Amendment Number 8 Effective Date: December 5, 2005.

Amendment Number 9 Effective Date: April 17, 2007.

SAR Submitted by: Transnuclear, Inc.

SAR Title: Final Safety Analysis Report for the Standardized NUHOMS® Horizontal Modular Storage System for Irradiated Nuclear Fuel.

Docket Number: 72–1004.

Certificate Expiration Date: January 23, 2015.

Model Number: NUHOMS®–24P, –52B, –61BT, –32PT, –24PHB, and –24PTH.

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Dated at Rockville, Maryland, this 19th day of January, 2007.

For the Nuclear Regulatory Commission.

Luis A. Reyes,

Executive Director for Operations.

[FR Doc. E7–1644 Filed 1–31–07; 8:45 am]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 23

[Docket No. CE255; Special Conditions No. 23–195–SC]

Special Conditions: Aviation Technology Group (ATG), Inc., Javelin Model 100 Series Airplane; Flight Performance, Flight Characteristics, and Operating Limitations

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions; request for comments.

SUMMARY: These special conditions are issued for the Aviation Technology Group (ATG), Inc., Javelin Model 100 Series airplane. This airplane will have a novel or unusual design feature(s) associated with engine location, certain performance, flight characteristics and operating limitations necessary for this type of airplane. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to airworthiness standards applicable to these airplanes.

DATES: The effective date of these special conditions is January 24, 2007. Comments must be received on or before March 5, 2007.

ADDRESSES: Comments on these special conditions may be mailed in duplicate to: Federal Aviation Administration, Regional Counsel, ACE–7, Attention: Rules Docket CE255, 901 Locust, Room 506, Kansas City, Missouri 64106; or delivered in duplicate to the Regional Counsel at the above address. Comments must be marked: CE255. Comments may be inspected in the Rules Docket weekdays, except Federal holidays, between 7:30 a.m. and 4 p.m.

FOR FURTHER INFORMATION CONTACT: J. Lowell Foster, Federal Aviation Administration, Aircraft Certification Service, Small Airplane Directorate, ACE–111, 901 Locust, Room 301, Kansas City, Missouri, 816–329–4125, fax 816–329–4090.

SUPPLEMENTARY INFORMATION: The FAA has determined that notice and opportunity for prior public comment hereon are impracticable because the substance of these special conditions has been subject to the public comment process in several prior instances with no substantive comments received. The FAA therefore finds that good cause exists for making these special conditions effective upon issuance.

Comments Invited

Interested persons are invited to submit such written data, views, or arguments as they may desire. Communications should identify the regulatory docket or special condition number and be submitted in duplicate to the address specified above. All communications received on or before the closing date for comments will be considered by the Administrator. The special conditions may be changed in light of the comments received. All comments received will be available in the Rules Docket for examination by interested persons, both before and after the closing date for comments. A report summarizing each substantive public contact with FAA personnel concerning this rulemaking will be filed in the docket. Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must include a self-addressed, stamped postcard on which the following statement is made: ''Comments to CE255.'' The postcard will be date stamped and returned to the commenter.

Background

On February 15, 2005, Aviation Technology Group (ATG); 8001 South InterPort Boulevard, Suite 310; Englewood, Colorado 80112–5951, applied for a type certificate for their new Model 100 Javelin airplane in accordance with the airworthiness standards in 14 CFR, part 23. The Javelin is a two-place, twin engine, turbofan-powered light jet airplane with a planned maximum operating altitude of 45,000 feet. Part 23 regulations in effect on the date of ATG's application do not contain adequate or appropriate safety standards for a small, high performance jet airplane such as the Javelin. In accordance with Small Airplane Directorate policy, the safety standards for flight performance, flight characteristics and operational limitations that the Federal Aviation Administration (FAA) finds necessary to establish an acceptable level of safety for this type of airplane are presented in this special condition.

Type Certification Basis

Under the provisions of 14 CFR, part 21, § 21.17, ATG must show that the Model 100 meets the applicable provisions of part 23, as amended by Amendment 23–1 through 23–55 thereto. If the Administrator finds that the applicable airworthiness regulations (i.e., 14 CFR part 23) do not contain adequate or appropriate safety standards for the ATG Model 100 series because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

Special conditions, as appropriate, as defined in § 11.19, are issued in accordance with § 11.38, and become part of the type certification basis in accordance with § 21.17(a)(2).

Special conditions are initially applicable to the model for which they are issued. Should the type certificate for that model be amended later to include any other model that incorporates the same novel or unusual design feature, the special conditions would also apply to the other model under the provisions of § 21.101(a)(1).

In addition to the applicable airworthiness regulations and special conditions, the Model 100 must comply with the part 23 fuel vent and exhaust emission requirements of 14 CFR, part 34 and the part 23 noise certification requirements of 14 CFR part 36; and the FAA must issue a finding of regulatory adequacy pursuant to § 611 of Public Law 92–574, the ''Noise Control Act of 1972.''

Novel or Unusual Design Features

ATG intends to certificate the Javelin in both utility and acrobatic categories. The ATG Javelin Model 100 will incorporate the following novel or unusual design features:

- Two-place, tandem configuration.
- Maximum takeoff weight of approximately 6,900 pounds.
- Design cruise speed of 500 knots calibrated airspeed.

• Two Williams FJ33–4A–18M turbofan engines with dual channel FADEC controls.

• Major airframe components constructed of carbon fiber composite materials.

• Hydraulically boosted flight control system with floor-mounted control sticks.

• Integrated avionics including Avidyne displays, autopilot, and flight management. System.

Novel features on the ATG Model 100 include rear mounted turbine engines embedded in the fuselage, boosted controls, and high-speed, high-altitude acrobatic capability.

Applicability

As discussed above, these special conditions are applicable to the ATG Model 100 series. Should ATG apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design feature, the special conditions would apply to that model as well under the provisions of § 21.101(a)(1).

Conclusion

This action affects only certain novel or unusual design features on ATG Model 100 series airplanes. It is not a rule of general applicability and affects only the applicant who applied to the FAA for approval of these features on the airplane.

The substance of these special conditions has been subjected to the notice and comment period in several prior instances and has been derived without substantive change from those previously issued. It is unlikely that prior public comment would result in a significant change from the substance contained herein. For this reason, the FAA has determined that prior public notice and comment are unnecessary and impracticable, and good cause exists for adopting these special conditions upon issuance. The FAA is requesting comments to allow interested persons to submit views that may not have been submitted in response to the prior opportunities for comment described above.

List of Subjects in 14 CFR Part 23

Aircraft, Aviation safety, Signs and symbols.

Citation

The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 106(g), 40113 and 44701; 14 CFR 21.16 and 14 CFR 11.38 and 11.19.

The Special Conditions

Several 14 CFR part 23 paragraphs have been replaced by or supplemented with special conditions. These special conditions have been numbered to match the 14 CFR part 23 paragraphs they replace or supplement. Additionally, many of the other applicable part 23 paragraphs cross-reference paragraphs that are replaced by or supplemented with special conditions. It is implied that the special conditions associated with these paragraphs must be applied. This principal applies to all part 23 paragraphs that cross-reference paragraphs associated with special conditions.

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for the ATG Model 100 series airplanes.

1. SC 23.45 General

Instead of compliance with § 23.45, the following apply:

(a) Unless otherwise prescribed, the performance requirements of this part must be met for—

(1) Still air and standard atmosphere; and

(2) Ambient atmospheric conditions, for commuter category airplanes, for reciprocating engine-powered airplanes of more than 6,000 pounds maximum weight, and for turbine engine-powered airplanes.

(b) Performance data must be determined over not less than the following ranges of conditions—

(1) Airport altitudes from sea level to 10,000 feet; and

(2) For reciprocating engine-powered airplanes of more than 6,000 pounds maximum weight and turbine engine-powered airplanes, temperature from standard to 30 °C above standard, or the maximum ambient atmospheric temperature at which compliance with the cooling provisions of § 23.1041 to § 23.1047 is shown, if lower.

(c) Performance data must be determined with the cowl flaps or other means for controlling the engine cooling air supply in the position used in the cooling tests required by § 23.1041 to § 23.1047.

(d) The available propulsive thrust must correspond to engine power, not exceeding the approved power, less—

(1) Installation losses; and

(2) The power absorbed by the accessories and services appropriate to the particular ambient atmospheric conditions and the particular flight condition.

(e) The performance, as affected by engine power or thrust, must be based on a relative humidity:

(1) Of 80 percent at and below standard temperature; and

(2) From 80 percent, at the standard temperature, varying linearly down to 34 percent at the standard temperature plus 50 °F.

(f) Unless otherwise prescribed, in determining the takeoff and landing distances, changes in the airplane's configuration, speed, and power must be made in accordance with procedures established by the applicant for operation in service. These procedures must be able to be executed consistently by pilots of average skill in atmospheric conditions reasonably expected to be encountered in service.

(g) The following, as applicable, must be determined on a smooth, dry, hard-surfaced runway—

(1) Not applicable;

(2) Accelerate-stop distance of SC 23.55;

(3) Takeoff distance and takeoff run of SC 23.59; and

(4) Landing distance of SC 23.75.

Note: The effect on these distances of operation on other types of surfaces (for example, grass, gravel) when dry, may be determined or derived and these surfaces listed in the Airplane Flight Manual in accordance with SC 23.1583(p).

(h) The following also apply:

(1) Unless otherwise prescribed, the applicant must select the takeoff, enroute, approach, and landing configurations for the airplane.

(2) The airplane configuration may vary with weight, altitude, and temperature, to the extent that they are compatible with the operating procedures required by paragraph (h)(3) of this section.

(3) Unless otherwise prescribed, in determining the critical-engine-inoperative takeoff performance, takeoff flight path, and accelerate-stop distance, changes in the airplane's configuration, speed, and power must be made in accordance with procedures established by the applicant for operation in service.

(4) Procedures for the execution of discontinued approaches and balked landings associated with the conditions prescribed in SC 23.67(c)(4) and SC 23.77(c) must be established.

(5) The procedures established under paragraphs (h)(3) and (h)(4) of this section must—

(i) Be able to be consistently executed by a crew of average skill in atmospheric conditions reasonably expected to be encountered in service;

(ii) Use methods or devices that are safe and reliable; and

(iii) Include allowance for any reasonably expected time delays in the execution of the procedures.

2. SC 23.51 Takeoff Speeds

Instead of compliance with § 23.51, the following apply:

(a) Not applicable.

(b) Not applicable.

(c) The following apply:

(l) V_1 must be established in relation to V_{EF} as follows:

(i) V_{EF} is the calibrated airspeed at which the critical engine is assumed to fail. V_{EF} must be selected by the applicant but must not be less than 1.05 V_{MC} determined under § 23.149(b) or, at the option of the applicant, not less than V_{MCG} determined under § 23.149(f).

(ii) The takeoff decision speed, V_1, is the calibrated airspeed on the ground at which, as a result of engine failure or other reasons, the pilot is assumed to have made a decision to continue or discontinue the takeoff. The takeoff decision speed, V_1, must be selected by the applicant but must not be less than V_{EF} plus the speed gained with the critical engine inoperative during the time interval between the instant at which the critical engine is failed and the instant at which the pilot recognizes and reacts to the engine failure, as indicated by the pilot's application of the first retarding means during the accelerate-stop determination of SC 23.55.

(2) The rotation speed, V_R, in terms of calibrated airspeed, must be selected by the applicant and must not be less than the greatest of the following:

(i) V_1;

(ii) 1.05 V_{MC} determined under § 23.149(b);

(iii) 1.10 V_{S1}; or

(iv) The speed that allows attaining the initial climb-out speed, V_2, before reaching a height of 35 feet above the takeoff surface in accordance with SC 23.57(c)(2).

(3) For any given set of conditions, such as weight, altitude, temperature, and configuration, a single value of V_R must be used to show compliance with both the one-engine-inoperative takeoff and all-engines-operating takeoff requirements.

(4) The takeoff safety speed, V_2, in terms of calibrated airspeed, must be selected by the applicant so as to allow the gradient of climb required in SC 23.67(c)(1) and (c)(2) but must not be less than 1.10 V_{MC} or less than 1.20 V_{S1}.

(5) The one-engine-inoperative takeoff distance, using a normal rotation rate at a speed 5 knots less than V_R, established in accordance with paragraph (c)(2) of this section, must be shown not to exceed the corresponding one-engine-inoperative takeoff distance, determined in accordance with SC 23.57 and SC 23.59(a)(1), using the established V_R. The takeoff, otherwise performed in accordance with SC 23.57, must be continued safely from the point at which the airplane is 35 feet above the takeoff surface and at a speed not less than the established V_2 minus 5 knots.

(6) The applicant must show, with all engines operating, that marked increases in the scheduled takeoff distances, determined in accordance with SC 23.59(a)(2), do not result from over-rotation of the airplane or out-of-trim conditions.

3. SC 23.53 Takeoff Performance

Instead of compliance with § 23.53, the following apply:

(a) Not applicable.

(b) Not applicable.

(c) Takeoff performance, as required by SC 23.55 through SC 23.59, must be determined with the operating engine(s) within approved operating limitations.

4. SC 23.55 Accelerate-stop Distance

Instead of compliance with § 23.55, the following apply:

The accelerate-stop distance must be determined as follows:

(a) The accelerate-stop distance is the sum of the distances necessary to—

(1) Accelerate the airplane from a standing start to V_{EF} with all engines operating;

(2) Accelerate the airplane from V_{EF} to V_1, assuming the critical engine fails at V_{EF}; and

(3) Come to a full stop from the point at which V_1 is reached.

(b) Means other than wheel brakes may be used to determine the accelerate-stop distances if that means—

(1) Is safe and reliable;

(2) Is used so that consistent results can be expected under normal operating conditions; and

(3) Is such that exceptional skill is not required to control the airplane.

5. SC 23.57 Takeoff Path

Instead of compliance with § 23.57, the following apply:

The takeoff path is as follows:

(a) The takeoff path extends from a standing start to a point in the takeoff at which the airplane is 1,500 feet above the takeoff surface at or below which height the transition from the takeoff to the enroute configuration must be completed; and

(1) The takeoff path must be based on the procedures prescribed in SC 23.45;

(2) The airplane must be accelerated on the ground to V_{EF} at which point the critical engine must be made inoperative and remain inoperative for the rest of the takeoff; and

(3) After reaching V_{EF}, the airplane must be accelerated to V_2.

(b) During the acceleration to speed V_2, the nose gear may be raised off the ground at a speed not less than V_R. However, landing gear retraction must not be initiated until the airplane is airborne.

(c) During the takeoff path determination, in accordance with paragraphs (a) and (b) of this section—

(1) The slope of the airborne part of the takeoff path must not be negative at any point;

(2) The airplane must reach V_2 before it is 35 feet above the takeoff surface, and must continue at a speed as close as practical to, but not less than V_2, until it is 400 feet above the takeoff surface;

(3) At each point along the takeoff path, starting at the point at which the airplane reaches 400 feet above the takeoff surface, the available gradient of climb must not be less than 1.2 percent for two-engine airplanes; and

(4) Except for gear retraction and automatic propeller feathering, the airplane configuration must not be changed, and no change in power that requires action by the pilot may be made, until the airplane is 400 feet above the takeoff surface.

(d) The takeoff path to 35 feet above the takeoff surface must be determined by a continuous demonstrated takeoff.

(e) The takeoff path from 35 feet above the takeoff surface must be determined by synthesis from segments; and

(1) The segments must be clearly defined and must be related to distinct changes in configuration, power, and speed;

(2) The weight of the airplane, the configuration, and the power must be assumed constant throughout each segment and must correspond to the most critical condition prevailing in the segment; and

(3) The Takeoff flight path must be based on the airplane's performance without utilizing ground effect.

6. SC 23.59 Takeoff Distance and Takeoff Run

Instead of compliance with § 23.59, the following apply:

The takeoff distance and, at the option of the applicant, the takeoff run, must be determined.

(a) Takeoff distance is the greater of—

(1) The horizontal distance along the takeoff path from the start of the takeoff to the point at which the airplane is 35 feet above the takeoff surface as determined under SC 23.57; or

(2) With all engines operating, 115 percent of the horizontal distance from the start of the takeoff to the point at

which the airplane is 35 feet above the takeoff surface, determined by a procedure consistent with SC 23.57.

(b) If the takeoff distance includes a clearway, the takeoff run is the greater of—

(1) The horizontal distance along the takeoff path from the start of the takeoff to a point equidistant between the liftoff point and the point at which the airplane is 35 feet above the takeoff surface as determined under SC 23.57; or

(2) With all engines operating, 115 percent of the horizontal distance from the start of the takeoff to a point equidistant between the liftoff point and the point at which the airplane is 35 feet above the takeoff surface, determined by a procedure consistent with SC 23.57.

7. SC 23.61 Takeoff Flight Path

Instead of compliance with § 23.61, the following apply:

The takeoff flight path must be determined as follows:

(a) The takeoff flight path begins 35 feet above the takeoff surface at the end of the takeoff distance determined in accordance with SC 23.59.

(b) The net takeoff flight path data must be determined so that they represent the actual takeoff flight paths, as determined in accordance with SC 23.57 and with paragraph (a) of this section, reduced at each point by a gradient of climb equal to 0.8 percent for two-engine airplanes.

(c) The prescribed reduction in climb gradient may be applied as an equivalent reduction in acceleration along that part of the takeoff flight path at which the airplane is accelerated in level flight.

8. SC 23.63 Climb: General

Instead of compliance with § 23.63, the following apply:

(a) Compliance with the requirements of §§ 23.65, 23.66, SC 23.67, 23.69, and SC 23.77 must be shown—

(1) Out of ground effect; and

(2) At speeds that are not less than those at which compliance with the powerplant cooling requirements of §§ 23.1041 to 23.1047 has been demonstrated; and

(3) Unless otherwise specified, with one engine inoperative, at a bank angle not exceeding 5 degrees.

(b) Not applicable.

(c) Not applicable.

(d) Compliance must be shown at weights as a function of airport altitude and ambient temperature within the operational limits established for takeoff and landing, respectively, with—

(1) SC 23.67(c)(1), SC 23.67(c)(2), and SC 23.67(c)(3) for takeoff; and

(2) SC 23.67(c)(3), SC 23.67(c)(4), and SC 23.77(c) for landing.

9. SC 23.66 Takeoff Climb: One-engine Inoperative

Instead of compliance with § 23.66, see SC 23.67.

10. SC 23.67 Climb: One Engine Inoperative

Instead of compliance with § 23.67, the following apply:

(a) Not applicable.

(b) Not applicable.

(c) The following apply:

(1) *Takeoff; landing gear extended.* The steady gradient of climb at the altitude of the takeoff surface must be measurably positive for two-engine airplanes with—

(i) The critical engine inoperative and its propeller in the position it rapidly and automatically assumes;

(ii) The remaining engine(s) at takeoff power;

(iii) The landing gear extended, and all landing gear doors open;

(iv) The wing flaps in the takeoff position(s);

(v) The wings level; and

(vi) A climb speed equal to V_2.

(2) *Takeoff; landing gear retracted.* The steady gradient of climb at an altitude of 400 feet above the takeoff surface must be not less than 2.0 percent of two-engine airplanes with—

(i) The critical engine inoperative and its propeller in the position it rapidly and automatically assumes;

(ii) The remaining engine(s) at takeoff power;

(iii) The landing gear retracted;

(iv) The wing flaps in the takeoff position(s);

(v) A climb speed equal to V_2.

(3) *Enroute.* The steady gradient of climb at an altitude of 1,500 feet above the takeoff or landing surface, as appropriate, must be not less than 1.2 percent for two-engine airplanes with—

(i) The critical engine inoperative and its propeller in the minimum drag position;

(ii) The remaining engine(s) at not more than maximum continuous power;

(iii) The landing gear retracted;

(iv) The wing flaps retracted; and

(v) A climb speed not less than 1.2 V_{S1}.

(4) *Discontinued approach.* The steady gradient of climb at an altitude of 400 feet above the landing surface must be not less than 2.1 percent for two-engine airplanes with—

(i) The critical engine inoperative and its propeller in the minimum drag position;

(ii) The remaining engine(s) at takeoff power;

(iii) Landing gear retracted;

(iv) Wing flaps in the approach position(s) in which V_{S1} for these position(s) does not exceed 110 percent of the V_{S1} for the related all-engines-operating landing position(s); and

(v) A climb speed established in connection with normal landing procedures but not exceeding 1.5 V_{S1}.

11. SC 23.73 Reference Landing Approach Speed

Instead of compliance with § 23.73, the following apply:

(a) Not applicable.

(b) Not applicable.

(c) The reference landing approach speed, V_{REF}, must not be less than the greater of 1.05 V_{MC}, determined in § 23.149(c), and 1.3 V_{SO}.

12. SC 23.77 Balked Landing

Instead of compliance with § 23.77, the following apply:

(a) Not applicable.

(b) Not applicable.

(c) Each airplane must be able to maintain a steady gradient of climb of at least 3.2 percent with—

(1) Not more than the power that is available on each engine eight seconds after initiation of movement of the power controls from the minimum flight idle position;

(2) Landing gear extended;

(3) Wing flaps in the landing position; and

(4) A climb speed equal to V_{REF}, as defined in SC 23.73(c).

13. SC 23.177 Static Directional and Lateral Stability

Instead of compliance with § 23.177, the following apply:

(a) The static directional stability, as shown by the tendency to recover from a wings-level sideslip with the rudder free, must be positive for any landing gear and flap position appropriate to the takeoff, climb, cruise, approach, and landing configurations. This must be shown with symmetrical power up to maximum continuous power, and at speeds from 1.2 V_{S1} up to V_{FE}, V_{LE}, or V_{FC} / M_{FC} (as appropriate). The angle of sideslip for these tests must be appropriate to the type of airplane. At larger angles of sideslip, up to that at which full rudder is used or a control force limit in § 23.143 is reached, whichever occurs first, and at speeds from 1.2 V_{S1} to V_O, the rudder pedal force must not reverse.

(b) The static lateral stability, as shown by the tendency to raise the low wing in a sideslip, must be positive for all landing gear and flap positions. This must be shown with symmetrical power up to 75 percent of maximum continuous power at speeds above 1.2 V_{S1} in the takeoff configuration(s) and at speeds above 1.3 V_{S1} in other configurations, up to V_{FE}, V_{LE}, or V_{FC} / M_{FC} (as appropriate) for the configuration being investigated, in the takeoff, climb, cruise, and approach configurations. For the landing configuration, the power must be that necessary to maintain a 3 degree angle of descent in coordinated flight. The static lateral stability must not be negative at 1.2 V_{S1} in the takeoff configuration, or at 1.3 V_{S1} in other configurations. The angle of sideslip for these tests must be appropriate to the type of airplane, but in no case may the constant heading sideslip angle be less than that obtainable with a 10 degree bank or, if less, the maximum bank angle obtainable with full rudder deflection or 150 pound rudder force.

(c) Paragraph (b) of this section does not apply to acrobatic category airplanes certificated for inverted flight.

(d) In straight, steady slips at 1.2 V_{S1} for any landing gear and flap positions, and for any symmetrical power conditions up to 50 percent of maximum continuous power, the aileron and rudder control movements and forces must increase steadily, but not necessarily in constant proportion, as the angle of sideslip is increased up to the maximum appropriate to the type of airplane. At larger slip angles, up to the angle at which the full rudder or aileron control is used or a control force limit contained in § 23.143 is reached, the aileron and rudder control movements and forces must not reverse as the angle of sideslip is increased. Rapid entry into, and recovery from, a maximum sideslip considered appropriate for the airplane must not result in uncontrollable flight characteristics.

14. SC 23.201(e) Wings Level Stall

Instead of compliance with § 23.201(e), the following apply:

(e) Compliance with the requirements of this section must be shown under the following conditions:

(1) The flaps, landing gear, and speedbrakes in any likely combination of positions and altitudes appropriate for the various positions.

(2) Thrust—

(i) Idle; and

(ii) The thrust necessary to maintain level flight at 1.6 V_{S1} (where V_{S1} corresponds to the stalling speed with flaps in the approach position, the landing gear retracted, and maximum landing weight).

(3) Trim at 1.4 V_{S1} or the minimum trim speed, whichever is higher.

15. SC 23.203(c) Turning Flight and Accelerated Turning Stalls

Instead of compliance with § 23.203(c), the following apply:

(c) Compliance with the requirements of this section must be shown under the following conditions:

(1) The flaps, landing gear, and speedbrakes in any likely combination of positions and altitudes appropriate for the various positions.

(2) Thrust—

(i) Idle; and

(ii) The thrust necessary to maintain level flight at 1.6 V_{S1} (where V_{S1} corresponds to the stalling speed with flaps in the approach position, the landing gear retracted, and maximum landing weight).

(3) Trim at 1.4 V_{S1} or the minimum trim speed, whichever is higher.

16. SC 23.251 Vibration and Buffeting

Instead of compliance with § 23.251, the following apply:

(a) The airplane must be demonstrated in flight to be free from any vibration and buffeting that would prevent continued safe flight in any likely operating condition.

(b) Each part of the airplane must be shown in flight to be free from excessive vibration under any appropriate speed and thrust conditions up to V_{DF} / M_{DF}. The maximum speeds shown must be used in establishing the operating limitations of the airplane in accordance with special condition SC 23.1505.

(c) Except as provided in paragraph (d) of this special condition, there may be no buffeting condition, in normal flight, including configuration changes during cruise, severe enough to interfere with the control of the airplane, to cause excessive fatigue to the crew, or to cause structural damage. Stall warning buffeting within these limits is allowable.

(d) There may be no perceptible buffeting condition in the cruise configuration in straight flight at any speed up to V_{MO} / M_{MO}, except that stall warning buffeting is allowable.

(e) With the airplane in the cruise configuration, the positive maneuvering load factors at which the onset of perceptible buffeting occurs must be determined for the ranges of airspeed or Mach number, weight, and altitude for which the airplane is to be certified. The envelopes of load factor, speed, altitude, and weight must provide a sufficient range of speeds and load factors for normal operations. Probable inadvertent excursions beyond the boundaries of the buffet onset envelopes may not result in unsafe conditions.

17. SC 23.253 High Speed Characteristics

Instead of compliance with § 23.253, the following apply:

(a) *Speed increase and recovery characteristics.* The following speed increase and recovery characteristics must be met:

(1) Operating conditions and characteristics likely to cause inadvertent speed increases (including upsets in pitch and roll) must be simulated with the airplane trimmed at any likely cruise speed up to V_{MO} / M_{MO}. These conditions and characteristics include gust upsets, inadvertent control movements, low stick force gradient in relation to control friction, passenger movement, leveling off from climb, and descent from Mach to airspeed limit altitudes.

(2) Allowing for pilot reaction time after effective inherent or artificial speed warning occurs, it must be shown that the airplane can be recovered to a normal attitude and its speed reduced to V_{MO} / M_{MO}, without:

(i) Exceptional piloting strength or skill;

(ii) Exceeding V_D / M_D, V_{DF} / M_{DF}, or the structural limitations; and

(iii) Buffeting that would impair the pilot's ability to read the instruments or control the airplane for recovery.

(3) There may be no control reversal about any axis at any speed up to V_{DF} / M_{DF}. Any reversal of elevator control force or tendency of the airplane to pitch, roll, or yaw must be mild and readily controllable, using normal piloting techniques.

(b) *Maximum speed for stability characteristics*, V_{FC}/M_{FC}. V_{FC}/M_{FC} is the maximum speed at which the requirements of § 23.175(b)(1), special condition SC 23.177, and 23.181 must be met with flaps and landing gear retracted. It may not be less than a speed midway between V_{MO}/M_{MO} and V_{DF}/M_{DF} except that, for altitudes where Mach number is the limiting factor, M_{FC} need not exceed the Mach number at which effective speed warning occurs.

18. SC 23.255 Out of Trim Characteristics

In the absence of specific requirements for out-of-trim characteristics, apply the following:

(a) From an initial condition with the airplane trimmed at cruise speeds up to V_{MO}/M_{MO}, the airplane must have satisfactory maneuvering stability and controllability with the degree of out-of-trim in both the airplane nose-up and nose-down directions, which results from the greater of the following:

(1) A three-second movement of the longitudinal trim system at its normal

rate for the particular flight condition with no aerodynamic load (or an equivalent degree of trim for airplanes that do not have a power-operated trim system), except as limited by stops in the trim system, including those required by § 23.655(b) for adjustable stabilizers; or

(2) The maximum mis-trim that can be sustained by the autopilot while maintaining level flight in the high speed cruising condition.

(b) In the out-of-trim condition specified in paragraph (a) of this special condition, when the normal acceleration is varied from +1 g to the positive and negative values specified in paragraph (c) of this special condition, the following apply:

(1) The stick force versus g curve must have a positive slope at any speed up to and including V_{FC}/M_{FC}; and

(2) At speeds between V_{FC}/M_{FC} and V_{DF}/M_{DF}, the direction of the primary longitudinal control force may not reverse.

(c) Except as provided in paragraph (d) and (e) of this special condition, compliance with the provisions of paragraph (a) of this special condition must be demonstrated in flight over the acceleration range as follows:

(1) −1 g to +2.5 g; or

(2) 0 g to 2.0 g, and extrapolating by an acceptable method to −1 g and +2.5 g.

(d) If the procedure set forth in paragraph (c)(2) of this special condition is used to demonstrate compliance and marginal conditions exist during flight test with regard to reversal of primary longitudinal control force, flight tests must be accomplished from the normal acceleration at which a marginal condition is found to exist to the applicable limit specified in paragraph (b)(1) of this special condition.

(e) During flight tests required by paragraph (a) of this special condition, the limit maneuvering load factors, prescribed in §§ 23.333(b) and 23.337, need not be exceeded. Also, the maneuvering load factors associated with probable inadvertent excursions beyond the boundaries of the buffet onset envelopes determined under SC 23.251(e), need not be exceeded. In addition, the entry speeds for flight test demonstrations at normal acceleration values less than 1 g must be limited to the extent necessary to accomplish a recovery without exceeding V_{DF}/M_{DF}.

(f) In the out-of-trim condition specified in paragraph (a) of this special condition, it must be possible from an overspeed condition at V_{DF}/M_{DF} to produce at least 1.5 g for recovery by applying not more than 125 pounds of longitudinal control force using either the primary longitudinal control alone or the primary longitudinal control and the longitudinal trim system. If the longitudinal trim is used to assist in producing the required load factor, it must be shown at V_{DF}/M_{DF} that the longitudinal trim can be actuated in the airplane nose-up direction with the primary surface loaded to correspond to the least of the following airplane nose-up control forces:

(1) The maximum control forces expected in service, as specified in §§ 23.301 and 23.397.

(2) The control force required to produce 1.5 g.

(3) The control force corresponding to buffeting or other phenomena of such intensity that is a strong deterrent to further application of primary longitudinal control force.

19. SC 23.703 Takeoff Warning System

Unless it can be shown that a lift or longitudinal trim device that affects the takeoff performance of the aircraft would not give an unsafe takeoff configuration when selected out of an approved takeoff position, a takeoff warning system must be installed and meet the following requirements:

(a) The system must provide to the pilots an aural warning that is automatically activated during the initial portion of the takeoff roll if the airplane is in a configuration that would not allow a safe takeoff. The warning must continue until—

(1) The configuration is changed to allow safe takeoff, or

(2) Action is taken by the pilot to abandon the takeoff roll.

(b) The means used to activate the system must function properly for all authorized takeoff power settings and procedures and throughout the ranges of takeoff weights, altitudes, and temperatures for which certification is requested.

20. SC 23.735 Brakes

In addition to paragraphs (a), (b), (c), and (d), the following apply:

(e) The rejected takeoff brake kinetic energy capacity rating of each main wheel brake assembly must not be less than the kinetic energy absorption requirements determined under either of the following methods—

(1) The brake kinetic energy absorption requirements must be based on a conservative rational analysis of the sequence of events expected during a rejected takeoff at the design takeoff weight.

(2) Instead of a rational analysis, the kinetic energy absorption requirements for each main wheel brake assembly may be derived from the following formula—

$$KE = 0.0443 \frac{WV^2}{N} \text{ where,}$$

KE = Kinetic energy per wheel (ft.-lbs.);
W = Design takeoff weight (lbs.);
V = Ground speed, in knots, associated with the maximum value of V_1 selected in accordance with SC 23.51(c)(1);
N = Number of main wheels with brakes.

21. SC 23.1323 Airspeed Indicating System

In addition to paragraphs (a), (b), (c), and (d), the following apply:

(e) In addition, the airspeed indicating system must be calibrated to determine the system error during the accelerate-takeoff ground run. The ground run calibration must be obtained between 0.8 of the minimum value of V_1, and 1.2 times the maximum value of V_1 considering the approved ranges of altitude and weight. The ground run calibration must be determined assuming an engine failure at the minimum value of V_1.

(f) Where duplicate airspeed indicators are required, their respective pitot tubes must be far enough apart to avoid damage to both tubes in a collision with a bird.

22. SC 23.1505 Airspeed Limitations

Instead of compliance with § 23.1505(a), the following apply:

(a) The maximum operating limit speed (V_{MO}/M_{MO} -airspeed or Mach number, whichever is critical at a particular altitude) is a speed that may not be deliberately exceeded in any regime of flight (climb, cruise, or descent), unless a higher speed is authorized for flight test or pilot training operations. V_{MO}/M_{MO} must be established so that it is not greater than the design cruising speed V_C/M_C and so that it is sufficiently below V_D/M_D or V_{DF}/M_{DF}, to make it highly improbable that the latter speeds will be inadvertently exceeded in operations. The speed margin between V_{MO}/M_{MO} and V_D/M_D or V_{DF}/M_{DF} may not be less than that determined under § 23.335(b) or found necessary in the flight test conducted under SC 23.253.

23. SC 23.1583 Operating Limitations

Instead of compliance with § 23.1583, the following apply:

The Airplane Flight Manual must contain operating limitations determined under this part 23, including the following—

(a) *Airspeed limitations.* The following information must be furnished:

(1) Information necessary for the marking of the airspeed limits on the indicator as required in § 23.1545, and the significance of each of those limits and of the color coding used on the indicator.

(2) The speeds V_{MC}, V_O, V_{LE}, and V_{LO}, if established, and their significance.

(3) In addition, for turbine powered airplanes—

(i) The maximum operating limit speed, V_{MO} / M_{MO} and a statement that this speed must not be deliberately exceeded in any regime of flight (climb, cruise or descent) unless a higher speed is authorized for flight test or pilot training;

(ii) If an airspeed limitation is based upon compressibility effects, a statement to this effect and information as to any symptoms, the probable behavior of the airplane, and the recommended recovery procedures; and

(iii) The airspeed limits must be shown in terms of V_{MO} / M_{MO} instead of V_{NO} and V_{NE}.

(b) *Powerplant limitations.* The following information must be furnished:

(1) Limitations required by § 23.1521.

(2) Explanation of the limitations, when appropriate.

(3) Information necessary for marking the instruments required by § 23.1549 through § 23.1553.

(c) *Weight.* The airplane flight manual must include—

(1) The maximum weight; and

(2) The maximum landing weight, if the design landing weight selected by the applicant is less than the maximum weight.

(3) Not applicable.

(4) The maximum takeoff weight for each airport altitude and ambient temperature within the range selected by the applicant at which—

(i) The airplane complies with the climb requirements of SC 23.63(d)(1); and

(ii) The accelerate-stop distance determined under SC 23.55 is equal to the available runway length plus the length of any stopway, if utilized; and either:

(iii) The takeoff distance determined under SC 23.59(a) is equal to the available runway length; or

(iv) At the option of the applicant, the takeoff distance determined under SC 23.59(a) is equal to the available runway length plus the length of any clearway and the takeoff run determined under SC 23.59(b) is equal to the available runway length.

(5) The maximum landing weight for each airport altitude within the range selected by the applicant at which—

(i) The airplane complies with the climb requirements of SC 23.63(d)(2) for ambient temperatures within the range selected by the applicant; and

(ii) The landing distance determined under SC 23.75 for standard temperatures is equal to the available runway length.

(6) The maximum zero wing fuel weight, where relevant, as established in accordance with § 23.343.

(d) *Center of gravity.* The established center of gravity limits.

(e) *Maneuvers.* The following authorized maneuvers, appropriate airspeed limitations, and unauthorized maneuvers, as prescribed in this section.

(1) Not applicable.

(2) Not applicable.

(3) *Acrobatic category airplanes.* A list of approved flight maneuvers demonstrated in type flight tests, together with recommended entry speeds and any other associated limitations.

(4) Not applicable.

(5) Not applicable.

(f) *Maneuver load factor.* The positive limit load factors in g's, and, in addition, the negative limit load factor for acrobatic category airplanes.

(g) *Minimum flight crew.* The number and functions of the minimum flight crew determined under § 23.1523.

(h) *Kinds of operation.* A list of the kinds of operation to which the airplane is limited or from which it is prohibited under § 23.1525, and also a list of installed equipment that affects any operating limitation and identification as to the equipment's required operational status for the kinds of operation for which approval has been given.

(i) *Maximum operating altitude.* The maximum altitude established under § 23.1527.

(j) *Maximum passenger seating configuration.* The maximum passenger seating configuration.

(k) *Allowable lateral fuel loading.* The maximum allowable lateral fuel loading differential, if less than the maximum possible.

(l) *Baggage and cargo loading.* The following information for each baggage and cargo compartment or zone—

(1) The maximum allowable load; and

(2) The maximum intensity of loading.

(m) *Systems.* Any limitations on the use of airplane systems and equipment.

(n) *Ambient temperatures.* Where appropriate, maximum and minimum ambient air temperatures for operation.

(o) *Smoking.* Any restrictions on smoking in the airplane.

(p) *Types of surface.* A statement of the types of surface on which operations may be conducted. (See SC 23.45(g) and SC 23.1587(a)(4) and (d)(4).)

24. SC 23.1585 Operating Procedures

Instead of compliance with § 23.1585, the following apply:

(a) For all airplanes, information concerning normal, abnormal (if applicable), and emergency procedures and other pertinent information necessary for safe operation and the achievement of the scheduled performance must be furnished, including—

(1) An explanation of significant or unusual flight or ground handling characteristics;

(2) The maximum demonstrated values of crosswind for takeoff and landing, and procedures and information pertinent to operations in crosswinds;

(3) A recommended speed for flight in rough air. This speed must be chosen to protect against the occurrence, as a result of gusts, of structural damage to the airplane and loss of control (for example, stalling);

(4) Procedures for restarting any turbine engine in flight, including the effects of altitude; and

(5) Procedures, speeds, and configuration(s) for making a normal approach and landing, in accordance with SC 23.73 and SC 23.75, and a transition to the balked landing condition.

(6) Not applicable.

(b) Not applicable.

(c) In addition to paragraph (a) of this section, for all multiengine airplanes, the following information must be furnished:

(1) Procedures, speeds, and configuration(s) for making an approach and landing with one engine inoperative;

(2) Procedures, speeds, and configuration(s) for making a balked landing with one engine inoperative and the conditions under which a balked landing can be performed safely, or a warning against attempting a balked landing;

(3) The V_{SSE} determined in § 23.149; and

(4) Procedures for restarting any engine in flight including the effects of altitude.

(d) Not applicable.

(e) Not applicable.

(f) In addition to paragraphs (a) and (c) of this section, the information must include the following:

(1) Procedures, speeds, and configuration(s) for making a normal takeoff.

(2) Procedures and speeds for carrying out an accelerate-stop in accordance with § 23.55.

(3) Procedures and speeds for continuing a takeoff following engine

failure in accordance with § 23.59(a)(1) and for following the flight path determined under § 23.57 and § 23.61(a).

(g) Information identifying each operating condition in which the fuel system independence prescribed in § 23.953 is necessary for safety must be furnished, together with instructions for placing the fuel system in a configuration used to show compliance with that section.

(h) For each airplane showing compliance with § 23.1353(g)(2) or (g)(3), the operating procedures for disconnecting the battery from its charging source must be furnished.

(i) Information on the total quantity of usable fuel for each fuel tank, and the effect on the usable fuel quantity, as a result of a failure of any pump, must be furnished.

(j) Procedures for the safe operation of the airplane's systems and equipment, both in normal use and in the event of malfunction, must be furnished.

25. SC 23.1587 Performance Information

Instead of compliance with § 23.1587, the following apply:

Unless otherwise prescribed, performance information must be provided over the altitude and temperature ranges required by SC 23.45(b).

(a) For all airplanes, the following information must be furnished—

(1) The stalling speeds V_{SO} and V_{S1} with the landing gear and wing flaps retracted, determined at maximum weight under § 23.49, and the effect on these stalling speeds of angles of bank up to 60 degrees;

(2) The steady rate and gradient of climb with all engines operating, determined under § 23.69(a);

(3) The landing distance, determined under SC 23.75 for each airport altitude and standard temperature, and the type of surface for which it is valid;

(4) The effect on landing distances of operation on other than smooth hard surfaces, when dry, determined under SC 23.45(g); and

(5) The effect on landing distances of runway slope and 50 percent of the headwind component and 150 percent of the tailwind component.

(b) Not applicable.

(c) Not applicable.

(d) In addition to paragraph (a) of this section the following information must be furnished—

(1) The accelerate-stop distance determined under SC 23.55;

(2) The takeoff distance determined under SC 23.59(a);

(3) At the option of the applicant, the takeoff run determined under SC 23.59(b);

(4) The effect on accelerate-stop distance, takeoff distance and, if determined, takeoff run, of operation on other than smooth hard surfaces, when dry, determined under SC 23.45(g);

(5) The effect on accelerate-stop distance, takeoff distance, and if determined, takeoff run, of runway slope and 50 percent of the headwind component and 150 percent of the tailwind component;

(6) The net takeoff flight path determined under SC 23.61(b);

(7) The enroute gradient of climb/descent with one engine inoperative, determined under § 23.69(b);

(8) The effect, on the net takeoff flight path and on the enroute gradient of climb/descent with one engine inoperative, of 50 percent of the headwind component and 150 percent of the tailwind component;

(9) Overweight landing performance information (determined by extrapolation and computed for the range of weights between the maximum landing and maximum takeoff weights) as follows—

(i) The maximum weight for each airport altitude and ambient temperature at which the airplane complies with the climb requirements of SC 23.63(d)(2); and

(ii) The landing distance determined under SC 23.75 for each airport altitude and standard temperature.

(10) The relationship between IAS and CAS determined in accordance with § 23.1323(b) and (c).

(11) The altimeter system calibration required by § 23.1325(e).

Issued in Kansas City, Missouri on January 24, 2007.

Kim Smith,

Manager, Small Airplane Directorate, Aircraft Certification Service.

[FR Doc. E7–1609 Filed 1–31–07; 8:45 am]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA–2006–26323; Directorate Identifier 2006–NM–150–AD; Amendment 39–14918; AD 2007–03–07]

RIN 2120–AA64

Airworthiness Directives; Boeing Model 737 Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule; request for comments.

SUMMARY: The FAA is superseding an existing airworthiness directive (AD) that applies to all Boeing Model 737 airplanes. The existing AD currently requires installation of a new rudder control system and changes to the adjacent systems to accommodate that new rudder control system. For certain airplanes, this new AD adds, among other actions, repetitive tests of the force fight monitor of the main rudder power control unit (PCU), repetitive tests of the standby hydraulic actuation system, and corrective action; as applicable. For those airplanes, this new AD also adds, among other actions, replacement of both input control rods of the main rudder PCU and the input control rod of the standby rudder PCU with new input control rods, as applicable, which ends the repetitive tests. For certain other airplanes, this new AD adds installation of an enhanced rudder control system in accordance with new service information. This AD results from a report of a fractured rod end of an input control rod of the main rudder PCU and a subsequent report of a fractured rod end of the input control rod of the standby rudder PCU. We are issuing this AD to prevent failure of one of the two input control rods of the main rudder PCU, which, under certain conditions, could result in reduced controllability of the airplane; and to prevent failure of any combination of two input control rods of the main rudder PCU and/or standby rudder PCU, which could cause an uncommanded rudder hardover event and result in loss of control of the airplane.

DATES: This AD becomes effective February 16, 2007.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of February 16, 2007.

We must receive any comments on this AD by April 2, 2007.

ADDRESSES: Use one of the following addresses to submit comments on this AD.

- *DOT Docket Web site:* Go to *http://dms.dot.gov* and follow the instructions for sending your comments electronically.
- *Government-wide rulemaking Web site:* Go to *http://www.regulations.gov* and follow the instructions for sending your comments electronically.
- *Mail:* Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL–401, Washington, DC 20590.
- *Fax:* (202) 493–2251.