

**DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

A33EU Revision 2 DASSAULT-BREGUET Falcon 10  September 3, 1987
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**TYPE CERTIFICATE DATA SHEET NO. A33EU**

This data sheet which is a part of Type Certificate No. A33EU prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder: Avions Marcel Dassault - Breguet Aviation (AMD/BA)  
78, quai Carnot  
92210 -Saint Cloud  
France

**I - MODEL FALCON 10 (Transport Category Airplane), Approved September 20, 1973**

Engines 2 - Airesearch Manufacturing Company of Arizona, Model TPE731-2-1C  
(FAA Engine Type Certificate E6WE-1)

Fuel Fuels conforming to Airesearch Manufacturing Company of Arizona specifications:  
EMS 53111 (Type JET A)  
EMS 53112 (Type JET A 1)  
EMS 53113 (Type Jet B and JP4)  
EMS 53116 (Type JP5)

Aviation gasoline, MIL-G-5572D, grades 80/87, 100/130 and 115/145, not in excess of 500 gallons per 100 hours of operation, may be used in emergencies.

Shall ASA-3, anti-static additive, or equivalent, in amounts to bring fuel up to 300 conductivity units, is permissible except that in no event shall the additive exceed 1 ppm.

MIL-I-27686E inhibitor, icing, fuel system, or equivalent, is approved for use in fuel in amounts up to 0.15 percent by volume.

If a different type of fuel is used, or a mixture of fuels is used, the engine computer must be adjusted (to adapt the computer to the density of the fuel used) in order to preserve both the starting characteristics and the acceleration and deceleration characteristics of the engine.

Oil Oils conforming to Airesearch Manufacturing Company of Arizona Specification EMS 53110, Class B.

(Service Information letters of the Airesearch Manufacturing Company of Arizona give brand names of oils conforming to the above specification).

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Engine Limits	Maximum takeoff static thrust, up to 86°F Sea level conditions (5 minutes)	lb.	3,230	
	Maximum continuous static thrust, up to 86°F Sea level conditions	lb.	2,966	
	Maximum permissible engine operating speeds (Takeoff and maximum continuous)			
	Low pressure rotor (N <sub>1</sub> ) RPM	20,688	Percent	100%
	High pressure rotor (N <sub>2</sub> ) RPM	29,692	Percent	100%
	Maximum permissible interstage turbine temperature (ITT)			
	During starting	860°C (1,580°F)		
	Takeoff (5 minutes)	860°C (1,580°F)		
	Maximum continuous	832°C (1,530°F)		
	Oil pressure limits			
	At idle, psig	25 to 46		
	Takeoff and maximum continuous psig	38 to 46		
	Oil temperature			
Maximum from sea level up to 30,000 ft.	113°C (235°F)			
Maximum above 30,000 ft.	132°C (270°F)			
Minimum	-40°C (-40°F)			
Fuel pressure				
Minimum fuel pressure warning, psi	4.5			

Airspeed Limits	V <sub>MO</sub> (Maximum Operating)	350 kts at sea level; 370 kts at 10,000 ft., with straight line variation between those points. 370 kts from 10,000 ft. to 25,000 ft.	
	M <sub>MO</sub> (Maximum Operating)	M = 0.87 above 25,000 ft.	
	V <sub>A</sub> (Maneuvering)	220 kts	
	V <sub>FE</sub> (Slat and Flap Speed)		
	Slats	200 kts	
	Slats + Flaps 15°	190 kts	
	Slats + Flaps 30°	165 kts	
	Slats + Flaps 52°	165 kts	
	V <sub>LO</sub> (Landing Gear Operation)	190 kts	
	V <sub>LE</sub> (Landing Gear Extended)	220 kts	
	Windshield Wiper Operation	190 kts	
V <sub>MC</sub> (Minimum Control Speed)			
In flight	97 kts		
On ground	100 kts		

## C.G.Range (Gear Extended)

Weight(lb)	Forward limit % MAC			Aft limit % MAC
	Takeoff	En Route	Landing	
18,300	25	25	--	31
17,200	21.2	21.2	21.2	31
15,720	16	16	16	31
13,230	16	14	14	31
9,920	16	14	14	31

Straight-line variation between points shown.  
Gear retraction moment is + 1750 in.lb.

Datum	Datum is 25% of mean aerodynamic chord (MAC) which is marked on aircraft and coincides with Fuselage Station (FS) + 268.28 inches. (Fuselage station +0 is the forward end of the aircraft nose cone.)										
Mean Aerodynamic Chord.	Length 80.54 in. Zero % MAC is at FS +248.15 in.										
Leveling Means	A bubble-type level, when placed on the top of bolt heads (with locknuts) on the floor of the fuselage rear compartment, facilitates leveling of the airplane in the longitudinal and lateral directions.										
Weight Limitations	<p>Maximum Weights</p> <table border="0"> <tr> <td>Maximum ramp</td> <td>18,300 lb.</td> </tr> <tr> <td>Maximum takeoff (brake release)</td> <td>18,300 lb.(See NOTE 3 and 4)</td> </tr> <tr> <td>Maximum landing</td> <td>17,200 lb.</td> </tr> <tr> <td>Maximum zero fuel</td> <td>12,460 lb (See NOTE 3)</td> </tr> <tr> <td>Minimum weight</td> <td>9,920 lb</td> </tr> </table>	Maximum ramp	18,300 lb.	Maximum takeoff (brake release)	18,300 lb.(See NOTE 3 and 4)	Maximum landing	17,200 lb.	Maximum zero fuel	12,460 lb (See NOTE 3)	Minimum weight	9,920 lb
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Maximum landing	17,200 lb.										
Maximum zero fuel	12,460 lb (See NOTE 3)										
Minimum weight	9,920 lb										
Minimum Crew	2 - Pilot and co-pilot										
Maximum Passengers	9 with appropriate approved passenger provisions for cabin interior and approved seating arrangement. (AMD Production Memo No. 1908 identifies approved passenger provisions and seating arrangement for a maximum of 7 passengers). 0 - without passenger provisions for cabin interior but incorporating AMD Ferry Kit per Production Memo No. 751.										

## Maximum Baggage

Compartment	Weight (lb)	Arm*(in)
In the coat rack		
- without galley, with retainer	180	-110.0
- with galley	90	-102.5
On the rear tank	500	+44.5
On the folded back of the three-people divan	500	+ 9.5

\* Arm is taken from 25% MAC.

## Fuel Capacity

(Average - Refer to weight and balance report of each individual airplane for exact capacity).

	U.S. Gallons	Pounds	Arm (in)
<b>USABLE FUEL</b>			
in both wings	470.0	3,150	-7
in both fuselage tanks	<u>412.0</u>	<u>2,762</u>	<u>+47</u>
<b>TOTAL USABLE</b>	882.0	5,912	+18
<b>UNUSABLE FUEL</b>			
- Drainable unusable fuel			
in both wings	1.0	7	-7
in both fuselage tanks	3.5	24	-47
- Tank trapped fuel			
in both wings	1.0	7	-7
in both fuselage tanks	-	-	-
- Line trapped fuel	0.5	4	+50
- Engine trapped fuel	1.5	10	+55
<b>TOTAL FUEL</b>			
in both wings	472	3,164	-7
in both fuselage tanks	415.5	2,786	+47
in lines and engines	<u>2.0</u>	<u>14</u>	<u>+54</u>
<b>TOTAL</b>	889.5	5,964	+18

Pressure Fueling

Maximum pressure for pressure fueling is 50 psi.

Oil Capacity (each engine)	Usable, 0.5 U.S. gallon (at Arm + 75 in.) Unusable, 2.25 U.S. gallon (at Arm + 75 in.)																																																							
Maximum Operating Altitude	45,000 feet																																																							
Control Surface Movements (Control Stops)	<table border="0"> <tr> <td>Elevator</td> <td>Up</td> <td>18°30'(±10')</td> <td>Down</td> <td>12° (± 10')</td> </tr> <tr> <td>Rudder</td> <td>Right</td> <td>35° (± 10')</td> <td>Left</td> <td>35° (± 10')</td> </tr> <tr> <td>Aileron</td> <td>Up</td> <td>15°30' (+0°10' -0°30')</td> <td>Down</td> <td>13°30'(+0°10' -0°30')</td> </tr> <tr> <td>Flaps</td> <td>Down</td> <td>52° (±30')</td> <td></td> <td></td> </tr> <tr> <td>Airbrakes</td> <td>Up</td> <td>50°</td> <td></td> <td></td> </tr> <tr> <td>Wing slats</td> <td>Internal</td> <td>20° (+30' -0)</td> <td></td> <td></td> </tr> <tr> <td></td> <td>External</td> <td>31°10' (+30' -0)</td> <td></td> <td></td> </tr> <tr> <td></td> <td colspan="4">Stabilizer:</td> </tr> <tr> <td></td> <td>Electrical stops:</td> <td>Nose down 0°14' (±10')</td> <td>Nose up</td> <td>12°16' (±10')</td> </tr> <tr> <td></td> <td>Mechanical stops:</td> <td>Nose down (max) 0°35'</td> <td>Nose up (max)</td> <td>12°55'</td> </tr> <tr> <td></td> <td>Structural stops:</td> <td>Nose down (min) 1°</td> <td>Nose up (min)</td> <td>13°15'</td> </tr> </table>	Elevator	Up	18°30'(±10')	Down	12° (± 10')	Rudder	Right	35° (± 10')	Left	35° (± 10')	Aileron	Up	15°30' (+0°10' -0°30')	Down	13°30'(+0°10' -0°30')	Flaps	Down	52° (±30')			Airbrakes	Up	50°			Wing slats	Internal	20° (+30' -0)				External	31°10' (+30' -0)				Stabilizer:					Electrical stops:	Nose down 0°14' (±10')	Nose up	12°16' (±10')		Mechanical stops:	Nose down (max) 0°35'	Nose up (max)	12°55'		Structural stops:	Nose down (min) 1°	Nose up (min)	13°15'
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Serial Numbers Eligible	A French "Certificat de navigabilite pour Exportation" endorsed as noted under "Import Requirements", must be submitted for each individual aircraft for which application for U.S. Certification is made.																																																							
Import Requirements	An FAA Standard Airworthiness Certificate may be issued on the basis of a French "Certificat de Navigabilite pour Exportation" signed by a representative of the Secretariat General a l'Aviation Civile (S.G.A.C.) of France, containing the following statement: "The airplane covered by this Certificate has been examined, tested, and found to conform to the type design approved under Type Certificate No. A33EU, and to be in condition for safe operation."																																																							
Certification Basis	<p>FAR Part 25 dated February 1, 1964, including Amendment Nos. 25-1 through 25-20.</p> <p>FAR Part 36, including Amendment 36-1.</p> <p>FAA Special Conditions No. 25-49-EU-14, dated April 16, 1973.</p> <p>Type Certificate A33EU issued September 20, 1973.</p> <p>Date of Application for Type Certificate: June 18, 1969.</p>																																																							
Equipment	<p>The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed on the aircraft for Certification. The equipment list for Falcon 10 contains lists of all equipment as well as optional equipment approved by Secretariat General a l'Aviation Civile (SGAC) of France.</p> <p>In addition, the following is required:</p> <ul style="list-style-type: none"> <li>(a) SGAC or FAA-approved Falcon 10 Airplane Flight Manual, approved October 17, 1973</li> <li>(b) Nose wheel must be equipped with a chined tire.</li> </ul>																																																							
Service Information	<p>All Service Bulletins published by Avions Marcel Dassault - Brequet Aviation (AMD-BA) including categories Mandatory Recommended and Optional, carry a statement "Approved by S.G.A.C." This statement may be interpreted as "FAA Approved". All Mandatory Service Bulletins will bear an authorized signature of the S.G.A.C. Approval Authority.</p> <p>Other available service documents for the Falcon 10 include:</p> <ul style="list-style-type: none"> <li>1 - Structural Repair Manual</li> <li>2 - Illustrated Parts Catalog</li> <li>3 - Wiring Diagram Manual</li> <li>4 - Maintenance manual</li> </ul>																																																							

**NOTES**

- NOTE 1. Weight and Balance.
- Current weight and balance report, including list of equipment in certificated empty weight and loading instructions must be provided for each aircraft at delivery.
  - The airplane must be loaded so that the CG is within the specified limits at all times with the effect of fuel used and a movement of crew and passengers from their assigned position being considered.
  - The following must be included in the airplane empty weight:  
The total Unusable Fuel (52 lb.) listed under Fuel Capacity, plus unusable oil (36 lb. at +75 inches), plus hydraulic fluid (77 lb. at +45 inches).
- NOTE 2. Service Life Limits.  
Service life limits for airframe structural components which are fatigue critical, if any, are listed in the FAA-approved Airplane Flight Manual for Falcon 10.
- NOTE 3. Airplane S/N 55 and subsequent, and prior serial numbers incorporating AMD/BA Modification No. 150 or Service Bulletin No. F10-0052, are eligible for operation at a maximum takeoff weight of 18,743 lbs. (8500 kg) in accordance with SGAC-approved Falcon 10 Airplane Flight Manual Revision No. 7 and at maximum zero fuel weight of 13,560 lbs (6150 kg) in accordance with DGAC-approved Falcon 10 Airplane Flight Manual Revision 10 on behalf of FAA.
- NOTE 4. Airplane S/N 212 and subsequent, and prior serial numbers incorporating AMD-BA Modification M151 or Service Bulletin No. F10-238, are eligible for operation with the following maximum weights, in accordance with DGAC-approved Falcon 10 Airplane Flight Manual Revision 23 on behalf of FAA.
- |                                 |           |
|---------------------------------|-----------|
| Maximum ramp                    | 19,405 lb |
| Maximum takeoff (brake release) | 19,305 lb |
| Maximum landing                 | 17,640 lb |
| Maximum zero fuel               | 14,420 lb |
| Minimum flight weight           | 9,920 lb  |

The associate CG range (gear extended) is then as follows:

Weight(lb)	Forward limit % MAC			Aft limit % MAC
	Takeoff	En Route	Landing	
9,920	16	14	14	31
13,230	16	14	14	31
15,720	16	16	16	31
17,640	21.8	21.8	21.8	31
19,305	26.6	26.6		31
19,405	27			31

- NOTE 5. Airplanes incorporating AMD-BA Service Bulletin No. F10-0082 are eligible for operation on unpaved runways in accordance with DGAC approved Falcon 10 Airplane Flight Manual Supplement No 1 and F10 Flight Manual Revision 9, on behalf of FAA.

...END...