LAA TYPE ACCEPTANCE DATA SHEET
TADS 818
BOLKOW BO-208A2 JUNIOR,
BO-208C JUNIOR

Issue 2	AD summary relocated to Section 2	Dated 10/03/21	JP

This TADS is intended as a summary of available information about the type and should be used during the build, operation and permit revalidation phases to help owners and inspectors. Although it is hoped that this document is as complete as possible, other sources may contain more up to date information, e.g. the manufacturer's website.

Section 1 contains general information about the type.

Section 2 contains information about the type that is **MANDATORY** and must be complied with.

Section 3 contains advisory information that owners and inspectors should review to help them maintain the aircraft in an airworthy condition. If due consideration and circumstances suggest that compliance with the requirements in this section can safely be deferred, is not required or not applicable, then this is a permitted judgement call. This section also provides a useful repository for advisory information gathered through defect reports and experience.

Section 1 - Introduction

1.1 UK contact

The Bolkow Squadron can be found on Facebook.

Stewart Luck can be contacted for BO-208 news and help with obtaining spare parts at captainluck@hotmail.com

The Type Certificate Holder is currently:

Airbus Defence and Space GmbH
Willy-Messerschmitt-Straße 1
85521 Ottobrunn
Germany

There is a Germany based owner's support website at www.boelkow-junior.de including a German and English speaking Boelkow Junior Forum.

Tel: +49 (0) 7326 96 32 35
Email: 208c@Boelkow-Junior.de

1.2 Description

The Bolkow BO-208 Junior is a two seat, side by side aerobatic monoplane aircraft with a strut-braced shoulder wing. It is of aluminium construction and features a fixed, tricycle undercarriage with a steerable nose wheel. The aircraft has relatively small ailerons, an all flying horizontal stabilator fitted with an anti-servo tab and wing flaps (these are electrically operated from the 208B onwards).

It was originally designed for amateur construction by the Swedish aeronautical engineer, Bjorn Andreasson as the BA-7. The aircraft was initially manufactured by Malmo Flygindustri (MFI) as the MFI-9, the prototype first flying in 1961. Subsequently, some 210 were built under licence by Bolkow Apparatebau GmbH between 1963 and 1971 and was certificated by the LBA and FAA.

There are currently eight BO-208 operating on LAA-administered EASA Permits to Fly, out of a total of 17 aircraft that are on the UK register. Two of the LAA-administered aircraft are BO-208A2, the remainder being of the BO-208C type which incorporated a number of changes and have a slightly increased MTWA. The BO-208s that are currently administered by the LAA do so through grandfather rights. It is unlikely that further aircraft will be allowed to transfer to LAA-administered EASA Permits to Fly whilst the type remains as a supported certified type.

The aircraft features a single, centre mounted Y-shaped control column with throttles fitted to each side of the instrument panel. The bubble canopy is rearward opening, hinged at the aft edge. Wheel brakes are operated together by a single, centrally mounted lever. Flying controls are operated via cables and push rods.

The standard engine is the Continental O-200-A driving a McCauley, two blade, fixed pitch propeller.

Note that the only propeller(s) approved for an individual aircraft are those listed on the individual aircraft's Operating Limitations document or in the PTL/1 (Propeller Type List) for the type.

The aircraft is classed as an SEP (previously termed Group A).

Section 2 – Mandatory information for owners, operators and inspectors

At all times, responsibility for the maintenance and airworthiness of an aircraft rests with the owner. Condition No 3 of a Permit to Fly requires that: *"the aircraft shall be maintained in an airworthy condition".*

2.1 Fast Build Kit 51% Compliance

Not applicable

2.2 Build Manual

Not applicable

2.3 Build Inspections

Build inspection schedule: Not applicable

Inspector approval codes A-A or A-M. Inspector signing off final inspection also requires 'first flight' endorsement.

2.4 Flight Manual

Aircraft should have a flight manual issued for that specific aircraft. The current edition is: Flight Manual Bolkow Junior DVL/Pfl, approved 15 February 1963.

A copy of the Bolkow BO-208C Junior Flight Manual is available for reference purposes. There is also an Operator's Handbook for the BO-208C Junior.

2.5 Airworthiness Directives

Ref No	Information Type	Subject	Applicability
LBA 1965-001	Airworthiness Directive	Nose landing gear reinforcement (cross refer TM 208-29a/64 & TM 208-23/64)	Up to s/n 574
LBA 1965-110	Airworthiness Directive	Cracks in the welding of the swing pipe (cross refer TM 208-33/65)	s/n 505 up to & incl 566
LBA 1965-111	Airworthiness Directive	Cracks on skin panel edges near elevator bearing hinges (cross refer TM 208-34/65)	s/n 509 up to & incl 534, 537 up to & incl 566
LBA 1969-003	Airworthiness Directive	Engine mounting bolts – fatigue failure (cross refer SB 2/68)	s/n 505-684
LBA 1972-092	Airworthiness Directive	Periodic NLG crack inspection. (cross refer SB 208-32/20-1)	All s/n
LBA 1979-249	Airworthiness Directive	Calibration (cross refer SB 1/68)	All s/n
LBA 1980-041	Airworthiness Directive	Cracks in the aft wing mounting bracket (cross refer TM 208-1/80 & TM 208-1/80-1)	All s/n

The German Luftfahrt-Bundesamt (LBA) website should be checked for new Airworthiness Directives or revisions to the above.

2.6 Mandatory Permit Directives

The following MPDs are applicable to this aircraft type:

MPD 1995-001 R5 Regarding ex C of A aircraft now operating on a Permit to Fly

Also check the LAA website for MPDs that are non-type specific (TL2.22).

2.7 LAA Required Modifications (including LAA issued AILs, SBs, etc)

There are no mandatory LAA modifications, LAA issued AILs or SBs for this aircraft type.

2.8 Additional engine operating limitations to be placarded or shown by instrument markings

Notes:

- Refer to the engine manufacturer's latest documentation for the definitive parameter values and recommended instruments.
- Where an instrument is not fitted, the limit need not be displayed.

Instrument	Parameter	Instrument Marking	Limitation	
Fuel pressure	Maximum pressure	Red line	6.0 psi	0.42 kg/cm^2
	Normal operating range	Green arc	1.5 - 6.0 psi	0.10 – 0.42 kg/cm2

	Minimum pressure	Red line	1.5 psi	0.10 kg/cm2
Oil pressure (hot oil)	Maximum pressure	Red line	60 psi	4.2 kg/cm2
	Normal operating range	Green arc	30 – 60 psi	2.1 – 4.2 kg/cm2
	Minimum pressure (idling)	Red line	10 psi	0.7 kg/cm2
Oil temperature	Maximum Temperature	Red line	225 °F	107 °C
	Normal operating range	Green arc	75 – 225 °F	30 – 107 °C
	Minimum take-off temperature	Red line	75 °F*	30 °C*
*This temperature is higher than specified in the engine handbook.				
Tachometer	Maximum rpm	Red line	2750 rpm	
	Normal operating cruising range	Green arc	1950 – 2750 rpm	
CHT (optional)	Maximum temperature	Red line	525 °F	274 °F
Low fuel (from s/n 595)		Warning light	2.2 Imp Gal remaining	

2.9 Control surface deflections

Control	Movement	Deflection	Notes
Ailerons	Up	25° ±1°	Aileron cable tension 26 lb ± 2 lb
	Down	12° ±1°	
Elevators	Up	18° ±1°	N/A
	Down	9° ±1°	
Rudder	Left	20° ±2°	Rudder cable tension 13 lb ± 2 lb
	Right	20° ±2°	
Flaps	Up	0° ±1°	N/A
	Down	35° ±1°	
Elevator tab Travel of trailing edge in inches Recorded with elevator: Up -18° Neutral 0°	Nose heavy: Trim lever forward 2 inches	+1.81” ±0.16”	Elevator Up
		-0.08” ±0.16”	Elevator Neutral
		-1.38” ±0.16”	Elevator Down
	Trim lever neutral	+1.49” ±0.16”	Elevator Up
		-0.47” ±0.16”	Elevator Neutral
		-1.96” ±0.16”	Elevator Down

Down +9°	Tail heavy: Trim lever aft 2 inches	+1.02" ±0.16"	Elevator Up
		-1.10" ±0.16"	Elevator Neutral
		-2.71" ±0.16"	Elevator Down

2.10 Operating Limitations and Placards

a. Bolkow BO-208A2

(Note that the wording on an individual aircraft's Operating Limitations document takes precedence, if different.)

1. Maximum number of occupants authorised to be carried: Two

2. The aircraft must be operated in compliance with the following operating limitations, which shall be displayed in the cockpit by means of placards or instrument markings:

2.1 Aerobatic Limitations

Aerobatic manoeuvres are permitted as follows:

i. Tight turns up to 2G
ii. Inside loops
iii. Stall turns
iv. Half loop and roll out
v. Rolls

Intentional spinning is permitted with flaps retracted.

2.2 Loading Limitations
Maximum Total Weight Authorised: 1322 lbs (600 kg)

Normal Category Centre of Gravity range:

An envelope formed by the following points with straight line variation in between:

67.375" aft of datum at 1168 lb (530 kg) or less to
71.13" aft of datum at 1146 lb (520 kg) or less
69.75" to 70.50" aft of datum at 1322 lb (600 kg)

When aerobatic manoeuvres are performed the Centre of Gravity must lie between the limits of:

68.75" to 70.00" aft of datum at 1272 lb (577 kg)
67.375" to 71.13" aft of datum at 1146 lb (520 kg)

Datum Point is: A point 75.00" forward of the red encircled rivet on each fuselage sidewall, located 4.00" forward of the hole centre of the lower wing strut fitting.

2.3 Engine Limitations
Maximum Engine RPM: 2750

2.4 Airspeed Limitations
Maximum Indicated Airspeed (V_{NE}): 176 mph (153 kts)
Max Indicated Airspeed Flaps Extended: 91 mph (79 kts)

2.5 Other Limitations
The aircraft shall be flown by day and under Visual Flight Rules only.
Smoking in the aircraft is prohibited.

Additional Placards:

"Occupant Warning - This Aircraft has not been Certificated to an International Requirement"

A fireproof identification plate must be fitted to fuselage, engraved or stamped with aircraft's registration letters.

b. Bolkow BO-208C

(Note that the wording on an individual aircraft's Operating Limitations document takes precedence, if different.)

1. Maximum number of occupants authorised to be carried: Two

2. The aircraft must be operated in compliance with the following operating limitations, which shall be displayed in the cockpit by means of placards or instrument markings:

2.1 Aerobatic Limitations

Aerobatic manoeuvres are permitted as follows:

i. Chandelle
ii. Aileron roll
iii. Tight turns up to 2G
iv. Lazy eight
v. Inside loop

Intentional spinning is permitted with flaps retracted.

2.2 Loading Limitations
Maximum Total Weight Authorised: 1390 lbs (630 kg)

Normal Category Centre of Gravity range:

Forward limit:	67.33" aft of datum at 1265 lbs (573 kg) 69.33" aft of datum at 1390 lbs (630 kg) 68.13" aft of datum at 1323 lbs (600 kg)
Aft limit:	70.75" aft of datum at 1390 lbs (630 kg) 71.75" aft of datum at 1210 lbs (548 kg)

Aerobatic and spinning Centre of Gravity range:

Forward limit:	67.33" aft of datum at 1265 lbs (573 kg) 68.13" aft of datum at 1323 lbs (600 kg)
Aft limit:	71.25" aft of datum at 1323 lbs (600 kg) 71.63" aft of datum at 1210 lbs (548 kg)

Straight line variation between the points given.

Datum Point is: A point 75.00" forward of the red encircled rivet on each fuselage sidewall, located 4.00" forward of the hole centre of the lower wing strut fitting.

2.6 Engine Limitations
Maximum Engine RPM: 2750

2.7 Airspeed Limitations
Maximum Indicated Airspeed (V_{NE}): 176 mph
Max Indicated Airspeed Flaps Extended: 91 mph

2.8 Other Limitations
The aircraft shall be flown by day and under Visual Flight Rules only.
Smoking in the aircraft is prohibited.

Additional Placards:

"Occupant Warning - This Aircraft has not been Certificated to an International Requirement"

A fireproof identification plate must be fitted to fuselage, engraved or stamped with aircraft's registration letters.

2.11 Maximum permitted empty weight

Not applicable.

Section 3 – Advice to owners, operators and inspectors

3.1 Maintenance Manual

As a certified aircraft, a Maintenance Manual is available for the type and most owners would normally have access to a copy. For reference purposes, here is a copy of the Maintenance Manual for the Bolkow BO 208C Junior.

A copy of the Illustrated Parts Catalogue for the BO208C is in German but should be of some assistance. In the UK, Stewart Luck can be contacted for BO 208 news and help with obtaining spare parts at captainluck@hotmail.com

Other technical information is available on the Germany based owner's support website at www.boelkow-junior.de.

3.2 Manufacturer's/Standard Options

There are no standard options for the type.

Note: Any modifications to this type of aircraft require LAA Engineering approval for that specific modification and aircraft.

3.3 Manufacturer's Information (including Service Bulletins, Service Letters, etc)

In the absence of any over-riding LAA classification, inspections and modifications published by the manufacturer should be satisfied according to the recommendation of the manufacturer. It is the owner's responsibility to be aware of and supply such information to their Inspector.

Ref No	Information Type	Subject	Applicability
SB 6/64	Service Bulletin	Landing technique	All s/n

SB 3/65	Service Bulletin	Modification of inspection list	All s/n
SB 8/66	Service Bulletin	Airframe designation change plus other info	All s/n
SB 9/66	Service Bulletin	Increase in airframe life	All s/n
SB 2/67	Service Bulletin	Inspections, reinforcements, correction	Various as detailed in SB
SB 3/67	Service Bulletin	Approach to Laupheim airfield	Info only
SB 1/68	Service Bulletin	VDO tachometer	All s/n
SB 2/68	Service Bulletin	Engine attachment bolts	All s/n
SB 3/68	Service Bulletin	Request for rudder maintenance	From s/n 632
SB 4/68	Service Bulletin	Amendment to SB 3/68	All s/n
SB 5/68	Service Letter	Approach to Laupheim airfield	Info only
SB 7/68	Service Bulletin	NLG maintenance	All s/n
SB 208-1/69	Service Bulletin	Supporting of engine attachment on firewall	All s/n
SB 208-32/20-1	Service Bulletin	Periodic NLG crack inspection	All s/n
SB 208-09/07	Service Bulletin	Periodic NLG inspection for cracks	All s/n
SB-0001/2011-1	Service Bulletin	Repair of fuselage	s/n 633
SI 2/91	Service Information	Operating times for hoses	All s/n
SL 16/63	Service Letter	Main landing gear attachment brackets	A2 and A3 all s/n
SL 18/63	Service Letter	Various	A1 thru A3
SL 6/65	Service Letter	Elevator reinforcement	s/n 509, 512, 515-518, 521, 522, 525, 527, 529, 532-534, 537-545, 547, 549, 555 and 561-594
SL 7/65	Service Letter	Aileron control rod	s/n 509, 512, 515-518, 521, 522, 525, 527, 529, 532-534, 538-545, 547, 549, 555, 561-564, 566, 570 & 579
SL 8/65	Service Letter	NLG outer tube	s/n 509, 511-513, 515-519, 521, 522, 524, 525, 527, 529, 532-545, 547, 549, 550, 555, 561-564, 566, 569-571, 574, 577-579, 582 & 585

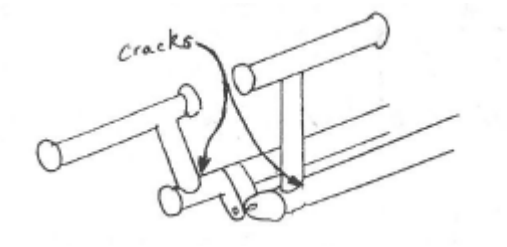
SL 9/65	Service Letter	Nose wheel (leg)	s/n 507-519, 521-567, 569-580, 582, 585, 588-590, 592 & up
SL 1/66	Service Letter	Constructional deviation	567-571, 573, 574, 576-601
SL 3/66	Service Letter	Maintenance Manual amendment	Info only
SL 4/66	Service Letter	Power plant - lubrication	All s/n
SL 5/66	Service Letter	Amendment to SL 4/66	All s/n
SL 6/66	Service Letter	Approach to Laupheim airfield	Info only
SL 7/66	Service Letter	Factory contact details amendments	Info only
SL 208-1/75	Service Letter	Spare parts info	Info only
TM 208-4/99	Technical Note	List of valid information	All s/n
TM 208-12/63	Technical Note	Reinforced wing spar	A2 and A3: s/n 525 and on
TM 208-22/64	Technical Note	Enlarged wing surfaces option	Optional s/n 505 to 524 (normal); From s/n 525 (extended utility)
TM 208-23/64	Technical Note	New caster type landing gear	Optional from s/n 505
TM 208-29/64	Technical Note	New nose undercarriage	From s/n 570 in series; from s/n 505 optional (external tube); from s/n 505 refitted (shock absorber)
TM 208-29a/64	Technical Note	New NLG wheel with shock absorber	All s/n
TM 208-28/64	Technical Note	Increasing cabin space	s/n 567 and 568
TM 208-33/65	Technical Note	Installation of reinforced swing pipe	s/n 505 up to & incl 566
TM 208-34/65	Technical Note	Reinforcement of elevator post	s/n 509 up to & incl 534, 537 up to & incl 566
TM 208-1/80	Technical Note	Aft wing attachment fitting	All s/n
TM 208-1/80-1	Technical Note	Aft wing attachment fitting (supplement to TM 208-1/80).	All s/n
TM 208-1/84	Technical Note	Main landing gear tyres	All s/n
TM 208-8/99	Technical Note	Rear frame #9 cracks	All s/n
MI 01/68	Mounting Instruction	Wheel fairings	All s/n

MI 02/68	Mounting Instruction	Anti-collision light	All s/n
MI 03/68	Mounting Instruction	Nose gear	All s/n
MI 04/68	Mounting Instruction	Exchange of lower engine attaching bolts	All s/n
KIM 37D/12/64	Inspection List	100 Hour Check	All s/n
LF3D-3/69	Inspection List	Inspection programme	All s/n

3.4 Special Inspection Points

1. Nose wheel fork failure: the nose wheel fork and nose leg installation is prone to collapse and there have been three or more occurrences over the years, inspectors and owners should be alert to the presence of cracks.

2. Rudder pedal cracking: cracking around the bottom of the rudder pedal attachments is a known problem and there have been several instances of cracks being discovered as shown in the sketch below.



3. Rudder hinge failure: a top rudder hinge fitting has previously been discovered completely cracked through, probably resulting from a seized pivot bolt which then transmitted rotational loads to the fitting. Suitable lubrication of all control surface hinges should be assured at all times.

4. Corrosion: corrosion has been an issue with reports of exfoliation corrosion appearing in wing spars and more recently, fuselage longerons. Repair schemes are available.

3.5 Special Test Flying Issues

There are no recorded special test flying issues apart from a tendency for spins to transition into a spiral dive.

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Please report any errors or omissions to LAA Engineering: engineering@laa.uk.com