TYPE-CERTIFICATE

DATA SHEET

NO. EASA.A.357

for
BÖLKOW BO 209

Type Certificate Holder
Airbus Defence and Space GmbH

Willy-Messerschmitt-Straße 1
82024 Taufkirchen
Germany

For models: Bölkow BO 209 MONSUN
Bölkow BO 209 S

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SECTION A: BÖLKOW BO 209 MONSUN

A.I. General

1. Type/ Model/ Variant	
1.1 Type	Bölkow BO 209
1.2 Model	Bölkow BO 209 MONSUN
1.3 Variant	N/A
2. Airworthiness Category	Normal Utility
3. Manufacturer	Messerschmitt-Bölkow-Blohm GmbH Am Flugplatz 7958 Laupheim, Germany Pneuma-Technik, E. Ficht Thomas-Mayr-Strasse 4 8018 Grafing, Germany
4. EASA Type Certification Application Date	02 February 2015
5. State of Design Authority	Germany
6. State of Design Authority Type Certificate Date	09 April 1970
7. EASA Type Certification Date	02 February 2015

A.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements	N/A
2. Airworthiness Requirements	S/N 101 through 180: FAR-23, Amendment 23-1 through 23-6 S/N 181 and higher: FAR-23, Amendment 23-1 through 23-9
3. Special Conditions	N/A
4. Exemptions	N/A
5. (Reserved) Deviations	N/A
6. Equivalent Safety Findings	N/A
7. Environmental Protection	ICAO Annex 16, Vol. I; for details see TCDSN.A.357

A.III. Technical Characteristics and Operational Limitations

1. Type Design Definition	Set of drawings, specifications and reports	
2. Description	Single engine, cantilever low-wing aircraft with non-retractable or retractable nose wheel, all metal construction	
3. Equipment	Minimum equipment pursuant to airworthiness requirements	
	Details concerning minimum equipment as well as possible additional equipment can be found in the flight manual	
4. Dimensions	Wing Span:	8,40m
	Length:	6,60m
	Height:	2,20m
5. Engine		
5.1. Model	Engine 1:	Lycoming AIO-320-C1B
	Engine 2:	Lycoming IO-320-D1A
	Engine 3:	Lycoming IO-320-D1B
	Engine 4:	Lycoming O-320-E1C
	Engine 5:	Lycoming O-320-E1F
	Engine 6:	Lycoming O-320-E2C
	Engine 7:	Lycoming O-320-E2F
5.2 Type Certificate	Engine 1 - 3:	US 1E12
	Engine 4 - 7:	US E-274
5.3 Limitations	Maximum speed 2700rpm	
6. Load factors	Normal:	n = -1,9 to +3,8
	Utility:	n = -2,2 to +4,4
7. Propeller		
7.1 Model	Propeller 1:	Hartzell HC-C2YL-1B/7663 A-6
	For engines 1 - 3:	
	Max. pitch 27°, min. pitch 14° 57', measured @ R=762mm	
	For engines 4 and 5:	
	Max. pitch 27°, min. pitch 12° 12', measured @ R=762mm	
	Propeller 2:	McCauley 1C172/MGM 70.5-60 or -66
	For engines 6 and 7:	
	Pitch 60inch or 66inch	
	Speed on ground 2100 - 2400rpm	
	See section V for further engine/propeller combinations	
7.2 Type Certificate	Propeller 1:	EASA.IM.P.130
	Propeller 2-4:	US P-910
7.3 Number of blades	2	
7.4 Diameter	Propeller 1:	178cm (70inch)
	Propeller 2:	179cm (70,5inch)
7.5 Sense of Rotation	Clockwise	

8. Fluids

8.1 Fuel	Engine 1 - 3:	100/130 octane
	Engine 4 - 7:	min. 80/87 octane
8.2 Oil	above +15°C (60°F)	SAE 50
	from 0°C (32°F) to +32°C (90°F)	SAE 40
	from -18°C (0°F) to +21°C (70°F)	SAE 30
	below -12°C (10°F)	SAE 20
8.3 Coolant	N/A	

9. Fluid capacities

9.1 Fuel	Max fuel quantity:	148l
	Usable fuel quantity:	146l
9.2 Oil	7,4l	
9.3 Coolant system capacity	N/A	

10. Air Speeds

Normal (all S/N) & Utility (S/N 101 through 180 and S/N 188):

Never Exceed Speed	V_{NE}	173kts
Manoeuvring Speed	V_A	117kts
Maximum Normal Operating Speed	V_{NO}	135kts
Maximum Flap Extended Speed	V_{FE}	88kts
Maximum landing gear lowering speed	V_{LO}	104kts
Maximum landing gear extended speed	V_{LE}	173kts

Utility (S/N 181 and higher excluding S/N 188):

Never Exceed Speed	V_{NE}	183kts
Manoeuvring Speed	V_A	127kts
Maximum Normal Operating Speed	V_{NO}	135kts
Maximum Flap Extended Speed	V_{FE}	94kts
Maximum landing gear lowering speed	V_{LO}	104kts
Maximum landing gear extended speed	V_{LE}	183kts

11. Flight Envelope: Not specified

12. Approved Operations Capability: VFR, no icing

13. Maximum Masses

Maximum Take-off mass

Normal: 820kg

Utility: 710kg

14. Centre of Gravity Range

Normal:

Max. FWD: 2208mm @ 820kg linear to 2171mm @ 575kg or less

Max. AFT: 2270mm

Utility (S/N 101 through 180 and S/N 188):

Max. FWD: 2191mm @ 710kg linear to 2171mm @ 575kg or less

Max. AFT: 2270mm

	Utility (S/N 181 and higher excluding S/N 188):		
		Max. FWD:	2196mm @ 740kg linear to 2171mm @ 575kg or less
		Max. AFT:	2270mm
15. Datum	Reference plane is 1918mm FWD of leading edge of wing stub at the split line of the wing/wing stub fairing		
16. Control surface deflections	Aileron	Up	29° (+/-1°)
		Down	14° (+/-1°)
	Rudder	Left/Right	28° (+/-2°)
	Elevator	Up	18° (+/-1°)
		Down	9° (+/-1°)
	Flaps	Up	0° (+/-0°)
		Down	35° (+0°/-3°)
	Trim tab	see Maintenance Manual	
17. Levelling Means	horizontal using extended line from level marks on left side of fuselage		
18. Minimum Flight Crew	1		
19. Maximum Passenger Seating Capacity	1		
20. Baggage/ Cargo Compartments	max. 50kg		
21. Wheels and Tyres	Main Tyres	5.50 x 6/6 PR or 380 x 150-5/6PR	
	Nose Tyre	5.00 x 5/6 PR	
22. (Reserved)			

A.IV. Operating and Service Instructions

1. Flight Manual	S/N 101 through 180 and S/N 188: Flight Manual BO 209 Monsun, LBA-approved 09 April 1970 (LF 5D or LF 5E) incl. revisions S/N 181 and higher excluding S/N 188: Flight Manual BO 209 Monsun, LBA-approved 15 November 1971 (LF 36D or LF 41E) incl. revisions
2. Maintenance Manual	S/N 101 through 180 and S/N 188: Maintenance Manual BO 209 Monsun, LBA-approved 09 April 1970 (LF 5D or LF 5E) incl. revisions S/N 181 and higher excluding S/N 188:

	Maintenance Manual BO 209 Monsun, LBA-approved 15 November 1971 (LF 40D or LF 40E) incl. revisions
3. Structural Repair Manual	Not specified
4. Weight and Balance Manual	Covered in Flight Manual and Maintenance Manual
5. Illustrated Parts Catalogue	Werkstatthandbuch und Ersatzteilkatalog BO209 Monsun

A.V. Notes

1. Serial Numbers

Messerschmitt-Bölkow-Blohm GmbH:	101 to 201
Pneuma-Technik:	301 and higher

2. Airworthiness categories
S/N 181 and higher (excluding S/N 188) were originally approved for aerobatics being limited to normal and utility categories as per LBA LTA-1986-255/2 dated 27 January 1987.

3. Type certification approval
Type Certification was granted on the basis of a type inspection on application of Messerschmitt-Bölkow-Blohm GmbH on 09 April 1970, expanded on 09 July 1971 and 05 November 1971. This certification applies for serial numbers 101 through 201 (Messerschmitt-Bölkow-Blohm GmbH) and 301 and following (Pneuma-Technik).

4. Supplemental Type Certificates (without separate STC)

a) Sailplane towing is permissible when the towing gear acc. to drawing no. 209-85003 of Messerschmitt-Bölkow-Blohm GmbH has been installed and is operated according to Flight Manual annex “Towing”. Towing of non-rigid tow banners is permissible when the towing gear acc. to drawing no. 209-87000 of Messerschmitt-Bölkow-Blohm GmbH has additionally been installed.

b) Aircraft with S/N 102, 121 through 180 and 188 can be converted to the build standard of S/N 181 according to Messerschmitt-Bölkow-Blohm GmbH conversion instruction 209-09200. Operation of the converted aircraft must conform to operating instruction LF 36D or LF41E.

c) Aircraft with S/N V0 and from 131 onwards can be equipped with larger wing caps pursuant to Messerschmitt-Bölkow-Blohm GmbH conversion instruction 209-09210. The large rudder specified in the conversion instruction has to be used with the large wing caps. The operating limits specified in the flight manual remain unchanged. Flights in the airworthiness group aerobatic aircraft may not be executed. The maximum weight limit in the utility airworthiness class remains limited to 710 kg.

d) Installation of a Christen reflux oil system (extended modification) is permissible. Original Christen parts (equipment set) including the corresponding manual are to be used. Observe the Flight Manual annex “Operation with (Christen) engine oil supply kit for inverted flight installed”. The aforementioned documentation can be obtained from Christen Industries.

e) Installation of the Hoffmann 3-blade propeller HO-V123L/180R-10 in conjunction with the engines Lycoming IO-320-D1A und D1B as well as Lycoming O-320 E1C und E1F is permissible. Conversion instruction 152 and the annex to the Flight Manual for the Hoffman adjustable propeller (153 - LBA-approved 5 March 1984) are to be observed. The documentation is available from Hoffmann GmbH & Co. KG.

5. FAA models designation

The model Bölkow BO 209 MONSUN is validated in the USA with FAA TCDS A27EU.

While EASA defines one model, the FAA has historically identified 5 models in their TCDS (see table below). Those models correspond to the 5 variants of the Bölkow BO 209 MONSUN as defined in the EASA AFM, listed in section A.IV.1

TCDS EASA.A.357	FAA TCDS A27EU
Bölkow BO 209 MONSUN	BO-209-150 FV BO-209-150 RV BO-209-160 FV BO-209-160 RV BO-209-150 FF

The model Bölkow BO 209 S, as defined in Section B of this TCDS, is not validated in the USA.

SECTION B: BÖLKOW BO 209 S

B.I. General

1. Type/ Model/ Variant	
1.1 Type	Bölkow BO 209
1.2 Model	Bölkow BO 209 S
1.3 Variant	N/A
2. Airworthiness Category	Normal Utility
3. Manufacturer	Messerschmitt-Bölkow-Blohm GmbH Am Flugplatz 7958 Laupheim, Germany Pneuma-Technik, E. Ficht Thomas-Mayr-Strasse 4 8018 Grafing, Germany
4. EASA Type Certification Application Date	02 February 2015
5. State of Design Authority	Germany
6. State of Design Authority Type Certificate Date	13 March 1972
7. EASA Type Certification Date	02 February 2015

B.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements	N/A
2. Airworthiness Requirements	FAR-23, Amendment 23-1 through 23-9
3. Special Conditions	N/A
4. Exemptions	N/A
5. (Reserved) Deviations	N/A
6. Equivalent Safety Findings	N/A
7. Environmental Protection	ICAO Annex 16, Vol. I; for details see TCDSN.A.357

B.III. Technical Characteristics and Operational Limitations

1. Type Design Definition	Set of drawings, specifications and reports

2. Description	Single engine, cantilever low-wing aircraft with non-retractable nose wheel, all metal construction			
3. Equipment	Minimum equipment pursuant to airworthiness requirements Details concerning minimum equipment as well as possible additional equipment can be found in the flight manual			
4. Dimensions	Wing Span:	9,025m		
	Length:	6,70m		
	Height:	2,20m		
5. Engine				
5.1. Model	Rolls Royce RR O-240-A			
5.2 Type Certificate	US E11EU			
5.3 Limitations	Maximum speed 2800rpm			
6. Load factors	Normal:	n = -1,9 to +3,8		
	Utility:	n = -2,2 to +4,4		
7. Propeller				
7.1 Model	McCauley 1C172 EM 70,5-55			
7.2 Type Certificate	US P-910			
7.3 Number of blades	2			
7.4 Diameter	179cm (70,5inch)			
7.5 Sense of Rotation	Clockwise			
8. Fluids				
8.1 Fuel	100/130 octane			
8.2 Oil	below 5°C (41°F)		SAE 30	
	above 5°C (41°F)		SAE 50	
8.3 Coolant	N/A			
9. Fluid capacities				
9.1 Fuel	Max fuel quantity:	148l		
	Usable fuel quantity:	146l		
9.2 Oil	5,7l			
9.3 Coolant system capacity	N/A			
10. Air Speeds	Never Exceed Speed		V_{NE}	173kts
	Manoeuvring Speed		V_A	117kts
	Maximum Normal Operating Speed		V_{NO}	135kts
	Maximum Flap Extended Speed		V_{FE}	88kts
11. Flight Envelope	Not specified			
12. Approved Operations Capability	VFR, no icing			
13. Maximum Masses	Maximum Take-off mass			
	Normal:	760kg		
	Utility:	710kg		
14. Centre of Gravity Range	Normal:			
		Max. FWD:	2200mm @ 760kg linear to 2171mm @ 575kg or less	

		Max. AFT:	2270mm
	Utility:		
		Max. FWD:	2191mm @ 710kg linear to 2171mm @ 575kg or less
		Max. AFT:	2270mm
15. Datum	Reference plane is 1918mm FWD of leading edge of wing stub at the split line of the wing/wing stub fairing		
16. Control surface deflections	Aileron	Up	29° (+/-1°)
		Down	14° (+/-1°)
	Rudder	Left/Right	28° (+/-2°)
	Elevator	Up	18° (+/-1°)
		Down	9° (+/-1°)
	Flaps	Up	0° (+/-0°)
		Down	35° (+0°/-3°)
	Trim tab	see Maintenance Manual	
17. Levelling Means	horizontal using extended line from level marks on left side of fuselage		
18. Minimum Flight Crew	1		
19. Maximum Passenger Seating Capacity	1		
20. Baggage/ Cargo Compartments	max. 50kg		
21. Wheels and Tyres	Main Tyres	5.50 x 6/6 PR or 380 x 150-5/6PR	
	Nose Tyre	5.00 x 5/6 PR	
22. (Reserved)			

B.IV. Operating and Service Instructions

1. Flight Manual	Flight Manual BO 209 S Monsun, LBA-approved 15 November 1971 (LF 38D or LF 38E) incl. revisions
2. Maintenance Manual	Maintenance Manual BO 209 Monsun, LBA-approved 15 November 1971 (LF 40D or LF 40E) incl. revisions
3. Structural Repair Manual	Not specified
4. Weight and Balance Manual	Covered in Flight Manual and Maintenance Manual
5. Illustrated Parts Catalogue	Werkstatthandbuch und Ersatzteilkatalog BO209 Monsun

B.V. Notes

1. Serial Numbers

Messerschmitt-Bölkow-Blohm GmbH: 119, 131 to 201

Pneuma-Technik: 301 and higher

2. Type approval was granted on the basis of a type inspection on application of Messerschmitt-Bölkow-Blohm GmbH on 9 April 1970, expanded on 9 July 1971 and 5 November 1971.

3. Aircraft with S/N 131 through 180 and 188 can be converted to the build state of S/N 181 according to Messerschmitt-Bölkow-Blohm GmbH conversion instruction 209-09200. Operation of the converted aircraft must conform to operating instruction LF 36D or LF41E.

SECTION ADMINISTRATIVE

I. Acronyms & Abbreviations

FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
FWD	Forward
ICAO	International Civil Aviation Organization
LBA	Luftfahrt Bundesamt
N/A	Not applicable
SAE	Society of Automotive Engineers
TCDS	Type Certificate Data Sheet
VFR	Visual Flight Rules

II. Type Certificate Holder Record

Day of Entry	Company Name (Legal Entity)
11.07.1969	Messerschmitt-Bölkow-Blohm GmbH
01.04.1992	Messerschmitt-Bölkow-Blohm AG
30.09.1992	Deutsche Aerospace AG
02.01.1995	Daimler-Benz Aerospace AG
17.11.1998	Daimler Chrysler Aerospace AG
10.07.2000	EADS Deutschland GmbH
01.07.2014	Airbus Defence and Space GmbH

III. Change Record

Issue	Date	Changes	TC Issue Date
01	02 February 2015	Initial Issue after TC transfer	02 February 2015
02	22 June 2015	Type Certificate Holder Record revised	02 February 2015
03	13 November 2018	Change of TC holder address. Note in section A.V. on airworthiness categories added	13 November 2018
04	30 July 2021	Minor updates to wording and content	13 November 2018
05	03 March 2026	§A.V Notes: added note 5 to clarify the correspondence between EASA and FAA models designation	13 November 2018

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