PART 94—RINDERPEST, FOOT-AND-MOUTH DISEASE, FOWL PEST (FOWL PLAGUE), EXOTIC NEWCASTLE DISEASE, AFRICAN SWINE FEVER, HOG CHOLERA, AND BOVINE SPONGIFORM ENCEPHALOPATHY: PROHIBITED AND RESTRICTED IMPORTATIONS

1. The authority citation for part 94 continues to read as follows:

Authority: 7 U.S.C. 450, 7711, 7712, 7713, 7714, 7751, and 7754; 19 U.S.C. 1306; 21 U.S.C. 111, 114a, 134a, 134b, 134c, 134f, 136, and 136a; 31 U.S.C. 9701; 42 U.S.C. 4331 and 4332; 7 CFR 2.22, 2.80, and 371.4.

§ 94.18 [Amended]

2. Section 94.18 is amended as follows:

a. In paragraph (a)(1), by adding, in alphabetical order, the word ''Poland,''.

b. In paragraph (a)(2), by removing the word ''Poland,''.

Done in Washington, DC, this 26th day of June, 2002.

Bobby R. Acord,

Administrator, Animal and Plant Health Inspection Service.

[FR Doc. 02–16422 Filed 6–28–02; 8:45 am]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. NM213; Special Conditions No. 25–201–SC]

Special Conditions: Airbus, Model A340–500 and –600 Series Airplanes; Interaction of Systems and Structure; Electronic Flight Control System, Longitudinal Stability and Low Energy Awareness; and Use of High Incidence Protection and Alpha-Floor Systems

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions.

SUMMARY: These special conditions are issued for the Airbus Model A340–500 and –600 series airplanes. These airplanes will have novel or unusual design features when compared to the state of technology envisioned in the airworthiness standards for transport category airplanes associated with the systems that affect the structural performance of the airplane; the electronic flight control system (EFCS); and the use of high incidence protection and alpha-floor systems. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for these design features. These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

EFFECTIVE DATE: July 31, 2002.

FOR FURTHER INFORMATION CONTACT: Tim Backman, FAA, ANM–116, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, Washington, 98055–4056; telephone (425) 227–2797; facsimile (425) 227–1149.

SUPPLEMENTARY INFORMATION:

Background

On November 14, 1996, Airbus Industrie applied for an amendment to U.S. type certificate (TC) A43NM to include the new Models A340–500 and –600. These models are derivatives of the A340–300 airplane that is approved under the same TC.

The Model A340–500 fuselage is a 6-frame stretch of the Model A340–300 and is powered by 4 Rolls Royce Trent 553 engines; each rated at 53,000 pounds of thrust. The airplane has interior seating arrangements for up to 375 passengers, with a maximum takeoff weight (MTOW) of 820,000 pounds. The Model A340–500 is intended for long-range operations and has additional fuel capacity over that of the Model A340–600.

The Model A340–600 fuselage is a 20-frame stretch of the Model A340–300 and is powered by 4 Rolls Royce Trent 556 engines; each rated at 56,000 pounds of thrust. The airplane has interior seating arrangements for up to 440 passengers, with a MTOW of 804,500 pounds.

Type Certification Basis

Under the provisions of 14 CFR 21.101, Airbus must show that the Model A340–500 and –600 airplanes meet the applicable provisions of the regulations incorporated by reference in TC A43NM or the applicable regulations in effect on the date of application for the change to the type certificate. The regulations incorporated by reference in the type certificate are commonly referred to as the ''original type certification basis.'' The regulations incorporated by reference in TC A43NM are 14 CFR part 25, effective February 1, 1965, including Amendments 25–1 through 25–63, and Amendments 25–64, 25–65, 25–66, and 25–77, with certain exceptions that are not relevant to these special conditions.

In addition, if the regulations incorporated by reference do not provide adequate standards with respect to the change, the applicant must comply with certain regulations in effect on the date of application for the change. The FAA has determined that the Model A340–500 and –600 airplanes must be shown to comply with Amendments 25–1 through 25–91, and with certain FAA-allowed reversions for specific part 25 regulations to the part 25 amendment levels of the original type certification basis.

Airbus has also chosen to comply with part 25 as amended by Amendments 25–92, –93, –94, –95, –97, –98, and –104. In addition, Airbus has elected to redefine the reference stall speed as the 1-g stall speed as proposed in Notice No. 95–17 (61 FR 1260, January 18, 1996).

If the Administrator finds that the applicable airworthiness regulations (*i.e.,* part 25 as amended) do not contain adequate or appropriate safety standards for the Airbus Model A340–500 and ''600 because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

In addition to the applicable airworthiness regulations and special conditions, the Airbus Model A340–500 and –600 must comply with the fuel vent and exhaust emission requirements of 14 CFR part 34 and the noise certification requirements of 14 CFR part 36, as amended on the date of type certification.

Special conditions, as defined in 14 CFR 11.19, are issued in accordance with § 11.38 and become part of the type certification basis in accordance with § 21.101(b)(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, or should any other model already included on the same type certificate be modified to incorporate 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).

Novel or Unusual Design Features

The Airbus Model A340–500 and –600 airplanes will incorporate the following novel or unusual design features.

1. Interaction of Systems and Structure

The Model A340–500 and –600 airplanes will have systems that affect the structural performance of the airplane, either directly or as a result of a failure or malfunction. These novel or unusual design features are systems that can serve to alleviate loads in the airframe and, when in a failure state, can create loads in the airframe. The current regulations do not adequately account for the effects of these systems and their failures on structural performance. These special conditions provide the criteria to be used in assessing the effects of these systems on structures.

2. Electronic Flight Control System: Longitudinal Stability and Low Energy Awareness

The EFCS of the Model A340–500 and –600, as with its predecessors, will result in the airplanes having neutral static longitudinal stability. This condition, when combined with the automatic trim feature of the EFCS, could result in insufficient feedback cues to the pilot of speed excursions below normal operating speeds. The longitudinal flight control laws provide neutral static stability within the normal flight envelope; therefore, the novel or unusual design features for these new airplane model designs will make them unable to show compliance with the static longitudinal stability requirements of §§ 25.171, 25.173, and 25.175.

The unique features of the Model A340–500 and –600 airplanes could cause an unsafe condition if the airspeed becomes too slow near the ground and results in the airplane stalling. The flightcrew would be unaware of the flight condition and would not be able to intervene and recover before stall. The French Direction Generale De L'Aviation Civile (DGAC) took action for this condition by introducing a special condition for predecessor airplanes with the same design features that required adequate awareness of the flightcrew to unsafe low speed conditions; there was no corresponding special condition developed by the FAA. The French special conditions allowed for awareness to be provided by an appropriate warning in the cockpit to allow for recovery. This special condition provides for an appropriate warning in the cockpit of the A340–500 and –600 airplanes to allow for recovery.

Subsequent to certification of the predecessor Model A330 and A340 airplanes and in establishing the certification requirements for the A340–500 and –600, the French DGAC decided to combine two special conditions from the A330 into a new special condition titled ''Static Longitudinal Stability and Low Energy Awareness.'' Since the FAA did not take action on the introduction of the low energy awareness requirement during the A330 and A340 certification, this special condition for the Model A340–500 and –600 airplane certification harmonizes to the French DGAC special condition for static longitudinal stability and low energy awareness. The purpose of the new low energy awareness special condition item 2(a)(2) is to provide awareness to the pilot of a low speed (or low energy state) of flight when the flight control laws provide neutral static longitudinal stability significantly below the normal operating speeds, and offer no cues to the pilot through the side stick controller. The special condition item 2(a)(1) addresses the fact that the airplane has neutral stability and does not meet regulatory requirements for positive dynamic and static longitudinal stability (§§ 25.171, 25.173, and 25.175, and 25.181(a)).

3. High Incidence Protection and Alpha-floor Systems

The Model A340–500 and –600 airplanes will have a novel or unusual feature to accommodate the unique features of the high incidence protection and the alpha-floor systems. The high incidence protection system replaces the stall warning system during normal operating conditions by prohibiting the airplane from stalling. The high incidence protection system limits the angle of attack at which the airplane can be flown during normal low speed operation, impacts the longitudinal airplane handling characteristics, and can not be over-ridden by the crew. The existing regulations do not provide adequate criteria to address this system.

The function of the alpha-floor system is to automatically increase the thrust on the operating engines under unusual circumstances where the airplane pitches to a predetermined high angle of attack or bank angle. The regulations do not provide adequate criteria to address this system.

Discussion of Comments

Notice of proposed special conditions No. 25–02–05–SC for the Airbus Model A340–500 and –600 airplanes was published in the **Federal Register** on April 8, 2002 (67 FR 16656). No comments were received, and the special conditions are adopted as proposed.

Applicability

As discussed above, these special conditions are applicable to the Model A340–500 and –600 airplanes. Should Airbus apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design feature, these 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 the Model A340–500 and –600 airplanes. It is not a rule of general applicability, and it affects only the applicant who applied to the FAA for approval of these features on the airplane.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701, 44702, 44704.

The Special Conditions

Accordingly, pursuant to the authority delegated by the Administrator, the following special conditions are issued as part of the type certification basis for Airbus Model A340–500 and –600 series airplanes.

1. Interaction of System and Structures

The following special conditions are in lieu of compliance with the criteria of previously issued Special Conditions No. 25–ANM–69 (Docket No. NM–75), item 4, ''Interaction of Systems and Structure.''

(a) *General.* For airplanes equipped with systems that affect structural performance, either directly or as a result of a failure or malfunction, the influence of these systems and their failure conditions must be taken into account when showing compliance with the requirements of subparts C and D of part 25. The following criteria must be used for showing compliance with these special conditions for airplanes equipped with flight control systems, autopilots, stability augmentation systems, load alleviation systems, flutter control systems, and fuel management systems. If these special conditions are used for other systems, it may be necessary to adapt the criteria to the specific system.

(1) The criteria defined herein only address the direct structural consequences of the system responses and performances and cannot be considered in isolation but should be included in the overall safety evaluation of the airplane. These criteria may in some instances duplicate standards already established for this evaluation. These criteria are only applicable to structures whose failure could prevent continued safe flight and landing. Specific criteria that define acceptable limits on handling characteristics or

stability requirements when operating in the system degraded or inoperative modes are not provided in these special conditions.

(2) Depending upon the specific characteristics of the airplane, additional studies that go beyond the criteria provided in these special conditions may be required in order to demonstrate the capability of the airplane to meet other realistic conditions; such as alternative gust or maneuver descriptions for an airplane equipped with a load alleviation system.

(3) The following definitions are applicable to these special conditions.

Structural performance: Capability of the airplane to meet the structural requirements of part 25.

Flight limitations: Limitations that can be applied to the airplane flight conditions following an in-flight occurrence and that are included in the flight manual (*e.g.*, speed limitations, avoidance of severe weather conditions, etc.).

Operational limitations: Limitations, including flight limitations that can be applied to the airplane operating conditions before dispatch (e.g., fuel, payload, and Master Minimum Equipment List limitations).

Probabilistic terms: The probabilistic terms (probable, improbable, extremely improbable) used in these special conditions are the same as those used in § 25.1309.

Failure condition: The term failure condition is the same as that used in § 25.1309; however, these special conditions apply only to system failure conditions that affect the structural performance of the airplane (e.g., system failure conditions that induce loads, lower flutter margins, or change the response of the airplane to inputs such as gusts or pilot actions).

(b) *Effects of Systems on Structures.* The following criteria will be used in determining the influence of a system and its failure conditions on the airplane structure.

(1) System fully operative. With the system fully operative, the following apply:

(i) Limit loads must be derived in all normal operating configurations of the system from all the limit conditions specified in subpart C, taking into account any special behavior of such a system or associated functions, or any effect on the structural performance of the airplane that may occur up to the limit loads. In particular, any significant nonlinearity (rate of displacement of control surface, thresholds or any other system nonlinearities) must be accounted for in a realistic or conservative way when deriving limit loads from limit conditions.

(ii) The airplane must meet the strength requirements of part 25 (static strength, residual strength), using the specified factors to derive ultimate loads from the limit loads defined above. The effect of nonlinearities must be investigated beyond limit conditions to ensure the behavior of the system presents no anomaly compared to the behavior below limit conditions. However, conditions beyond limit conditions need not be considered when it can be shown that the airplane has design features that will not allow it to exceed those limit conditions.

(iii) The airplane must meet the aeroelastic stability requirements of § 25.629.

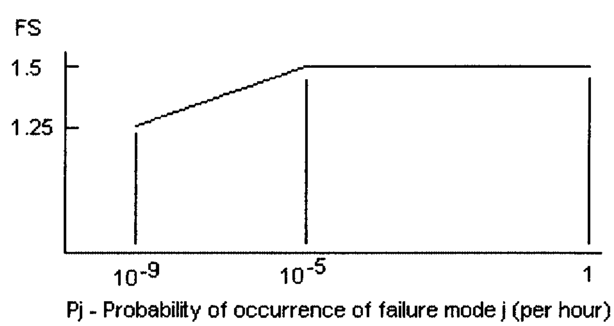
(2) *System in the failure condition.* For any system failure condition not shown to be extremely improbable, the following apply:

(i) At the time of occurrence. Starting from 1–g level flight conditions, a realistic scenario, including pilot corrective actions, must be established to determine the loads occurring at the time of failure and immediately after failure.

(A) For static strength substantiation, these loads multiplied by an appropriate factor of safety that is related to the probability of occurrence of the failure are ultimate loads to be considered for design. The factor of safety (FS) is defined in Figure 1.

Figure 1

Factor of safety at the time of occurrence



(B) For residual strength substantiation, the airplane must be able to withstand two thirds of the ultimate loads defined in these special conditions item 1(b)(1)(ii).

(C) Freedom from aeroelastic instability must be shown up to the speeds defined in § 25.629(b)(2). For failure conditions that result in speed increases beyond Vc/Mc, freedom from aeroelastic instability must be shown to increased speeds, so that the margins intended by § 25.629(b)(2) are maintained.

(D) Failures of the system that result in forced structural vibrations (oscillatory failures) must not produce loads that could result in detrimental deformation of primary structure.

(ii) For the continuation of the flight. For the airplane in the system failed state and considering any appropriate reconfiguration and flight limitations, the following apply:

(A) The loads derived from the following conditions at speeds up to Vc, or the speed limitation prescribed for the remainder of the flight, must be determined:

(*1*) The limit symmetrical maneuvering conditions specified in § 25.331 and in § 25.345.

(*2*) The limit gust and turbulence conditions specified in § 25.341 and in § 25.345.

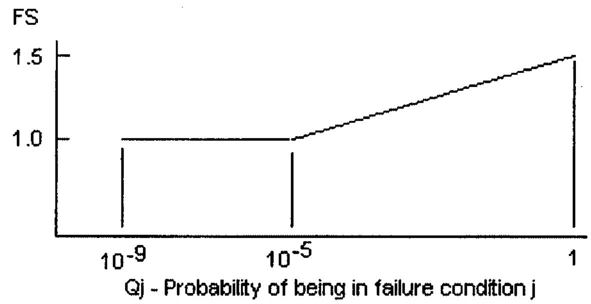
(*3*) The limit rolling conditions specified in § 25.349 and the limit unsymmetrical conditions specified in § 25.367 and § 25.427(b) and (c).

(*4*) The limit yaw maneuvering conditions specified in § 25.351.

(*5*) The limit ground loading conditions specified in § 25.473 and § 25.491.

(B) For static strength substantiation, each part of the structure must be able to withstand the loads defined in special condition item 1(b)(2)(ii)(A), multiplied by a factor of safety depending on the probability of being in this failure state. The factor of safety is defined in Figure 2.

Figure 2
Factor of safety for continuation of flight



$Q_j = (T_j)(P_j)$ Where:

T_j = Average time spent in failure condition j (in hours).

P_j = Probability of occurrence of failure mode j (per hour).

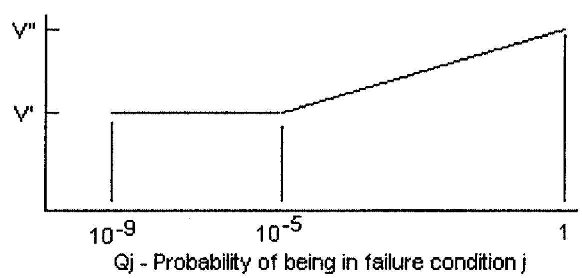
Note to paragraph (B): If P_j is greater than 10^{-3} per flight hour, then a 1.5 factor of safety must be applied to all limit load conditions specified in subpart C.

(C) For residual strength substantiation, the airplane must be able to withstand two thirds of the ultimate loads defined in special condition item 1(b)(2)(ii)(B).

(D) If the loads induced by the failure condition have a significant effect on fatigue or damage tolerance, then their effects must be taken into account.

(E) Freedom from aeroelastic instability must be shown up to a speed determined from Figure 3. Flutter clearance speeds V^{I} and V^{II} may be based on the speed limitation specified for the remainder of the flight using the margins defined by § 25.629(b).

Figure 3
Clearance speed



V^{I} = Clearance speed as defined by § 25.629(b)(2).

V^{II} = Clearance speed as defined by § 25.629(b)(1).

Q_j = (Tj)(Pj) where:

T_j = Average time spent in failure condition j (in hours).

P_j = Probability of occurrence of failure mode j (per hour).

Note to paragraph (E): If P_j is greater than 10^{-3} per flight hour, then the flutter clearance speed must not be less than V^{II}.

(F) Freedom from aeroelastic instability must also be shown up to V^{I} in Figure 3 above for any probable system failure condition combined with any damage required or selected for investigation by § 25.571(b).

(iii) Consideration of certain failure conditions may be required by other sections of part 25, regardless of calculated system reliability. Where analysis shows the probability of these failure conditions to be less than 10^{-9}, criteria other than those specified in this paragraph may be used for structural substantiation to show continued safe flight and landing.

(3) Warning considerations. For system failure detection and warning, the following apply:

(i) The system must be checked for failure conditions, not extremely improbable, that degrade the structural capability below the level required by part 25 or significantly reduce the reliability of the remaining system. The flightcrew must be made aware of these failures before flight. Certain elements of the control system, such as mechanical and hydraulic components, may use special periodic inspections, and electronic components may use daily checks, in lieu of warning systems, to achieve the objective of this requirement. These certification maintenance requirements must be limited to components that are not readily detectable by normal warning systems and where service history shows that inspections will provide an adequate level of safety.

(ii) The existence of any failure condition, not shown to be extremely improbable, during flight that could significantly affect the structural capability of the airplane, and for which the associated reduction in airworthiness can be minimized by suitable flight limitations, must be signaled to the flightcrew. For example, failure conditions that result in a factor of safety between the airplane strength and the loads of subpart C below 1.25, or flutter margins below V^{II}, must be signaled to the crew during flight.

(4) Dispatch with known failure conditions. If the airplane is to be dispatched in a known system failure condition that affects structural performance, or affects the reliability of the remaining system to maintain structural performance, then the provisions of these special conditions must be met for the dispatched condition and for subsequent failures. Flight limitations and expected operational limitations may be taken into account in establishing Qj as the combined probability of being in the dispatched failure condition and the subsequent failure condition for the safety margins in Figures 2 and 3. These limitations must be such that the probability of being in this combined failure state and then subsequently encountering limit load conditions is extremely improbable. No reduction in these safety margins is allowed if the subsequent system failure rate is greater than 10^{-3} per hour.

2. Electronic Flight Control System: Longitudinal Stability and Low Energy Awareness

(a) The following special conditions are in lieu of compliance with the requirements of 14 CFR 25.171, 25.173, 25.175, and 25.181(a), and in lieu of compliance with the previously issued Special Conditions No. 25–ANM–69 (Docket No. NM–75), item 11(b) ''Flight Characteristics—Longitudinal Stability.''

(1) The airplane must be shown to have suitable dynamic and static longitudinal stability in any condition normally encountered in service, including the effects of atmospheric disturbance.

(2) The airplane must provide adequate awareness to the pilot of a low energy state when flight control laws provide neutral longitudinal stability significantly below the normal operating speeds.

3. High Incidence Protection and Alpha-Floor Systems

(a) The following special conditions are in lieu of compliance with certain 14 CFR sections (listed below), and in lieu of compliance with previously issued Special Conditions No. 25–ANM–69 (Docket No. NM–75) item 12(b), ''Flight Envelope Protection, Angle-of-Attack Limiting.''

(1) The following definitions are applicable to these special conditions.

High Incidence Protection System. A system that operates directly and automatically on the airplane's flying controls to limit the maximum incidence that can be attained to a value below that at which an aerodynamic stall would occur.

Alpha-floor System. A system that automatically increases thrust on the operating engines when incidence increases through a particular value.

Alpha-limit. The maximum steady incidence at which the airplane stabilizes with the High Incidence Protection System operating and the longitudinal control held on its aft stop.

V_{min}. The minimum steady flight speed, for the airplane configuration under consideration and with the High Incidence Protection System operating, is the final stabilized Calibrated Airspeed obtained when the airplane is decelerated at an entry rate not exceeding 1 knot per second until the longitudinal pilot controller is on its stop.

$V_{min}1g$. V_{min} corrected to 1g conditions. It is the minimum Calibrated Airspeed at which the airplane can develop a lift force normal to the flight path and equal to its weight when at an angle of attack not greater than that determined for V_{min}.

(2) *Capability and Reliability of the High Incidence Protection System:* In lieu of compliance with the requirements of previously issued Special Conditions No. 25–ANM–69, this special condition requires that acceptable capability and reliability of the High Incidence Protection System must be established by flight test, simulation, and analysis as appropriate. The capability and reliability required are as follows:

(i) It shall not be possible during pilot induced maneuvers to encounter a stall and handling characteristics shall be acceptable, as required by special condition item 3(a)(5) of this special condition.

(ii) The airplane shall be protected against stalling due to the effects of windshears and gusts at low speeds as required by special condition item 3(a)(6) of this special condition.

(iii) The ability of the High Incidence Protection System to accommodate any reduction in stalling incidence resulting from residual ice must be verified.

(iv) The reliability of the system and the effects of failures must be acceptable in accordance with § 25.1309, and the associated policy.

(3) *Minimum Steady Flight Speed and Reference Stall Speed.* In lieu of compliance with the requirements of § 25.103 the following special conditions apply:

(i) V_{min}. The minimum steady flight speed, for the airplane configuration under consideration and with the High Incidence Protection System operating, is the final stabilized Calibrated Airspeed obtained when the airplane is decelerated at an entry rate not exceeding 1 knot per second until the longitudinal control is on its stop.

(ii) The Minimum Steady Flight Speed, V_{min}, must be determined with:

(A) The High Incidence Protection System operating normally.

(B) Idle thrust and Alpha-floor System inhibited.

(C) All combinations of flap settings and landing gear positions.

(D) The weight used when V_{SR} is being used as a factor to determine compliance with a required performance standard.

(E) The most unfavorable center of gravity allowable, and

(F) The airplane trimmed for straight flight at a speed achievable by the automatic trim system.

(iii) $V_{min}1g$. V_{min} corrected to 1g conditions. It is the minimum calibrated airspeed at which the airplane can develop a lift force normal to the flight path and equal to its weight when at an angle of attack not greater than that determined for V_{min}. $V_{min}1g$ is defined as follows:

$$V_{min}1g = \frac{V_{min}}{\sqrt{n_{zw}}}$$

where n_{ZW} = load factor normal to the flight path at V_{min}

(iv) The Reference Stall Speed, V_{SR}, is a calibrated airspeed defined by the applicant. V_{SR} may not be less than a 1-g stall speed. V_{SR} is expressed as:

$$V_{SR} \geq \frac{V_{CL_{MAX}}}{\sqrt{n_{zw}}}$$

where:

$V_{CL_{MAX}}$ = Calibrated airspeed obtained when the load factor-corrected lift coefficient

$$\left(\frac{n_{zw}W}{qS}\right)$$

is first a maximum during the maneuver prescribed in paragraph (v)(H) of this section.

n_{ZW} = Load factor normal to the flight path at $V_{CL_{MAX}}$

W = Airplane gross weight;

S = Aerodynamic reference wing area; and

q = Dynamic pressure.

Note: Unless Angle of Attack (AOA) protection system (stall warning and stall identification) production tolerances are acceptably small, so as to produce insignificant changes in performance determinations, the flight test settings for stall warning and stall identification should be set at the low AOA tolerance limit; high AOA tolerance limits should be used for characteristics evaluations.

(v) V_{SR} must be determined with the following conditions:

(A) Engines idling, or, if that resultant thrust causes an appreciable decrease in stall speed, not more than zero thrust at the stall speed.

(B) The airplane in other respects (such as flaps and landing gear) in the condition existing in the test or performance standard in which V_{SR} is being used.

(C) The weight used when V_{SR} is being used as a factor to determine compliance with a required performance standard.

(D) The Center of gravity position that results in the highest value of reference stall speed.

(E) The airplane trimmed for straight flight at a speed achievable by the automatic trim system, but not less than 1.13 V_{SR} and not greater than 1.3 V_{SR}.

(F) The Alpha-floor system inhibited.

(G) The High Incidence Protection System adjusted to a high enough incidence to allow full development of the 1g stall.

(H) Starting from the stabilized trim condition, apply the longitudinal control to decelerate the airplane so that the speed reduction does not exceed one knot per second.

(vi) The flight characteristics at the AOA for $V_{CL_{MAX}}$ must be suitable in the traditional sense at FWD and AFT CG in straight and turning flight at IDLE power. Although for a normal production EFCS and steady full aft stick this AOA for $V_{CL_{MAX}}$ cannot be achieved, the AOA can be obtained momentarily under dynamic circumstances and deliberately in a steady state sense with some EFCS failure conditions.

(4) *Stall Warning*

(i) Normal Operation. If the conditions of special conditions item 3(a)(2) are satisfied, equivalent safety to the intent of § 25.207, Stall Warning, shall be considered to have been met without provision of an additional, unique warning device.

(ii) Failure Cases. Following failures of the High Incidence Protection System, not shown to be extremely improbable, such that the capability of the system no longer satisfies special conditions item 3(a)(2)(i), (ii), and (iii), stall warning must be provided in accordance with §§ 25.207(a), (b) and (f).

(5) *Handling Characteristics at High Incidence*

(i) *High Incidence Handling Demonstrations.* In lieu of compliance with the requirements of § 25.201 the following apply:

(A) Maneuvers to the limit of the longitudinal control, in the nose up direction, must be demonstrated in straight flight and in 30 degree banked turns with:

(*1*) The high incidence protection system operating normally.

(*2*) Initial power condition of:

(*i*) Power off

(*ii*) The power necessary to maintain level flight at 1.5 V_{SR1}, where V_{SR1} is the stall speed with the flaps in the approach position, the landing gear retracted, and the maximum landing weight. The flap position to be used to determine this power setting is that position in which the stall speed, V_{SR1}, does not exceed 110 percent of the stall speed, V_{SR0}, with the flaps in the most extended landing position.

(*3*) Alpha-floor system operating normally unless more severe conditions are achieved with alpha-floor inhibited.

(*4*) Flaps, landing gear and deceleration devices in any likely combination of positions.

(*5*) Representative weights within the range for which certification is requested, and

(*6*) The airplane trimmed for straight flight at a speed achievable by the automatic trim system.

(B) The following procedures must be used to show compliance with the requirements of special condition item 3(a)(5)(ii).

(*1*) Starting at a speed sufficiently above the minimum steady flight speed to ensure that a steady rate of speed reduction can be established, apply the longitudinal control so that the speed reduction does not exceed one knot per second until the control reaches the stop.

(*2*) The longitudinal control must be maintained at the stop until the airplane has reached a stabilized flight condition and must then be recovered by normal recovery techniques.

(*3*) The requirements for turning flight maneuver demonstrations must also be met with accelerated rates of entry to the incidence limit, up to the maximum rate achievable.

(ii) *Characteristics in High Incidence Maneuvers.* In lieu of compliance with the requirements of § 25.203, the following apply:

(A) Throughout maneuvers with a rate of deceleration of not more than 1 knot per second, both in straight flight and in 30 degree banked turns, the airplane's characteristics shall be as follows:

(*1*) There shall not be any abnormal airplane nose-up pitching.

(*2*) There shall not be any uncommanded nose-down pitching, which would be indicative of stall. However, reasonable attitude changes associated with stabilizing the incidence at alpha limit as the longitudinal control reaches the stop would be acceptable. Any reduction of pitch attitude associated with stabilizing the incidence at the alpha limit should be achieved smoothly and at a low pitch rate, such that it is not likely to be mistaken for natural stall identification.

(*3*) There shall not be any uncommanded lateral or directional motion, and the pilot must retain good lateral and directional control, by conventional use of the cockpit controllers, throughout the maneuver.

(*4*) The airplane must not exhibit severe buffeting of a magnitude and severity that would act as a deterrent to completing the maneuver.

(B) In maneuvers with increased rates of deceleration, some degradation of characteristics is acceptable, associated with a transient excursion beyond the stabilized Alpha-limit. However, the airplane must not exhibit dangerous characteristics or characteristics that would deter the pilot from holding the longitudinal controller on the stop for a period of time appropriate to the maneuvers.

(C) It must always be possible to reduce incidence by conventional use of the controller.

(D) The rate at which the airplane can be maneuvered from trim speeds associated with scheduled operating speeds such as V_2 and V_{ref} up to Alpha-limit shall not be unduly damped or significantly slower than can be achieved on conventionally controlled transport airplanes.

(6) *Atmospheric Disturbances.*

Operation of the High Incidence Protection System and the Alpha-floor System must not adversely affect aircraft control during expected levels of atmospheric disturbances, nor impede the application of recovery procedures in case of windshear. Simulator tests and analysis may be used to evaluate such conditions, but must be validated by limited flight testing to confirm handling qualities at critical loading conditions.

(7) *Alpha Floor.*

The Alpha-floor setting must be such that the aircraft can be flown at normal landing operational speed and maneuvered up to bank angles consistent with the flight phase (including the maneuver capabilities specified in § 25.143(g)) of the 1-g stall Equivalent Safety Finding without triggering Alpha-floor. In addition, there must be no Alpha-floor triggering unless appropriate when the airplane is flown in usual operational maneuvers and in turbulence.

(8) *In lieu of compliance with the requirements of § 25.145, the following apply:*

(i) It must be possible, at any point between the trim speed prescribed in special condition item 3(a)(ii)(F), and V_{min}, to pitch the nose downward so that the acceleration to this selected trim speed is prompt with:

(ii) The airplane trimmed at the trim speed prescribed in special condition item 3(a)(ii)(F);

(A) The landing gear extended;

(B) The wing flaps retracted and extended; and

(C) Power off and at maximum continuous power on the engines.

(9) *In lieu of compliance with the requirements of § 25.145(b)(6), the following apply:*

With power off, flaps extended and the airplane trimmed at 1.3 V_{SR1}, obtain and maintain airspeeds between V_{min} and either 1.6V_{SR1} or V_{FE}, whichever is lower.

(10) *In lieu of compliance with the requirements of § 25.1323(c), the following apply:*

(i) V_{MO} to V_{min} with the flaps retracted; and

(ii) V_{min} to V_{FE} with flaps in the landing position.

Issued in Renton, Washington, on June 17, 2002.

Kalene C. Yanamura,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2002–CE–22–AD; Amendment 39–12789; AD 2002–13–02]

RIN 2120–AA64

Airworthiness Directives; Air Tractor, Inc. Models AT–300, AT–301, AT–302, AT–400, and AT–400A Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment adopts a new airworthiness directive (AD) that applies to all Air Tractor, Inc. (Air Tractor) Models AT–300, AT–301, AT–302, and AT–400A airplanes that have aluminum spar caps; certain Air Tractor Models AT–400 airplanes that have aluminum spar caps; and all Models AT–300 and AT–301 airplanes that have aluminum spar caps and are or have been converted to turbine power. This AD requires you to inspect (one-time) the wing centerline splice joint for cracks and, if any crack is found, replace the affected wing spar lower cap. This AD also requires you to report the results of the inspection to the Federal Aviation Administration (FAA) and replace the wing spar lower caps after a certain amount of usage. This AD is the result of an incident on one of the affected airplanes where the wing separated from the airplane. Preliminary reports indicate that fatigue caused the lower aluminum spar cap to fail across the ⅜-inch bolt hole (6.5 inches outboard of the fuselage centerline in the centersplice connection). The actions specified by this AD are intended to detect and correct cracks in the wing centerline splice joint. If not detected and corrected, these cracks could eventually result in the wing separating from the airplane during flight.

DATES: This AD becomes effective on July 9, 2002.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulation as of July 9, 2002.

The FAA must receive any comments on this rule on or before August 23, 2002.

ADDRESSES: Submit comments to FAA, Central Region, Office of the Regional Counsel, Attention: Rules Docket No. 2002–CE–22–AD, 901 Locust, Room 506, Kansas City, Missouri 64106. You may view any comments at this location between 8 a.m. and 4 p.m., Monday through Friday, except Federal holidays. You may also send comments electronically to the following address: *9-ACE-7-Docket@faa.gov.* Comments sent electronically must contain ''Docket No. 2002–CE–22–AD'' in the subject line. If you send comments electronically as attached electronic files, the files must be formatted in Microsoft Word 97 for Windows or ASCII text.

You may get the service information referenced in this AD from Air Tractor, Inc., P.O. Box 485, Olney, Texas 76374. You may view this information at FAA, Central Region, Office of the Regional Counsel, Attention: Rules Docket No. 2002–CE–22–AD, 901 Locust, Room 506, Kansas City, Missouri 64106; or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Andy McAnaul, Aerospace Engineer, FAA, Fort Worth Airplane Certification Office, 2601 Meacham Boulevard, Fort Worth, Texas 76193–0150; telephone: (817) 222–5156; facsimile: (817) 222–5960.

SUPPLEMENTARY INFORMATION:

Discussion

What Events Have Caused This AD?

Recently, the wing of an Air Tractor Model AT–400A separated from the airplane during flight. Investigation reveals that the right-hand lower spar cap failed due to fatigue at the ⅜-inch outboard bolt, which is located 6.5 inches outboard of the fuselage centerline.

The following airplanes have a similar type design to that of the accident airplane:

—All Models AT–300, AT–301, AT–302, and AT–400A airplanes that have aluminum spar caps;

—Air Tractor Models AT–400 airplanes, serial numbers 400–0244 through 400–0415, that have aluminum spar caps; and

—All Models AT–300 and AT–301 airplanes that have aluminum spar caps and are or have been converted to turbine power.

In addition, some airplanes have had Snow Engineering Co. Service Letter #55 incorporated. When incorporated, the affected area would be (1) the left and right side second outermost 7⁄16-inch boltholes, which are located 5.38 inches from centerline; and (2) the left and right side outermost ⅜-inch boltholes, which are located 6.5 inches outboard from centerline.

What Are the Consequences if the Condition is Not Corrected?

If not detected and corrected in a timely manner, cracks in the wing centerline splice joint could eventually result in the wing separating from the airplane during flight.

Is There Service Information That Applies to This Subject?

Air Tractor has issued the following:

—Snow Engineering Co. Process Specification 197, dated February 23, 2001; Revised May 1, 2002, and Revised May 3, 2002, which specify procedures for accomplishing an eddy current inspection of the wing centerline splice joint on the affected airplanes; and

—Snow Engineering Co. Service Letter #220, dated May 3, 2002, which