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SW-214

This S.C. package applies to 226TC also

Mr. E. J. Swearingen
Swearingen Aircraft
P. O. Box 6904
San Antonio, Texas 78209

Dear Mr. Swearingen:

Enclosed are two copies of proposed special conditions for your Model SA-26AT. We have just forwarded these to our Washington office for their review and comments. If you have comments on these which you feel should be considered by our Washington office during their review, please forward such comments in writing to this office for transmittal to Washington.

Sincerely yours,

Original signed by
Glen W. Welsh

Glen W. Welsh
Chief, Engineering and
Manufacturing Branch
Flight Standards Division

WFWells:va:SW-214:525:8-21-67
Project CA1170SW-D
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SPECIAL CONDITIONS

SWEARINGEN MODEL SA-26AT

The following Special Conditions are prescribed under the authority of Civil Air Regulation 3.10 in the absence of appropriate requirements for the type certification of turbopropeller powered aircraft under Part 3 of the Civil Air Regulations and to insure a level of safety for the Swearingen Model SA-26AT equivalent to that generally intended by Part 3 of the Civil Air Regulations. These Special Conditions and CAR 3 dated May 15, 1956, through Amendments 3-8 constitute the certification basis for the Swearingen Model SA-26AT.

AIRFRAME ITEMS

Item No.		CAR Ref.
1.	ENGINE TORQUE EFFECTS	3.195(a)

a. In addition to the conditions specified in subparagraphs (1) and (2) of paragraph 3.195(a), the limit engine torque corresponding to takeoff power and propeller speed, multiplied by a factor accounting for propeller control system malfunction, including quick feathering, shall be considered to act simultaneously with 1g level flight loads. In the absence of a rational analysis, a factor of 1.6 must be used.

b. The limit torque for turbopropeller installations shall be obtained by multiplying the mean torque by a factor of 1.25.

2. UNSYMMETRICAL LOADS DUE TO ENGINE FAILURE

The airplane must be designed for the unsymmetrical loads resulting from the failure of the critical engine. Turbopropeller airplanes must be designed for the following conditions in combination with a single malfunction of the propeller drag limiting system, considering the probable pilot corrective action on the flight controls:

a. At speeds between V_{mc} and V_d, the loads resulting from the power failure because of fuel flow interruption are considered to be limit loads.

b. At speeds between V_{mc} and V_c, the loads resulting from the disconnection of the engine compressor from the turbine or from loss of the turbine blades are considered to be ultimate loads.

Item No. CAR Ref.

c. The time history of the thrust decay and drag buildup occurring as a result of the prescribed engine failures must be substantiated by test or other data applicable to the particular engine-propeller combination.

d. The timing and magnitude of the probable pilot corrective action must be conservatively estimated, considering the characteristics of the particular engine-propeller-airplane combination.

Pilot corrective action may be assued to be initiated at the time maximum yawing velocity is reached, but not earlier than 2 seconds after the engine failure. The magnitude of corrective action may be based on the control forces specified in CAR 3.212 except that lower forces may be assumed where it is shown by analysis or tests that these forces can control the yaw and roll resulting from the prescribed engine failure conditions.

3. GYROSCOPIC LOADS

For turbopropeller power airplanes, each engine mount and its supporting structure must be designed for the gyroscopic loads that result, with the engines at maximum continuous r.p.m., under either of the following conditions:

a. The conditions prescribed in CAR 3.191(b) and 3.216 — 3.191(b) 3.216

b. All possible combinations of the following:

(1) A yaw velocity of 2.5 radians per second.

(2) A pitch velocity of 1 radian per second.

(3) A normal load factor of 2.5.

(4) Maximum continuous thrust.

4. FLUTTER AND VIBRATION PREVENTION MEASURES

In addition to the present requirements, the dynamic evaluation for multiengine turbopropeller power airplanes must include:

a. The significant elastic, inertia, and aerodynamic forces associated with the rotations and displacements of the plane of the propeller; and

Item No. CAR Ref.

b. Engine-propeller-nacelle stiffness and damping variations appropriate to the particular configuration.

An acceptable method to fulfill this requirement is:

(1) Run a two degree of freedom (pitch and yaw) NASA-Type Whirl-Mode Analysis, including variations in inertia, stiffness, damping or equivalent functions.

(2) Supplement this by experimental stiffness measurements of the propeller engine system on the flight airplane.

(3) Compare the stability level of the indicated whirl-modes and their precision frequencies with the wing bending modes to see that there is adequate separation of frequencies.

(4) Wing flutter must be investigated independently of propeller whirl.

SYSTEMS ITEMS

5. OXYGEN SYSTEM

a. For maximum operating altitudes up to and including 25,000 feet:

(1) If the airplane can safely descend to a flight altitude of 15,000 feet or less within four minutes, supplemental breathing oxygen shall be provided for at least one crewmember and any one passenger.

(2) If the airplane cannot safely descend to a flight altitude of 15,000 feet or less within four minutes, supplemental breathing oxygen systems shall be provided for each occupant.

b. For maximum operating altitude above 25,000 feet, a supplemental breathing oxygen system shall be provided for each occupant.

Item No. CAR Ref.

6. ENGINE BLEED AIR FOR CABIN USE

It shall be shown by fault analysis and tests as necessary, that air supplied to the cabin will not be harmful to occupants under any probable failure or malfunction under all probable aircraft operating conditions.

PROPULSION ITEMS

7. COMPONENTS 3.411

Turbine powerplant operating characteristics shall be investigated in flight to determine that no adverse characteristics, such as compressor stall, surge or flameout, are present to a hazardous degree during normal and emergency operation of the airplane and the engine.

8. ENGINES 3.415

Turbine engine installations shall not result in vibration characteristics of the engine exceeding those established in accordance with CAR Part 13.

9. CONTROL OF ENGINE ROTATION 3.416

If means are provided for feathering each turbopropeller engine in flight, means shall be provided for unfeathering each propeller. Complete stoppage need not be provided if continued rotation does not jeopardize the safety of the airplane.

10. ENGINE AND PROPELLER CONTROL SYSTEMS 3.418

Engine and propeller control systems for turbine-powered airplanes including blade pitch control mechanisms, emergency protective features and other devices intended to coordinate engine and propeller functions shall be investigated to assure that no single failure or malfunction will cause a hazardous condition which would preclude continued safe flight. Failure or malfunction of the engine, propeller, and their control systems shall not result in propeller drag in excess of that for which the aircraft was designed.

Item No.		CAR Ref.
11.	PROPELLER REVERSING SYSTEMS	3.10

Reversing systems intended for ground operation only shall be such that no single failure or malfunction of the system under all anticipated conditions of airplane operation will result in unwanted reverse thrust. Failure of structural elements need not be considered if occurrence of such failures is expected to be extremely remote.

12. PROPELLER REVERSING CONTROLS — 3.384

Propeller reverse thrust controls shall incorporate a means to prevent their inadvertent movement to a reverse position. The means provided shall incorporate a positive lock or stop at the flight idle position and shall require a separate and distinct operation by the crew in order to displace the control from the flight regime.

13. FUEL SYSTEM - GENERAL — 3.429

The fuel system for turbine engine installations shall provide for continuous flow of all fuel to the engine in normal operation without interruption of fuel flow due to depletion of fuel in tanks other than the main tanks.

14. FUEL FLOW RATE FOR PUMP SYSTEMS — 3.435

a. The fuel flow rate for turbine engine fuel pump systems shall be 125 per cent of the fuel flow required to develop the standard sea level atmospheric condition takeoff power selected and included as an operating limitation in the Airplane Flight Manual.

b. The ability of the system to provide at least 100 per cent of the fuel flow required by the engines shall be demonstrated when the airplane is in the operating condition, including attitude and altitude, which represents the most adverse condition from the standpoint of fuel feed which the airplane is designed to attain.

Item No. CAR Ref.

15. FUEL TANK TESTS 3.441

The fuel tanks, as mounted in the airplane, shall be demonstrated by tests to withstand the greater of the following pressures without failure or leakage:

a. 3.5 psi

b. 125 per cent of the maximum air pressure developed in the tanks.

c. The pressure equivalent to the hydrostatic head developed during maximum limit acceleration of the aircraft with full tanks.

d. Compliance with CAR 3.441(a), (2) may be shown by analysis or tests.

16. FUEL PUMP AND PUMP INSTALLATION

a. Main Pumps

(1) Any fuel pump that is required for proper engine operation or to meet the fuel system requirements of this subpart, except for the provisions of paragraph (b) of this section, shall be considered a main pump.

(2) Provision shall be made to permit the bypass of all positive displacement fuel pumps except fuel injection pumps approved as part of the engine.

b. Emergency Pumps

Emergency pumps shall be provided and immediately available to permit supplying all engines with fuel in case of failure of any one main fuel pump.

17. FUEL STRAINER 3.552

a. The fuel strainer or filter shall be of adequate capacity, commensurate with operating limitations, to insure proper engine operation with the fuel contaminated to a degree, with respect to particle size and density, which can be reasonably expected to occur in service. The degree of fuel filtering shall not be less than that established for the engine in accordance with Part 13 of the Civil Air Regulations.

Item No. CAR Ref.

b. When filters, screens, or strainers susceptible to icing are incorporated in the fuel system, a means shall be provided to automatically maintain fuel flow in the event ice particles accumulate or restrict flow by clogging the filter or screen.

18. COOLING TESTS 3.582

The following temperature corrections will apply:

a. A maximum atmospheric temperature of not less than 100°F at sea level conditions shall be established by the applicant as a limitation on the operation of the airplane. The temperature lapse rate shall be 3.6°F per thousand feet of altitude above sea level until a temperature of -69.7°F is reached, above which altitude the temperature shall be constant at -69.7°F.

b. The temperatures of all powerplant components and engine fluids for which temperature limits have been established shall be corrected by adding the difference between the maximum ambient atmospheric temperature and the temperature of the ambient air at the time of the first occurrence of maximum component or fluid temperature recorded during the cooling tests, unless a more rational correction is shown to be applicable.

19. COOLING TEST PROCEDURE FOR MULTI-ENGINE AIRPLANES 3.587

For turbine-powered multi-engine airplanes, compliance with the provisions of Section 3.581 shall be established for the takeoff, climb, en route, and landing stages of flight which correspond with the applicable performance regulations. The cooling tests shall be conducted with the airplane in the configuration and operated under the conditions which are critical relative to cooling during each stage of flight.

a. For all stages of flight, temperatures shall be stabilized under conditions from which entry is made into the stage flight for which a test is conducted, except when the entry condition normally is not one during which component and engine fluid temperatures would stabilize. In such case, operation through the full entry condition shall be conducted prior to entry into the stage of flight for which the test

Item No. CAR Ref.

is conducted in order to allow temperatures to attain their natural level at the time of entry. In particular, the takeoff cooling tests shall be preceded by a period during which the powerplant component and engine fluid temperatures are stabilized with the engine at ground idle. A temperature shall be considered stabilized when its rate of change is less than 2°F per minute.

b. Cooling tests for each stage of flight shall be conducted until one of the following conditions is fulfilled.

(1) Component and engine fluid temperatures stabilize.

(2) The stage of flight is completed, or

(3) An operation limitation is reached.

20. INDUCTION SYSTEM - GENERAL 3.605

The engine air inlet ducts shall be located or protected so as to minimize the ingestion of foreign matter during takeoff, landing (including reversing of propeller) and taxiing.

21. INDUCTION SYSTEM DE-ICING AND ANTI-ICING PROVISIONS 3.606

Turbine-powered airplanes shall be capable of operating throughout the flight power range without the accumulation of ice in the air induction system which might adversely affect engine operation or cause a serious loss of power and/or thrust in the continuous maximum or intermittent maximum icing conditions defined in 4b.1(b)(7) and (8). Means to indicate the functioning of the powerplant ice protection systems shall be provided.

22. INDUCTION SYSTEM DUCTS 3.611

The design of the engine air inlet duct for turbine-powered airplanes shall be such as to assure that flammable fluids will not leak or be carried into the engine intake in case of failure or malfunction of any flammable fluid-carrying components on or near the engine.

Item No.		CAR Ref.
23.	EXHAUST SYSTEM - GENERAL	3.615

Exhaust systems for turbine-powered airplanes shall be constructed and arranged in such a manner as to assure the safe disposal of exhaust gases and/or any fire through or around the exhaust system, without the existence of a hazard, or adverse effects on the aircraft. Low spots or pockets in the exhaust system shall be drained overboard effectively so as to clear the aircraft in normal ground and flight attitudes. Also, these drains shall effectively prevent accumulation of fuel after the failure of an attempted engine start.

24.	POWERPLANT FIRE PROTECTION	3.10

An acceptable means shall be provided to assure prompt detection by the crew of fire in the engine compartment, and/or in the eductor-tailpipe areas.

25.	POWERPLANT INSTRUMENTS	3.655

In addition to the powerplant instruments specified in CAR 3.655(b), the following shall be provided:

a. Exhaust gas temperature or turbine inlet temperature indicator for each engine.

b. A fuel flowmeter shall be provided if fuel flow is required to be maintained within established limits by the pilot.

c. An indicator to indicate to the pilot the power output of each engine.

d. Position indicating means for each propeller on the turbine engine to indicate to the pilot when the propeller blade angle is below the flight low pitch position. The source or indication shall sense blade position directly.

26.	AIR START ENVELOPE	3.735

An air start envelope and air start procedures shall be established and included in the Airplane Flight Manual.

Item No. CAR Ref.

27. LIGHTNING STRIKE PROTECTION (SPECIAL ATTENTION ITEM)

The fuel and vent systems shall be designed to provide protection against the ignition, from lightning strikes or other sources, of flammable vapors occurring in the fuel tanks or the vent systems.

FLIGHT TEST ITEMS

28. DEFINITION OF STALLING SPEEDS 3.82

In addition to the present requirements, the stall speeds shall not be less than those which would be obtained at zero thrust.

29. TAKEOFF 3.84

In addition to the present requirements, the speed at a height of 50 feet above the level takeoff surface shall not be less than the speed at which compliance with CAR 3.85(a) is shown.

30. NORMAL CLIMB 3.85(a)

In addition to the present requirement at standard temperature, it shall be necessary to meet a steady angle of climb of at least 1:25 at standard temperature plus 40°F at a pressure altitude of 5000 feet.

31. INOPERATIVE ENGINE CLIMB 3.85(b)

In addition to the present requirement of CAR 3.85(b), the following shall apply: The climb performance capability in terms of "Gradient of Climb" shall be determined for all combinations of weight, altitude, and ambient temperatures. For takeoffs at altitudes of 5000 feet and below, the maximum takeoff weight may be varied to that which provides a minimum steady gradient at 5000 feet of.

a. 1.2% (or a gradient equal to $.02V_{so}^2$ if greater) with an existing ambient temperature of 5000 feet of 41°F.

Item No. CAR Ref.

b. 0.6% (or a gradient equal to $.01V_{SO}^2$ if greater) with an ambient temperature at 5000 feet of 81°F.

c. The variation in the minimum climb gradients of a. and b. above shall vary linearly between 41°F and 81°F. This variation in minimum gradient of climb shall apply to the maximum operational temperature approved for the airplane.

The applicant shall provide sufficient information in the airplane flight manual so that the above requirements can be met.

32. BALKED LANDING CLIMB 3.85(c)

In addition to meeting the present requirement at standard temperature, it shall be necessary to show that the steady climb performance shall not be less than zero at standard temperature plus 40°F at a pressure altitude of 5000 feet, and with a climb speed not in excess of $1.4V_{SO}$.

33. LANDING 3.86

a. In addition to meeting the present requirements, the landing distances shall be obtained in accordance with procedures established by the applicant. Such procedures shall include all changes in the airplane configuration, i.e., power, speed, drag devices, etc. Allowances shall be made for time delays in the execution of the procedures as may be reasonably expected to occur during service.

b. Add the following to the present requirements: In addition to, or in lieu of, wheel brakes, the use of other braking means shall be acceptable in determining the landing distances, provided such braking means shall have been proved to be safe and reliable.

c. If the characteristics of a device (e.g. the propellers) dependent upon operation of any of the engines noticeably increase the landing distances when the landing is made with an engine inoperative, the landing distance shall be determined with the critical engine inoperative.

Item No.		CAR Ref.
34.	LONGITUDINAL CONTROL AND LATERAL AND DIRECTIONAL CONTROL	3.109(a) 3.109(c) 3.110(a)(1) 3.110(b)(2)
	In lieu of present requirements regarding maximum continuous power:	
	"Maximum continuous power selected by the applicant as an operating limitation for use during climb." (See 3.744.)	
35.	TRIM REQUIREMENTS	3.112(a)(1)
	In lieu of present requirement:	
	"Lateral and directional trim in level flight at a speed of $0.9V_H$ or V_{MO} if lower."	
	In lieu of present requirement: "During a climb with maximum continuous power as selected by the applicant as an operating limitation at a speed between V_X and $1.4V_{s1}$."	3.112(a)(2)(i)
	In lieu of present requirement: "During level flight at any speed from $0.9V_H$ or V_{MO} if lower, to V_X or $1.4V_{s1}$ with landing gear and wing flaps retracted."	3.112(a)(2)(iii)
	In lieu of present requirement: "The other engine operating at maximum continuous power as selected by the applicant as an operating limitation."	3.112(b)(1)
36.	STATIC LONGITUDINAL STABILITY	
	Add the following to present CAR 3.114(b): "Except for showing compliance with CAR 3.115(c) the airspeed shall return to $\pm$5% or $\pm$10 knots, whichever is less."	
37.	CLIMB STABILITY	3.115(b)(4) and (b)
	In lieu of present requirements: "Maximum power selected by the applicant as an operating limitation for use during climb (see 3.744) at the best rate of climb speed, except that the speed need not be less than $1.4V_{s1}$."	

Item No. CAR Ref.

38. CRUISE STABILITY 3.115(c)(1)

In lieu of present requirement: "The stick force curve shall have a stable slope for a speed range of ±50 knots from the trim speed except that the speeds need not exceed V_{FC}/M_{FC} or 1.4 V_{s1}. This speed range shall be considered to begin at the outer extremes of the friction bend and the stick force shall not exceed 50 lbs. with:

(i) Landing gear retracted.

(ii) Wing flaps retracted.

(iii) Maximum cruising power as selected by the applicant as an operating limitation except that the power need not exceed that required at V_{MO}/M_{MO}.

(iv) Maximum takeoff weight.

(v) The airplane trimmed for level flight with the power specified in subparagraph (iii) of this paragraph."

39. MAXIMUM OPERATING LIMIT SPEED V_{MO}/M_{MO} 3.739 and 3.740

In lieu of the present requirement: "The maximum operating limit speed V_{MO}/M_{MO} as established by the applicant is the speed which shall not be deliberately exceeded in any regime of flight except where a higher speed is authorized for flight tests (maximum for flight characteristics V_{FC}/M_{FC} which lies at least midway between V_{MO}/M_{MO} and V_D/M_D or V_{DF}.

a. The maximum operating limit speed shall not exceed the design cruising speed V_C and shall be 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 flight.

b. The speed V_{MO}/M_{MO} shall not exceed $0.8V_D/M_D$ or $0.8V_{DF}/M_{DF}$ unless flight demonstrations involving upsets as specified by the Administrator indicate a lower speed margin will not result in speeds exceeding V_D/M_D or V_{DF}/M_{DF}."

Atmospheric variations, horizontal gusts, system and equipment errors, and airframe production variations shall be taken into account.

Item No.		CAR Ref.
40.	MAXIMUM OPERATING ALTITUDE	3.745

In addition to the present operating limitations, the following special condition will apply: "A maximum operating altitude to which operation is permitted as limited by flight, structural, powerplant, functional, or equipment characteristics."

41. AIRSPEED INDICATOR 3.757

In lieu of the present requirements, the following shall apply:

a.

(1) The maximum operating speed, V_{MO}/M_{MO} - a radial red line (See Special Condition 3.739 and 3.740.)

(2) Delete

(3) The normal operating range - a green arc with the lower limit at V_{s1} as determined in Section 3.82 and Special Condition Section 3.82 with maximum weight, landing gear, and wing flaps retracted, and theupper limit at the maximum operating speed, V_{MP}/M_{MO}.

b. When the maximum operating speed varies with altitude, means shall be provided which will indicate the appropriate limitations to the pilot throughout the operating altitude range.

Swearingen Aircraft / Swearingen SA226/6

AUG 19 1965

SE-216

Mr. Stanley N. Grayson
Swearingen Aircraft
P. O. Box 6904
San Antonio, Texas 78209

Dear Mr. Grayson:

In regard to your letter of July 22, 1965, requesting approval of your proposal to utilize a 1.3 V_{SR0} trim speed for landing performance tests, the following has transpired.

A memorandum was sent to Washington recommending the 1.3 V_{SR0} trim speed for landing tests provided the trim requirements of CAR 3.112 in effect prior to Amendment 3-5 were met. Washington concurred with the landing speed and trim speed requirements and advised that a revision of the special conditions would preclude the need for a review case.

Enclosed is a copy of the revised page of the special conditions. The revisions are found in the landing requirement, Item 33, and the trim requirement, Item 35. The revised portion of the item is marked with a vertical bar in the margin.

Sincerely yours,

Original signed by
C. H. Mohrfeld

H. H. Slaughter
Chief, Engineering and
Manufacturing Branch
Flight Standards Division

Enclosure

CE JESTER

Item No.

Ser 26T & 226TC
and SFAR 23

CAR Ref.

33 LANDING 3.86 & 3.86(1)

a. In addition to meeting the present requirements, the landing distances shall be obtained in accordance with procedures established by the applicant. Such procedures shall include all changes in the airplane configuration, i.e., power, speed, drag devices, etc., except that immediately prior to reaching the 50-ft. altitude point, a steady gliding approach shall have been maintained, with a calibrated airspeed of at least $1.3V_{S0}$. Allowances shall be made for time delays in the execution of the procedures as may be reasonably expected to occur during service.

b. Add the following to the present requirements: In addition to, or in lieu of, wheel brakes, the use of other braking means shall be acceptable in determining the landing distances, provided such braking means shall have been proven to be safe and reliable.

c. If the characteristics of a device (e.g. the propellers) dependent upon operation of any of the engines noticeably increase the landing distances when the landing is made with an engine inoperative, the landing distance shall be determined with the critical engine inoperative.

4 LONGITUDINAL CONTROL AND LATERAL AND DIRECTIONAL CONTROL 3.109(a) 3.109(c)

In lieu of present requirements regarding maximum continuous power: "Maximum continuous power selected by the applicant as an operating limitation for use during climb." (See 3.744.) 3.110(a)(1) 3.110(b)(2)

35. TRIM REQUIREMENTS 3.112(a)(1)

In lieu of present requirement: "Lateral and directional trim in level flight at a speed of $0.9V_H$ or V_{MO} if lower."

In lieu of present requirement: "During a climb with maximum continuous power as selected by the applicant as an operating limitation at a speed between V_X and $1.4V_{S1}$." 3.112(a)(2)(i)

In lieu of present requirement: During a glide with power off at a speed not in excess of $1.4V_{S1}$. 3.112(a)(2)ii

(a) With landing gear extended and wing flaps retracted.
(b) With landing gear extended and wing flaps fully extended under the most forward center of gravity position approved with the maximum authorized weight.
(c) With landing gear extended and wing flaps fully extended under the most forward center of gravity position approved regardless of weight.

In lieu of present requirement: "During level flight at any speed from $0.9V_H$ or V_{MO} if lower, to V_X or $1.4V_{S1}$ with landing gear and wing flaps retracted." 3.112(a)(2)(iii)

FEB 5 1968

SW-212

Mr. K. E. Yeoman
Engineering Manager
Swearingen Aircraft
P. O. Box 6904
San Antonio, Texas 78209

Subject: Certification Basis for Swearingen Model SA-26AT

Dear Mr. Yeoman:

This refers to the proposed Special Conditions, as transmitted with our letter dated August 22, 1967, regarding the subject matter.

These Special Conditions were coordinated with our Washington office resulting in changes as noted below.

Item Number

4. Flutter and Vibration Prevention Measures

b.(3) Demonstrate an adequate separation of the propeller whirl and wing mode frequencies, or a very low degree of mode coupling between propeller whirl and wing modes.

b.(4) If adequate frequency separation or low degree of coupling is demonstrated under (3), the wing flutter may be investigated independently of propeller whirl modes.

36. Static Longitudinal Stability

Add the following to present CAR 3.114(b): "Except for showing compliance with CAR 3.115(c), the airspeed shall return to ± 7.5% or ± 10 knots, whichever is less."

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38. Cruise Stability

In lieu of present requirement: "The stick force curve shall have a stable slope for a speed range of ± 50 knots from the trim speed except that the speeds need not exceed V_{FC}/M_{FC} or 1.4 V_{S_1} nor speeds that require a stick force of more than 50 pounds. This speed range shall be considered to begin at the outer extremes of the friction band with:

(i) Landing gear retracted.

(ii) Wing flaps retracted.

(iii) Maximum cruising power as selected by the applicant as an operating limitation except that the power need not exceed that required at V_{FC}/M_{FC}.

(iv) Maximum takeoff weight.

(v) The airplane trimmed for level flight with the power specified in subparagraph (iii) of this paragraph."

The proposed certification basis outlined in our letter to you of August 22, 1967, together with the above revisions, constitutes the certification basis for the Model SA-26AT. However, we are still coordinating with Washington on Special Condition No. 6, "Engine Bleed Air for Cabin Use," and while we do not anticipate any change in this item, we will have to advise you at a later date as to its final resolution.

Sincerely yours,

Original signed by

Glen W. Welsh

Glen W. Welsh
Chief, Engineering and
Manufacturing Branch
Flight Standards Division

cc: SW-210.3
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Mr. B. Ben-Aziz of Aeronautics R & D

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APR 4 1968

SW-212

Mr. Ken E. Yeoman
Engineering Manager
Swearingen Aircraft
Post Office Box 6904
San Antonio, Texas 78209

Subject: Certification Basis for Swearingen Model SA26-AT

Dear Mr. Yeoman:

The outstanding item mentioned in our letter dated February 5, 1968, regarding the subject matter has been coordinated with our Washington office and they concur. Special Condition No. 6, Engine Bleed Air for Cabin Use, will therefore remain as outlined in our letter dated August 22, 1967.

In view of the above, this letter will confirm that the certification basis for Swearingen Model SA26-AT is CAR 3, effective May 15, 1956, through Amendment 3-8, and Special Conditions, outlined in FAA letters dated August 22, 1967, and February 5, 1968.

Sincerely yours,

Original signed by
Glen W. Welsh

Glen W. Welsh
Chief, Engineering and
Manufacturing Branch
Flight Standards Division

cc:
SW-213
SW-214
SW-216
SW-218
SW-EMDO 43
Mr. Ben-Aziz (Aeronautics R&D)

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