMMARY

The large amount of test equipment on hand, the facilities available, and the existing test and evaluation engineering and technical staff of General Testing Laboratories assures the National Highway Safety Bureau of unique automotive testing capabilities close at hand in the Washington, D.C., area. These facilities will be expanded to enable us to test entire vehicles, a concept which allows random sampling, confidence in the capability of components to pass present safety standards, maximum use of each test vehicle without destruction; and many tests to be conducted simultaneously. The Bureau can thus be assured of obtaining meaningful test and evaluation results during the present fiscal year at minimum cost and of having a data base upon which to modify present safety standards or to institute new ones.

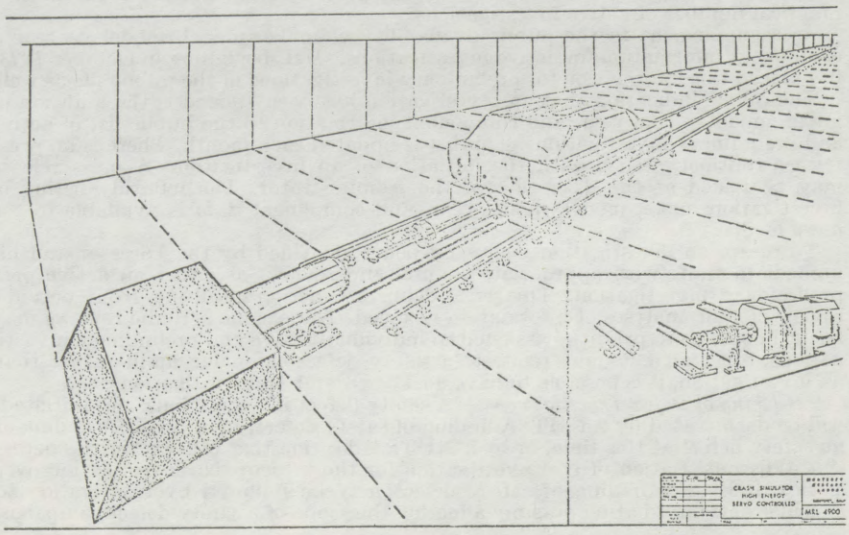


Figure 1. Test Sled for Accelerating and Impacting an Automotive Vehicle

U.S. DEPARTMENT OF TRANSPORTATION,
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION,
Washington, D.C., November 16, 1971.

Miss JOAN CLAYBROOK,
Public Interest Research Group,
Suite 601, Washington, D.C.

DEAR MISS CLAYBROOK: This will confirm the content of NHTSA statements made by representatives of the Office of Defects Investigation and the Office of the Chief Counsel in a meeting with you and other representatives of the Public Interest Research Group and the Center for Auto Safety on July 29, 1971. Purpose of the meeting was to answer questions contained in your letters of June 14 and July 28, 1971, and in your letter to Mr. Douglas Toms of July 6, 1971.

Persons in attendance at this meeting were:

NHTSA Representatives:
Joseph H. Clark, Jr., Director, Office of Defects Investigation (ODI).
John A. Dunsmoor, ODI.
Mervyn J. Lilley, ODI.
Harry J. Rowe, ODI.
Frank A. Berndt, Office of the Chief Counsel.
(Miss) Enid Rubenstein, Office of the Chief Counsel.

Public Interest Research Group and the Center for Auto Safety:
Lowell Dodge, Director, Center for Auto Safety.
(Miss) Joan Claybrook.
Michael Gregory.
Clarence Ditlow.
James Tolmack.
Carl Nash.
Gregory Williams.

NHTSA statements are grouped under five headings for easy reference to the related questions.

1. *Initiation of Defect Investigations.*—The Office of Defects Investigation (ODI) initiates investigations on the basis of information received from all sources and current priority assigned to the particular vehicle system and/or type of occurrence involved. It is not intended that any subject with potential as a safety defect will be overlooked because of insufficient investigative capacity. All potential safety defects are listed for investigative attention. With periodic reviews, the most significant subjects on this list, in a number matching the current investigative capacity, are treated as active investigations. The balance of the list is treated as preliminary investigations for which an IR to the manufacturer and/or examination of available information is undertaken in order to clarify the assignment of priority. Within the total list of investigation subjects, it is essential to investigation progress and completion that primary attention be focused on a practical number of active investigations.

As a supplement to the public availability of make, model, model year, and component information for active investigations, ODI, beginning in October 1971, has placed this information for preliminary investigations in the public file as well.

The public indication that an investigation has been started is the addition of make, model, model year, and component information to the public list of active and preliminary investigations. This list is updated each month. There is no press release routinely issued with the initiation of an investigation. A press release may be issued at the discretion of the Administrator. The monthly listing of investigation make, model, model year, and component data is available to the news media.

To recap, an investigation begins by being identified by the Director and his immediate staff (with appropriate counsel and review) as either an active or a preliminary investigation. This is a deliberate action resulting from periodic review of staff analyses of information received. These same periodic reviews may result in change to priorities assigned to individual active and preliminary investigations. Since an I.R. may relate to a safety defect campaign audit rather than an investigation, it is possible to have an IR without an investigation.

2. *Closing of Defect Investigations.*—A safety defect investigation, once initiated, will be deactivated by a NHTSA finding of safety defect, by a NHTSA finding of no safety defect at this time, or by a NHTSA decision that other priorities necessitate discontinuation of the investigation for the present. No investigation ever is closed. Even a finding of safety defect may be followed by reactivation to consider new information possibly affecting the scope of a safety defect campaign.

A press release may be issued at the close of an investigation, at the discretion of the Administrator.

3. *Investigation Files.*—It is intended that an investigation file will be made public immediately upon a NHTSA finding of safety defect and within one week of deactivation without a finding of safety defect.

An investigation file, once made public, is not withdrawn. Reactivation of an investigation results in a supplement to the public file.

A memorandum to file, relating the purpose, principal findings, and disposition of each investigation has been regularly intended and usually prepared. Such memoranda have not been present in all public investigation files and steps necessary to provide this logical summary have been initiated. As currently being prepared, these memoranda will serve as index, chronology, and summary for each investigation. An index of all public investigation files is in preparation.

Generally, there is an internal file for each public investigation file. The internal files are centrally located and contain only internal opinion memoranda and manufacturer documents for which confidentiality has been requested by the manufacturer and accepted by NHTSA. The nature of any internal file precludes a public index of its contents.

4. *Sources of Safety Defect Information.*—Information sources presently include: vehicle owner letters, manufacturer service bulletins, automotive periodicals, multidiscipline accident investigation team routine and special reports, Government fleet operator reports, and reports from a growing number of State and local contacts. Expansion of this coverage is receiving continuing attention.

It is intended generally that all vehicle owner inputs, whether or not received in letter form, will be added to the computer file. Exceptions to this practice are vehicle owner letters received during defect investigations in response to specific NHTSA contacts with vehicle owners and with manufacturers. These inputs are placed in the investigation files. To reinforce present periodic review of information in the computer file, a computer program to interrogate this file and summarize possible trends in being written. This program will be run monthly.

NHTSA has not to date paid for advertising to publicize interest in receiving information about specific vehicle problems. Several trade magazines have voluntarily asked subscribers to furnish information to NHTSA and, in addition, NHTSA has specifically invited vehicle owner information in three consumer protection bulletins during the past year. Audits of specific portions of manufacturer operations have been made as believed pertinent to individual investigations. Investigative staff has talked privately with an assembly line inspector in the course of an investigation. Warranty and field reports are requested when needed for specific investigations. This has been regular practice since 1968.

5. *Office of Defects Investigations Staffing and Funding.*—Professional and clerical staff finally authorized for FY 1971 and actual as of June 1, 1971 and June 30, 1971 were as follows:

	Authorized, fiscal year 1971	Actual	
		June 1, 1971	June 30, 1971
Professional	26	22	25
Clerical	8	6	8
Total	34	28	33

Overall distribution of ODI staff time to the answering of letters from the general public and the investigation of specific potential safety defects, during the second half of FY 1971, was approximately:

Correspondence replies, 25 percent.
Specific investigations, 55 percent.

The balance of staff time was devoted to engineering analysis of technical data, such as manufacturer bulletins and proposed corrective actions, and to administrative duties. In first quarter, FY 1972, a significant reduction in time required for correspondence replies has been achieved with help from a centralized NHTSA correspondence function. Corresponding increase in investigation time has resulted.

As of the end of FY '71, two-thirds of the professional staff was academically trained in engineering. The balance of the professional staff was qualified by

reason of training and practical experience in vehicle maintenance and testing, in vehicle customer service procedures, or in information processing procedures.

O.D.I. testing budget for FY '71 finally was $840,000. Manpower and testing budgets for FY '71 are not publicly available.

NHSTA procedure with respect to pending safety defect investigations is governed by Departmental regulations implementing the Freedom of Information Act, 49 CFR 7. Official statements of procedure applicable specifically to the ODI have not yet been formulated or published. Upon their adoption, such statements will be made publicly available, in conformity with the requirements of the Freedom of Information Act.

With specific regard to your July 6 letter to Mr. Toms, interpretation of the Freedom of Information Act as it applies to the information policies of ODI was addressed by Mr. Berndt at our July 29 meeting and more recently has been the subject of written reply to Mr. Nader from Mr. Toms. I trust that the NHTSA position on this subject has been adequately presented.

Our effort has been to be fully responsive within the purview of the Freedom of Information Act.

Sincerely,

JOSEPH H. CLARK, Jr.,
Director, Office of Defects Investigation, Motor Vehicle Programs.

(The following information was referred to on p. 46.)

MOTOR VEHICLES-IN-USE TASK FORCE REPORT

Chairman: J. Forrester.

Members: C. Carroll, J. Delahanty, D. Fulmer, H. M. Jacklin, E. McBride, G. Parker, K. Schulze, and T. Vinson.

SUMMARY

The Motor Vehicle-in-Use Task Force was chartered by the Acting Asssociate Administrator for Motor Vehicle Programs by memo dated August 5, 1971, to determine what can reasonably be done in this area by the Administration and to make recommendations for a future program.

The task force was comprised of representatives of all Associate Administrators and the Offices of Consumer & Public Information and Chief Counsel.

In the first phase of its deliberations, the task force examined all activities of the Administration relative to the vehicle-in-use program, as well as activities by outside interests (EPA, Congress, White House, State governments, private interest groups, etc.) which have a bearing on the problem.

From these early deliberations, it has been concluded that current Administration efforts are scattered and cover a range of topics which do not provide a short term impact on fatalities or gross economic loss.

It is the considered opinion of the task for ce that the Administrative program should concentrate on those areas where sound research data indicate significant causation or contribution to accidents. At the present time, three areas—brakes, tires, and steering and suspension systems—meet this criterion.[1]

The task force recommends a prototype inspection program covering the three critical areas. The prototype program would include the development and validation of safety performance levels, test criteria, techniques, and procedures for inspection. Evolution of the prototype program into other safety-critical areas would be effected only in those areas where, and at such time as, sound research data becomes available.

In deciding upon the method for promotion of the Administration program, the task force considered both the issuance of Vehicle-in-Use standards and emphasis on Highway Safety Program Standard No. 1, PMVI. It was concluded that issuance of VIU Standards is not feasible at this time for a number of reasons, including:

1. The number of vehicle components involved is immense.
2. The safety criticality of many is marginal.
3. New production aftermarket items can be regulated by Federal motor vehicle safety standards.

[1] Best preliminary estimates based on analyses of presently available information (Reference 1), strongly suggest existence of a minimum range of between six (6) percent direct causation and seventeen (17) percent contributing causation. Approximately 81 percent of the defects causing or contributing to accidents may be attributed to: brakes, tires, steering/suspension systems. (References 1, 2, 3, and 4)

4. Rebuilt replacement parts, the bulk of the aftermarket, pose complex and difficult regulatory and enforcement problems.

Promotion of a prototype Motor Vehicle Inspection Program has a number of distinct advantages:

1. Emphasis is placed on State initiative rather than Federal regulations.
2. Forty States plus the District of Columbia and Puerto Rico now conduct MVI of one type or another.
3. The prototype does not demand a specific kind of inspection (PMVI or Random).
4. The prototype specifies minimum coverage in the three critical areas and leaves maximum flexibility with the States for including other items.
5. The D.C. Inspection Center provides an immediately available and ready-built laboratory for testing and evaluating the program for use as demonstration guidance for uniform State implementation.

The proposed program can be developed and implemented within existing personnel resources allocated to Administration MVIU activities, and previously approved research fund levels.

MAJOR RECOMMENDATIONS

The task force recommends that the Administration:

1. Develop a prototype State Motor Vehicle Inspection Program concentrated in those areas, substantiated by research, having the highest short-term safety payoff (brakes, tires, and steering/suspension systems).
2. Develop and validate safety performance levels, test criteria, techniques, and procedures for the areas of concentration as soon as possible.
3. Research be continued at current funding levels to establish the relationshkp betwen vehicle degradation and safe vehicle performance, as well as to determine the most effective methods of detection.
4. Prepare a detailed plan which integrates all NHTSA actions implementing the recommended programs, including scheduling, costs, and personnel resource allocation.
5. Review all other activities of the Administration in this area, not encompassed by the proposed program, with a view of discontinuation of marginal payoff areas.
6. Activitely promote the Prototype Inspection Program as the mainstay of Federal activity in this area, through the proposed Highway Safety Program Standard on Vehicle Requirements (Revised No. 1).

INTRODUCTION

The two tasks accomplished by the Motor Vehicle-in-Use Task Force were:

A determination of what can reasonably be done in this area (Motor Vehicle-in-Use) by the Administration.

A recommendation of a program to be followed.

The Task Force deliberations led to an opinion concerning vehicle-in-use programs which is characterized by the statement, "The overriding concern of the NHTSA is to present the States with a program which will be adopted because of its logic, effectiveness and appeal and not because Federal funds will be withheld if it were not adopted."

The program which is described in this report and the Task Force recommendations reflect this attitude.

This report is a brief account of the Task Force deliberations, proposed program and the issues the program addresses.

TASK FORCE DELIBERATIONS

The Task Force was convened on numerous occasions during August and September 1971. A review was made of present activity and past accomplishments in the areas of motor vehicle-in-use research (Appendix A), development of minimum safety standards, consumer information regulations, of inspection criteria, guidelines, procedures, etc. (Appendix B) and the status of State vehicle-in-use programs (Appendix C). Discussions of the practical and political constraints confronting vehicle-in-use programs were held and unanimous agreement was reached on program criteria. In arriving at the recommended program, the Task Force reviewed a vast amount of existing data on the VIU problem (Bibliography, Appendix D). This program was tested against the issues which have been or are likely to be raised (Appendix E). Unanimous agreement on the Task Force recommendations was achieved.

Proposed NHTSA Program

The proposed NHTSA program is in consonance with the previously stated objectives and is concentrated in those areas where research has indicated a high safety payoff.

A brief description of the scope of the proposed program follows.

SCOPE

The proposed NHTSA effort consists of six (6) major elements:

1. Development of a prototype State Motor Vehicle Inspection Program concentrating on those areas of high safety payoff as substantiated by research, i.e. brakes, tires and steering/suspension systems.
2. Development and validation of safety performance levels, test criteria, techniques and procedures for the areas of concentration.
3. Continuation of research.
4. The NHTSA Vehicle-in-Use Program and FMVSS will be mutually supportive.
5. Promotion of the NHTSA prototype State Motor Vehicle Inspection Program and continuous analysis of State Vehicle-in-Use Programs.
6. Development of a detailed plan for the accomplishment and implementation of the above.

1. Develop a prototype State Motor Vehicle Inspection Program concentrating on those areas of high safety payoff as substantiated by research, i.e., brakes, tires and steering/suspension systems.

This Prototype Inspection Program (PIP) is meant to be NHTSA's suggested minimum State effort. It is not intended to restrict the State programs to the above mentioned areas nor does it preclude the addition of other areas as research data become available.

The rationale for choosing the above areas may be stated as follows:

Research conducted to date has shown that a significant percentage (17%) of accidents is caused or contributed to by mechanical defects (References 1 and Indiana University Accident Investigation Study).

A large percentage (81%) of these defects is attributed to brakes, tires and steering and suspension systems (References 1, 2, 3, and 4).

Thus, a significant potential safety payoff exists in the detection and correction of defective brake systems, tires, steering and suspension systems.

The Prototype Inspection Program will incorporate, as a minimum, the following:

Inspection criteria and guidelines for brakes, tires and steering/suspension systems as developed through the application of data made available in part by the MVIU research program; and as evaluated and refined through the use of the D.C. Inspection/Recall Demonstration Project as a test laboratory for such guidelines, procedures and equipment (Appendix F).

The stipulation that required new vehicle safety equipment remain in the vehicles and in safe operating condition as stated in the proposed revision of HSPS 1 and 2.

Accountability for the diversity of State inspection requirements and equipment without compromising the desired effect of the guidelines.

Reporting procedures to permit continuous program evaluation.

2. Development and validation of test criteria, techniques and procedures for the areas of concentration.

This will include the following:

Develop minimum safety performance levels based on existing data from appropriate research and existing inspection programs.

Develop methods and procedures which will measure the level of safety condition against the proposed minimum safety performance requirements.

Through testing and evaluation at the D.C. Inspection Project, State and other sources; validate the procedures to assure:

(*a*) Safety level requirements are met.
(*b*) The safety level is reasonable and practicable.
(*c*) Can be performed economically.
(*d*) The various types of equipment available can meet the criteria.

Develop a cost-benefit analysis.

3. Continue Research

A pervasive element in the research program is a concern for protecting the interest of the consumer. In fulfilling his responsibility of maintaining a safe roadworthy vehicle, the consumer has the right to expect that meaningful and

scientifically sound criteria have been employed to identify the safety-related performance levels of his vehicle that must be maintained, that these are validly translated into efficient and effective inspection procedures and policies, and that the various repairs and adjustments for which he pays do, in fact, restore his vehicle to a safe operating condition.

The research program has two major objectives, each of which has supporting objectives. These are:

(*a*) Determine the relationship between vehicle degradation and vehicle performance.

(1) Identify the types, levels, and combinations of vehicle defects and degradation.

(2) Provide a technical base for safety standards.

(*b*) Determine the most effective methods of detecting vehicle defects and degradation.

(1) Evaluate present MVI.

(2) Determine the most effective combination of actions.

(3) Establish all features of recommended counter-measure action.

The research program to satisfy these objectives is divided into the three areas of Operating Systems Performance, Inspection Technology, and Repair and Maintenance Technology.

Current research is predominantly concentrated in the first area with some activity in the second area and very little in the third area. The near-term program has the following outputs.

(*a*) Safety status research establishes types, degrees, and frequency of degradation modes.

(*b*) System and component degradation research establishes the point at which degradation becomes a safety hazard.

(*c*) The combination establishes the magnitude of the vehicle-in-use safety problem.

(1) Probability of occurrence criticality.

(2) Effect criticality.

(*d*) The combination provides the technical data base for establishing safety performance requirements and directs future research.

(*e*) The program provides data upon which accident investigations for vehicle defect causation must be based.

Research conducted to date has produced some significant results such as:

(*a*) A significant percentage of accidents is caused or contributed to by mechanical defects.

(*b*) PMVI reduces vehicle defects.

(*c*) A large percentage of defects causing or contributing to accidents is attributed to brakes, tires, and steering and suspension systems.

(*d*) Brake defects such as thin brake pads and out-of-round drums significantly degrade vehicle braking performance.

(*e*) Steering and suspension defects such as 50% effectiveness shock absorbers significantly degrade vehicle handling performance.

(*f*) Most vehicle performance degradation due to vehicle defects becomes critical in limit (or emergency) maneuvers.

It is proposed that the present research program should be continued at current funding levels.

4. The NHTSA Vehicle-in-Use Program will be supported through new vehicle and equipment safety performance standards.

Where feasible, new vehicles and equipment safety prformance standards will incorporate requirements for ease of inspection and repair and for encouraging preventative maintenance by owners. An example of this is the requirement for tire treadwear indicators in FMVSS 109.

5. Promotion of the NHTSA prototype State Motor Vehicle Inspection Program and continuous analysis of State Vehicle-in-Use Programs.

At the present time, 19 States do not require a periodic inspection. Eight of these States conduct random programs.

All States should be encouraged to adopt the Prototype Inspection Program (PIP) as part of their present program or as a starting program if they lack one. Promotion in the States must be on the basis of fact.

In addition to getting all States "into the act", a continuous analysis of State programs should be made. Surveys have shown that programs within the various

States are not uniform, i.e., the same items are not inspected, nor are the same tolerances or rejection criteria used on any one item.

This situation has several very undesirable aspects. It undermines public confidence in the program, it passes unsafe conditions, and it requires unnecessary expenditures. A van or vans, such as the portable van which will be used next year in evaluating California's random inspection program, should be made available so that the performance of the various State programs can be measured and evaluated in a uniform manner.

In summary, the program must:

(*a*) Evaluate the effectiveness of random programs for aid in establishing and validating the prototype program.

(*b*) Continuously analyze and evaluate the various programs being conducted by the States, using a van or vans as a vital element in the evaluation processes.

6. Develop a detailed plan for the accomplishment and implementation of the above.

The detailed plan for the accomplishment and implementation of the program should include:

(*a*) Mission.—Statement defining the overall direction encompassed by the VIU program.

(*b*) Goal.—Statement of the projected ultimate accomplishment implicit in the mission, expressed in finite terms.

(*c*) Program Structure.—Breakdown of the program into its various parts (block diagram).

(*d*) Objectives.—Definition for each part of the program.

(*e*) Designation of Tasks.—These are the action items which are to be listed for each part of the program. They should be developed chronologically or by means of flow charting.

(*f*) Designation of Support Requirements.—Provide precise information on all requirements both for NHTSA internal administrative coordination, as well as through external contractual efforts.

(*g*) Funding.

(*h*) Evaluation.—Select criteria for measurement of program effectiveness and establish procedures for carrying this out.

REFERENCES

1. Beiber, Moss, Margoff—Mechanical Factors Study—Department of the California Highway Patrol—February 1970.
2. Component Degradation Braking Systems Performance, Final Report Summary, TRW Systems Group—Contract FH–11–6964, December 1969.
3. Used Car Safety Standards, Final Report Summary, TRW Systems, Contract FH–11–6938, 1969.
4. *Accident Facts*, the National Highway Safety Council, 1970 Edition, Pages 40 and 55.

APPENDIX A

Past and Present Vehicle-in-Use Research

The Vehicle-in-Use Research Program was the subject of a detailed planning exercise in 1968 that resulted in a research program plan that addresses all aspects of the vehicle-in-use safety problem such as the justification for MVI, the development of a technical data base for the safety performance requirements, and the development of countermeasure programs other than MVI. Prior to the development of the research program plan, VIU research activities were mainly a survey of the prior research in this area and a survey of the state-of-the-art in MVI. These early projects identified the need for a systematic and comprehensive research program focusing on all aspects of the VIU safety problem and possible countermeasure actions.

The research program is divided into the categories of Operating Systems Performance, Inspection Technology, and Repair and Maintenance Technology. The first category is further sub-divided into research concerned with the course of vehicle degradation and the significance of vehicle degradation. Even though funding levels have not allowed an execution of the research program plan as originally time scaled, some significant research has been performed in each of the categories. This research is summarized below by program category.

I. OPERATING SYSTEMS PERFORMANCE

A. Course of vehicle degradation

1. Contract No. FH–11–6938, "Used Car Safety Standards," completed in FY 70. The "in-use" condition of approximately 21,000 representative vehicles was determined. In addition, a computer program was developed, automobiles in-use tabulation of outages (auto), to determine the vehicle systems, subsystems, and components most frequently diagnosed to be out-of-specification.

2. Contract No. FH–11–7525, "Vehicles-in-Use Safety Standards Study," completed in FY 72. The study was conducted to determine the in-use condition of automobiles on the U.S. highways and the change in condition from the previous study. A primary objective was to assess the condition of vehicles in PMVI States as compared with vehicles in a random MVI State.

3. Contract No. FH–11–7330, "Vehicles-in-Use, and State Compulsory Vehicle Inspection," completed in FY 71.

4. Contract No. FH–11–6921, "An Investigation of Used Car Safety Standards—Safety Index," completed in FY 70.

B. Significance of vehicle degradation

1. Contract No. FH–11–7316, "Vehicle-in-Use System Safety Analysis," completed in FY 70. The analysis of vehicle failure paths and modes was accomplished through development of detailed fault logic diagrams for five defined vehicle systems: braking, steering, power management, visual impairment, human impairment.

2. Contract No. FH–11–6629, "Steering Diagnosis," completed in FY 70. The primary purpose was to create a complete vehicle testing system capable of providing objective and subjective measures of passenger automobile steerability in various states of vehicle component degradation.

3. Contract No. FH–11–7384, "Effects of Steering and Suspension Component Degradation on Automobile Stability and Control," completed in FY 71. Six makes of passenger vehicles encompassing the various designs of steering and suspension systems in current use were utilized. The experimental approach involved various driving tasks which combined handling performance and ride excitation. "Expert" drivers were used in the program; i.e., one who has a high degree of skill, adapts readily to different vehicles and is consistent. Although driver-vehicle interaction diluted the test results, it was found that such component degradation modes and levels as a 50% loss in shock absorber dampening significantly reduced vehicle limit performance.

4. Contract FH–11–6964, "Component Degradation Braking Systems Performance," completed in FY 70. It was the initial effort to evaluate types of degradation which occur in the principal brake system designs manufactured during 1964–1969 for American automobiles and light trucks. The evaluation correlated particular types, stages, and combinations of component wear, deterioration or failure with brake systems behavior. One of the major conclusions from this study was that a high speed brake fade test on a dynamic brake analyzer was found to be very discriminating and a necessary adjunct to visual brake inspection.

5. Contract No. DOT–HS–031–1–126, "Component Degradation, Inspection Equipment: Steering and Suspension Systems Performance," begun in FY 71 and continuing through FY 72. This effort is utilizing the previously developed NHTSA automatic vehicle controller and the 6 (open loop) HSRI, University of Michigan, limit performance maneuvers to quantitatively measure vehicle performance as a function of component degradation. The (open loop) approach is expected to yield measures of vehicle performance that are independent of driver influence.

6. Contract No. DOT–HS–090–1–124, "Component Degradation: Brake System Performance," begun in FY 71 and continuing through FY 72. The purpose of this contract is to research brake degradation modes and limits not yet examined. The relationship between brake degradation and vehicle performance will also be assessed. An integral part of this effort is to perform inertial dynamometer tests and incorporate this data into the Bendix computer vehicle simulation.

II. INSPECTION TECHNOLOGY

A. Contract No. FH–11–7287, "Diagnostic Centers," completed in FY 71. This research assessed the feasibility of using commercial diagnostic centers for motor vehicle inspection with respect to the suitability of inspection equipment, technical feasibility, economics, and future of diagnostic centers.

B. Contract No. FH-11-6538, "Automated Diagnostic Systems—Vehicle Inspection," completed in FY 68. A generalized but explicit cost model of mass vehicle safety inspection was developed.

C. Contract No. FH-11-6886, "Alternate Inspection Policies for Collision Damaged Vehicles and Inspection of Special Purpose Vehicles," completed in FY 69.

D. Contract No. FH-11-7291, "Mobile Inspection Equipment and Techniques," completed in FY 70. The state-of-the-art was surveyed and the development and evaluation of a mobile motor vehicle safety inspection facility was performed.

III. REPAIR AND MAINTENANCE TECHNOLOGY

A. Contract No. FH-11-7593, "Maintainability and Repairability of Vehicles-in-Use," completed in FY 71. Problems with the repair industry were identified as lack of vehicle accessibility, increased vehicle complexity, lack of vehicle diagnosis, and poor parts durability. It was concluded that improved vehicle design, new diagnostic test equipment, and adequately trained mechanics can significantly reduce the vehicle diagnostic problem and provide better vehicle repair service at an overall lower cost.

B. Contract No. FH-11-6922, "A Study of Garage Repair and Dealer Warranty Practices," completed in FY 70. The study concluded that higher levels of vehicle repair quality were performed for non-warranty service than for warranty work.

C. Contract No. FH-11-7285, "Dealer Warranty: Garage Repair for Trucks and Buses," completed in FY 71. The major problem identified was the absence of proper vehicle diagnosis.

D. Contract No. FH-11-6939, "Motor Vehicle Owner Maintenance Practices," completed in FY 70. The results demonstrated a positive relationship between vehicle owner education level and the number of parts the vehicle owner replaced.

Appendix B

STANDARDS DEVELOPMENT—ACTIVITIES THAT HAVE SUPPORTED THE MOTOR VEHICLES IN USE PROGRAM

To assist those concerned with this program, OSVIU has developed an Overview (copy attached) that visually describes the MVIU problem. It is a compilation of all of the rhetoric, testimony, reports, papers and public pronouncements by NHTSA-DOT concerning Used Vehicle Safety with respect to the development of and the possible implementation of MVIU Standards. This Overview was utilized further in initially outlining the necessary activity to be carried forward in developing MVIU standards, which activity is reflected in the Motor Vehicle Program Plan for Motor Vehicle Safety Standards as published in June 1970 and the subsequently revised edition of September 1970.

Outputs of OSVIU concerning the MVIU program include:

1. The development ready for legal rewrite, including all supporting documents, of a proposed NPRM of a Consumers Information Regulation on Preventive Maintenance and Repairs.

2. The development ready for legal rewrite, including all supporting documents, of a Proposed Second Notice of Request for Comments (Docket No. 37—Notice 2) Motor Vehicles in Use Safety Performance Standards.

3. The development ready for legal rewrite of a proposed ANPRM on Requirements for Diagnostic Safety Performance Analysis—Passenger Cars and Multipurpose Passenger Vehicles.

4. The initiation of the development of proposed standards or guidelines on:
   - Inspector Certification.
   - Mechanic Certification.
   - Facility Certification.
   - Equipment Certification and Performance Requirements.
   - Service Manuals.
   - Log Books.
   - Reliability of Rebuilt Systems, Subsystems and Components.

5. The completion of special projects including:
   - A Report on the Direct Safety Benefits of Motor Vehicles in Use Passenger Car Inspection Programs.
   - A Report on the Social and Economic Impact of Federal Safety Performance Standards for Motor Vehicles in Use.

Assisting in preparing the Answer Report on Motor Vehicle Inspection Questionnaire for the U.S. Pilot Study on Road Safety, Committee on the Challenges of a Modern Society, NATO.

Coordinating the April 22, 1971 Technical Conference and the U.S. Senate Committee Report on Motor Vehicle Diagnostic Analysis Technology—1971–85.

A Report on Performance, Economic and Social Considerations of Combined Safety/Emission Inspection Programs.

Participating in a combined MVP–TSP–RI briefing of the VESC regarding the MVIU program.

Developing a Special Matrix covering the Levels of Safety Diagnosis (copy attached).

Developing requirements, work statements and carrying forward other supporting activity including the technical monitoring of the following:

CONTRACT NO. AND TITLE

FH–11–7384—Component Degradation.
FH–11–6964—Component Degradation.
FH–11–6922—Garage Repair and Dealer Warranty Practices.
FH–11–6939—Owner Maintenance Practices.
FH–11–7196—Tire Repair Methods and Materials.
FH–11–7287—Diagnostic Centers.
FH–11–7593—Maintainability and Repairability of Vehicles in Use.
FH–11–7291—Mobile Inspection Equipment.
FH–11–7525—Vehicles in Use Safety Standards.
FH–11–7244—Study to Determine the Relation of Vehicle Defects to Accidents.

Presenting papers at the annual symposium on maintainability and reliability and the SAE concerning the MVIU program.

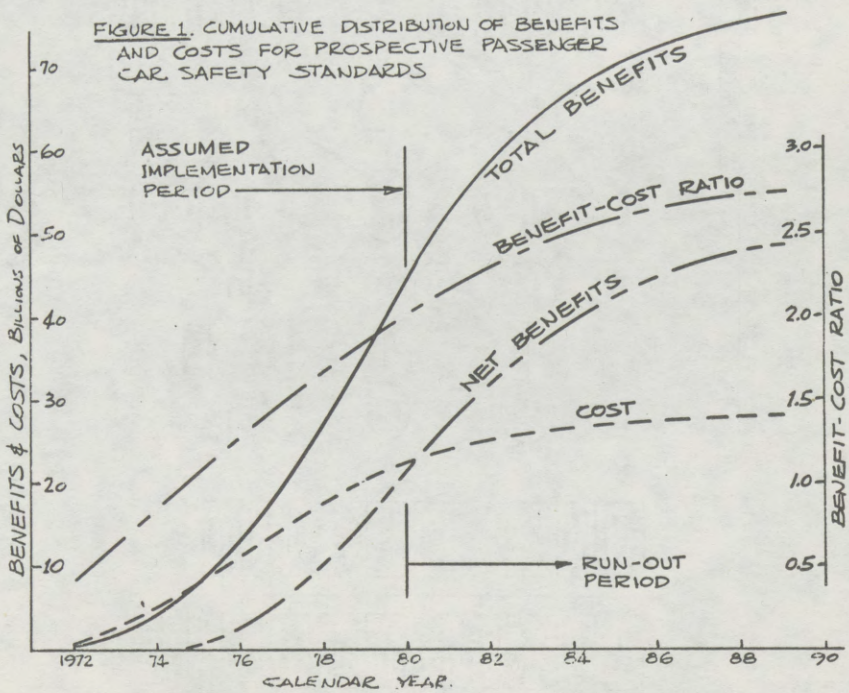
Meetings with interested organizations concerning the MVIU program.

Outputs of VRD/TSP concerning the MVIU program include:

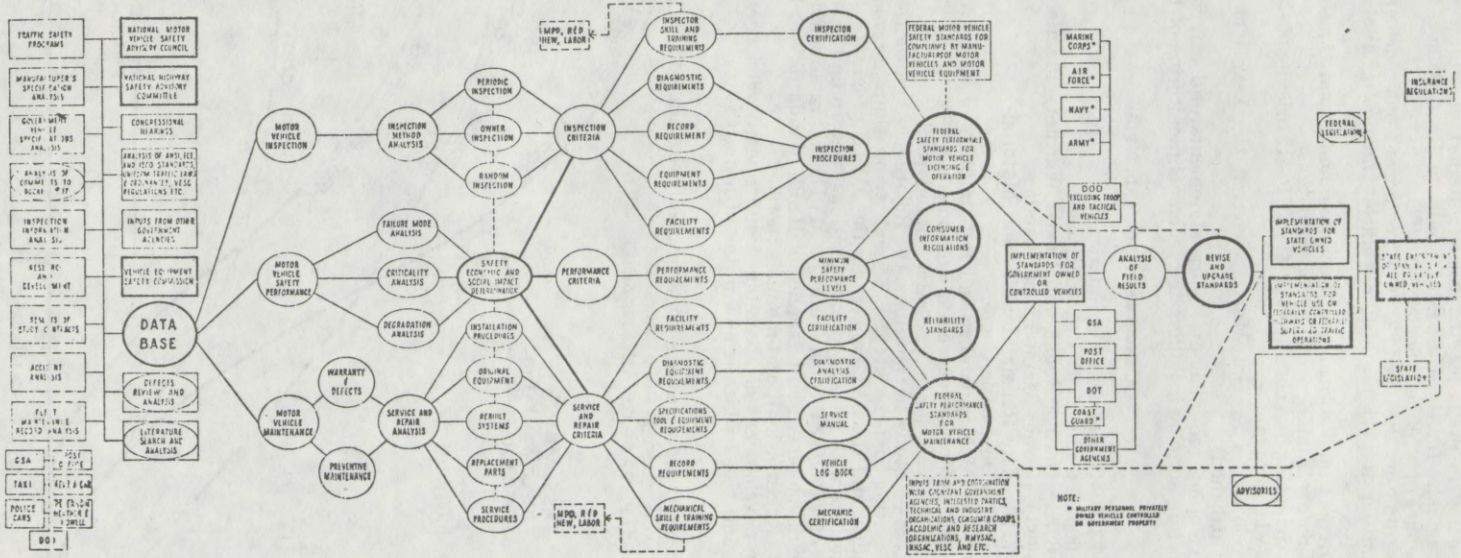
The development and issuance of HSPS Standards No. 1 (Inspection) and No. 2 (Registration), and manuals therefor.

The development of a combined and revised version of Standards HSPS No. 1 and No. 2 which is now in the fifth draft stage.

FIGURE 1. CUMULATIVE DISTRIBUTION OF BENEFITS AND COSTS FOR PROSPECTIVE PASSENGER CAR SAFETY STANDARDS



OVERVIEW OF THE DEVELOPMENT AND IMPLEMENTATION OF STANDARDS FOR MOTOR VEHICLES IN USE



LEVELS OF SAFETY DIAGNOSIS

CARD 1

← MORE SUBJECTIVE — MORE OBJECTIVE →

NATIONWIDE UNIFORMITY → VEHICLE SYSTEM SAFETY CRITERIA	A VISUAL & MANUAL DIAGNOSIS - HAND HELD TOOLS	B VISUAL & MANUAL DIAGNOSIS - ROAD TESTING	C INSPECTOR OPERATED DIAGNOSTIC EQUIPMENT	D ON BOARD TELL-TALES TO DRIVER	E DYNAMIC EQUIPMENT & VEHICLE INSTRUMENTATION - UMBILICAL CORD	F AUTOMATIC VEHICLE DIAGNOSIS - MEMORY TAPE	DEGRADATION PROBLEM - ACCIDENT CAUSING - %	CURRENT FMVSS APPLICABLE TO MFGR.	OWNER'S ACTION	LEVEL OF IMPORTANCE
MANEUVERABILITY										
ACCELERATION		ROAD TEST	DYNAMOMETER		DYNAMOMETER & ENGINE ANALYZER	DYNAMOMETER & ENGINE ANALYZER WITH MEMORY TAPE				
DECELERATION		ROAD TEST								
STEERING		ROAD TEST								
ROADABILITY		ROAD TEST								
WHEELS & TIRES							23%			3.
BALANCE - EACH ASSEMBLY		ROAD TEST			VIBRATION SENSORS	VIBRATION SENSORS MEMORY TAPE - GO NO-GO			▲	
TREAD DEPTH	VISUALLY EXAMINE DEPTH OF TREAD WITH GAUGE		AVIS TREAD DEPTH SENSOR	WEAR BANDS OR SOUND GROOVES	AVIS TREAD DEPTH SENSOR	AVIS TREAD DEPTH SENSOR		✓	■	
DELAMINATION	VISUAL EXAMINATION & FEEL BUMPS, BULGES, KNOTS				HOLOGRAPHY INFRA RED SONICS	HOLOGRAPHY INFRA RED SONICS			■	
DAMAGE	VISUAL EXAMINATION & FEEL SIDEWALL CRACKS, CUTS								■	
TIRE MIX	VISUAL EXAMINATION - TREAD COMPARISON - BRAND NAME				VISUAL EXAMINATION				■	
PRESSURE	VISUAL EXAMINATION - TIRE GAUGE		AVIS DRIVE OVER SENSOR	VALVE CAP WARNING INDICATOR	AVIS DRIVE OVER SENSOR	AVIS DRIVE OVER SENSOR TAPE MEMORY SPECIFIED PRESSURES			■	
WHEEL SIZE	VISUAL								■	
TIRE SIZE	VISUAL								■	
BRAKES - SERVICE							33%			1.
PEDAL RESERVE	USE GAUGE OR STOP BLOCK			MICRO SWITCH AND WARNING LIGHT	MICRO SWITCH ON VEHICLE THRU UMBILICAL	MICRO SWITCH THRU MEMORY TAPE			■	
FLUID LEVEL	EXAMINE MASTER CYLINDER			FLOAT MICRO SWITCH & WARNING LIGHT	FLOAT MICRO SWITCH ON VEHICLE THRU UMBILICAL	FLOAT MICRO SWITCH			■	
BALANCE - FRONT		ROAD TEST	DYNAMIC BRAKE ANALYZER					✓	■	
REAR		ROAD TEST / LANE CLERK			DYNAMIC EQUIPMENT CARD PRINT OUT THRU UMBILICAL HOOK UP	DYNAMIC EQUIPMENT MEMORY TAPE		✓	■	
RETARDING FORCE FRONT								✓	■	
REAR								✓	■	
LINING THICKNESS	EXAMINE WITH GAUGES - COLOR INDICATORS			SENSORS IN SHOE AND WARNING LIGHT	SENSORS IN SHOE THRU UMBILICAL HOOK UP	SHOE SENSORS - MEMORY TAPE		✓	■	
BRAKE FADE		ROAD TEST - HIGH ENERGY	DYNAMIC BRAKE ANALYZER		DYNAMIC BRAKE EQUIP UMBILICAL CORD HOOK UP	DYNAMIC BRAKE ANALYZER		✓	■	
LEAKS - LINES FITTINGS MASTER CYLINDER	EXAMINE FOR FLUID LEAKAGE							✓	■ ●	
COMPONENT CONDITION RIGID LINES	INSPECT FOR DEGRADATION OR DAMAGE							✓	■	
FLEXIBLE LINES	INSPECT FOR DEGRADATION OR DAMAGE							✓	■ ●	
BRAKES - PARKING										
RESERVE	VISUAL CHECK			MICRO SWITCH	MICRO SWITCH EXTERNAL UMBILICAL CONNECTION	SAME AS COL. 5 WITH TAPE MEMORY			▲	
COMPONENT CONDITION	VISUAL CHECK							✓	▲	

1. Safe right rejection and tow-away situation
2. Rejection but drive away for maintenance only
3. Warning - get repaired before next inspection
4. Advisory - watch regular vehicle operation
5. Equipment is currently available
6. Equipment must be developed
7. Tests must be developed for new equipment manufactured vehicles or inspections
8. Tests must be developed for systems for States

CARD 2

NATIONWIDE UNIFORMITY → VEHICLE SYSTEM SAFETY CRITERIA	A VISUAL & MANUAL DIAGNOSIS-HAND HELD TOOLS	B VISUAL & MANUAL DIAGNOSIS - ROAD TESTING	C INSPECTOR OPERATED DIAGNOSTIC EQUIPMENT	D ON BOARD TELL-TALES TO DRIVER	E DYNAMIC EQUIPMENT & VEHICLE INSTRUMENTATION-UMBILICAL CORD	F AUTOMATIC VEHICLE DIAGNOSIS-MEMORY TAPE	DEGRADATION, PROBLEM-ACCIDENT CAUSING %	CURRENT FMVSS APPLICABLE TO MFGR.	OWNER'S ACTION	LEVEL OF IMPORTANCE
BRAKES-EMERGENCY FUNCTION OF EFFECTIVENESS INDICATOR	VISUAL CHECK			INDICATOR LITE ▬ ═	LITE CONNECTED TO EXTERNAL READOUT ▬ ═	SAME AS COL. 5 WITH TAPE MEMORY ● — ═		✓	■	1.
STEERING & SUSPENSION SYSTEMS							25 %			2.
TOE	OBSERVE TIRE WEAR		STEERING GEOMETRY ANALYZER		DYNAMIC ANALYZER TO READOUT ● — ═	DYNAMIC ANALYZER WITH TAPE MEMORY ● ▬ ═			■	
CAMBER/CASTER			STEERING GEOMETRY ANALYZER		DYNAMIC ANALYZER TO READOUT ● — ═	DYNAMIC ANALYZER ● WITH TAPE MEMORY ▬			▲	
LASH	VISUAL CHECK AT RIM OF STEERING WHEEL								■	
SHOCK ABSORBERS	JOUNCE VEHICLE COUNT CYCLES	COL. 1 PLUS ROAD TEST	"DROP" SHOCK TESTER		DROP TEST TO READOUT ● ▬ ═	DROP TEST (AUTOMATIC WITH TAPE MEMORY ● ▬ ═			◘	
FRONT TO REAR ALIGNMENT	OBSERVE STRAIGHT AHEAD TIRE TRACKS		STEERING GEOMETRY ANALYZER		DYNAMIC ANALYZER & UMBILICAL CORD ● — ═	DYNAMIC ANALYZER ● ▬ ═			▲	
COMPONENT CONDITION	VISUAL EXAMINATION		STEERING GEOMETRY ANALYZER						◘	
ENGINE & POWER TRAIN OPERATIONAL PERFORMANCE							PART OF 4%			13.
ENGINE - FUNCTION		ROAD TEST	CHASSIS DYNAMOMETER		DYNAMOMETER PLUS ENGINE ANALYZER THRU UMBILICAL CORD ▬ — ═	SAME AS COL. 5 WITH TAPE MEMORY ▬ — ═			▲	
- PERFORMANCE		ROAD TEST	CHASSIS DYNAMOMETER						▲	
POWER - FUNCTION		ROAD TEST	CHASSIS DYNAMOMETER						▲	
TRAIN - PERFORMANCE		ROAD TEST	CHASSIS DYNAMOMETER						▲	
VISIBILITY AIDS							3%			
GLAZING	VISUAL EXAMINATION	←	←							5.
WINDSHIELDS										
MATERIAL								✓	▲	
DAMAGE								✓	■	
MOUNTING								✓	▲	
OTHER OPENINGS		←	←						■	
MATERIAL								✓	▲	
DAMAGE									◘	
REAR VIEW MIRRORS	▬	▬	▬ ═				PART OF 4%			8.
STABLE MOUNT								✓	■	
REFLECTING SURFACE DAMAGE		←	←					✓	■	
LEFT HAND MIRROR PRESENT								✓		
RIGHT HAND MIRROR PRESENT									■	
VIEW AVAILABLE		←	←						▲ ■	
WASHERS & WIPERS							1%			14.
WIPING CYCLES	VISUAL EXAMINATION	←	←					✓	▲ ■	
BLADE CONDITION								✓	■	
BLADE TENSION	SPRING SCALE	←	←						■	
WASHER PERFORMANCE				FLOAT & MICRO SWITCH ◘				✓	■	

● 1. Outright rejection and tow-away situation
◘ 2. Rejection but drive away for maintenance only
▲ 3. Warning - get required pattern next inspection
■ 4. Advisory - would improve vehicle operation
▬ 5. Equipment is currently available
◔ 6. Equipment must be developed
— 7. State must be prepared for new equipment manufacture without at inspection
▬ 8. State must be prepared for guidance for States

CARD 3

NATIONWIDE UNIFORMITY →	A	B	C	D	E	F	DEGRADATION PROBLEM ACCIDENT CAUSING - %	CURRENT FMVSS APPLICABLE TO MFGR.	OWNER'S ACTION	LEVEL OF IMPORTANCE
VEHICLE SYSTEM SAFETY CRITERIA	VISUAL & MANUAL DIAGNOSIS-HAND HELD TOOLS	VISUAL & MANUAL DIAGNOSIS-ROAD TESTING	INSPECTOR OPERATED DIAGNOSTIC EQUIPMENT	ON BOARD TELL-TALES TO DRIVER	DYNAMIC EQUIPMENT & VEHICLE INSTRUMENTATION - UMBILICAL CORD	AUTOMATIC VEHICLE DIAGNOSIS-MEMORY TAPE				
REFLECTING SURFACES							PART OF 4%	✓		9
CONDITION OF SURFACES	VISUAL EXAMINATION	←	←					✓	▲	
DEFROSTERS AND DEFOGGERS	■ ═	■ ═	■ ═				PART OF 4%	✓		10
EQUIPMENT										
FUNCTION	VISUAL	←	←						■	
PERFORMANCE	FEEL WITH HAND	←	←	THERMOCOUPLE OR BIMETALIC SWITCH OR TELL TALE ● — ═					▲	
SUN VISORS							PART OF 4%	✓		11
MOUNTING										
COMPLETE	VISUAL	←	←						▲	
FUNCTIONAL	MANUAL CHECK	←	←						▲	
LIGHTS							8%			4
HEADLAMPS								✓		
FUNCTION	VISUAL	AIMING BOARDS		OPTIC FIBER ■ — ═	ELECTRICAL CONTINUITY			✓		
PERFORMANCE	SHINE ON WALL			PHOTOMETRIC CHECK CLAMP ON BUBBLE AIMERS ■ — ═	BUBBLE LEVEL ■ — ═				■	
COMMUNICATIONS AIDS	■ ═	■ ═	■				PART OF 4%			12
BRAKE LIGHTS								✓		
FUNCTION	VISUAL	←	←	LIGHT COND MONITOR ■ ═ AND FIBER OPTICS ■	ELECTRICAL CONTINUITY ■ — ═				■	
PERFORMANCE	VISUAL	←	←						■	
SIDE LIGHTS								✓		
FUNCTION	VISUAL	←	←						▲	
PERFORMANCE	VISUAL	←	←						▲	
TAIL LIGHTS								✓		
FUNCTION	VISUAL	←	←						■	
PERFORMANCE	VISUAL	←	←						■	
TURN SIGNALS								✓		
FUNCTION	VISUAL	←	←						■	
PERFORMANCE	VISUAL	←	←						■	
FLASHERS								✓		
FUNCTION	VISUAL	←	←						▲	
PERFORMANCE	VISUAL	←	←						▲	
SIDE REFLECTORS								✓		
FUNCTION	VISUAL	←	←						▲	
PERFORMANCE									▲	
HORNS										
FUNCTION	AUDIO CHECK	←	←						■	
PERFORMANCE		DB METER	DB METER			DB METER IN LANE ● ═ MEMORY TAPE ON ACCEPTABLE SOUND LEVELS			▲	
OCCUPANT PROTECTION	■ ═	■	■				PART OF 4%			
BELTS & HARNESS								✓		7
PRESENCE	VISUAL CHECK							✓	■	

● 1. Out-light inspection and tow away situation
■ 2. Rejection but driven away for maintenance only
▲ 3. Warning - get repaired before next inspection
◠ 4. Advisory - would improve vehicle operation
■ 5. Equipment is currently available
● 6. Equipment must be developed
— 7. Stds. must be developed for new equipment manufacture before or inspection
■ 8. Stds. must be developed for guidance for users

CARD 4

NATIONWIDE UNIFORMITY → / VEHICLE SYSTEM SAFETY CRITERIA	A VISUAL & MANUAL DIAGNOSIS-HAND HELD TOOLS	B VISUAL & MANUAL DIAGNOSIS - ROAD TESTING	C INSPECTOR OPERATED DIAGNOSTIC EQUIPMENT	D ON BOARD TELL-TALE TO DRIVERS	E DYNAMIC EQUIPMENT & VEHICLE INSTRUMENTATION - UMBILICAL CORD	F AUTOMATIC VEHICLE DIAGNOSIS-MEMORY TAPE	DEGRADATION PROBLEM-ACCIDENT CAUSING-%	CURRENT FMVSS APPLICABLE TO MFGR.	OWNER'S ACTION	LEVEL OF IMPORTANCE
BELTS & HARNESS (CON.)										
FUNCTION	MANUAL OPERATION						PART OF 4%	✓	■	7.
DEGRADATION	VISUAL CHECK								■ OR ▲	
HEAD REST										
PRESENCE	VISUAL							✓	■	
ADJUSTMENT	MANUAL							✓	▲	
STEERING COLUMN										
COLLAPSE	VISUAL			MICRO SWITCH ● — =	MICRO SWITCH & CORD CONNECTION ● — =			✓	■	
SEATS										
MOUNTING	VISUAL & MANUAL							✓	■	
ADJUSTMENT	MANUAL							✓	▲	
EXHAUST SYSTEM										
INTEGRITY	VISUAL	SNIFFER — ■		CO MONITOR ● — ■		PROGRAMMED SNIFFER ● =	3%		■	6.
PRESENCE	VISUAL								■	
FUEL SYSTEM										
INTEGRITY	VISUAL	SPRAY COAT THAT CHANGES COLOR — =		FUEL PRESS MONITOR ■ — =		PROGRAMMED SNIFFER ● =		✓	■ OR ●	
LOCKS & LATCHES										
FUNCTION	MANUAL		PUSH PULL GUAGE — =	MICRO SWITCH CLOSURE INDICATORS ● — =	CORD CONNECTIONS TO COL. 4 ● — =		PART OF 4%	✓	▲	
PERFORMANCE	MANUAL								▲	
FLAMMABILITY							PART OF 4%		▲	
STRUCTURAL INTEGRITY	VISUAL		CONTROLLED HEAT ● SOURCE PHOTO CELL =				PART OF 4%		▲	

● 1. Outright rejection and drive away situation
■ 2. Rejection but drive away for maintenance only
▲ 3. Warning - get required before next inspection
▲ 4. Advisory - would improve vehicle operation
■ 5. Equipment is currently available
● 6. Equipment must be developed
— 7. SAE's must be involved for new equipment manufacture before implementation
= 8. SAE's must be developed for guideline for states

Appendix C

ACCOMPLISHMENTS—MVI

The accomplishments in the motor vehicle inspection area, since enactment of the Act in 1966, can be briefly summarized by giving facts in the following areas. These facts by no means cover the full extent of the activities, or the background work that went into the project or programs, but do list the accomplishments. These main areas are State legislation, 402 projects funded, the training accomplished, and public support.

Before the Act was passed in 1966, periodic inspection had begun in the late 1920's in the Northeastern States and was a well established commonly accepted fact of life. It was done routinely, and accepted on a common sense basis.

A vehicle is a piece of mechanical equipment. It has to be maintained in safe operating condition or it will become unsafe and a cause of accidents. Current research is establishing, factually, that approximately 6½% of all accidents are the result of mechanical failure, and that it is a contributor in 17%. These figures are helping to convince State legislatures of the need for periodic laws, even though their desirability, and the public's willingness to accept and support periodic inspection as established by surveys, etc., has been known for many years.

After the passage of the Act, 10 States and Puerto Rico adopted periodic inspection programs, so that at the present time 31 States, the District of Columbia, and Puerto Rico have periodic programs. Nine other States conduct some form of inspection of lesser coverage. However, all States inspect school buses. In our work, visits have been made to appear before several State legislative committees that were considering periodic inspection legislation.

In assisting the States, "402" funds to the extent of $3,546,863, for 67 projects in 23 States have been obligated. These projects range from the usual "assisting in the implementation or starting up of periodic inspection programs," to data processing, mobile vans, training of supervisors and inspectors, to development of background data and model legislation, through management evaluations of existing State programs.

Visits have been made to a considerable number of State Departments of Motor Vehicles, Highway Patrols, Universities, etc., to review and assist with their programs or program development.

We have assisted public support groups such as AAMVA, VESC, NSC, API, etc., in the development of inspection training materials for educational and/or training programs, and appeared on their programs at meetings, institutes, and also assisted a number of groups in the "safety establishment" in the development and conduct of public relations programs in support of periodic inspection programs.

Appendix D

BIBLIOGRAPHY

A

Accident Facts, 1970 Edition, National Safety Council, 425 N. Michigan, Chicago, Illinois 60611

Accidents on Main Rural Highways, U.S. Department of Commerce, Bureau of Public Roads, U.S. Government Printing Office, Washington, D.C. 20402

Advance Notice of Proposed Rulemaking Action, Docket No. 37, DOT, National Highway Safety Bureau, Washington, D.C. 20591, November 1968

AMA/AAMVA Vehicle Inspection Handbook, June 1970, Auto Mfg. Association, 320 New Center Bldg., Detroit, Michigan 48202

Analogue 1000, R. K. Konkle, Supt. Indiana State Police Department, Indianapolis, Indiana, FBI Law Enforcement Bulletin, August 1969, U.S. Government Printing Office, Washington, D.C. 20402

An Evaluation of the New Jersey Motor Vehicle Inspection System, 30 June 1970, Operations Research, Inc., Silver Spring, Maryland.

Application of Restraint System to Used Cars, Southwest Research Institute, U.S. Government Printing Office, Washington, D.C. 20402

Approach to High Speed Wheel Testing, SAE 70045, Elvin E. Tuttle, Motor Wheel Corp. 1970, Society of Automotive Engineers, Two Penn Plaza, New York, New York 10001

Automotive Accessories and Parts Book, No. 279N, J. C. Whitney and Company, Chicago, Illinois 60616

Automated Diagnostic Systems, TRW, FH–11–6538, June 1968, U.S. Government Printing Office, Washington, D.C. 20402

Automotive Engineering, September 1965, August 1970, June 22, 1970, Society of Automotive Engineers, Two Penn Plaza, New York, NY 10001

Auto Glass Facts, Pittsburgh Plate Glass Company, One Gateway Center, Pittsburgh, Pa. 15222

Automotive Industries, 51st Annual Engineering and Statistical Issue, March 15, 1969, Chilton Publishing Company, Chestnut and 56 Street, Philadelphia, Pa. 19139

Automobile Occupant Injuries from Striking the Windshield, Huelke, Grabb and Dingman, Highway Safety Research Institute, The University of Michigan, Ann Arbor, Michigan, 1967, Summary

Automotive Safety Belt Story, C. H. Pulley, American Safety Belt Council, Inc., Los Angeles, California, January 1970

Auto Theft Protection Act of 1968, U.S. House of Representatives, Hearings on HR 15125, March 6 and 14, 1968, HS–00319

Automobile Windshields, Surface Deterioration, M. J. Allen, Indiana University, SAE publication 700479, Society of Automotive Engineers, Inc., Two Pennsylvania Plaza, New York, New York 10001

Automotive Repair Industry Part 1–6, Hearings before the Subcommittee on Antitrust and Monopoly of the Committee on the Judiciary, U.S. Senate Ninety First Congress, Philip A. Hart, Michigan, Chairman, October, 1969

B

Barrier Collision Tests, SAE J850—SAE Handbook (1970)—Society of Automotive Engineers, Two Pennsylvania Plaza, New York, New York 10001

Braking Systems Research, National Bureau of Standards, FH–11–6092, U.S. Government Printing Office, Washington, D.C. 20402

C

California State Highway Patrol Comments on Proposed Federal Motor Vehicle Safety Standard No. 109, December 1966, Department of Transportation, National Highway Safety Bureau, Washington, D.C. 20591

Chevrolet Chassis Service, Manual, General Motors, Section 64, Detroit, Michigan

Communication with Standard Motorists on California Urban Freeways, A. Kuprijanow, 1967, Sacramento, California, HS–005827.

Compilation of State Motor Vehicle Inspection Laws and Regulations, W. M. Bridenstine, American Manufacturers Association, Inc., New York, New York, January 1970

Component Degradation Braking Systems Performance, D. L. Bellinger, Final Report, FH–11–6964, TRW Systems Group, December 1969, U.S. Government Printing Office, Washington, D.C. 20402

Condition of Tires After Automobile Accidents in North Dakota, J. K. Kihlbreg, and A. Stern, Cornell Aeronautical Laboratory, Inc., Buffalo, New York 14221, CAL Report No. VJ–1823–R20, October 1968.

Control of Air Pollution from Automotive Vehicles, General Services Administration, Federal Standard No. 515/14a, July 15, 1966, U.S. Government Printing Office, Washington, D.C. 20402.

Code of Federal Regulations, Title 49—Transportation, Parts 200 to 999, Revised as of January 1, 1970.

Code of Federal Regulations, Title 23—Highways, Revised as of January 1, 1970.

D

Demographic Study of Tire Hazard Failures and Their Effect on Tire Life, W. J. Dobie, Uniroyal, Inc., Rockefeller Center, New York, N.Y. 10020.

Design and Measurement of Truer Running Wheels, SAE 680004 1968, John A. Main, Motor Wheel Corporation, Society of Automotive Engineers, Two Pennsylvania Plaza, New York, N.Y. 10001.

Development of a Motor Vehicle Inspection Program, Management Technology, Inc., Washington, D.C., July 1967.

Development of a Realistic Device and Techniques for Testing and Diagnosing Wheeled Vehicle Brakes, Clayton Mfg. Co., 1967, El Monte, California.

Diagnostic Centers, Blatt, Chang and Goodman, Northern Research and Engineering Corp., Report No. 1151–2, July 1, 1970, U.S. Government Printing Office, Washington, D.C. 20402.

Direct Safety Benefits of Motor Vehicle in Use Passenger Car Inspection Programs, N. Gordy, Office of Standards for Vehicles in Use, November 1970, Department of Transportation, National Highway Safety Bureau, Washington, D.C. 20591.

Door Latches and Door Supports—Passenger Cars, Federal Motor Vehicle Safety Standard, No. 206, Department of Transportation, NHSB, Washington, D.C. 20591.

Driver Behavior and Highway Conditions as Causes of Winter Accidents, Forbes and Katz, Highway Research Board, New York, N.Y. Bulletin 161.

E

Economic Consequences of Automobile Accident Injuries, DOT Automobile Insurance and Compensation Study, Vols. 1 and 2, April 1970.

Economic Report of the President, Transmitted to Congress, February 1970, U.S. Government Printing Office, Washington, D.C. 20402.

Evaluation of Effectiveness of Door Locks on Pre-1956 and Post-1955 Automobiles, John W. Garrett, Cornell Aeronautics Laboratories, Automotive Crash Injury Research, Buffalo, N.Y., July 1961, HS–002907.

Estimating the Effects of Crash Phase Injury Countermeasures, the Travelers Research Corporation, March 1970, Contract FH–11–722S, U.S. Government Printing Office, Washington, D.C. 20402.

Experimental Safety Car Study, Fairchild-Hiller, Vol. 1, HS–800–112, U.S. Government Printing Office, Washington, D.C. 20402.

F

Fuel Tank Protection Study, Fairchild-Hiller, Draft Final Report, U.S. Government Printing Office, Washington, D.C. 20402.

Fatal Accidents on the Interstate Highway System 1968, Office of Traffic Operations, Bureau of Public Roads, U.S. Government Printing Office, Washington, D.C. 20402.

Federal Role in Highway Safety, 86th Congress, 1st Session, House Document 93, U.S. Government Printing Office, Washington, D.C. 20402. 1959.

Ford Customer Acceptance Specifications, Wheels and Front Wheel Bearings 1961, 1963, Ford Motor Co., Dearborn, Michigan.

1968 Ford and Mercury Service Manual, Ford Motor Company, Dearborn, Michigan, Section 13.

Frequency of Tire Disablements Among Four-Tired Vehicles on the Illinois Tollway, McIlraith, G. Declan, and Baker, J. Stannard, Tire Study 1, Traffic Institute, Northwestern University, Evanston, Illinois, January 1968.

Federal Register, U.S. Government Printing Office, Washington, D.C. 20402.

G

Guide for Preventive Maintenance, GSA–FPMR–101–38, 1967, U.S. Government Printing Office, Washington, D.C. 20402.

H

Highway Statistics 1968, Department of Transportatio, Washington, D.C. 20591, 1969.

Hearings on HR 14404, Regulate the Mailing of Master Keys for Motor Vehicles, House of Presentatives, January 23, 24, 1968. No. S–002280, U.S. Government Printing Office, Washington, D.C. 20402.

Horizons, Federal Aviation Administration, Vol. 4, No. 16, August 3, 1970, U.S. Government Printing Office, Washington, D.C. 20402.

House Approves In-Plant Test of Pollution Controls, Automotive News, 6141 Concord Avenue, Detroit, Michigan 48211, June 22, 1970.

Hood Latch Systems-Passenger Cars, Multipurposes Passenger Cars, Multipurpose Passenger Vehicles Trucks, and Buses, Federal Motor Vehicle Safety Standard No. 113, Department of Transportation, NHSB, Washington, D.C. 20591.

Hood Latch, Systems, Docket 69–17, Response of Mercedes-Benz of North America, February 6, 1970, Department of Transportation, National Highway Safety Bureau 20591.

How Tires React to Applied Forces, B. J. Albert (SAE Paper 680140) Society of Automotive Engineers, Two Pennsylvania Plaza, New York, N.Y. 10001.

I

The Influence of Periodic Motor Vehicle Inspection on Mechanical Condition, McCutchion and Sherman, Highway Safety Research Institute, the University of Michigan, Ann Arbor, Michigan, 1968.

Inspection Handbook, American Association of Motor Vehicle Administrators, 320 New Center Building, Detroit, Michigan.

Inspection Laws Annotated 1969, Michie Company, Charlottesville, Virginia.

Inspection Procedures for Motor Vehicle, Trailers, and Semitrailers Operated on Public Highways, United States of American Standards Institute (American National Standards Institute), USAS Dy. 1–1968, 1430 Broadway, New York, N.Y. 10018.

An Investigation of Used Car Safety Standards, Operations Research, Inc., Silver Spring, Maryland, Vol. V, June 1969, U.S. Government Printing Office, Washington, D.C. 20402.

K

Keene, New Hampshire Police Department Report, Bleich and Grenier, June 30, 1970, NHSB, DOT, Washington, D.C. 20591.

L

Length of the Service Life of Private Cars in Sweden, Bertil Leidvik, Report, AB Svensk Bilprovning, May 1970, Stockholm, Sweden.

Library of State Regulations and Standards Pertaining to Motor Vehicle Inspection, NHSB, DOT, Washington, D.C. 20591.

A Look to the Rear with an Eye to Safety, Connelly, Marcus, and Develin, SAE Journal, July 1965, Society of Automotive Engineers, Two Pennsylvania Plaza, New York, New York 10001.

M

Maintainability and Repairability of Vehicles in Use, Vols. I and II, June 1970, Booz Allen Applied Research, Inc., 4733 Bethesda Avenue, Bethesda, Maryland.

Man, the Vehicle, and the Highway, P. L. Connolly, Highway Vehicle Safety, SAE, New York 1967, Society of Automotive Engineers, Two Pennsylvania Plaza, New York, N.Y. 10001.

Means of Locating and Communicating with Disabled Vehicles, F. Pogust, A. Kuprijanow, and H. Forster, NCHRP Report 6, HS–001583, U.S. Government Printing Office, Washington, D.C. 20402

Mechanical Factors Study, H. W. Sullivan, Commissioner, California Highway Patrol, State of California, February 1970, Sacramento, California

Military Medicine, Exposure of Carbon Monoxide, Pierre A. Finck, V131 N12 P1513–39, December 1966, U.S. Government Printing Office, Washington, D.C. 20402

Modern Electrical Equipment for Automobiles, Arthur W. Judge, Motor Manuals, Vol. 6, Robert Bentley, Inc. 1968,

Motor Accident Mortality and Compulsory Inspection of Vehicles, Fuchs and Levinson, National Bureau of Economic Research, Inc. 1967, Dr. Victor R. Fuchs, Ph.d. 261 Madison Avenue, New York, New York 10016

Motor Age Magazine, 1970 Census of Diagnostic Centers, Chilton Publishing Company, Philadelphia, Pa. 19139

Motor Vehicle Accident Data, March 1970, Automotive Safety Research Office, Ford Motor Company, Dearborn, Michigan, Report S70–1.

Motor Vehiele Accidentology, Andrew J. White, Motor Vehicle Research of New Hampshire, Lee, New Hampshire

Motor Vehicle Inspection: A Report on Current Information, Measurements and Research, A. J. Mayer and T F. Hoult, Wayne State University, Institute for Regional and Urban Studies, 1963, Detroit, Michigan 48202

Motor Vehicle Inspection Manual, Michigan Department of State Police, East Lansing, Michigan

Motor Vehicle Inspection Manual of the District of Columbia, Department of Motor Vehicles, Washington, D.C.

Motor Vehicle Inspection Problems From the Engineers Viewpoints, SAE 665A, March 19–21, 1963, Society of Automotive Engineers, Two Penn. Plaza, New York, New York, 10001

Motor Vehicles: Points to Watch, AB Svensk Bilprovning, Stockholm, September 1969

Motor Vehicle Safety Defect Campaigns, PB 183175, U.S. Government Printing Office, Washington, D.C. 20402

Multidisciplinary Accident Investigation Summaries, DOT, NHSB, June 1970, Government Printing Office, Washington, D.C. 20402

Motor Vehicle Rear Lighting and Signalling, ITTE, Cal., FH–11–6553, 1968, U.S. Government Printing Office, Washington, D.C. 20402

Motor Vehicle Diagnostic Analysis Technology 1971–1985, Technical Conference, April 22, 1971, Washington, D.C.

N

NY Safety Car Study, FHR 3040–3, August 31, 1966, p. IV–18 State of New York Department Motor Vehicles, 504 Central Avenue, Albany, New York

O

Occupant Restraint Systems, Brown, Armstrong and Chandler, Monthly Progress Report for March 1970, National Bureau of Standards, Washington, D.C., April 1970

Ohio Turnpike Commission Report 1968, Ohio Turnpike Commission, Berea, Ohio, February 1969

P

Part Cost of Impala Outside Rearview Mirror, Phone Conversation with Parts Department of Stohlman Chevrolet, Inc., 33rd & W Sts., NW., Washington, D.C., on August 12, 1970, $7.95

Passenger Tire Use Survey—Davidson Laboratory, Stevens Institute of Technology, Report of National Bureau of Standards on Contract (CST–398), U.S. Government Printing Office, Washington, D.C. 20402

Performance, Economic and Social Considerations of Combined Safety Emission Inspection Programs, Office of Standards for Vehicles in Use, Motor Vehicle Programs, National Highway Traffic Safety Administration, Staff Study, June 1971

Physical Condition of Passenger Vehicle Tires in Highway Use, Research Report, P.R. Lepisto, Final Report to the National Bureau of Standards on NBS Contract CST–399, Southwest Research Institute, San Antonio, Texas 78228, September 30, 1968.

The Physical Condition Use, and Performance of Passenger Car Tires in the United States of America, Tire Use Survey, NBS Technical Note 528, 1970, U.S. Government Printing Office, Washington, D.C. 20402

Post Crash Communications, H. Lunenfeld, R. G. Varady, G. N. Newberg, Airborne Instrument Laboratories, Culter Hammer, Draft Final Report, FH 11–7335, U.S. Government Printing Office, Washington, D.C. 20402

Post Office Vehicle Crash Study Abstracted, Society of Automotive Engineers, New York, New York, SAE Publication No. 670025

Preamble to Motor Vehicle Safety Standard No. 115, NHSB, Docket No. 1–22, 33 FR. 10207, July 17, 1968 DOT, Washington, D.C. 20591

Proceedings of the Institute of Mechanical Engineers, Automotive Division, Car Brake Usage and Test Schedules, No. 1, 1962–1963, Society of Mechanical Engineers, New York, New York.

Proceedings of Twelfth Stapp Car Conference, Vehicle Design for Passenger Protection for High-Speed Rear-End Collisions, Derwyn Severy, et al, SAE 1968, N.T., Society of Automotive Engineers, Two Penn Placea, New York, New York 10001

Public Roads, The Economic Cost of Traffic Accidents in Relation to the Vehicle, J.F. McCarthy. Vol. 31, No. 2, U.S. Government Printing Office, Washington, D.C. 20402

R

Rapid Load Wheels, Automotive Res. Assoc., Inc., Texas, FH–11–7176, U.S. Government Printing Office, Washington, D.C. 20402

Rear View Mirrors, G. F. Carruthers, British Journal of Physiological Optics, Vol. 73, 1966, British Optical Association, 65 Brook Street, London, England

Recall Campaign, NHBS 70–0040, British Leyland Motors, Inc., 1970 MG's, U.S. Government Printing Office, Washington, D.C. 20402

Registration and Titling Practices, Booz, Allen and Hamilton April 28, 1970, U.S. Government Printing Office, Washington, D.C. 20402

Regulate the Mailing of Master Keys for Motor Vehicles, U.S. House of Representatives, Hearings on HR 14404, January 23 and 24, 1968 HS–002280.

Relationship between Vehicle Defects and Vehicle Crashes Summary Report Contract, July 1970, Stanford Research Institute, U.S. Government Printing Office, Washington, D.C. 20402

The Repairing and Retreading of Tubeless Passenger Car Tires Bulletin No. 9, Rubber Manufacturers Association, 444 Madison Avenue, New York, New York 10022

Report of Operation 66, U.S. Department of Commerce/Bureau of Public Roads, November 1966, U.S. Government Printing Office, 0–236–085, Washington, D.C. 20402

Research in Vehicle Handling Properties, Sciences Research, McDomell Douglas Corporation, Long Beach, California, Sept. 1967

Rules and Regulations on Motor Vehicle Inspection, State of New Jersey, Dept. of of Law and Public Safety, Division of Motor Vehicles, Trenton, New Jersey, June 1966

S

The SAE Journal, June 1963, January 1964, September 1966, January 1969, Society of Auto Engineers, Two Penn Avenue, New York, New York 10001

Safety Bulletin No. 1, January 1970, 5th Infantry Division, Fort Carson, Colorado

Safety Defects Statistical Data, J. H. Clark, Department of Transportation, Washington, D.C., July 1970

Safety for Motor Vehicles in Use, U.S. Department of Transportation, Washington, D.C., June 1968
Safety Glazing Materials for Glazing Motor Vehicles Operating on Land Highways, American National Standards Institute, New York, N.Y. 10016
Social and Economic Impact of Federal Safety Performance Standards for Motor Vehicles in Use, Office of Standards for Vehicles in Use, Motor Vehicle Programs, National Highway Traffic Safety Administration, April 1971
Standards for Seat Belts for Use in Motor Vehicles, National Bureau of Standards, Washington, D.C., August 1966
State-of-the-art Motor Vehicle Inspection, Robert Brenner, Lynn Bradford and George Parker, DOT, NHSB, 1970, Washington, D.C. 20591
Steering Diagnosis Final Report, M. S. Merrill, Clayton Manufacturing Co., El Monte, California, December 1968
Steering Wheel Impact, Murray Burnstine, HEW Grant RG–6084, Harvard Univ., HS–00386, U.S. Government Printing Office, Washington, D.C. 20402
Studded Tire Questionnaires, letter of April 29, 1970, to Douglas W. Toms, NHSB from Michelin Corp., DOT, NHSB, Washington, D.C. 20591
A Study of Seat Belts in Wisconsin Automobile Accidents, J. W. Garrett, Cornell Aeronautical Laboratory, Buffalo, New York, September 1963
A Study of Seat Restraint Use and Effectiveness in Traffic Accidents, Highway Safety Foundation, Columbus, Ohio, February 1970
A Study of Vehicle Performance as Related to Steering and Suspension System Degradation, Compilation of Progress Reports 1 to 9, M. R. Belsdorf, Cornell Aeronautical Laboratory, Buffalo, New York, August 1970
A Study to Determine the Feasibility of Instituting a Periodic Motor Vehicle Inspection Program for the State of Wisconsin, Clayton Manufacturing Co., El Monte, California, January 1969
Success and Recognition of the Voluntary Vehicle Inspection Program in the Federal Republic of Germany, Moll and Halbewachs, 1970 International Automobile Safety Conference Compendium, June 1970 (SAE), Society of Automotive Engineers, 2 Penn Plaza, New York, N.Y. 10001
Survey of Practices in Automobile Tire Inflation Pressures, Olson, Paul L. Herbert, J. Bauer, GMC, Research Publication CMR–433, December 6, 1964, Warren, Michigan

T

Technical Elements—Experimental Safety Vehicle Program, Digitek Corp., 4818 Lincoln Boulevard, Marine del Rey, California 90291
Third Annual Report, DOT, Washington, D.C. 20591, FY 69, March 17, 1970, p. 123
Tinted Windshields are a Hazard, M. J. Allen, Indiana Univ., The Optometric Weekly, May 6, 1965, Bloomington, Indiana
Title 49—Transportation, Motor Carrier Safety Regulations, DOT, Washington, D.C. Part 293.80.
Traffic Surveillance and Means of Communicating with Drivers, Morton J. Weinberg, Interim Report, NCHRP Report 9, Cornell Aeronautical Laboratory, Inc., 1964, HS–001584, Buffalo, N.Y. 14221
Trucks in Injury-Producing Accidents. Cornell Aeronautical Laboratory, Buffalo, N.Y. (Abstracted 1968)

U

Ultrasonic Tire Testing, Southwest Research Institute, Texas, U.S. Government Printing Office, Washington. D.C. 20402
Uniform Vehicle Code and Model Traffic Ordnance, 1968, Michie Co., Charlottesville, Virginia
Used Car Safety Standards, Operations Research, Inc., Silver Spring, Md., June 1969, U.S. Government Printing Office, Washington, D.C., 20402
Used Car Safety Standards, J. Beram, Final Report, TRW Systems Group, October 1969, U.S. Government Printing Office, Washington, D.C. 20402
Used Vehicle Safety Standards, Automobile Club of Missouri, Vehicle Status, June 1969, U.S. Government Printing Office, Washington, D.C. 20402

V

Vehicle Design for Passenger Protection from High-Speed Rear-End Collisions. Derwyn Severy, Proceedings, of the 12th Stapp Car Conference, SAE 1968, Society of Auto Engineers, 2 Penn Plaza, New York, N.Y. 10001
Vehicle Hood Latch Systems, SAE 362–SAE Handbook (1970) Society of Auto Engineers, 2 Penn Plaza, New York, N.Y. 10001

Vehicle Inspection Manual, Department of Transport, Ontario, Canada October 1968

Vehicle Passenger Door Hinge Systems, SAE J934–1970 SAE Handbook, Society of Auto Engineers, 2 Penn Plaza, New York, NY 10001

Visible Distances in Simulated Night Driving Conditions with Fill and Dipped Headlights, Gunnar Johansson, et al, University of Upsala, Sweden, Ergonomics, Vol. 6, April 1963

VIU Safety Standards Study, Final Report, Technical Vol., August 1971, Ultrasystems, Inc., 500 Newport Center Drive, Newport Beach, Calif. 92660

VIU System Safety Analysis, Booz Allen Applied Research, Inc., Final Report, June 1970, Vol. VI, U.S. Government Printing Office, Washington, D.C. 20402

W

Weak Points of Cars, AB Svensk Bilprovning, Fack, S–162, 10 Vallingby, Stockholm (Swedish Motor Vehicle Inspection Co.) 1969

Wheel Testing and Field Correlation, Present and Future, SAE 680476, R. H. Vansteenkiste, J. N. Bradley, R. C. North, Budd Company, 1968, Society of Auto Engineers, 2 Penn Plaza, New York, NY 10001

Y

Your Life vs Your Tires, Adolph Fram, 1969, 437 Cayuga Street, Pittsburgh, Pa. 15224

Appendix E

Points and Issues

1. Legislative Mandate

This program will fulfill, in part, the requirements for issuance of safety performance standards. Minimum performance levels will be recommended by the Safety Administration.

2. Congressional and National Motor Vehicle Safety Advisory Council interest in a VIU program.

This program should be well received by the Council as concrete evidence that effort is effectively underway in VIU area.

3. MVI is a State Enforcement Problem

This program will provide the frequently requested guidance in developing more effective State programs.

4. Public and State Acceptance of VIU–Inspection Program

A properly developed program which concentrates on those items which have been thoroughly researched and validated and have a safety payoff potential should be more acceptable to the States and general public. This program is so directed.

5. Clean Air Program and EPA

This program recommends liaison and coordination with EPA to interface properly in the development of EPA inspection requirements.

6. Coordination between State Inspection Programs and Local Government Fleets

The prototype program will make recommendations on this issue.

7. Noise Abatement

This program recommends coordination with DOT noise abatement effort.

Appendix F

The D.C. Motor Vehicle Inspection Defect Recall Demonstration Project

Background.—NHTSA contracted with D.C. Government, June 1969, to develop a demonstration project in conjunction with the D.C. Motor Vehicle Inspection Program. The original concept encompassed development of an automated data system for correlating vehicle defects information generated through operation of the D.C. Inspection System, and so contribute to the NHTSA data base.

Objectives.—To establish a methodology and a means whereby State Motor Vehicle Inspection Programs can, with Federal Assistance and financial aid, provide support to the National Highway Traffic Safety Administration in its compliance activities. This project will examine the efficiency of the Motor Vehicle Safety Defect Recall Campaigns through the operation of the motor

vehicle inspection process. It will also provide a basis for related studies of the involvement of vehicles in accidents.

The thrust of the initial phase of the pilot demonstration will be the development and refinement of techniques and practices to enable Motor Vehicle Inspection Programs in any State to incorporate the procedures necessary to link defect notification information to the inspection process. A parallel goal of the Federally-sponsored demonstration will be to learn more on how the Federal Government can best assist the States to make transition to the most modern inspection procedures without incurring the heavy costs of development and testing.

Status.—The project has been operational since April 1971. D.C. Inspection records have been entered into the Information Retrieval System and are available for realtime displays at each of the two D.C. Inspection Stations. A special Inspection Lane and equipment are located at each station, manned by trained personnel.

Issue.—To determine the manner in which the D.C. Project can be utilized to support the VIU program.

Recommendations

1. Reorient this project toward the parallel goal—"to obtain more knowledge on how the Federal Government can best assist the States to make transition to modern inspection procedures without incurring heavy developmental and testing costs."

2. Relate the D.C. Project directly to Inspection/Demonstration efforts in order to support Vehicle-in-Use Program Requirements. Such requirements to reflect support of VIU program mission, goals and objectives.

3. Plan to discontinue the D.C. Project Recall/Demonstration efforts, pending development of plans for effective utilization of this by the NHTSA on a sustained basis.

4. Prepare operational requirements for the D.C. Demonstration Project in support of the VIU program, which will include the following specific areas:

(*a*) Evaluation and refinement of post crash and vehicle resale inspection procedures and standards/criteria for their implementation.

(*b*) Evaluation and refinement of improvements to existing inspection systems, including new techniques and procedures, at most economical costs.

(*c*) Evaluation of proposed VIU standards/criteria.

(*d*) Development and evaluation of data needed for public information. Evaluation of public acceptance of inspection processes associated with the VIU program.

(*e*) Implementation of Demonstration Projects for the benefit of States and industry, to include utilization of mobile vans to insure full integration of effort.

(*f*) Development of data and evaluation of maintenance and repair cost estimates to be used in assessing economic impact of various facets in the Inspection Process.

(*g*) Evaluation and refinement of methods and procedures for inspection and control of vehicle exhaust emission for future application, as may be required of the Inspection Process.

(*h*) Evaluation and refinement of automated inspection systems for practical application at inspection sites, as may be required in the future.

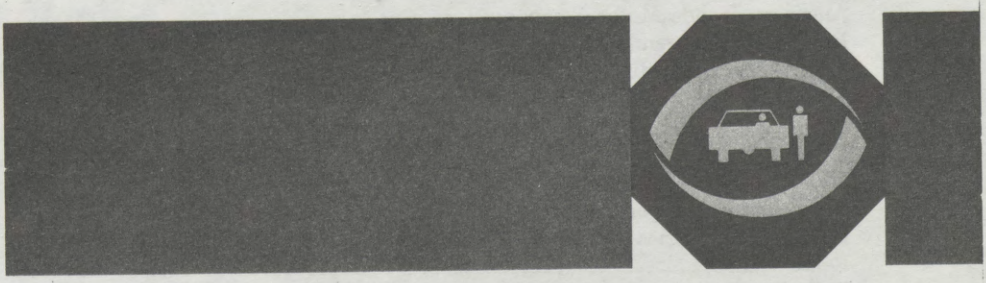
(*i*) Development and evaluation of information on the identification and extent of safety defects for use by the States in the implementation of their VIU programs, and for use by the NHTSA in its compliance and new standards programs.

(The following information was referred to on p. 50:)

Motor Vehicle Safety Defect Recall Campaigns

From September 9, 1966
to December 31, 1967

Reported to:
THE NATIONAL HIGHWAY SAFETY BUREAU
by DOMESTIC AND FOREIGN
VEHICLE MANUFACTURERS



U.S. DEPARTMENT OF TRANSPORTATION • Federal Highway Administration • National Highway Safety Bureau

CONTENTS

ORDERING DATA

Information concerning the details of specific recall campaigns is available to the public from the Clearinghouse for Federal Scientific and Technical Information (CFSTI), Springfield, Virginia. CFSTI is by law (PL–776) responsible for secondary distribution of scientific and technical information.

In order to effect economies in printing and distribution it has been deemed desirable to group data on recall campaigns, which is based upon the size of a publication, as related to the selling price.

CFSTI sells its reports in two forms—paperbacks at $3.00 per copy or in microfiche form (4″ x 6″) at $.65 per copy. Prepayment is required unless deposit accounts have been established. Checks or money orders should be made payable to CFSTI.

The following is a listing of reports available from CFSTI. It is to be noted that individual recall campaign reports are not available except as part of a group identified by the Clearinghouse Order Number. Please indicate the appropriate "PB" Order Number—not the NHSB Identification Number.

Clearinghouse Order Number	*Manufacturer*	*NHSB Recall Identification Nos.*
PB 177 301	American Motors Corporation	66–0010 to 67–0096
PB 177 302	Chrysler Motors Corporation	66–0002A to 66–0017
PB 177 303	Chrysler Motors Corporation	67–0009A to 67–0045
PB 177 304	Chrysler Motors Corporation	67–0062 to 67–0073
PB 177 305	Chrysler Motors Corporation	67–0074 to 67–0127
PB 177 306	Clark Equipment Company	66–0029A to 67–0085
PB 177 307	Ford Motor Company	66–0004A to 67–0013
PB 177 308	Ford Motor Company	67–0018 to 67–0113
PB 177 309	General Motors Corporation	66–0011A to 66–0030
PB 177 310	General Motors Corporation	66–0032A to 66–0032D
PB 177 311	General Motors Corporation	66–0033A to 67–0014
PB 177 312	General Motors Corporation	67–0016 to 67–0083
PB 177 313	General Motors Corporation	67–0088 to 67–0130
PB 177 314	International Harvester Co.	66–0019 to 67–0123
PB 177 315	Freightliner Corporation	67–0037 to 67–0090
	Harley-Davidson Motor Co.	---- 67–0025
	Kaiser Jeep Corporation	67–0002 to 67–0120
	Mack Trucks, Incorporated	67–0036 to 67–0060
	Shelby American Inc.	---- 67–0026
	Superior Coach Corporation	---- 67–0043
	White Motor Corporation	67–0050 to 67–0087

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Clearinghouse Order Number	*Manufacturer*	*NHSB Recall Identification Nos.*
PB 177 316	American Honda Motor Co.	66–0003 to 66–0034
	Bayerische Motoren Werke	---- 67–0012
	British Motor Holdings (U.S.A.), Incorporated	---- 66–0028
	GM Corp. (Foreign Distr. Division)	67–0058 to 67–0061
	Jaguar Cars, Incorporated	---- 67–0004
	Leyland Motor Corporation North America	67–0114 to 67–0124
PB 177 317	Mercedes-Benz of North America, Incorporated	66–0027 to 67–0077
	Nissan Motor Corp. in U.S.A	---- 67–0011
	Porsche of America Corp.	---- 67–0006
PB 177 318	Renault, Incorporated	66–0001 to 67–0020
	Rolls-Royce, Incorporated	66–0005A to 67–010
	Saab U.S.A., Incorporated	---- 67–0128
	Chrysler Motors Corporation, (Simca Rootes Division)	---- 67–0078
	Toyota Motor Sales, U.S.A., Inc.	---- 67–0059
PB 177 319	Volkswagen of America, Inc.	66–0006 to 67–0129

INTRODUCTION

Two laws comprise the enabling legislation for programs of the National Highway Safety Bureau, first, the National Traffic and Motor Vehicle Safety Act of 1966, and second, the Highway Safety Act of 1966.

The National Traffic and Motor Vehicle Safety Act called for establishment of performance standards for motor vehicles and motor vehicle equipment. The Highway Safety Act created the Federal-aid grant program to the States and local communities for carrying out effective State and community highway safety programs under Federal guidelines.

Section 113 of the National Traffic and Motor Vehicle Safety Act of 1966 requires that:

> "Every manufacturer of motor vehicles shall furnish notification of any defect in any motor vehicle or motor vehicle equipment produced by such manufacturer which he determines, in good faith, relates to motor vehicle safety, to the purchaser (where known to the manufacturer) of such motor vehicle or motor vehicle equipment, within a reasonable time after such manufacturer has discovered such defect."

The required notification is to be by certified mail to the first purchaser and by certified mail or more expeditious means to the dealer or dealers of the manufacturers.

The manufacturer is further required to furnish to the Secretary of Transportation a true or representative copy of all notices, bulletins, and other communications to the dealers or purchasers regarding defects in motor vehicles or motor vehicle equipment.

The National Highway Safety Bureau has received many requests for information regarding defects in motor vehicles. This report is published in order to make the information submitted to the Bureau available in condensed form. This is the second report published by the Bureau and it covers the period from September 9, 1966, the date on which the National Traffic and Motor Vehicle Safety Act of 1966 was enacted, to December 31, 1967. The previous report covered the period from September 9, 1966, to September 9, 1967.

Chart 1 is a cumulative total of safety defect recall campaigns initiated by all motor vehicle manufacturers. Chart 2 is a cumulative total of vehicles involved in the recall campaigns shown on Chart 1. Chart 3 is a percentage breakdown of all motor vehicles recalled for possible safety-related defects involving specific vehicle systems. Summary tabulations, by manufacturer, of the number of recall campaigns and the number of vehicles recalled are listed on page 6. The numbers in this report have been adjusted to reflect changes in methods of recording information since the last report. Earlier recall campaigns reported to the Bureau that involved either one model with several defects, or several models with the same defect, were entered as one campaign but were further subdivided by letter category (A, B, C, etc.).

This report has been changed to indicate the number of recall campaigns wherein each previously lettered entry is now considered as a separate recall campaign.

The body of the report contains tabulations of recall campaigns by specific domestic and foreign manufacturers. These tabulations are, in essence, an index of recall campaign information available in the files of the Bureau. The tabulations include brief descriptions of the safety-related defect, the make, model and model year involved and the total number of vehicles recalled in each campaign. Included under the brief description is a clear statement of the safety-related defect; an evaluation of the risk to traffic safety related to such defect; and, in parentheses, a statement of the manufacturer's corrective action.

Since manufacturers are not required to report to the Bureau specific serial numbers of vehicles involved in recall campaigns, any information concerning defects on specific serial numbered vehicles must be obtained from the dealer or manufacturer.

Information in the files of the National Highway Safety Bureau can be obtained by the Ordering Data procedures on page v.

MOTOR VEHICLE DEFECTS REVIEW

SAFETY RELATED RECALL CAMPAIGNS BY MONTH - CUMULATIVE

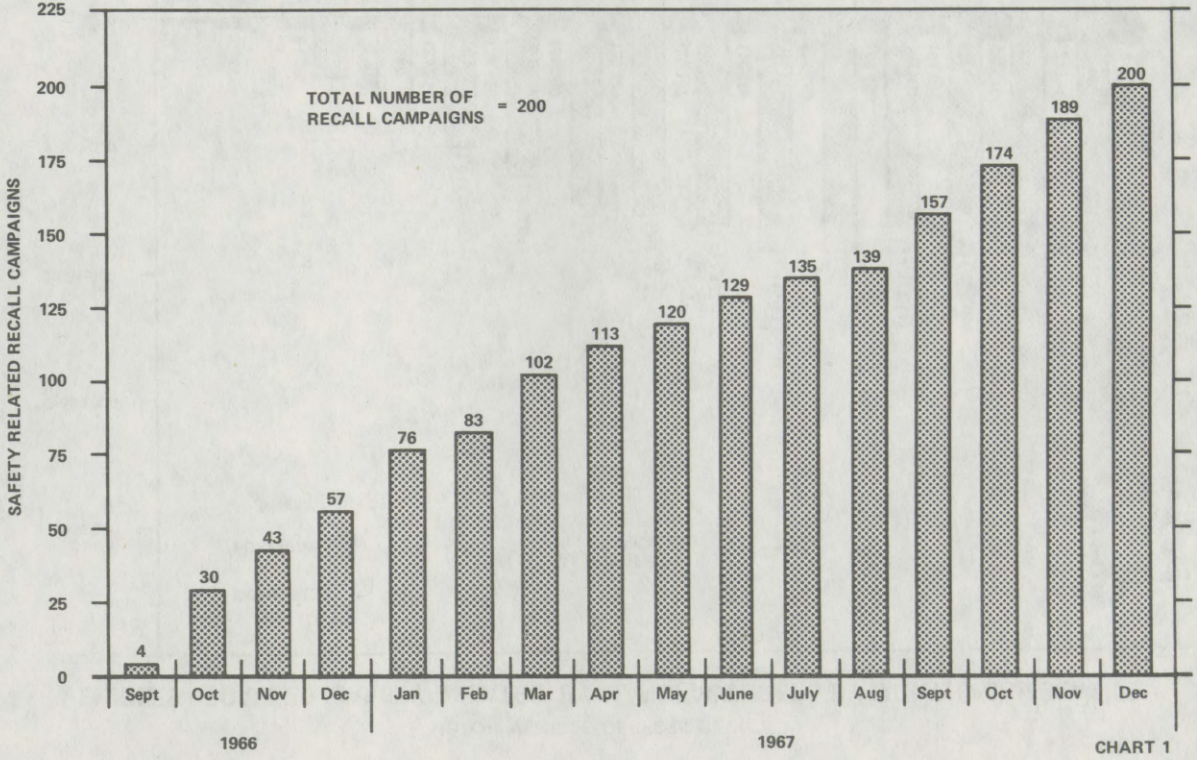
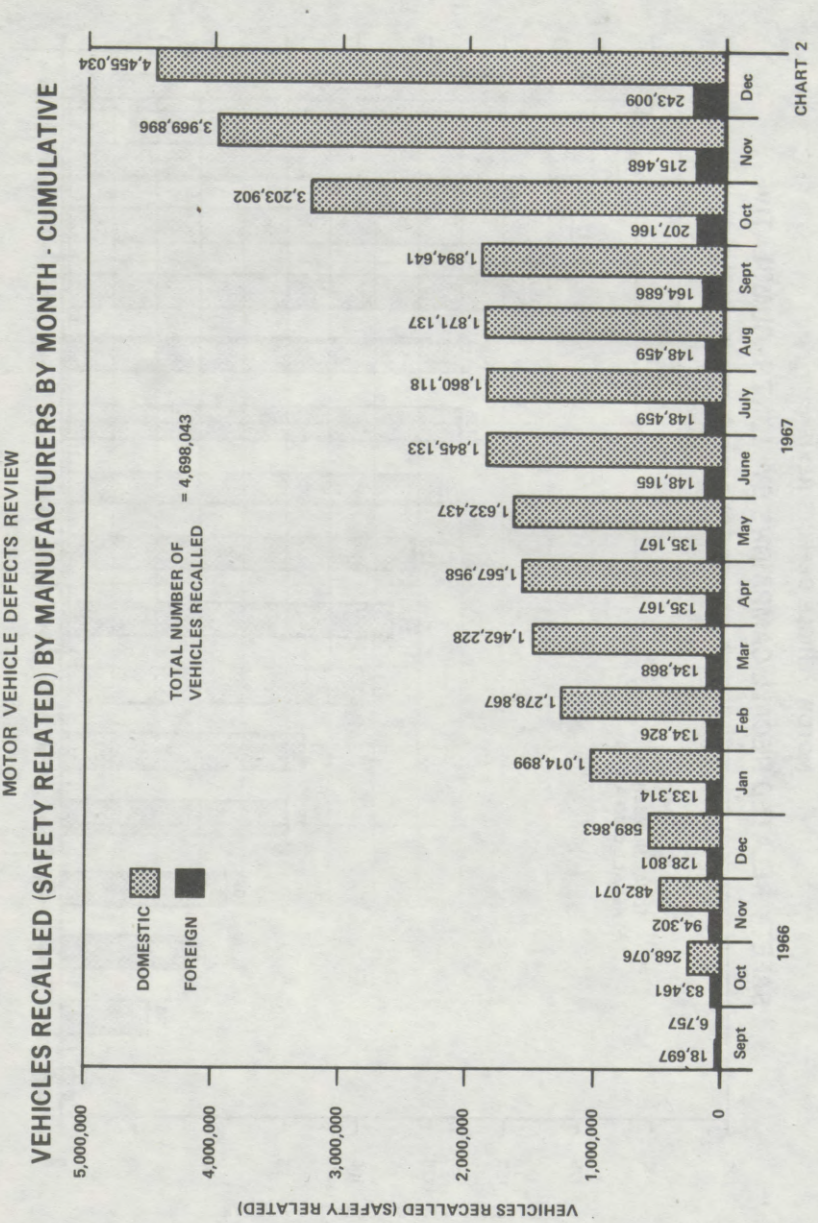


CHART 1


MOTOR VEHICLE DEFECTS REVIEW
VEHICLES RECALLED (SAFETY RELATED) BY MANUFACTURERS BY MONTH - CUMULATIVE
CHART 2
VEHICLES RECALLED (SAFETY RELATED)
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
DOMESTIC
FOREIGN
TOTAL NUMBER OF VEHICLES RECALLED = 4,698,043
1966
1967
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June
July
Aug
Sept
Oct
Nov
Dec
18,697
6,757
83,461
268,076
94,302
482,071
128,801
589,863
133,314
1,014,899
134,826
1,278,867
134,868
1,462,228
135,167
1,567,958
135,167
1,632,437
148,165
1,845,133
148,459
1,860,118
148,459
1,871,137
164,686
1,894,641
207,166
3,203,902
215,468
3,969,896
243,009
4,455,034

MOTOR VEHICLE DEFECTS REVIEW

PERCENTAGE OF ALL MOTOR VEHICLES RECALLED FOR POSSIBLE SAFETY RELATED DEFECTS

THAT INVOLVED SPECIFIC VEHICLE SYSTEMS

September 9, 1966 to December 31, 1967

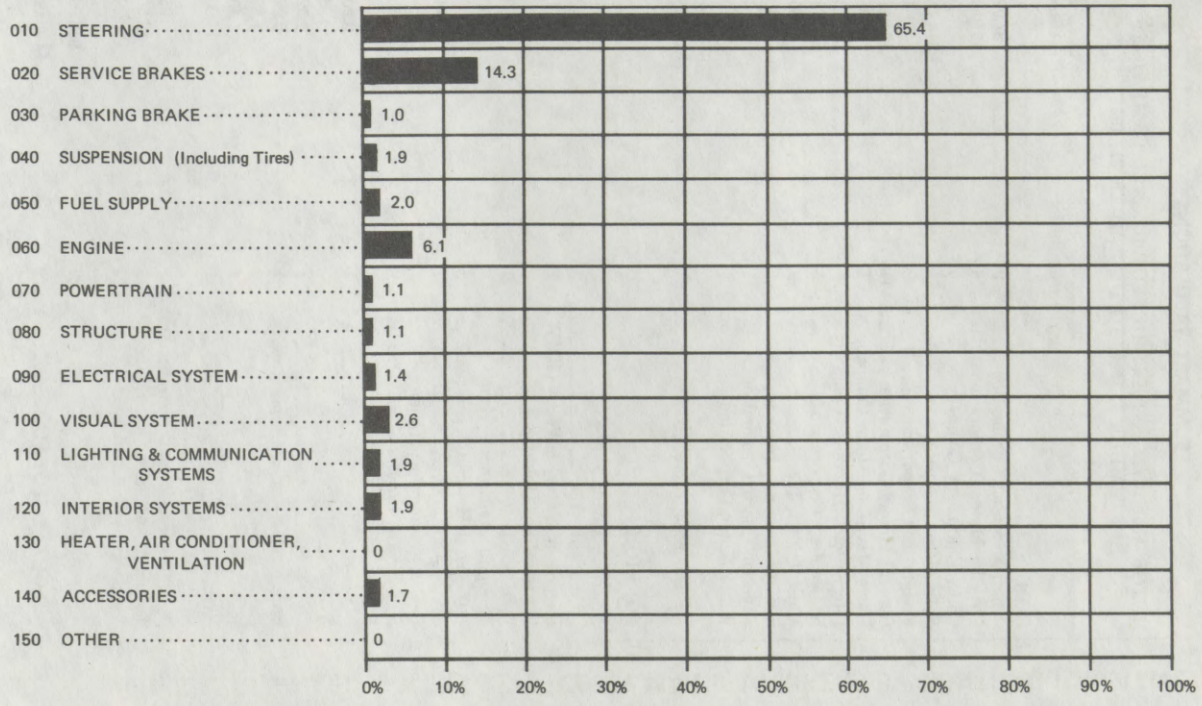


CHART 3

SUMMARY TABULATIONS

MOTOR VEHICLE SAFETY DEFECT RECALL CAMPAIGNS
SEPTEMBER 9, 1966, TO DECEMBER 31, 1967

Manufacturers Reporting	*Number of Recall Campaigns*	*Number of Vehicles*
I. DOMESTIC		
American Motors Corporation	9	187,924
Chrysler Motors Corporation	46	457,524
Clark Equipment Company	6	1,404
Ford Motor Company	24	1,346,751
Freightliner Corporation	2	42
General Motors Corporation	44	2,194,493
Harley-Davidson Motor Company	1	3,988
International Harvester Company	19	217,769
Kaiser Jeep Corporation	5	43,243
Mack Trucks, Inc.	2	330
Shelby American, Inc.	1	1,385
Superior Coach Corporation	1	44
White Motor Corporation	3	137
Domestic Totals	163	4,455,034
II. FOREIGN		
American Honda Motor Company, Inc.	2	32,401
Bayerische Motoren Werke (BMW)	1	17
British Motor Holdings (U.S.A.), Inc.	1	8,386
Foreign Distributors Division (General Motors Corporation)	2	539
Jaguar Cars, Inc.	1	745
Leyland Motor Corporation of North America	2	2,530
Mercedes-Benz of North America, Inc.	3	2,905
Nissan Motor Corporation, in U.S.A.	1	1,525
Porsche of America Corporation	1	2,226
Renault, Inc.	2	1,623
Rolls-Royce, Inc.	7	1,435
Saab U.S.A., Inc.	1	17,000
Simca-Rootes Division (Chrysler Motors Corporation)	1	957
Toyota Motor Sales, U.S.A., Inc.	1	12,500
Volkswagen of America, Inc.	11	158,220
Foreign Totals	37	243,009
GRAND TOTAL	200	4,698,043

LISTING OF SAFETY DEFECTS—RECALL CAMPAIGNS

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			American Motors Corporation				
66–0010	10–7–66	American Motors	Rebel, Ambassador, Marlin equipped with V–8 engines and Cruise Command.	1967	The ball chain may catch accidentally beneath the accelerator control rod bracket and hold the throttle roughly three-quarters open. (Replace with revised accelerator control rod and bracket and new ball link chain.)	8	428
66–0021	11–4–66	American Motors	V–8 cars equipped with automatic transmissions.	1965 & 1966	Possibility that throttle control stop on the downshift valve cam may break. If the cam is broken, the throttle linkage could stick when the accelerator pedal is pushed to the floor for downshift. (Inspect and replace valve cam if broken. Install throttle linkage limit stop whether valve cam has broken or not.)	17	174,857
67–0008	1–16–67	American Motors	6710 Model (Rebel) right-hand drive cars with power steering.	1967	Possible interference between the steering gear and the steering gear side sill adaptor. This interference could cause excessive stress on each of the steering gear box mounting bosses when the gear box mounting bolts are properly torqued. (Replace steering gear to sill adaptor.)	1	2
67–0032	3–17–67	American Motors	6710–80 Series with 232 C.I D. engine and 2 bbl. carburetor equipped with Cruise Command.	1967	Possibility that a maladjusted Cruise Command bellows chain can interfere with the lever of the carburetor control shaft rod and hold the throttle in a partially open position. (Install Cruise Command Chain Shield Spring.)	12	127
67–0049	5–9–67	American Motors	American, Rebel	1967	Possibility that the steering shaft was improperly installed. This could cause a binding condition which, even though not noticeable to the driver, might subject the steering shaft to abnormal stresses under certain conditions. These stresses may cause the steering shaft to break with resultant loss of steering. (Inspect and replace steering shaft with improved design.)	27	9,690
67–0079	9–8–67	American Motors	6800 Series all models	1968	Possibility that the pipe plug in the brake master cylinder opening formerly used for the hydraulic type stop light switch is not properly torqued. This could result in a brake fluid leak and resultant loss of braking capacity. (Inspect and retorque plug as required.)	8	365

LISTING OF SAFETY DEFECTS—RECALL CAMPAIGNS

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			American Motors Corporation—*Continued*				
67–0094	10–9–67	American Motors	6810–80 Series (Rebel, Ambassador) equipped with V–8 Engine and Cruise Command.	1968	Possibility that the vacuum servo bellows could contact the hood, causing incorrect ball chain adjustment, affecting operation of the Cruise Command. (Modify vacuum servo assembly mounting bracket and install Ball Chain Spring Guard.)	6	175
67–0095	10–9–67	American Motors	6870 Series (Javelin) equipped with manual transmission.	1968	Possibility that the clutch pedal actuating rod or the second and high shift rod may contact the brake tubes. (Reroute brake tubes and relocate brake tube retaining clips.)	4	262
67–0096	10–9–67	American Motors	6870 Series (Javelin)	1968	Possibility that the body side sill spacer for the steering upper idler arm bolt was omitted in assembly. This can cause a pronounced shimmy of the right front wheel. (Inspect and install spacer as required.)	5	2,018
			Chrysler Motors Corporation				
66–0002A	9–22–66	Chrysler Plymouth Dodge	Chrysler, Imperial Fury Polara, Monaco Cars equipped with 440 cubic inch engine and 4 bbl. Holley carburetors.	1967	Possibility that carburetor can lock in wide open throttle position due to distortion of the primary lever and/or the connecting link between primary and secondary throttles. (Temporary modification followed by later replacement of subject carburetors.)	18	6,101
66–0002B	9–22–66	Plymouth Dodge	Fury Polara, Monaco Canadian built cars with column mounted gear shift lever and automatic transmission.	1967	A deficiency in the gear shift lever gate mechanism could allow the retaining screws in the gate to loosen, resulting in a possible false or inaccurate positioning of the lever. (Replace gear shift lever gate retaining screws with new type.)	12	656
66–0007	10–4–66	Dodge	D–100 trucks equipped with 16 x 4.5E wheels.	1964, 1965 & 1966	Under certain operating conditions, the subject wheels may not sustain normal loads for a satisfactory length of time. (Replace all five wheels.)	5	9,869
66–0008A	10–4–66	Plymouth Dodge	Valiant Dart Cars equipped with 10″ brakes.	1966 & 1967	Possible interference between the flange of the wheel disc and the brake drum. This interference may cause a deformation of the wheel disc flange, resulting in a possible	10	1,101

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
					Chrysler Motors Corporation—*Continued*		
					reduction in the structural strength of the wheel which could cause a fatigue failure. Also, this interference could cause a false torquing of the wheel attaching nuts which could result in loose wheel nuts. (Replace all five wheels.)		
66-0008B	10-14-66	Plymouth Dodge	Valiant Dart	1967	Door latch striker assemblies may have a brittle striker sleeve and washer. Failure of either of these parts by cracking could render the door latch inoperative once the door is opened. The striker cannot become disengaged from the lock pillar while the door is closed, therefore, there is no hazard of door coming open while car is in operation. (Replace door latch striker assemblies.)	13	41,953
66-0009A	10-11-66	Plymouth Dodge	Belvedere, Satellite Coronet, Charger Equipped with manual transmissions.	1966	Potential interference may exist between the right front brake steel tube and the shiftrods or clutch torque shaft assembly on 3 and/or 4 speed manual transmissions. Continued interference may cause a brake tube failure and loss of brakes. (Inspect brake tube routing and install additional retaining clip. Replace tube assembly if damaged.)	4	59,749
66-0009B	10-11-66	Plymouth Dodge	Valiant Dart Equipped with 6-cylinder engines and power brakes.	1967	Possible missing clamp on power brake booster vacuum hose. Absence of these clamps may allow the hose to disconnect, thus decreasing brake efficiency. (Inspect and install clamps where needed.)	9	98
66-0009C	10-11-66	Plymouth Dodge	Valiant Dart Equipped with disc brakes.	1967	Disc brake caliper cross over tube may have been improperly positioned. Contact with the disc brake rotor may cut tube, rendering front brakes inoperative. Because of dual system, rear brakes should continue to operate normally. (Inspect and correct, including replacement of tubes if necessary.)	9	363
66-0013	10-13-66	Dodge	5200 lb. G.V.W. Model A-100 trucks equipped with 14 x 5.5K wheels.	1966 & 1967	Under certain operating conditions, the subject wheels may not sustain normal loads for a satisfactory length of time. (Inspect and replace all five wheels as necessary.)	4	71

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Chrysler Motors Corporation—*Continued*				
66-0016	10-17-66	Dodge	D-100 Trucks 114 inch wheelbase models with 8 cylinder engines.	N.R.	Under certain operating conditions, frame may develop cracks at engine support area. (Install reinforcements on the frame and engine support brackets.)	4	98
66-0017	10-20-66	Dodge	D-600, S-600, C-600 and CT-600 equipped w/20 x 6.50 disc wheels and 16½ x 5 air brakes.	1967	Possible interference between rear wheels and the brake drum which could cause brake drum failure and resultant reduction in braking effectiveness. (Inspect all wheels and replace wheels and/or drums as necessary.)	7	27
67-0009A	1-16-67	Plymouth Dodge	Fury Polara, Monaco	1967	Possibility that windshield wiper switch may be inoperative under certain cold weather conditions. (Inspect and replace switch.)	12	112,215
67-0009B	1-16-67	Chrysler Imperial Plymouth Valiant, Barracuda Dodge Dart	Chrysler,	1967	Possibility that the master cylinder push rod bolt may not meet material specifications. Breakage of this bolt, if it occurred, could cause a complete loss of service brake operation. (Replace the subject bolt.)	15	9,742
67-0009C	1-17-67	Plymouth Belvedere, Satellite Dodge Coronet, Charger Equipped with 426 cubic inch hemi engine.		1967	Possible interference between the starter cable and the steering shaft lower bearing collar set screw. This may cause a possible interference with the steering system, resulting in restricted vehicle control, or an electrical short circuit resulting in complete failure of the electrical system. (Inspect and correct mislocated cylinder head starter cable clip, which permitted interference, as necessary.)	10	670
67-0009D	1-17-67	Chrysler	Chrysler, Imperial Equipped with auto pilot.	1967	Possible interference between the instrument panel wiring harness and the auto pilot brake release switch operating lever. Operation of the brake pedal with this condition present can result in chafing of the wiring insulation, in turn causing failure of any one of a number of electrical components or the complete electrical system. (Inspect, reroute, and secure wiring harness as necessary.)	5	6,345
67-0024	3-3-67	Dodge	L-600 Medium Duty Tilt Cab Truck	N.R.	Possibility that engine cooling fan crankshaft adaptor screw may be too short for adequate retention of the fan. Also, fan may not sustain normal loads for a satisfactory	6	17

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Chrysler Motors Corporation—*Continued*				
					length of time. In the event that these parts fail, the engine fan and adaptor (or parts thereof) could be impelled through the sheet metal engine cover and possibly cause injury to a cab occupant. (Replace fan and crankshaft adaptor screw.)		
67-0028	3-14-67	Dodge	P-300 and P-375 trucks	1967	Possibility that under certain conditions the brake master cylinder mounting studs may fail, resulting in partial or complete loss of brakes. Also, it is possible that an incorrect brake master cylinder push rod and eye bolt were installed during vehicle assembly. (Replace master cylinder mounting bracket adaptor, push rod and eye bolt as necessary.)	5	209
67-0040A	4-10-67	Chrysler Plymouth Dodge	Chrysler Fury Polara, Monaco Vehicles equipped with disc brakes.	1967	Possibility that brake disc to front wheel hub bolt torques may not meet specifications. Loosening of one or more of these bolts could result in interference, restricting rotation of a front wheel. (Inspect and retorque subject bolts as required.)	12	
67-0040B	4-10-67	Chrysler Plymouth Dodge	Chrysler Fury Polara, Monaco Vehicles equipped with auto pilot.	1967	Possibility that the torque on two of the auto pilot linkage nuts may not meet specifications. In addition, a cotter pin may be improperly crimped. Either of these conditions could result in failure of the throttle to fully return to idle. (Inspect retorque nuts and recrimp cotter pin as required.)	12	19,332
67-0044A	4-25-67	Chrysler	Imperial	1967	(Same as 67-0040A above.)	11	
67-0044B	4-25-67	Chrysler	Imperial	1967	(Same as 67-0040B above.)	11	
67-0044C	4-25-67	Chrysler	Imperial	1967	Possible interference between the starter cable and the steering shaft coupling heat shield. This condition could cause an electrical short circuit resulting in failure of the electrical system or a possible interference in the steering system. (Inspect, reroute, and secure the starter cable as required.)	14	14,667
67-0044D	4-25-67	Chrysler Plymouth Dodge	Imperial, Chryslers with 11 inch brakes. Fury, Belvedere, Satellite Polara,	1967	Possibility that parking brake lever on the right rear brake may not meet specifications. Repeated use of the parking brake could cause the parking brake cable to become disengaged from the parking brake lever on the right rear brake. This	20	47,036

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Chrysler Motors Corporation—*Continued*							
			Monaco, Coronet		will result in loss of parking brake engagement. (Replace right rear parking brake lever.)		
67-0045	4-25-67	Chrysler Plymouth Dodge	Chrysler Fury Polara, Monaco Station Wagon Vehicles	1967	Possibility that gasoline cap gasket material might swell and restrict venting. This condition could result in damage to the fuel tank. (Improve gasoline tank caps and send to owners.)	7	24,062
67-0062	7-3-67	Plymouth Dodge	Belvedere, Satellite Charger, Coronet Equipped with disc brakes.	1966 & 1967	Possible that, under certain conditions, water may enter the disc brake proportioning valve vent. Internal seal damage caused by corrosion inside the valve could result in fluid leakage. Prolonged or severe leakage will affect normal braking operation on 1966 models and cause loss of effectiveness on rear wheel portion of 1967 dual brake system. (Replace the subject proportioning valve.)	14	6,500
67-0063	7-3-67	Plymouth Dodge	Barracuda Dart Two door hardtop cars equipped with rear center seat belts.	1967	Possibility that the rear center seat belts could interfere with the diagonal supports behind the rear seat back rest, during a severe impact, causing the belt to sever at less than the design impact specifications. (Install plastic protectors on the diagonal supports in the area of belt contact.)	12	7,407
67-0064	7-3-67	Dodge	Charger equipped with chrome road wheels.	1967	Possible that vehicles were assembled without front wheel hub dust caps. Omission of the dust caps will subject the front wheel bearings to road dirt, water, corrosive salt, etc. This condition could result in early bearing failure. (Inspect, replace bearings if necessary, and install dust caps.)	5	159
67-0065	7-6-67	Dodge	Model 6P200 U.S. Post Office Department Trucks	NR	Possible incorrect transmission speedometer pinion. This will result in the speedometer and odometer recording speeds and mileages less than those actually operated. (Replace the subject pinion.)	4	292
67-0066	7-25-67	Dodge	Model 6P200 U.S. Post Office Department Trucks	NR	Possible that the front wheel brake hose may come in contact with the front tire or wheel. Prolonged contact could result in loss of front wheel brake system effectiveness, however, the rear brake portion of the dual system would continue	4	627

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Chrysler Motors Corporation—*Continued*				
					to operate. (Reposition and replace brake hoses as required.)		
67-0068	8-8-67	Dodge	A-100 Truck	1967	Possibility that, under certain operating conditions, the U-Bolt on the left front spring may interfere with the brake tube that feeds the right front wheel. Prolonged interference could result in loss of front wheel brake system effectiveness, however, rear brake portion of dual system would continue to operate. (Replace the subject brake tube.)	7	7,427
67-0069	8-11-67	Plymouth Dodge	Fury Polara, Monaco	1967	Possible that vehicles were assembled with incorrect steering linkage tie rod assembly. Extended use of vehicles with these assemblies could result in possible failure. (Inspect and replace tie rod assemblies where necessary.)	7	21
67-0071	9-6-67	Chrysler Plymouth Dodge	Chrysler Fury Polara, Monaco	1968	Possibility that vehicles were assembled with a propeller shaft in which the weld may fail at less than designed torque specifications. Failure of the weld may result in a no drive condition. (Inspect, test, and replace propeller shaft as required.)	6	2,490
67-0072	9-6-67	Plymouth Dodge	Valiant, Barracuda Dart Equipped with 6 cylinder engine and automatic transmission.	1968	Possible interference between the floor pan and the transmission kickdown rod. This condition could result in failure of the throttle to return to idle. (Inspect and rework transmission lever.)	7	3,032
67-0073	9-6-67	Plymouth Dodge	Belvedere Coronet, Charger Models equipped with air conditioning.	1968	Possible mis-routing of the instrument panel wiring harness and/or the omission of a critical clip may allow contact with the windshield wiper linkage. Operation of the windshield wipers could then result in chafing of the wiring insulation which could cause a malfunction of any one of a number of electrical components or the complete electrical system. (Inspect, reroute harness, and install clip as necessary.)	8	2,478
67-0074	9-6-67	Plymouth Dodge	Belvedere Coronet Models equipped	1968	Possible interference between the power steering pressure hose and the pump pulley or battery tray.	7	1,042

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Chrysler Motors Corporation—*Continued*				
			with 273-318 engine and power steering.		This could result in chafing of the hose, loss of power steering fluid, and may render the power steering inoperative. (Replace power steering pressure hose assembly.)		
67-0075	9-6-67	Dodge	Charger	1968	Possibility that headlamp door vacuum hose harness may not meet design specifications. Collapse of the hose would restrict or prevent engine vacuum flow which could result in failure of the headlamp doors to operate properly. (Replace the subject harness.)	5	2,712
67-0097	10-10-67	Chrysler	Imperial equipped with auto pilot.	1967	Possibility that under certain temperature conditions, with snow or slush on the road surface, such snow or slush may accumulate on the auto pilot linkage. This condition could result in failure of the throttle to fully return to idle. (Install slush shield package which was developed for 1968 Imperial models.)	9	7,189
67-0102	10-31-67	Chrysler Plymouth Dodge	Equipped with 340, 383, and 440 cu. in. engines with Carter 4 bbl. A.V.S. carburetors.	1968	Possible cracked secondary lock-out tab on the carburetor fast idle cam. If the tab breaks off, the fast idle cam can rotate upwards and go over center when the choke snaps shut on a cold start. In this position, the throttle can wedge against the cam and hold the throttle open. (Inspect the carburetor and replace the fast idle cam if necessary.)	10	40,767
67-0103	10-31-67	Plymouth Dodge	Belvedere, Satellite, Fury, Coronet, Charger Vehicles equipped with rear seat shoulder belts.	1968	Possibility that vehicles were assembled without rear shelf panel reinforcement plates for the rear seat shoulder belts. During severe impact, this panel could fail at less than design impact specifications. (Inspect and install reinforcement plates as required.)	21	475
67-0104	10-31-67	Plymouth Dodge	Belvedere Charger, Coronet Vehicles equipped with 383 cu. in. engine, 2-bbl. carburetor, manual transmission, and power steering.	1968	Possible that vehicles were assembled with an incorrect power steering pressure hose. This could result in premature failure of the hose. A failure of this type would result in the loss of power steering assist, without which greater manual effort is required to maintain directional control. (Replace the subject hose.)	13	32

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Chrysler Motors Corporation—*Continued*				
67-0105	10-31-67	Dodge	Charger	1968	Possible that bumper jack assemblies may have lifting platform welds that may not meet specifications. The subject jacks could fail when raising the car. (Replace the jacks.)	7	598
67-0115	11-29-67	Chrysler Plymouth Dodge	Chrysler Fury Polara, Monaco Vehicles equipped with speed control.	1968	Possibility that a speed control vacuum hose may be kinked between the speed control brake release switch and the firewall. If this condition exists, it will prevent the normal disengagement of the speed control system, and the car speed can be reduced only by turning off the ignition or by holding "in"the speed set button on the end of the turn signal lever. (Inspect and reroute the vacuum hose as required.)	12	8,000
67-0121	12-12-67	Plymouth	Barracuda	1968	Possible incorrect left lower control arm in the front suspension assembly. If this condition exists, it is unlikely front suspension alignment could be set to specifications. This could result in poor directional stability. Also, the incorrect control arm may cause damage to brake, steering and front suspension parts. (Inspect and replace the left lower control arm as necessary.)	4	201
67-0122	12-12-67	Chrysler Plymouth Dodge	Chrysler Fury Polara, Monaco	1968	Possibility that tires were damaged during installation. This damage may be inside the tire beading and not apparent upon visual inspection. Continued operation of the vehicle with these damaged tires could result in a tire failure. (Replace all five tires.)	7	335
67-0126	12-18-67	Dodge	"D", "W", and "WM 300" Model Trucks	1968	Possible substandard push rod bolt for the brake master cylinder or air brake control valve, the failure of which would result in total loss of brakes. (Install new master cylinder push rod bolt or new control valve push rod end bolt as required.)	4	906
67-0127	12-18-67	Dodge	Heavy duty trucks equipped with 11,000 lb. front axles.	NR	Possibility that a larger 12,000 lb. front axle inner bearing may have been installed in error. This condition could have long range safety connotations. (Correct condition.)	1	453

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Clark Equipment Company							
66–0029A	12–2–66	Clark Equipment Company	Brown Trailer Division Model MTC Michigan Train Double Trailer combination.	NR	Possible inadequate welding on the fifth wheel ring. This could allow the dolly section to bind or break loose while in operation. (Inspect and reweld if necessary.)	3	
66–0029B	12–2–66	Clark Equipment Company	Brown Trailer Division Model MTC Michigan Train Double Trailer combination.	NR	Possible defective welding or incorrect material thickness, or both, in the transition area of the gooseneck. This could result in a sagging of the transition area of the gooseneck, binding the dolly, thus affecting control of the truck-train unit. (Inspect and reweld, remove or reinforce present web as required.)	3	50
67–0017	2–14–67	Clark Equipment Company	Brown Trailer Division Trailers to be used in train operations.	NR	Possible deformation or cracking in the pintle hook box beam structure. Allowing a unit to function as a lead trailer with this damage could lead to separation of the pintle hook from the beam, affecting control of the train by the driver. (Modify the subject units.)	5	623
67–0051	5–5–67	Clark Equipment Company	Brown Trailer Division CVD 2–D–3–41 Semi-trailers	NR	Possible interference between the longitudinal pintal hook support structure and the brake cam shafts when the leaf springs are in a deflected position. This could result in restricted operation of the braking system. (Modify to eliminate possible interference.)	2	29
67–0084	9–29–67	Clark Equipment Company	Brown Trailer Division Model PI sliding tandem trailers.	NR	Possibility that under certain operating conditions, unusual vibrations may cause cracking around the outlet port of the air reservoir which leads to the relay emergency valve. This can lead to loss of air in the air brake system, affecting control of the trailer by the driver. (Inspect and modify the subject units.)	2	611
67–0085	9–29–67	Clark Equipment Company	Brown Trailer Division Trailer	NR	Possibility that wheels could contain open surface cracks in the disc portion. Continued operation of a cracked wheel can result in wheel failure. (Inspect and replace wheels as required.)	5	91

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Ford Motor Company				
66–0004A	10–3–66	Mercury	Colony Park Station Wagon equipped with radial ply tires.	1967	Possible sidewall cracking at relatively low mileage which could eventually result in tire failure. (Replace with improved design radial ply tires.)	7	356
66–0004B	10–3–66	Ford	All except Thunderbird.	1967	Possibility that certain self-threading seat belt attaching bolts may fail to hold. (Replace with new design bolts.)	14	65,000
		Mercury	All.				12,572
		Ford	All trucks except tilt-cab.				
66–0004C	10–3–66	Ford	Bronco	1967	Possible interference of brake pedal with the dash panel drain trough, preventing full brake pedal travel. Should such interference occur in circumstances in which the front brake system is not operative, the dual master cylinder's rear braking system may be rendered inoperative, too; or rear brake system efficiency may be impaired. (Rea work the drain trough.)	8	483
66–0004D	10–3–66	Ford	Thunderbird Cars equipped with six-way power seats.	1967	Seat track assembly may not be capable of keeping the seat in place when seat belt is fully loaded. (Replace with track assemblies of a strengthened design.)	7	700
66–0004E	10–3–66	Ford	Mustang Cars equipped with 289 or 390 cubic inch engines and 7.35x14, 7.70x14, or 6.50/6.70x15 (Sports 200) tires.	1967	Possible that, under some conditions, such as sharp turns while ascending driveway grades, the large size tires listed will rub against the front fender and/or wheel open ng moulding. This causes objectionable noise, and if done repeatedly, will scuff the outer edge of the tire. (Rework front fender wheel opening flange and remove mouldings to eliminate possible interference.)	8	842
66–0004F	10–3–66	Ford	Mustang	1967	Manual steering gear assemblies may contain a dimensional discrepancy in the steering gear ball nut groove. This discrepancy can result in steering gear lock-up at low mileage. (Install new steering gear assembly.)	12	8,574
		Mercury	Cougar				500
			Cars equipped with manual steering.				
66–0004G	10–3–66	Ford	Ford, Falcon Cars assembled at Oakville plant.	1967	Possibility that front wheel bearing retaining nuts were overtorqued, producing insufficient running clearance for the bearings. This condition can lead to noise, vibration, "wheel pull", and, ultimately, to	2	184

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Ford Motor Company—*Continued*				
					wheel bearing failure. (Retorque to level specified.)		
66–0012	10–17–66	Ford Mercury	All equipped with V–8 engines and 4 bbl. carburetors except Comet.	1967	Under certain circumstances the four barrel carburetor secondary throttle plates may stick in an open position when the engine is not fully warmed up. (Replace linkage part involved).	12	47,300
66–0014	10–19–66	Ford	F–100–250 (4x2 and 4x4), F–350 and P–100 Trucks equipped with standard brakes.	1967	Possibility that the brake master cylinder contains a brittle pushrod retaining ring. If this ring breaks, it could permit the pushrod to become disengaged from the master cylinder, rendering the hydraulic brake system inoperative. (Add bumper stop to prevent disengagement.)	9	3,500
66–0024	11–14–66	Ford	Thunderbird	1967	Possible incorrect metal thickness in the front shell of the power brake booster. This could result in fatigue cracks which could cause progressive loss of power assist in the vehicle's brakes. (Replace incorrect power brake booster, and master cylinder assembly.)	8	61
66–0026	11–24–66	Ford	Bronco	1967	Possibility that incorrect steering drag link was used in assembly. This could result in premature wear of the drag link ball stud and of the attaching hole in the pitman arm. Excessive wear will result in progressively greater steering effort and could eventually cause failure and complete loss of steering control. (Inspect and replace with correct drag link as necessary.)	7	1,900
67–0013	1–31–67	Ford	F–250 4x4 Trucks with 3000 lb. Dana Front Axle.	1967	Possible that incorrect (soft) steel axle spindles were incorporated in the subject axle assemblies. A soft steel spindle could fail under adverse road conditions and cause loss of steering control. (Inspect and replace spindles as necessary.)	6	1,886
67–0018	2–22–67	Ford Mercury	All equipped with power brakes.	1967	Possibility that power brake booster may malfunction under cold weather conditions. This can be caused by sticking of an internal rubber control valve or by a delay in the action of the check valve. This malfunction could result in a considerable increase in the pedal	21	217,000

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Ford Motor Company—*Continued*				
					pressure required to stop the car. (Replace booster with redesigned unit.)		
67–0019	2–22–67	Ford	Thunderbird equipped with speed control.	1967	Possible weld failures in the steering hub retainer. This condition could eventually result in loss of steering control. (Replace steering wheel with new riveted design.)	7	5,900
67–0047A	5–9–67	Ford	Econolines F–250 (excluding 4x4 models), F–500 and F–600.	Made in 1966 & 1967	Possible brittle nuts used to attach front and rear spring U-bolts, rear shackle, and front brake backing plate. These nuts could crack or split and fall off. (Replace the subject nuts.)	2	16,000
67–0047B	5–9–67	Ford Mercury	Ford Comet	1967	Possible that the sharp end of the jack handle could deform a stop in the rachet assembly and subsequently interfere with the pawl. This could cause failure after the jack had been used a few times. (Replace jack column and case assembly.)	2	28,570
67–0053	6–15–67	Ford	Model F, B and N 600–750 Gas and Diesel Trucks equipped with 6000 lb. or 7000 lb. Front Axle.	1967	Possibility that steering components may be subject to possible damage under poor road conditions with severe chuckholes and especially at high mileages. The first indication of any problem would be marked increase in steering efforts which could increase the possibility of failure to critical steering components. (Inspect and replace steering components with new design.)	12	25,000
67–0056	6–15–67	Mercury	Cougar	1967	Possibility that under a combination of circumstances the automatically operated headlamp doors could close while the lights are on. (Inspect, replace vacuum hoses, and check system.)	26	85,000
67–0076	9–11–67	Ford	Model F–500 through F–750 Trucks equipped with a Dash Mounted Power Brake Booster.	1968	Possibility that boosters do not meet specifications. This involves a possible loose assembly of the booster control valve hub to the diaphragm, which can cause complete loss of power assist. Loss of power assist causes a substantial loss of braking efficiency. (Inspect and replace booster as required.)	7	1,141
67–0080	9–19–67	Lincoln	Lincoln	1968	Possibility that the front suspension lower control arm pivot bolts were overhardened. If this condition	8	4,034

LISTING OF SAFETY DEFECTS—RECALL CAMPAIGNS

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
					Ford Motor Company—*Continued*		
					exists, these bolts could fracture. This could result in front wheel misalignment and loss of steering control. (Replace the subject bolts.)		
67-0091	10-2-67	Ford	Mustang	1967	Possibility that the steering wheel retaining nut was improperly installed. This could allow the steering wheel to become loose or disconnected. (Inspect and secure steering wheel retaining nut as required.)	9	75,000
67-0111	11-3-67	Ford	Falcon, Fairlane, Thunderbird	1966 & 1967	(Same as 67-0091 above.)	8	298,000
67-0112	11-3-67	Ford	Mustang	1967	Possible steering wheel spoke breakage involving one or more of the metal inserts within the plastic spoke. Under extended usage the separation may extend to all three metal inserts and eventually affect steering control. (Inspect and replace steering wheels as necessary.)	9	447,000
67-0113	11-20-67	Ford	Standard size.	1968	Possible improperly clamped tie rod sleeves in the steering linkage. This condition would be likely to cause excessive tire wear but not sudden interference with steering control. (Adjust tie rod ends and sleeves for toe-in and retorque clamp bolts as required.)	8	248
					Freightliner Corporation		
67-0037	3-8-67	Freightliner Corporation	White-Freightliner	NR	Possible improper alloy used in suspension mounting castings. It is anticipated that failure of the subject faulty castings would not result in any loss of control of the vehicle. (Replace subject components.)	4	10
67-0090	9-26-67	Freightliner Corporation	White-Freightliner	NR	Possible open crack in the disc portion of the wheel assembly. This could shorten the service life of the subject wheels. (Inspect and replace wheels as necessary.)	5	32

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			General Motors Corporation				
66-0011A	10-13-66	GMC	Suburban	1966	Possible interference between left rear tire and the left-hand center seat belt mounting bolt, during sharp right turn, on heavily loaded vehicles or those equipped with oversize rear tires. Repeated interference could lead to tire failure. (Move seat belt mounting bolt to eliminate interference possibility.)	18	2,157
66-0011B	10-13-66	Chevrolet	Series 40, 50, and 60 Trucks.	1967	Possibility that incorrect pitman arm clamp bolt nut and washer were intalled. These may loosen and pitman arm could come off, causing sudden loss of steering control. (Replace the nut and washer with self-locking pieces.)	7	336
66-0011C	10-13-66	Pontiac	Pontiac and Tempest Equipped with tilt steering wheel.	1967	Possibility that the insulation on the turn signal and stop light wiring harness could wear through due to chafing on the steering support bracket. This could result in a wiring short and blown fuse, rendering turn signals and stop lights inoperative. (Add additional insulation to prevent this occurrence.)	8	4,950
66-0020A	11-1-66	GMC	PD4107 Coaches.	1966	Possibility that steering tie rod may contain a metallurgical defect and break at either threaded end. A broken tie rod could result in loss of control of one front wheel, erratic steering, and some loss of steering control. (Replace tie rod.)	5	551
66-0020B	11-1-66	Chevrolet	Series 10, 20, and 30 Trucks.	1967	Possibility that front brake hoses were twisted during installation, allowing possible contact with wheel rim or crossmember edge during extreme right and left turns. Repeated contact with wheel rim could wear through hose and result in loss of brake action on front wheels, although rear brakes in dual system would still function. (Inspect and relocate or replace hoses as necessary.)	9	16,008
66-0020C	11-1-66	Oldsmobile	4-4-2 equipped with automatic transmission and power brakes.	1966 & 1967	Possible throttle linkage interference with the power brake hose, resulting in the throttle being held in a partial open position when foot is taken off the accelerator pedal. (Relocate and install a new brake hose retaining bracket to prevent possible interference.)	6	6,440

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			General Motors Corporation—*Continued*				
66–0023A	11–10–66	GMC	CM1500 through PS3500 Trucks.	1967	Possibility that front brake hoses were twisted during installation, allowing possible contact with wheel rim or crossmember edge during extreme right and left turns. Repeated contact with wheel rim could wear through hose and result in loss of brake action on front wheels, although rear brakes in dual system would still function. (Inspect and relocate or replace hoses as necessary.)	7	6,638
66–0023B	11–10–66	GMC	CM1500 through CS3500 Trucks equipped with manual transmissions.	1967	Possibility that the clutch linkage retainer clip may not be secured properly. If this clip becomes dislodged and falls out, clutch may engage even though clutch pedal is depressed which could cause the vehicle to lurch unexpectedly if engine is running. (Replace clip on all vehicles.)	6	6,621
66–0023C	11–10–66	GMC	SV, SA, DSV and DSA 4000 School Buses.	1966	Possibility that front hydraulic brake hose assembly may be shorter than specified, allowing the hose to pull apart during a sharp turn or severe tire bounce situation, resulting in loss of brakes. (Replace incorrect hoses.)	5	799
66–0030	12–2–66	Chevrolet	Series 10 and 20 4-wheel drive trucks. Except units with RPO F–49 Heavy-Duty Front Axle.	1967	Possible omission of front brake hose retaining springs which could permit the brake hose to come in contact with the wheel, tire or front suspension components during vehicle operation. Repeated contact could wear through the hose and result in loss of front wheel brake action, although rear brakes in dual system would still function. (Install front brake hose retaining springs as required and replace hoses which show signs of wear.)	6	861
66–0032A	1–6–67	Chevrolet	Chevelle, El Camino	1967	Possibility that steering shaft may have been improperly installed. This could cause a binding condition which, even though not noticeable to the owner, might subject the shaft to abnormal stresses under certain conditions. Should these stresses be severe enough or extend over a sufficient period of time, the steering shaft could break	19	138,878

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			General Motors Corporation—*Continued*				
					with resultant loss of steering. (Replace all shafts with improved design.)		
66–0032B	12–19–66	Pontiac	GTO, LeMans, Tempest	1967	(Same as 66–0032A above.)	38	104,736
66–0032C	1–6–67	Oldsmobile	F–85, Cutlass, Cutlass Supreme, Vista-Cruiser	1967	(Same as 66–0032A above).	43	70,644
66–0032D	1–6–67	Buick	Special, Special Deluxe, Skylark, GS400, Sportwagon	1967	(Same as 66–0032A above.)	25	68,184
66–0033A	12–15–66	GMC	E and S 5500–6500 Trucks with F070 Front Axle and Standard Steering.	1967	Possible installation of incorrect steering pitman arm and drag link assembly. This could cause a looseness in the drag link to steering arm connection, which could result in the drag link becoming disconnected from the steering arm, causing a loss of steering control. (Inspect and install correct pitman arm and drag link assembly as necessary.)	6	495
66–0033B	12–15–66	GMC	CM1500 and CM2500 Trucks with AT400 Hydra-Matic Transmission and 351E Gasoline Engine.	1967	Possibility that the accelerator control rod may bind or stick in an open position when the engine is operated under high torque. (Install improved accelerator linkage to prevent possible sticking.)	13	665
67–0001A	12–29–66	GMC	K1500 & K2500 Trucks	1967	Possibility that subject trucks were built without a retaining spring on the front brake hoses. This may allow the hoses to come into contact with the wheel, tire, or front suspension components during vehicle operation. Repeated contact may wear through hose causing loss of brake action on front wheels, although rear brakes of dual system will still function. (Inspect and install retainer springs on front brake hoses as necessary.)	18	147
67–0001B	12–29–66	GMC	K1590 & K2590 Trucks	1967	Possibility that one piece propeller shaft was installed, rather than the proper two piece shaft. This one piece propeller shaft could vibrate excessively at high vehicle speeds, which may result in breakage of	18	

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
					General Motors Corporation—*Continued*		
					the propeller shaft causing loss of drive to the rear wheels and possible damage to adjacent vehicle components. (Inspect and install two-piece shafts as necessary.)		147
67-0001C	12-29-66	GMC	K1500 Trucks	1967	Possibility that some front axle steering spindles may have been manufactured from the wrong grade of steel. These may crack or possibly break, and breakage could result in loss of vehicle control. (Inspect and replace front wheel spindles as required.)	26	835
	1-20-67	Chevrolet	KE and KS10 ½ Ton Trucks	1967			
67-0005	1-20-67	Chevrolet	Series 10, 20, and 30 Trucks	1967	Possible incorrect routing of brake pipes. In the event the rear brake system should cease to function, the incorrect routing could reduce the effectiveness of the partial braking performance in the dual brake system. (Inspect and re-route brake pipes as necessary.)	7	2,460
67-0007A	1-26-67	GMC	E & S 5500-6500 with F070 Axles and Power Steering	1967	Possibility that, during a full right-hand turn, the power steering pressure lines running to the power cylinder may become scored or partially crushed through interference with a clamp on the power steering power cylinder piston rod. This may result in loss of power assist, but manual steering control would be maintained, with higher efforts. Also during a full right-hand turn, the left front tire could contact the power steering power cylinder ball stud or its clamp. This chafing could cause tire failure. (Install new power steering pressure lines, reposition the ball stud clamp, and re-adjust the front wheel stops to eliminate the interference conditions.)	11	413
67-0007B	1-26-67	GMC	School Bus	NR	(Same as 67-0007A above.)	2	5
67-0010	1-31-67	Chevrolet	Models C-M-613 and SE-662 equipped with 7000 lb. front axle and full air brakes.	1967	Possibility that front brake hoses may be of an incorrect length. These could chafe on the edge of the inner front fender skirts during full turns. Extended chafing of the hose could rub through with resultant loss of braking. (Inspect and replace with correct length hoses as necessary.)	8	812
		Chevrolet	School Bus				12
67-0014	2-2-67	GMC	PD4107 Coach	NR	Possibility that the clamp bolt nut of	5	407

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			General Motors Corporation—*Continued*				
			equipped with power steering.		the booster cylinder piston rod end socket was not torqued to specifications and that the end socket set screw may not be completely tight and staked. This could permit the booster cylinder rod to work loose from the end socket, resulting in loss of power assist and, in some circumstances, loss of steering control. (Check torque on the clamp bolt and tighten and stake the set screw as necessary.)		
67-0016	2-10-67	Pontiac	All built at home plant with power brakes, except Tempest.	1967	Possibility of insufficient sealing between the dash panel and one type of power brake vacuum cylinder which could permit water to enter the vacuum cylinder. If water should enter and freeze during cold weather, it would be very difficult to depress the brake pedal sufficiently to activate the brakes. (Inspect and reseal or replace vacuum cylinders as necessary.)	13	40,038
67-0021	3-1-67	Oldsmobile	88 and 98	1967	Possibility that one or more of the four steering arm bolts may break because they may not meet metallurgical specifications. If both bolts on the same side of the car were to break, a loss of steering control could result. (Replace all four steering arm bolts on the affected cars.)	11	7,573
67-0027	3-17-67	Buick	LeSabre and Wildcat Equipped with manual brakes.	1967	Possibility that the hydraulic brake master cylinder push rod retainer assembly may not have correct retention. If so, it may be possible to disconnect the pedal linkage by manually pulling the pedal upward with the foot. If the pedal linkage became disconnected, the pedal would go to the floor and would result in loss of brakes. (Install a gasket between the brake master cylinder and dash reinforcement plate.)	9	6,919
67-0033	3-28-67	Chevrolet	Corvair	1967	Possibility that steering shaft may not have been properly installed. This could cause a binding condition which, while not noticeable to the driver, may subject the steering shaft to abnormal stresses. Under certain conditions, these	12	19,510

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number o Vehicles Recalled
					General Motors Corporation—*Continued*		
					stresses may cause the shaft to break with resultant loss of steering. (Replace the subject shafts with improved design which will eliminate this possibility.)		
67–0034	3–31–67	Buick Pontiac Oldsmobile	Vehicles equipped with two-speed automatic transmission.	1967	Possibility that the transmission shift detent lever is made of an incorrect grade of steel and could break. If breakage should occur while the transmission is in a forward or reverse range the vehicle could move unexpectedly and possibly in a direction not anticipated by the driver as the shift selector lever, although moved, would not change the range of the transmission. (Install new detent levers as required.)	3	2,484
67–0035	3–31–67	GMC	EG, EM, ES-4500 Trucks equipped with standard hydraulic brakes.	1967	Possibility that an incorrect master cylinder assembly was installed in the brake system. As a result, excessively high brake pedal effort may be required to obtain a satisfactory stopping distance. (Replace brake master cylinder with improved design.)	6	67
67–0041	4–25–67	Pontiac	Firebird V–8 models equipped with heater and AM–FM radios.	1967	Possibility of the heater blower motor wire coming into contact with the right-hand exhaust manifold which, when hot, could melt the insulation. If this should happen while the heater blower is operating at the low speed setting, a resistor in the circuit could overheat and possibly cau e a fire under the instrument panel. (Reroute the heater blower lead-in wiring to prevent it from contacting the manifold.)	6	577
67–0046	5–8–67	GMC Chevrolet	H & J 7500 thru 9500 with F090 Front Axle H & J 70,000 and 80,000 with 9000 lb. Front Axle	1966 & 1967	Possibility that the tie rod ball stud nut connecting the tie rod arm to the steering tie rod end could loosen and possibly come off. If this nut comes off, the steering tie rod and the tie rod arm could become disconnected and result in loss of steering control. (Inspect, install a hardened steel washer, new tie rod ball stud nut, and cotter pin. Replace tie rod ball stud and/or tie rod arm if necessary.)	17	9,378
67–0070	8–24–67	GMC	HG, HM5500–	1966	Possibility that the lower steering	16	3,440

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			General Motors Corporation—*Continued*				
		Chevrolet	7500 Trucks HG and HM 70,000 Model Trucks		shaft flexible coupling may have reduced flexibility due to insufficient tolerance in assembly. Normal differences in movement between vehicle cab and chassis components could force the coupling upward and cause the lower steering shaft splines to become disengaged from matching splines on the lower steering shaft flange, with resultant loss of steering control. (Inspect and replace coupling with adjustable spline type as required.)		
67–0083	9–28–67	GMC	4000–9500 Model Trucks	1966	Possibility that incorrect lower U-Bolt brackets and/or upper U-Bolt spacers made of manganese bronze instead of malleable iron were installed on the rear axle. These could break causing the rear axle to become disconnected from the vehicle and possibly result in loss of directional control and loss of braking action. (Inspect and install correct bolts as required.)	17	5,415
67–0088	10–9–67	GMC	E & S Model 4500–6500 Trucks	1967 & 1968	Possibility that an improperly spot welded power brake booster diaphragm plate could result in a separation of the diaphragm from the plate. This condition could cause a loss of power assist when braking, resulting in higher than normal brake pedal effort. (Install a new diaphragm plate assembly.)	13	2,587
		Chevrolet	CA–40, 50, and 60 Trucks	1968			2,002
67–0089	10–9–67	GMC	E & S 4500–6500 Trucks	1967	Possibility that a lack of brake power assist may be caused by a defective check valve or by possible interference between the booster actuating hub and dust seal retainer on the firewall. Loss of power assist will result in higher than normal brake pedal effort and make it difficult to stop within a satisfactory distance. (Inspect, test, and replace parts as required.)	12	14,012
67–0098	10–23–67	Chevrolet	Biscayne, Bel Air, Impala, Caprice	1965	Possibility that, after extended mileage, the idler arm assembly could separate during vehicle operation and result in a severe pull to the right as brakes are applied at low to moderate speed. (Inspect and replace idler arm assembly as required.)	12	1,143,000

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			General Motors Corporation—*Continued*				
67–0101	10–18–67	GMC	E & S 4500–6500 Trucks	1967	Possibility that improper length hydraulic brake hose may have been inadvertently installed on one or both sides of the front wheel. Brake hoses that are too long will contact the tire or shock absorber during a full right or full left turn. This could chafe the hose and could cause a rupture and loss of braking action. (Inspect and install correct length hose as required.)	11	15,382
67–0108	11–14–67	Oldsmobile	Toronado equipped with optional chrome plated wheels.	1967 & 1968	Possible improper welding of the wheel rim to the wheel spider. This could allow the rim to separate from the spider which could result in a rapid loss of air from the tire. Under some operating conditions, this could make it difficult for the driver to maintain vehicle control. (Inspect and replace the subject wheels.)	16	4,104
67–0116	11–30–67	Chevrolet	Regular size equipped with 4-Speed Transmission.	1968	Possibility that vehicle was incorrectly built with 3-speed transmission parking brake cable components. A parking brake so equipped will function normally, but causes the intermediate cable to chafe on the flanges of the transmission mount support. This chafing could result in separation of the cable, causing the parking brake to become inoperative. (Inspect and install correct parking brake cable components as required.)	8	57
67–0117	11–30–67	Chevrolet	Corvette	1968	Possible insufficient clearance between the lower edge of the left front fender skirt and the front brake pipe, just in front of the steering gear. This could allow the skirt to chafe against the brake pipe which could eventually result in wear through of the brake pipe and loss of front wheel brake system. Because of dual system, rear brakes would still be operative. (Rework the fender skirt.)	8	2,781
67–0118	11–30–67	Chevrolet	Corvair	1968	Possibility that the lock striker on the front compartment may not be sufficiently retained to the striker support to maintain positive compartment lid closure. It is	8	1,046

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
General Motors Corporation—*Continued*							
					possible that the torque stress on the striker support clinch nuts is excessive and may cause one or both of the nuts to dislodge from the support. This could result in a loss of positive striker retention and the lid could open while the car is in operation. (Install new retainer bolts and nuts in the striker assembly.		
67–0119	11–30–67	Chevrolet	Corvair	1968	Possibility that excessive pressure may have been used to press the rear wheel studs in place. This could result in a stress failure of the wheel stud heads, allowing one or more of the studs to work loose. If this should occur, the rear wheels could loosen or possibly come off during vehicle operation. (Inspect and replace rear wheel studs as required.)	8	597
67–0130	12–28–67	Pontiac	Catalina, Star Chief, Grand Prix, Bonneville	1965 & 1966	(Same as 67–0098 above.)	8	479,470
Harley-Davidson Motor Co.							
67–0025	3–8–67	Harley-Davidson	Sportster Model XLCH Motorcycle	1967	Possibility that the magneto cable may come out of the correct position and interfere with operation of the throttle lever on the carburetor. (Install cable guide which holds the cables in the correct position.)	7	3,988
International Harvester Company							
66–0019	10–31–66	International Harvester	Trucks	NR	Possible undersized drag link plug in one or both ends of the drag link. Incorrect plug could be forced out of position by impact on front wheels. (Inspect and install proper plugs as necessary.)	2	108
66–0022	11–9–66	International Harvester	2000D	NR	Rear wheel rim clamp too short. (Replace with longer clamp.)	2	88

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			International Harvester Company—*Continued*				
66–0025	11–25–66	International Harvester	Trucks	NR	Possibility that the steering drag link may have been assembled without the spring safety plug in one or both ends. (Inspect and install plugs as required.)	2	32
66–0031	12–8–66	International Harvester	RF 192 Trucks	NR	Incorrect fuel tank installed which had insufficient clearance with exhaust system. (Replace with correct tank.)	2	3
67–0003	1–4–67	International Harvester	1100 (4x4)	NR	Possibility that front axle spindles have material specifications below required level. (Inspect and replace as necessary.)	6	568
67–0022	3–2–67	International Harvester	900A, 1100A, 1100A 4x4, 1200A, 1200A 4x4, 1300A, 1300A 4x4	NR	Possibility that front wheel and rear axle hydraulic brake flexible hoses could develop seepage under extremely high pressure. (Replace hoses as required.)	5	356
67–0023	3–2–67	International Harvester	F–210D	NR	Change the two front wheels and spare wheel to provide increased wheel strength. Risk to traffic safety is relatively slight. (Change wheels.)	2	23
67–0029	3–21–67	International Harvester	Model M–800 Right Hand Drive Trucks delivered to U.S. Post Office.	NR	The subject vehicles were manufactured with a carburetor adapter lever which could possibly cause the accelerator control rod to stick in an off idle condition. (Correct situation.)	1	316
67–0031A	3–23–67	International Harvester	Loadstar Models (Except 1603, 1703, 1803, 1853, FC, RE and CO Models)	NR	Possibility that a hydraulic brake line was not properly clipped, allowing the brake line to contact a cab floor flange. (Inspect, install clips, and replace line as necessary.)	11	68,040
67–0031B	3–23–67	International Harvester	Loadstar	NR	Possibility that vehicles were assembled without one or both supports for the hydraulic brake lines at the left and right rear spring U-Bolt plate location. These supports are necessary to overcome vibration and flexing of the brake lines due to road shock. (Inspect, install supports, and replace lines as necessary.)	16	70,064
67–0039	4–10–67	International Harvester	Scout	1967	Possibility that the steering gear lever (pitman arm) retaining bolt may not be torqued sufficiently. (Inspect and retorque the bolt on the subject vehicles.)	2	12
67–0048	5–19–67	International Harvester	1000B	1967	Possibility that the left front brake hose could chafe on the left tire	6	736

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
International Harvester Company—*Continued*							
					during a full left turn position. (Install brake hose support to correct the possibility.)		
67–0052	6–9–67	International Harvester	1000B, 1100B, 1100B 4x4 Equipped with 15x5.50F wheel.	1967	Possibility that vehicles were assembled with improper wheels which could result in interference between the brake drum and wheel. (Inspect and replace wheels as required.)	7	586
67–0055	6–19–67	International Harvester	C–100, C–1000, D–1000, 1000A with FA–9 Front Suspension.	1961 thru 1966	Possible idler arm failure which would result in impaired steering. (Install new steering idler arm and mounting bracket.)	6	69,038
67–0067	8–11–67	International Harvester	CO–8190 Equipped with Hydraulic Brakes.	NR	Possibility that aluminum brake pedal does not meet specifications. Breakage of this pedal could cause loss of service brake operation. (Replace aluminum brake pedal with malleable iron pedal.)	5	131
67–0093	10–11–67	International Harvester	M–1200 and M–1400	1966 & 1967	Possible flexing of steering gear mounting. (Add a brace between the steering gear and the body platform rail to improve stability of the steering gear mounting.)	8	2,562
67–0110A	11–15–67	International Harvester	M–1500 and MA–1500	1965, 1966 & 1967	Possibility that the brake lines could contact the frame. Continuous vibration and contact can cause the line to chafe. (Inspect and reposition brake lines as required.)	11	
67–0110B	11–15–67	International Harvester	M–1500 and MA–1500	1965, 1966 & 1967	Possible contact of tires with front brake hoses when wheels are in either full right or left turn positions. This could cause chafing or damage to the hoses. (Install longer brake hose supports.)	11	4,161
67–0123	12–18–67	International Harvester	908C thru 1500C equipped with manual steering.	1968	Possible incorrect flexible coupling clamp on steering column. This clamp is the one which clamps the coupling onto the steering gear tube and cam assembly. (Inspect and replace the subject clamp as required.)	7	945
Kaiser Jeep Corporation							
67–0002	1–3–67	Kaiser Jeep	Model 8701 and 8705	1967	Possibility that the nuts on the two bolts used to assemble the steering gear assembly flexible coupling	9	2,200

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Kaiser Jeep Corporation—*Continued*							
					were not properly tightened. This may cause a complete loss of steering under certain operating conditions. (Inspect and tighten subject nuts as required.)		
67-0030	3-23-67	Kaiser Jeep	Universals: CJ5, CJ5A, CJ6, CJ6A equipped with V-6 engine	NR	Possible improper installation of right front brake tube. If this condition exists and is allowed to continue without correction, the tube can contact an adjacent chassis part, and due to normal road vibration, wear a hole through the tube wall causing complete loss of brakes. (Install new tube and clips to correct the subject condition.)	8	2,015
67-0057	6-15-67	Kaiser Jeep	J-Series with V-8 and 6-232 engines	NR	Possible improperly welded mounting brackets for the steering gear assembly. This condition could result in sudden and complete loss of steering. (Inspect, reweld and modify as required.)	12	33,000
67-0092	10-6-67	Kaiser Jeep	Jeepster Model 8701, 8705	NR	Possible defective hood latches. These may fail which could result in the hood flying open and obstructing the view. (Inspect and replace the hood latches as required.)	7	3,200
67-0120	12-13-67	Kaiser Jeep	J-Series and Jeepster Series	NR	Possibility that some of the bolts which fasten the steering gear assembly to the frame were improperly torqued or tightened. If this condition exists, the steering gear assembly may come loose from the frame which could result in a loss of steering. (Inspect and retorque the subject bolts as required.)	11	2,828
Mack Trucks, Inc.							
67-0036	3-31-67	Mack	DM Models with FA600 & 601 Front Axle.	NR	Possibility that improperly heat-treated steering levers were installed. Under conditions of unusual strain the fatigue strength of these levers is adversely affected and may eventually result in loss of steering control. (Inspect and replace steering lever as required.)	8	258

LISTING OF SAFETY DEFECTS—RECALL CAMPAIGNS

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Mack Trucks, Inc.—*Continued*				
67-0060	6-27-67	Mack	"F" Series with FA600 or 604 Front Axle and Power Steering.	NR	Possible metallurgical deficiencies of the pitman arm (lever, steering gear). Under conditions of unusual strain and excessively overloaded front axles the arm may eventually break and subsequently cause loss of control. (Inspect and replace lever as required.)	8	72
			Shelby American, Inc.				
67-0026	3-10-67	Shelby	GT350 and GT500	1967	Possible condition reported as loss of power brake assist after a soak at lower ambient temperatures. (Inspect and replace power brake booster or check valve as necessary.)	6	1,385
			Superior Coach Corporation				
67-0043	4-21-67	Superior Consort	Limousine Funeral Car, Ambulance	1967	Possible omission of the adjusting wedge between the steering column and the support bracket. This could cause a slight bind in the steering column which would be recognizable only if the power steering should become inoperative. (Inspect and install wedge as required.)	7	44
			White Motor Corporation				
67-0050	5-9-67	White Motor Corporation	Model 9500 TD Truck Tractor	NR	Possibility that front wheel studs are defective. (Check the studs on the subject front wheels.)	4	76
67-0086	9-29-67	White Motor Corporation	Reo Model-DF Series Diamond T Model-CG & DF Series Diamond Reo Model-CF 8300 Series	NR	Possible material deficiency which may affect the ability of the drag link in the steering section to perform properly. Under certain circumstances and conditions, this drag link can distort and, thereby, affect steering alignment. (Replace the drag link assemblies.)	11	30

LISTING OF SAFETY DEFECTS—RECALL CAMPAIGNS

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
White Motor Corporation—*Continued*							
67–0087	9–29–67	White Motor Corporation	Vehicles equipped with power steering and FH901 or FL901 front axles. Diamond Reo Truck Equipped with V8–250 or V8–185 engine.	NR	Possible deficiency in a drive pulley attachment which could result in a loss of power for the power assisted steering system. The manual steering system, however, would continue to provide control of the vehicle. (Replace the drive pulley capscrew with a longer size for adequate thread engagement.)	8	31
American Honda Motor Co., Inc.							
67–0003	9–23–66	Honda	CT–90 Motorcycle	NR	Possibility that transmission can be accidentally shifted from third to first gear (rather than fourth gear) causing abrupt deceleration at speeds in excess of 30 mph. (Replace shift drum stopper plate and stopper arm to preclude this occurrence.)	6	18,572
66–0034	12–19–66	Honda	S90 Motorcycle equipped with Mikuni Kogyo carburetors.	NR	Possibility that tightening of the nuts holding the carburetor to the aluminum inlet tube will cause a small amount of distortion in the carburetor body. This distortion may cause sticking of the throttle valve which may cause throttle to remain in open position after the throttle twist-grip has been closed. (Install modified throttle valve which eliminates the possibility of throttle sticking due to carburetor body distortion.)	10	13,829
Bayerische Motoren Werke (BMW)							
67–0012	1–26–67	BMW	1800, 2000	NR	Possible surface damage to brake lines during original installation which can lead to corrosion. (Replace lines as required.)	9	17

LISTING OF SAFETY DEFECTS—RECALL CAMPAIGNS

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
British Motor Holdings (U.S.A.), Inc.							
6–0028	11–25–66	Austin MG Morris Riley Vanden Plas Wolseley	1100, All Minis 1100 1100, Mini Saloons, Mini Vans, Pick-ups, Mokes, Coopers, Cooper "S." Elfs 1100 Hornets	NR	Possible corrosion of the aluminum washer of the end plug of the hydraulic pressure regulating valve in the brake system which can bring about a gradual loss of brake fluid. (Inspect and replace end plug, and aluminum washer with copper washer.)	8	8,386
Foreign Distributors Division (GMC)							
67–0058	6–16–67	Vauxhall Viva	Series HB	NR	Possibility that parking brake lever assembly, after being applied, could become disengaged without the use of the release mechanism. (Inspect and replace lever assembly as required.)	8	245
67–0061	7–7–67	Vauxhall Viva	Series HB	NR	Possible insufficient clearance between the rear shock absorbers and rear brake pipes. If one or both pipes should contact the rear shock absorbers, the pipes could eventually rub through causing loss of brakes. (Reroute and replace brake pipes as required.)	7	294
Jaguar Cars, Inc.							
67–0004	1–16–67	Jaguar	4.2 Sedan	NR	Possible cracking or fracture of the rack portion of the piston and rack assembly of the power steering unit. This may result in loss of power assist, however, manual steering will not be affected. (Inspect and replace steering unit as required.)	15	745
Leyland Motor Corporation of North America							
67–0114	11–6–67	Triumph	GT–6 & Spitfire MK III	NR	Possible small discrepancy in the interior bore finish of wire wheel	8	1,500

LISTING OF SAFETY DEFECTS—RECALL CAMPAIGNS

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Leyland Motor Corporation of North America—*Continued*							
					adaptors. The fault is in the form of a minor surface crack. Testing does not indicate that they are liable to early failures and probably extremely unreasonable and severe use conditions would be necessary to make them fail at all. (Inspect and replace the hub adaptor as required.)		
67-0124	12-14-67	Triumph	2000 Sedan	NR	Possibility that the front brake-hoses may develop a leak and become non-functional. (Replace both front hydraulic brake hoses.)	7	1,030
Mercedes-Benz of North America, Inc.							
66-0027	11-21-66	Mercedes-Benz	230SL, 250SE Sedan/Cpe./Conv.	NR	Possible freezing condition of the throttle valve in the "mixture controller" on fuel injection engines. If this condition occurs, the throttle in the air intake housing will freeze and the accelerator pedal will not return to idle position, thus preventing normal engine deceleration. (Modify crankcase ventilation system to insure safe operation.)	21	2,455
67-0054	6-15-67	Mercedes-Benz	300 SEb Sedan, 300 SEL Sedan, 300 SE Cpe./Conv.	NR	Possible breather line freezing. If this condition should occur, the throttle in the air intake housing will freeze and the accelerator pedal will not return to idle position. (Modify crankcase ventilation system to prevent this occurrence.)	9	253
67-0077	9-18-67	Mercedes-Benz	Type 600	1964 thru 1967	Possible malfunction of the steering gear under extreme power assist conditions which could result in a loss of steering control. (Replace steering gear with design containing a modified hydraulic piston.)	18	197
Nissan Motor Corporation, in U.S.A.							
67-0011	1-30-67	Datsun	L520 Pickup Truck	NR	Possibility that a rubber bushing may slip above the steering column jacket, causing the steering system to bind. (Insert a special rubber spacer which prevents any upward movement of the subject bushing.)	11	1,525

LISTING OF SAFETY DEFECTS—RECALL CAMPAIGNS

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Porsche of America Corporation							
67–0006	1–19–67	Porsche	Type 911	1966 & 1967	Possibility that cracks may develop in the heat exchanger at the point where the exhaust manifolds are welded to the horizontal exhaust pipes. These cracks may result in the introduction of varying amounts of exhaust gases into the passenger compartment when the heater is in operation. (Inspect and replace heat exchangers as required.)	16	2,226
Renault, Inc.							
66–0001	9–15–66	Renault-8	Gordini–R. 1134	NR	Possibility that the front brake hose end fittings may become loose and cause leakage of brake fluid. If such leakage occurs and if enough brake fluid should be lost, the brakes would not function. (Replace front brake hoses and seals.)	9	125
67–0020	2–23–67	Renault	10 (R. 1190)	NR	Possible incorrect brackets which hold the steering mechanism. A bracket which is not the correct part may stress the steering mechanism tab attached to it, eventually creating a strain which could lead to the rupture of the tab and loss of steering. (Inspect and install correct brackets as required.)	14	1,498
Rolls-Royce, Inc.							
66–0005A	10–13–66	Rolls-Royce	Silver Shadow Bentley "T"	NR	Possible cracking in the aluminum casings of the two accumulator valves which govern the hydraulic pressure in the suspension height control and braking systems. Should such a crack develop, it may cause a gradual loss of braking power. (Replace with improved steel casing.)	4	80 4
66–0005B	10–13–66	Rolls-Royce	Silver Shadow Bentley "T"	NR	Possibility that the accumulator valve hoses may develop minor leakage which reduces the level of the hydraulic fluid in the brake and suspension systems. (Replace with new hoses which have improved sealing properties.)	4	80 4

LISTING OF SAFETY DEFECTS—RECALL CAMPAIGNS

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Rolls-Royce, Inc.—*Continued*				
66-0035A	12-28-66	Rolls-Royce	Silver Shadow Bentley "T"	NR	Possibility of the accelerator pedal shaft rubbing the floor board, which could cause an accelerator sticking condition. (Install different type lever and clamping arrangement which will rectify this condition.)	4	133 5
66-0035B	12-28-66	Rolls-Royce	Silver Shadow Bentley "T"	NR	Possible looseness of brake caliper securing setscrews. If one of these is loose, there is a possibility of a wheel locking on normal braking, with consequent directional instability. (Check tightness of the subject setscrews.)	4	133 5
67-0038	3-30-67	Rolls-Royce	Silver Shadow Bentley "T"	NR	Possible failure of the rear axle pinion bearing may occur because of failure to perform an internal drilling within the axle casing to supply lubricant to the bearing. (Inspect and replace axle as necessary.)	2	42
67-0042	4-18-67	Rolls-Royce	Silver Shadow Bentley "T"	NR	Possibility that bearing pins used in the front suspension were incorrectly heated before forging, in such a way as to seriously affect the structure of the metal in the pins and to make them subject to failure under certain conditions. If one of these pins should break while the car is underway, steering control could be dangerously affected. (Replace the subject pins.)	2	299
67-0106	11-1-67	Rolls-Royce	Silver Shadow Bentley "T"	NR	Possibility that the pins used in the brake linkage system were improperly manufactured and installed. This could allow the pins to work free, causing disconnection of the brake linkage. Such a disconnection would result in total foot brake failure. (Inspect and install retaining clips as required.)	7	650
			Saab U.S.A., Inc.				
67-0128	12-18-67	Saab	95, 96 & MC	1965, 1966 & 1967	Possible for corrosion to form on the brake lines running beneath the front floor mats as a result of moisture from snow and mud on the feet of occupants. If this	5	17,000

LISTING OF SAFETY DEFECTS—RECALL CAMPAIGNS

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Saab U.S.A., Inc.—*Continued*							
					condition goes unattended, it is possible for a brake line to fail, causing the loss of part of the brake system. The Dual-Diagonal Brake System will prevent the complete loss of braking power. (Inspect and replace the brake lines as required.)		
Simca-Rootes Division (Chrysler Motors Corporation)							
67–0078	9–13–67	Sunbeam	Arrow	1967	Possibility that under certain operating conditions, the front suspension brake reaction rod mounting bracket may develop cracks at the attaching point. These cracks could in time cause a separation of the bracket from the siderail which could result in a loss of vehicle control during severe braking application. (Reweld the subject brackets.)	8	957
Toyota Motor Sales, U.S.A., Inc.							
67–0059	6–12–67	Toyota	Corona Sedan	1966 & 1967	Possibility that the fuel protector installed underside the floor beneath the assistant driver's seat might not provide the fuel and brake tubes with the proper protection against flying pebbles, debris, or deicing chemicals used on roads. This might cause scar damage or rusting to the fuel or brake tubes. (Replace protector, inspect and replace tubes as required.)	5	12,500
Volkswagen of America, Inc.							
66–0006	10–6–66	Volkswagen	Type 1 Vehicles (Sedans, convertibles and Karmann-Ghia)	1967	Possibility that vehicles may be equipped with a stop plate with insufficient overlap between the cast-on stops of the clutch-brake pedals and the floor-mounted stop	10	64,596

LISTING OF SAFETY DEFECTS—RECALL CAMPAIGNS

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Volkswagen of America, Inc.—*Continued*				
					plate. This may allow the brake pedal to move to an inconvenient position which, while allowing actuation, may cause a delay in brake application. (Replace the subject stop plates.)		
66–0036	12–23–66	Volkswagen	Karmann Ghia Convertible and Coupe	1966 & 1967	Possibility that the rubber grommet protecting the starter cable at the point where it passes through the panel separating the engine compartment from the storage area beneath the rear seat may be dislodged. This may allow the insulation on the starter cable to chafe through, resulting in a short circuit. (Reroute the battery-starter cable through a new type rubber cushion.)	10	20,394
67–0015	2–3–67	Volkswagen	Karmann Ghia and Four Seater Convertibles	NR	Possibility that vehicles were transported in such a way that the rear brake lines may have become damaged. Damage to brake lines can cause brake fluid to leak out which would eventually result in a loss of brakes. (Inspect and replace lines as necessary.)	7	14
67–0081	9–20–67	Volkswagen	Type 2 (Buses)	1968	Possibility that the Allenhead bolts on the rear axle universal joints were not properly torqued and were occasionally installed without spring washer. This can lead to the loosening and possible loss of bolts. (Install spring washer and retorque bolts as required.)	8	1,051
67–0082	9–18–67	Volkswagen	Type 1 (Sedans) Including convertibles and Karmann-Ghias.	1968	Possibility that the harness running between the carburetor and the fan housing is not properly affixed by the sheet metal clamp to the fan housing. In this case, it is possible that the wiring is hanging down. In resting on the accelerator cable, the insulation of the harness and wires can be chafed through and lead to a short circuit. (Inspect, install clamp, and replace wiring as required.)	5	14,022
67–0099	10–17–67	Volkswagen	Type 1–Sedans (Type 11, 14, and 15)	1968	Possibility that the rubber seal between ventilation tube and gas tank is not properly seated. As a result, gasoline fumes may enter the vehicle interior. (Inspect and reseat rubber seal as required.)	10	18,042

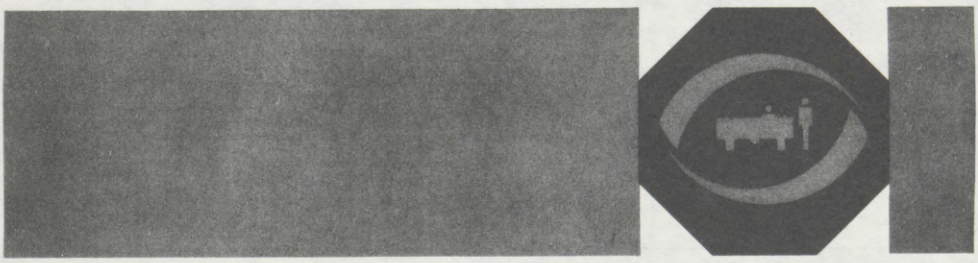
LISTING OF SAFETY DEFECTS—RECALL CAMPAIGNS

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Volkswagen of America, Inc.—*Continued*				
67-0100	10-17-67	Volkswagen	Type 1-Sedans Including Convertibles and Karmann Ghias.	1968	Possible cracks in the gasoline tank breather tube, especially where the tube is bent. As a result, gasoline fumes may enter the vehicle interior. (Inspect, check, and replace breather tube as required.)	7	24,438
67-0107	11-7-67	Volkswagen	Type 2-Station Wagons and Trucks	1968	Possibility that driver compartment door locks could break at the pawl for the rotary latch. If this occurs, the driver or passenger door in the driver compartment is no longer properly locked. (Inspect and replace door locks as required.)	9	1,764
67-0109	11-14-67	Volkswagen	Type 3-Squareback and Fastback Sedans.	1968	Possibility that the anti-corrosion material applied to the brake discs to protect them during ocean transport was not mixed to specifications and did not wear off as quickly as intended. With this material on the disc, braking action may be affected. (Inspect, test, and remove the subject coating as required.)	3	4,388
67-0125	12-15-67	Volkswagen	Type 1-Sedans equipped with Automatic Stickshift.	1968	(Same as 67-0081 above.)	7	4,368
67-0129	12-20-67	Volkswagen	Type 1-Sedans Equipped with Automatic Stickshift.	NR	Possibility that the gearshift lever stop plate was not correctly positioned. If this plate is not installed properly, the reverse gear locking device becomes ineffective. Due to this, an inadvertent shift into reverse is possible. (Reposition and adjust the gearshift lever stop plate as required.)	5	5,143

Motor Vehicle Safety Defect Recall Campaigns

From January 1, 1968
to December 31, 1968

Reported to:
THE NATIONAL HIGHWAY SAFETY BUREAU
by DOMESTIC AND FOREIGN
VEHICLE MANUFACTURERS



U.S. DEPARTMENT OF TRANSPORTATION • Federal Highway Administration • National Highway Safety Bureau

CONTENTS

ORDERING DATA

Detailed reports of the defect campaigns listed in this publication are compiled into one publication which is available from the Clearinghouse for Federal Scientific and Technical Information (CFSTI), Springfield, Virginia 22151. Order by publication number PB 179904 and cite the title as "Motor Vehicle Safety Defect Recall Campaign, Detailed Reports".

CFSTI sells publications in two forms—*fullsize* paperback copies at $3.00 each and *miniature* size copies in 4x6'' microfiche form at $.65 each.

Additional copies of this list of defect recall campaigns are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

INTRODUCTION

Section 113 of the National Traffic and Motor Vehicle Safety Act of 1966 requires that:

> "Every manufacturer of motor vehicles shall furnish notification of any defect in any motor vehicle or motor vehicle equipment produced by such manufacturer which he determines, in good faith, relates to motor vehicle safety, to the purchaser (where known to the manufacturer) of such motor vehicle or motor vehicle equipment, within a reasonable time after such manufacturer has discovered such defect."

The required notification is to be by certified mail to the first purchaser and by certified mail or more expeditious means to the dealer or dealers of the manufacturers.

The manufacturer is further required to furnish the Secretary of Transportation a true or representative copy of all notices, bulletins, and other communications to dealers or purchasers regarding defects in motor vehicle or motor vehicle equipment.

The National Highway Safety Bureau has received numerous requests for information on defects in motor vehicles. In answer to these requests the Bureau publishes quarterly summary reports on defect campaigns conducted by domestic and foreign manufacturers. These summary reports are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, at a price established by the Superintendent of Documents. Annual cumulative editions of the reports will be published at the beginning of each calendar year.

Individual reports of specific recall campaigns listed in the summary reports are available from the Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia. (For details on ordering from the Clearinghouse see page iv.)

Since manufacturers are not required to report to the Bureau specific serial numbers of vehicles involved in recall campaigns, any information concerning defects on specific serial-numbered vehicles must be obtained from the dealer or manufacturer.

SUMMARY TABULATIONS

MOTOR VEHICLE SAFETY DEFECT RECALL CAMPAIGNS
(JANUARY 1, 1968—DECEMBER 31, 1968)

Manufacturers Reporting	*Number of Recall Campaigns*	*Number of Vehicles*
I. DOMESTIC		
American Motors Corp.	4	30,276
Blue Bird Body Co.	1	176
Chrysler Motors Corp.	23	145,331
Clark Equipment Co.	4	191
Flxible Co.	1	127
Ford Motor Co.	10	268,038
Freightliner Corp.	3	150
Fruehauf Corp.	1	350
Gar Wood Industries, Inc.	1	49
General Motors Corp.	18	453,129
Harley-Davidson Motor Co.	5	12,051
International Harvester Co.	8	4,582
Kaiser Jeep Corp.	6	23,486
Mack Trucks, Inc.	9	6,454
Motor Coach Industries, Inc.	1	1,725
Pacific Car and Foundry Co.	4	499
Superior Coach Corp.	1	96
Travco Corp.	1	23
Ultra, Inc.	1	58
White Motor Corp.	7	8,693
Domestic Totals	109	955,484
II. FOREIGN		
Alfa-Romeo, Inc.	2	4,895
American Honda Motor Co., Inc.	3	8,196
Bayerische Motoren Werke (BMW)	2	3,965
British Leyland Motors, Inc.	4	9,114
Fiat Motor Co., Inc.	1	5,378
Mercedes-Benz of North America, Inc.	2	6,699
Nissan Motor Corp., in U.S.A.	3	7,613
Saab U.S.A., Inc.	1	1,350
Simca-Rootes Division of Chrysler Motors	1	685
Toyota Motor Sales, U.S.A., Inc.	1	39,014
Volkswagen of America, Inc.	6	464,942
Volvo, Inc.	2	546
Foreign Totals	28	552,397
GRAND TOTAL	137	1,507,881

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
American Motors Corporation							
68-0022	3-7-68	American Motors	American Rebel Ambassador Sedan & Station Wagons	1968	Possibility seat back latches on front reclining seats of sedans and station wagons and the rear seat back latches of station wagons may not comply fully with the Federal Motor Vehicle Safety Standard for seats. (Correct by replacing with new improved latch assemblies.)	10	5,259
68-0091	9-16-68	American Motors	Ambassador Rebel	1968	Possibility rear seat belt inboard retainer bolts may fail under test of 9,000 lbs. minimum requirements. (Correct by replacing bolts on each side of driveline tunnel.)	8	1,048
68-0092	9-26-68	American Motors	Rebel	1968	Possibility light leakage may enter center area of tail light, which is the back up section of the light. Could give false impression that backup light is lit. (Correct by sealing out leakage.)	1	7,000
69-0125	11-22-68	American Motors	Ambassador	1969	Possibility pitman or idler arm studs may break under certain stress conditions. This stress can be expected principally while car is being parked or is moving slowly, particularly when pressure is being applied to ball stud by movement of a wheel or steering gear. (Correct by inspecting and replacing pitman and idler arms with "CAP" trademark.)	12	16,969
Blue Bird Body Company							
68-0066	6-14-68	Blue Bird	All American Buses	1963 thru 1968	Possibility Air-O-Matic valve on air power steering could fail, causing loss of power steering. Loss of air, could also cause brake failure. (Correct by installing safety kit.)	7	176
Chrysler Motors Corporation							
68-0013	2-15-68	Dodge	Truck LCF (C7 & up) and L	1968	Possibility power steering gear assemblies have lever shafts that do not meet specifications. Failure of lever shaft would result in com-	5	91

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LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Chrysler Motors Corporation—*Continued*				
					plete loss of steering. (Correct by replacing steering gear lever shaft.)		
68–0024	3–14–68	Dodge	A–100, D–100 Trucks	1968	Possibility incorrect load and inflation pressure markings on tires. Tires could fail under some circumstances if operated at incorrect rating. (Correct by replacing with properly marked tires.)	4	140
68–0025	3–20–68	Dodge Plymouth	Dart, Valiant Barracuda	1968	Possibility front suspension upper ball joints may not meet specifications. Severe impact on suspension system could cause upper ball joint to fail and cause erratic steering control. (Correct by replacement when necessary).	10	1,245
68–0026	3–21–68	Dodge	P–200	1967 & 1968	Possibility that line running from junction block on left frame rail, under transmission pan, to right front flexible brake hose may be routed so that it does not clear left side of transmission oil pan. Operation under this condition may result in tube failure. (Correct by rerouting or replacing.)	4	28
68–0035	4–4–68	Dodge	D–300 thru D–800 W–300 & W–500	1968	Possibility that during assembly brake master cylinder reservoir may have been filled with contaminated brake fluid which could cause softening, swelling, and general deterioration of rubber parts in brake fluid system, possibly resulting in premature failure of braking system. (Correct by replacing proper fluid and any parts necessary.)	5	240
68–0037	4–8–68	Dodge	Dart	1968	Possibility vehicles assembled with incorrect left side engine exhaust manifold which may not provide sufficient clearance for steering column shaft coupling. Condition may cause steering shaft coupling to catch on manifold and result in steering interference. (Correct by replacing when necessary.)	4	27
68–0040	4–10–68	Dodge	Equipped w/340-383 and 440 cu. inch engine 4 BBL Carburetor.	1968	Possibility engines with Carter 4-Barrel Carburetors contain inadequate carburetor fast idle cams. Prolonged usage, aggravated by engine backfiring, may result in failure of secondary lockout finger.	17	100,080
		Chrysler Plymouth	(Same as above)	1968	This would reduce engine performance by keeping secondary		

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
					Chrysler Motors Corporation—*Continued*		
					throttle shut and could result in an open throttle condition wherein engine would not return to idle. (Correct by installing new designed fast idle cam.)		
68–0052	5–15–68	Dodge	Coronet, Polara, Monaco	1968	Possibility that steering shaft lower bearing on standard steering can eventually fail when operated	20	13,963
		Plymouth	Belvedere Satellite, Fury	1968	under extreme conditions. Failure of lower bearing by itself does not relate to motor vehicle safety.		
		Chrylser	Chrysler	1968	However, in taxicab—police service, which involves both high mileage and unusually high number of turns per mile, continued vehicle operation could result in scoring or grooving of steering shaft with eventual shaft breakage and loss of steering control. (Correct by inspecting bearing and shaft and replacing bearing if necessary.)		
68–0057	5–22–68	Dodge	Truck—M–300, M–375	1968	Possibility steering column coupling joint clamp bolt was over-tightened and stripped during assembly which may have deformed clamp. Extended operation of vehicle with a stripped bolt could result in loss of steering control. (Correct by replacing clamp assembly with improved type.)	7	814
68–0071	7–16–68	Dodge	Tractor L–700	1968	Possibility toggle-type tractor protection control valve may have been substituted for required push-pull type valve. This substitution would eliminate automatic protection of tractor service brake air supply in event of loss of trailer air. This loss, however, will not impair effectiveness of tractor trailer emergency brake system. (Inspect and replace with correct valve where necessary.)	4	12
68–0074	8–1–68	Dodge	Truck C500, C600, C700, C800, C1000, CT700, CT800 CT900	1968	Possibility that seat belt anchor bolts may not meet Federal Motor Vehicle Safety Standards. (To insure proper protection to belted occupants during collision seat belts and seat belt anchor bolts will be replaced where necessary.)	7	732

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Chrysler Motors Corporation—*Continued*				
68–0079	8–7–68	Dodge	M–375	1968	Possibility that rear brake cylinder cross-over tubes may have been deformed during assembly. This could cause brake drum oil slinger to rub tube and cause leak resulting in loss of brakes. (Inspect and correct where necessary.)	6	428
68–0080	8–7–68	Dodge	CT–700, CT–800 CT–900, CTN–900 LNT–1000 LVT–1000	1966 1967 1968	Possibility that tandem axle torque rod nuts may loosen, causing disengagement of rod from axle crossmember. Could result in loss of vehicle control. (Correct by replacing torque rod nut with self-locking nut.)	5	918
68–0084	8–30–68	Dodge	6P200 Parcel Delivery Post Office Department trucks	1967	Possibility of improperly machined steering gear worm shaft. If condition exists, may result in steering shaft failure and loss of steering control. (Correct by installing properly machined steering shaft and worm gear.)	9	2,561
68–0087	9–16–68	Dodge	D500, 600, 700, 800, S500, 550, 600, L600, 700, C500, 600, 700, 800, CT700 Equipped with 7,000 lb. front axle and power steering.	1966 1967 1968	Possibility that original power steering cylinder tie rod clamp may not provide sufficient clamping force to prevent movement on rod under some conditions. Movement could result in partial loss of steering control. (Correct by replacing clamp assembly when necessary.)	6	3,010
68–0088	9–16–68	Plymouth Dodge Chrysler	Equipped with 383 and 440 cubic inch engine and automatic transmission	1969	Possibility that transmission oil cooler outlet tube damaged in assembly. Leaks may occur at kink in "U" shaped bend at radiator end of tube. If leak occurs, fluid loss would render transmission inoperative. (Correct by replacing oil cooler outlet tube.) All vehicles will be corrected before delivery to customers.	5	10,552
68–0089	9–16–68	Dodge Plymouth Chrysler	Equipped with Sales Code W–23 Road Wheels	1969	Possibility that lug nuts may work loose during operation on vehicles equipped with Sales Code W–23 cast center road wheels. (Correct by replacing 15" wheels with 14" chrome wheels.) All wheels to be changed before delivery to customers.	5	595
68–0099	10–14–68	Dodge	D–200 through D–800 C–500, C–600,	1969	Possibility rear spring clip (U-Bolt) nuts on S–200, D–300; W–200 and W–300 models, and front clip on	5	548

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Chrysler Motors Corporation—*Continued*							
			W–200, W–300; S–500 and S–600		all others listed were improperly heat treated. Could cause eventual breakage of nuts. If multiple fractures occur, possible loss of steering control could result. (Correct by replacing spring clip nuts.)		
68–0106	10–28–68	Dodge	D–200	1969	Possibility one or more wheels have bolt holes with chamfers that do not match chamfers on wheel nuts. Extended operation in this condition could cause wheel nuts to work loose and result in an unsafe vehicle. (Correct by inspecting and replacing wheels where necessary.)	6	19
68–0109	9–18–68	Dodge	M–300 and M–375	1968	Possibility front and rear spring clip (U-Bolt) nuts may not have been tightened to specified torque. Could cause axles to shift and result in loss of vehicle control. (Correct by inspecting and properly torquing spring clip nuts where necessary.) Possibility left front brake hose may be routed so as to cause hose to chafe on tire, wheel or underbody. (Correct by inspecting and rerouting where necessary.)	6	4,200
68–0123	11–15–68	Chrysler	Chrysler	1968	Possibility that tire size 8.85 x 15 (8-ply rated), white sidewall, may develop tread separation during sustained high speed operation with maximum vehicle loading. If separation occurs, an acute vibration or thumping will alert vehicle operator long before loss of tire pressure is experienced. (Correct by inspecting and replacing tires where necessary.)	3	1,170
68–0127	11–21–68	Dodge	Post Office trucks, right hand drive	1967	Possibility steering gear mounting bolts inadequately tightened. Could result in loss of steering control. (Correct by inspecting and tightening bolts where necessary.)	6	3,600
68–0128	11–26–68	Dodge Plymouth	Coronet Belvedere	1969 1969	Possibility vehicles built with new 8¼" rear axle may have insufficient brake flange support welds. Failure of weld could result in loss of rear brakes. (Correct by replacing axle where necessary.)	2	358

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Clark Equipment Company							
68–0017	2–20–68	Clark Equipment Co.	Cortez Trailer Hitch	NR	Possibility Cortez Trailer Hitch, which was sold as a loose accessory item, may not hold up upon severe impact. (Correct by installing new hitch.)	4	32
68–0058	5–20–68	Clark Cortez	Motor Home	NR	Possibility rear brake tube anchor brackets are misaligned to allow tube to come in contact with tire. Tube contact with tire could damage tube and cause loss of brakes. (Correct by inspection and proper alignment when necessary.)	6	41
68–0114	10–28–68	Clark Equipment Co.	Brown Trailer	1968	Possibility brake chamber mounting bracket may crack from fatigue. If condition continues without proper reinforcement of bracket it may lead to partial loss of trailer brakes. (Correct by reinforcing mounting brackets.)	2	100
68–0131	12–4–68	Clark Equipment Co.	Brown Semi-Trailer	NR	Possibility pintle hook assembly improperly heat treated at time of manufacture. Could lead to fracture of hook horn when trailer is used as lead unit in train operation. Such fracture could result in follow trailer separating from lead trailer and losing control. (Correct by replacing pintle hook assembly.)	2	18
Flxible Company							
68–0072	4–12–68	Flxible	Coach	1961 thru 1968	Possibility that steering idler bracket to power steering may fail at junction of bearing shaft and flange. This can occur during periods of low speed high stress when pulling away from curbs and making sharp angle turns with resultant loss of steering control. (Correct by inspection and installation of improved brackets.)	4	127
Ford Motor Company							
68–0018	3–4–68	Ford Mercury	Falcon Fairlane Rancheros	1968	Possibility that improper heat-treated centerlink pin to steering idler arm	13	39,000

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Ford Motor Company—*Continued*				
			Montegos		may fail due to tension stress after tightening the retaining nut. Failure of this pin could cause loss of steering control. (Correct by replacing with proper heat-treated pin.)		
68–0028	3–28–68	Ford	F & B 500, 600, 700, 750 Series Trucks & Buses	1967 & 1968	Possibility failure of rivets used for attaching the front spring rear hanger bracket to the frame. Rivet failure would allow the bracket to separate from the frame imposing severe loads at the front bracket. Should the spring disengage from the front bracket the axle will shift and loss of steering control could result. Also, there is a possibility of misassembly or misalignment of certain components in the power steering system. Failure to correct this condition, if present, also could result in loss of steering control. (Correct by installing new rivets and power steering components if necessary.)	48	82,000
68–0029	3–28–68	Ford	Econoline E–300	1968	Possible failure of welds used for attaching front of rear spring to underside of body. Failure of these welds could cause loss of steering control. Also possibility of excessive play developing in steering system idler arm support bracket. (Correct by checking welds and installing new hardware for idler arm.)	13	366
68–0053	5–16–68	Ford	Trucks F–350, F–500, F–600	1968	Possibility that required clearance lights, specifically, cluster of three red lights under the bed at the center rear, were omitted in assembly. (Correct by installing cluster of lights.)	14	160
68–0054	5–17–68	Ford	LTD XL Country Squire	1968	Possibility that two springs in vacuum operated headlamp cover systems omitted in production. These springs hold headlamp covers open in event of a major loss of vacuum, which could possibly allow covers to close while car is in motion. (Correct by installing springs where necessary.)	11	3,400
68–0062	6–7–68	Ford	Series B–500, 600, 700 and	1968	Possibility frame mounted power brake booster may have been	6	3,900

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Ford Motor Company—*Continued*							
			750 Bus Chassis		manufactured improperly or damaged in transit or assembly. Any of these conditions could result in failure to release brakes promptly which will reduce braking ability or loss of power assist. (Correct by inspection and replace if necessary.)		
68–0075	8–9–68	Ford	F–350, F–250	1968	Possibility that incorrect nuts used in attaching pickup box to frame. These nuts may loosen and cause box to separate from frame. (Replace with correct type of nuts.)	12	13,490
68–0090	9–25–68	Ford	Econoline	1969	Possibility that front brake hoses installed improperly, allowing hose to contact front spring. If hose contacts spring, could possibly chafe and cause brake failure. (Correct by inspection of hose installation and replace where necessary.)	8	37,750
68–0095	10–8–68	Ford Mercury	Mustang Cougar	1969	Possibility heater inlet hose misrouted so that hose is wedged between carburetor fast idle lever and intake manifold. If condition exists vehicle could become difficult to control. (Correct by routing heater hose properly.)	4	12,972
68–0126	11–28–68	Ford Mercury	All models with drum brakes	1969	Possibility front brake hoses incorrectly routed on vehicles equipped with drum-type brakes. Improperly positioned hoses may be damaged through contact with brake drums, causing front brakes to become inoperative. However, rear brakes would not be affected due to dual brake system. (Correct by inspecting and properly routing hoses where necessary.)	16	75,000
Freightliner Corporation							
68–0081	8–21–68	Freightliner	Freightliner	NR	Possible misalignment of fixed arm welded to axle assembly causing axle to be located other than at center of vehicle. Could cause chafing of inner dual tire, causing premature wear or tire failure. (Correct by inspection and proper alignment where necessary.)	2	20

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Freightliner Corporation—*Continued*							
68–0086	9–10–68	Freightliner	Freightliner	1968	Possibility that special Pitman arm with slightly larger serrated hole than standard Pitman arm was inadvertently installed on subject vehicles. In case of an over-toleranced hole combined with an under-toleranced steering sector shaft, arm would not be tightened onto taper before nut bottomed out, thus leaving arm loose on serrations. Before failure occurs, extreme looseness in steering will be observed by driver. (Correct by inspection and installation of correct arm.)	3	61
68–0093	9–27–68	Freightliner	Freightliner	1968	Possibility plumbing was incorrectly installed to hand value control line on supplementary braking system connected to rear axle brakes. Could cause limited directional stability on slippery roads. (Correct by properly changing plumbing where necessary.)	5	69
Fruehauf Corporation							
68–0042	4–15–68	Fruehauf	NR	NR	Possibility air hose connections are improperly installed. Air hose connections should point down. Until change in direction of the air hose connection is made, it is possible, under a combination of circumstances for the hoses to kink, and block the air pressure which actuates the trailer brakes. (Correct by proper directing connections.)	4	350
Gar Wood Industries, Incorporated							
68–0073	7–17–68	Gar Wood Trailers	EFG–2S	NR	Possibility that drawbar may break on trailer. If this occurs, control of trailer is lost. (Correct by installation of Field Revision Kit.)	6	49

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			General Motors Corporation				
68-0003	1-11-68	Chevrolet	Chevelle	1968	Vehicles equipped with power disc brake option, may have been assembled with the brake push rod to clevis jam locknut missing. This could cause thread wear between the clevis and the push rod and in extreme case could allow the brake pedal to bottom on the floor pan before brakes are fully applied. (Correct by installing a jam locknut.)	2	382
68-0004	1-11-68	Chevrolet	Chevelle	1968	Possible insufficient clearance between the brake pipe and the engine oil pan and/or transmission oil cooler lines. Interference could cause brake line chafing and wear through lines. This would result in loss of front wheel braking action. (Correct by reforming brake pipe for adequate clearance.)	2	64,913
68-0009	2-9-68	Pontiac	Tempest LeMans GTO	1968	Possibility reinforced brake pedal support bracket which also assists in supporting the power brake unit on these vehicles was not included in a dealer's parts kit for converting manual disc brakes to power disc brakes. The brackets used with manual disc brakes could crack or break if a power assist unit is attached in the field. A broken or cracked bracket could cause leaks in hydraulic brake attaching lines and possibly result in a loss of braking action. (Correct by installing new reinforcement brake support brackets.)	5	50
68-0014	2-22-68	GMC Chevrolet	HJ-5500-7500 HM &HG 70000	1966 & 1967	Possibility the flexible coupling upper flange-to-steering shaft clamp bolt may not have been properly tightened during assembly. If this bolt loosens, the mating splines of the flexible coupling flange and lower steering shaft could wear and the bolt eventually fall out, with a resultant loss of steering control. (Correct by properly torquing bolt.)	12	2,910
68-0015	2-22-68	GMC	M or C 9500	1966 1967 1968	Possibility the bolt which clamps the upper universal joint yoke to the lower steering shaft may not have been properly tightened and may	7	331

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
					General Motors Corporation—*Continued*		
					have been the wrong type and could loosen. A loose clamp bolt could fall out and allow the upper universal joint and lower steering shaft to become disconnected, resulting in loss of steering control. (Correct by replacing the upper universal joint yoke clamp bolt.)		
68–0019	3–11–68	GMC	S–5500 & 6000 Trucks	1967 & 1968	Possibility air brake hoses which extend from the front wheel brake chambers to the frame rail could be improperly routed or of incorrect length. In either situation, the brake hose may contact the front tire or sheet metal on a right-or left-hand turn. The brake hose, if contacted repeatedly, will chafe at the contact point resulting in an air leak. This condition could eventually cause a rupture of the brake hose resulting in a loss of braking action. (Correct by re-routing hoses or replace if incorrect length.)	8	629
68–0020	3–11–68	GMC	PD–4107 Coach	1966 & 1967	Possibility that the power steering booster ball stud housing could be undersized. An undersized housing would have reduced strength which could result in a fatigue crack in the area of the ball stud which will reflect in "free play" of the steering wheel. If a crack in the housing is allowed to progress far enough the ball stud could work loose from the housing and result in a loss of steering control. (Correct by replacing undersized housing.)	7	732
68–0021	3–11–68	Chevrolet	Regular standard steering Taxi & Police	1967	Possibility that the steering shaft lower bearing on regular size Chevrolet equipped with standard steering can eventually fail when operated under extreme conditions. A failure of the lower bearing by itself does not relate to motor vehicle safety. However in taxicab or police service which involves both high mileage and an unusually high number of turns per mile continued vehicle operation could result in scoring or grooving	26	5,000

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
					General Motors Corporation—*Continued*		
					of the steering shaft with eventual shaft breakage and loss of steering control. (Correct by inspection of bearing and shaft. Replace bearing if found necessary.)		
68–0031	4–4–68	Oldsmobile	88 & 98 Series	1968	Possibility of misaligned transmission downshift switch actuating rod could cause the throttle to be held in a partially open position should the accelerator pedal be snapped to the floor abnormally hard to make a downshift. If the throttle is held partially open by this rod the vehicle may be difficult to control. (Correct by inspection and re-align rod if necessary.)	15	28,639
68–0038	4–18–68	Chevrolet	327 or 396 cu. in. engine 4-Barrel carburetor	1968	Possibility that the Cruise Master accelerator chain, which controls the carburetor throttle opening, could catch on the secondary throttle shaft. If this occurs, the throttle will not return the engine to low speed operation and the vehicle may be difficult to control. (Correct by inspection and making necessary correction to accelerator chain.)	8	355
68–0039	4–18–68	Chevrolet	Truck– 40, 50, 60 Series	1968	Possibility front brake hoses may be improperly assembled to the front wheel brake cylinders If hoses were assembled with improper connectors, brake line routing could cause front brake hose chafing. If assembled without connectors, hoses will pull loose from cylinders in a full right or left turn. Either condition could result in loss of braking action. (Correct by inspection and properly connect hoses where required.)	8	307
68–0050	5–16–68	Oldsmobile	88 and 98 Series	1968	Possibility that the Cruise Control adjusting stud nut at the bell crank end of the Cruise Control cable was improperly torqued. Low torque could cause nut to work off. If this happens, the adjusting stud could come out of its slot and hold the throttle partially open, making the vehicle difficult to control. (Correct by installing special torqued nut and adjusting linkage as necessary.)	8	11,461

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			General Motors Corporation—*Continued*				
68–0064	6–17–68	GMC	H & J 5000–9500	1966 1967 1968	Possibility the Midland-Ross air brake application valve assembly internal valve cage may deteriorate and crack and eventually fail. If a failure occurs, the valve piston could be pushed out of the valve body, resulting in a rapid loss of air at the application valve causing a loss of brake action. (Correct by replacing internal valve cage with one of improved construction and material.)	16	22,683
		Chevrolet	H & J 70 and 80 Truck with air brake	1966 1967 1968			
68–0069	7–3–68	Cadillac	Eldorado	1968	Possibility that incorrect cruise control throttle cable was installed. Excessive thickness in flat end of cable could cause throttle to be held partially open, and could result in speed control difficulty. (Correct by inspection and replace cable when necessary.)	1	71
68–0085	9–9–68	Chevrolet	Chevrolet Camaro Chevy II El Camino	1968	Possibility that carburetor throttle lever may interfere with throttle retaining clip. If this occurs, can cause throttle lever to be held in partially open position preventing its return to idle position, making vehicle difficult to stop. (Correct where necessary with improved type throttle rod clip.)	20	310,290
		Buick	Special Skylark				
		Pontiac	Tempest Firebird				
		Oldsmobile	F–85 Equipped with L–4 or L–6 in-line engine and Monojet carburetor.				
68–0122	11–15–68	Chevrolet Oldsmobile	Station wagon 98 Series 88 Series	1968 1968	Possibility that tire sizes 8.45 x 15 and 8.85 x 15 (8-ply rated), white sidewall, may develop tread separation during sustained high speed operation with maximum vehicle loading. If separation occurs, acute vibration or thumping will alert vehicle operator long before loss of tire pressure is experienced. (Correct by inspecting and replacing tires where necessary.)	8	1,345
68–0124	11–21–68	Chevrolet	Regular size	1969	Possibility left rear door lock was installed with bent lock lever. Could hold door in closed position, although door could be opened from outside and inside with remote control lock "knob" depressed. (Correct by replacing lock where necessary.)	1	176

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
General Motors Corporation—*Continued*							
68–0137	12–18–68	GMC	TDH, TDH/TDM T6H, SDH/SDM S6M, S8M PD4106, PD4107 equipped with power steering	1963 thru 1967	Possibility that power steering booster ball stud housing is undersized. This will reduce strength of housing, result in fatigue crack in area of ball stud and affect "free play" of steering wheel. If crack in housing is allowed to progress far enough ball stud could work loose from housing and result in loss of steering control. (Correct by replacing undersized housing with improved proper size.)	8	2,855
Harley-Davidson Motor Company							
68–0010	1–25–68	Harley-Davidson	M–125 Rapido	1968	Possibility the spring-loaded throttle grip retaining screw could loosen and allow the handlebar grip to come off, possibly resulting in loss of rider control over the vehicle. (Correct by installing new parts.)	8	4,100
68–0011	1–25–68	Harley-Davidson	M–125 Rapido	1968	Possibility of moisture and dirt entering stop light switch causing switch to fail. (Correct by installing rubber boot over switch.)	7	2,664
68–0068	7–21–67	Harley-Davidson	Electra	1967	Possibility that rear wheel brake hose, if not properly positioned, could rub on rear wheel siren rotor or find its way between rear safety guard and wheel fork and be severed causing sudden rear brake failure. (Correct by installing guide clip to hold hose in correct position.)	5	3,972
68–0111	9–3–68	Harley-Davidson	Sprint	1969	Possibility tail lamp wires incorrectly assembled to connector. Could cause bright filament (stop lamp) to operate as tail lamp. (Correct by properly assembling where necessary.)	6	1,004
68–0112	10–3–68	Harley-Davidson	Rapido	1969	Possibility tail lamp wires incorrectly assembled to corrector. May cause low candle power filament to burn out when rear brake is applied, causing ignition failure. (Correct by properly assembling where necessary.)	6	311

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
International Harvester Company							
68–0008	2–12–68	International Harvester	1000C	NR	Possible omission of fluid passage hole in the power steering gear housing. There are other fluid passages in steering gear to supplement the one omitted and no difference in steering performance will be noticed. There is slight risk to traffic safety. (Correct by replacing the power steering gear.)	4	455
68–0046	5–1–68	International Harvester	Fleetstar A	Delv'd 1968	Possibility air brake line from air reservoir to the foot application valve could separate at the connection between flexible line and solid pipe. Should the line separate, it would result in loss of air pressure. (Correct by inspection and replace fittings when necessary.)	5	639
68–0051	5–17–68	International Harvester	Loadstar	Delv'd 1968	Possibility hydraulic brake line between power brake unit and flexible hose may contact clutch bracket. (Correct by relocating brake line.)	6	2,271
68–0061	5–19–68	International Harvester	M-Series	Delv'd 1968	Possibility of interference of steering drag link and steering arm when wheels are in full right turn and front axle is in a full rebound position. (Correct by installing left steering arm ball stud with 3/8" longer neck.)	4	91
68–0097	10–14–68	International Harvester	Loadstar	1968	Possibility incorrect brake pedel to push rod bolt was installed. Bolt installed is 1/8" too short and does not engage in nylon insert (locking feature) of nut. (Correct by replacing bolt where necessary.)	5	115
68–0116	11–8–68	International Harvester	Fleetstar	Del'd 1968	Possibility both front wheel hydraulic brake hoses installed too long. Under certain conditions, left front hose could contact left steering arm, causing brake hose to chafe on steering arm. (Correct by inspecting and replacing where necessary.)	7	245
68–0135	12–20–68	International Harvester	1603, 1703 and 1803 bus chassis	Del'd 1968	Possibility clutch and brake pedal may overtravel and damage clutch and brake system components. (Correct by installing combined clutch and brake pedal stop.)	7	551
68–0136	12–20–68	International Harvester	1853 bus chassis	Del'd 1968	Possibility that with present brake pedal stop, full brake pedal application may not be obtained, if brake lining becomes out of adjustment and brake pedal push rod is not properly adjusted. (Correct by removing brake pedal stop.)	5	215

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Kaiser Jeep Corporation							
68–0005	1–19–68	Kaiser	Jeep	NR	Possible incorrect install positioning of the brake tube from the warning valve tee to the left front brake hose. Brake tube may contact clutch cross shaft and wear through tube causing a loss of brakes on front wheels. (Correct by repositioning if necessary.)	9	634
68–0023	3–14–68	Kaiser Jeep	Wagoneer and Gladiator	NR	Possibility the front wheel flexible brake hose was improperly installed. (Correct by proper installation.)	9	2,800
68–0030	4–1–68	Kaiser Jeep	Super Wagoneer	NR	Possibility wheel mounting hex nuts are not properly torqued and do not contact wheel lug nut holes. If not properly torqued and seated, wheels possibly could work loose and leave vehicle. (Correct by replacing nuts and wheels when necessary.)	8	352
68–0094	9–27–68	Kaiser Jeep	"Jeep" Universal Series equipped with double safety brake systems	NR	Possibility of interference between fender splash apron and front brake system tube tee. Could cause hole to be worn through brake tee wall from normal road vibrations causing loss of front wheel brakes. (Correct by inspecting and modifying where necessary.)	5	10,000
68–0098	10–10–68	Kaiser Jeep	J-Series	1968	Possibility some bolts which fasten steering gear assembly to frame were improperly torqued or tightened. Could cause steering gear assembly to come loose from frame resulting in loss of steering. (Correct by inspecting and properly torquing bolts.)	6	9,500
68–0107	10–30–68	Kaiser Jeep	Wagoneer and Gladiator	1969	Possibility that on some vehicles studs and Stullock nuts, rather than Ferry cap screws, were used to attach steering gear assembly to frame. Has been determined that cap screws are more satisfactory for attaching assembly than studs. (Correct by replacing studs with cap screws.)	7	200
Mack Trucks, Incorporated							
68–0047	5–1–68	Mack	MB Series	NR	Possibility the stop bolt may break loose on the hydraulic brake pedal.	9	403

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Mack Trucks, Incorporated—*Continued*				
					If this should happen, while it will not affect the braking characteristics of the vehicle, it will allow the pedal retractor spring to pull the pedal to a higher than normal operating position, and might cause the driver to be delayed in locating the pedal in an emergency stop. (Correct by installing an improved brake pedal.)		
68–0063	6–10–68	Mack	DM 400 and DM 600	NR	Possibility steering levers used on power steering unit may not conform to manufacturing standards. Extreme operating conditions could cause a fracture of this lever. This would affect steering control of the vehicle. (Correct by inspecting and replace as necessary.)	8	1,130
68–0083	8–28–68	Mack	FL, FS, RL and RS	1968	Possibility that bogie bracket may not be of proper strength. (Correct by reinforcing this bracket.)	5	67
68–0096	10–7–68	Mack	DM–800 Series	1969	Possibility power steering booster cylinder anchor bracket will require reinforcement. (Correct by replacing or reinforcing bracket where needed.)	8	71
68–0108	11–2–68	Mack	FL, FS, RL,	1968	Possibility air-conditioner is wired in circuit which includes starting key switch and fuel shut-off controls. Under certain operating conditions, is possible for heavy initial electrical surge of air-conditioner clutch cut-in to overload and trip circuit breaker, inadvertently shutting down engine. (Correct by installing a relay in air-conditioner circuit.)	5	248
68–0113	10–9–68	Mack	MB with power	1968	Possibility single clamp on drag link end of power steering assembly inadequate for all stresses transmitted if steering has to be manually operated in case of power assist failure. Clamp failure could cause loss of vehicle control. (Correct by installing new style double clamp.)	7	1,148
68–0115	11–6–68	Mack	Trucks equipped with Berg spring brakes	NR	Possibility incorrect diaphragm installed on Berg spring brake assemblies. Incorrect spring delays application of spring brakes for a few seconds. (Correct by inspecting and replacing where necessary.)		142

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LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Mack Trucks, Incorporated—*Continued*							
68–0133	12–13–68	Mack	CF Model	1968	Possibility power steering gear to mounting bracket cap screws insufficiently torqued. Bolts may work loose causing excessive movement in steering column and steering wheel. (Correct by retorquing cap screws to 98 to 108 ft. lbs.)	6	181
68–0134	12–18–68	Mack	Vehicle equipped with frame mounted auxiliary spring brakes.	1968	Possibility that clevis, which is part of linkage through which frame-mounted auxiliary spring brakes are applied, may fail due to clevis material not meeting material and casting quality specifications. Failure of Clevis could interfere with auxiliary brake application, and create hazard under certain operating conditions. (Correct by installing new, improved, clevis.)	6	3,064
Motor Coach Industries, Incorporated							
68–0034	3–28–68	Challenger	MC–5, MC–5A	NR	Possibility the nut on the bolt securing the clamp on the flexible coupling at the lower end of the steering column may become loose in service, so that movement can result between the splines of the flexible coupling and those of the steering worm shaft. If this condition is not corrected, loosening of the clamp and wear of the splines may eventually cause loss of steering control. (Inspect and re-torque nuts as necessary.)	5	1,725
Pacific Car and Foundry Company							
68–0056	5–20–68	Peterbilt	Tractor	NR	Possibility fifth wheel on tractor may experience jaw failure as a result of high coupling. If this problem exists it might cause trailer to come loose from coupling. (Correct by replacing jaw when necessary.)	3	14
68–0065	6–14–68	Kenworth	Tractor Fifth Wheel	1967 & 1968	Possibility fifth wheel on tractor may experience jaw failure as a result of high coupling. If this problem	13	273

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Pacific Car and Foundry Company—*Continued*							
					exists it might cause trailer to come loose from coupling. (Correct by replacing jaw when necessary.)		
68–0119	11–11–68	Kenworth	Eaton, R–170 SLHD, SQHD SSHD.	1968	Possibility air ride suspension frame brackets may fail under certain operating conditions. Failure of brackets could result in loss of vehicle control. (Correct by installing tracking bar on each axle.)	29	193
68–0132	12–4–68	Peterbilt	352 or 282	1968	Possibility front axle improperly assembled as result of hub's outer retaining nut not being included in final assembly. However, condition is such that it would probably not cause a failure. (Correct by inspecting axle and installing appropriate retaining nut where necessary.)	3	19
Superior Coach Corporation							
68–0049	4–17–68	Superior	Bus and School Bus	NR	Possibility the windshield wiper motor assemblies were incorrectly installed. This incorrect installation may cause wiper components to break down. (Correct by inspection and replacing units when necessary.)	15	96
Travco Corporation							
68–0033	4–1–68	Dodge Motor Homes & Commercial Travelers	M–375 & M–300	NR	Possibility that the steering column bracket as supplied may not be sufficiently strong to carry the loads applied and failure of the bracket may result over a period of time. (Correct by adding reinforcing parts to the bracket as necessary.)	6	23
Ultra, Incorporated							
68–0117	10–30–68	Ultra, Inc.	Van	1968	Possibility LP gas compartment not completely sealed on certain vans. (Correct by installing modification kit as necessary.)	9	58

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
White Motor Corporation							
68-0016	2-22-68	Diamond Reo	C-10164 C-10164z	NR	Possibility brake drum castings may contain material that does not meet metalurgical standards. (If upon inspection the casting contains a cast date of December 15 or the cast date is illegible the casting should be removed and replaced.)	3	2
68-0032	4-4-68	White	4000 & 9000 Series	1967	Possibility vehicles were assembled with a combination of Tractor Protection System valves which would not provide an automatic low pressure valve and would affect the maintenance of tractor brake air pressure under emergency conditions involving a trailer breakaway. (Inspect and replace incompatible valve combination, as necessary.)	9	4,276
68-0076	8-6-68	White	Trend Diamond-Reo	NR	Possibility that maximum load and bad road conditions may cause spring and axle deflection; clearance between hose fitting in axle mounted power steering cylinder and oil pan may be reduced below desired standards. Under extreme conditions, hose fitting may contact oil pan and be damaged, causing loss of fluid and rendering power steering inoperative. However, this would not result in loss of vehicle control. (Correct by increasing clearance between hose fitting and oil pan.)	14	125
68-0077	8-7-68	White	Truck	NR	Possibility that incorrect diaphragm installed on Berg "Air-Sealed" emergency brake assembly. This diaphragm would delay application of supplementary brake by one to three seconds. (Correct by installation of new type diaphragm.)	15	900
68-0078	8-7-68	White	White-2300 Diamond-Reo	NR	Possibility that incorrect type hose installed between power steering pump and fluid reservoir. Hose could deteriorate and interrupt operation of power assist unit and possibly damage pump. (Correct by installing proper hose where necessary.)	15	1,950
68-0100	10-8-68	White	Autocar	1968	Possibility vehicles equipped with transfer lever steering systems were erected with weldment-type transfer lever assembly which does	13	177

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			White Motor Corporation—*Continued*				
					not meet specifications. If weld securing lever to pivot pin cracks, would permit eventual separation of lever and pin and cause loss of steering control. (Correct by inspecting assembly and if necessary replacing with newly designed transfer lever assembly.)		
68-0129	11-26-68	White	Model 1500	1969	Possibility that vehicles were equipped with air-actuated brake systems, a new type connector nut, and a particular type of steering gear that might result in accelerator interference. If interference occurs accelerator might stick in "full throttle" position. (Correct by inspecting and providing proper clearance for accelerance linkage.)	12	1,263

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Alfa-Romeo, Incorporated							
68–0006	2–5–68	Alfa-Romeo	GT JR–105.30 GT Veloce 105.36 Giulia 1300 T.I.–105.39 Giulia Super 105.26	NR	Possible incorrect front stabilizer bar links. Failure of these links could result in a loss of control thru brake failure. (Correct by replacing links.)	5	175
68–0121	11–11–68	Alfa-Romeo	105.08/14 Giulia T.I. 105.26 Giulia Super 105.02 GT 105.36GT Veloce 105.03 Spider Duetto	1968	Possibility that a result of over tighting plastic break fluid reservoir can crack where steel fitting joins, or on cap threads. If cracking occurs will allow slow leakage of brake fluid and could result in failure of brake system. (Correct by replacing with improved unit.)	4	4,720
American Honda Motor Company, Incorporated							
68–0007	1–22–68	Honda	Motorcycle CT–90	NR	Possibility the rear axle shaft was incorrectly heat-treated. Thus when tightened down and placed in service there is a possibility of breakage. If the rear axle breaks the CT–90 may become unstable and difficult to control. (Correct by replacing axle shaft with proper heat-treated axle shaft.)	6	217
68–0036	4–12–68	Honda Motorcycles	CL–350	NR	Possibility the mounting bracket for the rear brake torque arm was improperly welded. If the bracket tears loose from the rear fork it would cause the loss of effectiveness of the rear brake. (Correct by inspection and replace rear fork if necessary.)	5	1,644
68–0043	4–10–68	Honda Motorcycles	CB/CL–350 CB/CL–450	NR	Possibility of incorrect throttle cable adjustment which could cause cable junction slide to bind in its case when the throttle is fu ly opened. This may prevent the carburetor throttle valves from returning to their closed position even though the throttle grip has been rotated to the closed position. (Correct by replacing the throttle case junction case.)	7	6,335

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Bayerische Motoren Werke (BMW)							
68-0044	4-19-68	BMW	1600/2, 1800, 2000, 2000A-C-CA	NR	Possibility the fuel lines between the carburetor and fuel pump may become loose from the fitting on the carburetor side, and the hose may come off while driving vehicle or running engine. (Correct by installation of new hoses where necessary.)	8	3,501
68-0045	4-19-68	BMW	1600/2	NR	Possibility tolerance between carburetor linkage is too close. If the throttle linkage binds on throttle cable during operation it may cause severe engine damage due to over running engine while using the clutch. Also the accelerator return spring possibly may brake due to vibration. (Correct by installing spring where necessary. Check linkage clearances.)	8	464
British Leyland Motors, Incorporated							
68-0055	5-20-68	Austin, MG, MGB	Sprite MiDget	1968	Possibility of hydraulic brake fluid leakage from the brake warning light switch. The leakage of this fluid will not interfere with the proper function of the switch. (Correct by inspection and rectification if necessary.)	3	47
68-0082	8-28-68	Triumph	GT-6	1968	Possibility that under extreme forward or backward force on seat, pawl can slip out of aperture in seat runner on slide and alter seat adjustment. (Correct by filing slightly more angularity on face of pawl where it contacts slide.)	4	2,796
68-0105	10-29-68	Triumph	MK III Spitfire and GT-6	NR	Possibility of fatigue failure of body panel in area where rear suspension raduis arm bracket is attached. (Correct by installing four high tensile bolts into floor pan to reinforce bracket.)	3	500

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
British Leyland Motors, Incorporated—*Continued*							
68–0118	11–13–68	Austin	American	1968	Possibility front suspension tie rods improperly heat treated. If condition exists rod could fracture allowing front wheel to come in contact with fender well causing braking effect and possibly reducing steering control. (Correct by replacing tie rods.)	4	5,771
Fiat Motor Company, Incorporated							
68–0067	6–21–68	Fiat	850 Spider 850 Coupe	1968	Possibility brake pipe may contact nut on idler arm. Contact with this nut could possibly chafe pipe and cause loss of braking action. (Correct by installing an additional fastener to hold pipe.)	7	5,378
Mercedes-Benz of North America, Incorporated							
68–0027	3–29–68	Mercedes-Benz	230 230S 250S	1968	Possibility insufficient fuel is delivered to the engine during acceleration which may cause engine to hesitate or stall. (Correct by installing modified pump lever for accelerator pump on both carburetors.)	7	2,404
68–0102	10–23–68	Mercedes-Benz	220/8, 220/D8 230/8, 250/8	NR	Possibility hazard warning light switch-flasher may fail under certain atmospheric conditions. (Correct by replacing with new type switch-flasher.)	9	4,295
Nissan Motor Corporation, in U.S.A.							
68–0012	2–16–68	Datsun	SPL–311 SRL–311 Sport Cars	NR	Possibility that the torque rod bracket may separate from frame at the weld. Since the brake line	7	4,295

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Nissan Motor Corporation, in U.S.A.—*Continued*							
					passes under the bracket this trouble may result in brake failure. (Correct by reinforcing the torque rod bracket.)		
68–0060	5–22–68	Datsun	PL510 Station Wagon	NR	Possibility brake safety indicator switch on warning light to indicate if either part of dual brake system fails may be defective. If defective may cause spongy feeling of brake pedal and may cause a driving hazard. (Correct by replacing brake switch if necessary.)	8	1,788
68–0110	10–28–68	Datsun	SRL311–2000cc Sport Cars equipped with SU carburetors	1968	Possibility fuel tube between float chamber and carburetor may have cracks on inside. Could cause fuel to leak through tube and ignite, creating driving hazard. (Correct by replacing tube with newly improved one.)	7	1,530
Saab U.S.A., Incorporated							
68–0104	10–29–68	Saab	95 and 96	1969	Possibility that lower end of throttle return spring, which is hooked through a hole drilled in the battery tray ,may become corroded by battery acid and break off. If spring breaks, would cause complete loss of pedal return pressure. (Correct by altering mounting position of spring.)	4	Approx. 1,350
Simca-Rootes Division (Chrysler Motor Corporation)							
68–0059	5–28–68	Sunbeam	Arrow Station Wagon	NR	Possibility under certain operating conditions the tailgate lock striker plate will receive abnormal wear. This wear, if left unattended, could cause the tailgate to open while vehicle is in motion. (Correct by installation of new approved parts.)	7	685

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Toyota Motor Sales, U.S.A., Incorporated							
68-0101	10-18-68	Toyota	Coronas	1968	Possibility that screws within carburetor automatic-choke mechanism securing thermostat housing may become loose. In very rare cases, dropping of screws within housing may interfere with choke mechanism, preventing throttle lever from returning to idle position and making vehicle difficult to stop. (Correct by inspecting screws and tightening and caulking where necessary.)	11	39,014
Volkswagen of America, Incorporated							
68-0001	1-2-68	Volkswagen	Type I	1968	Fastening bolt of an access hole cover for gearshift rod may protrude into the spare tire compartment and rub tire damaging side wall. (Correct by replacement with a new type cover.)	9	29,022
68-0002	1-9-68	Volkswagen	Type 2 Station-wagon and Trucks	1968	Possibility left and right rear brake lines could be chafed through if the space between brake lines and outer rubber boots for universal joints is not large enough. (Correct by replacing outer dust sleeves if required.)	9	14,843
68-0048	5-1-68	Volkswagen	Beetle 4-Seat Conv. Karmann Ghia	1968	Possibility wheel bolts were not correctly torqued and wheels were not correctly centered. If vehicle is operated under such conditions and especially if the hand brake has not been fully released, the wheel bolts may loosen. (Correct by inspection of wheel and wheel bolts and properly centering wheels and torquing bolts.)	8	87,860
68-0070	7-10-68	Volkswagen	Type I, Type II, Type III, (Beetle, Conv., Karmann Ghia, Station Wagon, Squareback and Fastback.)	1968	Possibility that front seat over-the-shoulder/lap safety belts have tendency to gradually loosen their adjustment. If this occurs belts are not kept taut and are not as effective. (Correct by inspection and add a spring device when necessary.)	9	Approx. 293,000
68-0103	10-17-68	Volkswagen	Type 2 bus-like station wagon and trucks.	1969	Possibility that undersized release buttons installed in windshield washer system. This prevents	5	297

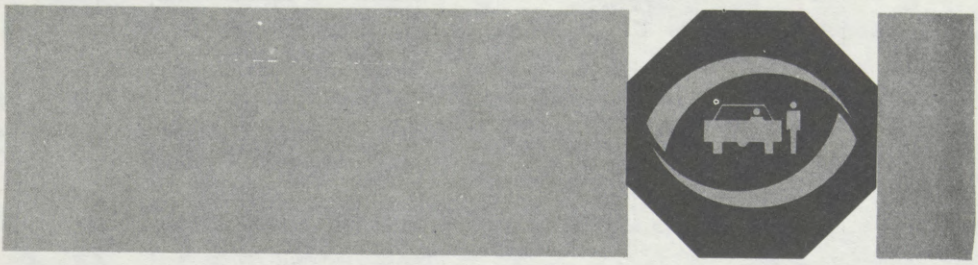
LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Volkswagen of America, Incorporated—*Continued*				
					windshield washers from fuctioning. (Correct by checking washer system and replacing faulty buttons where necessary.)		
68–0120	11–15–68	Volkswagen	Type 31 and 36 Squareback and Fastback	1968 & 1969	Possibility some tires may have incorrect labeling. If condition exists, could result in improper inflation of tires. (Correct by properly labeling where necessary.)	15	39,920
			Volvo, Incorporated				
68–0041	4–11–68	Volvo	145	NR	Possibility station wagons could have been equipped with passenger car wheels and tires. These wheels and tires are not designed to carry station wagon loads. (Correct by replacing where necessary.)	6	519
68–0130	11–22–68	Volvo	P–1800	1969	Possibility that shipping screw was left in front carburetor. Should screw loosen, throttle could be held in partly open or closed position. (Correct by checking and removing shipping screws). Possibility that front disc brake splash shields were not changed in connection with modification in production involving additional reinforcement of brake hose bracket. Could lead to eventual breaking of bracket, depending on road condition and mileage traveled. (Correct by inspecting and installing reinforcement to brake hose bracket where necessary.) Possibility that master cylinder brake reservoir not fitted with strainer. If strainer is missing, foreign particles will get into reservoir during servicing. (Correct by inspecting and replacing complete reservoir.)	8	27

Motor Vehicle Safety Defect Recall Campaigns

From January 1, 1969
to December 31, 1969

Reported to:
THE NATIONAL HIGHWAY SAFETY BUREAU
by DOMESTIC AND FOREIGN
VEHICLE MANUFACTURERS



U.S. DEPARTMENT OF TRANSPORTATION • National Highway Safety Bureau

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II. FOREIGN

INTRODUCTION

Section 113 of the National Traffic and Motor Vehicle Safety Act of 1966 requires that:

> "Every manufacturer of motor vehicles shall furnish notification of any defect in any motor vehicle or motor vehicle equipment produced by such manufacturer which he determines, in good faith, relates to motor vehicle safety, to the purchaser (where known to the manufacturer) of such motor vehicle or motor vehicle equipment, within a reasonable time after such manufacturer has discovered such defect."

The required notification is to be by certified mail to the first purchaser and by certified mail or more expeditious means to the dealer or dealers of the manufacturers.

The manufacturer is further required to furnish the Secretary of Transportation a true or representative copy of all notices, bulletins, and other communications to dealers or purchasers regarding defects in motor vehicles or motor vehicle equipment.

The National Highway Safety Bureau has received numerous requests for information on defects in motor vehicles. In answer to these requests the Bureau publishes quarterly summary reports on defect campaigns conducted by domestic and foreign manufacturers. These summary reports are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, at a price established by the Superintendent of Documents. Annual cumulative editions of the reports will be published at the beginning of each calendar year.

Detailed reports of specific recall campaigns listed in the summary reports are available from the Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia. (For details on ordering from the Clearinghouse see page 4.)

Since manufacturers are not required to report to the Bureau specific serial numbers of vehicles involved in recall campaigns, any information concerning defects on specific serial-numbered vehicles must be obtained from the dealer or manufacturer.

SUMMARY TABULATIONS

MOTOR VEHICLE SAFETY DEFECT RECALL CAMPAIGNS

(JANUARY 1, 1969—DECEMBER 31, 1969)

Manufacturers Reporting	*Number of Recall Campaigns*	*Number of Vehicles*
I. DOMESTIC		
American Motors Corporation	9	82,682
American Trailers, Incorporated	1	5
Avanti Motor Corporation	1	35
Blue Bird Body Company	1	202
Boise Cascade Recreational Products	1	400
Challenge-Cook Bros., Incorporated	1	166
Checker Motors Corporation	2	323
Chrysler Motors Corporation	22	72,692
Clark Equipment Company	4	221
Comet Corporation	1	125
Douglas and Lomason Company	1	7
Flxible Company	3	963
Ford Motor Company	11	666,522
Freightliner Corporation	4	18,152
Fruehauf Corporation	1	1,300
FWD Corporation	1	15
GarWood Industries, Incorporated	1	49
General Motors Corporation	18	6,581,113
Harley Davidson Motors, Incorporated	1	5,000
Highway Trailers Industries, Incorporated	3	57
International Harvester Company	13	35,560
Kaiser Jeep Corporation	7	6,969
Mack Trucks, Incorporated	6	5,457
Motor Coach Industries, Incorporated	2	210
Oshkosh Truck Corporation	2	146
Pacific Car and Foundry Company	8	2,927
Shelby Automotive Company, Incorporated	2	2,577
SS Automobiles, Incorporated	1	65
Strick Corporation	2	7,100
Superior Coach Corporation	1	357
Wayne Corporation	1	12
White Motor Corporation	6	11,031
Domestic Totals	138	7,502,440

SUMMARY TABULATIONS—*Continued*

MOTOR VEHICLE SAFETY DEFECT RECALL CAMPAIGNS

(JANUARY 1, 1969—DECEMBER 31, 1969)

Manufacturers Reporting	*Number of Recall Campaigns*	*Number of Vehicles*
II. FOREIGN		
Alfa Romeo, Incorporated	1	124
Algar Interprises, Incorporated	1	3
American Honda Motors Company, Incorporated	1	2,095
British Leyland Motor, Incorporated	4	10,471
Bus and Car Supply Company	1	155
Fiat Motor Company, Incorporated	2	29,011
General Motors Corporation-Buick Division, Opel	2	60,834
General Motors Corporation-Vauxhall Viva	1	500
Lotus Car Limited	1	400
Mercedes-Benz of North America, Incorporated	2	416
Nissan Motor Corporation in U.S.A.	5	144,306
Porsche of America Corporation	3	2,262
Renault, Incorporated	2	9,700
Rolls-Royce, Incorporated	1	1,350
SAAB, U.S.A., Incorporated	2	4,500
Service Motor Company, Ltd.	1	534
Subaru of America, Incorporated	1	700
Toyota Motor Sales, U.S.A., Incorporated	6	122,158
Volvo, Incorporated	5	26,225
Foreign Totals	42	415,744
GRAND TOTALS	180	7,918,184

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ORDERING DATA

Detailed reports of the recall campaigns listed in this publication are available from the Clearinghouse for Federal Scientific and Technical Information (CFSTI), Springfield, Virginia 22151. The detailed reports for a quarter of a year are grouped together to form one publication and should be ordered by the applicable publication number listed below and the title, "Motor Vehicle Safety Defect Recall Campaign, Detailed Reports":

Quarter	*Publication Number*
January-March	PB 183175
April-June	PB 184463
July-September	PB 185943
October-December	PB 188518

CFSTI sells publications in two forms—fullsize paperback at $3.00 each and miniature size copies (4x6″) microfiche at $.65 each.

Additional copies of this list of defect recall campaigns are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			American Motors Corporation				
69–0064	5–2–69	American Motors	6830 and 6870 AMX and Javelin	1968 & 1969	Possibility of insufficient clearance between clutch actuating rod and brake line on models with manual transmissions. This could cause chafing of brake line causing line to fail and slowly lose brake fluid. (Correct by adding another holding clip.)	13	27,242
69–0065	5–2–69	American Motors	6901 Rambler American and 6910 Rebel low line.	1969	Possibility that under severe impact, reclining seat mechanism could impair seat belt webbing. (Correct by installing longer holster to prevent seat belt contact with seat mechanism.)	13	3,813
69–0066	5–2–69	American Motors	6900 Series	1969	Possibility that male connector end of seat belts were improperly heat treated and fail to meet the 5,000 pound tensile test. (Correct by installing new connectors that meet specifications.)	14	25,409
69–0149	10–8–69	American Motors	6800 and 6900	1968 1969	Certification plates omitted in production. (Correct by installing plates.)	7	1,704
69–0150	10–8–69	American Motors	6800 and 6900	1968 1969	Lap belts omitted or non-compatible belts used in production. (Correct by installing correct belts.)	11	27
69–0151	10–8–69	American Motors	6800 and 6900	1968 1969	Shoulder belts omitted in production. (Correct by installing proper belts.)	11	405
69–0168	11–11–69	American Motors	Ambassador Sedan Ambassador and Rebel Station Wagon	1970	Possibility that lift hook pin could disengage from slot in jack rack bar, or lift hook could disengage from bumper. (Correct by replacing with newly designed jack saddle.)	10	14,396
69–0169	11–11–69	American Motors	All Models	1970	Possibility that rearview mirror backing plate may separate from mirror. (Correct by replacing with new, improved-type day/night mirror.)	8	6,184
69–0170	11–11–69	American Motors	Hornet	1970	Possibility that hood latch does not properly align for secondary latching mechanism. (Correct by inspecting and replace or realign where necessary.)	9	3,502

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
American Trailers, Incorporated							
69–0147	10–20–69	American Trailer	A–210 Van	1968	Possibility that brake chamber mounting bracket may crack from fatigue. If condition continues without proper reinforcement of bracket it may lead to partial loss of trailer brakes. (Correct by reinforcing brackets.)	3	5
Avanti Motor Corporation							
69–0026	2–28–69	Avanti	Avanti II	1968 & 1969	Possibility that plastic fast idle cam on four barrel Rochester carburetor may fail, causing throttle not to return to fully closed position. (Correct by replacing fast idle cam with an improved one.)	9	35
Blue Bird Body Company							
69–0105	7–31–69	Blue Bird	All American	1968 & 1969	Possibility that air brake foot treadle valve may fail, causing loss of brakes. (Correct by replacing with improved type valve.)	10	202
Boise Cascade Recreational Products							
69–0072	5–8–96	Corsair Travel Trailer	Life-Time	1968 & 1969	Possibility that clamp securing steering column may loosen or break and cause steering mechanism to become inoperative. (Correct by adding additional clamp and bracket.) Possibility that web belts holding swing-down bunk over driver's area may fail due to rivets pulling out of webbing. If this should occur bunk could fall into driver's area. (Correct by replacing webbing, using rivets, and sewing the loops.)	6	400

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Challenge—Cook Bros., Incorporated							
69–0173	11–12–69	Challenge-Cook Bros.	Wide Track Boost-A-Load	NR	Possibility that wheel hubs installed on axles are of unacceptable quality cast ductile iron, and may fail under certain operating conditions. (Correct by inspecting and replacing with hubs of acceptable quality where necessary.)	14	166
Checker Motors Corporation							
69–0025	3–3–69	Checker Motors Corp.	NR	1969	Possibility that four bolts connecting steering mounting to steering knuckle may be inadequately torqued. This could result in loss of control of vehicle. (Correct by properly torquing bolts to 98 to 103 foot-pounds.)	10	131
69–0053	4–17–69	Checker	A–11, A–12, A–11E, A–12E, A–12W taxicab, passenger cab and station wagon	1968 & 1969	Possibility that plastic fast idle cam on four barrel Rochester Quadra-Jet carburetor may fail. If this occurs it may cause throttle not to return to fully closed position. (Correct by replacing fast idle cam with an improved one.)	11	192
Chrysler Motors Corporation							
69–0016	1–31–69	Dodge	Truck P-375 Motor Home Chassis	1966 1967 1968	Possibility that routing of left front brake hose could result in hose interfering with front wheel, tire, or power steering hoses. Could result in premature failure of brake hose and subsequent loss of vehicle control. (Correct by rerouting hose to keep from possible interference.)	7	4,701
69–0017	2–5–69	Dodge	D–100	1969	Possibility that front suspension sway bar will increase lateral loading on front wheel hubs. This could subject the brake hubs to premature failure and cause wheel hub and front wheel to separate from vehicle. (Correct by replacing front wheel hub and drum assembly.)	5	15,605

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Chrysler Motors Corporation—*Continued*				
69–0028	3–11–69	Dodge	Trucks D–500, C–500, C–600, L–600, and L–700	1969	Possibility that rear axle brake support bolts may have been inadequately tightened. This could lead to failure of service brake system and possible loss of vehicle control. (Correct by properly torquing bolts.)	5	41
69–0043	3–25–69	Dodge	D100, D200, D300, P200, and P300, with 383 CI engine and Loadflite transmission	1969	Possibility of inadequate clamping force on steering shift tube set screws. This could allow shift tube to slip causing interference between shift tube lever and steering gear coupling which could result in loss of steering control. Also, possibility of interference of retaining clips securing throttle control rod and shift control rod, which could result in transmission shifting into neutral during acceleration. (Correct by inspecting and repairing when necessary.)	8	9,201
69–0048	4–3–69	Plymouth Dodge	With disc brakes	1969	Possibility that incorrect brake hose was installed on front brakes. This could result in premature failure of brake hose and loss of front braking system. (Correct by installing new correct type hoses.)	8	11
69–0054	4–23–69	Dodge Plymouth	Dart, Valiant	1969	Possibility that Goodyear 6.50 x 13 Power Cushion black side wall tires may fail under severe use because fabric does not meet specifications. (Correct by replacing with new improved tire.)	5	636
69–0062	4–28–69	Chrysler Dodge	Monaco, Polara Fury	1969	Possibility that seat belts in front seat positions may not latch because they are improperly matched. (Correct by inspecting and replacing when necessary.)	9	18,905
69–0092	7–3–69	Dodge	D–200, D–300 W–200 and W–300	1969	Possibility that brake booster may fail upon hard brake application due to inadequate retention of front and rear halves of booster housing. This could result in complete loss of service brake system. (Correct by inspecting and replacing parts when necessary.	6	1,485
69–0093	7–3–69	Dodge	M–300 and M–375 Motor Home Chassis	1969	Possibility that brake pedal lower arm may fail. This could result in complete loss of brakes. (Correct by inspecting and replacing when necessary.)	7	1,426

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Chrysler Motors Corporation—*Continued*				
69–0095	7–9–69	Dodge	D–600, 700, 800 C–600, 700, 800, 1000, L–700, CT700, CT800, CT900, S–600 CN900, CNT900, LN1000, LNT1000, LV–1000, and LVT1000 with 18,500, 22,000, 34,000, & 38,000 lb. rear axle	1969	Possibility that brake support bolts have been inadequately tightened allowing movement between brake support and axle housing flange. This could result in sheared attaching bolts causing brake failure. (Correct by inspecting and replacing bolts when necessary and torque properly.)	6	2,630
69–0096	7–9–69	Chrysler Plymouth Dodge	Equipped with drum brakes. "C" type body.	1969	Possibility that steering knuckle may have been improperly heat-treated in spindle portion of knuckle. This could cause complete separation and loss of road wheel. (Correct by inspecting and replacing parts when necessary.)	9	4,981
69–0106	7–29–69	Dodge	D–400, 500, 600, 700, S500, 600 equipped with Dual Hydraulic brakes.	1969	Possibility that brake booster vacuum lines may be improperly installed. If this condition exists, gasoline vapors from intake manifold could enter brake booster causing rapid deterioration of internal rubber components, and adversely affecting stopping ability. (Correct by inspecting and properly installing lines).	11	246
69–0125	9–11–69	Plymouth	Belvedere	1970	Possibility that Goodyear tires size E78x14 may not meet endurance test requirements of Motor Vehicle Standard No. 109. (Correct by replacing all tires when necessary.)	2	100
69–0126	9–12–69	Plymouth Dodge	Valiant Dart	1970	Possibility that incorrect control arm ball joint stud nut was used in error. If this condition exists cotter pin used may not properly engage nut. (Correct by replacing nut with one of proper thickness.)	5	3,034
69–0127	9–12–69	Plymouth	Valiant Barracuda Belvedere	1970	Possibility that left hand seat back latch may fail to lock after repeated latchings. If this condi-	15	1,544

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Chrysler Motors Corporation—*Continued*

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
		Dodge	Dart Challenger Coronet Charger		tion exists seat lock will not meet Motor Vehicle Safety Standard No. 207. (Correct by installing new improved seat back latch.)		
69–0155	10–28–69	Dodge	Post Office Truck-½-Ton Right Hand Drive 6P200	1967	Possibility that throttle cable, due to its length, is vulnerable to routing and misalignment problems which could cause cable to fray and result in throttle restrictions. (Correct by replacing with mechanical linkage system.)	5	6,000
69–0157	10–30–69	Dodge	Truck Models D–200, D–300, W–200 w/ manual service brakes	1970	Possibility that brake master cylinder to dash panel attaching bolts may not meet material specifications. Failure of bolts would allow the master cylinder to separate from its mounting and result in loss of the service brake system. (Correct by inspecting and replacing bolts where necessary.)	6	286
69–0158	10–30–69	Dodge	Truck heavy-duty tandem axle, equipped with 38,000# or 4400# capacity Hendrickson suspension	1968 1969	Possibility that equalizer beam attaching bolts were of an incorrect length. If this condition exists bolts may loosen and fall out resulting in loss of vehicle control caused by shifting of the rear axle. (Correct by replacing with longer bolts where necessary.)	6	522
69–0159	10–31–69	Dodge	Coronet Challenger	1970	Possibility that wheel welds were inadequate, which could cause separation from wheel disc. (Correct by inspecting and change wheels where necessary.)	9	754
		Plymouth	Belvedere Barracuda	1970			
69–0163	11–11–69	Dodge	Challenger	1970	Possibility that improper axle was installed in assembly, which resulted in wrong speedometer pinion application. (Correct by installing the proper speedometer pinion gear to axle ratio.)	16	437
		Plymouth	Barracuda	1970			
69–0164	11–12–69	Dodge	Challenger	1970	Possibility that incorrect axle was installed during assembly. (Correct by installing proper axle to match other optional equipment).	4	105
		Plymouth	Barracuda	1970			
69–0175	12– 2–69	Plymouth	Valiant Duster	1970	Possibility that wrong size tires were installed in production. Size F70 x 14 white sidewalls instead of E70 x 14 white sidewall tires. (Correct by installing proper size E70 x 14 where necessary).	2	42

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Clark Equipment Company							
69–0067	5–9–69	Clark Equipment Co.	Trailer	NR	Possibility that wheel castings did not meet material specifications. Continued operation with these wheel castings could result in loss of tire and rim assemblies should breakage occur, effecting control of vehicle. (Correct by inspecting and replacing wheels when necessary.)	2	90
69–0083	6–16–69	Clark Equipment Co.	Cortez Motor Homes	NR	Possibility that actuating directional hazard flasher could cause engine starter to engage when ignition switch is in off position and vehicle is in gear. (Correct by inspecting and repairing when necessary.)	5	44
69–0084	6–16–69	Clark Equipment Co.	Cortez Motor Home 32MH-6	NR	Possibility that front brake hose, due to misalignment, could contact universal joint, damage hose, and result in loss of brakes. (Correct by inspecting and re-routing when necessary.)	4	5
69–0183	12–22–69	Clark Equipment Co.	Brown Trailer converter Dolly	NR	Possibility that when fifth wheel is in unlocked position contact between fifth wheel locking mechanism and air reservoir could result in perforation of reservoir, causing improper operation of braking system and possible loss of brakes on converter dolly. (Correct by inspecting and modifying as necessary.)	2	82
Comet Corporation							
69–0117	9–26–69	Comet	Van Trailer and Converter Dollys	NR	Possibility that brake chamber mounting brackets may crack from fatigue. If condition continues without proper reinforcement of brackets it may lead to partial loss of trailer brakes. (Correct by reinforcing mounting brackets.)	1	125

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Douglas and Lomason Company							
69–0161	11– 6–69	Centennial Industries	RTE–1240W–80 Beverage Route Trailers	NR	Possibility that trailer fifth wheel plate may not be mounted with sufficient reinforcing members to insure adequate bearing surface on tractor's fifth wheel. This condition could cause an undesirable rolling motion on curves and when turning corners. (Correct by reinforcing fifth wheel plate as required.)	7	7
Flxible Company							
69–0018	2–4–69	Flxible	Coach	NR	Possibility that pin used to lock retaining plug against ball stud in power steering booster may have been omitted in production. If condition exists, retaining plug could back out, permitting ball stud to come out of housing and result in loss of steering control. (Correct by installing pin where necessary.)	2	176
69–0019	2–4–69	Flxible	Coach	NR	Possibility that on high mileage vehicles power steering booster control ball stud housing may become worn causing ball stud to be loose in its housing and causing loss of steering control. (Correct by inspecting and replacing housing.)	4	683
69–0130	9–10–69	Flxible	Bus	NR	Possibility that pedestal base driver chairs may have inadequate welds, and seat may fail. (Correct with new base pedestal plate.)	3	104
Ford Motor Company							
69–0033	3–18–69	Ford	Econoline	1969	Possibility that latching mechanism used to secure "flip-type" passenger seat to floor in upright position may fail during sudden brake application. (Correct by installing latch guide and latch clevis pin.)	7	16,400

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Ford Motor Company—*Continued*				
69–0044	4–9–69	Lincoln	Continental	1969	Possibility that end fittings on power steering pressure hoses were not properly crimped. If this condition exists fitting may separate from hose under maximum pressure. (Correct by replacing with new hoses.)	6	12,985
69–0058	5–2–69	Ford	F–110 thru F–750	1969	Possibility that right door and cargo door latches may have improperly made part and, under certain conditions, may not secure the door unless locked with key or lock button. (Correct by inspecting and replacing door latches when necessary.)	16	80,700
69–0059	5–2–69	Ford	F–600 and F–6000	1969	Possibility that incorrect front wheel inner bearings were used, which eventually might cause failure of spindle. (Correct by inspecting and replacing when necessary.)	12	252
69–0060	5–2–69	Ford	Standard size with 302 or 390 cu. in. engine	1969	Possibility that accelerator cable was manufactured with improper wire cord. In cold weather may bind, holding accelerator open rather than permitting normal deceleration. (Correct by inspecting and installing new cable when necessary.)	8	6,823
69–0077	5–27–69	Ford Mercury	Standard Cougar	1969 1969	Possibility that hood latch mechanism has insufficient clearance between parts. This could cause primary hood latch to bind, thus interfering with hood closure and preventing secondary latch from engaging, in which case hood could open while car is in motion. (Correct by inspecting and replacing latch when necessary.)	15	354,000
69–0100	7–11–69	Ford Mercury	Mustang Cougar	1969 1969	Possibility that front brake rotor assembly, designed for use in Boss 302 Mustang, has been assembled incorporating a larger diameter wheel bearing which, if combined with a smaller diameter spindle, will allow relative movement and eventual failure of bearing and/or spindle. (Correct by inspecting and replacing parts when necessary.)	18	23,100

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Ford Motor Company—*Continued*				
69–0110	8–11–69	Ford	Std. size Ford Maverick Light Duty trucks	1969	Possibility that brake fluid may contain excessive inorganic chloride which would have adverse effect on corrosion of brake components. This condition would ultimately cause brake malfunction. (Correct by purging brake system of old fluid and replacing with proper type.)	2	110,000
69–0115	9–3–69	Ford	Medium truck equipped with 5,000 5,500 & 6,000 pound axles.	1968 & 1969	Possibility that front brake adjuster mechanism may fail in vehicle operation when reverse braking is required. Failure of this mechanism could result in excessive clearances between brake shoes and drums and eventually permit hydraulic piston to be pushed out of front wheel cylinder. (Correct by installing redesigned adjuster mechanism.)	1	73,400
69–0116	9–4–69	Ford Mercury	Fairlane, Mustang Cougar, Montego	1970	Possibility that seat belt retractor locking mechanism may be impaired by certain design and production problems. (Correct by installing revised retractor.)	1	3,692
69–0182	12–18–69	Ford	W & WT Series Tractor	1969 & 1970	Possibility that steering wheel nut could be loose. If this condition exists loose nut could "back-off" and become totally disengaged, permitting steering shaft to become disconnected from steering wheel, resulting in loss of vehicle control. (Correct by inspecting nut and torquing nut to 40 ft. lbs., stake steering shaft at one point to prevent nut backing off.)	6	1,283
			Freightliner Corporation				
69–0035	3–6–69	Freightliner	Truck	NR	Possibility that brake drum does not seat properly against hub. Also, hub stud lock groove may not be machined to proper depth. These conditions will cause flexure of drum surface when mounted to hub, and could shorten life of wheel and drum. (Correct by grinding off edges between drum and hub, and re-machine grooves to proper depth.)	2	287

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Freightliner Corporation—*Continued*							
69–0086	6–16–69	Freightliner Corporation	Freightliner	NR	Possibility that heat treat problem with certain parts of ball stud assembly at bottom of steering arm may not be within heat treat tolerance. Failure of these parts could cause ball to be released from steering arm. (Correct by replacing ball stud.)	13	842
69–0119	8–28–69	Freightliner Corporation	Trucks W/1674 Caterpillar Engines	NR	Possibility that fuel rack and rack bearing on fuel injector pump housing may fail. If this occurs, could result in over-speeding of engine. (Correct by replacing with new fuel rack and rack bearing.)	5	19
69–0166	11–14–69	Freightliner Corporation	Tractor	NR	Possibility that defect may exist in air control valve that can cause leakage from third air tank into spring brakes after control has been applied by operator. (Correct by installing new valve.)	4	908
Fruehauf Corporation							
69–0129	9–22–69	Fruehauf	Trailer 40,000 lb. capacity hitch	Produced after Oct. 1968	Possibility that hitch latch handle may drop out due to inadequate plug weld. If this condition exists handle could fall out and latch fall off the hitch. (Correct by welding ¼″ flat washer with minimum ⅜″ outside diameter on end of handle.)	4	1,300
FWD Corporation							
69–0146	10–14–69	FWD	CO–5	NR	Possibility that hydraulic pressure on lift system is too high for type hoses supplied. (Correct by installing new type hoses.)	2	15
Gar Wood Industries, Incorporated							
69–0082	6–10–69	Gar Wood Trailer	EFG–2S	NR	Possibility that drawbar eye connection may break on trailer. (Correct by installing Field modification kit.)	4	49

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			General Motors Corporation				
69–0001	12–27–68	Chevrolet	Corvette	1969	Possibility that seat belts will not latch properly if belt tongue is inserted upside down into belt buckle, even though it will give impression of being properly latched. Also a possibility that properly latched buckle could disengage if severe side impact is received in buckle area. (Correct by installing new belt assemblies.) Possibility that seat back lock forks may have been improperly heat treated, making it possible for one or both of them to break during latching of seat back. This could permit forward movement of seat back if forward force is applied to seat back assembly. (Correct by installing new lock forks where necessary.)	14	4,420
69–0012	5–12–67	Buick	Special, Skylark	1967	Possibility that flexible brake hose at right front wheel assembly was too short. (Correct by installing proper length hose. All vehicles involved were corrected by 5–11–67.)	1	468
69–0013	5–26–67	Chevrolet	Chevy II	1967	Possibility that left front door lock assembly may fail due to brittle condition of cam lift lever. If this condition exists, lever could break and render lock assembly inoperative should lock be subjected to heavy jar. (Correct by replacing with new assembly.)	1	794
69–0020	2–14–69	Chevrolet	Standard	1969	Possibility that Firestone tires (8.25 x 14 white sidewall 4-ply rated), may not meet minimum strength requirements. Failure in body of tire could result in loss of tire pressure. (Correct by replacing all tires with new improved type.)	4	1,396
69–0030	Press Release 2–26–69 LTR. 3–25–69	Chevrolet	Biscayne, Bel Air, Impala Caprice, Excluding Sta. Wagon	1965 1966 1967 1968 1969	Possibility that exhaust emissions may enter interior of vehicle when exhaust pipe is substantially out of design position, deteriorated from use, or when opening in body develops near exhaust outlet and, at same time, a negative air pressure occurs in vehicle interior. (Correct by resealing nearby body joints and replacing draw plug in	26	2,570,914

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			General Motors Corporation—*Continued*				
					body which was used to remove surplus bonderizing solution during manufacture.)		
69–0031	Press Release 2–26–69 LTR 3–25–69	Chevrolet Pontiac Oldsmobile Buick Cadillac GMC Truck	Equipped with four barrel Quadra-Jet carburetor	1968 & 1969	Possibility that fast idle cam on Quadra-Jet carburetor may crack and ultimately break apart. If this occurs and parts fall into throttle linkage, could cause carburetor throttle to stick in partially open position. (Correct by installing a new improved fast idle cam.)	40	2,966,979
69–0038	4–2–69	Pontiac	Catalina, Star Chief Executive Grand Prix Bonneville	1965 & 1966	Possibility that originally installed front brake hoses may, under extensive usage and certain driving conditions, fatigue. If this occurs, a sudden heavy brake application might cause brake hose to rupture resulting in loss of hydraulic braking system. (Correct by replacing front flexible hoses.)	7	830,000
69–0039	4–2–69	Chevrolet	40, 50, 60 Series	1967	Possibility that seal on piston in master brake cylinder may, after extended usage, allow brake fluid to pass seal permitting brake pedal to be pushed to floor in a slow gradual stop or upon the first application of brakes after vehicle has been standing for a period of time. Is also a possibility that inner liner of vacuum hose which connects to brake vacuum booster may collapse, causing loss of power brake assist. (Correct by installing new parts in brake master cylinder and modifying vacuum hose routing.)	54	163,493
		GMC	E and S trucks and bus chassis	1967 1968 & 1969			
69–0040	4–2–69	Chevrolet GMC	K20 Series K2500 equipped with 4–wheel drive	1969	Possibility vehicle may be equipped with wheels which cannot be properly seated on mounting flange, due to interference between front wheels and brake drums in valve stem area. This could result in cracking of wheel disc and improper service brake action. (Correct by replacing wheels with proper size wheels.)	11	2,043
69–0041	4–2–69	GMC	DH, DI, FH, FI 9502 (Astro 95) Tractor	1969	Possibility that brake supply and application valve air hose may have been improperly routed in area of left front tire. If this condition exists hose may contact left front tire during full right turn.	8	632

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
					General Motors Corporation—*Continued*		
					If contacted repeatedly by tire hose will chafe and eventually rupture causing loss of service brake action. (Correct by inspecting and rerouting hose, also replace hose when necessary.)		
69-0045	4-7-69	Pontiac	Catalina Executive Bonneville	1969	Possibility of insufficient clearance between right and left floor pan reinforcement bar and inboard side of frame. This may in time cause wearing through of brake and fuel lines adjacent to left reinforcement bar and also could cause frame to body contact on right side. (Correct by inspecting and and providing clearance when necessary.)	5	58
69-0046	4-7-69	Pontiac	Tempest Firebird equipped with Sport steering wheel	1968	Possibility that if driver puts full weight on steering wheel when getting in and out of vehicle it could, over a period of time, break away one or more of the three steering wheel spokes from the hub. If these spokes break and pull loose from retaining interlock ring it would result in loss of steering control. (Correct by replacing steering wheel with an improved model.)	7	12,164
69-0068	5-7-69	Chevrolet	TE-500 and Tilt Cab TE-600 equipped w/5-speed transmission	1968	Possibility that wrong shift pattern decal was installed. If this condition exists, driver could select wrong gear position. (Correct by installing correct shift pattern decal.)	6	649
69-0069	5-7-69	Chevrolet	Chevy II, Nova equipped with 4-speed transmission and floor mounted console option.	1968 & 1969	Possibility that shift pattern decal was omitted in production. Absence of decal could result in selection of incorrect gear shift position. (Correct by installing gear shift pattern.)	6	2,057
69-0091	7-03-69	Chevrolet Pontiac	Full size station wagon Bonneville Catalina Executive	1969 1969	Possibility that filler plate was omitted from left rear floor pan area between bumper and fuel tank. If this plate is missing it could allow dust and, under certain conditions, exhaust fumes to enter passenger compartment. (Correct by inspecting and installing filler plate when necessary.)	13	24,017

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
General Motors Corporation—*Continued*							
69-0099	7-10-69	Chevrolet	Station Wagon	1969	Possibility that Goodyear tires, size 8.55x14 2-ply (4-ply rated) may be unusually susceptible to bruise breaks. These bruise breaks will result in gradual loss of tire pressure. (Correct by replacing with new tire.)	5	274
69-0107	8-1-69	Pontiac	Firebird	1969	Possibility that incorrect length rear flexible brake hose was installed. If this condition exists, full compression of the rear spring may contact and chafe hose causing loss of brake fluid and subsequent loss of brakes on rear wheels. (Correct by installing proper length hose.)	4	129
69-0148	10-13-69	Pontiac	Firebird	1969	Possibility that incorrect rear brake hose bracket was installed. If this condition exists with full compression on rear spring during operation could cause hose to rub against underbody and wear hole in hose and result in loss of brake fluid. (Correct by installing correct type bracket.)	3	86
69-0152	10-28-69	Chevrolet	Blazer	1969	Replace outside rearview mirror with rectangular mirror. Install transmission transfer case shift pattern decal where necessary. Possibility that filler neck seal between fuel filler neck and body panel was omitted in production. (Correct by inspecting and installing seals where necessary.)	10	502
69-0179	12-17-69	Pontiac	Tempest equipped with 8 cylinder engine 2-speed automatic transmission	1970	Possibility that incorrect throttle valve rod clip may have been installed. This could result in failure of throttle lever to return to idle position. (Correct by inspecting and installing proper rod and clip where necessary.)	6	1,300
Harley-Davidson Motor, Incorporated							
69-0103	7-8-69	Harley-Davidson	Electra Glide	1967	Possibility that rear brake pedal lever which was brazed where lever and stop plate join the bushing may fail. Failure of lever could result in loss of rear brakes. (Correct by replacing with new style steel alloy welded lever.)	10	5,000

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LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Highway Trailer Industries, Inc.							
69–0032	3–18–69	Highway Trailer Industries, Inc.	Trailer	NR	Possibility that equalizing beams in Neway suspension system may crack. If this occurs and both beams on a particular axle break apart, axle would detach itself from frame and become a safety hazard. Also a possibility that the subframe rail may crack causing rail to separate from frame. (Correct by replacing suspension and reinforcing subframe rail.)	3	35
69–0111	8–15–69	Highway Trailer Industries, Inc.	801B–402TA	Built 1965 thru 1968	Possibility brake chamber mounting bracket may crack from fatigue. If condition continues without proper reinforcement of bracket, it may lead to partial loss of trailer brakes. (Correct by reinforcing mounting brackets.)	4	10
69–0167	11–11–69	Highway Trailer Industries, Inc.	HCS–22–25 HCS–22–24 HCT–22–25 Single axle and tandem axle	NR	Possibility that single axle container chassis may have defective pipe used in forming "A" brace for rear hitch plate assembly. If this condition exists, the rear hitch plate could separate from frame causing damage and risk to safety of others. (Correct by replacing pipe structure with ½"x4"x36" hot rolled steel bars.) Possibility that tandem axle chassis rear hitch plate assembly reinforcement brace was omitted in production. (Correct by inspecting and installing plate reinforcing brace where necessary.)	8	12
International Harvester Company							
69–0006	1–10–69	International Harvester	Loadstar Bus Chassis 1603, 1703, 1803 and 1853.	Del'd 1968	Possibility that hydraulic brake hoses for left front wheel installed 1" too short. Under certain conditions could cause hoses to become damaged when front axle is in a free or rebound position. (Correct by replacing hoses with proper length.)	6	256
69–0007	1–10–69	International Harvester	Fleetstar "A"	Del'd 1968	Possibility that clutch pedal, when depressed, could contact air brake front wheel limiting value result-	4	312

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
					International Harvester Company—*Continued*		
					ing in breakage of value. If breakage occurs, could cause air pressure loss when brakes are applied. (Correct by replacing with new redesigned value.)		
69–0011	4–10–67	International Harvester	1000B	1967	Possibility that left front brake hose could chafe on left tire during full left turn position . (Correct by installing additional hose support bracket.) Possibility that idler arm may fail due to inadequate support. (Correct by adding support bracket for steering idler arm.)	8	736
69–0015	2–6–69	International Harvester	1000D	1968 & 1969	Possibility that steering idler arm mounting bracket may fail under certain operating conditions, resulting in impaired steering. (Correct by installing new improved idler arm and adding idler arm mounting bracket reinforcement.)	12	1,598
69–0037	3–28–69	International Harvester	Fleetstar, CO–4000, and D–400 equipped with FA–109 and 119 front axle	1965 1966 1967 1968	Possibility that excess wear condition may develop on outer front wheel bearing and inner wheel bearing adjusting nut. This could cause wheel bearing creep resulting in loose wheel bearing. (Correct by installing hardened washer between outer front wheel bearing and inner wheel bearing adjustment nut.)	7	21,040
69–0055	5–1–69	International Harvester	M–42 and M–412	Dlv'd 1968 1969	Rear axle air line piping incorrectly connected to ¼ inch outlet port to the foot brake va ve instead of ½ inch outlet port. (Correct by installing ½ inch outlet port connection.)	5	59
69–0074	5–26–69	International Harvester	1000D Pickup and Travelall W/5. 50K x 15 wheels.	1969	Possibility that vehicles were assembled with improper wheels, which could result in interference between brake drum and wheel. (Correct by inspecting and replacing wheels as required.)	8	3,330
69–0078	5–26–69	International Harvester	1000C and 1000D Pickup and Travelall equipped w/ 15. 5 x 50F wheel.	1968 & 1969 1969	Possibility that vehicles were assembled with improper wheels, which could result in interference between brake drum and wheel. (Correct by inspecting and replacing wheels when necessary.)	6	91
69–0102	7–23–69	International Harvester	CO–Loadstar equipped with spring loaded air	Delv'd 1964 thru 1968	Possibility air hoses may contact wiper arm. (Correct by installing nylon strap to position air hoses to avoid contact with wiper arm.)	8	1,947

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
International Harvester Company—*Continued*							
			parking brakes.	and part of 1969			
69–0120	9–2–69	International Harvester	Bus 183RE and 193RE	Del'vd 1969	Air brake pedal linkage must be replaced because linkage was modified by body company when plywood flooring was added to body.	7	23
69–0124	9–11–69	International Harvester	Scout 800	1969	Possibility that front seat belt anchor bolts may not meet 9000 lbs. minimum bolt strength. (Correct by replacing with proper strength bolts.)	5	592
69–0128	9–19–69	International Harvester	Aristocrat Scout–800	1969	Possibility that accelerator rod, directly beneath accelerator pedal, could become lodged on punched hole in carpeting. This could prevent return of accelerator control to engine idle. (Correct by installing stop bar to prevent pedal rod end sticking in carpet.)	8	685
69–0153	10–28–69	International Harvester	Fleetstar CO–190, 210–230, 400 Loadstar and Co-Loadstar	NR	Possibility that machining of valve cap to valve body of Bendix-Westinghouse tractor protection valve is incorrect. If this condition exists, it could cause valve to leak air. (Correct by replacing valve where necessary.)	6	5,560
69–0172	11–20–69	International Harvester	Loadstar and Mfg. Co-Loadstar	1969	Possibility that brake drum to wheel mounting nuts will not withstand required 180 to 190 ft. lbs. torque. (Correct by inspecting and installing new improved nuts where necessary.)	2	67
Kaiser Jeep Corporation							
69–0005	12–30–68	Kaiser Jeep	Custom Wagon 1414 x 19	1969	Possibility of interference between one of the brake tubes running from master cylinder to warning signal block on the left frame side rail, and coupling at lower end of tilt steering wheel assembly. If condition exists, is possible for hole to be worn through tube, causing loss of front wheel or rear wheel brake system, depending on which tube comes in contact with steering gear assembly. (Correct by properly rerouting brake tubes.)	9	1,000

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Kaiser Jeep Corporation—*Continued*							
69–0022	2–12–69	Kaiser Jeep	Jeep Gladiator	NR	Possibility that front axle housing tubes may be cracked. If condition is not corrected, is possible for complete fracture of axle tube to occur, allowing all parts from point of fracture to outer end of axle, including the wheel, to leave vehicle. (Correct by inspecting and making necessary repairs.)	15	4,000
69–0047	4–2–69	Kaiser Jeep	Jeep Universal Diesel Engine	NR	Possibility that original brake pedal assembly may fail. (Correct by replacing brake pedal assembly.)	2	16
69–0080	6–10–69	Kaiser Jeep	Gladiator	NR	Possibility that wheel mounting hex nuts do not properly contact seat of lug nut holes. This could cause extreme wear on wheels in area of wheel hole lug nut seats. (Correct by inspecting and replacing hex nuts when necessary.)	10	274
69–0081	6–10–69	Kaiser Jeep	1414D Wagoneer	NR	Possibility that interference may exist between one of the brake tubes running from master cylinder to warning signal block on left frame side rail and coupling at lower end of tilt steering wheel assembly. (Correct by inspecting and properly routing brake tubes.)	11	185
69–0101	7–3–69	Kaiser Jeep	Jeepster	1969	Possibility that universal joints on steering gear assembly do not comply with specifications. Could cause universal joints to crack or fracture at one or both of the yolks. (Correct by inspecting and replacing where necessary.)	10	1,431
69–0145	10–9–69	Kaiser Jeep	Gladiator Camper 3407–Z19	NR	Replace improper serial number plate of 8600 gross vehicle weight with proper plate of 8000 lbs. gross vehicle weight.	6	63
Mack Trucks, Incorporated							
69–0050	4–10–69	Mack	With front spoke wheels w/FA 5321 and 5351 front axles without brake drums.	1969	Installation of reinforcing ring will be made to front spoke wheels with FA 5321 and FA 5351 front axles without brake drums.	7	156

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Mack Trucks, Incorporated—*Continued*							
69–0088	6–26–69	Mack	R, RL, RS U and DM	Built betw 12/68 & 3/69	Possibility that stop lamp switch is wired with a stop lamp oil pressure switch. (Correct by modification of stop lamp switch circuits.)	5	4,212
69–0109	8–11–69	Mack	F, R, U and DM with Cummins engine	1969	Possibility that heater relay was omitted from heater wiring circuit. Absence of heater relay could cause overload of circuit breaker and result in engine shutdown. (Correct by inspecting and installing relay when necessary.)	8	8
69–0118	9–4–69	Mack	Trucks W/1674 Caterpillar Engines	NR	Possibility that fuel rack and rack bearing on fuel injector pump housing may fail. If this occurs could result in over-speeding of engine. (Correct by replacing with new fuel rack and rack bearing.)	6	17
69–0144	10–10–69	Mack	Trucks equipped w/Ross HF64 power steering	NR	Possibility that worm follower locking screw on power steering gear assembly may work loose. If this condition exists and screw works out completely, input worm and follow shaft will disengage causing complete loss of steering control. (Correct by replacing follower screw with improved screw and locking washer.)	3	93
69–0160	11–3–69	Mack	Trucks DM800	Built during period July 1968 thru July 1969	Possibility that severe operating conditions and/or overload may lead to fracture of front spring anchor pin at its annular groove. If this condition exists, unretained half of pin could interfere with steering drag link if it works out of bracket, causing restriction of wheel cut angle. (Correct by replacing with improved anchor pin.)	4	892
Motor Coach Industries, Incorporated							
69–0063	4–11–69	Challenger	MC–7 Coach	NR	Possibility that welded joints on rear trailing wheel arms are not of sufficient strength. May cause failure of these components. (Correct by installing reinforcing bracket.)	9	154

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Motor Coach Industries, Incorporated—*Continued*							
69–0070	5–14–69	Challenger	MC5, MC6 and MC7	NR	Possibility that ice and snow build-up on lanyard of spring loaded drain valve could cause valve to inadvertently open allowing possible loss of air reservoir pressure. (Correct by replacing with conventional drain cock.)	7	56
Oshkosh Truck Corporation							
69–0180	12–14–69	Oshkosh	Trucks delivered after June 1969	NR	Possibility that defect may exist in air control valve that can cause leakage from third air tank into spring brakes after control has been applied by operator. (Correct by installing new valve.)	10	144
69–0181	12–18–69	Oshkosh	Trucks with Model 1674 Caterpillar Engines	NR	Possibility that fuel rack and rack bearing on fuel injector pump housing may fail. If this occurs, could result in over-speeding of engine. (Correct by replacing with fuel rack and rack bearing.)	6	2
Pacific Car and Foundry Company							
69–0057	4–22–69	Kenworth	Truck	NR	Possibility that LP gas heater may be defective. (Correct by removing and returning to manufacturer for repairs.)	4	1
69–0085	6–17–69	Kenworth	Truck	NR	Modifications to frame casting, track bar brackets and track bar axle casting will be available for improvement of suspension system.	7	193
69–0094	7–3–69	Kenworth	K100C	NR	Possibility that aluminum front spring shackle brackets may be inadequate. If this bracket fails, vehicle may "oversteer" to one side. (Correct by replacing aluminum brackets with steel brackets.)	9	409
69–0122	9–5–69	Kenworth	1674 Caterpillar Engine	NR	Possibility that fuel rack and rack bearing or fuel injector pump housing may fail. If this occurs it could result in over-speeding of engine. (Correct by replacing with new fuel rack bearing.)	9	26

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Pacific Car and Foundry Company—*Continued*							
69-0137	9-26-69	Peterbilt	With Model 1674 Caterpillar Engine	NR	Possibility that fuel rack and rack bearing on fuel injector pump housing may fail. If this occurs, could result in over-speeding of engine. (Correct by replacing with new fuel rack and rack bearing.)	4	28
69-0139	9-30-69	Peterbilt	Truck	NR	Possibility that defect may exist in air control valve that can cause leakage from third air tank into spring brake chamber, which could release spring brakes after control has been applied by operator. (Correct by installing new valve.)	6	6
69-0162	11-7-69	Kenworth	(COE) Truck	1969	Possibility that defect may exist in air control valve that can cause leakage from third air tank into spring brakes chamber, which could release spring brakes after control has been applied by operator. (Correct by installing new valve.)	4	1,269
69-0171	11-7-69	Kenworth	Truck	Mfg. 1968 1969	Possibility that air ride suspension frame brackets may fail under certain operating conditions. Failure of brackets could result in loss of vehicle control. (Correct by inspecting and reinforcing bracket where necessary.)	8	995
Shelby Automotive Company, Incorporated							
69-0089	6-10-69	Shelby	GT-350/500	1969	Possibility that aluminum center wheels installed on vehicles may have inadequate bolt hole chamfers. This could cause lugs to loosen and eventually disengage wheel from vehicle. (Correct by replacing wheels and lug nuts with improved ones.)	6	1,277
69-0131	9-23-69	Shelby	GT-500	1969	Possibility that under certain circumstances vapors vented through fuel filler cap could be ignited by exhaust. This could cause minor damage to adjacent fiber glass body panels. (Correct by installing separate venting tube and non-vented cap.)	2	1300

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
SS Automobiles, Incorporated							
69–0076	5–23–69	SS Automobiles	Excalibur	1968 & 1969	Possibility that plastic fast idle cam on four barrel Rochester carburetor may fail, causing throttle not to return to fully closed position. (Correct by replacing fast idle cam with an improved one.)	3	65
Strick Corporation							
69–0056	4–28–69	Strick	Trailer	NR	Possibility that spider on Rockwell Standard Axles with mounted brake assemblies may be subject to fatigue failure under high stress conditions or long term usage. In this event, secondary emergency braking system permits vehicle to be safely controlled. (Correct by installing beam mounted brake axles.)	7	6,700
69–0154	10–28–69	Strick	Trailer 40,000 lbs. Capacity hitch	Produced after Oct. 1968	Possibility that hitch latch handle may drop out due to inadequate plug weld. If this condition exists, could allow handle to fall out and latch to fall off the hitch. (Correct by welding ¼" flat washer with minimum ½" outside diameter on end of handle.)	4	400
Superior Coach Corporation							
69–0010	1–14–69	Superior Coach	Pontiac and Consort Funeral and Ambulance	1968	Possibility that some coaches have inadequate clearance between gas tank and center section of rear bumper. This condition could result in hole being worn in gas tank by contacting rear bumper. (Correct by checking for proper clearance between tank and bumper.)	5	357

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Wayne Corporation				
69-0071	5-9-69	Wayne	School Bus	1969	Possibility that a relay was omitted in production from the K80-9 school bus 8-light warning system. Omission of this relay would cause system to malfunction. (Correct by inspecting and installing relay when necessary.)	4	12
			White Motor Corporation				
69-0008	1-7-69	White	Diamond Reo CF-59	NR	Possibility that vehicles were equipped with air-actuated brake systems, a new type connector nut and a particular type of steering gear that might result in accelerator interference. If interference occurs, accelerator might stick in "full throttle" position. (Correct by inspecting and providing proper clearance for accelerator linkage.) See Campaign 68-0129; covers same type campaign by same manufacturer.	8	14
69-0023	2-26-69	White	Diamond Reo	NR	Possibility that on front wheel assemblies bolts holding wheel to brake drum may not have been properly tightened, which could result in nuts loosing. If nuts loosen, bolt thread could be damaged and/or bolt could protrude into brake drum chamber causing damage to brake component parts. (Correct by inspecting and properly tightening nuts.)	15	787
69-0042	3-31-69	White	Autocar	NR	Possibility that some capscrews which did not meet specification requirements were used in fastening radiator fan to fan hub, clutch to engine flywheel, and generator/alternator to adjusting straps. (Correct by inspecting and replacing with proper capscrews when necessary.)	11	50
69-0061	5-2-69	White	Tractor	NR	Possibility that front wheel assembly bolts holding wheel to brake drum were improperly tightened, which could result in nuts loosening. If nuts loosen, bolt thread could be damaged and/or could pro-	12	3,014

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			White Motor Corporation—*Continued*				
					trude into brake drum chamber causing damage to brake component parts. (Correct by inspecting and properly tightening nuts when necessary.)		
69–0123	9–9–69	White	Truck Equipped W/Berg Stop Lamp switch No. 3240	NR	Possibility that stop lamp switch Berg No. 3240, used on vehicles equipped with air brakes, might "pop" apart. If this happens, would result in air leak which could gradually reduce brake system air pressure to below a satisfactory level. (Correct by installing improved switch when necessary.)	8	7,111
69–0142	10–3–69	Diamond Reo	CF 5900 Equipped W/ Berg stop lamp switch No. 3240	NR	Possibility that stop lamp switch Berg No. 3240, used on vehicles equipped with air brakes, might "pop" apart. If this happens, would result in air leak which could gradually reduce brake system air pressure to below a satisfactory level. (Correct by installing an improved switch when necessary.)	8	55

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Alfa Romeo, Incorporated							
69–0073	5–23–59	Alfa Romeo	105.30 GT JR. 105.36 GT Veloce 105.39 Givlia 1300 T.I.	NR	Possibility that an additional brake tube support bracket is necessary to preclude failure or loss of brakes due to loss of brake fluid from brake tube. (Correct by installing support bracket and new brake pipe.)	5	124
Algar Enterprises, Incorporated							
69–0036	LTR 3–24–69	Lancia	Flavia Sedan	1967	Low pressure hydraulic hoses for steering system are being replaced with improved design hoses. This exchange is being made to insure more reliable service.	2	3
American Honda Motor Company, Incorporated							
69–0112	8–5–69	Honda	CB–750	1969	Possibility that drive sprocket may have been improperly heat treated. If this engine sprocket should break there would be a sudden loss of power and possible rear wheel lockup by drive chain. (Correct by installing new sprocket where necessary.)	5	2,095
British Leyland Motors, Incorporated							
69–0024	1–21–69	MG Triumph	Midget MGB–(wire wheels) MGB/GT GT–6 Spitfire	NR	Possibility that the words "TUBED TYPE", were omitted from required data to be shown on tire side walls. No safety hazard is involved. (Correct by applying self-vulcanizing adhesive imprints of data to both side walls.)	5	5,450
69–0104	7–28–69	Triumph	Spitfire MKIII and GT–6	1969	Possibility of fatigue failure of body panel in area where rear suspension radius arm bracket is attached. (Correct by installing four high tensile bolts into floor pan to reinforce bracket.) This is a supplement recall to campaign number 68–0105, October 29, 1968.	5	888

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
British Leyland Motors, Incorporated—*Continued*							
69–0113	8–18–69	Triumph	GT–6 and Spitfire MK III	1969	Possibility that improper use of seat slide operating lever will cause it to break. If this condition exists seat would not be secured properly on seat slides. (Correct by replacing broken lever where necessary, and instructing in proper use.)	5	4,000
69–0143	10–1–69	Jaguar	XKE Roadster, Coupe, 2+2 XJ-Sedan	1969	Possibility that inner steering ball joint assembly of power steering rack and pinion may not have been correctly tightened or locked by tab washer. If this condition exists, is possible for ball joint assembly to become disconnected from steering rack at one end, causing a loss of steering. (Correct by inspecting and correct when necessary.)	12	133
Bus and Car Supply Company							
69–0108	7–25–69	Bus & Car	Silver Eagle	NR	Possibility that right or left king pin arm on front suspension system may fail. (Correct by inspecting and replacing with proper type arm where necessary.)	8	155
Fiat Motor Company, Incorporated							
69–0009	12–23–68	Fiat	All models manufactured after Jan. 1, 1968.	1968 & 1969	Possibility that convex outside rear-view mirror does not meet safety standards. (Correct by replacing convex mirror with flat mirror.)	3	25,413
69–0052	4–15–69	Fiat	850 Sedan (Type 100G)	1968 & prior years	Possibility that in a head-on collision at thirty miles per hour, rearward displacement of steering column may exceed the five inches maximum provided by Federal Safety Standard No. 204. (Correct by replacing with a new improved steering column that will eliminate any excessive rearward displacements.)	17	3,598

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
General Motors Corporation Buick Motor Division—Opel							
69–0002	12–27–68	Opel	Kadett equipped with cam-in-head type engine	1968	Possibility that carburetor throttle linkage bracket may seperate under certain conditions. If separation occurs, would affect operation of accelerator pedal and carburetor linkage. This could prevent engine returning to idle speed, making vehicle difficult to stop. (Correct by modifying bracket.)	8	20,978
69–0132	9–24–69	Opel	Kadett	1969	Possibility front seat back adjustment mechanism may develop excessive wear between gears of adjuster, causing seat back to move unexpectedly to rearward position. This could momentarily interfere with driver's ability to control vehicle. (Correct by inspecting and installing necessary part to correct mechanism.)	13	39,856
General Motors Corporation–Vauxhall Viva–Division							
69–0114	8–19–69	Vauxhall Viva	HB93000 Series	1967 & 1969	Possibility that corrosion of rivets in headlamp thermal circuit breaker may cause overheating, resulting in possible melting of wiring insulation and causing fire damage. (Correct by replacing with improved circuit breaker.) Possibility that on 1969 models equipped with A.I.R. emission controls, insulating pad under front floor mat directly over muffler may have been omitted in production. (Correct by installing pad where necessary.)	12	500
Lotus Cars, Limited							
69–0136	9–19–69	Lotus	Europas Elans and Elan+2S	1969	Possibility that headlamps may not meet the 24 inches above road surface requirement in accordance with Motor Vehicle Safety Standard No. 108. (Correct by replacing front springs with modified type.)	12	400

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Mercedes-Benz of North America, Inc.							
69-0121	9-3-69	Mercedes-Benz	600	NR	Possibility that incorrect retaining screw might have been installed in master brake cylinder during production. If this condition exists, could lead to possible failure of front wheel brakes. (Correct by inspecting and replacing master brake cylinder when necessary.)	9	350
69-0176	12-12-69	Mercedes-Benz	300 SEL/8-6.3	1968 & 1969	Possibility that engine breather line may freeze. If this condition exists, throttle in air intake housing will freeze and accelerator pedal will not return to idle position. (Correct by modifying crankcase ventilation system to prevent this occurrence.)	9	66
Nissan Motor Corporation In U.S.A.							
69-0029	3-17-69	Datsun	PL-510 Sedan and Station Wagons	1969	Possibility that fuel pump outlet connector tube may not be sunk far enough into fuel pump body to avoid loosening. This condition could allow fuel to leak and ignite. (Correct by driving tube the proper distance into the fuel pump body.) Also is a possibility that carburetor fuel inlet connector may be loose, which could allow fuel to leak into manifold and ignite. (Correct by securing connector to carburetor with a simple fastener.)	19	39,426
69-0087	6-12-69	Datsun	SPL-311 and SRL-311 Sports Car	1969	Possibility that steering linkage could bind on frame cross-member tunnel. If this occurs, steering may fail to recover after a turning maneuver has been made. (Correct by inspecting and making necessary repairs.)	9	3,158
69-0165	10-30-69	Datsun	L521 Pickup Truck	NR	Possibility that plastic hood release handle, when pulled forcibly from a certain angle, may break causing hand to strike underside edge of dash panel and resulting in possible injury. (Correct by replacing plastic handle with aluminum handle and installing protective polyvinyl moulding on the underside edge of dash panel.)	15	18,172

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Nissan Motor Corporation in U.S.A.—*Continued*							
69–0177	12–16–69	Datsun	SRL 311 and SPL 311 Sports Car	NR	Possibility that carburetor fuel inlet connector may be loose and allow gasoline to leak onto the manifold and ignite. (Correct by inspecting and installing a clamp at point of connection.)	16	12,663
69–0178	12–22–69	Datsun	PL 510 Sedan and Station Wag.	1968 & 1969	Possibility that when dealers in USA installed seat belts they failed to install cotter pins in front lap seat belt hooks after attaching them to eye bolts on floor. Without cotter pins there is possibility that seat belt could inadvertently become disengaged from anchorage. (Correct by installing cotter pins where necessary.)	4	70,887
Porsche of America Corporation							
69–0004	12–31–68	Porsche	Type 911–E and 911–S	1969	Possibility that two bolts used to retain steering gear reinforcing support member and fuel pump bracket fail to maintain correct tightness. (Correct by installing steel washer under each bolt and a new lock washer and torque to 34 lbs. ft.)	8	380
69–0021	2–24–69	Porsche	912, 911–T, 911–E, 911–S	1969	Possibility that seat belt buckels installed in a way that release lever will not function properly under unfavorable conditions. (Correct by installing new type buckels with release lever in proper position.)	9	1,532
69–0049	4–8–69	Porsche	911S, 911E Coupe and Targa	1969	Possibility that material in terminal block in electric fuel pump may be inadequate to resist certain chemicals. (Correct by inspecting and replacing pump when found necessary.)	10	350
Renault, Incorporated							
69–0003	12–30–68	Renault	R. 1190	1969	Possibility that defect may exist in machining of steering rack and pinion housing. If defect exists,	11	2,900

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Renault, Incorporated—*Continued*				
					could permit axial play of steering wheel and, under extreme conditions, separation of pinion from the rack, causing loss of steering. (Correct by inspecting and replacing where necessary.)		
69–0156	10–31–69	Renault	R.1152	1969	Possibility that premature wear of rubber cup on Master Brake Cylinder could cause loss of braking pressure on rear wheel brake system. (Correct by installing new improved Master Brake Cylinder.)	10	6,800
			Rolls-Royce, Incorporated				
69–0034	3–19–69	Rolls-Royce	Silver shadow and Bentley "T"	NR	Possibility that under certain overload conditions set screws which hold the two side steering levers to steering mechanism may work loose. If this occurs, continued use could cause serious steering control problems. (Correct by installing special designed locking plate.)	9	1,350
			SAAB U.S.A., Incorporated				
69–0097	7–11–69	SAAB	95	1969	Possibility that rubber vacuum hose connecting power assist portion of brake master cylinder to vacuum source could fail due to poor quality hose. (Correct by inspecting and replacing when necessary.)	4	4,000
69–0098	7–10–69	SAAB	99	1969	Affix Certification Label, which was omitted from vehicle during production.	4	500
			Service Motor Company, Ltd.				
69–0138	9–22–69	Toyota	Corona	1966 1967 1968	Possibility that brake tubes coated with "solder" may, under adverse weather and road conditions, corrode and cause brake fluid leakage and subsequent brake failure. (Correct by replacing brake tubes with zinc coated tubes.)	12	534

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LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Subaru of America, Incorporated							
69–0174	11–21–69	Subaru	Star FF–1 Station Wagon	1970	Type I safety belts for the two seating positions of rear seat were omitted on factory production line. (Correct by installing seat belts.)	7	700
Toyota Motor Sales, U.S.A., Incorporated							
69–0014	1–27–69	Toyota	Coronas	1969	Possibility that brake fluid reservoir cap assembly might have inadequate sealing function. This could permit some brake fluid leakage, particularly when vehicle is operated under abnormal conditions. Leakage of brake fluid could reduce braking efficiency. (Correct by replacing reservoir cap assembly with improved seal.)	7	18,395
69–0027	3–10–69	Toyota	Landcruiser Station wagon	1968 & 1969	Possibility that left front and rear door scuff plates were improperly installed during assembly. Could cause electrical wiring harness under these plates to short circuit. (Correct by inspecting plates and properly installing when necessary.)	6	263
69–0079	5–26–69	Toyota	Corona	1969	Possibility that brake fluid reservoir cap assembly might have inadequate sealing function. This could permit some brake fluid leakage, particularly when vehicle is operated under abnormal condition. Leakage of brake fluid could reduce braking efficiency. (Correct by replacing reservoir cap plate with improved seal.)	11	39,000
69–0090	6–30–69	Toyota	Corona Sedan and Hardtop	1966 1967 1968	Possibility that brake tubes coated with "solder" may corrode and cause brake fluid leakage and subsequent brake failure. (Correct by replacing brake tubes with zinc coated tubes.)	11	55,000
69–0140	9–30–69	Toyota	Corolla	1969	Possibility that manual transmission gear shift lever may break when excessive pressure is applied. (Correct by inspecting and replace when necessary.)	6	5,800
69–0141	9–30–69	Toyota	Crown Sedan and Station Wagons	1968 1969	Possibility that front brake hoses may rub against front spring bumper causing hose to chafe.	8	3,700

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Bureau Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Toyota Motor Sales, U.S.A., Incorporated—*Continued*							
					Repeated rubbing could cause hose to leak brake fluid, resulting in malfunction of front brakes. (Correct by inspecting and replace when necessary.)		
Volvo, Incorporated							
69–0051	4–10–69	Volvo	Model 145 Station Wagon	1969	Possibility that gas cylinders used to raise tail gate unassisted may leak and in some cases fail to hold gate in open position. (Correct by installing an improved gas cylinder on right side of tail gate and a mechanical lock assembly on left side of tail gate in place of gas cylinder.)	8	7,008
69–0075	5–23–69	Volvo	144 and 145	NR	Replace incorrect jack with jack equipped with proper tongue to engage in the body lift brackets.	4	23
69–0133	9–17–69	Volvo	140, 164, and 1800 With Zenith-Stromberg carburetor	1969	Possibility that during freeway driving vehicles fitted with Zenith-Stromberg carburetor and hot start valves could have actuating lever of hot start valve interfere with throttle return. This could result in a partially-open throttle during deceleration. (Correct by modifying hot start valve to preclude possible throttle sticking.)	8	16,000
69–0134	9–17–69	Volvo	164	1969	Possibility that welding of universal joint in steering column could be defective. This would result in knocking noise and eventually free play in steering wheel. (Correct by inspecting and replace column where necessary.)	8	2,774
69–0135	9–17–69	Volvo	164	1969	Possibility of improper clearance of brake pipes adjacent to radiator tank, resulting in a potential traffic hazard. (Correct by inspecting and make necessary adjustments.)	8	420

MOTOR VEHICLE SAFETY DEFECT RECALL CAMPAIGNS

From January 1, 1970 to December 31, 1970 □ REPORTED TO: The National Highway Traffic Safety Administration □ BY: DOMESTIC AND FOREIGN VEHICLE MANUFACTURERS □ U.S. Department of Transportation/National Highway Traffic Safety Administration

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INTRODUCTION

Section 113 of the National Traffic and Motor Vehicle Safety Act of 1966 requires that:

> "Every manufacturer of motor vehicles shall furnish notification of any defect in any motor vehicle or motor vehicle equipment produced by such manufacturer which he determines, in good faith, relates to motor vehicle safety, to the purchaser (where known to the manufacturer) of such motor vehicle or motor vehicle equipment, within a reasonable time after such manufacturer has discovered such defect."

The required notification is to be by certified mail to the first purchaser and by certified mail or more expeditious means to the dealer or dealers of the manufacturers.

The manufacturer is further required to furnish the Secretary of Transportation a true or representative copy of all notices, bulletins, and other communications to dealers or purchasers regarding defects in motor vehicles or motor vehicle equipment.

The National Highway Traffic Safety Administration has received numerous requests for information on defects in motor vehicles. In answer to these requests the Administration publishes quarterly summary reports on defect campaigns conducted by domestic and foreign manufacturers. These summary reports are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, at a price established by the Superintendent of Documents. Annual cumulative editions of the reports will be pubished at the beginning of each calendar year.

Detailed reports of specific recall campaigns listed in the summary reports are available from the National Technical Information Service, Springfield, Virginia. (For details on ordering from the NTIS see page vii.)

Since manufacturers are not required to report to the Administration specific serial numbers of vehicles involved in recall campaigns, any information concerning defects on specific serial-numbered vehicles must be obtained from the dealer or manufacturer.

SUMMARY TABULATIONS

MOTOR VEHICLE SAFETY DEFECT RECALL CAMPAIGNS

(January 1, 1970—December 31, 1970)

Manufacturers Reporting	*Number of Recall Campaigns*	*Number of Vehicles*
I. DOMESTIC		
American Hoist and Derrick Company	1	675
American Motors Corporation	4	19,955
Avion Coach Corporation	1	18
Brockway Motor Trucks	2	486
Checker Motor Corporation	2	1,700
Chrysler Motors Corporation	27	165,126
Clark Equipment Company	3	237
Fireball Trailer Mfg. Incorporated	1	102
Flxible Company	2	82
Ford Motor Company	10	255,894
Freightliner Corporation	1	4,000
Fruehauf Corporation	1	18
General Motors Corporation	19	141,806
Gillig Brothers	1	40
Harley-Davidson Motor Company, Inc.	1	9
International Harvester Company	8	93,122
Kaiser Jeep Corporation	3	29,465
Mack Trucks Incorporated	1	247
Pacific Car and Foundry Company	2	1,510
Sightseer Corporation	1	22
Skyline Corporation	1	587
Superior Coach Corporation	2	176
Trailmobile Division, Pullman, Inc.	1	986
White Motor Corporation	5	21,988
Domestic Totals	100	738,251
II. FOREIGN		
Alfa Romeo, Incorporated	1	2,405
American Honda Motor Company, Inc.	1	11,048
Bayerische Motoren Werke	1	17,284
BSA Motorcycle Corporation	1	5,175
British Leyland Motors, Inc.	4	23,968
Bus and Car Supply Company	1	54
Fiat Motor Company, Inc.	3	35,804
Luigi Chinetti Motors, Inc.	1	162
Mercedes-Benz of North America, Inc.	3	165
Nissan Motor Corporation in USA	3	156,404
Peugeot, Incorporated	1	7,000
Porsche/Audi	8	19,901
SAAB, USA., Incorporated	6	27,771
Simca-Rootes, Div. of Chrysler Motors Corp.	1	9,838

SUMMARY TABULATIONS—Continued

MOTOR VEHICLE SAFETY DEFECT RECALL CAMPAIGNS

(January 1, 1970—December 31, 1970)

Manufacturers Reporting	*Number of Recall Campaigns*	*Number of Vehicles*
II. FOREIGN		
Subaru of American, Incorporated	3	13,610
Toyota Motor Sales, USA. Inc.	5	111,629
Triumph Motorcycle Corporation	1	7,416
Volkswagen of America, Inc.	6	33,129
Volvo, Incorporated	4	19,792
Foreign Total	54	502,555
III. EQUIPMENT		
Dunlop Tire and Rubber Corporation	1	292
Gates Rubber Company	1	9,586
General Tire and Rubber Company	1	42,205
B. F. Goodrich Company	2	67,631
Goodyear Tire and Rubber Company	3	28,823
Mansfield Tire and Rubber Company	1	492
Mohawk Rubber Company	2	11,870
Superior Industries	1	NR
Totals	12	160,899

ORDERING DATA

Detailed reports of the recall campaigns listed in this publication are available from the National Technical Information Service (NTIS), Springfield, Virginia 22151. The detailed reports for a quarter of a year are grouped together to form one publication and should be ordered by the applicable publication number listed below and the title, *Motor Vehicle Safety Defect Recal Campaigns, Detailed Reports:*

Quarter	*PB Number*	*NHTSA Recall Campaign Numbers*
January-March	PB-191093	70–0001—70–0028
April-June	PB-192564	70–0029—70–0072
July-September	PB-194580	70–0073—70–0116
October-December	PB-196681	70–0117—70–0154*

NTIS sells pubications in two forms—full size paperbacks at $3.00 each and miniature size copies (4 × 6″) microfiche at $.65 each.

Additional copies of this list of defect recall campaigns are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

* Includes equipment recalls for the period 1969–1970

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
American Hoist and Derrick Company							
70–0012	1–28–70	American Hoist	Mobil Sweeper "H" Series	1968 & 1969	Possibility that on rear axle with dual hydraulic brake assembly, the brake spider casting may be subject to failure in service. In event of this failure, could result in complete loss of primary (or service) braking system. (Correct by inspecting and replacing with new improved assembly where necessary.)	4	675
American Motors Corporation							
70–0079	6–30–70	Kaiser Jeep	Post Office ¼-ton RHD DJ–5A	1968 1969	Possibility that vehicles equipped with Dana Model 44 semi-float-rear-axle assemblies having flanged shaft left factory with axle shaft bearings which may require additional lubrication. (Correct by replacing bearing where necessary.)	5	8,172
70–0108	8–28–70	American Motors	Rebel Ambassador Gremlin AMX Javelin	1970	Possibility that locking pawl used on bucket seat back may have been produced with steel of improper specifications. It was determined that locking pawl would not pass Federal Motor Vehicle Safety Standard 207. (Correct by replacing with proper type pawl.)	14	2,498
70–0117	9–22–70	American Motors	Model 7010 Rebel	1970	Possibility that rear suspension lower control arm may fail because bushing hole may not be of proper dimension. Can cause metal fatigue after extensive or hard usage which will affect rear axle stability. (Correct by replacing lower control arm and bushing.)	14	3,581
70–0153	12–14–70	American Motors	7108 Hornet Sportabout	1971	Possibility that rear auxiliary floor pan supports were improperly located. Fastening screws could slightly penetrate gas tank and gasoline would leak from tank when full or when vehicle is parked on an incline. (Correct by modifying where necessary.)	14	5,704

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Avion Coach Corporation							
70–0123	9–21–70	Avion	Travel Coach	1969 1970	Possibility that wheels installed on units are of inadequate load carrying capacity. (Correct by replacing wheels where necessary.)	4	18
Brockway Motor Trucks							
70–0064	6–3–70	Brockway	300 and 400 Series	Built 1969	Possibility that stop lamp switch is wired in series with a stop lamp oil pressure switch. If this condition exists stop lamp will actuate only with engine operating. (Correct by modifying wiring circuit.)	6	429
70–0118	9–24–70	Brockway Motor	Model–400	Built btwn 12-1-68 & 4-15-69	Possibility that during assembly heater relay was omitted in key switch circuit. Absence of this relay could result in overload of circuitbreaker and cause engine to shut down. (Correct by installing relay where needed.)	5	57
Checker Motors Corporation							
70–0037	3–11–70	Checker	12-Passenger Aerobus	1969	Possibility that pitman arm nut was inadequately torqued. Loose nut could result in erratic steering control. Loss of nut would result in pitman arm becoming disengaged causing complete loss of steering control. (Correct by properly torquing nut. Proper torque not less than 120, nor more than 160 foot-pounds.)	5	790
70–0096	7–20–70	Checker	Passenger Cars Taxi Cabs	1970	Campaign to affix label exempting vehicles built between January 1, 1970 and April 15, 1970 from Federal Motor Vehicle Safety Standard No. 212, Windshield Mounting-Passenger Cars.	4	910

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Chrysler Motors Corporation				
70–0005	1– 5–70	Chrysler Plymouth Dodge	Built at Jefferson and Belvedere Plants Build at Belvedere Plants	1970	Possibility that black side wall Goodyear tires, size H78x15, may not conform to Federal Standard 109 and, under severe highway use, might be susceptible to tread separation. These tires can be identified by serial number prefix JEO5, VEO5, JRO5 or URO5. (Correct by replacing with new tires.)	3	769
70–0018	2–25–70	Dodge	W–100 and W–200 with 4-wheel drive hubs (Lock-O-Matic)	1966 thru 1970	Possibility that Loc-O-Matic hub assemblies were improperly assembled in production. This may cause drag shoe nut and wheel bearing retainer nuts to loosen, resulting in complete loss of road wheel. (Correct by inspecting and installing proper parts where necessary.)	11	3,574
70–0019	2–26–70	Chrysler Plymouth Dodge	Chrysler Belvedere Coronet	1970 1970 1970	Possibility that Goodyear tires size F78 x 14 may not meet specification and may be susceptible to separation in lower side wall under severe highway use. (Correct by replacing suspect tires (Serial No. ACNCKIDF) with new ones.)	3	378
70–0048	5–7–70	Dodge Plymouth	Dart Valiants equipped with standard drum brakes	1970	Possibility that front portion of brake master cylinder was damaged or improperly assembled in production. Also possible that primary cup in front brake portion may have been cut, or a thin washer between cup and piston may have been omitted. If either of these conditions exist front brakes may fail; however, rear brakes will still be operational. (Correct by replacing cylinders where necessary.)	12	19,160
70–0056	5–28–70	Dodge	Compact truck with automatic speed control	1971	Possibility that automatic speed control mechanism may encounter throttle hang-up if speed control anchor bracket is improperly assembled out-board on throttle rod to carburetor bell crank support bracket. This could result in throttle staying partially open. (Correct by making necessary adjustments.)	5	8
70–0059	5–25–70	Dodge	M–300 Chassis for Motor Homes	1970	Possibility that brake master cylinder push rod end may become disengaged from master cylinder push	5	1,299

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Chrysler Motors Corporation—*Continued*				
					rod. This could result in complete loss of brakes. (Correct by adjusting pushing rod end to assure minimum of five duel threads of engagement into master cylinder push rod.)		
70–0060	5–26–70	Dodge	LN 1000 LNT 1000	1970	Possibility that air compressor governor and radiator shutter stat air lines may have been interchanged. If this condition exists, is possible to deplete air supply from #1 and #3 air tanks without activating air compressor governor. This could result in application of emergency brakes while truck is in motion causing loss of vehicle control. (Correct by properly installing air lines.)	8	207
70–0062	6–2–70	Dodge	Truck P–300 with A318 and LA318 C.I.D. engine	1966	Possibility that brake master cylinder may come in contact with engine exhaust manifold. This could result in excessive heating of brake fluid, possibly to the boiling point, and could cause loss of vehicle braking ability. (Correct by replacing left front engine support bracket with new design bracket, which will more engine away from master cylinder.)	6	490
70–0067	6–11–70	Dodge	Trucks B–200, B–300 equipped power brakes	1971	Possibility that bolt was omitted from mounting for power brake booster to dash panel. Lack of this bolt in mounting may subject dash panel to bending during heavy brake application; extended usage might lead to fatigue of dash panel and possible loss of braking ability. (Correct by adding bolt where necessary.)	5	21
70–0068	6–11–70	Dodge	Trucks B–100, B–200, B–300 with power brakes	1971	Possibility that power brake booster mounting bracket has spot welds that may be of insufficient strength to withstand heavy brake application. Failure of welds could allow separation of mounting bracket resulting in loss of braking ability. (Correct by arc welding where necessary.)	6	1,000
70–0069	6–11–70	Dodge	Trucks B–100, B–200, B–300	1971	Possibility that front suspension lower left ball joint not properly lubricated. Lack of lubrication could result in premature failure	6	1,613

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Chrysler Motors Corporation—*Continued*				
					of ball joint and could lead to loss of vehicle control. (Correct by lubricating where necessary.)		
70–0070	6–11–70	Dodge	Trucks B–100, B–200, B–300	1971	Possibility that four bolts used to attach lower steering knuckle arm assembly to front brake backing plate contained improper material. Bolts could fail and cause loss of steering control. (Correct by replacing bolts where necessary.)	6	3,866
70–0075	6–30–70	Dodge	Dart	1968 1969	Possibility that Goodyear tires, size 700 x 13, could fail to comply with National Highway Safety Bureau's strength plunger energy test.	5	6,639
		Plymouth	Valiant	1968 1969 built in Los Angeles assembly plant	(Correct by replacing tires where necessary by Goodyear dealers in accordance with their regular adjustment policy.)		
70–0081	7–10–70	Dodge	Motor Home Chassis Model M375	1970	Possibility that brake tubes may have been routed or positioned improperly along frame side rail. Could result in abrasion or damage to tubes and cause loss of braking ability. (Correct by re-routing if necessary.)	7	1,225
70–0082	7–16–70	Dodge	Polara Monaco	1970	Possibility that bumper jack hook under some conditions may not properly engage front bumper flange and allow vehicle to fall during jacking operations. (Correct by replacing hook where necessary.)	5	81,932
70–0089	7–27–70	Dodge	D400, D500, D600 equipped with hydraulic brakes	1969 1970	Possibility that master cylinder brake hoses where misrouted so that they contact steering column coupling. Prolonged contact could result in loss of brake fluid and subsequent loss of braking ability. (Correct by inspecting and routing properly where necessary.)	7	5,487
70–0090	7–27–70	Dodge	S–500 D500, D600, D700, S500 with a 5,000 lb. front axle	1968 1969 1970	Possibility that front wheel brake hose could contact steering knuckle arm nut or cotter pin. This could cause chafing of brake hose which could result in loss of brake fluid and subsequent loss of braking ability. (Correct by installing hose bracket where necessary.)	8	10,288

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Chrysler Motors Corporation—*Continued*							
70–0103	8–24–70	Plymouth	Barracuda	1970	Possibility that bumper jack hook under some conditions may not properly engage lower edge of rear bumper due to urethane covering on bumper. If improper engagement of hook occurs it could allow vehicle to fall during jacking operation. (Correct by replacing hook with improved bumper hook.)	5	1,278
70–0119	9–28–70	Dodge Plymouth	Police cars with special equipment inertia reel shoulder harness retractor	1969 and 1970	Possibility that bolt holding reel to center door pillar may have been overtightened causing distortion of reel assembly. Reel could malfunction causing shoulder belt not to restrain. (Correct by replacing where necessary.)	10	1,843
70–0122	9–14–70	Imperial Chrysler Plymouth Dodge	Fury	1971	Possibility that improper disc brake metering valve was installed. Could result in a degree of front wheel brake drag. (Correct by replacing valve where necessary.)	5	8
70–0128	8–26–70	Dodge	Polara Monaco 4-Door Sedan and 4-Door Hardtop	1970	Possibility that rear outboard seat belt anchor reinforcement plates were not completely welded in place. Incomplete weld at this point would reduce load carrying capacity of rear seat belt anchor. (Correct by properly welding where necessary.)	6	94
70–0129	10–21–70	Dodge Plymouth	Dart Valiant equipped with 10x2¼" front drum brakes	1970 1970	Possibility that unmatched primary front brake linings were installed during production. Different coefficients of friction between unmatched brake linings could result in brake "pull" to left or right when brakes are applied. (Correct by replacing linings where necessary.)	11	6,366
70–0130	10–22–70	Dodge	Charger	1971	Possibility that tire pressure placard issued with vehicle does not have tire pressure printed on it. (Correct by replacing with placard properly filled out.)	3	185
70–0138	11–18–70	Dodge	Dart Coronet Charger	1971	Possibility that disc brake proportioning tee may not function properly. If this condition exists, proper amount of brake fluid under certain conditions will not be distributed correctly to braking system. Will also affect actuating warning light on instrument panel if failure of front or rear brakes occurs. (Correct by replacing tee where necessary.)	11	1,307
		Plymouth	Valiant Satellite equipped with disc brakes	1971			

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Chrysler Motors Corporation—*Continued*							
70–0146	11–30–70	Dodge Plymouth	Dart Valiant	1971 1971	Possibility that front wheel inner bearings may not have adequate lubricant. Could result in bearing failure and, in time, could possibly lead to loss of vehicle control (Correct by lubricating where necessary.)	10	10,969
70–0149	12–7–70	Dodge	FCB 900D Pusher Bus	1970	Possibility that under some conditions of throttle action hydraulic throttle system could draw air into hydraulic lines causing gradual loss of system adjustment and eventally preventing carburetor from returning to idle. (Correct by installing mechanical throttle control system.)	2	47
70–0152	12–4–70	Dodge	Heavy duty truck w/ 44,000 pound Hendrickson suspension system	1969 1970	Possibility that spring hanger pins through front eyes of rear springs may move out of proper position during operation of vehicle. Loss of these pins could allow axle to slip out of position and result in loss of vehicle control. (Correct by welding pin to spring hanger bracket where necessary.)	6	197
Clark Equipment Company							
70–0054	5–21–70	Clark Equipment	45-foot van equipped with sliding tandem running gear	NR	Possibility that side rails on tandem running gear may be cracked. If this condition exists and trailer is used as lead trailer in doubles operations, could result in separation of units. (Correct by reinforcing rails where necessary.)	3	52
70–0072	6–24–70	Clark Equipment	Trailer W/ Neway Arl-US Series Trailer Suspension	NR	Possibility that weld attaching beam axle mounting bracket to axle may be inadequate. If this condition exists, continued operation could result in partial or complete separation of axle from trailer. (Correct by welding properly.)	4	11
70–0099	8–14–70	Clark Equipment Company	Brown Trailer	1970	Possibility that welds attaching forward suspension roller circle may not be adequate. If any welds are not sound or are missing, could cause separation at roller circle which would affect control of tractor trailer units. (Correct by properly welding where necessary.)	5	174

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Fireball Trailer Mfg., Incorporated							
70-0080	6-30-70	Fireball	16.5 and 17 foot trailers	NR	Possibility that present wheel size may be overloaded and could fail. (Correct by replacing present 1330 lb. rated wheel with 5½ x 15″ 1530 lb. capacity wheel.	3	102
Flxible Company							
70-0001	12-29-69	Flxible Company	Flxiliner Coaches	Built Dec.1, 1967 thru June 1969	Possibility that defect exists in front wheel hub casting. (Correct by replacing wheel hub castings.)	2	41
70-0076	6-30-70	Flxible Company	Flxiliner Coach	1970	Possibility that defect exists in front wheel hub assembly. This is a follow-up on campaign 70-0001 initiated 12-29-69. (Correct by replacing wheel hub assembly.)	5	41
Ford Motor Company							
70-0028	3-17-70	Ford	L and LT 800, 8000, 900, and 9000 Series Truck	1970	Possibility that incorrect steering shaft was installed during assembly. If this condition exists, shaft assembly can become disconnected causing loss of steering control. (Correct by inspecting and replacing with proper steering shaft assembly.)	16	1,739
70-0047	9-10-69	Ford	Thunderbird Ford Fairlane Mustang/ equipped with front seat belt assembly	1970	Possibility that seat belt retractor locking mechansim may be erratic in locking action. (Correct by replacing where necessary with proper seat belt retractor mechanism.)	5	86,300
70-0105	9- 1-70	Ford Mercury	Police Service Monterey Montclair Marauder Parklane Marquis Commuter Colony Park in police service	1965 thru 1969	Possibility that cracks can be induced in front lower control arms if front suspension is repeatedly subjected to very severe loading sometimes entercountered in police service. Such cracking could ultimately result in fracture through arm in ball joint area, and cause disconnection between lower control arm and front wheel which would seriously hamper driver's ability to fully control vehicle. (Correct by replacing with a heavy duty improved arm.)	11	85,000

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LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Ford Motor Company—*Continued*				
70–0112	9–22–70	Ford	Cortina	1970	Possibility that Goodyear Tire and Rubber Company of Great Britain constructed 600 x 13 4-ply tires inadvertently with incorrect cord material which did not conform to Motor Vehicle Safety Standard No. 109. (Correct by replacing with new tire.)	4	1,219
70–0113	9–22–70	Ford	Bronco and F–100, E–200	1970 1971	Possibility that Goodyear tires size G–78–15–B glass belted were inadvertently manufactured with inadequate thickness of inner tread covering fiberglass belt. This could result in tread separation and cause severe vehicle vibration. (Correct by replacing with new tire.)	8	6,000
70–0114	9–22–70	Ford	Pinto	1971	Certification labels were erroneously installed with vehicle build date of 08/71 instead of 08/70. (Correct by replacing with correct label.)	3	4,188
70–0115	9–22–70	Ford Mercury	Mustang Cougar	1971 1971	Possibility that in welding #2 cross-member to side rails some spot welds were inadvertently missed during production. This could cause separation of #2 cross-member from its support and cause loss of front end alignment, increased tire wear and steering effort. (Correct by welding where necessary.)	9	15,548
70–0116	9–22–70	Lincoln Ford	Mark III Thunderbird Fordor	1971 1971	Possibility that front and rear inboard seat belt anchors were inadequately welded to floor pan. (Correct by inspecting and properly welding where necessary.)	11	4,600
70–0134	11–4–70	Ford	Pinto	1971	Possibility that accelerator linkage has interference condition where accelerator pedal is depressed beyond half-throttle position. Could cause accelerator to hold and not return to normal position when pedal is released. (Correct by modifying where necessary.)	7	26,000
70–0135	11–4–70	Ford	Medium and heavy duty bus chassis	1968 1969 1970	Possibility that cover on dual hydraulic brake master cylinder reservoir may become distorted due to excessive tightening of attachment bolt. Could cause brake fluid to leak from under cover, resulting in reduced brake efficiency. (Correct by replacing with new improved type cover.)	5	25,300

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Freightliner Corporation							
70–0021	2–24–70	Freightliner	Truck	Manufactured since June 1, 1969	Possibility that upper steering gear boot that attaches to deck and seals to steering driveline may be abnormally tacky on inside. Under certain operations, this could cause boot to adhere to driveline, pulling itself loose from its seal on the deck and causing interference in the turning of steering wheel. (Correct by adding a bushing sleeve inside of boot.)	3	4,000
Fruehauf Corporation							
70–0098	8–13–70	Fruehauf	Trailerette C12HE, C15HE, C20HE, C10HE, C16HE and C18HE with single and tandem axles.	1970	Possible that severe usage could cause weld cracks in lunette eye attachment area. (Correct by installing a modified construction designed to correct the problem.)	3	18
General Motors Corporation							
70–0002	1– 5–70	Buick	LeSabre Wildcat Electra Riviera	1970	Possibility that during assembly one or more 15″ x 6″ chassis wheels having improper welds were installed. This could cause rim to separate from spider, or center section of the wheel, resulting in difficulty with steering control. (Correct by inspecting and replacing with new wheels where necessary.)	8	4,527
70–0003	11–24–69	Buick	LeSabre Wildcat Electra 225 Riviera	1970	Possibility that under certain conditions vehicles equipped with power disc brakes could have front brake hose fitting-to-frame contact when making full turn. This could result in loss of brake fluid at hose fitting and affect front braking system. (Correct by inspecting and installing new parts where necessary.)	16	1,178
70–0004	11–24–69	Pontiac	Tempest Grand Prix	1970	Possibility that if both the air conditioner and rear window defroster are operated at the same time in high position the combined amper-	6	2,574

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			General Motors Corporation—*Continued*				
					age required could cause the circuit breaker to open, resulting in loss of blower motor operation and movement of heated air to windshield. Under high humidity conditions forward vision would be impaired. (Correct electrical circuit where necessary.)		
70–0010	1–26–70	Buick	Skylark Sportwagon and GS	1970	Possibility that carburetor throttle operating cable may have been kinked or bent during assembly. This could result in cable binding and prevent throttle from closing. (Correct by replacing with new throttle cable.)	10	19,917
70–0016	2–18–70	GMC	E & S Model 45–6500 series trucks and school buses	1968 1969	Possibility that during operation steel brake line at rear axle could chafe on left rear shock absorber, and that front brake hoses on school buses may contact tire, shock absorber or steering arm. Continued chafing could wear hole in hose or line at point of contact, causing loss of hydraulic brake fluid. (Correct by inspecting and re-routing steel line and adding additional clip to hold hose.)	9	25,950
70–0031	3–26–70	Chevrolet GMC	K–10 and K–20 K–1500—2500 with 4-wheel drive	1969 1969	Possibility that front spring eye bolts may break and move out of position. This could permit spring to be detached from spring hanger, causing truck to pull to left or right when brakes are applied. (Correct by replacing with new type eye bolt when necessary.)	9	5,760
70–0032	3–26–70	Chevrolet	Chevelle Monte Carlo	1970	Incorrect tire-information decal may have been installed. (Correct by installing where necessary.)	10	16,712
70–0033	3–26–70	Chevrolet	Station Wagon	1970	Possibility that general Tires–H–78x15 rayon belted may be unusually susceptible to bruise breaks. This condition normally results in gradual loss of tire pressure. (Correct by replacing tires bearing specific serial numbers).	8	5,082
70–0077	6–24–70	Pontiac	Firebird Trans-AM	1970	Possibility that idle stop solenoid bracket nut on carburetor could interfere with movement of air-valve-switch-activating lever, possibly preventing throttle from closing. Should this occur while vehicle is in motion accelerator	5	1,406

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
					General Motors Corporation—*Continued*		
					pedal could stick and hold throttle open. (Correct by replacing lever where necessary.)		
70–0078	6–24–70	Chevrolet	Series 50, 60, 70, and 80 equipped with 7,000 lb. Front Axles and Ten Stud Budd Wheels	1970	Possibility that front wheel may have casting cracks in hub. This could result in brake drum or wheel becoming disengaged from hub, causing loss of wheel assembly. (Correct by replacing parts where necessary.)	10	300
70–0093	7–31–70	Chevrolet	Station Wagon 1500 and 1600 Series	1970	Possibility that bumper jack load rest bracket may have been improperly formed. This could cause load rest bracket to become disengaged from bumper slot, allowing vehicle to slip off jack. (Correct by replacing load rest bracket with proper bracket.)	8	4,000
70–0094	7–31–70	Chevrolet GMC	Series 10 Series 1500 with one piece 15 x 5.5 wheels	1970	Possibility that one-piece 15 x 5.5 wheels may be subject to cracking. This could result in severe vibration of wheel resulting in total wheel separation and possible loss of vehicle control. (Correct by replacing where necessary.)	11	880
70–0097	8– 6–70	Chevrolet	40, 50, 60 Series	1968 1969 1970	Possibility that cover on dual hydraulic brake master cylinder may become distorted due to excessive tightening of attachment bolt. If this condition exists, brake fluid may leak from under cover and excessive loss of brake fluid could result in reduced brake efficiency. (Correct by replacing with new improved type cover.)	13	21,000
		GMC	4500, 5500 6500 and 7500 with hydraulic brakes and dual frame-mounted boosters	1969 1970			
70–0106	8–27–70	Chevrolet	"C" and "P" 20 and 30 Series "G" 30 Series	1970	Possibility that bolts used to assemble upper control arm shaft to frame may be too brittle If bolts break and permit upper arm of front suspension to become detached from frame, would result in loss of vehicle control (Correct by replacing bolts with improved ones.)	17	11,328
		GMC	C & P 2500–3500 G–3500, All light duty trucks				
70–0125	10–15–70	Chevrolet	C–10 thru 30 Series with R.P.O. L–47 engine, vacuum brakes	1971	Possibility that carburetor throttle lever can catch underneath throttle linkage bracket and cause throttle to be held in partially open position. If this condition occurs vehicle will not slow down when accelerator	10	828

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			General Motors Corporation—*Continued*				
		GMC	CE1500, 2500 & 3500 W/400 cu. engine and vacuum power brakes	1971	pedal is released, making vehicle difficult to control. (Correct by modifying carburetor throttle bracket.)		
70–0141	11–13–70	Chevrolet	Series P–30 Post Office Trucks	1970	Possibility that brake push rod boot may not adequately seal master cylinder. Moisture entry while chassis is stored outside prior to body installation could result in corrosion in secondary seal area of master cylinder. Could cause seal damage and leakage of brake fluid in front brake system. Extended leakage may result in loss of braking action in front half of dual system. (Correct by modifying where necessary.)	7	413
70–0143	11–25–70	Chevrolet	Chevrolet Chevelle Camaro Nova El Camino	1971	Possibility that throttle rod to throttle lever retaining clip on carburetor may be incorrectly installed. If this condition exists, throttle lever could be held in	18	12,600
		Pontiac	Le Mans Firebird	1971	partially open position. If this occurs while vehicle is in motion,		
		Buick	Skylark	1971	vehicle will not slow down when		
		Oldsmobile	F–85	1971	driver's foot is removed from accelerator. (Correct by replacing clip with improved design where necessary.)		
			All models equipped with L–6 cylinder engines.				
70–0145	11–23–70	Chevrolet GMC	Light duty trucks	1970	Possibility that incorrect 16 x 5.50 split side rings were assembled on trucks with 16 x 6.00 wheels. Could cause wheel rings to disengaged from wheel during vehicle operation. (Correct by replacing with proper size wheel rings.)	1	101
70–0147	12–2–70	Chevrolet GMC	Light-duty trucks	1971	Possibility that trucks may have been assembled with either 16 x 6.00 two-piece or 16.5 x 8.25 one-piece wheels which have obvious cracks outside mounting bolt circle in wheel disc. If this condition exists, cracks may progress with prolonged vehicle operation and cause wheel failure which could result in loss of vehicle control. (Correct by replacing wheel where necessary.)	12	7,205

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Gillig Brothers							
70–0049	4–8–70	Gillig	School bus model C–180–13	NR	Possibility that steering arm manufactured by Rockwell-Standard assembly No. FD–900–PX066 may fail on front axle assembly, due to incorrect heat treatment. If this condition exists could result in complete loss of steering control of the vehicle. (Correct by replacing with improved front axle assembly.)	7	40
Harley-Davidson Motor Company, Inc.							
70–0007	1–12–70	Harley-Davidson	Sportster XLH	1970	Possibility that incorrect wheel rim was used on low ground clearance vehicle in production line assembly. If this condition exists, tire could slip on rim and either pull inner tube valve stem through rim or rip stem off the tube. This would result in sudden deflation of tire and cause rider to lose control of vehicle. (Correct by replacing with correct wheel rim.)	2	9
International Harvester Company							
70–0009	12–15–69	International Harvester	1000, 1200 C&D 4 x 4 series with	NR	Possibility of premature wear of king pin upper bearing car (steering arm) mounting studs. This could result in impaired steering. (Correct by inspecting and replacing steering knuckle, steering arm and mounting studs.)	9	4,433
70–0020	2–26–70	International Harvester	COF–1950 F–2050A CO–1950	Delv'd 1969 and 1970	Possibility that parking brake air control valve may be defective. This could cause previously set parking brake to be release. (Correct by inspecting and installing new valve when necessary.)	4	37
70–0038	4–10–70	International Harvester	M–42 and M–412 Mixer Series	Delv'd 1969	Possibility that front wheel service brake air line piping is incorrectly connected to ¼ inch outlet port to foot brake valve instead of ½ inch outlet port. (Correct by installing ½ inch outlet port connection.)	7	38

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
International Harvester Company—*Continued*							
70–0043	4–27–70	International Harvester	Fleetstar Loadstar CO–190 M-Series equipped with Midland-Ross brake slack adjuster	Delv'd 1969 and 1970	Possibility that interference may exist between air brake slack adjuster and rear spring U–bolt mounting plate when push rod travels less than 2½ inches. (Correct by replacing with Bendix-Westinghouse slack adjuster.)	8	633
70–0073	6–11–70	International Harvester	Loadstar	NR	Possibility that incorrect brake vacuum check valve was installed. This could cause loss of vacuum in braking system. All units were corrected prior to delivery to customers. (Correct by installing new check valve, part # 76208–R 91.)	2	129
70–0085	7–17–70	International Harvester	1000D	1970	Possibility that lining in both front wheel secondary brake shoes may fail in initial operation. (Correct by replacing with new shoe and lining where necessary.) (All corrective action will be taken prior to delivery to customers.)	4	3,000
70–0110	9– 3–70	International Harvester	Model 1000D thru 1500D	1969 1970	Possibility that castellated type lock nut on brake-pedal-push-rod mounting bolt may work loose due to bolt being too short. If nut works loose and bolt falls out, loss of braking ability would occur. (Correct by replacing bolts and nut.)	7	76,068
70–0139	11–9–70	International Harvester	Loadstar	1968 1969 1970	Possibility that cover on dual hydraulic brake master cylinder reservoir may become distorted due to over torquing of attachment bolt. If condition exists, brake fluid may leak from under cover causing reduced brake efficiency. (Correct by replacing with new improved type cover.)	8	8,784
Kaiser Jeep Corporation							
70–0011	1–27–70	Kaiser Jeep	Jeepster equipped with Automatic transmission	NR	Possibility that accelerator pedal could contact floor console at some point through its arc of travel. This could cause accelerator pedal to stick in an undesirable position. (Correct by inspecting and modify as necessary.)	9	450

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Kaiser Jeep Corporation—*Continued*							
70–0027	3–18–70	Kaiser Jeep	Jeep, Wagoner	1970	Possibility that vehicles left factory with front turn signal and parking lamp assemblies that do not comply with certain light dispersing requirements. (Correct to conform with proper lighting requirements.)	8	940
70–0045	4–30–70	Jeep	CJ (Universal) C–101–Jeepster J–164–Wagoneer 2406–W and 3408–W (5000 GVW Gladiator Trucks) M–606–MilJeep ¼-ton P.O.D.	1970	Possibility that rear axle bearing left factory with insufficient lubricant. If this condition exists, is possible to have total bearing failure, which could cause rear wheel and axle assembly to separate from vehicle. (Correct by adding lubricant when necessary.)	13	28,075
Mack Trucks, Incorporated							
70–0034	4–1–70	Mack	DM807, 809 and 811W/ power steering and without air conditioning	NR	Possibility that power steering pump drive on DM models employing rubber crankshaft vibration damper may become disengaged from pulleys during vehicle operation. This condition will stop power steering pump and interrupt power assist. (Correct by installing double idler pulley.)	7	247
Pacific Car and Foundry Company							
70–0051	5–19–70	Peterbilt	Truck with four spring suspension	NR	Possibility that rear suspension braket may be defective. If this condition exists, could result in rear suspension bracket failure, causing loss of control of vehicle. (Correct by replacing with improved bracket for suspension system.)	8	73
70–0052	5–13–70	Kenworth	Truck	Mfg. 1968 1969 1970	Possibility that aluminum frame brackets for air ride suspension system may fail under certain operating conditions. Failure of brackets could result in loss of vehicle control. (Correct by replacing with steel brackets.) Note: Modification to Campaign No. 69–0171–Nov. 7, 1969.	8	1,437

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Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Sightseer Corporation							
70–0127	9–16–70	Sightseer	Motor Home Dodge Chassis	NR	Possibility that welded section of brake pedal arm might fracture in area where arm was shortened. (Correct by replacing brake pedal arm with properly designed arm.)	2	22
Skyline Corporation							
70–0050	5– 7–70	Layton	Special "20" Travel Trailer	NR	Possibility that original rim could break down under loaded conditions, resulting in flat tire. (Correct by replacing rim with heavy-duty rim rated at 2,160 pounds each.)	3	587
Superior Coach Corporation							
70–0046	5–1–70	Superior Coach	Superior Motor Home	NR	Possibility that steering column coupling clamp bolt may not be properly torqued. If this condition exists and clamp bolt becomes loose, will affect steering control. (Correct by tighting coupling clamp bolt to 35 foot-pound torque.)	4	17
70–0144	11–20–70	Superior Coach	Motor Homes	NR	Possibility that strap hangers holding 45 gallon gasoline tank may fail, due to being over torqued. (Correct by adding additional strap hanger and replacing original hangers with improved type.)	7	159
Trailmobile Division, Pullman, Inc.							
70–0148	11–30–70	Trailmobile	Converter Dollies equipped with Dayton-Muncie FWC Dual Jaw fifth wheel	NR	Possibility that plunger fastener on fifth wheel may come loose and fall out. If this happens plunger which locks jaws could likewise fall out, and permit trailer to disengage from fifth wheel. (Correct by installing modification kit when necessary.)	4	986

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			White Motor Corporation				
70–0015	1–20–70	White	4000 and 9000 series Truck & Truck Tractor with limiting valve.	NR	Possibility that in assembling front axle brake air limiting system, the pipes were connected to reservoir pressure instead of application air pressure. This could cause delay in the release of front axle brakes under unusual operating conditions. (Correct by inspecting and correctly connecting front axle brake air limiting system.)	9	17,761
70–0025	3–12–70	Diamond Reo	C11464D, G90, C050, CO–78 with Detroit Diesel 6–71 engine and power steering	NR	Possibility that hose was used between power steering reservoir and pump that may fail under operation due to high temperature and continuous exposure to certain chemical elements common in power steering fluid. This would affect power steering operation and could possibly damage pump. (Correct by replacing hose with correct type.)	6	216
70–0055	5–25–70	White	1500-Series	1970	Possibility that under emergency stopping conditions, braking efficiency is not within specifications when vehicle is lightly loaded or unloaded. Under these conditions, and depending upon weather and road conditions, directional stability of vehicle may be affected. (Correct by making corrective modifications.)	4	13
70–0133	10–28–70	White	6000 Series	NR	Possibility that cab rear-frame assembly, which secures cab hold-down latch mechanism may have been improperly assembled. Might result in separation of latch from cab, permitting cab to tilt forward without warning. (Correct by inspecting and modifying where necessary.)	11	130
70–0154	12–24–70	White Motor	White and Autocar equipped with tandem rear axle/ suspension combinations	NR	Possibility that on some truck-tractors assembled with certain tandem rear axle suspension combinations suspension hanger brackets on rear axle housings may develop cracks after two hundred thousand miles of over-the-road service. If this occurs, brackets may eventually fail causing loss of vehicle control. (Correct by replacing brackets where necessary.)	17	3,868

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Alfa Romeo, Incorporated							
70–0065	6–70	Alfa-Romeo	105.62—1750 Spider Velôce 105.51—1750 G.T. Veloce 105.71—1750 Berlina	1970	Possibility that brake master cylinder may contain defective seal. This could allow air to enter brake system, causing reduced braking efficiency resulting in low or soft pedal and eventual loss of braking power and control of vehicle. (Correct by installing new master cylinder when required.)	4	2,405
American Honda Motor Company, Inc.							
70–0026	3–16–70	Honda	CB–750	NR	Possibility that under certain operating conditions one of four throttle valves may remain slightly open when throttle grip is rotated to off position. This could reduce effect of engine braking. (Correct by inspecting and re-routing throttle cable.) A set of modified rear hub damper rubbers will be installed to increase drive chain durability.	10	11,048
Bayerische Motoren Werke (BMW)							
70–0074	7– 1–70	BMW	1600/2—2002/2	1967 1968 1969	Possibility that throttle return spring may, under certain operating conditions, fail to return to closed position. (Correct by installing sturdier return spring with support bushing to assure reduced wear. Also install torsion spring on accelerator pedal linkage to guarantee return of throttle when pedal is released.)	9	17,284
BSA Motorcycle Corporation							
70–0088	7–23–70	BSA	B25	1969 1970	Possibility that front brake cable may loop and become trapped on front mudguard bridge stay lug nut. This could cause brake to lock. (Correct by installing guide and bracket to protect cable.)	4	5,175

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Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
British Leyland Motors, Incorporated							
70–0006	12–17–69	Triumph	TR 250, TR 6, GT6+	1967 thru	Possibility of improper adhesion of magnet to gas tank filler cap due to cleaning imperfections of filler cap after machining. If this condition exists, gasoline could spill when starting or stopping vehicle. (Correct by inspecting and replacing cap when necessary.)	7	15,800
70–0040	4–27–70	MG	MG—Midget MGB—Roadster MGB—GT	1970	Possibility that locking bolt of steering column lock may have been ineffectively secured in assembly. Under certain circumstances, this could engage lock causing immediate loss of directional control of vehicle. (Correct by replacing lock mechanism where necessary.)	6	6,000
70–0053	5–18–70	Triumph	TR 6	1970	Possibility that rear reflex reflector assemblies may not meet Class "A" requirement under Motor Vehicle Safety Standard No. 108. (Correct by installing correct assemblies to meet Standard 108 requirements.)	3	876
70–0066	6–11–70	Rover	3500S	1970	Possibility that hood safety and main latches were misaligned. If this condition exists, could cause hood assembly to lift while in motion. (Correct by aligning properly.) Possibility that master windshield wiper switch could short circuit. (Correct by replacing with later type switch.) Possibility that reserve fuel control assembly could stick in midway position causing partial loss of engine power. (Correct by removing inner cable to free coiling tendencies and lubricate with low-freezing-point lubricant.)	5	1,292
Bus and Car Supply Company							
70–0008	1–16–70	Bus and Car	Silver Eagle	NR	Possibility that hubs furnished for front and trailing axles could be defective. (Correct by inspecting and replacing hubs where necessary.)	3	54

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Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Fiat Motor Company, Incorporated							
70–0024	3– 5–70	Fiat	850 Coupe	1968 & 1969	Possibility that in head-on collision at thirty miles per hour, rearward displacement of steering column may exceed five inch maximum provided by Federal Safety Standard 204. (Correct by replacing with new improved steering column used in all 1970 vehicles.)	16	8,150
70–0095	7–31–70	Fiat	Spider 850 Spider 124	1970	Possibility that seat belts may not fit properly in all seat positions. (Correct by replacing fixed segment of belt with one of proper length, where necessary.)	7	15,104
70–0137	11–9–70	Fiat	850 Spider 850 Racer	1970	Possibility that emission control hose may interfere with bracket which could cause hose to wear. Also, possibility that alternator fuse wire may interfere with hose clamp. (Correct by modifying location of hoses and wire.)	7	12,550
Luigi Chinetti Motors, Inc.							
70–0131	10–28–70	Ferrari	330 GTC 330 GTS	NR	Possibility that plate to which shock absorber mounts are welded may crack at bottom, allowing mount to bend out of position. This could cause shock absorber action to be impaired. If bending is severe enough on driver's side shock absorber may come in contact with universal joint of steering column, preventing its full rotation, and resulting in loss of steering control. (Correct by modifying plates where necessary.)	3	162
Mercedes-Benz of North America, Inc.							
70–0042	4–30–70	Mercedes-. Benz	L/LK 1618, L 1918 LP 1920, LK 1923, LS 2020, LS 2023, LK 2623, LPKO 1517,	NR	Possibility that castle nuts used for mounting steering arm on steering knuckle of left front wheel may loosen under heavy stress. This could lead to steering arm detachment from steering knuckle, caus-	10	42

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Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Mercedes-Benz of North America, Inc.—*Continued*							
			Trucks		ing loss of steering control. (Correct by installing castle nuts of reinforced quality).		
70–0086	7–27–70	Mercedes-Benz	250/8CP	1970	Campaign to reseal two paint diphole covers in floor of vehicle; also plug with rubber plugs two drilled holes located on either side of tunnel below rear seat.	5	38
70–0120	10–5–70	Mercedes-Benz	Truck Models LP1213, 1317 LPS1317, LP1313, LK911B, LP1013, OF1113, LP1113	NR	Possibility that castle nuts utilized at various points on steering assembly require readjustment. Failure to make these adjustments may result in erratic steering, excessive tire and steering component wear. (Correct by adjusting nuts where necessary.)	12	85
Nissan Motor Corporation In U.S.A.							
70–0071	6–15–70	Datsun	240–Z	1970	Possibility that hazard warning signal flasher may be faulty. If this condition exists, flasher may function improperly after 36 hours of continuous use. (Correct by replacing with improved flasher unit where necessary.)	7	232
70–0091	7–28–70	Datsun	PL510, WPL510 and HLS30	1968 1969 1970	Possibility that salts used in winter on highways will form mixture of salt water and mud which will accumulate on backs of sealed beam headlight units. When wet, the electrical circuit grounds through these deposits may set up an electrical corrosive action which could result in air entering sealed beam unit, causing failure. (Correct by installing rubber protectors.)	14	118,976
70–0136	11–10–70	Datsun	WPL 510 Station Wagon PL 521 Pickup Truck	1968 1969	Possibility that under extremely high temperatures, brake fluid may form chemical deposits on wheel cylinder wall. These deposits may slightly deform piston cup lip when it rides over them, resulting in leakage from loss of sealing. This condition could cause gradual loss of braking power and consequently is a driving hazard. (Correct by flushing brake system and replacing wheel cylinders where necessary.)	12	37,196

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Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Peugeot, Incorporated				
70–0039	12–30–69	Peugeot	404 Sedan with BA–7 and ZF Transmissions	1969	Possibility that defect may exist in hydraulic brake master cylinder. This condition would cause gradual loss of braking. (Correct by replacing master cylinder when necessary.)	10	7,000
			Porsche/Audi				
70–0030	3–25–70	Porsche	914	1970	Possibility that retaining bolts for steering gear and lock rings may loosen under continued driving. If this happens, could seriously impair steering control. (Correct by installing new bolts and lock rings.)	12	1,947
70–0036	3–30–70	Porsche	911–T	1970	Possibility that fuel hose leading to carburetor may become detached if too much tension is exerted by fuel line. This condition would result in immediate loss of fuel supply and power. (Correct by re-routing hose to relieve tension.)	12	2,449
70–0061	5–26–70	Audi	100LS	1970	Possibility that front left brake line was mounted with only one clamp. If this condition exists, line may chafe from vibration and over a period of time, cause loss of brake fluid and result in impaired brake performance. (Correct by installing additional clamp when necessary.)	10	2,700
70–0092	7–29–70	Porsche	911–T, E and S	1970	Possibility that rear seat belts were installed in production without spacers for rear seat belt mounting bolts. This condition could result in mounting bolts loosening and impairing retaining properties of safety belts. (Correct by installing mounting bolt spacers where necessary.)	14	2,150
70–0101	8–18–70	Audi	100 LS Automatic Transmission	1970	Possibility of insufficient clearance between brake and gas pedal arrangement. This could cause driver to strike accelerator pedal when stepping on brake pedal. (Correct by moving brake pedal to left of accelerator pedal.)	6	200

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Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Porsche/Audi—*Continued*							
70–0102	8–20–70	Porsche	T, E, S Models	1970	Possibility that left rear axle guiding arm was bolted to rear radius arm without lock rings. If this condition exists, bolts may loosen causing left rear wheel misalignment and affecting driving characteristics. (Correct by inspecting and adding lock rings where necessary.)	13	98
70–0111	9– 4–70	Porsche	914 and 914/6	1970	Possibility that seat lock adjustment mechanism may, under extreme loading of seat, fail to hold seat in firm position. (Correct by replacing with improved lock mechanism.)	13	2,017
70–0124	9–30–70	Porsche	914, 914/6	1970	Possibility that fuel line connections and fuel filter may have been improperly secured during assembly, which could cause small quantities of fuel to escape. Also, fuel lines of fuel injectors for right bank of cylinders may in some instances have become deteriorated as a result of electrolyte dripping from battery. (Correct by modifying as required.) Possibility that retaining bolt for front axle sub-frame may have been overtightened during assembly. (Correct by replacing where necessary.)	15	8,340
SAAB U.S.A., Incorporated							
70–0014	2– 4–70	SAAB	Model 99	1969	Possibility that front seat back may accidentally recline if extreme pressure is exerted against back. If this happens, collapsing seat back could possibly cause driver to lose control of vehicle. (Correct by inspecting and installing special guide pin in the reclining mechanism.)	4	19,600
70–0029	3–20–70	SAAB	99	1969	Possibility that clamp securing protective boot over left end of steering rack and pinion can come off and become entangled in gear of steering device. This condition could cause serious interference with normal steering operation. (Correct by installing stell ban improved type clamp.)	3	550

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Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			SAAB U.S.A., Inc.—*Continued*				
70–0063	6–4–70	SAAB	95 and 96	1970	Possibility that gear shaft lock out device was omitted on production line. If this device is omitted vehicle will fail to meet requirement of Motor Vehicle Safety Standard 114. (Correct by installing lock-out device.)	3	750
70–0100	8–18–70	SAAB	Model 97 Sonett III	1970	Possibility that welds made for attachment of steering column are inadequate. This could affect stability of steering column. (Correct by installing bracket and strap to stabilized steering column.) Possibility that welds holding emergency brake cable stop are inadequate. (Correct by installing plate to secure cable stop.)	7	175
70–0126	10–13–70	SAAB	99	1971	Possibility that two screws used to secure steering shaft to steering gear may be loose. (Correction made on all vehicles prior to delivery to dealer depots.)	2	48
70–0150	12–4–70	SAAB	95 and 96	1970	Possibility that fuel line to carburetor is improperly connected. This could allow fuel line to become unattached at carburetor causing fuel pump to push fuel onto hot engine manifold. (Correct by properly connecting line where necessary.)	3	6,648
			Simca-Rootes Division (Chrysler Motors Corporation)				
70–0017	2–25–70	Simca	1204	1969 1970	Possibility that during very cold weather an air ingestion condition can develop in master brake cylinder. This could result in spongy-feeling brake pedal causing loss of ability to apply front brakes. (Correct by shortening reservoir to master cylinder supply tubes, adjusting rear brakes, and bleeding brake system.)	5	9,838
70–9057	5–28–70	Simca	1204	1969 1970	Possibility that during very cold weather an air ingestion condition into master brake cylinder can develop. This will result in spongy-feeling brake pedal and could eventually result in loss of ability to apply front brakes. (Correct by	14	8,773

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Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Simca-Rootes Division (Chrysler Motors Corporation)—*Continued*							
					modifying master cylinder reservoir and supply tubes). This campaign supersedes Campaign 70–0017 dated 2–25–70. Possibility that in 1969 models front wheel bearing retaining lock nut was inadequately staked and could allow nut to loosen, resulting in excessive front wheel hub end play. (Correct by properly stabe lock nuts.)		
70–0058	5–28–70	Simca	1204 1118	1969	Possibility that dual braking system has stop light switch actuated by front braking system only. (Correct by installing relay and wiring harness to existing system to allow switch to operate on both front and rear braking systems.)	4	4,043
Subaru of America, Incorporated							
70–0132	10–26–70	Subaru	FF–1 2-Door and 4-Door Sedan		Possibility that automatic adjuster in front wheel brakes may not function properly and may not give advantage of automatic brake adjustment. This condition would be noticeable by increased pedal travel before brakes are applied. (Correct by replacing parts where necessary.)	13	794
Toyota Motor Sales, U.S.A., Incorporated							
70–0013	1–26–70	Toyota	2000 GT	1967	Possibility that under certain operating conditions rack end ball on steering linkage may exert abnormal pressure to socket. If this condition exists, damage may occur to rack end ball socket resulting in breakage, which could disable steering system. (Correct by inspecting and replacing with newly designed end ball.) Possibility that because of excessive torque of castle nut, axle hub shaft yoke may break due to	6	51

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Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Toyota Motor Sales, U.S.A., Incorporated—*Continued*				
					fatigue. If this occurs, engine power will not be transmitted to rear wheel and vehicle will become inoperative. (Correct by inspecting and properly torquing nut.)		
70–0023	3– 9–70	Toyota	Corolla	1969	Possibility that under abnormal pressure, brake pedal may bend during emergency stops. If pedal bends may cause driver's foot to slip off brake pedal. (Correct by replacing pedal with improved one.) Possibility that during servicing, mechanic may unintentionally replace brake fluid reservoir cap improperly. This could cause seepage of fluid and reduce efficiency of brakes. (Correct by replacing cap and deflector with improved design cap and deflector.) Possibility that exhaust manifold to engine may contact brake tube. Should engine develop excessive vibration, may contact brake tube resulting in damage to tube. (Correct by installing bracket clamp to insure proper space between tube and manifold.)	28	58,525
70–0083	7–16–70	Toyota	Crown Hi–Lux Series equipped with 1900 cc 8R engines	1970 1970	Possibility that flexible fuel hoses may develop air suction or fuel leakage due to crimping process of metal fittings on hoses. (Correct by inspecting and properly crimping metal fitting where necessary.)	10	974
70–0084	7–17–70	Toyota	Hi-Lux	1970	Possibility that fuel pipe between carburetor and fuel pump may be subjected to excessive vibration during prolonged high speed operation. This may result in fuel leakage, causing malfunction of engine. (Correct by installing an additional clamp on fuel pipe.)	6	4,200
70–0107	9– 1–70	Toyota	Mark II	Produced for U.S.A. June 1969 to June 1970	Possibility that during cold weather brake fluid may not adequately flow between reservoir tank and master cylinder. This condition would permit gradual accumulation of air into master cylinder system, resulting in soft pedal during application of brakes. (Correct by installing improved master cylinder components.)	20	47,879

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Toyota Motor Sales, U.S.A., Incorporated—*Continued*							
					Because of rerouting the vacuum advancer hose an additional clamp may have to be installed on fuel pipe between carburetor and fuel pump to eliminate excessive vibration, which may result in fuel leakage under prolonged high-speed operating conditions. Possibility that vacuum booster check valve may fail to seal properly. (Correct by replacing with type with longer valve body.)		
Triumph Motorcycle Corporation							
70–0087	7–23–70	Triumph	TR25W 250CC	1969 1970	Possibility that front brake cable may loop and become trapped on front mudguard bridge stay lug nut. This condition could cause brake to lock. (Correct by installing guide and bracket to protect cable.)	4	7,416
Volkswagen of America, Incorporated							
70–0022	2– 6–70	Volkswagen	Station Wagon Campmobiles Trucks	1970	Possibility that vehicles were transported from one automobile works to another by hooking lines to the tie rods rather than clamping lines to front axle beam. If this condition occurred would cause tie rods to bend and result in front wheel toe-out. (Correct by inspecting and have rods replaced if necessary.)	10	11,000
70–0104	8–27–70	Volkswagen	Type 14	1971	Possibility that material used for mounting bracket for steering column tube was of insufficient thickness. (Correct by replacing steering column tube.)	9	41
70–0109	9– 1–70	Volkswagen	Type 1 Convertible	1970	Campaign to correct chassis numbers erroneously placed on 1970 vehicles. Chassis involved were numbered with 1971 numbers.	14	688
70–0121	9–29–70	Volkswagen	Super Beetle	1971	Possibility that brake hose leading from master brake cylinder to reservoir may not be properly	12	4,900

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
					Volkswagen of America, Inc.—*Continued*		
					installed. (Correct by inspecting the reassembly where necessary.) Possibility that gas tank filler cap does not properly seat in filler neck. (Correct by replacing where necessary.)		
70–0142	11–5–70	Volkswagen	Type 1 and 2	1971	Possibility that dash pot mounting bracket may contact fuel hose connecting fuel pump with carburetor. Also, fuel hose may contact sheet metal clamp securing wiring harness to fan housing. If either of these conditions exists, contact will cause hose to chafe through hose wall. (Correct by inspecting and modifying where necessary.)	6	6,500
70–0151	12–7–70	Volkswagen	Type 2	1971	Possibility that brake pressure regulator housing used in production could contain casting flaw. This might cause leakage of brake fluid and possible loss of braking efficiency. (Correct by replacing regulator where necessary.)	11	10,000
					Volvo, Incorporated		
70–0035	4–1–70	Volvo	Volvo	1970	Possibility that during assembly spacer washer was omitted at attachment of upper rear axle torque rod forward anchorage. Could result in torque rod rubber bushing sleeve cutting into softer body sheet metal, which would eventually cause front anchorage to have excessive end play. (Correct by installing washer to reduce contact.)	10	431
70–0041	4–23–70	Volvo	Volvo	1970	Possibility that retractor seat belt assembly installed in production may fail to hold as designed after extended use. If this condition exists, passenger will not be in safe position in case of an accident. (Correct by installing correct seat belt assembly.)	9	511
70–0044	4–27–70	Volvo	142, 144, 145—Fitted with evaporation	1970	Possibility that paper covered hot air hose used for evaporation system may catch on fire due to	9	17,000

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Volvo Incorporated—*Continued*				
			control systems		its close proximity to exhaust manifold. (Correct by installing new improved type hose.)		
70–0140	11–16–70	Volvo	1800E	1970	Possibility that under certain conditions water vapors from P.C.V. system could collect in throttle plate area and freeze, causing throttle not to return to idle position during deceleration. (Correct by modifying where necessary.)	6	1,850

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—MOTOR VEHICLE EQUIPMENT

Admin. Identification Number	Date of Company Notification	Component	Model or Size Designation	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Components Recalled
Dunlop Tire and Rubber Corporation						
69E–002	12–19–68	Tire	600x15L	Tires marked with incorrect label. This could result in improper inflation of tires. (Correct by properly labeling tires.)	4	292
Gates Rubber Company						
70E–005	8–21–70	Tires	"Davis the Tough One" G78–14, G78–15, H78–14, H78–15, Serial Nos. ending in 1E and 1F	Possibility that tires may fail to meet high speed test requirements.	17	9,586
General Tire and Rubber Company						
69E–001	2–5–69	Tires	9.00x15 Safety Jet	Tests indicate that substantial number did not comply with minimum endurance requirement of Standard 109. If this condition exists failure may occur if tires are operated under comparable conditions on highway. (Correct by replacing with comparable tire which meets requirements of Standard 109.	13	42,205
B. F. Goodrich Company						
70E–003	4–6–70	Tires	6.50–13, 8.55–14 Silvertown 660—4 ply-rated	Tests conducted by National Highway Safety Bureau showed some 6.50x13 tires failed to meet tire strength and high speed provision of Standard 109, and some 8.55x4 tires failed to meet high speed provision of same standard. (Correct by replacing with new tires.)	7	42,655
70E–008	11–6–70	Tires	8.25–15 8-ply Silvertown 660 Rayon	Possibility that under severe service conditions tire may be susceptible to tread separation. (Correct by replacing under Goodrich adjustment policy.)	6	24,976

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—MOTOR VEHICLE EQUIPMENT

Admin. Identification Number	Date of Company Notification	Component	Model or Size Designation	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Components Recalled
Goodyear Tire and Rubber Company						
70E–004	7–9–70	Tires	1000 x 20 Hi-Miler 12 ply rating	Possibility that under severe highway use tires may be susceptible to tread separation. (Correct by adjusting under Goodyear's adjustment policy.)	13	10,000
70E–006	8–21–70	Tires	7.00–15 Travel Trailer load range D Serial Nos. beginning with WT–5 and EU–5	Possibility that tires were produced with wrong ply stock fabric.	13	1,523
70E–007	6–22–70	Tires	G78–15 B–W Load Range B Custom Power Cushion Belted	Possibility that tires size G–78–B custom power cushion belted tires did not meet Goodyear quality standard due to insufficient rubber in portions of tread. Could result in chanking under severe operating conditions. (Correct by replacing with proper quality tire.)	20	17,300
Mansfield Tire & Rubber Company						
70E–002	2–18–70	Tire	8.85/900–15 4-ply nylon tubeless	Possibility that thin innerliner condition may result in formation of localized sidewall blisters or separation during tire service. (Correct by replacing with new tire.)	8	492
The Mohawk Rubber Company						
69E–003	3–18–69	Tires	7.35–14 Airflo	Possibility that tires had improperly made innerliner splices. Could lead to separation and eventually cause blowout. (Correct by replacing with new improved tire.)	10	10,000
69E–004	8–8–69	Tires	H78–14, Regency	Possibility that wrong fabric was used by manufacturer, which could subject tire to possible sidewall cracking and premature failure. (Correct by replacing with new tire of proper construction and materials.)	10	1,870
Superior Industries						
70E–001	2–18–70	Steering Wheel	Simulated walnut steering wheel part No. ZVW 148–101	Possibility that ring of simulated walnut steering wheel may separate from steering wheel spokes.	5	NR

MOTOR VEHICLE SAFETY DEFECT RECALL CAMPAIGNS

From January 1, 1971 to December 31, 1971 □ REPORTED TO: The National Highway Traffic Safety Administration □ BY: DOMESTIC AND FOREIGN VEHICLE MANUFACTURERS □ U.S. Department of Transportation/National Highway Traffic Safety Administration

CONTENTS

INTRODUCTION

Section 113 of the National Traffic and Motor Vehicle Safety Act of 1966 requires that:

> "Every manufacturer of motor vehicles shall furnish notification of any defect in any motor vehicle or motor vehicle equipment produced by such manufacturer which he determines, in good faith, relates to motor vehicle safety, to the purchaser (where known to the manufacturer) of such motor vehicle or motor vehicle equipment, within a reasonable time after such manufacturer has discovered such defect."

The required notification is to be by certified mail to the first purchaser and by certified mail or more expeditious means to the dealer or dealers of the manufacturers.

The manufacturer is further required to furnish the Secretary of Transportation a true or representative copy of all notices, bulletins, and other communications to dealers or purchasers regarding defects in motor vehicles or motor vehicle equipment.

The National Highway Traffic Safety Administration has received numerous requests for information on defects in motor vehicles. In answer to these requests the Administration publishes quarterly summary reports on defect campaigns conducted by domestic and foreign manufacturers. These summary reports are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, at a price established by the Superintendent of Documents. Annual cumulative editions of the reports will be published at the beginning of each calendar year.

Detailed reports of specific recall campaigns listed in the summary reports are available from the National Technical Information Service, Springfield, Virginia. (For details on ordering from the NTIS see page xi.)

Since manufacturers are not required to report to the Administration specific serial numbers of vehicles involved in recall campaigns, any information concerning defects on specific serial-numbered vehicles must be obtained from the dealer or manufacturer.

ORDERING DATA

This publication is a *summary* of Motor Vehicle Safety Defect Recall Campaigns covering the period January 1, 1971 through December 31, 1971. Copies are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Detailed reports of the recall campaigns listed in this publication are sold through the National Technical Information Service (NTIS), Springfield, Virginia 22151.

SUMMARY TABULATIONS

MOTOR VEHICLE SAFETY DEFECT RECALL CAMPAIGNS

(January 1, 1971–December 31, 1971)

Manufacturers Reporting	*Number of Recall Campaigns*	*Number of Vehicles*
I. DOMESTIC		
Airstream	1	5,000
American Motors Corp.	8	50,435
American Trailers, Inc.	1	219
Blue Bird Body Company	1	338
Boise Cascade Corp.	2	801
Brockway Motor Trucks	1	1,412
Butler Manufacturing Company	2	171
California Camper Mfg.	2	35
Chrysler Motors Corp.	28	319,439
Clark Equipment Company	3	2,309
Cook Bros. Equipment Co.	1	50
Cushman Motors	1	598
Dairy Equipment Co.	1	15
Dakota Industries, Inc.	1	51
Ernest Holmes Company	1	4,002
Executive Industries, Inc.	1	179
Explorer Motors Home Corp.	1	250
Fleetwood Enterprises, Inc.	2	351
Flxible Company	1	53
Ford Motor Company	17	347,319
Freightliner Corp.	2	1,006
Fruehauf Corp.	1	2,000
General Motors Corporation	17	7,765,818
Great Dane Trailers, Inc.	3	1,015
Hale Trailer Sales, Inc.	1	9,683
Harley-Davidson Motor Co., Inc.	6	28,307
Highway Industries, Inc.	1	2,642
Hobbs Trailers	1	220
Holiday Rambler Corp.	1	2,121
Horizon Enterprises, Inc.	1	92
International Harvester Co.	17	149,794
Kayot Forester	1	91
Lufkin Industries, Inc.	1	712
Mack Trucks, Inc.	8	63,784
Mallard Coach Corp.	1	26
Motor Coach Industries, Inc.	1	72
National Motor Coach Co.	1	9
Oasis Truck Corp.	1	6
Open Road Industries, Inc.	1	543
Oshkosh Truck Corp.	2	126
Pace-Arrow, Inc.	1	531
Pacific Car and Foundry Co.	7	1,024
Progress Industries, Inc.	1	36
Recreation and Sports, Inc.	1	99

SUMMARY TABULATIONS—Continued

Manufacturers Reporting	*Number of Recall Campaigns*	*Number of Vehicles*
I. DOMESTIC—(Continued)		
Rectrans, Inc.	2	128
Rolls-Royce, Inc.	1	1,101
Roper Corporation	1	250
Seagrave Fire Apparatus, Inc.	1	7
Sightseer Corporation	1	31
Starcraft Corporation	3	666
Superior Coach Corp.	1	373
Trailmobile, Div. of Pullman, Inc.	3	18,700
Travco Corporation	1	260
Travel Equipment Corp.	1	18
Travoy Corporation	1	8
Wheel Camper Corporation	1	46
White Motor Corporation	8	4,054
Williamsen Body and Equipment Co.	1	6
Winnebago Industries, Inc.	2	1,755
Domestic Total	182	8,790,286
II. FOREIGN		
Alfa Romeo, Inc.	1	1,651
American Honda Motor Co., Inc.	2	32,200
Avanti Motor Corp.	1	159
Bayerische Motoren Werke	2	1,488
British Leyland Motors, Inc.	10	140,842
Bus and Truck Supply Co.	1	695
Citroen Cars Corp.	1	400
DeTomaso of America, Inc.	3	280
Fiat Motor Car Company, Inc.	1	1,025
Ford Motor Company of Britain	1	612
General Motors Corp.—Buick Div.—Opel	1	100,661
Jensen Motors, Inc.	1	256
Mercedes-Benz of North America	5	18,962
Norton Villiers Limited	2	4,600
Porsche/Audi	3	310
Saab-Scania of America, Inc.	3	15,081
Simca-Rootes Division (Chrysler Motors Corporation)	1	2,317
Toyo Kogyo Company, Ltd.	2	5,687
Toyota Motor Sales, U.S.A., Inc.	1	190,000
TVR Cars of America, Ltd.	1	105
Volkswagen of America, Inc.	7	100,764
Volvo, Inc.	3	11,879
Foreign Total	53	629,974

SUMMARY TABULATIONS—Continued

Manufacturers Reporting	*Number of Recall Campaigns*	*Number of Units*
III. EQUIPMENT		
Cooper Tire and Rubber Co.	6	131,365
Dayton Steel Foundry Co.	1	2,100
Gates Rubber Co.	1	4,732
General Tire and Rubber Co.	1	1,350
Goodyear Tire and Rubber Co.	2	11,255
Mansfield Tire and Rubber Co.	1	11,417
Specialty Mfg. Co., Inc.	1	26
Theodore Bargman Co.	1	20,000
Uniroyal Tire Company	5	11,005
Equipment Total	19	193,250

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Airstream				
71-0006	1-8-71	Airstream	Trailer	1969	Possibility that metal tabs used to secure plastic cover on top of battery may come in contact with battery terminals, causing electrical short-circuit. (Correct by replacing present battery cover and clips with improved type.)	5	5,000
			American Motors Corporation				
71-0015	1-27-71	American Motors	Javelin	1971	Possibility that console wiring harness may be improperly routed, which could cause wiring harness to interfere with operation of accelerator pedal. (Correct by rerouting as specified in latest engineering change.)	15	5,003
71-0038	3-19-71	American Motors	Matador 7110 Ambassador 7180	1971	Possibility that jack lift hook assembly could be malformed causing it to disengage from bumper. (Correct by replacing jack where necessary.)	9	187
71-0087	5-21-71	American Motors	Jeep	1971	Possibility that front axle assembly contains spindle showing heat-treat quench cracks in fillet between spindle and flange portion. Could cause spindle to break where it meets flange, with possible loss of vehicle control. (Correct by replacing where necessary.)	17	6,207
71-0088	5-19-71	American Motors	Hornet—7101 Gremlin—7140	1971 1971	Door latch assemblies may not latch, lock, or unlock. (Correct by replacing parts.)	14	19,111
71-0169	9-24-71	American Motors	Javelin 7270 w/power disc brakes	1972	Possibility that error in assembly of brake system resulted in interchange of hydraulic brakes at master cylinder—rear brakes were connected to front and visa versa. This could cause failure of front brakes to completely release, incorrect braking distribution in relation to vehicle weight distribution and incorrect hydraulic system reserve. (Correct by properly connecting master brake tubes.)	11	380
71-0188	10-15-71	American Motors	Matador Ambassador 7200 Series	1972 1972	Possibility that some rivets were omitted during attachment of rear suspension lower control arm	26	8,572

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LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
American Motors Corporation—*Continued*							
					bracket to body side sill. Could result in displacement of axle and rear suspension, and possible damage to drive train and other underbody components. (Correct by inspecting and replacing rivets or bolts where necessary.)		
71-0227	12-1-71	American Motors	Gremlin Hornet	1972	Possibility that disc brake caliper attaching bolts used were other than ones specified. Failure of bolts could cause brake caliper to become detached from steering knuckle. (Correct by inspecting and replacing with proper bolts.)	17	264
71-0228	12-1-71	American Motors	Commando	1970 1971	Possibility that windshield has marginal retention at top edge. Lack of sufficient windshield retention can possibly result in glass becoming disengated from windshield frame when driving at high speed due to air pressure on glass. (Correct by inspecting and adding metal bracket at top center of windshield.)	16	10,711
American Trailers, Incorporated							
71-0185	10-6-71	American	A-110 Van A-120 Van S-160 Van AG-70 CT-800 CTP13-800 5600-Platform	1960 thru 1963	Possibility that induction hardening process in effect at North-American Rockwell axle plant may have created high residual stresses at inner bearing shoulder area. Stresses may become plysical cracks under extended field service. Continued use of axle after cracking occurs may cause axle spindle to fracture. (Correct by inspecting and replacing where necessary.)	6	219
Blue Bird Body Company							
71-0183	10-7-71	Bluebird	Conventional School Bus Chevrolet and GMC Chassis	1971	Possibility that brake line(s) may have been damaged with drill bit when drilling holes in chassis frame to mount outriggers. If condition exists, could cause brake failure. (Correct by inspecting and replacing lines where necessary.)	4	338

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Boise Cascade Corporation							
71-0063	10-5-70	Boise Cascade	Motor Home (Lifetime)	1970	Possibility that door locking system failed to conform to Federal Motor Vehicle Safety Standard No. 206. (Correct by installing door locking system to meet standard.)	5	400
71-0132	8-2-71	Boise Cascade	Aristocrat Miniliner Mini motor homes on G30 Chevrolet Chassis-van	1971	Possibility that nylon-plastic elbow used in connecting gas fill line may crack, and gas filler spout may disengage after a period of time, which could result in gasoline leakage. (Correct by installing new gasoline fill line system where necessary.)	6	401
Brockway Motor Trucks							
71-0020	2-9-71	Brockway	300 Series	Built June 1965 to Sept. 15, 1970	Possibility that under certain conditions 59AC hydraulic steering drag link could break, causing steering to be uncontrollable by driver. (Correct by replacing drag links where necessary.)	5	1,412
Butler Manufacturing Company							
71-0086	5-7-71	Butler	Trailer	NR	Drawbar tubes may crack through near hinges at rear of crossmember plate. Also rear and front spring hanger supports may crack on Reyco suspension with single leaf springs. (Correct by modifying.)	4	9
71-0217	11-16-71	Butler	Trailer	Jan.1, 1960 thru Jul.31, 1962	Possibility that induction hardening process in effect at North-American Rockwell axle plant may have created high residual stresses at inner bearing shoulder area. Stresses may become physical cracks under extended field service. Continued use of axle after cracking occurs may cause axle spindle to fracture. (Correct by inspecting and replacing where necessary.)	3	162

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
California Camper Manufacturing							
71-0081	8-13-70	California	Motor Home	1970	Possibility that door locking system failed to conform to Federal Motor Vehicle Safety Standard No. 206. (Correct by installing door locking system that meets standard.)	5	16
71-0144	8-12-71	California Camper	Chevrolet Minihome Lil' Prospector	NR	Possibility that gasoline could seep into camper from gas filler pipe spout. (Correct by installing gas filler pipe enclosure box on each unit.)	5	19
Chrysler Motors Corporation							
71-0002	12-30-70	Dodge	Colt	1971	Possibility that certain throttle linkage components were improperly installed, or may lose proper adjustment. Either condition could eventually result in inability to open carburetor to maximum engine power. (Correct by replacing components where necessary.) Possibility that hinge pins and retaining snap rings were omitted in assembly. If snap ring is missing could result in buckle falling apart. (Correct by replacing parts where necessary.)	6	1,278
71-0003	12-30-70	Dodge	Coronet Charger	1971	Possibility that frame-lower-cross-tube to vertical support hinge arm junction on split back front seat bench with center arm rest may have inadequate weld. Weld failure at this point could allow seat back to disengage from seat cushion. (Correct by rewelding where necessary.)	20	12,684
		Chrysler	Chrysler Imperial	1971			
		Plymouth	Satellite equipped with split back bench seats w/ center arm rest	1971			
71-0004	12-30-70	Plymouth	Barracuda Satellite	1971	Possibility that front drum brake support plate may contain defective brake shoe anchor pin. Failure of pin could cause loss of front wheel brakes, which would reduce braking ability, since only rear wheel brakes would continue to operate. (Correct by replacing shoe anchor pin where necessary.)	9	5,637
		Dodge	Challenger Coronet Charger equipped with front drum brakes	1971			
71-0010	1-15-71	Dodge	S500, S550, S600 and D700 equipped with		Possibility that under some conditions original power steering cylinder tie rod clamp may not provide sufficient clamping force to pre-	6	696

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Chrysler Motors Corporation—*Continued*							
			7,000 lb. front axle and power steering		vent movement on rod. Could result in partial loss of steering control. (Correct by replacing clamp assembly where necessary.)		
71-0017	2-8-71	Dodge	P-200, P-300, P-400, G-400, M-300 and M-375 trucks	1970	Possibility that improperly heat-treated master cylinder push rod to brake pedal bolt was used in production. If this condition exits, bolt could break under hard pedal application, rendering braking system inoperative. (Correct by replacing bolt where necessary.)	4	1,246
71-0019	2-4-71	Dodge	Post Office 1-ton truck	1970	Possibility that driver's seat pedestal may loosen from its attachment to floor, causing driver to lose control of vehicle. (Correct by reinforcing mountings where necessary.)	2	1,603
71-0033	3-2-71	Plymouth	Satellite	1971	Possibility that right front brake line to wheelhouse clip was omitted in production. Omission of clip could result in mislocation of right front brake line, causing brake line to rub on tire during full right turn. This could cause brake line to be cut with subsequent loss of front braking ability. (Correct by replacing clip where necessary.)	4	159
71-0041	3-22-71	Plymouth	Valiant	1971	Possibility that cam bolts on front suspension left upper control arm were improperly tightened when assembled. This could lead to loss of vehicle control. (Correct by tightening bolts where necessary.)	5	51
71-0048	3-31-71	Dodge	Medium and Heavy Duty Trucks equipped with Cummins V8-185 or V8 210 Diesel Engines	1968 1969 1970	Brass tee connecting oil pressure switch to engine block may fail due to stress caused by vibration. This would cause loss of oil and possible engine failure. (Correct by installing steel tee.)	4	769
71-0049	3-31-71	Dodge	D200, W200, P200	1971	Possibility that right rear axle bearing adjusting nut lock-ring was not bent over to secure nut. This could allow nut to loosen and result in damage to wheel, axle, spindle or drum. (Correct by re-tightening adjusting nut and bending over top.)	4	42
71-9050	4-2-71	Dodge	Polara, Monaco, Coronet and Charger	1970 1971	Automatic speed control may not disengage properly, causing throttle not to return to idle.	9	33,433

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Chrysler Motors Corporation—*Continued*							
		Plymouth Chrysler Imperial	Fury, Satellite Chrysler Imperial equipped with automatic speed control		(Correct by replacing cable.)		
71-0051	4-2-71	Dodge	B100, B200, B300	1971	Fuel vapor separator, which is part of emission control system, may leak and allow fuel leakage into cargo area. (Correct by replacing separator.)	5	25,500
71-0052	4-5-71	Plymouth	Satellite	1971	Possibility that ground wire was omitted in production of vehicle with optional urethane-coated bumper. Vehicles equipped with this type bumper require separate ground wire to license, backup, and taillamps. (Correct by installing ground wire.)	7	78
71-0067	4-7-71	Plymouth Dodge	Barracuda Challenger	1971 1971	Front disc brake rotors may have been contaminated with oil when car was assembled. Could result in pull or inbalance during brake application. (Correct by replacing rotor and linings)	6	92
71-0069	4-15-71	Plymouth Dodge	Police car equipped with shoulder seat belt inertia reel restraint system	1971	Possibility that locking pawls in shoulder-belt-inertia-reel assemblies were not properly heat treated. If this condition exists, assemblies may fail to meet load-bearing requirements. (Correct by replacing parts.)	3	181
71-0070	4-20-71	Plymouth Dodge	Barracuda Challenger	1970 1970	Folding front seat back fitted with self-locking latch which holds back of seat in upright position may not meet requirements of Federal Motor Vehicle Safety Standard No. 207. Purpose of latch is to minimize possibility of injury in event of collision. (Correct by making necessary adjustments.)	6	127,087
71-0098	5-28-71	Chrysler Plymouth Dodge	Equipped with 360 C.I.D. engine and manual transmission	1971	Carburetor may have incorrect length slot in accelerator-pump-rocker arm for manual transmission setting. This condition, in combination with incorrect adjustment of pump linkage, could allow throttle to become locked in open position. (Correct by replacing arm.)	6	58
71-0113	6-21-71	Plymouth	Cricket	1971	Front wheel bearing may have been improperly lubricated. Could pro-	9	7,544

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Chrysler Motors Corporation—*Continued*				
					mote premature bearing failure, which if ignored might eventually result in loss of vehicle control. (Correct by properly lubricating.)		
71-0117	7-7-71	Plymouth	Barracuda Satellite	1971	Possibility that low pressure return hose on power steering pump may be shorter than specified. Extreme engine movement could pull hose off, resulting in loss of power steering fluid and loss of power steering assist. (Correct by replacing with proper length hose.)	8	485
		Dodge	Challenger equipped with power steering				
71-0134	8-9-71	Dodge	Compact Truck B300 with disc brakes	1971	Possibility improper disc brake tubing and hoses were used in assembly; these parts are susceptible to failure if steering knuckle cotter pin or tie rod clamps come into contact with tubing or hoses. Failure of hoses would render front brakes inoperative and only rear brakes would remain functional. (Correct by replacing part where necessary.)	7	23
71-0136	8-10-71	Dodge	Compact Truck B100, B200 B300 6 cyl. engines	1971	Possibility that engine-to-body radio suppression ground strap may be installed so that it could cause interference and possible throttle hang-up with accelerator linkage in open throttle position. (Correct by making proper installation of ground strap where necessary.)	4	1,145
71-0137	8-13-71	Dodge	Dodge and Dodge Compact Trucks	1971	Possibility that contaminated brake fluid may have been added to brake master cylinder after vehicle left assembly plant. Could cause swelling of rubber components in master cylinder, which could retard or prevent normal release of brakes after application. (Correct by draining and refilling hydraulic braking system where necessary.)	6	61
		Plymouth	NR	1971			
71-0148	8-16-71	Dodge	Dart	1971	Possibility that incorrect certification label was installed; 1972 instead of 1971. (Correct by installing proper label where necessary.)	4	2,740
		Plymouth	Valiant Satellite				
71-0155	8-26-71	Dodge	Dart	1972	Possibility that front seat cushion frame may have inadequate welds between rear rail and hinge stanchions. Could result in eventual structural failure of seat assembly	32	5,733
		Plymouth	Valiant	1972			

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
					Chrysler Motors Corporation—*Continued*		
					and possible disengagement of inner pivot. (Correct by rewelding where necessary.)		
71-0173	9-29-71	Chrysler Imperial Dodge Plymouth	Chrysler Imperial Demon Coronet Charger Polara Monaco Duster Satellite Fury	1972 1972 1972 1972	Possibility that shaft bushing in transmission control linkage may be inadequately torqued. Loss of bushing from transmission-mounted bracket will create excessive free play in linkage, which could allow operator to shift control lever without having transmission accomplish proper action. (Correct by inspecting and retorquing shaft bushing where necessary.)	15	52,729
71-0175	9-30-71	Dodge	Colt Station Wagon	1971	Possibility that parking brake cable may be misrouted at rear of vehicle which could allow abnormal wear between cable and rear suspension system. This could result in inability to apply parking brake. (Correct by inspecting and adding additional clamp to hold cable securely.)	7	4,685
71-0178	9-30-71	Dodge	Colt Station Wagon	1971	Possibility that plug cover for spare tire release nut may be removed, not replaced or lost. If plug is not put back in place and exhaust system is deteriorated, exhaust gases could enter passenger compartment. (Correct by inspecting and replacing existing plug with new one having attaching cord to prevent loss.)	7	4,685
71-0201	11-5-71	Dodge Plymouth	Polara Monaco Fury equipped with disc brakes	1972 1972	Possibility that left front disc brake lining was meant for police usage, and does not match proper right front lining. If condition exists, could cause undesirable brake pull condition. (Correct by inspecting and replacing proper lining where necessary.)	6	88
71-0202	11-5-71	Dodge	D100 D200 W100 W200 with sweptline cargo box	1972	Possibility that bolts holding Sweptline Cargo box to frame are suspected of not being properly tightened. Looseness of bolts could allow box to shift on frame. (Correct by inspecting, retightening bolts where necessary, and adding jam nuts.)	7	29,696

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Clark Equipment Company							
71-0021	2-12-71	Clark Equipment	Trailer equipped with Shuler 23L-07-L, axle assembly	1970	Possibility that axle asssmbly may have been received from supplier without retaining snap rings installed on brake anchor pins. If retaining rings are not in place, anchor may separate from brake assembly and cause loss of braking ability. (Correct by replacing where necessary.)	3	591
71-0022	2-12-71	Clark Equipment	Trailer	NR	Possibility that combination clearance side marker lamps mounted on corners of trailers may not meet full range visability requirements. (Correct by modifying where necessary.)	4	752
71-0162	9-14-71	Clark Equipment	Trailer	Jan.1, 1960 thru Jul 31, 1962	Possibility that induction hardening process at North-American Rockwell's axle plant may have created high residual stresses at inner bearing shoulder area. Stresses may turn into physical cracks under extended field service. Continued use of axle after cracking, may cause axle spindle to fracture. (Correct by replacing axle where necessary.)	10	966
Cook Brothers Equipment Co.							
71-0204	11-5-71	Cook Bros.	Semi-trailer SDS, BDS, LWA, HDA	Jan.1, 1960 thru Dec.31 1962	Possibility that induction hardening process in effect at North-American Rockwell axle plant may have created high residual stresses at inner bearing shoulder area. Stresses may become physical cracks under extended field service. Continued use of axle after cracking occurs may cause axle spindle to fracture. (Correct by inspecting and replacing where necessary.)	5	50
Cushman Motors							
71-0046	4-2-71	Cushman	3-wheeled 898-400, 401, 403, 404, 405 and 406-7110	1971	Charging check valve and charging check valve rubber-seating washer may have been omitted from hydraulic brake master cylinder during assembly. Could impair braking ability. (Correct by replacing.)	3	598

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Dairy Equipment Company							
71-0194	10-18-71	Dairy Equipment	CTK and KK	Jan.1, 1960 thru Jul.31, 1962	Possibility that induction hardening process in effect at North-American Rockwell plant may have created high residual stresses at inner bearing shoulder area. Stresses may become physical cracks under extended field service. Continued use of axle after cracks occur may cause axle spindle to fracture. (Correct by inspecting and replacing where necessary.)	4	05
Dakota Industries, Inc.							
71-0031	4-17-70	Dakota Industries	Camper Trailer Mark II	1969	Possibility that lamps, reflective devices, and associated equipment do not comply with Federal Motor Vehicle Safety Standard 108. (Correct by modifying lighting system to conform with Standard 108.)	10	51
Ernest Holmes Company							
71-0060	1-15-71	Ernest Holmes	Wreckers with angled tailgates	1968 1969 1970	Possibility that rear stop-turn lamps and reflex reflectors fail to meet Federal Motor Vehicle Safety Standard No. 108. (Correct by modifying lamps and reflectors to meet standard.)	21	4,002
Executive Industries, Incorporated							
71-0058	8-5-70	Executive	Motor Homes	1970	Possibility that door locking system fails to meet Federal Motor Vehicle Safety Standard No. 206. (Correct by installing locking system to meet standard.)	3	179

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Explorer Motor Home Corporation							
71-0078	12-11-70	Explorer	Standard 23' and 25' Custom Motor Homes 25'	1970	Possibility that door locking system failed to conform to Federal Motor Vehicle Safety Standard No. 206. (Correct by installing door locking system that meets standard.)	9	250
Fleetwood Enterprises, Incorporated							
71-0079	11-23-70		Motor Home	1970	Possibility that door locks and door retention components failed to conform to Federal Motor Vehicle Safety Standard No. 206. (Correct by installing door locking system that meets standard.)	3	205
71-0192	10-14-71	Broadmore Mobile Home	B, C, E, F, H, P, R, S, T, X, Y, Z, EE, FF, GG, HH, JJ, KK, LL.		Possibility that center gusset plate may have been improperly located on draw bar of trailer hitch assembly. If condition exists could result in failure of hitch assembly. (Correct by inspecting and properly locating gusset where necessary.)	7	146
Flxible Company							
71-0034	3-1-71	Flxible	Motor Home "Flxible Southern"	NR	Possibility that lock on driver's door does not meet requirement for Federal Motor Vehicle Safety Standard 206. (Correct by installing improved lock.)	10	53
Ford Motor Company							
71-0018	2-5-71	Ford	Maverick	1970 and 1971	Possibility that Firestone tires, size 6.45 x 14, may develop air leaks at sidewall. Such leaks could result in relatively rapid loss of inflation pressure which might adversely affect vehicle handling. (Correct by replacing tires where necessary.)	4	41,000
71-0023	2-12-71	Ford	L, LT, LNT, LTS-800 thru 9000 series equipped with	1970 1971	Possibility that power steering unloader valve could fracture at seating surface, causing improper sealing of valve during operation.	10	9,503

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Ford Motor Company—*Continued*				
			power steering		Driver might experience loss of power assist, particularly in full turn condition. (Correct by replacing with new, more durable unloader valve where necessary.)		
71-0024	2-12-71	Ford	B-500 thru 750 F and B-500 thru 750 series Ford trucks and buses equipped with split hydraulic brake systems	1968 1969 1970 1971	Possibility that brake tubes may have been routed so that there is insufficient clearance between steel brake line and transmission housing. This could cause brake line to be penetrated by chafing action, resulting in noticeable reduction in vehicle braking ability. (Correct by replacing and rerouting where necessary.)	8	11,055
71-0025	2-12-71	Ford	F-B-C-LN-500-750, 6000-7000 C-L 800-900 series trucks equipped with frame-mounted brake booster	1971	Possibility that improperly machined brake booster may have been installed, which could result in insufficient seal at hydraulic end cap. If this condition exists, hydraulic brake fluid leaks would gradually deplete brake fluid reserve resulting in complete loss of hydraulic brake system on vehicles equipped with single hydraulic systems. (Correct by replacing seal where necessary.)	9	12,322
71-0026	2-12-71	Ford	F-B-LN-6000-7000, equipped with split hydraulic brake system F-LN-6000-7000 equipped with single hydraulic brake systems Caterpillar diesel engines	1970 1971 1970 1971	Possibility that when brake tubes were routed, insufficient clearance was left between tubes and starter motor solenoid. This could cause brake tube to chafe through and affect braking ability on dual systems or cause complete loss of brakes on single hydraulic systems. (Correct by replacing or rerouting brake tubes where necessary.)	9	848
71-0045	4-2-71	Ford	Pinto	1971	Possibility that engine backfire may ignite accumulated fuel vapors in air cleaner assembly, creating possibility of fire damage in engine compartment. (Correct by modifying.)	86	215,823
71-0064	4-13-71	Ford	G100 Multi-stop Parcel Delivery P.O.D. Trucks	1970	Track bar brackets may detach from side rails. If this occurs, some deterioration in vehicle handling will be noticed by vehicle operator. (Correct by installing additional bracket.)	5	1,234

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Ford Motor Company—*Continued*				
71-0089	5-11-71	Ford	Police car equipped with shoulder seat-belt inertia reel restraint system	1971	Possibility that locking pawls in shoulder belt-inertia reel-assemblies were not properly heat treated. If condition exists, assemblies may fail to meet load-bearing requirements. (Correct by replacing parts.)	5	420
71-0111	6-28-71	Ford	Maverick Pinto	1971	Brake fluid may have been contaminated with small amount of gasoline. Could affect rubber components in braking system and result in some deterioration in braking, evidenced by increased pedal efforts and uneven braking. (Correct by flushing braking system and refilling with new fluid.)	6	4,225
71-0112	6-17-71	Ford	Ford built at Chicago assembly plant	1971	Vehicle may have oil contamination in brake fluid Could cause rubber components in braking system to deteriorate, which could lead to partial or complete loss of braking ability. (Correct by flushing and refilling with new fluid.)	9	189
71-0128	7-28-71	Ford	Econoline	1971	Possibility that bolts used to attach steering gear to chassis may not have been heat treated. If condition exists, bolts may loosen and possibly break, resulting in loss of steering control. (Correct by replacing bolts where necessary.)	5	765
71-0129	7-29-71	Ford	Maverick Comet	1971	Possibility that Firestone tires size B78-14 were built with incorrect tire cord. Condition may cause tires early in their service life to have sudden air leaks in sidewall with rapid loss of pressure. (Correct by replacing where necessary.)	5	2,526
71-0159	9-3-71	Ford	Ford Built at Wayne and Norfolk assembly plants	1972	Possibility that jack column assembly is oversize and will not fit into base assembly. If condition exists, any attempt to raise vehicle with column not fitted to base section could result in vehicle damage or possible personal injury. (Correct by replacing where necessary.)	5	3,176
71-0161	9-3-71	Ford	LT, LNT, LTS 8000, 900, 9000 & NT 9000.	1970 1971	Possibility that wheel hub does not meet required specifications. Under certain conditions, such as high lateral loading of the components encountered during cornering maneuvers, hub could crack at brake drum mounting flange. (Correct by replacing hub where necessary.)	9	121

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Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Ford Motor Company—*Continued*							
71-0171	9-30-71	Ford	Light and Medium Trucks	1972	Possibility that brake fluid used during assembly was water contaminated. (Correct by inspecting and replacing fluid where necessary.)	5	46
71-0187	10-13-71	Ford Mercury	Cortina Capri	1970 1971	Possibility that steering wheel assembly may lack adequate strength at point of attachment of steering wheel to energy absorbing cylinder that underlies it. If condition exists, could result in progressive cracking. If not corrected, could lead to complete separation of steering wheel from column assembly. (Correct by inspecting and reinforcing steering wheel assembly where necessary.)	20	15,607
71-0216	11-17-71	Ford	Ford Pinto Thunderbird Light Trucks built between Aug. 16, 1971, and Oct. 14, 1971 F-100 thru F-350 Series	1972	Possibility that seat belt and shoulder harness attaching bolts were improperly processed during heat treating and plating operations. If condition exists, may cause bolts to be susceptible to hydrogen embrittlement fracturing after installation. (Correct by inspecting and replacing with properly heat treated bolts.)	6	28,459
Freightliner Corporation							
71-0071	4-23-71	Freightliner Corporation	Truck-Tractor	NR	Suspension beam hanger brackets on tandem rear axles may develop cracks after 200,000 miles of over-the-road service. This could eventually cause brackets to fail and result in loss of vehicle control. (Correct by replacing brackets.)	8	9
71-0205	10-27-71	Freightliner	All models equipped w/ Cummins V903 Engines	NR	Possibility that throttle spring may break causing throttle to remain in open position. If condition exists, could result in loss of vehicle control. (Correct by installing new modified spring.)	5	997

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Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Fruehauf Corporation				
71-0157	9-1-71	Fruehauf	Trailer	Mfg'd. Jan. 1, 1960 to Sep 30 1962	Possibility that induction hardening process at North-American Rockwell's axle plant may create high residual stresses at inner bearing shoulder area. Stresses may turn into physical cracks under extended field service. Continued use of axle after cracking has occurred, may cause axle spindle to fracture. (Correct by replacing where necessary.)	5	2,000
			General Motors Corporation				
71-0027	2-19-71	GMC	EG, EM, SG, and SM models with mechanical clutch linkage medium duty trucks and school bus chassis	1967 1968 1969	Possibility that clutch idler lever assembly and ball studs located between left frame rail and engine may be subject to breakage. Failure of either idler lever assembly or ball stud will result in positive connection between clutch pedal and clutch assembly causing clutch to be engaged at all times. (Correct by modifying where necessary.)	10	53,700
71-0037	3-18-71	Chevrolet	Series 30-40-50-60 trucks and series 40-50 school buses with Bendix vacuum hydraulic brakes	1971	Possibility that single Bendix vacuum hydraulic brake system may have end cap hex head fitting assembly which does not make proper contact with end of booster slave cylinder. This could cause brake fluid to leak from end of booster slave cylinder. Loss of brake fluid would result in low brake pedal and cause complete loss of braking action. (Correct by replacing with new improved nut.)	26	9,600
		GMC	CE/CS4500, CE/CG/CM 5500, CE/CM 6500, TE/TS 5500 TE 6500, C&P 3500 with vacuum boosted brakes	1971			
71-0061	4-8-71	Chevrolet	15000-16000 Series with automatic transmission	1971	Possibility that incorrect brake pedal pivot bolt was used in assembly. Could result in nut loosening and pivot bolt eventually backing out, disengaging brake pedal from	8	1,700

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			General Motors Corporation—*Continued*				
					bracket. (Correct by installing correct bolt.)		
71-0062	4-8-71	Chevrolet	15000-16000 Series	1971	Possibility that tire information decal has incorrect tire size. (Correct by installing proper decal.)	8	20,000
71-0085	5-11-71	GMC	CM, SM5500, CM6500, medium duty trucks, school buses	1970 1971	Carburetor throttle shaft may be excessively worn and could break. This would allow throttle valves to remain in open position rendering accelerator ineffective and making vehicle difficult to stop. (Correct by installing new throttle body assembly.)	7	11,550
71-0101	6-9-71	GMC	5000, 6000, 6500 series and school bus	1960 thru 1965	Possibility that 14" flanged-type flywheel and clutch assembly has integral flange as part of flywheel. Could create safety hazard when rotating speeds are approximately double the governed engine speed. Improper driving techniques or driver error, such as misshifting transmission when downshifting also can cause this condition. (Correct by installing new flywheel and clutch assembly.)	28	22,206
71-0119	7-8-71	Chevrolet	Titan 90 MH & MI Series	1971	Possibility that clutch linkage upper push rod lever may interfere with steering shaft "U"-joint yoke clamp bolt. If this occurs, may limit steering wheel movement in counter-clockwise direction and result in inability to turn vehicle left or return it to straight-ahead position from a right turn. (Correct by installing new push rod lever where necessary.)	11	171
		GMC	MH-MI 9500 with mechanical clutch linkage	1971			
71-0120	7-8-71	Chevrolet	Series K-10	1971	Possibility that rear brake line on right hand frame rail may chafe on shock absorber mounting bracket, and eventually cause brake fluid leak. (Correct by installing brake line attaching clip where necessary.)	7	160
71-0121	7-8-71	Chevrolet	Station Wagon	1971	Possibility that bumper jack load rest lip may not be properly formed allowing it to bend and vehicle slip from jack load rest. (Correct by installing correct jack where necessary.)	7	6,000
71-0125	7-26-71	Chevrolet	Station Wagon	1971	Possibility that tire may be susceptible to early tread separation, and may not conform to Federal	13	1,672
		Pontiac	Safari and	1971			

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Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			General Motors Corporation—*Continued*				
			Grand Safari equipped with L–78–15 Fastrak W.S. Tires.		Motor Vehicle Safety Standard No. 109. This type tread separation will not cause deflation of tire but may cause noticeable roughness in ride and handling of car and possible loss of portions of tread stock. (Correct by replacing tire where necessary.)		
71–0127	7–30–71	Buick	LeSabre Centurion Electra	1971	Possibility that heater control support bracket may have burr on its edge which could contact headlight switch wiring. If condition exists, burr could cut through switch wiring, causing electrical short and resulting in fire in instrument cluster area. Fire can occur when vehicle is in operation or when unattended with ignition switch in off position. (Correct by installing insulation between headlight switch wiring and heater control support bracket.)	10	15,000
71–0139	8–18–71	Chevrolet	Blazer K–10, K–20	1969 1970 1971	Possibility that under certain operating conditions front spring may break near front attachment on steering column side. Breakage could cause vehicle to veer toward left in left-hand drive vehicles and to right in right-hand drive vehicles. (Correct by replacing longer second leaf where necessary.)	19	124,000
		GMC	Jimmy's K1500 K2500 All 4-wheel drive				
71–0140	8–18–71	Chevrolet	K–20, C–20 C–30.	1971	Possibility that power brake vacuum cylinder (booster can) and/or attaching brackets may develop fatigue cracks. If bracket cracks, could permit excessive movement of brake cylinder assembly. Continued operation could crack front hydraulic brake line with resultant loss of brake fluid in part of dual braking system. (Correct by replacing components where necessary.)	14	136,000
		GMC	C2500, K2500 and C3500 (except RPO H–22 w/ 11,000# axle)				
71–0181	10–11–71	Chevrolet	K10–20 Series K1500–2500 and 4-wheel Drive Jimmy's	1972	Possibility that left front spring rear shackle stop was improperly adjusted during production. If condition exists, could allow front axle to shift rearward in event of left front spring failure at or near front spring eye, which could have an adverse effect on steering	12	1,600

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
General Motors Corporation—*Continued*							
					control. (Correct by inspecting and making necessary adjustment.)		
71-0182	10-11-71	Chevrolet Pontiac Buick	Station Wagon	1972	Possibility that third seat lap belts may not be long enough to meet requirement of Safety Standard No. 208. (Correct by inspecting and replacing with belt of proper length where necessary.)	16	475
71-0224	11-22-71	Chevrolet	Corvair Corvan	1961 thru 1969	Possibility that fumes in direct air heating system may be transferred from engine compartment into passenger compartment. Such fumes, in some cases, contain carbon monoxide in sufficient concentration to harm or endanger occupants of vehicle. (Correct by inspecting and repairing where necessary.)	11	679,900
71-0235	12-10-71	Chevrolet GMC	Chevrolet Chevy II Nova Camaro Chevrolet Trucks C, P, G GMC Trucks C, P, G	1965 thru 1969 Trucks 1965 thru 1970	Possibility that separated motor mount may allow motor to lift, which may affect throttle linkage, momentarily increasing throttle opening, possibly to full throttle. (Correct by inspecting and installing restraints which will limit engine lift and eliminate possible secondary effects of engine mount separation.)	8	6,682,084
Great Dane Trailers, Incorporated							
71-0042	3-26-71	Great Dane	Trailer 1040T	1971	Crossmembers connecting main frame may break loose at each end of crossmember due to insufficient weld. Could eventually cause loss of vehicle control to pilot tractor. (Correct by modifying.)	9	100
71-0206	11-1-71	Great Dane	Van Trailer	Built btwn June and Sept. 1971	Possibility that cross-brace assembly of landing gear is of inadequate strength. If condition exists and tractor coupling is made by backing "under side" instead of by direct front coupling, brace assembly may fail causing front of trailer to fall. (Correct by inspecting and replacing with improved cross-brace assembly where necessary.)	5	675
71-0208	11-9-71	Great Dane	Van Platform	1960 1961	Possibility that induction hardening process in effect at North-Ameri-	12	240

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Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Great Dane Trailers, Incorporated—*Continued*							
			and Tank Trailers	1962 1963	can Rockwell axle plant may have created high residual stresses at inner bearing shoulder area. Stresses may become physical cracks under extended field service. Continued use of axle after cracking occurs, may cause axle spindle to fracture. (Correct by inspecting and replacing where necessary.)		
Hale Trailer Sales, Incorporated							
71-0133	4-30-71	Hale	Trailer	Manf. Jan 1, 1968 thru Mar. 15, 1970	Possibility that clearance lamps, side and rear indicator lamps and reflectors fail to meet Federal Motor Vehicle Safety Standard No. 108. (Correct by installing proper lights where necessary.)	5	9,683
Harley-Davidson Motor Company, Inc.							
71-0090	1-27-71	Harley-Davidson	Super Glide	1971	Rear brake pedal-linkage rod-clevis which connects to lower end of master cylinder-bell crank-lever by clevis pin, washer and cotter pin, may possibly fail and cause loss of rear braking. (Correct by installing new improved clevis.)	4	1,681
71-0091	4-30-71	Harley-Davidson	Sportster	1971	Possibility that rear wheel hub assembly where spoke flange is attached to hub is inadequately welded and brazed. Could cause tack welds to break allowing spoke flange to move on hub and loosen spokes holding wheel rim and tire. (Correct by replacing.)	6	508
71-0092	3-5-71	Harley-Davidson	Electra Glide & Super Glide	1971	Hydraulic brake line tee may contain plug screw which may be stripped in tee threads. (Correct by replacing brake tees.)	2	155
71-0109	5-11-70	Harley-Davidson	FL-FLH and GE, Electra Glide and Servi-Car	1969 1970	Possibility that if front wheel bearing lock nut is not properly tightened and staked, could back off because of friction between seal and seal spacer, or because of possible	4	12,963

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Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
					Harley-Davidson Motor Company—*Continued*		
					contact with hub cap shoulder. If nut backs off, would move wheel hub and brake drum against stationary brake side plate, stopping wheel and possibly causing loss of control of motorcycle. (Correct by properly tightening locknut and stake.)		
71-0197	10-22-71	Harley-Davidson	Shorster Minicycle	1972	Possibility that front wheel and axle could become disengaged from axle clip slot in fork sides if axle nuts become loose. Condition could result in loss of wheel and personal injury. (Correct by inspecting and installing front axle retainers and self-locking nuts where necessary.)	3	1,600
71-0215	11-17-71	Harley-Davidson	Electra Glide and Super Glide	1971 1972	Possibility that metal hydraulic brake line which has support bracket welded to it, and which serves to position line in correct location behind rear brake master cylinder, may crack in tubing area from vibration. If this occurs, leakage of brake fluid and consequent loss of rear wheel braking will result. (Correct by inspecting and replacing line with new clamp on type line.)	5	11,400
					Highway Industries, Incorporated		
71-0212	11-10-71	Highway	Semi-trailer	Jan.1, 1960 thru Jul 31 1962	Possibility that induction hardening process in effect at North-American Rockwell axle plant may have created high residual stresses at inner bearing shoulder area. Stresses may become physical cracks under extended field service. Continued use of axle after cracking occurs may cause axle spindle to fracture. (Correct by inspecting and replacing where necessary.)	11	2,642

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Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Hobbs Trailers							
71-0166	9-16-71	Hobbs	Highway Trailers	Mfg. Jan.1, 1960 to Sept. 30 1962	Possibility that induction hardening process in effect at North-American Rockwell's axle plant created high residual stresses at inner bearing shoulder area. Stresses may turn into physical cracks under extended field service. Continued use of axle after cracking has occurred, may cause axle spindle to fracture. (Correct by replacing where necessary.)	5	220
Holiday Rambler Corporation							
71-0083	5-10-71	Holiday Rambler	22R-433, 212 22T-41, 123 190R-71, 36 210R-136, 91 220R-82, 83 190T-126, 301 210T-117, 129 220T-70	1965 thru 1968	Rims on trailer wheels could break down under loaded conditions, resulting in a flat tire. (Correct by installing replacement heavy duty rims.)	9	2,121
Horizon Enterprises, Incorporated							
71-0056	8-6-70	Horizon	Motor Recreational Vehicles	1970	Possibility that door locks and door retention components fail to conform to Federal Motor Vehicle Safety Standard No. 206. (Correct by installing lock and components to meet standard.)	3	92
International Harvester Company							
71-0001	12-21-70	International Harvester	1000D thru 1300D 1100D 4x4, 1200D 4x4, 1010 thru 1310, 1110 4x4, 1210 4x4 with manual steering code 05055	Dely'd in 1970	Possibility that during assembly incorrect clamp bolt was used for steering shaft lower coupling clamp. In the event of bolt breakage, steering would not be immediately affected, but prolonged operation in this condition could result in loss of steering. (Correct by replacing clamp bolt where necessary.)	7	8,793

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			International Harvester Company—*Continued*				
71-0009	1-11-71	International Harvester	CO-Loadstar equipped with FA-69 front axle and power steering	1966 thru 1970	Possibility that left steering arm may crack, which would result in impaired steering. (Correct by replacing arm with new improved design, where necessary.)	9	1,247
71-0016	1-28-71	International Harvester	CO-4000, 4070 and D, DC-400	1966 thru 1970	Possibility that alcohol injector assembly may be destroyed because of stopped up air outlet port. (Correct by installing pressure-relief valve in the air line between air compressor and alcohol injector.)	7	1,047
71-0035	3-5-71	International Harvester	Loadstar equipped with FA-48, FA-68 and FA-72 front axle and steering Code 05165	1970	Possibility that incorrect steering gear pitman arm was installed in production. This would cause drag link ball stud to have loose fit in pitman arm and with prolonged operation result in looseness in steering. If not corrected, steering would fail. (Correct by replacing where necessary.)	10	1,951
71-0043	3-29-71	International Harvester	1100D-4 x 2 Series	1968 1969 1970	Front brake hoses may come in contact with tires. This could eventually cause hose to wear through and cause loss of braking action on front wheels. (Correct by installing clip to eliminate brake hose from contacting wheels.)	10	20,022
71-0066	4-5-71	International Harvester	Transtar D-DF-DC-DCF 400 Models	1970	Drag link separation may occur due to lock nut loosening. (Correct by installing improved drag link.)	10	3,960
71-0068	3-15-71	International Harvester	D-line 1010 thru 1510 Series Scout 800A and 800B Loadstar and Cargo-star	1970	Push button release type seat belt buckle may not withstand tensile pull required by Federal Motor Vehicle Safety Standard Number 209. (Correct by replacing with improved buckle.)	9	146,582
71-0074	5-7-71	International Harvester	CO-4000, 4070, 4090, 7044 and D, DC-400 Transtars	1965 thru 1970	Bolts securing steering column, universal joint yoke and shaft may become loose, causing bolts, yoke and shaft to wear. Continued use over long period of time could result in loss of steering. (Correct by replacing bolts with new hardened bolts.)	16	45,826
71-0093	5-14-71	International Harvester	MA-1500 Loadstar and Cargostar	1970 1971	Brake power cylinder may experience brake fluid leak at cylinder due to end cap not sealing properly on	11	10,594

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			International Harvester Company—*Continued*				
					slave cylinder. Could cause complete loss of brake fluid and result in loss of braking control. (Correct by repairing.)		
71-0103	6-14-71	International Harvester	1110, 1210, 1310 with 4x2 and 4x4	Delv'd in 1970 and 1971	Rear axle brake hose may contact left exhaust tail pipe due to brake hose being too long. If contact is made, burning of brake hose could cause brake fluid leakage and loss of braking action to rear wheels. Failure of rear brake hose does not result in complete loss of brake action as the front brakes will still function. (Correct by replacing hose.)	8	326
71-0104	6-14-71	International Harvester	Loadstar equipped with RA-189 Rear axle	Delv'd in 1971	Interference between rear-axle-air-brake-slack adjuster and rear-spring-U-bolt plate could prohibit full travel of brake chamber diaphragm and prevent full brake application. (Correct by modifying.)	9	135
71-0105	6-14-71	International Harvester	183RE Bus Chassis equipped with power steering	Delv'd to users 1962 thru 1971	Possibility that power steering hoses are routed so that heat from engine can deteriorate hoses located in engine compartment area, causing hose to leak fluid. If power steering hydraulic hose breaks and fluid escapes, operator can steer manually but should stop vehicle and turn off ignition, as fluid may be sprayed on hot engine exhaust manifold and start a fire in the engine compartment. (Correct by replacing hoses with steel tubing and rerouting.)	10	887
71-0141	8-13-17	International Harvester	M-623, F-230	1970 1971	Possibility that torque arms on rear axle have inadequate welds. If condition exists and arms separate, could result in loss of vehicle control. (Correct by replacing torque arms where necessary.)	9	23
71-0143	8-17-71	International Harvester	1010	Delv'd to users in 1971	Possibility that front wheel bearings may be adjusted too tight. If condition exists, could cause bearing to run abnormally hot, and, if continued to operate in this condition, could result in bearing failure and possible loss of wheel. (Correct by making proper adjustments where necessary.)	9	6,875
71-0167	9-21-71	International Harvester	Truck equipped w/FA 110,	Delv'd in	Possibility that 22" cast spoke front wheels may have porous castings	9	274

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			International Harvester Company—*Continued*				
			115, 201, 211, 215, 218, 219 Front Axles	1970 and 1971	that could result in wheel breakage and loss of vehicle control. (Correct by replacing where necessary.)		
71-0191	10-18-71	International Harvester	Loadstar Bus Chassis w/20" cast (Dayton) wheel	Del'd users 1970	Possibility of interference of front wheel mounting with brake drum. If interference exists, extended use without correction could cause mounting bolts holding wheel hub to brake drum to become loose. Cracking of brake drum in this area could occur. (Correct by inspecting and proper fitting where necessary.)	9	874
71-0222 ·	11-23-71	International Harvester	VCOF-190 F-210-F F-201D-A F-230, M-623 DCF-400 CO-200 DCO-200 CO-1800 DCOF-190 COF-190 COF-4070	1970 1971	Possibility that front (disc) wheel hub was manufactured without wheel pilot ring. If condition exists, breakage of hub may occur. (Correct by inspecting and replacing with hub having pilot ring.)	*	378

* Information incomplete at time of printing.

Kayot Forester

71-0177	9-21-71	Kayot	Trailer	1968	Possibility that original equipment wheels on 18' trailer are underrated for normal loaded weight of trailer when loaded for travel. Wheel failure may result in loss of vehicle control. (Correct by inspecting and replacing with new higher load rated wheels.)	5	91

Lufkin Industries, Incorporated

71-0151	8-20-71	Lufkin	Model 1 Vans	1970 1971	Possibility that crack may develop at weld between crossmember and longitudinal beams which make up running gear structure of van. (Correct by rewelding where necessary.)	9	712

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Mack Trucks, Incorporated				
71-0096	5-18-71	Mack	All Models with FA534 or FA5341 Front Axle and Bogie	NR	Cracks may develop in front axle steering knuckle, causing spindle to fail and resulting in loss of front wheel and vehicle control. (Correct by replacing knuckles.)	9	16,056
71-0131	7-28-71	Mack	RL and RS Western Chassis with fiberglass hood	Built prior to Jan. 21, 1971	Possibility that nut that secures electric horn bracket mounted on left splash apron which is a part of hood and fender assembly may loosen. If nut backs off, horn may fall into position where it could lock steering shaft and interfere with steering control. (Correct by replacing present parts with new improved parts.)	5	2,630
71-0179	10-6-71	Mack	R, RD and MB	Built btwn Dec. 1968 and May 1971.	Possibility that air intake hood, which consists of metal cap attached to perforated plastic inner section, may not securely clamp to plastic section. If condition exists, cap can turn and cut plastic. If plastic is deeply cut, metal cap can separate completely. Such failure, particularly at high speeds, could create potential risk to safety of other highway users. (Correct by inspecting and replacing with improved air intake hood where necessary.)	8	15,002
71-0190	10-7-71	Mack	MB 400 MB 600	May1, 1969 thru Aug 17, 1971	Possibility that air brake piping has been erroneously connected to hand control valve which, when applied, is to operate service brakes on rear axle. Erroneous piping will cause braking to be on front axle instead of rear axle. Condition does not interfere with normal functioning of service or emergency brake systems. (Correct by inspecting and installing proper piping where necessary.)	8	916
71-0207	11-19-71	Mack	B, C, G, H, F, MB, R and U models equipped with SWDL56 Series bogies	1955 thru 1969	Possibility that aluminum spring cap used to hold spring may develop cracks which could permit cap to fail and allow spring to separate from axle. (Correct by inspecting and replacing cap with iron cap.)	*	27,976
71-0218	11-19-71	Mack	F795	Mnf'd from April	Possibility that fuel return line may be routed too closely to exhaust line. Excessive heat could cause	*	550

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LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Mack Trucks, Inc.—*Continued*							
				1969 thru Sept. 1971	fuel line to rupture. (Correct by inspecting and properly routing fuel line and install protective shield where necessary.)		
71-0219	11-19-71	Mack	Model "F" Chassis CA47 or CA848	Jan. 1971 thru June 1971	Possibility that right hand splash apron may contact right hand air brake hose, which would cause chafing action resulting in wearing through of the air hose causing reduced braking efficiency. (Correct by inspecting and removing portion of splash shield to preclude any possible contact with fuel return line.)	*	416
71-0226	11-11-71	Mack	DM, MB, RL, RS and FS	Sept. 22, 1970 thru April 6, 1971	Possibility that front hub may be defective. Failure of front axle hub could result in loss of vehicle control. (Correct by inspecting and replacing hub where necessary.)	*	238
Mallard Coach Corporation							
71-0122	4-20-71	Mallard	Motor Home	1970	Possibility that door locks and retention components fail to conform to Federal Motor Vehicle Safety Standard No. 206. (Correct by installing door locking system that meets Standard No. 226.)	2	26
Motor Coach Industries, Incorporated							
71-0094	5-21-71	Challenger	MC-5A and MC-7	Manfd July 20, 1970 to Nov. 12, 1971	Front axle manufactured by Rockwell-Standard may have defective wheel studs. Failure of studs would cause possible loss of wheel control. (Correct by installing new improved studs.)	11	72

* Information incomplete at time of printing.

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
National Motor Coach Company							
71-0057	10-15-70	National Motor Coach	Bus	NR	Possibility that door lock and latch system fails to conform to Federal Motor Vehicle Safety Standard No. 206. (Correct by installing lock and latching system to meet standard.)	3	9
Oasis Travel Products, Incorporated							
71-0076	1-14-71	Oasis	Model 702 and 705	1970	Possibility that door locking system failed to conform to Federal Motor Vehicle Safety Standard No. 206. (Correct by installing door locking system that meets standard.)	3	6
Open Road Industries, Incorporated							
71-0080	8-13-70	Open Road	Motor Home	1970	Possibility that door locks and door retention components failed to conform to Federal Motor Vehicle Safety Standard No. 206. (Correct by installing door locking system that meets standard.)	9	543
Oshkosh Truck Corporation							
71-0039	3-19-71	Oshkosh	Truck	NR	Possibility that torque rods may break because of inadequate butt welds. Breakage of torque rods would allow tandem axle to lose restraints and cause loss of vehicle control as well as additional damage to related mechanical components. (Correct by replacing where necessary).	4	33
71-0110	6-18-71	Oshkosh	C-2034, 2038, 2044, 2050, 2056, 2076, 2344 and G-2050	NR	Brake hose routed on tandem axle may chafe on sharp edges of carrier assembly. If hose should chafe through, braking ability would be reduced. (Correct by rerouting brake hose and installing clamps.)	6	93

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Pace-Arrow, Incorporated							
71–0124	7–21–71	Pace-Arrow	Motor homes Models F, G, H, K, and X	1971	Possibility that windshields were fabricated using laminated glass to specification AS2 rather than AS1 as specified in Federal Motor Vehicle Safety Standard 205. (Correct by installing windshield with proper glass.)	5	531
Pacific Car and Foundry Company							
71–0106	6–15–71	Kenworth	Trucks equipped with Firestone wheels	1971	Possibility that incorrect wheel lock ring will not seat properly and if on front axle may blow off causing "oversteer." Also possibility of personal injury if tire and wheel are off vehicle. (Correct by replacing with proper type lock ring.)	4	10
71–0126	7–26–71	Peterbilt	Truck	1971	Possibility that rear suspension spring eye bolts may not have been heat treated. If condition exists, could result in rear suspension failure, which could cause loss of control of vehicle. (Correct by replacing bolts with properly heated bolts where necessary.)	12	805
71–0135	8–9–71	Kenworth	Truck	1971	Possibility that front axle hub may be defective. Failure of front axle hub could result in loss of vehicle control. (Correct by replacing hub.)	6	4
71–0151	8–17–71	Kenworth	Conventional Truck	1971	Possibility that air reservoir manifold fitting may possess defective weld. If condition exists, will be impossible to maintain air compression in brake system, and emergency brakes will be applied. (Correct by replacing fitting and reweld where necessary.)	5	60
71–0180	00–7–70	Peterbilt	Conventional	1970 1971	Possibility that front axle hub may be defective. Failure of front axle hub could result in loss of vehicle control. (Correct by inspecting and replacing hub where necessary.)	7	118
71–0186	10–7–71	Kenworth	COE	1971	Possibility that lock bolt in upper steering shaft lower universal joint yoke was inadvertently produced with 3/8″ diameter lock bolt instead of 7/16″ diameter lock	4	19

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Pacific Car and Foundry Company—*Continued*							
					bolt. If condition exists over long period of time wear could occur, allowing yoke to drop down and possibly causing loss of steering control. (Correct by inspecting and replacing lock bolt where necessary.)		
71-0229	12-8-71	Kenworth	COE	1972	Possibility that Goodyear tires, size MC 27, may be defective. (Correct by inspecting and replacing with new tires.)	4	8
Progress Industries, Incorporated							
71-0172	9-27-71	Progress Industries	Trailer	NR	Possibility that induction hardening process in effect at North American Rockwell's axle plant may have created high residual stresses at inner bearing shoulder area. Stresses may become physical cracks under extended field service. Continued use of axle after cracking has occurred may cause axle spindle to fracture. (Correct by inspecting and replacing where necessary.)	4	36
Recreation and Sports, Incorporated							
71-0048	8-7-70	Recreation & Sports	Motor Home	NR	Possibility that door locks and retention components failed to conform to Federal Motor Vehicle Safety Standard No. 206. (Correct by installing door locks and components that meet standard.)	3	99
Rectrans, Incorporated							
71-0028	2-11-71	Rectrans	Motor Home Discoverer 25	NR	Possibility that LPG Furnace Valve at gas connection may leak. Gas leakage inside coach could cause explosion or fire. (Correct by replacing with modified valve.	8	33

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Rectrans, Incorporated—*Continued*							
71-0193	10-19-71	Rectrans	Discoverer 25 motor home Dodge chassis	1971	Possibility that brake pedal travel is less than design specifications. (Correct by inspecting and replacing with improved brake pedal.)	*	95
* Information incomplete at time of printing.							
Rolls-Royce, Incorporated							
71-0213	11-15-71	Rolls-Royce Bentley	Silver Shadow and "T" Series	1968 1969 1970	Under testing, seat belts supplied by U.S. Safety Weave Company failed to meet load requirement of Federal Motor Vehicle Safety Standard No. 209. (Correct by replacing seat belts.)	5	1,101
Roper Corporation							
71-0142	8-16-71	Roper	Street and Trail Bike No. 131.80716	1971	Possibility that fuel tank may leak under certain conditions, when mini-bike is ridden at top speed over rough terrains. (Correct by replacing tank where necessary.)	14	250
Seagrave Fire Apparatus, Incorporated							
71-0170	9-29-71	Seagrave	PB24066 and KT-20761 Fire Apparatus	NR	Possibility that front axle hub may be defective. Failure of front axle hub could result in loss of vehicle control. (Correct by inspecting and replacing hub where necessary.)	11	7
Sightseer Corporation							
71-0059	9-16-70	Sightseer	Motor Home	NR	Possibility that door lock and door retention components fail to conform to Federal Motor Vehicle Safety Standard No. 206. (Correct by installing lock and retention components to meet standard.)	5	31

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Starcraft Company							
71-0053	4-2-71	Starcraft	Trail-Star Trailer 17 ft. 6 in.	1969	Possibility that original equipment tires have too low load capacity and could be a risk to traffic safety. (Correct by replacing with Mobiline HST 7.00 x 15 6 ply tires.)	4	464
71-0054	4-2-71	Starcraft	Starcruiser 24-foot Motor Home	1970 1971	Possibility of complete or partial hydraulic brake system failure due to brake fluid leakage caused by possible deterioration of rubber seals. (Correct by replacing parts where necessary.)	2	81
71-0065	9-1-70	Starcraft	Starcraft 19' Motor Home	NR	Possibility that door locks and door retention components fail to conform to Federal Motor Vehicle Safety Standard No. 206. (Correct by installing lock and components to meet standard.)	6	121
Superior Coach Corporation							
71-0130	7-28-71	Superior	Motor Home	1971	Possibility that combustible duct tape was used in sealing pilot light compartment for refrigerator. Loose ends could come in contact with blowing pilot flame and possibly cause a fire. (Correct by installing protective heat shield where necessary.)	5	373
Trailmobile, Division of Pullman, Incorporated							
71-0189	9-29-71	Trailmobile	T/K	Jan 1, 1960 July 31 1962	Possibility that induction hardening process in effect at North-American Rockwell's axle plant may have created high residual stresses at inner bearing shoulder area. Stresses may become physical cracks under extended field service. Continued use of axle after cracking occurs, may cause axle spindle to fracture. (Correct by inspecting and replacing where necessary.)	*	18,385

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LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Trailmobile, Division of Pullman, Incorporated—*Continued*							
71-0220	11-24-71	Trailmobile	Trailer	Sept. 1, 1955 thru June 15, 1971	Possibility that design of "P" automatic fifth wheel does not provide positive means for locking handle when king pin locking jaws are activated. If condition exists, there is no assurance that locking jaws stay in locked position during time trailer is coupled and in over-the-road operation. Under extreme conditions is possible for trailer to become accidentally disengaged from tractor. (Correct by inspecting and providing locking mechanism where necessary.)	*	90
71-0223	11-24-71	Trailmobile	Trailer	Jan. 15 1971 May 15, 1971	Possibility that air brake chamber may have diaphragms constructed of materials that may delaminate and/or rupture. If condition exists, air pressure reservoir may be totally exhausted to atmosphere. This may leave trailer uncontrollable during braking efforts, if defect is present in all wheel air brake chambers. (Correct by inspecting and replacing air brake chambers assembly.)	*	225
* Information incomplete at time of printing.							
Travco Corporation							
71-0055	9-17-70	Travco	Motor Home Model 220, 270	1970	Possibility that door lock and striker fail to conform to Federal Motor Vehicle Safety Standard No. 206. (Correct by installing lock and striker to meet standard.)	17	260
Travel Equipment Corporation							
71-0077	8-3-70	Travel Equipment	Motor Homes	1970	Possibility that door locking system failed to conform to Federal Motor Vehicle Safety Standard No. 206. (Correct by installing door locking system that meets standard.)	3	18

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Travoy Corporation							
71-0221	11-24-71	Travoy	220 and 260	1972	Possibility that torque of hydraulic power assist unit may deform side rail of box frame to which it is attached. If condition exists, steering wheel will not center back at exact initial position. (Correct by inspecting and retrofiting with improved engineered fix.)	8	8
Wheel Camper Corporation							
71-0115	6-29-71	Wheel Camper	Lo-Pro 16 ft. Travel Trailer	1970 1971	Possibility that drawbar which is an integral part of frame ending at coupler, is defective. Under loaded conditions could bend or buckle at or near first crossmember. (Correct by reinforcing drawbar system where necessary.)	10	46
White Motor Corporation							
71-0014	1-28-71	Diamond Reo	Trend Truck with FC 901 front axle and power steering	NR	Possibility that drag linkage used in steering system was improperly assembled. This might allow ball socket assembly at axle end to loosen and back-off and ultimately result in loss of steering control. (Correct by modifying where necessary.)	9	247
71-0114	6-28-71	Diamond Reo	Various with SRDD, STDD, SUPD and SFDD axles with Rockwell multi-leaf suspension	NR	Possibility that rear axle torque rods may have had inadequate butt welds. If condition exists and torque rod breaks may result in loss of vehicle control. (Correct by replacing where necessary.)	7	49
71-0156	9-3-71	White	Diamond T 1044C and Diamond Reo CO-50, CO-78 equipped w/FE-970 Front Axle	1971	Possibility that after hitting a very deep chuck hole or high curb hard, angle of drag link may become such that drag link ball seat may contact base of front axle steering arm ball stud. If such impact occurs enough times, ball stud may break causing loss of vehicle control without warning. (Correct by replacing where necessary.)	31	871

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LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
White Motor Corporation—*Continued*							
71-0165	9-1-71	Autocar	A-64, CK64, CK66, CK84, 7366, DC9364, DC10366	1970 1971	Possibility that rear axle torque rods may fail, due to inadequate butt welds. If rods fail, could result in loss of vehicle control. (Correct by replacing with improved type where necessary.)	2	486
71-0209	10-21-71	White	Tractor		Possibility that Cutler Metal Products Air Starter Tank (aluminum) may not meet specifications of 350 psi, pressure test. If condition exists, could result in eparation at header welds at both ends, resulting in tank explosion. (Correct by inspecting and replacing tanks where necessary.)	*	1,000
71-0210	10-7-71	White	Tractor	Prde'd since Jan. 1969	Possibility that in air alcohol injector assembly, injector air outlet port may become plugged with foreign matter. This could possibly destroy alcohol injector assembly. (Correct by installing new filler cap which incorporates safety relief valve.	*	260
71-0211	10-13-71	White	6000 Series	NR	Possibility that cab latch mechanism may disengage allowing cab to tilt without warning to operator. (Correct by modifying cab rear frame to underbody and hooks and springs to main latch.)	*	968
71-0230	12-13-71	Diamond Reo	C101, DC101, G90 and C114 equipped with FL901 front axle w/disc wheels	Mnf'd btwn Sept. 1970 and April 1971	Possibility that front axle hub may be defective. Failure of front axle hub could result in loss of vehicle control. (Correct by inspecting and replacing hub where necessary.)	9	173

* Information incomplete at time of printing.

Williamsen Body and Equipment Company

71-0116	6-14-71	Williamsen Body & Equip.	ADT-23C Trailer	NR	Possibility that non-pressure section of air chamber was not adequate to support spring brake, due to possible defects in weld reinforcement of mounting bolts. (Correct by re-welding stud where necessary.)	9	6

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—DOMESTIC

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Winnebago Industries, Incorporated							
71-0082	7-13-70	Winnebago	D18, D22, D24, D22C, D24C and D27C	1970	Possibility that door locks and retention components failed to conform to Federal Motor Vehicle Safety Standard No. 206. (Correct by installing door locks and retention components that meet standard.)	12	1,583
71-0160	8-25-71	Winnebago	Motor Home Chevrolet Chassis	1971	Possibility that brake line may be located too close to engine exhaust manifold, causing premature failure of brake line. (Correct by relocating line where necessary.)	3	172

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Alfa Romeo, Incorporated							
71-0232	12-22-71	Alfa Romeo	1600 Spider Giulia Super GT Veloce	1967	Under testing, seat belts supplied by U.S Safety Weave Company failed to meet load requirements of Federal Motor Vehicle Safety Standard No. 209. (Correct by inspecting and replacing where necessary.)	14	1,651
American Honda Motor Company, Inc.							
71-0146	8-13-71	Honda	CT70, CT70H	1969 1970	Possibility that frame was incompletely welded in lower steering head area. Condition, in this location, decreases structural strength and may cause forward frame area to crack under stress and bend out of alignment. If front end bends out of alignment would be a reduction of vehicle control. (Correct by welding steering head where necessary.)	16	4,200
71-0147	8-13-71	Honda	CB750	1969 1970	Possibility that drive chain could break due to high shock loads imposed on chain during severe operating conditions. If drive chain breakage occurs, motorcycle will experience sudden loss of power which could be hazardous, especially in high speed expressway traffic. It is also possible for a broken drive chain to be driven against engine crankcase with sufficient force to damage crankcase. (Correct by replacing where necessary.)	21	28,000
Avanti Motor Corporation							
71-0007	12-24-70	Avanti	Avanti II	Purc'd since Jan 1 1969	Headlamp lens with glass covers in front of lens are being removed in order to comply with Federal Motor Vehicle Safety Standard 108. Identification number was inadvertently affixed to left door jamb. In order to comply with Federal Motor Vehicle Safety Standard 115, I.D. number will be placed so that it is visible from outside of windshield.	5	159

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Bayerische Motoren Werke (BMW)							
71-0011	12-17-70	BMW	Six cylinder Model 2500 and 2600	Imptd since Jan. 1 1969	Possibility that headlights may not comply with Federal Safety Standard 108, because minimum height from ground level to center of head lights may need to be modified. (Correct by modifying head lights to meet Standard 108.)	3	1,306
71-0184	10-5-71	BMW	R-50/5 R-60/5 R-75/5 Motorcycle	1971	Possibility that two Allen bolts retaining transmission shifter forks in position may not have been properly tightened on assembly. If shifter bolts are loose, two gears can engage at same time and result in lock up of transmission and rear wheel. (Correct by inspecting and properly tightening bolt where necessary.)	5	182
British Leyland Motors, Incorporated							
71-0032	2-19-71	Austin	America Model	1968 thru 1971	Possibility that inertia valve in rear brake system may not operate correctly. If this condition exists and front brake system fails, would cause rear brake system to be less efficient. (Correct by replacing valve where necessary.)	7	41,006
71-0040	3-15-71	Jaguar	XJ6	1970	Possibility that hand brake cable may become displaced from intermediate lever, causing loss of handbrake operation. (Correct by adding spring tension to cable.)	4	920
71-0047	3-31-71	Austin	American	1971	Possibility that brake master cylinder was fitted with incorrect primary piston return spring. Spring may bind against cylinder bore and cause brake not to fully release after application. (Correct by replacing parts.)	3	240
71-0072	4-1-71	Triumph	GT-6 and GT-6+	1968 1969 1970	Possibility that lap-type seatbelt instead of shoulder-type seatbelt was installed in vehicle. (Correct by replacing with proper belt.)	5	3,236
71-0097	4-7-71	Austin MG	Healy/Sprite Midget	1968 thru 1971	Possibility that if front brake system fails in dual-braking systems, rear brake system may not operate at full efficiency, thereby increasing vehicle-stopping distance and possibly affecting safety in handling vehicle. (Correct by replacing master cylinder push rod.)	5	32,386

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
British Leyland Motors, Incorporated—*Continued*							
71-0107	6-17-71	Triumph	Stag	1971	Throttle may stick in open position and affect driver's ability to control vehicle. (Correct by checking cable routing.) Also possibility that fuel tank filler hose may split allowing fuel to spill into trunk, creating potential fire hazard. (Correct by replacing with new type hose.)	4	302
71-0154	8-31-71	Triumph	Spitfire Mark III & IV GT6 & GT6+	1970	Possibility that amount of fluid delivered from windshield washer screen jet may not comply with Federal Motor Vehicle Safety Standard No. 104. (Correct by installing valve into outlet tube.)	4	21,283
71-0196	10-8-71	Triumph	TR-250 Spitfire GT-6 TR-6	1968 thru 1971	Under testing, seat belts supplied by U.S. Safety Weave Company failed to meet load requirements of Federal Motor Vehicle Safety Standard No. 209. (Correct by inspecting and replacing where necessary.)	22	20,559
71-0199	10-6-71	Triumph	TR-6	1969 1970 1971	Possibility that head lamp height may not comply with requirement of Federal Motor Vehicle Safety Standard No. 108. (Correct by inspecting and adjusting to proper height.)	10	19,959
70-0234	12-22-71	Triumph	Stag	1971	Possibility of steering column upper universal bearing cups moving in yoke into which they are pressed, and dropping into the steering shroud. If condition exists, will cause partial locking of steering columns. (Correct by inspecting and replacing bearings where necessary.)	11	951
Bus and Truck Supply Company							
71-0100	5-11-71	Bus and Truck	Silver Eagle 05 and 07	NR	Electrical components in area of turn signal/hazard warning flashers may fail to comply with Motor Vehicle Safety Standard 108. (Correct by modifying to meet Standard 108).	6	695

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Citroen Cars Corporation							
71-0200	10-29-71	Citroen	D-Models DS-21 Sedan and Station Wagon "D Special" Sedan	1971 and 1972	Possibility of erroneous connection in brake system. Connection involves switching front and rear brake circuit hydraulic lines at welding point on connecting plate of multiple connector, located on brake master control. Because of brake hydraulic pressure, apportionment between front and rear brake circuits, which is designed in every Citroen "D" model, assembly error makes pressure in front circuit always less than that in rear circuit. This may lead, under certain conditions of braking and vehicle load, to premature locking of rear wheels, and impairing efficiency of brake system. (Correct by inspecting and properly connecting brake piping where necessary.)	9	400
DeTomaso of America, Incorporated							
71-0123	3-1-71	DeTomaso	Mangusta	NR	Possibility that headlamp concealment devices fail to conform to Federal Motor Vehicle Safety Standard No. 112. (Correct by modifying to meet requirements of standard.)	3	93
71-0174	9-3-71	DeTomaso	Pantera	1971	Possibility that crossmember at steering gear mounting may crack. If not corrected, could eventually cause separation of gear mounting, resulting in possible loss of steering. (Correct by inspecting and installing reinforcing bracket where necessary.)	4	93
71-0231	12-16-71	DeTomaso	Pantera	1971	Possibility that front brake hose is incorrectly located and may chafe against small lip in front fender well. If condition exists, could result in loss of hydraulic pressure in one of two hydraulic systems, and impair braking efficiency. (Correct by inspecting and rerouting brake hose; replace where necessary.)	8	94

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
DeTomaso of America, Incorporated—*Continued*							
					Possibility that brake pedal stop was omitted in production, which could lead to progressive build-up of hydraulic pressure within brake system creating a partial brake pedal application even with pedal in fully released position. May cause overheating which could impair braking performance. (Correct by inspecting and installing brake pedal stop.) Possibility that fuel tank could develop cracks in seams, permitting fuel leakage. If condition develops, could present possible fire hazard. (Correct by modifying tank to preclude possibility of fuel leakage.)		
Fiat Motor Company, Incorporated							
71-0095	5-10-71	Fiat	124 Sedan	1971	Incorrect tire pressures supplied with vehicle. Tires size 150-SR13 were supplied with consumer information listing pressure for tires size 155-SR13. (Correct by having all vehicles equipped with tires size 150-SR13 inflated to 28 lb. front and 32 lbs. rear.)	5	1,025
Ford Motor Company of Britian							
71-0158	9-9-71	Cortina	NR	1971	Possibility that some clips for retaining brake and clutch pedal cross shaft are missing. This would allow mispositioning of brake pedal which may result in loss of positive braking control. (Correct by installing clips where necessary.)	6	612

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
General Motors Corporation–Buick Division–Opel							
71-0176	10-1-71	Opel	Kadetts Model 31, 31D, 36, 36D and 39-1900 Series	1970 1971 1972	Possibility that windshield may not have been mounted to conform with retention requirement of Federal Motor Vehicle Safety Standard No. 212. If condition exists and vehicle is involved in high impact frontal collision, windshield may come out. (Correct by inspecting and securing with improved adhesive where necessary.)	12	100,661
Jensen Motors, Incorporated							
71-0102	6-4-71	Jensen	Interceptor II	NR	Throttle may stick in operation of vehicle. If this occurs throttle will not return to idle. (Correct by installing new cable.)	7	256
Mercedes-Benz of North America, Inc.							
71-0036	3-17-71	Mercedes-Benz	LP 1113, LP 1313, LP/LPS 1317 trucks	NR	Possibility that hand brake valve controlling operation of emergency brake system may lose air pressure and cause rear brakes to be applied. Continued loss of air pressure may ultimately bring vehicle to a stop. (Correct by replacing valve where necessary.)	15	106
71-0073	4-30-71	Mercedes-Benz	220/9 to 300SEL/8 6.3	Manfd from mid March to Sept. 30, 1970	Possibility that check valve of vacuum line from brake booster to intake manifold might develop cracks, causing booster system assist reduction and resulting in possible reduced braking capacity. (Correct by replacing line and check valve.)	9	16,107
71-0168	9-24-71	Mercedes-Benz	280SE Convertible 3.5 280SE Coupe 3.5 300SEL 3.5 Sedan	1971	Possibility that fuel supply connecting hoses and fuel injection nozzle hose may develop leaks at connecting point creating possibility of fuel escaping which could ignite causing fire damage. (Correct by replacing hoses or nozzle where necessary.)	10	2,281

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Mercedes-Benz of North America, Inc.—*Continued*							
71-0214	10-18-71	Mercedes-Benz	LR 1013, 1113 1313 Trucks	Mnf'd btwn Jan. 1966 and Oct. 1971	Possibility that air line from brake to pressure gauge in instrument cluster may be located too close to upper surface of left longitudinal frame member and may rub against auxiliary frame support after body installation. If condition exists air leaks may eventually develop, causing loss of power assist of hydraulic brake system. (Correct by inspecting and re-routing air line where necessary.)	6	379
71-0225	10-1-71	Mercedes-Benz	350SL	Prdcd July 1971 to Oct. 1971	Possibility that seat rail bolts may not be properly tightened. Loose bolts may not provide satisfactory support during emergency driving condition. (Correct by inspecting and properly tightening where necessary.) Possibility that hood catch may allow hood to open while vehicle is in motion. (Correct by installing newly designed hood catch.) Sub-frame must be modified to insure proper reinforcement of lowest of three steering gear box mounting points. This will increase service life of steering system. Possibility that gasket on fuel gauge sending unit in gasoline tank may leak. This would permit leakage of potentially dangerous fumes in vehicle. (Correct by replacing gasket with improved type gasket.) Possibility that three hexagonal bolts of lower power steering box cover may be loose and could cause loss of lubricant and consequential loss of ease of steering. (Correct by inspecting and re-tightening bolts.)	24	89
Norton Villiers Limited							
71-0108	6-14-71	Norton	Commando Roadster Fastback	1971	Drive pegs in rear brake drum may work loose, due to incorrect brazing of pegs. Continued use	5	3,200

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Norton Villiers Limited—*Continued*							
					with loose pegs can cause considerable damage to vehicle. (Correct by re-brazing pegs.)		
71-0118	2-8-71	Norton	Commando Roadster Fastback	1971	Possibility that kickstart pawl may shear off due to material fault. (Correct by replacing where necessary.)	3	1,400
Porsche/Audi							
71-0075	5-6-71	Audi	100LS	1971	Welding of some studs in lower A-frame or lower wishbone may not conform to factory specifications. Continuous use of vehicle in this condition will affect front end suspension and steering characteristics. (Correct by replacing lower wishbone.)	16	248
71-0195	10-20-71	Porsche	911T	1972	Possibility that cover tubes for rear shock absorbers are too short. If condition exists, could result, under extreme circumstances, in blocking shock absorber on its return action from fully extended position; would affect vehicles' handling characteristics. (Correct by inspecting and replacing tube covers where necessary.)	10	30
71-0233	12-20-71	Porsche	911 T and E	1972	Possibility that rod to clutch actuating lever is too small in diameter and attaching pins are not properly seated. If condition exists could under extreme circumstances result in bending or disconnecting of rod, impairing clutch movement and making gear shifting impossible. (Correct by inspecting and replacing with larger diameter rod.)	11	32
SAAB U.S.A., Incorporated							
71-0008	1-8-71	SAAB	Sonett III Model 97	1970	Possibility that steering column lock-out device may become prematurely engaged, locking steering mech-	6	300

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			SAAB U.S.A., Inc.—*Continued*				
					anism and causing loss of vehicle control. (Correct by replacing steering shaft with newly designed shaft.)		
71-0149	8-18-71	SAAB	95, 96, and 97	1967 1968	Possibility that nipple for connection of fuel hose to float housing on carburetor may work loose. Condition could result in fuel leakage and possible carburetor catching fire. (Correct by modifying where necessary.)	5	13,560
71-0198	10-22-71	Saab	99	1971	Possibility that steering rack ball joints were improperly heat treated. Lack of treatment could cause loose steering after period of use. Excessive wear on rack ball joints could possibly result in loss of steering control. (Correct by inspecting and replacing parts where necessary.)	4	1,221
			Simca-Rootes Division (Chrysler Motors Corporation)				
71-0013	1-25-71	Simca	1204	1971	Possibility that rear axle hub bearing may be improperly lubricated. Extended mileage without adequate lubrication could result in bearing failure, which could possibly lead to loss of vehicle control. (Correct by properly lubricating where necessary.)	5	2,317
			Toyo Kogyo Company, Limited				
71-0152	8-24-71	Mazda	616 Sedan and Coupe	1971	Possibility that rubber intake horn on air cleaner may collapse when ambient temperature is too high. This will cause deceleration of vehicle to be temporarily retarded, when accelerator pedal is returned to off position. (Correct by installing wire ring in end of air horn.)	7	4,210
71-0153	8-24-71	Mazda	616 4-door Sedan	1971	Possibility that vehicle does not comply with structure requirements provided in Motor Vehicle Safety Standard No. 105. Failed	10	1,477

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Toyo Kogyo Company, Limited—*Continued*							
					to provide means for testing function of the bulb for emergency brake indicator lamp. (Correct by installing warning switch for testing emergency brake lamp.)		
Toyota Motor Sales, U.S.A., Inc.							
71-0084	5-17-71	Toyota	Corona	1965 thru 1970	Possibility that items placed in package tray under the right dash panel may inadvertently fall over protective partition and cause possible malfunction of accelerator linkage. (Correct by installing new partition.)	11	190,000
			Corolla	1970 1971			
TVR Cars of America, Ltd.							
71-0012	9-16-70	TVR	TVR	Import Jan. 1, 1968 Jan. 1, 1970	Possibility that rear window does not comply with Federal Motor Vehicle Safety Standard 205. Window must bear marking of AS1 or AS2. (Correct by replacing window glass with approved type where necessary.)	3	105
Volkswagen of America, Incorporated							
71-0005	12-28-70	Volkswagen	Type 1, 3, 4, and Super Beetle	1971	Possibility that guide pin in steering column lock may have been damaged in assembly. Also, ignition switch may have manufacturing defect. These conditions could result in difficulty in unlocking steering and starting engine. (Correct by replacing locks and switches where necessary.) Possibility that left front hood hinge may rub against wiring harness causing damage to wiring. (Correct by re-routing wiring harness where necessary.)	21	78,100

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
Volkswagen of America, Inc.—*Continued*							
71-0029	2-16-71	Volkswagen	Super Beetle Type 1	1971	Possibility that suspension strut mounting on side panel was incorrectly welded during production. If weld fails, could loosen suspension strut and cause loss of steering. (Correct by installing modified panels.)	14	6,000
71-0030	2-16-71	Volkswagen	Super Beetle Type 1	1971	Possibility that slotted nuts on outer left and right tie rod ends connecting steering knuckles were insufficiently torqued. (Correct retorquing nuts to 22 ft. lbs.)	7	735
71-0099	6-1-71	Volkswagen	Type II Station Wagon	1971	Guide bracket for parking brake may have been improperly manufactured and may bend if excessive force is applied to parking brake lever. This would reduce parking brake system's holding ability. (Correct by replacing bracket.)	8	5,000
71-0163	9-15-71	Volkswagen	Type 1, 2, 3, and 4.	1972	Possibility that brake warning light system may become overloaded when ignition switch is turned off, resulting in damage to transistor. If this happens, brake warning light will remain on even though the braking system is in proper working order. (Correct by installing a diode in brake warning light system.)	11	10,000
71-0164	9-14-71	Volkswagen	Type 2	1972	Possibility that Department of Transportation code numbering was omitted from tires. (Correct by replacing tires.)	4	60
71-0203	11-5-71	Volkswagen	Type 3 Squareback with auto. transmission	1972	Possibility that fuel lines may rub against recirculating systems' exhaust return valves until walls of lines chafe open. This would permit gasoline to escape, constituting fire hazard. (Correct by inspecting and properly routing lines and regulators.)	12	869
Volvo, Incorporated							
71-0044	3-16-71	Volvo	NR	1971	Possibility that incorrect tire label may have been placed on vehicles. Correct label should read 685 x 15 instead of 165 R 15. (Correct by installing correct label as furnished.)	3	76

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—FOREIGN

Admin. Identification Number	Date of Company Notification	Make	Model	Model Year	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Vehicles Recalled
			Volvo Incorporated—*Continued*				
71–0138	8–16–71	Volvo	All Models 142, 144, 145 164	1971	Possibility that rear seat belt buckle was constructed to improper specifications. If condition exists, could result in buckle unlatching during accident, and could cause personal injury. (Correct by replacing buckles where necessary.)	4	7,400
71–0145	8–18–71	Volvo	1800E 142E	1971	Possibility that under certain conditions water vapors from P.C.V. system could collect in throttle plate area and freeze, causing throttle not to return to idle position during deceleration. (Correct by rerouting P.C.V. ventilating hose.) This is further modification to previous recall No. 70–0140.	7	4,403

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—MOTOR VEHICLE EQUIPMENT

Admin. Identification Number	Date of Company Notification	Component	Model or Size Designation	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Components Recalled
Cooper Tire and Rubber Company						
71E-007	6-29-71	Tire	855-14 4-ply Polyester Dean Super Premium	Possibility that under extreme conditions of high load or sustained high speed, tire may develop tread separation and partial loss of tread. (Correct by replacing where necessary without charge prior to July 31, 1971; after that date replacement will be made on regular adjustment policy.)	8	700
71E-008	7-8-71	Tires	Atlas Plycron 2 + 2	Tires failed to meet wheel endurance tests. Failures were primarily sidewall ply separation and cord breaks. Condition could result in complete loss of air through the sidewall.	2	137
71E-009	7-12-71	Tires	Cooper Wildcat R/R J78-14, G78-15, H78-15, J78-15, L78-15 900-15 Cooper Weather master R/R H78-15 L78-15 Cooper Wildcat P/F C78-14 Cooper Wide Runner P/F G70-14	Surveillance tests indicated possible failure to pass prescribed wheel tests of Motor Vehicle Safety Standard 109. Tires used under severe or unusual conditions might deteriorate due to extreme heat and flexing and if left in service could result in loss of air. (Correct by replacing where necessary.)	26	128,000
71E-011	8-11-71	Tire	J78-15 Cooper Go-Getter 4-ply polyester	Possibility that tires used under extreme condition of high load or sustained high speed may develop tread separation and partial loss of tread. (Correct by replacing at no charge until September 11, 1971.)	6	800
71E-013	10-11-71	Tire	Atlas Plycron G78-15 2+2	Possibillty that some tires may fail to pass Federal Motor Vehicle Safety Standard No. 109, endurance wheel test.	2	263
71E-014	10-15-71	Tire	H78-14 H78-15 and J-78-15 Agway 1090 S/M winter rayon/rayon belted	Failed to meet Federal Motor Vehicle Safety Standard No. 109, endurance wheel test. Primary failures were sidewall ply separation and cord breaks.	6	1,465
Dayton Steel Foundry Company						
71E-002	12-21-70	Dayton Double Jaw Fifth Wheel	FWC, FWH, FWM, FWP, FWT, FWU	Possibility that plunger stud and nut may vibrate loose or a castellated nut may vibrate through safety retaining wire and fall from underside of fifth wheel. This could	23	2,100

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—MOTOR VEHICLE EQUIPMENT

Admin. Identification Number	Date of Company Notification	Component	Model or Size Designation	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Components Recalled
Dayton Steel Foundry Company—*Continued*						
				allow plunger retaining jaws in lock position to drop away and release jaws and possible uncoupling of tractor and trailer on highway. (Correct by reworking as required by modification kits.)		
Gates Rubber Company						
71E-003	1-18-71	Tires	C.B.I. Super Flex-Ride Security Twin 600 H78-14	Possibility that tire fails to meet high-speed testing for Federal Motor Vehicle Safety Standard No. 109. (Correct by replacing tires with new tires.)	2	4,732
General Tire & Rubber Company						
71E-004	4-7-71	Tires	185R14 and 195R14 Winter Cleat Radan	Possibility that surface splitting at bead flange area may occur in highway service. Could result in localized flexing in bead area which could result in failure of tire. (Correct by replacing.)	6	1,350
Goodyear Tire and Rubber Company						
71E-012	8-19-71	Tires	G78-14, G78-15, H78-15 Power Belt tires	Possibility that some improper fabric was used in production of tires. Condition could cause flexing failure of tire and possible sudden loss of air. (Correct by replacing on no charge basis until October 15, 1971; after that date replacements will be on regular adjustment policy.)	14	9,056
71E-015	10-14-71	Tire	10.00-15 Rib Hi Miler Nylon Tube Type Load Range G 14 ply	Possibility that during building tire, fabric wrinkles in ply turn-up area were found which caused green-tire contour of some tires to be improperly matched to dimensions of curing mold. Condition resulted in tire being not properly shaped and could be subject to failure in lower sidewall area.	14	2,200

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LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—MOTOR VEHICLE EQUIPMENT

Admin. Identification Number	Date of Company Notification	Component	Model or Size Designation	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Components Recalled
Mansfield Tire and Rubber Company						
71E–006	4–29–71	Tires	J78–14 L78–15 Polyester/Fiberglass Belted	During indoor laboratory tests performed pursuant to D.O.T. regulations some tires developed localized side wall separations. Under severe or unusual conditions, such separations could result in loss of air during tire service. (Correction will be made in accordance with company's established adjustment policy.)	10	11,417
Specialty Manufacturing Company, Incorporated						
71E–017	11–5–71	Solenoid Valve	Solenoid valve 1971 Bluebird School Bus	Possibility that solenoid valve that controls air operated stop warning sign may become inoperative. Malfunction may occur when other electrical accessories, such as heater and defroster, reduce link voltage below normal 12 volt D.C. level. (Correct by inspecting and installing new coil that will operate below 12 volt normal.)	6	26
Theodore Bargman Company						
71E–019	7–27–71	Lock Striker	L–300 Lock	Possibility that door locking system fails to conform to Federal Motor Vehicle Safety Standard No. 206. (Correct by installing striker that meets standard.)	6	20,000
Uniroyal Tire Company						
71E–001	12–30–70	Tire	Atlas Plycron 8.25–15	Possibility that bead stock in which bead wires were embedded was undercured. Under this condition, when tire is mounted, inflated and run, the bead wire may loosen and uncoil sufficiently to lose pressure seal. (Correct by replacing with new tire.)	14	482
71E–005	4–8–71	Tires	Atlas Gripsafe G 78–14	Failed tires indicated presence of contaminant such as tubeless	8	964

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS—MOTOR VEHICLE EQUIPMENT

Admin. Identification Number	Date of Company Notification	Component	Model or Size Designation	Brief Description of Defect (Manufacturer's Corrective Action)	No. of Pages on File	Number of Components Recalled
				Uniroyal Tire Company—*Continued*		
				liner stock at tread and carcass interface. Presence of contaminant caused tires to fail D.O.T. endurance wheel test. (Correct by returning tires for adjustment.)		
71E-010	7-21-71	Tires	L78-15 Fastrak dual W.S.	Possibility that tires may be subject to tread separation in early life and may not meet Federal Motor Vehicle Safety Standard No. 109. If condition exists, will not cause deflation of the tire; may cause bulging of tread and likely loss of pieces of tread stock. (Correct by replacing where necessary.)	10	3,200
71E-016	11-10-71	Tires	7.00-13 E78-14 F78-14 G78-15 H78-15 Atlas Grip-Safe G78-15 Atlas Weathergard 8.25-15 Atlas Plycron	Possibility of presence of contaminant, such as tubeless liner stock, at tread and carcass interface caused tire to fail. Presence of contaminant caused tires to fail DOT endurance wheel test. (Correct by returning tires for adjustment.)	3	1,408
71E-018	11-18-71	Tire	G70-15 K70-15 H70-14 Delta Wide Sure Trac 9.00-15 H78-15 Delta Sure Trac	Possibility of presence of contaminant, such as inner liner stock mixed into hot recoat under tread. If condition exists, could result in early life tread separation; however, would not cause air loss. (Correct by inspecting and replacing where necessary.)	3	4,950

OFFICE OF DEFECTS INVESTIGATION—RECALL CAMPAIGN STATUS

Campaigns	Number	Vehicles
1966–67 (LAST 4 MONTHS 1966)		
Domestic	163	4,455,034
Foreign	37	243,099
Total	200	4,698,043
NHTSA influenced: ODI	5	2,080,470
1968		
Domestic	109	955,484
Foreign	28	552,397
Total	137	1,507,881
NHTSA influenced: ODI	3	449,384
1969		
Domestic	138	7,502,440
Foreign	42	415,744
Total	180	7,918,184
NHTSA influenced:		
ODI	13	225,261
OSE	2	29,011
Total	15	254,272
1970		
Domestic	100	738,251
Foreign	54	502,555
Total	154	1,240,806
NHTSA influenced:		
OSE	3	73,314
ODI	10	182,563
Total	13	255,877
1971		
Domestic	182	8,790,286
Foreign	53	629,974
Total	235	9,420,260
NHTSA influenced:		
OSE	26	181,257
ODI	26	7,746,819
Total	52	7,928,076
1972 (JUNE 30, 1972)		
Domestic	142	5,474,240
Foreign	19	358,884
Total	161	5,833,124
NHTSA influenced:		
OSE	4	2,487
ODI	49	4,485,596
Total	53	4,488,083
RECAPITULATION		
Campaigns Sept. 9, 1966, through June 30, 1972:		
Domestic	835	28,003,173
Foreign	232	2,601,991
Total	1,067	30,605,164
Campaigns influenced by NHTSA:		
OSE	35	286,069
ODI	106	15,130,537
Total	141	15,416,606

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS (JAN. 1, 1972 THROUGH MAY 31, 1972

Administration identification No.	Date of company notification	Make	Model	Model year	Brief description of defect (manufacturer's corrective action)	Number of pages on file	Number of vehicles recalled
			DURHAM MANUFACTURING CO., INC. (DOMESTIC)				
72-0001	Dec. 28, 1971	Durham chassis	TC-235TL	1972	Possibility that the 5 spoke wheel may crack and break out around rim mount studs. (Correct by inspecting and replace with new improved wheels.)	4	200
			BOISE CASCADE—RECREATIONAL DIVISION (DOMESTIC)				
72-0002	Nov. 10, 1971	Boise Cascade	Trailer	1971	Possibility that the electromagnets within the electric brakes may be defective causing one or more brakes to fail to operate. (Correct by inspecting and replacing with new improved-type magnets.)	6	702
			FLEETWOOD ENTERPRISES, INC. (DOMESTIC)				
72-0003	Nov. 19, 1971	Fleetwood	M, N, F, L, H, P, S, R, Y, X, Z.	1971	Possibility that the electromagnets within the electric brakes may be defective causing one or more brakes to fail to operate. (Correct by inspecting and replacing with new improved type magnets.)	21	[2], 587
			CHRYSLER MOTORS CORP. (DOMESTIC)				
72-0004	Jan. 7, 1972	Dodge	D300, W300, M300	1972	Possibility that a die mark in the hub of the 16 by 5½ wheel may cause hub failure after extended mileage. (Correct by inspecting and replace where necessary.)	2	971
			PEUGEOT, INC. (FOREIGN)				
72-0005	Jan. 4, 1972	Peugeot	404	Manufactured between July and December 1967.	Under testing seat belts supplied by U.S. Safety Weave Co. failed to meet load requirements of Federal Motor Vehicle Safety Standard No. 209. (Correct by replacing seat belts.)	4	2,916

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS (JAN. 1, 1972 THROUGH MAY 31, 1972)—Continued

Administration identification No.	Date of company notification	Make	Model	Model year	Brief description of defect (manufacturer's corrective action)	Number of pages on file	Number of vehicles recalled
			THE HEIL CO. (DOMESTIC)				
72-0006	Jan. 6, 1972	Heil	Trailers	Manufactured Jan. 1, 1960, through July 31, 1962.	Possibility that the induction hardening process in effect at North American Rockwell's axle plant may have created high residual stresses at the inner bearing shoulder area. These stresses may turn into physical cracks under extended field service. Continued use of the axle after cracking occurs may cause axle spindle to fracture. (Correct by inspecting and replacing where necessary.)	15	736
			AM GENERAL CORP. (DOMESTIC)				
72-0007	Jan. 7, 1972	AM General Corp	Dispatcher 100 model DJ-5B ¼-ton postal service delivery.	Manufactured June 7, 1971, through Dec. 16, 1971.	Possibility that the accelerator rod, to which is attached one end of the accelerator cable, can overtravel and cause the accelerator cable to kink between the end of the accelerator rod and the conduit in which the cable travels to connect with the carburetor throttle arm. (Correct by inspecting and replace cable and install stops to limit overtravel of accelerator rod.)	25	9,716
			AMERICAN HOIST & DERRICK CO. (DOMESTIC)				
72-0008	Jan. 4, 1972	Amefican Hoist	Portable asphalt plant.	Manufactured between Jan. 1, 1960.	Possibility that the induction hardening process in effect at North-American Rockwell's axle plant may have created high residual stresses at the inner bearing shoulder area. These stresses may turn into physical cracks under extended field service. Continued use of the axle after cracking has occurred may cause the axle spindle to fracture. (Correct by inspecting and replace where necessary.)	5	45
			TRAVEL EQUIPMENT CORP. (DOMESTIC)				
72-0009	Dec. 7, 1971	Travel equipment	Mini-home	1971	Possibility that fuel fumes may enter coach via fill pipe not being properly sealed, or fill vent tube. The presence of the fumes cause an unpleasant odor and are dangerous for occupants to breathe and could be ignited by sparks or an open flame. (Correct by inspecting and reseal seal fill pipe and vent tube connections.)	4	157

BRITISH LEYLAND MOTORS, INC. (FOREIGN)								
72-0010	Jan. 10, 1972	MG	MGB; MGB/GT	1972	Possibility that the glove compartment door locking assembly may not meet the requirement of Federal Motor Vehicle Safety Standard No. 201. (Correct by inspecting and replace lock assembly if necessary.)	12	3,996
AMERICAN MOTORS CORP. (DOMESTIC)							
72-0011	Jan. 7, 1972	American Motors	Javelin except AMX.	1972	Possibility that the rivet used to secure the release lever and the secondary hood latching pawl may loosen, due to inadvertent application of a fore and aft force on hood latch release handle rather than a vertical force as intended by design. Failure of the rivet can permit disengagement of latch components to the extent that secure locking of hood in closed position is not assured. (Correct by replacing hood latch assembly with a revised release lever.)	16	6,809
RATCLIFF INDUSTRIES, INC. (DOMESTIC)							
72-0012	Dec. 23, 1971	Ratcliff Industries	Towlow trailer	1971	Possibility that the spring eye bolts used in axle assembly were improperly heat treated and may shear off when subjected to even a small amount of stress. (Correct by replacing with properly tempered eye bolts.)	3	725
GENERAL MOTORS CORP. (DOMESTIC)							
72-0013	Jan. 10, 1972	Buick, Pontiac, Oldsmobile.	Regular passenger-size cars with chassis wheels 15 in. by 6 in.	1971	Possibility of the welds breaking where wheel spider (disk) attaches to rim. Fatigue cracking may occur around the spot welds of the disc-to-rim attachment and could possibly result in the eventual separation of disk from rim. (Correct by inspecting and replacing where necessary with an improved wheel.)	14	30,885
TOYOTA MOTOR SALES, U.S.A., INC. (FOREIGN)							
72-0014	Jan. 12, 1972	Toyota	Corolla 1200 sedan, coupe, station wagon; Corolla 1600 sedan, coupe, station wagon.	1971	Possibility that an engine stall or an engine hesitation may occur due to malfunctions in the evaporative emission control system. Engine hesitation or stall may be hazardous in road driving due to lack of fuel or loss of power after prolonged high-speed driving. (Correct by inspecting and modify emission control system.)	13	110,614

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS (JAN. 1, 1972 THROUGH MAY 31, 1972)—Continued

Administration identification No.	Date of company notification	Make	Model	Model year	Brief description of defect (manufacturer's corrective action)	Number of pages on file	Number of vehicles recalled
			REDMAN WESTERN CORP. (DOMESTIC)				
72-0015	Oct. 26, 1971	Redman	Trailer	1971	Possibility that the electromagnets within the electric brakes may be defective, causing one or more brakes to fail to operate. (Correct by inspecting and replace with new improved type magnets.)	7	185
			MACK TRUCKS, INC. (DOMESTIC)				
72-0016	Jan. 13, 1972	Mack	C and CF fire chassis w/Aerialscope.	Manufactured December 1964 through December 1971.	Possibility that an inadequate slack assembly was installed in productions. Under certain operating conditions, slippage or failure of the slack adjuster can occur and could result in application of less than full braking effort on rear wheels. (Correct by inspecting and replace with higher capacity slack adjuster.)	6	66
72-0017	Jan. 17, 1972	do	MB600	1971	Possibility that vehicle equipped with Robert Bosch injectron pumps, the accelerator linkage may stick in the full throttle position. (Correct by inspecting and shorten the accelerator rod by 2½ inches.)	6	342
72-0018	Jan. 13, 1972	White	4000 and 9000 series equipped with power steering options.	1971	Possibility that the steering gear arm and ball stud assembly on vehicles equipped with power steering options may fail, with a resultant loss of vehicle control. (Correct by inspecting and replace where necessary.)	12	338
72-0019	do	do	6000 series	do	Possicility that the vertical muffler support brackets and air stack support brackets could fail and separate from a crossmember (goal post) assembly. If this occurs, the unsupported vertical position of the exhaust system or air intake system could drop from its mounting location, without warning to or knowledge of the operator, resulting in a potential risk to persons and property. (Correct by inspecting and modify by the addition of special reinforcements.)	19	968
72-0020	do	do	Tractor equipped with velvet ride and Hendrickson RUE suspension.	NR	Possibility that vehicles equipped with velvet ride and Hendrickson RUE tandem rear suspensions have been assembled with washers that could possibly break, and may result in loss of vehicle control without notice to the operator. (Correct by inspecting and replacement of washers.)	19	139
			OPEN ROAD INDUSTRIES (DOMESTIC)				
72-0021	Jan. 21, 1972	Open Road	Travel trailer	1971	Possibility that the electromagnets within the electric brakes may be defective, causing 1 or more brakes to fail to operate. (Correct by inspecting and replace with new improved type magnets.)	5	174

INTERNATIONAL HARVESTER CO. (DOMESTIC)							
72-0022	Jan. 20, 1972	International Harvester.	C01600, C01610, Loadstar or Cargostar, U.S. Post Office	1969, 1970	Possibility of failure of the rear axle housing in a highly stressed area at the location of the inner wheel bearing fillet and the wheel grease seal shoulder. (Correct by inspecting and replace with new improved induction hardened housing.)	5	963
WINNEBAGO INDUSTRIES, INC., (DOMESTIC)							
72-0023	Jan. 20, 1972	Winnebago	D18, D22, D24, D22C, D24C & D27C.	Built since January 1970	Possibility that the screen door hinge mechanism fails to conform to Federal Motor Vehicle Safety Standard 206, Door Locks and Door Retention Components. (Correct by inspecting and replacing hinge components.)	6	7,121
FORD MOTOR CO., LTD. OF BRITAIN (FOREIGN)							
72-0024	Jan. 26, 1972	Cortina	Passenger car	1971, 1972	Possibility that the brake tubes may have been routed not to allow sufficient clearance between the front brake line and the steering column lower bearing cover assembly in the engine compartment. If this condition exists, it is possible for the line to be worn through by chafing. (Correct by inspecting and reroute where found necessary.)	10	1,482
INTERNATIONAL HARVESTER CO. (DOMESTIC)							
72-0025	Jan. 28, 1972	International Harvester.	Scout II	1971, 1972	Possibility that the rear seat which is hinged to allow it to be folded forward has adjustable stops, and if the stops are not properly adjusted, the seat will not lock, and in a panic stop, the seat assembly could fold forward on the hinge and strike the back of the front seat and the occupant. (Correct by inspecting and shorten cushion bumper stop bolts to preclude any possibility of the seat not locking.)	4	9,000
72-0026	do	do	4-wheel drive 1110, pickup and Travelalls.	1972	Possibility that the brake hose located at rear axle housing to frame is too short. (Correct by inspecting and replace brake hose with brake hose 2 inches longer.)	4	200
72-0027	do	do	CO-7044	1969, 1970, 1971	Possibility that the front axle spring eye may break. (Correct by inspecting and installing new spring with extended spring leaves to prevent breakage.)	5	83
OSHKOSH TRUCK CORP. (DOMESTIC)							
72-0028	Jan. 24, 1972	Oshkosh	R-1844, P-2025, P-2427, C-2044, F-2070, F-2038, powered by 1673-C Caterpillar engine	1971	Possibility that the fuel pressure line, engine to cab firewall is incorrectly located. If this condition exists the line may be subject to rapid deterioration from engine exhaust manifold heat, causing the hose to break, spilling fuel and possible fire resulting. (Correct by inspecting and relocate line if necessary.)	7	17

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS (JAN. 1, 1972 THROUGH MAY 31, 1972)—Continued

Administration identification No.	Date of company notification	Make	Model	Model year	Brief description of defect (manufacturer's corrective action)	Number of pages on file	Number of vehicles recalled
			AMERICAN MOTORS CORP. (DOMESTIC)				
72-0029	Feb. 2, 1972	American Motors	Javelin AMX	1971	Front turn signal lamp fails to meet photometric test requirements of Federal Motor Vehicle Safety Standard No. 108. (Correct by inspecting and replace painted amber bulb with clear amber bulb.)	13	1,746
			FONTAINE TRUCK EQUIPMENT CO (DOMESTIC)				
72-0030	Jan. 25, 1972	Fontaine	Trucks	Vehicles shipped between Nov. 16 to Dec. 21, 1971.	Possibility that the material used in wheels cast was of defective quality and may crack due to having poor ductility and low strength This condition, if it exists, could result in wheel failure and loss of vehicle control. (Correct by inspecting and replace wheels where necessary.)	5	165
			INTERNATIONAL HARVESTER CO. (DOMESTIC)				
72-0031	Jan. 31, 1972	International Harvester.	4200, 4300	1971, 1972	Possibility that the universal joint between steering column and steering gear could become loose due to the clamp bolt at universal joint not being torqued at time of assembly, on both manual and power steering. (Correct by inspecting and torque bolts 25 to 28 ft. lbs.).	7	350
72-0032	do	do	CO Cargo-Star	1971, 1972	Possibility that the brake hose may rub on cab floor. The brake hose is located between master cylinder and hydrovac and rubbing occurs where brake hose goes through cab floor. (Correct by inspecting and replacing and rerouting where necessary.)	8	79
72-0033	Feb. 1, 1972	do	1010, 1110	1972	Possibility that the front wheel inner bearing inside diameter is too large, causing bearing to be loose on spindle. If this condition exists, it could result in loss of vehicle control. (Correct by inspecting and replace with correct bearing cup.)	9	1,800
72-0035	Feb. 4, 1972	do	1210	1971, 1972	Possibility that the tie rod protector used to protect the steering tie rod, in off-highway use, was manufactured to improper dimension and on full left turn can contact tire resulting in cutting of tire. (Correct by inspecting and remove excess material from tie rod protector)	8	1,000

				WHITE MOTOR CORP. (DOMESTIC)				
72-0034	Feb.	1, 1972	White	Tractor with 89D and 90D, front axle assemblies.	NR	Possibility that the front hub may be defective. Failure of front axle hub could result in loss of vehicle control. (Correct by inspecting and replace hubs where necessary.)	16	1, 313
				CHRYSLER MOTORS CORP. (DOMESTIC)				
72-0036	Feb.	4, 1972	Dodge	M300, W100, W200, W300, P400, S600.	1972	Possibility that the nuts holding the drag link to steering gear arm and to the knuckle arm may not have been adequately tightened. If this condition exists, nuts could wear on the taper in the drag link, to looseness in the steering, or possibly to eventual loss of steering control. (Correct by inspecting and retighten all drag link attaching nuts to 60 ft. lbs.)	6	123
				GENERAL MOTORS CORP., (DOMESTIC)				
72-0037	Feb.	3, 1972	GMC	CE/CG 55013	1972	Possibility that an incorrect steering drag link, pitman arm and steering gear may have been installed. If this condition exists, it could result in the drag link becoming disconnected from the steering arm resulting in a complete loss of steering control. (Correct by inspecting and replace new parts as necessary.)	7	36
				BRITISH LEYLAND MOTORS INC., (FOREIGN)				
72-0038	Feb.	7, 1972	Rover	2000TC	1971	Possibility that the clip used to retain the hood support rod can pierce the wiring harness located on the left hand fender valance. This condition could cause an electrical short and failure of the headlamp circuit. (Correct by inspecting and relocate wiring harness where necessary.)	6	43
				TIMBERLINE TRAILERS, INC., (DOMESTIC)				
72-0039	Jan.	25, 1972	Timberline	Trailer	NR	Possibility that the electromagnets within the electric brakes may be defecfive, causing 1 or more brakes to fail to operate. (Correct by inspecting and replace with new improved type magnets.)	5	330

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS (JAN. 1, 1972 THROUGH MAY 31, 1972)—Continued

Administration identification No.	Date of company notification	Make	Model	Model year	Brief description of defect (manufacturer's corrective action)	Number of pages on file	Number of vehicles recalled
			MACK TRUCKS, INC. (DOMESTIC)				
72-0040	Feb. 9, 1972	Mack	F equipped with SGP45, SGP47 power steering gears.	1971	Possibility that the result of a bumper deformation under impact may cause an interference between the bumper and steering column universal joint. (Correct by inspecting and reinforce as required.)	1	177
72-0041	do	do	R and LL equipped with SGP48.	170, 1971	Possibility that if the pitman arm is not relocated and the steering linkage readjusted, a possible toggle condition will result in an extreme right turn. (Correct by inspecting and making necessary adjustments.)	1	538
72-0042	do	do	DM400, DM600, R600, equipped with FA534C, FA435C, and FA532C front axles.	1971, 1972	Possibility of an interference by the front brake hose fitting with the brake chamber. (Correct by inspecting and relocate hose fitting (where necessary.)	1	167
			BRITISH LEYLAND MOTORS, INC. (FOREIGN)				
72-0043	Feb. 7, 1972	Triumph	GT6MK III	1971, 1972	Possibility that the 2 rear brake hoses may contact the rear wheel arch flanges when the rear suspension is in the full "bump" position. If this condition exists, the hoses could chafe through and result in decreased braking efficiency. (Correct by inspecting and replace hose where necessary.)	12	3,335
			TOYO KOGYO CO., LIMITED (FOREIGN)				
72-0044	Feb. 10, 1972	Mazda	808 Sedan	1972	Shoulder belt anchorage was installed in wrong location. (Correct by relocating shoulder belt anchorage to meet requirement of Federal Motor Vehicle Safety Standard No. 210.)	6	680
			GENERAL MOTORS CORP. (DOMESTIC)				
72-0045	Feb. 3, 1972	GMC	MH9500	1972	Possibility that the bolt used in the clamp for the upper universal joint to the lower steering shaft may be of the wrong type and could loosen. If this condition exists, the bolt could fall out and allow the upper universal joint and lower steering shaft to become disconnected resulting in loss of steering control. (Correct by inspecting and replace with new bolt where necessary.)	5	56

FRUEHAUF CORP. (DOMESTIC)							
72-0046	Feb. 15, 1972	Freuhauf	Hopper-type grain haul semitrailers.	1971, 1972	Possibility of incomplete welding of combination spring seat and radius rod bracket to axle beam. If this is present it could cause cracking and under continued use could subsequently cause radius rod attachments to break loose. If this occurs on both seats of the axle, the axle assembly would come loose from the trailer. (Correct by inspecting and completing welds and/or replace where necessary.)	2	86
BELL MANUFACTURING CORP. (DOMESTIC)							
72-0047	Oct. 5, 1971	Bell Manufacturing Corp.	Trailer	1971	Possibility that the electromagnets within the electric brakes may be defective, causing 1 or more brakes to fail to operate. (Correct by inspecting and replace with new improved type magnets.)	11	124
PORSCHE/AUDI (FOREIGN)							
72-0048	Jan. 12, 1972	Audi	100LS, Super 90	1972	Certification labels affixed to vehicles were erroneously stamped with model year 1972 instead of year of production 1971. (Correct by replacing with corrected labels.)	13	9,920
FORD MOTOR CO. (DOMESTIC)							
72-0049	Feb. 21, 1972	Ford	Standard-size passenger.	1972	Possibility that a 5/8-18 UNF free-running hex nut was inadvertently used in place of the specified 5/8-18 UNF torque hex lock nut to attach the steering wheel to steering column. If this condition exists, the nut may loosen causing steering wheel to become disengaged from column resulting in loss of steering control. (Correct by inspecting and install proper nut where necessary.)	6	2,271
72-0050	Feb. 29, 1972	Mercury	4-door hardtop with 400 CID engine and air conditioning.	1972	Due to programing error vehicles were shipped with tire placards indicating a recommended tire size and inflation pressure and consumer information on tire reserve load that did not correspond with the tire installed on the vehicle. The tires installed are correct for the vehicle and the error is only in the narrative on the information documents. (Correct by replacing placard with proper information).	2	679
PARKER, INC. (DOMESTIC)							
72-0051	Feb. 21, 1972	Parker	Trailer	Jan. 1, 1960, through July 31, 1962.	Possibility that the induction hardening process in effect at North-American Rockwell's axle plant may have created high residual stresses at the inner bearing shoulder area. These stresses may turn into physical cracks under extended field service. Continued use of the axle after cracking has occurred may cause axle spindle to fracture. (Correct by inspecting and replace where necessary.)	4	44

Administration identification No.	Date of company notification	Make	Model	Model year	Brief description of defect (manufacturer's corrective action)	Number of pages on file	Number of vehicles recalled
			NISSAN MOTOR CORP., U.S.A. (FOREIGN)				
72-0052	Feb. 29, 1972	Datsun	LB110 sedan, KL1110 coupe.	1971	Possibility of misalinement of secondary hood latch between hood and body, which could result in complete disengagement of hood latch if primary hood latch has not been properly engaged and vehicle is subject to strong wind pressure at high speeds. (Correct by inspecting and adjustment of position of hood latch.)	2	86,429
			WHITE MOTOR CORP. (DOMESTIC)				
72-0053	Feb. 4, 1972	White Autocar	Truck 1500, 7400, 4000/9000 series. DC10364B, GKA64, DC9364B, DC87T, A64B, S64B, DC7366, DC9964, S64F, SW34.	Built Jan. 3, through Jan. 21, 1972. Jan. 4, through Feb. 15, 1972.	Possibility that due to error in engineering release timing and material rotation, driver and passenger seats were used which do not conform to Federal Motor Vehicle Safety Standard 207. (Correct by inspecting and replace with standard driver seats and seat adjusters.)	22	525
			CROWN COACH CORP. (DOMESTIC)				
72-0054	Mar. 3, 1972	Crown	Equipped with special fuel tank mounting.	1969, 1970, 1971	Possibility that the outrigger channels used to mount the fuel tanks ahead of the right rear wheel may have been too sharply pressed by the brake die used causing the metal to pull and possible fracture of the outrigger channels. (Correct by inspecting and install modification kit where necessary.)	1	94
			ALFA-ROMEO, INC. (FOREIGN)				
72-0055	Mar. 3, 1972	Alfa-Romeo	G.T. Veloce 105.51	1971	Possibility that headlamp height may be less than 24-inch requirement of Federal Motor Vehicle Safety Standard No. 108. (Correct by inspecting and replace front spring spacers if found to be incorrect.)	2	1,023
			AM GENERAL CORP. (DOMESTIC)				
72-0056	Mar. 6, 1972	AM General	Dispatcher 100.DJ-5A, ¼-ton, Post Office.	Manufactured August 1969 through September 1970.	Possibility that the engine mounts can separate at the point of attachment (bonding) of rubber to metal mounting pads. (Correct by inspecting and installing an engine torque restraint kit to physically restrain the engine to prevent rotation if front engine mount fails.)	32	24,398

CHRYSLER MOTORS CORP. (DOMESTIC)								
72-0057	Mar. 3, 1972	Dodge	Trucks, medium and heavy duty, equipped with 361-2 and 361-3 engines only.	1969, 1970, 1971, 1972.	Possibility that the anchor holding the accelerator return spring to the engine may be improperly alined, causing the return spring to eventually wear and break. If this spring breaks, it would allow the throttle to open without foot pressure on the accelerator pedal. (Correct by inspecting and realine bracket and install new spring.)	2	13,000
FORD MOTOR CO. (DOMESTIC)								
72-0058	Mar. 7, 1972	Lincoln	Mark IV	1972	Possibility that the end of the hood latch release lever may protrude below the lower edge of the front bumper. If this condition exists and lever contacts a parking barrier or curb when backing out of parking space, the hood latch may be released and hood might lift while vehicle is in motion. (Correct by inspecting and if lever is found to be below edge of bumper, raise approximately 1/2 inch by using a shorter rod in hood latch assembly.)	3	24,540
GENERAL MOTORS CORP. (DOMESTIC)								
72-0059	Mar. 10, 1972	Buick	Riviera	1972	Possibility that an incorrect steering gear assembly may have been installed. If this happens and after prolonged usage, there is a possibility of premature gear wear and eventual gear failure, which could result in loss of steering control. (Correct by inspecting and install proper gear assembly where necessary.)	7	149
FLEETWOOD ENTERPRISES, INC. (DOMESTIC)								
72-0060	Mar. 10, 1972	Fleetwood	Travel trailer	1968, 1969, 1970	Possibility that vehicle wheels can be overloaded if a 500-pound load is added to the basic weight of the vehicle as manufactured. (Correct by inspecting and install proper load rated wheels.)	2	805
BLUE BIRD BODY CO. (DOMESTIC)								
72-0061	Mar. 9, 1972	Blue Bird	Wonderlodge	1966 through 1972	Possibility that the driver and passenger seat belt assemblies may have been anchored to the floor with incorrect bolt and without reinforcing washer. (Correct by inspecting and install proper parts where necessary.)	2	249

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS (JAN. 1, 1972 THROUGH MAY 31, 1972)—Continued

Administration identification No.	Date of company notification	Make	Model	Model year	Brief description of defect (manufacturer's corrective action)	Number of pages on file	Number of vehicles recalled
			ALFA-ROMEO, INC. (FOREIGN)				
72-0062	Mar. 14, 1972	Alfa-Romeo	Spider 105.62, G.T.V. 105.51, Berlina 105.71.	1971	Possibility that during assembly of fuse holder spring cup which is secured to fusebox by a hollow rivet, the rivet was incorrectly installed. If this condition exists, it could result in total loss of electric power. (Correct by inspecting and install R. & R. fusebox with solid rivet.)	8	2,552
			GENERAL MOTORS CORP. (DOMESTIC)				
72-0063	Mar. 17, 1972	Chevrolet; GMC	TV-70; TV-7500	1968; 1969, 1970, 1971, 1972.	Possibility that the shift pattern arrangement decal may not have been installed on vehicle as required by Federal Motor Vehicle Safety Standard No. 102. The absence of this decal could result in an unexperienced driver selecting the wrong gear shift position. (Correct by inspecting and affix decal where necessary.)	11	929
			CABANA COACH DIVISION, BLACK DIAMOND, ENTERPRISES (DOMESTIC)				
72-0064	Dec. 13, 1971	Cabana coach	Motor home	NR	Door lock striker plate assemblies failed to meet Federal Motor Vehicle Standard No. 206. (Correct by inspecting and installing lock striker plate assembly that meets requirements.)	5	279
			NISSAN MOTOR CORPORATION IN U.S.A. (FOREIGN)				
72-0065	Mar. 28, 1972	Datsun	PL510 sedan, WPL510 station wagon.	Manufactured Aug. 9, 1971, through Mar. 15, 1972.	Possibility that under extreme cold weather and severe driving condition, the front brake hose, which is clamped to the shock strut in a manner restricting its free movement, can crack at the clamp due to repeated bending of the hose. Should a crack occur, it could result in the loss of brake fluid, and loss of front brake function. (Correct by inspecting and installation of spring-hanger type brake hoses.)	1	61,434

BRITISH LEYLAND MOTORS, INC. (FOREIGN)							
72-0066	Mar. 27, 1972	Jaguar	XJ sedan	1969, 1970, 1971	Possibility that the rubber hose used to transfer induction manifold depression to the brake servo reservoir could deteriorate or the walls soften. If this condition exists, it could gradually reduce the power assist to the brake servo slave cylinder, however, full master cylinder line pressure would still be available to all four wheels. (Correct by inspecting and modify to updated specifications.)	3	930
FORD MOTOR CORP. (DOMESTIC)							
72-0067	Mar. 30, 1972	Ford	G-100, ½-ton postal service truck.	Assembled between December 1970 and December 1971.	Possibility that vehicles were built with misaligned steering shafts. If this condition exists, the lower bearing may be susceptible to fracturing, and the steering shaft ultimately break, resulting in loss of steering control. (Correct by inspecting and alinging properly, replacing parts if necessary.)	9	7,925
SECURITY INDUSTRIES, INC. (DOMESTIC)							
72-0068	Mar. 20, 1972	Security	Trailers, 26 ft. FD, FK, FB, 31 ft. standard, and 31 ft. SC.	1971	Possibility that due to weak weld at the towing tongue hitch may allow excessive flexing and could cause a break of the A-frame structure. (Correct by inspecting and replacing weak A-frame with a stronger type frame.)	5	63
MOBILE TRAVELER (DOMESTIC)							
72-0069	Mar. 29, 1972	Mobile tops	Dodge mini homes	1972	Tail pipe exhaust installed 13 inches short of exterior perimeter of vehicle (correct by extending exhaust pipe), possibility that the caulking was omitted from around piping drainage system (correct by applying caulking where necessary).	10	103
WALLSTRONG MANUFACTURING CO., INC. (DOMESTIC)							
72-0070	Mar. 22, 1972	Wallstrong	Trailer	1971	Possibility that the axle assembly manufactured by Aquappliance may fail, due to the big bolts being of too soft material to properly seat in axle hub wheel flange. This condition will allow bolts to loosen and eventually cause axle to fail. (Correct by inspecting and replace axle with proper type big bolts.)	1	2,000

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS (JAN. 1, 1972 THROUGH MAY 31, 1972)—Continued

Administration identification No.	Date of company notification	Make	Model	Model year	Brief description of defect (manufacturer's corrective action)	Number of pages on file	Number of vehicles recalled
			TRAIL-RITE (DOMESTIC)				
72-0071	Mar. 8, 1972	Trail-Rite	Trailers	1971	Possibility that the axle assembly manufactured by Aquappliance may fail, due to the big bolts being of too soft material to properly seat in axle hub wheel flange. This condition will allow bolts to loosen and eventually cause axle to fail. (Correct by inspecting and replace axle with proper type big bolts.)	1	115
			GENERAL MOTORS CORP. (DOMESTIC)				
72-0072	Mar. 28, 1972	GMC	Coach equipped with power steering.	1963 thru 1969	Possibility that the booster control ball stud housing on power steering equipped coaches could develop fatigue cracks after extended use and mileage. If this condition develops it could result in complete ball stud housing failure and a loss of steering control. This is a follow-up and an addition to campaign 68-0020, initiated Mar. 11, 1968. (Correct by inspecting and replacing present housing with 1 of new forging design, where necessary.)	3	2,459
			FREIGHTLINER CORP. (DOMESTIC)				
72-0073	Mar. 27, 1972	Freightliner	Tilt Cab built between Jan. 1 and Mar. 9, 1972	1972	Possibility that the welds attaching the steering shaft to the lower yoke may be below acceptable standards of quality. If these welds break loose, it will not affect steering. However, when the cab is in full tilt position, it could partially pull steering shaft out of the lower yoke. This would only happen when the vehicle is parked. (Correct by inspecting and replace parts where necessary.)	3	2,055
			MOBILE SCOUT MANUFACTURING CORP. (DOMESTIC)				
72-0074	Mar. 28, 1972	Mobile Scout	Model 31	1972	Possibility that trailers were built in production without 2 amber intermediate reflex reflectors, which is a requirement of FMVSS 108 for vehicles 30 ft. or more in length. (Correct by inspecting and install where necessary.)	5	30

GENERAL MOTORS CORP. (DOMESTIC)								
72-0075	Apr.	5, 1972	Chevrolet	Vega	1972	Possibility that vehicles equipped with engines option L-11 (2 barrel carburetor) may experience exhaust system backfires of sufficient frequency and magnitude to weaken and rupture muffler. The exhausts from muffler with a ruptured end cover can subject the fuel tank to sufficient heat to expand the fuel and create fuel spillage. Subsequent engine backfires may ignite fuel and cause fire damage. (Correct by inspecting and install new muffler and components where necessary.)	19	129,000
72-0076	Apr.	6, 1972	Pontiac	Firebird—Tran-AM and formula.	1972	Incorrect tire identification label affixed to vehicle during production. (Correct by installing proper label showing correct tire size.)	6	309
MACK TRUCKS, INC. (DOMESTIC)								
72-0077	Apr.	5, 1972	Mack	DM6116S, DM6856S, DM6858S, with Rockwell standard FDS-1800 series front drive axle.	August 1971 through March 1972.	Possibility that under certain operational maneuvers the universal oint on front axle drive becomes misaligned and/or contacts the axle housing. This condition could cause universal joint failure, which could intefere with steering control. (Correct by inspection and make necessary modifications where necessary.)	1	121
HADCO-SHERWOOD TRAILERS (DOMESTIC)								
72-0078	Nov.	4, 1971	Sherwood	Camping trailer	NR	Possibility that the electro-magnets within the electric brakes may be defective, causing 1 or more brakes to fail to operate. (Correct by inspecting and replace with new improved type magnets.)	6	85
HARLEY-DAVIDSON MOTOR CO., INC. (DOMESTIC)								
72-0079	Apr.	4, 1972	Harley-Davidson	Sportstek XLH, and XLCH.	Manufactured between Nov. 1, 1971, and Mar. 29, 1972.	Possibility that the rear fork assembly bearing lock nut was not properly staked to prevent it from backing off. If this condition exists, it would result in a loss of bearing adjustment, which could affect the stability of the vehicle. (Correct by inspecting and properly stake nut where necessary.)	6	8,000
CORDER MANUFACTURING CO., INC. (DOMESTIC)								
72-0080	Jan.	19, 1972	Corder	Trailer	1971, 1972	Possibility that the electro-magnets within the electric brakes may be defective, causing 1 or more brakes to fail to operate. (Correct by inspecting and replace with new improved type magnets.)	10	50

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS (JAN. 1, 1972 THROUGH MAY 31, 1972)—Continued

Administration identification No.	Date of company notification	Make	Model	Model year	Brief description of defect (manufacturer's corrective action)	Number of pages on file	Number of vehicles recalled
			AROS MANUFACTURING CO. (DOMESTIC)				
72-0081	Apr. 4, 1972	Aros	Boat trailer	NR	Possibility that the axle assembly manufactured by Aquappliance may fail due to the lug bolts being of too soft material to properly seat in axle hub wheel flange. This condition will allow bolts to loosen and eventually cause axle to fail. (Correct by inspection and replace axle with proper type lug bolts.)	1	60
			CHRYSLER MOTORS CORP. (DOMESTIC)				
72-0082	Apr. 10, 1972	Plymouth, Chrysler	Fury, Satellite; Newport police fleet cars.	1972	Possibility that a secondary ground from the air-conditioning system provides a ground condition to the seat belt warning system which renders the warning system inactive in all transmission positions when the air conditioning is in the off position. (Correct by inspecting and make necessary corrections to air conditioning cutoff circuit.)	15	97
			ROLLS-ROYCE, INC. (FOREIGN)				
72-0083	Apr. 14, 1972	Rolls-Royce	Silver Shadow, Bentley "T", Corniche.	1971, 1972	Possibility that the gear change mechanism, which is operated by an electric actuator mounted on the gearbox fails to make proper contact for the fixed control positions. Failure of the contact will cause the gearbox actuator to remain stationary and would not select the new position. (Correct by inspecting and replace necessary parts.)	7	194
			WILLIAMS CRAFT, INC. (DOMESTIC)				
72-0084	Feb. 16, 1972	Williams craft	Travel trailer	1971	Possibility that the electro-magnets within the electric brakes may be defective, causing 1 or more brakes to fail to operate. (Correct by inspecting and replacing with new improved type magnets.)	5	238
			FREIGHTLINER CORP. (DOMESTIC)				
72-0085	Apr. 6, 1972	Freightliner	WFT6342T, 6364T, 7542T, 8142T trucks.	NR	Possibility that due to present plumbing of the parking brake and emergency release valves in the RCCC control panel, an accidental application of the emergency release control valve while the parking brake valve is in the release position can cause the parking brake valve to go into emergency or park position and apply the parking brakes. (Correct by inspecting and change plumbing as required.)	5	279

AMERICAN MOTORS CORP. (DOMESTIC)							
72-0086	Apr. 14, 1972	Jeep	CJ5 and CJ6	1972	Possibility that the dimmer switch may accumulate dirt and salt from splash of roadway which attacks terminals causing them to corrode away. (Correct by inspecting and replace dimmer switch terminals in a down position and install rubber insulators on terminals.)	16	10,357
FWD CORP. (DOMESTIC)							
72-0087	Apr. 17, 1972	FWD	CA and CO	1971, 1972	Possibility that the front spring shackle, which is made of cast aluminum, may not have sufficient cross section of material in one area to withstand the stresses inforced by operation. (Correct by installing shackle constructed of steel.)	5	18
BROCKWAY MOTOR TRUCKS (DOMESTIC)							
72-0088	Jan. 31, 1972	Brockway	Truck	1970, manufactured during Jan. 1 and Dec. 31, 1970.	Possibility that the rear axle torque rods may fail due to inadequate butt welds. If this condition exists and rod fails, it could result in difficult vehicle control. (Correct by inspecting and replace with improved type where necessary.)	2	465
JACK A. HELMS CO. (DOMESTIC)							
72-0089	Mar. 22, 1972	Helms	Trailer	1971	Possibility that the bolts used in the spring eyes may be defective. (Correct by inspecting and replace with improved type bolts.)	4	6
ALLSTATE TRAILER SALES, INC. (DOMESTIC)							
72-0090	Oct. 13, 1971	Allstate	Fleetcraft	1971	Possibility that the electro-magnets within the elctric brakes may be defective causing 1 or more brakes to fail to operate. (Correct by inspecting and replace with new improved type magnets.)	5	82
HOLIDAY RAMBLER CORP. (DOMESTIC)							
72-0091	Apr. 18, 1972	Holiday	All models, camper and Motovan.	1970, 1971, 1972	Possibility that the fittings on gas supply hose located at the pressure regulator in front of the trailer may develop a crack under certain conditions. (Correct by inspecting and replace hose where necessary.)	5	14,799
SANTA FE TRAILERS (DOMESTIC)							
72-0092	Mar. 1, 1972	Santa Fe	Travel trailer	1971	Possibility that the electro-magnets within the electric brakes may be defective, causing 1 or more brakes to fail to operate. (Correct by inspecting and replacing with new improved type magnets.)	10	57

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS (JAN. 1, 1972 THROUGH MAY 31, 1972)—Continued

Administration identification No.	Date of company notification	Make	Model	Model year	Brief description of defect (manufacturer's corrective action)	Number of pages on file	Number of vehicles recalled
			EXCEL TRAILER CO., INC. (DOMESTIC)				
72-0093	Mar. 8, 1972	Excel	Travel trailer	1971	Possibility that the electro-magnets within the electric brakes may be defective, causing 1 or more brakes to fail to operate. (Correct by inspecting and replace with new improved type magnets.)	8	48
			BRITISH LEYLAND MOTORS, INC. (FOREIGN)				
72-0094	Apr. 19, 1972	Jaguar	XJ sedan	1969, through mid-1972.	Possibility that severe gassing of the battery could cause acid vapors to spill onto 2 hydraulic brake lines and a vacuum transfer tube. If this condition exists, it is possible to corrode lines and eventually leak. (Correct by inspecting and replace brake lines and battery as necessary.)	5	4,378
			FORD MOTOR CO. (DOMESTIC)				
72-0095	Apr. 24, 1972	Ford; Mercury	Torino, Ranchero; Montego.	1972	Possibility that the rear axle bearing may deteriorate due to high axle shaft deflection. Usually deterioration of the bearing will produce sufficient noise and vibration to indicate the need for repair, and relative movement of the axle shaft will result in a complete loss of tractive effect as it disengages from the differential. (Correct by inspecting and replace with larger diameter shaft axle and new bearing.)	41	407,244
			VOLKSWAGEN OF AMERICA, INC. (FOREIGN)				
72-0096	Apr. 21, 1972	Volkswagen	Type 4	1972	Certification label on the left door post, required by Federal law, was erroneously stamped with the model year 1972 instead of the production year 1971. (Correct by installing new label with proper information.)	12	4,173
			TRAILMOBILE, DIVISION OF PULLMAN, INC. (DOMESTIC)				
72-0097	Apr. 24, 1972	Trailmobile	Trailer	1971	Possibility that the landing gear assembly incorporates a part not manufactured to specifications may fail. If this condition exists, the landing gear jackscrew nut may strip its threads and allow the landing gear to collapse. (Correct by replacing the lower legs with proper type jackscrew.)	3	5,600

VANGUARD INDUSTRIES, INC. (DOMESTIC)							
72-0098	Apr. 25, 1972	Vanguard	Palomino camping trailer.	1972	Possibility that the axle was improperly installed as pertaining to forward and reverse direction of the wheels; that is, the right wheel on left side of trailer and right wheel on left side. (Correct by inspecting and install properly where necessary.)	2	3,080
AUTO-MATE RECREATIONAL PRODUCTS (DOMESTIC)							
72-0099	Oct. 1, 1971	Auto-Mate	Travel trailer	1971	Possibility that the electro-magnets within the electric brakes may be defective, causing 1 or more brakes to fail to operate. (Correct by inspecting and replace with new improved type magnets.)	5	48
CHRYSLER MOTORS CORP. (DOMESTIC)							
72-0100	Apr. 27, 1972	Dodge; Plymouth	Polara, Monaco; Fury, with auto-transmission.	1972	Possibility that the transmission shift linkage torqueshaft inner bushing may not be fully engaged in its mounting bracket. If this condition exists, the loss of the bushing from the bracket will create excessive free play in the linkage, which could allow the operator to shif the transmission control lever into the park position without the transmission accomplishing the same action. (Correct by inspecting and install bushing properly where necessary.)	6	80
THOMAS, PER_EY A. CAR WORKS, INC.							
72-0101	Apr. 28, 1972	Thomas	School bus, International Harvester chassis, models 1603, 1703, 1803	1971	Possibility that a flange on the new body mounting bracket could contact the upper hydraulic brake line on the chassis. This condition could cause chafing of line and result in loss of brake fluid and braking efficiency. (Correct by inspecting and cut ¼ inch off flange to avoid rubbing against brake lines where necessary.)	3	142
NEWBERG TRAILERS, INC. (DOMESTIC)							
72-0102	Apr. 26, 1972	Newberg	Cavalier horse trailer.	1969, 1971, 1972	Possibility that the electromagnets within the electric brakes may be defective, causing 1 or more brakes to fail to operate. (Correct by inspecting and replace with new improved type magnets.)	3	5
BLUE BIRD BODY CO. (DOMESTIC)							
72-0103	July 15, 1971	Blue Bird	All American coach	NR	Possibility that the hose installed on air compressor governor may fail under normal operating conditions. If the hose should fail, it would rupture causing a rapid loss of air pressure and ultimate loss of service brakes. (Correct by inspecting and replace hose where necessary.)	6	528

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS (JAN. 1, 1972 THROUGH MAY 31, 1972)—Continued

Administration identification No.	Date of company notification	Make	Model	Model year	Brief description of defect (manufacturer's corrective action)	Number of pages on file	Number of vehicles recalled
			PEUGEOT, INC. (FOREIGN)				
72-0104	Apr. 27, 1972	Peugeot	504—station wagon	1972	Possibility that the front shoulder belt and buckle-strap assembly which is attached to the floor are too short when the front seats are in a forward position. In this case, certain passengers may find the shoulder belts are not long enough to be fastened to the lap belt hooks, when inserted in the buckle-strap assembly. The lap belt portion of front seat belts taken alone are not defective and will work in all seat positions. (Correct by installing new modified shoulder straps and buckle straps.)	9	750
			KENTUCKY MANUFACTURING CO. (DOMESTIC)				
72-0105	May 3, 1972	Kentucky	Trailer	Jan. 1, 1960, through July 31, 1962.	Possibility that the induction hardening process in effect at North-American Rockwell's axle plant may have created high residual stresses at the inner bearing shoulder area. These stresses may turn into physical cracks under extended field service. Continued use of the axle after cracking has occurred may cause axle spindle to fracture. (Correct by inspecting and replace where necessary.)	4	241
			ASPEN COACH CORP. (DOMESTIC)				
72-0106	Sept. 23, 1971	Aspen	Motor home	1971	Exterior main door hinges fail to meet requirement of Federal motor vehicle safety standard No. 206. (Correct by replacing with hinges that meet requirements.)	3	18
			NIMROD, INC. (DOMESTIC)				
72-0107	May 3, 1972	Nimrod	Camping trailers	1972	Possibility that the welds on spring hanger may be under cut and will allow spring hanger to be torn loose. (Correct by inspecting and use new procedures and weldment.)	6	503
			REVCON INC. (DOMESTIC)				
72-0108	May 1, 1972	Revcon	250D, 250D/T	1972	Possibility that the support bolts for the caliper ears on the disc brakes were not torqued to 40-ft. pounds, maximum, 35-ft. pounds, minimum pressure. If this condition exists, it is possible to experience a loss of front braking power after vehicle has been driven a period of time. (Correct by inspecting and torque bolts to proper pressure.)	6	78

OSHKOSH TRUCK CORP. (DOMESTIC)								
72-0109	May	1, 1972	Oshkosh	F2044-1E, F2060-1F	1972	Possibility that the bolts attaching the front and rear upper torque rods to the tandem rear axle brackets will fail under extreme load. Such a failure could allow the axle to fall forward. (Correct by inspecting and replace bolts with improved type bolts.)	5	37
BROCKWAY MOTOR TRUCKS (DOMESTIC)								
72-0110	May	3, 1972	Brockway	400 series C.O.E.	1972	Possibility that the right hand splash apron may contact the right hand air brake hose. During vehicle operation, this could cause chafing action between the two. (Correct by cutting a section out around the air brake hose.)	4	210
LAZY DAZE, INC. (DOMESTIC)								
72-0111	May	5, 1972	Lazy Daze	20-ft. motor homes	NR	Possibility the gasoline filler spout May be located in an improper place, as to the operation of butane appliances when gassing up at service station. (Correct by inspecting and relocate filler spout from present position.)	3	15
GENERAL MOTORS CORP. (DOMESTIC)								
72-0112	May	5, 1972	Chevrolet	Vega	1971, 1972	Possibility that vehicles equipped with standard engine and monojet (single barrel) carburetor may experience breakage of the idle stop solenoid bracket. Should the bracket break, there is a possibility that the idle solenoid and clamp portion of the bracket may drop and lodge in an area that can cause the throttle to be held in a partially open position. (Correct by installing an additional new bracket.)	13	350, 000
WICKS BUILDING SYSTEMS, INC. (DOMESTIC)								
72-0113	Mar.	30, 1972	Trailblazer	Trailer	1971	Possibility that the spring eye bolts used in axle assembly were improperly heat treated and may shear off when subjected to even a small amount of stress. (Correct by replacing with properly tempered bolts.)	5	60
YOUNG TRAILER AND MANUFACTURING CO. (DOMESTIC)								
72-0114	Apr.	24, 1972	Young trailer	Trailer	1971	Possibility that the spring eye bolts used m axle assembly were improperly heat treated and may shear off when subjected to even a small amount of stress. (Correct by replacing with properly tempered bolts.)	2	6

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS (JAN. 1, 1972 THROUGH MAY 31, 1972)—Continued

Administration identification No.	Date of company notification	Make	Model	Model year	Brief description of defect (manufacturer's corrective action)	Number of pages on file	Number of vehicles recalled
			PALM INDUSTRIES, INC. (DOMESTIC)				
72-0115	Apr. 13, 1972	Palm Industries	Trailer	1971	Possibility that the spring eye bolts used in axle assembly were improperly heat treated and may shear off when subjected to even a small amount of stress. (Correct by replacing with properly tempered bolts.)	3	8
			VEENEMA & WIEGERS, INC. (DOMESTIC)				
72-0116	May 8, 1972	Veenema and Wiegers.	Trailer	1961, 1962	Possibility that the induction hardening process in effect at North-American Rockwell's axle plant may have created high residual stresses at the inner bearing shoulder area. These stresses may turn into physical cracks under extended field service. Continued use of the axle after cracking has occurred may cause axle spindle to fracture. (Correct by inspecting and replace with new axle.)	5	3
			PENNCO INDUSTRIES, INC. (DOMESTIC)				
72-0117	May 9, 1972	Pennco	Trailer	1960 through 1962	Possibility that the induction hardening process in effect at North-American Rockwell's axle plant may have created high residual stresses at the inner bearing shoulder area. These stresses may turn into physical cracks under extended field service. Continued use of the axle after cracking has occurred may cause axle spindle to fracture. (Correct by inspecting and replace with new axle.)	2	78
			WILCO, INC. (DOMESTIC)				
72-0118	May 5, 1972	Wilco	Trailers	Jan. 1, 1960 through Dec. 31, 1962.	Possibility that the induction hardening process in effect at North-American Rockwell's axle plant may have created high residual stresses at the inner bearing shoulder area. These stresses may turn into physical cracks under extended field service. Continued use of the axle after cracking has occurred may cause axle spindle to fracture. (Correct by inspecting and replace with new axle.)	2	117
			INTERNATIONAL HARVESTER CO. (DOMESTIC)				
72-0119	Feb. 14, 1972	International Harvester.	Nos. 95 and 130, farm equipment trailers.	1968, 1969, 1970, 1971.	Clearance lights failed to meet requirements of Federal Motor Vehicle Safety Standard No. 108. (Correct by installing required clearance lights to meet Standard 108.)	5	444

PERFECTION-COBEY CO. (DOMESTIC)							
72-0120	May 9, 1972	Perfection Cobey Co.	Trailer	Jan. 1, 1960, through July 31, 1962.	Possibility that the induction hardening process in effect at North-American Rockwell's axle plant may have created high residual stresses at the inner bearing shoulder area. These stresses may turn into physical cracks under extended field service. Continued use of the axle after cracking has occurred may cause axle spindle to fracture. (Correct by inspecting and replace with new axle.)	9	7
DORSEY TRAILERS (DOMESTIC)							
72-0121	May 10, 1972	Dorsey	Trailer	Jan. 1, 1960, through July 31, 1962.	Possibility that the induction hardening process in effect at North-American Rockwell's axle plant may have created high residual stresses at the inner bearing shoulder area. These stresses may turn into physical cracks under extended field service. Continued use of the axle after cracking has occurred may cause axle spindle to fracture. (Correct by inspecting and replace with new axle.)	34	19
SAAB-SCANIA OF AMERICA, INC. (FOREIGN)							
72-0122	May 12, 1972	Saab	97 Sonett	1971	Possibility that water could rain from the hood area into the windshield wiper motor rendering it inoperative due to either an electrical short or a frozen (from rust) armature shaft. (Correct by inspecting and modify as required.)	10	1, 295
WALKER STAINLESS EQUIPMENT CO., INC. (DOMESTIC)							
72-0123	May 12, 1972	Walker Stainless Equipment.	Trailer	1960, 1962	Possibility that the induction hardening process in effect at North-American Rockwell's axle plant may have created high residual stresses at the inner bearing shoulder area. These stresses may turn into physical cracks under extended field service. Continued use of the axle after cracking has occurred may cause axle spindle to fracture. (Correct by inspecting and replace with new axle.)	8	28
TECH WELD CORP. (DOMESTIC)							
72-0124	May 15, 1972	Tech Weld	Trailer	1961, 1962	Possibility that the induction hardening process in effect at North-American Rockwell's axle plant may have created high residual stresses at the inner bearing shoulder area. These stresses may turn into physical cracks under extended field service. Continued use of the axle after cracking has occurred may cause axle spindle to fracture. (Correct by inspecting and replace with new axle.)	4	17

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS (JAN. 1, 1972 THROUGH MAY 31, 1972)—Continued

Administration identification No.	Date of company notification	Make	Model	Model year	Brief description of defect (manufacturer's corrective action)	Number of pages on file	Number of vehicles recalled
			ACME TRUCK BODY & HOIST CO. (DOMESTIC)				
72-0125	May 15, 1972	Acme truck body	Trailer	1961, 1962	Possibility that the induction hardening process in effect at North-American Rockwell's axle plant may have created high residual stresses at the inner bearing shoulder area. These stresses may turn into physical cracks under extended field service. Continued use of the axle after cracking has occurred may cause axle spindle to fracture. (Correct by inspecting and replace with new axle.)	3	2
			MACK TRUCKS, INC. (DOMESTIC)				
72-0126	May 17, 1972	Mack	Mack Western FL, FS, RL, and RS.	1971	Possibility that the power steering cylinder tie rod clamp may fail. A clamp failure will result in loss of power steering assist. It also is possible that it could cause a binding condition which could interfere with steering control (Correct by inspecting and install new improved clamp where necessary.)	1	668
72-0127	do	do	CF, F, R, RD, DM, U, FL, FS, RL, and RS equipped with American-Bosch APE-8VBB fuel injection pump.	Manufactured between August 1970 and Sept. 16, 1971.	Possibility that the link connecting the governor fulcrum lever to the fuel injection pump control racks can break and cause loss of fuel delivery control to the engine. Should this condition occur, it could impair vehicle control. (Correct by inspecting and install spring clip on fulcrum lever to prevent engine overspeed.)	1	1,410
			WHITE MOTOR CORP. (DOMESTIC)				
72-0128	May 17, 1972	Autocar	CK66, DC7366, DC9966, equipped with FDS1800 series front drive axle.	Built Sept. 22, 1971, through Feb. 28, 1972.	Possibility that under certain operational maneuvers the universal joint on front axle drive becomes misalined and/or contacts the axle housing. This condition could cause universal joint failure, which could interfere with steering control. (Correct by inspecting and make necessary modification where necessary.)	1	26
			LUFKIN INDUSTRIES, INC. (DOMESTIC)				
72-0129	May 16, 1972	Lufkin	TIUVA-2 van trailer and special trailers.	1961, 1963	Possibility that the induction hardening process in effect at North American Rockwell's axle plant may have created high residual stresses at the inner bearing shoulder area. These stresses may turn into physical cracks under extended field service. Continued use of the axle after cracking has occurred may cause axle spindle to fracture. (Correct by inspecting and replace with new axle.)	5	17

GENERAL MOTORS CORP. (DOMESTIC)							
72-0130	May 16, 1972	Chevrolet; Pontiac	Nova; Ventura	1972	Possibility that the rear axle shaft may contain a material flaw that could result in early failure. (Correct by inspecting and replace shaft where necessary.)	3	1,082
QUAKER CITY IRON WORKS, INC. (DOMESTIC)							
72-0131	May 5, 1972	Quaker City	Trailer	January 1960 through July 31, 1963.	Possibility that the induction hardening process in effect at North American Rockwell's axle plant may have created high residual stresses at the inner bearing shoulder area. These stresses may turn into physical cracks under extended field service. Continued use of the axle after cracking has occurred may cause axle spindle to fracture. (Correct by inspecting and replace with new axle.)	12	46
UNIVERSAL OIL PRODUCTS CO., AEROSPACE DIVISION (DOMESTIC)							
72-0132	May 16, 1972	Aerospace	Trailer	January 1960 through July 31, 1963.	Possibility that the induction hardening process in effect at North American Rockwell's axle plant may have created high residual stresses at the inner bearing shoulder area. These stresses may turn into physical cracks under extended field service. Continued use of the axle after cracking has occurred may cause axle spindle to fracture. (Correct by inspecting and replace with new axle.)	5	2
LOAD KING TRAILER CO. (DOMESTIC)							
72-0133	May 5, 1972	Load King	Field Float trailers	January 1960 through July 31, 1963.	Possibility that the induction hardening process in effect at North American Rockwell's axle plant may have created high residual stresses at the inner bearing shoulder area. These stresses may turn into physical cracks under extended field service. Continued use of the axle after cracking has occurred may cause axle spindle to fracture. (Correct by inspecting and replace with new axle.)	3	4
WHITE MOTOR CORP. (DOMESTIC)							
72-0134	May 19, 1972	White	1500, 4000, 6000, 7400, 9000 series.	1972	Possibility that the Hendrickson tandem rear suspension equalizer beam may fail due to being forged from a material with abnormally high residual elements. The beams with suspect material are susceptible to quench cracks. The existince of such cracks could cause failure of the beam and could result in loss of vehicle control. (Correct by inspecting and replace where necessary.)	1	816

LISTING OF SAFETY DEFECT RECALL CAMPAIGNS (JAN. 1, 1972 THROUGH MAY 31, 1972)—Continued

Administration identification No.	Date of company notification	Make	Model	Model year	Brief description of defect (manufacturer's corrective action)	Number of pages on file	Number of vehicles recalled
			GENERAL MOTORS CORP. (DOMESTIC)				
72-0135	May 23, 1972	Buick; Oldsmobile	Electra, Riviera; 88, 98.	1972	Possibility that an improperly manufactured steering pitman arm was installed in production. If a pitman arm of this type was installed, it will produce a loose fit when assembled to the steering relay rod, which eventually separates from the pitman arm and causes a complete loss of steering control. (Correct by inspecting and install proper pitman arm.)	19	41,711
			LUFKIN INDUSTRIES, INC. (DOMESTIC)				
72-0136	May 22, 1972	Lufkin	THD, TD-27 dump trailers.	1972	Possibility that the suspension bracket develops fatigue cracks in the crossbeams at the mounting points. These cracks will continue until the suspension and axle become disengaged from the dump box and roll free in an uncontrolled manner. This condition could cause loss of control of the vehicle. (Correct by inspecting and replace with new design.)	3	22

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