

August 8, 1994 and USDA, NASS, "Agricultural Statistics," 1993).

Due to current APHIS restrictions, the United States does not import any uncooked meat or meat products from Switzerland. Total meat production in the United States in 1992 was just under 18.587 million metric tons, while Swiss meat production in 1992 reached approximately 429,000 metric tons, about 2.3 percent of the United States total (USDA, National Agricultural Statistics Service, "Agricultural Statistics," 1993). Therefore, even if Switzerland exported a significant portion of its meat production exclusively to the United States, which is unlikely, the effect of those exports on United States domestic prices or supplies would be negligible.

As with the ruminants and meat products discussed above, the Department does not anticipate a major increase in exports of milk and milk products from Switzerland into the United States as a result of this proposed rule. The importation into the United States of all dairy products, except for casein and other caseinates, is restricted by quotas. Although the importation of casein into the United States is not regulated by quotas, world prices of casein are competitively set. The United States does not produce casein, but does import more than half of the casein produced in the world. The regulations currently allow casein and other caseinates to be imported into the United States from countries where rinderpest or FMD exists if the importer has applied for and obtained written permission from the Administrator. The United States did not import any casein from Switzerland in 1993 (USDA, Economic Research Service (ERS), "Foreign Agricultural Trade of the United States: Calendar Year 1993 Supplement," 1993). Declaring Switzerland free of rinderpest and FMD, thus removing the requirement for written permission from the Administrator, is not expected to have any effect on the amount of casein imported into the United States from Switzerland because the current restrictions do not substantially impede imports.

Imports of poultry and poultry products into the United States from Switzerland in 1992 and 1993 fell into two categories: live poultry and feathers and down. Total live poultry imports into the United States were valued at \$14.4 million and \$14.5 million in 1992 and 1993, respectively. United States live poultry imports from Switzerland were valued at \$67 thousand and \$74 thousand in 1992 and 1993, respectively, about 0.5 percent of the

total imports. Total United States imports of feathers and down were valued at \$84 million and \$60.1 million in 1992 and 1993, respectively. United States imports of feathers and down from Switzerland were valued at \$1.2 million and \$0.41 million in 1992 and 1993, respectively, less than 1.5 percent of the total imports (USDA, ERS, "Foreign Agricultural Trade of the United States: Calendar Year 1993 Supplement," 1993). Also, Switzerland is dependent on imports for over 50 percent of domestic poultry consumption. Consequently, proposed changes in current regulations concerning VVND are not expected to result in increased exports to the United States.

Under these circumstances, the Administrator of the Animal and Plant Health Inspection Service has determined that this action would not have a significant economic impact on a substantial number of small entities.

#### Executive Order 12778

This proposed rule has been reviewed under Executive Order 12778, Civil Justice Reform. If this proposed rule is adopted: (1) All State and local laws and regulations that are inconsistent with this rule will be preempted; (2) no retroactive effect will be given to this rule; and (3) administrative proceedings will not be required before parties may file suit in court challenging this rule.

#### Paperwork Reduction Act

This proposed rule contains no information collection or recordkeeping requirements under the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.).

#### List of Subjects in 9 CFR Part 94

Animal diseases, Imports, Livestock, Meat and meat products, Milk, Poultry and poultry products, Reporting and recordkeeping requirements.

Accordingly, 9 CFR part 94 would be amended as follows:

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

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

**Authority:** 7 U.S.C. 147a, 150ee, 161, 162, and 450; 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, 4332; 7 CFR 2.17, 2.51, and 371.2(d).

#### § 94.1 [Amended]

2. In § 94.1, paragraph (a)(2) would be amended by adding "Switzerland," immediately after "Sweden,".

#### § 94.6 [Amended]

4. In § 94.6, paragraph (a)(2) would be amended by removing "and Sweden." and adding "Sweden, and Switzerland." in its place.

#### § 94.11 [Amended]

5. In § 94.11, paragraph (a), the first sentence would be amended by removing "and Sweden," and adding "Sweden, and Switzerland," in its place.

Done in Washington, DC, this 27th day of January 1995.

**Terry L. Medley,**

*Acting Administrator, Animal and Plant Health Inspection Service.*

[FR Doc. 95-2588 Filed 2-1-95; 8:45 am]

BILLING CODE 3410-34-P

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 25

[Docket No. NM-105, Notice No. SC-95-1-NM]

#### **Special Conditions: Saab Aircraft AB Model Saab 2000 Series Airplanes**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Notice of proposed special conditions.

**SUMMARY:** This notice proposes special conditions for the Saab Aircraft AB Model Saab 2000 airplane. This airplane will have novel and unusual design features, relating to its electronic flight control system, when compared to the state of technology envisioned in the airworthiness standards of part 25 of the Federal Aviation Regulations (FAR). This notice contains the additional safety standards which the Administrator considers necessary to establish a level of safety equivalent to that provided by the airworthiness standards of part 25.

**DATES:** Comments must be received on or before March 6, 1995.

**ADDRESSES:** Comments may be mailed in duplicate to: Federal Aviation Administration, Transport Airplane Directorate (ANM-100), Attn: Docket No. NM-105, 1601 Lind Avenue SW., Renton, Washington 98055-4056; or delivered in duplicate to the Transport Airplane Directorate at the above address. Comments must be marked

Docket No. NM-105. Comments may be inspected in the Rule Docket weekdays, except Federal holidays, between 7:30 and 4:00 p.m.

**FOR FURTHER INFORMATION CONTACT:** Mark I. Quam, FAA, Standardization Branch, ANM-113, Transport Standards Staff, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, Washington 98055-4056; telephone (206) 227-2145, facsimile (206) 227-1320.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

Interested persons are invited to participate in the making of these proposed special conditions by submitting such written data, views, or arguments as they may desire. Communications should identify the regulatory docket or notice number and be submitted in duplicate to the address specified above. All communications received on or before the closing date of comments will be considered by the Administrator before further rulemaking action on this proposal is taken. The proposals contained in this notice may be changed in light of the comments received. All comments received will be available in the Rules Docket, both before and after the closing date for comments, for examination by interested parties. A report summarizing such 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 Docket No. NM-105." The postcard will be date stamped and return to the commenter.

**Background**

Special conditions are prescribed under the provisions of § 21.16 of the FAR when the applicable regulations for type certification do not contain adequate or appropriate standards because of novel or unusual design features. The new Saab 2000 incorporates a number of such design features.

The Saab 2000, certified on April 29, 1994, is a twin-engined, low-wing, pressurized turboprop aircraft that is configured for approximately 50 passengers. The airplane has two Allison Engine Company AE 2100A engines rated at 3650 shp. The propeller is a 6 bladed Dowty Rotol swept shaped propeller. A single lever controls each prop/engine combination. An Auxiliary

Power Unit (APU) will be installed in the tail. The airplane has provisions for two pilots, an observer, two flight attendants, overhead bins, a toilet, and provisions for the installation of a galley. There is a forward and aft stowage compartment and an aft cargo compartment. The airplane has a maximum operating altitude of 31,000 feet.

The Saab 2000 has a fully hydraulically powered electronically controlled rudder and will have fully hydraulically powered electronically controlled elevators as a follow-on design modification. The Powered Elevator Control System (PECS) provides control and power actuation of the left and right elevator surfaces. The PECS also provides aircraft stability augmentation and trim functions.

The proposed elevator system is in many respects similar to the rudder design and is comprised of a mix of analog and digital circuitry and has no mechanical backup. Control columns are connected to Linear Variable Differential Transducers (LVDT), stick damper(s), auto pilot servo, linear springs with break-outs and are interconnected with an electronic disconnect unit.

The position transducers (LVDT), connected to the control columns, provide signals to two Powered Elevator Control Units (PECU). Each PECU controls two Elevator Servo Actuators (ESA) through two separate Servo Actuator Channels (SAC). Each SAC is subdivided into a primary control lane and a monitor lane. Two of the four ESAs, controlled by one PECU, positions one elevator side.

The ESAs have two modes of operation, active and damped. The active mode will result when mode control current from the PECU and hydraulic pressure are available. One active servo actuator is sufficient to operate the elevator surface.

Elevator Servo Actuators value and actuator ram position feedback are provided by position transducers (LVDT). The PECUs are connected to one Flight Control Computer via the trim relay and two Digital Air Data Computers. The flight control computer also provides a signal to the auto pilot servo.

Stick to elevator gearing is a function of Indicated Airspeed (IAS). Trim and stability augmentation are based on IAS, vertical acceleration and flap position. Stick, trim and elevator position and status information are fed to the Engine Indicating and Crew Alerting System (EICAS).

Each PECU has built in Automatic Preflight Built in Test (PBIT) and

Continuous Built In Test (CBIT) circuitry and utilizing cross channel monitoring.

The elevator's actuators are supplied by three hydraulic circuits that are physically separated, isolated, fused and located to minimize common cause failures. The Number 1 hydraulic circuit is powered by the left engine and a backup DC pump and accumulators. The Number 2 hydraulic circuit is powered by the right engine and a backup AC pump and accumulators. The Number 3 hydraulic circuit is powered by an AC driven pump.

The Number 1 hydraulic circuit powers the left hand (LH) and right hand (RH) outboard servo actuators. The Number 2 hydraulic circuit powers the RH inboard servo actuator. The Number 3 hydraulic circuit powers the LH inboard servo actuator.

Hydraulic warnings and cautions in the event of hydraulic supply failure are provided by the EICAS.

The elevator system is electrically supported by two system sides, a LH and a RH side. The electrical system is normally powered by two AC generators, each driven by a propeller gear box. An APU equipped with a standby generator is installed. When only one of the three generators is working, it supplies power to both LH and RH sides.

Each LH and RH AC system side is connected via a Transformer Rectifier Unit (TRU) to a LH and RH DC system made up of a network of DC buses. A third center TRU is connected to a center circuit. The LH, RH and center buses can be supplied from batteries or from the TRUs. The center TRU will replace a failed RH or LH TRU. When only one TRU unit is working, the LH and RH buses are tied together with power being received from the remaining TRU.

Two DC feeders in addition to two AC feeders provide power aft of the debris zone. The LH side is routed through the ceiling and the RH side is routed through the floor.

**Type Certification Basis**

The applicable requirements for U.S. type certification must be established in accordance with §§ 21.16, 21.17, 21.19, 21.29, and 21.101 of the FAR. Accordingly, based on the application date of June 9, 1989, and Saab Aircraft AB volunteering for certain later regulations, the TC basis for the Saab 2000 airplane is as follows:

Part 25 as amended by Amendments 25-1 through 25-71.

Part 25, the following sections as amended by Amendment 25-72:

- § 25.361 Engine torque.
- § 25.365 Pressurized compartment loads.
- § 25.571 Damage tolerance and fatigue evaluation of structure.
- § 25.772 Pilot compartment doors.
- § 25.773 Pilot compartment view.
- § 25.783(g) Doors.
- § 25.905(d) Propellers.
- § 25.933 Reversing systems.

Part 25, Amdt. 25-73 through 25-76.

Part 34, as amended on the date of issuance of the type certificate.

Part 36, as amended on the date of issuance of the type certificate.

Special Conditions No. 25-ANM-66, dated 1/12/93, for Lightning and HIRF Protection.

Special Conditions No. 25-ANM-82, dated 3/11/94, for Interaction of Systems and Structure.

Special conditions, as appropriate, are issued in accordance with § 11.49 of the FAR after public notice, as required by §§ 11.28 and 11.29(b), and become part of the type certification basis in accordance with § 21.101(b)(2).

## Discussion

Special Conditions No. 25-ANM-82 were written for the rudder and in anticipation of the installation of the powered elevator. However, as the Saab 2000 could be flown without rudder control during certain failure conditions, and the elevator system was not installed for initial certification, Special Conditions No. 25-ANM-82 were limited to requirements common to both the rudder and follow-on-elevator. The Saab 2000, however, requires control and power to the elevator all the time for safe flight and landing. Therefore, special conditions in addition to No. 25-ANM-82 are proposed for the powered elevator. The proposed type design of the Saab 2000 contains novel or unusual design features not envisioned by the applicable part 25 airworthiness standards and therefore special conditions are considered necessary in the following areas:

## Systems

1. *Operation Without Normal Electrical Power.* In the Saab 2000, a source of electrical power is required by the elevator electronic flight control system. Service experience with traditional airplane designs has shown that the loss of electrical power generated by the airplane's engines is not extremely improbable. The electrical power system of the Saab 2000 must therefore be designed with standby or emergency electrical sources of sufficient reliability and capacity to power essential loads in the event of the loss of normally generated electrical

power. The need for electrical power for electronic flight controls was not envisioned by part 25 since in traditional designs, cables and hydraulics are utilized for the flight control system. Therefore, Special Condition No. 1 is proposed.

2. *Command Signal Integrity.* Command and control of the control surfaces will be achieved by fly-by-wire systems that will utilize electronic (AC, DC, or digital) interfaces. These interfaces involve not only the commands to the control surfaces, but all the control feedback and sensor input signals as well. These signal paths, as well as the electronic equipment that manages them, can be susceptible to damage that may cause unacceptable or unwanted control responses. The damage may originate from electrical equipment failures, mechanical equipment failures or external damage. Therefore, special designs are needed to maintain the integrity of the fly-by-wire interfaces to an immunity level equivalent to that of traditional hydro-mechanical designs. Similar to the conventional steel cable controls, positioning of the electrical control equipment and routing of wire bundles must provide separation and redundancy to ensure maximum protection from damage due to a common cause. Therefore, Special Condition No. 2 is proposed.

3. *Design Maneuver Requirements.* In a conventional airplane, pilot inputs directly affect control surface movement (both rate and displacement) for a given flight condition. In the Saab 2000, the pilot provides only one of several inputs to the control surfaces, and it is possible that the pilot control displacements specified in §§ 25.331(c)(1), 349(a), and 351 of the FAR may not result in the maximum displacement and rates of displacement of the elevator. The intent of these noted rules may not be satisfied if literally applied. Therefore, Special Condition No. 3 is proposed.

Special conditions may be issued and amended as necessary, as part of the type certification basis if the Administrator finds that the airworthiness standards designated in accordance with § 21.17(a)(1) do not contain adequate or appropriate safety standards because of novel or unusual design features of an airplane. Special conditions, as appropriate, are issued in accordance with § 11.49 after public notice as required by §§ 11.28 and 11.29(b), effective October 14, 1980, and will become part of the type certification basis in accordance with § 21.17(a)(2).

Conclusion: This action affects only certain unusual or novel design features

on one model series of airplanes. It is not a rule of general applicability and affects only the manufacturer who applied to the FAA for approval of these features on the airplanes.

## List of Subjects in 14 CFR Part 25

Air transportation, Aircraft, Aviation safety, Safety.

The authority citation for these proposed special conditions is as follows: Authority: 49 U.S.C. 1344, 1348(c), 1352, 1354(a), 1355, 1421 through 1431, 1502, 1651(b)(2); 42 U.S.C. 1857f-10, 4321 et seq.; E.O. 11514; and 49 U.S.C. 106(g).

## The Proposed Special Conditions

Accordingly, the Federal Aviation Administration (FAA) proposes the following special conditions as part of the type certification basis for the Saab Aircraft AB Saab 2000 series airplanes.

1. *Operations without Normal Electrical Power.* In lieu of compliance with § 25.1351(d), it must be demonstrated by test, or combination of test and analysis, that the airplane can continue safe flight and landing with inoperative normal engine generated electrical power (electrical power sources excluding the battery and any other standby electrical sources). The airplane operation should be considered at the critical phase of flight and include the ability to restart the engines and maintain flight for the maximum diversion time capability being certified.

*Discussion: The Electronic Flight Control System installations establish the criticality of the electrical power generation and distribution systems, since the loss of all electrical power may be catastrophic to the aircraft.*

*The Saab 2000 fly-by-wire control system requires a continuous source of electrical power in order to maintain the flight control system. The current § 25.1351(d), "Operation Without Normal Electrical Power," requires safe operation in visual flight rules (VFR) conditions for at least five minutes with inoperative normal power. This rule was structured around a traditional design utilizing mechanical control cables for flight control while the crew took time to sort out the electrical failure and was able to re-establish some of the electrical power generation capability.*

*In order to maintain the same level of safety associated with traditional designs, the Saab 2000 design must not be time limited in its operation without the normal source of engine generated electrical power. It should be noted that service experience has shown that the loss of all electrical power which is generated by the airplane's engines is not extremely improbable. Thus, it must be demonstrated that the airplane can continue safe flight and landing with the use of its emergency electrical power systems (batteries, auxiliary power unit, etc.). This emergency electrical power system must be*

able to power loads that are essential for continued safe flight and landing. Also, the availability of emergency electrical power sources, including any credit taken for APU start reliability, must be validated in a manner acceptable to the FAA.

The emergency electrical power system must be designed to supply:

- Electrical power required for immediate safety, which must continue to operate without the need for crew action following the loss of the normal electrical power system;
- Electrical power required for continued safe-flight and landing;
- Electrical power required to restart the engines.

For compliance purposes:

1. A test demonstration of the loss of normal engine generated power is to be established such that:

a. The failure condition should be assumed to occur during night instrument meteorological conditions (IMC) at the most critical phase of flight relative to the electrical power system design and distribution of equipment loads on the system.

b. After the unrestorable loss of the source of normal electrical power, the airplane engines must be capable of being restarted and operations continued in IMC until visual meteorological conditions (VMC) can be reached. (A reasonable assumption can be made that turbine engine driven transport category airplanes will not have to remain in IMC for more than 30 minutes after experiencing the loss of normal electrical power).

c. After 30 minutes of operation in IMC, the airplane should be demonstrated to be capable of continuous safe flight and landing in VMC conditions. The length of time in VMC conditions must be computed based on the maximum flight duration capability for which the airplane is being certified. Consideration for speed reductions resulting from the associated failure must be made.

2. Since the availability of the emergency electrical power system operation is necessary for safe-flight, this system must be available before each flight.

3. The emergency electrical power system must be shown to be satisfactorily operational in all flight regimes.

2. **Command Signal Integrity.** In addition to compliance with § 25.671 of the FAR, it must be shown that for the elevator Electronic Flight Control System (EFCS):

(a) Signals cannot be altered unintentionally, or that the altered signal characteristics are such that the control authority characteristics will not be degraded to a level that will prevent continued safe-flight and landing; and

(b) Routing of wire EFCS wires and wire bundles must provide separation and redundancy to ensure maximum protection from damage due to common cause.

*Discussion: The Saab 2000 will be using fly-by-wire (FBW) as a means to command and control the elevator surface actuators. In the FBW design being presented, command and control of the control surfaces will be achieved by electronic (AC, DC, or digital) interfaces. These interfaces involve not only*

*the direct commands to the elevator control surfaces, but feedback and sensor signals as well.*

*Malfunctions could cause system instabilities, loss of function or freeze-up of the control actuator. It is imperative that after failure at least one path of the command signal, that is capable of providing safe flight and landing, remains continuous and unaltered.*

*The current regulations, which primarily address hydro-mechanical flight control systems, §§ 25.671 and 25.672, make no specific or implied reference that command and control signals remain unaltered from external interferences. Present designs feature steel cables and pushrods as a means to control hydraulic surface actuators. These designs are easily identifiable relative to the understanding that they are necessary for safe flight and landing and thus should be protected and continually inspected. However, the FBW designs are not easily discernible from non-essential electronics where placement of equipment and wire runs is not critical. Therefore, FBW requires additional attention when locating the equipment and wire runs.*

*It should be noted that:*

—The proposed wording “signals cannot be altered unintentionally” is used in the Special Condition to emphasize the need for design measures to protect the FBW control system from the effects of the fluctuations in electrical power, accidental damage, environmental factors such as temperature, local fires, exposure to reactive fluids, etc. and any disruptions that may affect the command signals as they are being transmitted from their source of origin to the Power Control Actuators.

3. **Design Maneuver Requirements.** (a) In lieu of compliance with § 25.331(c)(1) of the FAR, the airplane is assumed to be flying in steady level flight (point A1 within the maneuvering envelope of § 25.333(b) and, except as limited by pilot effort in accordance with § 25.397(b), the cockpit pitching control device is suddenly moved to obtain extreme positive pitching acceleration (nose up). In defining the tail load condition, the response of the airplane must be taken into account. Airplane loads which occur subsequent to the point at which the normal acceleration at the center of gravity exceeds the maximum positive limit maneuvering factor, *n*, need not be considered.

(b) In addition to the requirements of § 25.331(c), it must be established that pitch maneuver loads induced by the system itself (e.g. abrupt changes in orders made possible by electrical rather than mechanical combination of different inputs) are acceptably accounted for.

Issued in Renton, Washington, on January 24, 1995.

**Ronald T. Wojnar,**

*Manager, Transport Airplane Directorate, Aircraft Certification Service, ANM-100.*

[FR Doc. 95-2565 Filed 2-1-95; 8:45 am]

BILLING CODE 4910-13-M

## 14 CFR Part 39

[Docket No. 94-CE-29-AD]

### Airworthiness Directives; Twin Commander Aircraft Corporation Models 690C and 695 Airplanes

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** This document proposes to adopt a new airworthiness directive (AD) that would apply to certain Twin Commander Aircraft Corporation (Twin Commander) Models 690C and 695 airplanes. The proposed action would require initially inspecting the wing structure for cracks, modifying any cracked wing structure, and, if not cracked, either repetitively inspecting or modifying the wing structure. Results of full-scale fatigue testing that indicated areas in the wing that are subject to fatigue cracks prompted the proposed action. The actions specified by the proposed AD are intended to prevent wing damage caused by fatigue cracking, which, if not detected and corrected, could progress to the point of structural failure.

**DATES:** Comments must be received on or before April 9, 1995.

**ADDRESSES:** Submit comments in triplicate to the Federal Aviation Administration (FAA), Central Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 94-CE-29-AD, Room 1558, 601 E. 12th Street, Kansas City, Missouri 64106. Comments may be inspected at this location between 8 a.m. and 4 p.m., Monday through Friday, holidays excepted.

Service information that applies to the proposed AD may be obtained from the Twin Commander Aircraft Corporation, 19010 59th Drive, NE, Arlington, Washington 98223. This information also may be examined at the Rules Docket at the address above.

**FOR FURTHER INFORMATION CONTACT:** Mr. Mike Pasion, Aerospace Engineer, FAA, Northwest Mountain Region, 1601 Lind Avenue S.W., Renton, Washington 98055-4056; telephone (206) 227-2594; facsimile (206) 227-1181.

#### SUPPLEMENTARY INFORMATION:

##### Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified above. All