

Appendix A Figure 1—Calculation of Manufacturer X's fleet average fuel economy standard using Table II

Fleet Average Fuel Economy Standard

$$= \frac{(\text{Manufacturer's Domestic Passenger Automobile Production for Applicable Model Year})}{\sum_i \left(\frac{\text{Group}_1 \text{ Production}}{\text{Group}_1 \text{ Target Standard}} + \frac{\text{Group}_2 \text{ Production}}{\text{Group}_{12a} \text{ Target Standard}} + \dots + \frac{\text{Group}_9 \text{ Production}}{\text{Group}_9 \text{ Target Standard}} \right)}$$

Fleet Average Fuel Economy Standard

$$= \frac{(27,500)}{\left(\frac{1500}{35.01} + \frac{2000}{35.14} + \frac{2000}{35.08} + \frac{1000}{35.95} + \frac{3000}{35.81} + \frac{8000}{30.33} + \frac{2000}{29.99} + \frac{5000}{29.52} + \frac{3000}{29.79} \right)}$$

$$= 31.6 \text{ mpg}$$

Appendix A Figure 2—Calculation of Manufacturer X's actual fleet average fuel economy performance level using Table I

Fleet Average Fuel Economy Performance

$$= \frac{(\text{Manufacturer's Domestic Passenger Automobile Production for Applicable Model Year})}{\sum_i \left(\frac{\text{Group}_1 \text{ Production}}{\text{Group}_1 \text{ Performance}} + \frac{\text{Group}_2 \text{ Production}}{\text{Group}_2 \text{ Performance}} + \dots + \frac{\text{Group}_9 \text{ Production}}{\text{Group}_9 \text{ Performance}} \right)}$$

Fleet Average Fuel Economy Performance

$$= \frac{(27,500)}{\left(\frac{1500}{34.0} + \frac{2000}{34.6} + \frac{2000}{33.8} + \frac{1000}{34.4} + \frac{3000}{32.9} + \frac{8000}{32.2} + \frac{2000}{33.1} + \frac{5000}{30.6} + \frac{3000}{28.5} \right)} = 32.0 \text{ mpg}$$

NOTE TO FIGURE 2 TO THIS APPENDIX: Since the actual fleet average fuel economy performance of Manufacturer X's fleet is 32.0 mpg, as compared to its required fleet fuel economy standard of 31.6 mpg, Manufacturer X complied with the CAFE standard for MY 2012 as set forth in §531.5(c).

PART 533—LIGHT TRUCK FUEL ECONOMY STANDARDS

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APPENDIX A TO PART 533—EXAMPLE OF CALCULATING COMPLIANCE UNDER §533.5(1)

AUTHORITY: 49 U.S.C. 32902; delegation of authority at 49 CFR 1.95.

SOURCE: 87 FR 26076, May 2, 2022, unless otherwise noted.

§533.1 Scope.

This part establishes average fuel economy standards pursuant to 49 U.S.C. 32902 for light trucks.

[89 FR 52949, June 24, 2024]

§ 533.2 Purpose.

The purpose of this part is to increase the fuel economy of light trucks by establishing minimum levels of average fuel economy for those vehicles.

§ 533.3 Applicability.

This part applies to manufacturers of light trucks.

§ 533.4 Definitions.

(a) *Statutory terms.* (1) The terms *average fuel economy, average fuel economy standard, fuel economy, import, manufacture, manufacturer, and model year* are used as defined in 49 U.S.C. 32901.

(2) The term *automobile* is used as defined in 49 U.S.C. 32901 and in accordance with the determinations in part 523 of this chapter.

(b) *Other terms.* As used in this part, unless otherwise required by the context—

(1) *Light truck* is used in accordance with the determinations in part 523 of this chapter.

(2) *Captive import* means with respect to a light truck, one which is not domestically manufactured, as defined in section 502(b)(2)(E) of the Motor Vehicle Information and Cost Savings Act, but which is imported in the 1980 model

year or thereafter by a manufacturer whose principal place of business is in the United States.

(3) *4-wheel drive, general utility vehicle* means a 4-wheel drive, general purpose automobile capable of off-highway operation that has a wheelbase of not more than 280 centimeters, and that has a body shape similar to 1977 Jeep CJ-5 or CJ-7, or the 1977 Toyota Land Cruiser.

(4) *Basic engine* means a unique combination of manufacturer, engine displacement, number of cylinders, fuel system (as distinguished by number of carburetor barrels or use of fuel injection), and catalyst usage.

(5) *Limited product line light truck* means a light truck manufactured by a manufacturer whose light truck fleet is powered exclusively by basic engines which are not also used in passenger automobiles.

[89 FR 52949, June 24, 2024]

§ 533.5 Requirements.

(a) Each manufacturer of light trucks shall comply with the following fleet average fuel economy standards, expressed in miles per gallon, in the model year (MY) specified as applicable:

TABLE 1 TO § 533.5(a)

Model year	2-wheel drive light trucks		4-wheel drive light trucks		Limited product line light trucks
	Captive imports	Other	Captive imports	Other	
1979	17.2	15.8	.....	.....	.....
1980	16.0	16.0	14.0	14.0	14.0
1981	16.7	16.7	15.0	15.0	14.5

TABLE 2 TO § 533.5(a)

Model year	Combined standard		2-wheel drive light trucks		4-wheel drive light trucks	
	Captive imports	Others	Captive imports	Others	Captive imports	Others
1982	17.5	17.5	18.0	18.0	16.0	16.0
1983	19.0	19.0	19.5	19.5	17.5	17.5
1984	20.0	20.0	20.3	20.3	18.5	18.5
1985	19.5	19.5	19.7	19.7	18.9	18.9
1986	20.0	20.0	20.5	20.5	19.5	19.5
1987	20.5	20.5	21.0	21.0	19.5	19.5
1988	20.5	20.5	21.0	21.0	19.5	19.5
1989	20.5	20.5	21.5	21.5	19.0	19.0
1990	20.0	20.0	20.5	20.5	19.0	19.0
1991	20.2	20.2	20.7	20.7	19.1	19.1

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TABLE 3 TO § 533.5(a)

Model year	Combined standard	
	Captive imports	Other
1992	20.2	20.2
1993	20.4	20.4
1994	20.5	20.5
1995	20.6	20.6

TABLE 4 TO § 533.5(a)

Model year	Standard
2001	20.7
2002	20.7
2003	20.7
2004	20.7
2005	21.0
2006	21.6
2007	22.2
2008	22.5
2009	23.1
2010	23.5

Figure 1 to § 533.5(a)

$$Required_Fuel_Economy_Level = \frac{N}{\sum_i \frac{N_i}{T_i}}$$

Where:

N is the total number (sum) of light trucks produced by a manufacturer;
 N_i is the number (sum) of the i th light truck model type produced by a manufacturer;
 and

T_i is the fuel economy target of the i th light truck model type, which is determined according to the following formula, rounded to the nearest hundredth:

$$T = \frac{1}{\frac{1}{a} + \left(\frac{1}{b} - \frac{1}{a}\right) \frac{e^{(x-c)d}}{1 + e^{(x-c)d}}}$$

Where:

Parameters a , b , c , and d are defined in Table 5 to this paragraph (a);

$e = 2.718$; and

x = footprint (in square feet, rounded to the nearest tenth) of the model type.

TABLE 5 TO § 533.5(a)—PARAMETERS FOR THE LIGHT TRUCK FUEL ECONOMY TARGETS FOR MYS 2008–2011

Model year	Parameters			
	a (mpg)	b (mpg)	c (gal/mi/ft ²)	d (gal/mi)
2008	28.56	19.99	49.30	5.58
2009	30.07	20.87	48.00	5.81
2010	29.96	21.20	48.49	5.50
2011	27.10	21.10	56.41	4.28

Figure 2 to § 533.5(a)

$$CAFE_{required} = \frac{\sum_i PRODUCTION_i}{\sum_i \frac{PRODUCTION_i}{TARGET_i}}$$

Where:

$CAFE_{required}$ is the fleet average fuel economy standard for a given light truck fleet;
 Subscript i is a designation of multiple groups of light trucks, where each group's designation, *i.e.*, $i = 1, 2, 3, \text{etc.}$, represents light trucks that share a unique model type and footprint within the applicable fleet;
 $Production_i$ is the number of light trucks produced for sale in the United States within each i th designation, *i.e.*, which share the same model type and footprint; and

$TARGET_i$ is the fuel economy target in miles per gallon (mpg) applicable to the footprint of light trucks within each i th designation, *i.e.*, which share the same model type and footprint, calculated according to either Figure 3 or 4 to this paragraph (a), as appropriate, and rounded to the nearest hundredth of a mpg, *i.e.*, $35.455 = 35.46$ mpg, and the summations in the numerator and denominator are both performed over all models in the fleet in question.

Figure 3 to § 533.5(a)

$$TARGET = \frac{1}{MIN \left[MAX \left(c \times FOOTPRINT + d, \frac{1}{a} \right), \frac{1}{b} \right]}$$

Where:

$TARGET$ is the fuel economy target (in mpg) applicable to vehicles of a given footprint ($FOOTPRINT$, in square feet);

Parameters $a, b, c,$ and d are defined in Table 6 to this paragraph (a); and
 The MIN and MAX functions take the minimum and maximum, respectively, of the included values.

TABLE 6 TO § 533.5(a)—PARAMETERS FOR THE LIGHT TRUCK FUEL ECONOMY TARGETS FOR MYS 2012–2016

Model year	Parameters			
	a (mpg)	b (mpg)	c (gal/mi/ft ²)	d (gal/mi)
2012	29.82	22.27	0.0004546	0.014900
2013	30.67	22.74	0.0004546	0.013968
2014	31.38	23.13	0.0004546	0.013225
2015	32.72	23.85	0.0004546	0.011920
2016	34.42	24.74	0.0004546	0.010413

Figure 4 to § 533.5(a)

TARGET

$$= \text{MAX} \left(\frac{1}{\text{MIN} \left[\text{MAX} \left(c \times \text{FOOTPRINT} + d, \frac{1}{a} \right), \frac{1}{b} \right]}, \frac{1}{\text{MIN} \left[\text{MAX} \left(g \times \text{FOOTPRINT} + h \frac{1}{e}, \frac{1}{f} \right)]} \right)$$

Where:

TARGET is the fuel economy target (in mpg) applicable to vehicles of a given footprint (FOOTPRINT, in square feet);

Parameters a, b, c, d, e, f, g, and h are defined in Table 7 to this paragraph (a); and The MIN and MAX functions take the minimum and maximum, respectively, of the included values.

TABLE 7 TO PARAGRAPH (a)—PARAMETERS FOR THE LIGHT TRUCK FUEL ECONOMY TARGETS FOR MYS 2017–2031

Model year	Parameters							
	a (mpg)	b (mpg)	c (gal/mi/ft2)	d (gal/mi)	e (mpg)	f (mpg)	g (gal/mi/ft2)	h (gal/mi)
2017	36.26	25.09	0.0005484	0.005097	35.10	25.09	0.0004546	0.009851
2018	37.36	25.20	0.0005358	0.004797	35.31	25.20	0.0004546	0.009682
2019	38.16	25.25	0.0005265	0.004623	35.41	25.25	0.0004546	0.009603
2020	39.11	25.25	0.0005140	0.004494	35.41	25.25	0.0004546	0.009603
2021	39.71	25.63	0.000506	0.00443	NA	NA	NA	NA
2022	40.31	26.02	0.000499	0.00436	NA	NA	NA	NA
2023	40.93	26.42	0.000491	0.00429	NA	NA	NA	NA
2024	44.48	26.74	0.000452	0.00395	NA	NA	NA	NA
2025	48.35	29.07	0.000416	0.00364	NA	NA	NA	NA
2026	53.73	32.30	0.000374	0.00327	NA	NA	NA	NA
2027	53.73	32.30	0.00037418	0.00327158	NA	NA	NA	NA
2028	53.73	32.30	0.00037418	0.00327158	NA	NA	NA	NA
2029	54.82	32.96	0.00036670	0.00320615	NA	NA	NA	NA
2030	55.94	33.63	0.00035936	0.00314202	NA	NA	NA	NA
2031	57.08	34.32	0.00035218	0.00307918	NA	NA	NA	NA

(b)(1) For model year 1979, each manufacturer may:

(i) Combine its 2- and 4-wheel drive light trucks and comply with the average fuel economy standard in paragraph (a) of this section for 2-wheel drive light trucks; or

(ii) Comply separately with the two standards specified in paragraph (a) of this section.

(2) For model year 1979, the standard specified in paragraph (a) of this section for 4-wheel drive light trucks applies only to 4-wheel drive general utility vehicles. All other 4-wheel drive light trucks in that model year shall be included in the 2-wheel drive category for compliance purposes.

(c) For model years 1980 and 1981, manufacturers of limited product line light trucks may:

(1) Comply with the separate standard for limited product line light trucks in Table 1 to paragraph (a) of this section; or

(2) Comply with the other standards specified in paragraph (a) of this section, as applicable.

(d) For model years 1982–91, each manufacturer may:

(1) Combine its 2- and 4-wheel drive light trucks (segregating captive import and other light trucks) and comply with the combined average fuel economy standard specified in paragraph (a) of this section; or

(2) Comply separately with the 2-wheel drive standards and the 4-wheel

drive standards (segregating captive import and other light trucks) specified in paragraph (a) of this section.

(e) For model year 1992, each manufacturer shall comply with the average fuel economy standard specified in paragraph (a) of this section (segregating captive import and other light trucks).

(f) For each model year 1996 and thereafter, each manufacturer shall combine its captive imports with its other light trucks and comply with the fleet average fuel economy standard in paragraph (a) of this section.

(g) For model years 2008–2010, at a manufacturer's option, a manufacturer's light truck fleet may comply with the fuel economy standard calculated for each model year according to Figure 1 to paragraph (a) of this section and the appropriate values in Table 5 to paragraph (a) of this section, with said option being irrevocably chosen for that model year and reported as specified in § 537.8 of this chapter.

(h) For model year 2011, a manufacturer's light truck fleet shall comply with the fleet average fuel economy standard calculated for that model year according to Figure 1 to paragraph (a) of this section and the appropriate values in Table 5 to paragraph (a) of this section.

(i) For model years 2012–2016, a manufacturer's light truck fleet shall comply with the fleet average fuel economy standard calculated for that model year according to Figures 2 and 3 to paragraph (a) of this section and the appropriate values in Table 6 to paragraph (a) of this section.

(j) For model years 2017–2031, a manufacturer's light truck fleet shall comply with the fleet average fuel economy standard calculated for that model year according to figures 2 and 4 to paragraph (a) of this section and the appropriate values in table 7 to paragraph (a) of this section.

[87 FR 26076, May 2, 2022, as amended at 89 FR 52949, June 24, 2024]

§ 533.6 Measurement and calculation procedures.

(a) Any reference to a class of light trucks manufactured by a manufacturer shall be deemed—

(1) To include all light trucks in that class manufactured by persons who control, are controlled by, or are under common control with, such manufacturer;

(2) To include only light trucks which qualify as non-passenger vehicles in accordance with § 523.5 of this chapter based upon the production measurements of the vehicles as sold to dealerships; and

(3) To exclude all light trucks in that class manufactured (within the meaning of paragraph (a)(1) of this section) during a model year by such manufacturer which are exported prior to the expiration of 30 days following the end of such model year.

(b) The fleet average fuel economy performance of all light trucks that are manufactured by a manufacturer in a model year shall be determined in accordance with procedures established by the Administrator of the Environmental Protection Agency (EPA) under 49 U.S.C. 32904 and set forth in 40 CFR part 600.

(c) For model years 2017 through 2031, a manufacturer is eligible to increase the fuel economy performance of light trucks in accordance with procedures established by the Environmental Protection Agency (EPA) set forth in 40 CFR part 600, subpart F, including adjustments to fuel economy for fuel consumption improvements related to air conditioning (AC) efficiency, off-cycle technologies, and hybridization and other performance-based technologies for full-size pickup trucks that meet the requirements specified in 40 CFR 86.1803. Starting in model year 2027, fuel economy increases for fuel consumption improvement values under 40 CFR 86.1868–12 and 40 CFR 86.1869–12 only apply for vehicles propelled by internal combustion engines. Manufacturers must provide reporting on these technologies as specified in § 537.7 of this chapter by the required deadlines.

(1) *Efficient AC technologies.* A manufacturer may seek to increase its fleet average fuel economy performance through the use of technologies that improve the efficiency of AC systems pursuant to the requirements in 40 CFR 86.1868–12. Fuel consumption improvement values resulting from the use of those AC systems must be determined

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in accordance with 40 CFR 600.510–12(c)(3)(i).

(2) *Incentives for advanced full-size light-duty pickup trucks.* For model year 2023 and 2024, the eligibility of a manufacturer to increase its fuel economy using hybridized and other performance-based technologies for full-size pickup trucks must follow 40 CFR 86.1870–12 and the fuel consumption improvement of these full-size pickup truck technologies must be determined in accordance with 40 CFR 600.510–12(c)(3)(iii). Manufacturers may also combine incentives for full size pickups and dedicated alternative fueled vehicles when calculating fuel economy performance values in 40 CFR 600.510–12.

(3) *Off-cycle technologies on EPA’s predefined list.* A manufacturer may seek to increase its fleet average fuel economy performance through the use of off-cycle technologies pursuant to the requirements in 40 CFR 86.1869–12 for predefined off-cycle technologies in accordance with 40 CFR 86.1869–12(b). The fuel consumption improvement is determined in accordance with 40 CFR 600.510–12(c)(3)(ii).

(4) *Off-cycle technologies using 5-cycle testing.* Through model year 2026, a manufacturer may only increase its fleet average fuel economy performance through the use of off-cycle technologies tested using the EPA’s 5-cycle methodology in accordance with 40 CFR 86.1869–12(c). The fuel consumption improvement is determined in accordance with 40 CFR 600.510–12(c)(3)(ii).

(5) *Off-cycle technologies using the alternative EPA-approved methodology.* Through model year 2026, a manufacturer may seek to increase its fuel economy performance through the use of an off-cycle technology requiring an application request made to the EPA in accordance with 40 CFR 86.1869–12(d).

(i) *Eligibility under the Corporate Average Fuel Economy (CAFE) program requires compliance with paragraphs (c)(5)(i)(A) through (C) of this section.* Paragraphs (c)(5)(i)(A), (B) and (D) of this section apply starting in model year 2024. Paragraph (b)(5)(i)(E) of this section applies starting in model year 2025.

(A) A manufacturer seeking to increase its fuel economy performance using the alternative methodology for an off-cycle technology, should submit a detailed analytical plan to EPA prior to the applicable model year. The detailed analytical plan may include information such as, planned test procedure and model types for demonstration. The plan will be approved or denied in accordance with 40 CFR 86.1869–12(d).

(B) A manufacturer seeking to increase its fuel economy performance using the alternative methodology for an off-cycle technology must submit an official credit application to EPA and obtain approval in accordance with 40 CFR 86.1869–12(e) prior to September of the given model year.

(C) A manufacturer’s plans, applications and requests approved by the EPA must be made in consultation with NHTSA. To expedite NHTSA’s consultation with the EPA, a manufacturer must concurrently submit its application to NHTSA if the manufacturer is seeking off-cycle fuel economy improvement values under the CAFE program for those technologies. For off-cycle technologies that are covered under 40 CFR 86.1869–12(d), NHTSA will consult with the EPA regarding NHTSA’s evaluation of the specific off-cycle technology to ensure its impact on fuel economy and the suitability of using the off-cycle technology to adjust the fuel economy performance.

(D) A manufacturer may request an extension from NHTSA for more time to obtain an EPA approval. Manufacturers should submit their requests 30 days before the deadlines above. Requests should be submitted to NHTSA’s Director of the Office of Vehicle Safety Compliance at cafe@dot.gov.

(E) For MYs 2025 and 2026, a manufacturer must respond within 60-days to any requests from EPA or NHTSA for additional information or clarifications to submissions provided pursuant to paragraphs (b)(4)(i)(A) and (B) of this section. Failure to respond within 60 days may result in denial of the manufacturer’s request to increase its fuel economy performance through use of an off-cycle technology requests made to the EPA in accordance with 40 CFR 86.1869–12(d).

(ii) *Review and approval process.* NHTSA will provide its views on the suitability of the technology for that purpose to the EPA. NHTSA's evaluation and review will consider:

(A) Whether the technology has a direct impact upon improving fuel economy performance;

(B) Whether the technology is related to crash-avoidance technologies, safety critical systems or systems affecting safety-critical functions, or technologies designed for the purpose of reducing the frequency of vehicle crashes;

(C) Information from any assessments conducted by the EPA related to the application, the technology and/or related technologies; and

(D) Any other relevant factors.

(E) NHTSA will collaborate to host annual meetings with EPA at least once by July 30th before the model year begins to provide general guidance to the industry on past off-cycle approvals.

(iii) *Safety.* (A) Technologies found to be defective or non-compliant, subject to recall pursuant to part 573 of this chapter, Defect and Noncompliance Responsibility and Reports, due to a risk to motor vehicle safety, will have the values of approved off-cycle credits removed from the manufacturer's credit balance or adjusted to the population of vehicles the manufacturer remedies

as required by 49 U.S.C. chapter 301. NHTSA will consult with the manufacturer to determine the amount of the adjustment.

(B) Approval granted for innovative and off-cycle technology credits under NHTSA's fuel efficiency program does not affect or relieve the obligation to comply with the Vehicle Safety Act (49 U.S.C. chapter 301), including the "make inoperative" prohibition (49 U.S.C. 30122), and all applicable Federal motor vehicle safety standards issued thereunder (FMVSSs) (part 571 of this chapter). In order to generate off-cycle or innovative technology credits manufacturers must state—

(1) That each vehicle equipped with the technology for which they are seeking credits will comply with all applicable FMVSS(s); and

(2) Whether or not the technology has a fail-safe provision. If no fail-safe provision exists, the manufacturer must explain why not and whether a failure of the innovative technology would affect the safety of the vehicle.

[87 FR 26076, May 2, 2022, as amended at 89 FR 52949, June 24, 2024]

APPENDIX A TO PART 533—EXAMPLE OF CALCULATING COMPLIANCE UNDER § 533.5(I)

Assume a hypothetical manufacturer (Manufacturer X) produces a fleet of light trucks in MY 2012 as follows:

APPENDIX A—TABLE I

Group	Model type			Description	Actual measured fuel economy (mpg)	Volume
	Carline name	Basic engine (L)	Transmission class			
1	Pickup A 2WD	4 A5	Reg cab, MB	.....	27.1	800
2	Pickup B 2WD	4 M5	Reg cab, MB	.....	27.6	200
3	Pickup C 2WD	4.5 A5	Reg cab, LB	.....	23.9	300
4	Pickup C 2WD	4 M5	Ext cab, MB	.....	23.7	400
5	Pickup C 4WD	4.5 A5	Crew cab, SB	.....	23.5	400
6	Pickup D 2WD	4.5 A6	Crew cab, SB	.....	23.6	400
7	Pickup E 2WD	5 A6	Ext cab, LB	.....	22.7	500
8	Pickup E 2WD	5 A6	Crew cab, MB	.....	22.5	500
9	Pickup F 2WD	4.5 A5	Reg cab, LB	.....	22.5	1,600
10	Pickup F 4WD	4.5 A5	Ext cab, MB	.....	22.3	800
11	Pickup F 4WD	4.5 A5	Crew cab, SB	.....	22.2	800
Total	.....	.....	.....	.....	.....	6,700

Note to Table I to this appendix: Manufacturer X's required fleet average fuel economy standard level would first be calculated by determining the fuel economy targets applicable to each unique model type and footprint combination for model type groups 1-11 as illustrated in Table II to this appendix. Manufacturer X calculates a fuel economy target standard for each unique model type and footprint combination.

APPENDIX A—TABLE II

Group	Model type			Description	Base tire size	Wheel-base (inches)	Track width F&R average (inches)	Footprint (ft ²)	Volume	Fuel economy target standard (mpg)
	Carline name	Basic engine (L)	Transmission class							
1	Pickup A 2WD	4 A5	.....	Reg cab, MB	235/75R15	100.0	68.8	47.8	800	27.30
2	Pickup B 2WD	4 M5	.....	Reg cab, MB	235/75R15	100.0	68.2	47.4	200	27.44
3	Pickup C 2WD	4.5 A5	.....	Reg cab, LB	255/70R17	125.0	68.8	59.7	300	23.79
4	Pickup C 2WD	4 M5	.....	Ext cab, MB	255/70R17	125.0	68.8	59.7	400	23.79
5	Pickup C 4WD	4.5 A5	.....	Crew cab, SB	275/70R17	150.0	69.0	71.9	400	22.27
6	Pickup D 2WD	4.5 A6	.....	Crew cab, SB	255/70R17	125.0	68.8	59.7	400	23.79
7	Pickup E 2WD	5 A6	.....	Ext cab, LB	285/70R17	125.0	68.8	59.7	500	23.79
8	Pickup E 2WD	5 A6	.....	Crew cab, MB	285/70R17	125.0	69.2	60.1	500	23.68
9	Pickup F 2WD	4.5 A5	.....	Reg cab, LB	255/70R17	125.0	68.9	59.8	1,600	23.76
10	Pickup F 4WD	4.5 A5	.....	Ext cab, MB	275/70R17	150.0	69.0	71.9	800	22.27
11	Pickup F 4WD	4.5 A5	.....	Crew cab, SB	285/70R17	150.0	69.2	72.1	800	22.27
Total	.....	.....	.....	.....	.....	.....	.....	.....	6,700	.....

Note to Table II to this appendix: With the appropriate fuel economy targets determined for each unique model type and footprint combination, Manufacturer X's required fleet average fuel economy standard would be calculated as illustrated in Figure 1 to this appendix.

Appendix A Figure 1—Calculation of Manufacturer X's Fleet Average Fuel

Economy Standard Using Table II

Fleet Average Fuel Economy Standard

$$= \frac{\text{(Manufacturer's light truck Production for Applicable Model Year)}}{\sum_i \left(\frac{\text{Group}_1 \text{ Production}}{\text{Group}_1 \text{ Target Standard}} + \frac{\text{Group}_{2a} \text{ Production}}{\text{Group}_2 \text{ Target Standard}} + \dots + \frac{\text{Group}_{11} \text{ Production}}{\text{Group}_{11} \text{ Target Standard}} \right)}$$

Fleet Average Fuel Economy Standard

$$= \frac{(6,700)}{\left(\frac{800}{27.30} + \frac{200}{27.44} + \frac{300}{23.79} + \frac{400}{23.79} + \frac{400}{22.27} + \frac{400}{23.79} + \frac{500}{23.79} + \frac{500}{23.68} + \frac{1600}{23.76} + \frac{800}{22.27} + \frac{800}{22.27} \right)}$$

= 23.7 mpg

Appendix A Figure 2—Calculation of Manufacturer X's Actual Fleet Average Fuel

Economy Performance Level Using Table I

Fleet Average Fuel Economy Performance

$$= \frac{\text{(Manufacturer's Light Truck Production for Applicable Model Year)}}{\sum_i \left(\frac{\text{Group}_1 \text{ Production}}{\text{Group}_1 \text{ Performance}} + \frac{\text{Group}_2 \text{ Production}}{\text{Group}_2 \text{ Performance}} + \dots + \frac{\text{Group}_{11} \text{ Production}}{\text{Group}_{11} \text{ Performance}} \right)}$$

Fleet Average Fuel Economy Performance

$$= \frac{(6,700)}{\left(\frac{800}{27.1} + \frac{200}{27.6} + \frac{300}{23.9} + \frac{400}{23.7} + \frac{400}{23.5} + \frac{400}{23.6} + \frac{500}{22.7} + \frac{500}{22.5} + \frac{1600}{22.5} + \frac{800}{22.3} + \frac{800}{22.2} \right)}$$

= 23.3 mpg

NOTE TO FIGURE 2 TO THIS APPENDIX: Since the actual fleet average fuel economy performance of Manufacturer X's fleet is 23.3 mpg, as compared to its required fleet fuel economy standard of 23.7 mpg, Manufacturer X did not comply with the CAFE standard for MY 2012 as set forth in § 533.5(i).

PART 534—RIGHTS AND RESPONSIBILITIES OF MANUFACTURERS IN THE CONTEXT OF CHANGES IN CORPORATE RELATIONSHIPS

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AUTHORITY: 49 U.S.C. 32901; delegation of authority at 49 CFR 1.95.

SOURCE: 69 FR 77671, Dec. 28, 2004, unless otherwise noted.