

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A27EU
MESSERSCHMITT-
BOLKOW-BLOHM GmbH
BO-209-150 FV & RV
BO-209-160 FV & RV
BO-209-150 FF

July 9, 1971

TYPE CERTIFICATE DATA SHEET NO. A27EU

This data sheet, which is a part of Type Certificate No. A27EU, 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: Messerschmitt-Bolkow-Blohm GmbH
(See NOTE 4) Unternehmensbereich Flugzeuge
Programmbereich Leichtflugzeuge
Ottobrun bei Munchen
Federal Republic of Germany

I - Model BO-209-150 FV and RV, 2 PCLM (Normal and Utility Category), approved 9 July 1971
(FV model has fixed nose L.g.; RV model has retractable nose L.g.).

Engine Lycoming O-320-E1C or O-320-E1F
Fuel 80/87 minimum grade aviation gasoline
Engine limits For all operations, 2700 r.p.m. (150 hp.)

Propeller and Hartzell HC-C2YL-1B/7663A-6
propeller limits Diameter: 70 in. no further reduction permitted

Pitch setting at 30 in. radius: High 27°
Low 12°12'

Spinner: MBB P/N 209-61056
Governor: Woodward P/N T210452 or P/N 210681

Airspeed limits (CAS) Normal and Utility Category

Never exceed	173 knots (199 m.p.h.)
Maximum structural cruising	135 knots (155 m.p.h.)
Maneuvering	117 knots (135 m.p.h.)
Flaps extended	88 knots (101 m.p.h.)
*Landing gear operation	104 knots (120 m.p.h.)
*Landing gear extended	173 knots (199 m.p.h.)

(*Applies only to the RV model).

C.G. range Normal Category
(85.47) to (89.37) at 1265 lb. or less
(86.92) to (89.37) at 1808 lb.

Utility Category
(85.47) to (89.37) at 1265 lb. or less
(86.25) to (89.37) at 1565

Maximum weight 1808 lb., for Normal Category
1565 lb., for Utility Category

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No. of seats	2 at (+ 90.7)
Maximum baggage	110 lb. at (+114.2)
Fuel capacity	39.2 gal. total (38.6 gal. usable; two 19.6 gal., wing tanks at + 90.7)
Oil capacity	8 qt. (+3.94) See NOTE 1 for unusable fuel and undrainable oil data.

II - Model BO-209-160 FV and RV, 2 PCLM (Normal and Utility Category), approved 9 July 1971

(FV model has fixed nose L.g.; RV model has retractable nose L.g.).

Engine	Lycoming IO-320-D1A or IO-320-D1B
Fuel	100/130 minimum grade aviation gasoline
Engine limits	For all operations, 2700 r.p.m. (160 hp.)
Propeller and propeller limits	Hartzell HC-C2YL-1B/7663A-6 Diameter: 70 in. no further reduction permitted Pitch setting at 30 in. radius: High 27° Low 14°57' Spinner: MBB P/N 209-61056 Governor: Woodward P/N T210452 or P/N 210681
Airspeed limits (CAS)	<u>Normal and Utility Category</u> Never exceed 173 knots (199 m.p.h.) Maximum structural cruising 135 knots (155 m.p.h.) Maneuvering 117 knots (135 m.p.h.) Flaps extended 88 knots (101 m.p.h.) *Landing gear operation 104 knots (120 m.p.h.) *Landing gear extended 173 knots (199 m.p.h.)

(*Applies only to the RV model).

C.G. range	<u>Normal Category</u> (85.47) to (89.37) at 1265 lb. or less (86.92) to (89.37) at 1808 lb. <u>Utility Category</u> (85.47) to (89.37) at 1265 lb. or less (86.25) to (89.37) at 1565 lb.
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Maximum weight	1808 lb. for Normal Category 1565 lb. for Utility Category
No. of seats	2 at (+ 90.7)
Maximum baggage	110 lb. at (+ 114.2)
Fuel capacity	39.2 gal. total (38.6 gal. usable; two 19.6 gal., wing tanks at + 90.7)
Oil capacity	8 qt. (+3.94) See NOTE 1 for unusable fuel and undrainable oil data.

III - Model BO-209-150 FF, 2 PCLM (Normal and Utility Category), approved 9 July 1971

(fixed nose L.g.).

Engine	Lycoming O-320-E2C or O-320-E2F
Fuel	80/87 minimum grade aviation gasoline.
Engine limits	For all operations, 2700 r.p.m. (150 hp.)

Propeller and propeller limits	McCauley 1C172MGM-70.5-60 or -66 Static r.p.m. at maximum permissible throttle setting: Not over 2400, not under 2100 No additional tolerance permitted. Diameter: Maximum 70.5 in., minimum for repairs 70 in. No further reduction permitted Spinner: MBB P/N 209-61156
Airspeed limits (CAS)	<u>Normal and Utility Category</u> Never exceed 173 knots (199 m.p.h.) Maximum structural cruising 135 knots (155 m.p.h.) Maneuvering 117 knots (135 m.p.h.) Flaps extended 88 knots (101 m.p.h.)
C.G. range	<u>Normal Category</u> (85.47) to (89.37) at 1265 lb. or less (86.92) to (89.37) at 1808 lb. <u>Utility Category</u> (85.47) to (89.37) at 1265 lb. or less (86.25) to (89.37) at 1565 lb.
Maximum weight	1808 lb., for Normal Category 1565 lb., for Utility Category
No. of seats	2 at (+ 90.7)
Maximum baggage	110 lb. at (+114.2)
Fuel capacity	39.2 gal. total (38.6 gal. usable; two 19.6 gal., wing tanks at + 90.7)
Oil capacity	8 qt. (+3.94) See NOTE 1 for unusable fuel and undrainable oil data.

DATA PERTINENT TO ALL MODELS

Control Surface Movements	Ailerons	Up $29^{\circ} \pm 1^{\circ}$	Down $14^{\circ} \pm 1^{\circ}$
	Wing flaps		Down $35^{\circ} \pm 0^{\circ}$ - 3°
	Stabilator	Up $18^{\circ} \pm 1^{\circ}$	Down $9^{\circ} \pm 1^{\circ}$
	Rudder	Left $28^{\circ} \pm 2^{\circ}$	Right $28^{\circ} \pm 2^{\circ}$
	Stabilator trim, distance measured between trailing edge of trim tab and trailing edge of stabilator with stabilator in the neutral position.		
	tab neutral:	0.32 in. Down,	± 0.08 in.
	nose down:	0.20 in. Up,	± 0.08 in.
	nose up:	0.66 in. Down,	± 0.08 in.
	total travel:	0.86 in.	± 0.16 in.
Datum	75.51 in. forward of wing leading edge at split line of the wing/wing stub fairing.		
Leveling means	Two leveling points on left side of fuselage.		
Serial Nos. eligible	Serial Numbers 121 and subsequent. The Federal Republic of Germany Government Certificate of Airworthiness for Export endorsed as noted below under "Import Requirements" must be submitted for each individual aircraft for which application for airworthiness certification is made.		

Certification basis	FAR 21.29 and FAR 23 dated 1 February 1965 as amended by Amendments 23-1 through 23-9 inclusive. Type Certificate No. A27EU, issued 9 July 1971. Date of Application for Type Certificate: 11 May 1970.
Import requirements	A U.S. Airworthiness Certificate may be issued on the basis of a Certificate of Airworthiness for Export signed by a representative of the Luftfahrt-Bundesamt (LBA) containing the following statement: "The airplane covered by this certificate has been examined, tested and found to conform to FAA Type Certificate No. A27EU and is in condition for safe operation."
Equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. In addition, the following items of equipment are required: <ol style="list-style-type: none">1. Stall Warning System.2. LBA-approved Model BO-209 Approved Flight Manual, Ref. No.LF 37E-7/71 dated July 1971 or later LBA-approved revision.3. Airplanes S/N 121 through 130 must be modified in accordance with MBB Technical Note TN 9-71 to provide an alternate static system source and an aural landing gear warning system. (These systems are incorporated in production on S/Ns 131 and subsequent).
NOTE 1.	Current weight and balance report including list of equipment in certificated empty weight, and loading instructions when necessary, must be provided for each airplane at the time of original airworthiness certification. The certificated empty weight and corresponding center of gravity must include undrainable oil of 0 lbs. at +39.4 and unusable fuel of 3.6 lb. at +90.7.
NOTE 2.	The following placard must be displayed in front and in clear view of the pilot: "This airplane must be operated as a Normal or Utility Category airplane in compliance with their operating limitations stated in the form of placards, markings, and manuals." In addition, all placards required in the LBA-approved Airplane Flight Manual must be installed in the appropriate location.
NOTE 3.	Information essential for proper maintenance of the airplane is contained in the Messerschmitt-Bolkow-Blohm GmbH., Model BO-209 Maintenance Manual included in MBB document Ref. LF 37E-7/71.
NOTE 4.	The airplane manufacturer is: Waggon- und Maschienebau A.G. Donauworth, Laupheim Federal Republic of Germany (A division of Messerschmitt-Bolkow-Blohm).
NOTE 5.	Installation of a Tost tow coupling (ring type), LBA approval No. 60.230.4 may be approved when installed in accordance with MBB Drwg. 209-85003 (for glider towing) or MBB Drwgs. 209-85003 and 209-8700 (for banner towing).

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