
European Aviation Safety Agency

EASA
SPECIFIC AIRWORTHINESS
SPECIFICATION
for
BEAGLE B121 PUP

UK Build Standard

Model B121 Series 1
Model B121 Series 2
Model B121 Series 3

The UK Type Certificate for this aircraft type is no longer valid. The most recent UK type certificate holder was:

de Havilland Support Ltd,
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This Specific Airworthiness Specification (SAS) is issued in accordance with Regulation (EC) 1592/2002 Article 15(1)(b). It identifies the build standard, conditions and limitations for aircraft which meet the standards of the applicable type certificates - CAA-UK TCDS Number BA1.

Note: issue 5 has been produced to account for an amdt of FM. See revision bars at pag.3 and pag.4. The table with the effective list of pages has been removed.

SECTION 1: Aircraft Design Definitions

1.1 Aircraft built to conform with CAA-UK Type Certificate Data Sheet BA1 Issue 8
(http://www.caa.co.uk/docs/393/srg_acp_ba01-08.pdf)

1.1.1.I Model B121 Series 1 approved 28 March 1968

1.1.1.II Certification Basis

The following requirements were the basis of certification of the type design:

BCAR Section K Issue 2 dated 21 March 1967 and ARB Blue Papers 373, 376 and 426.

Non compliance with the following requirements was accepted:

K2-4, 3.1 (en route climb speed)

1.1.1.III Technical Characteristics and Operating Limitations

Engine	One Rolls Royce / Continental O-200-A				
Fuel	80/ 87 minimum grade Avgas				
Engine Limits	2750 r.p.m. for all operations (100 h.p.)				
Propeller	McCauley 1A105 SCM7053				
	Diameter range 70" max. -68.5" min.				
	Static r.p.m. at maximum possible throttle setting (cross wind) :				
	Not over 2400, not under 2300 r.p.m.				
	No additional tolerance permitted.				
Airspeed Limits	Refer to AFM				
C.G. Range	Refer to AFM				
Maximum Weight	Refer to AFM				
Number of Seats	Two (refer to AFM)				
Maximum Baggage	Refer to AFM				
Fuel Capacity	24 Usable Imperial Gallons (See Note 1 for data on unusable fuel. Refer to AFM for effect on c.g.)				
Oil Capacity	1.25 Imperial Gallons				
Control Surface Movements					
	Wing flaps	Up	0°	Down	39.5°
	Aileron	Up	28°	Down°	12°
	Elevator	Up	30°	Down°	20°
	Elevator trim tab	Up	13°	Down°	32°
	Rudder	Left	25°	Right	25°
Tyre pressures	29 p.s.i. Main wheels and Nose wheel				

Stall Warning	Safelight type 164 stall warning indicator and horn FSIC-53514-102 is required.
Equipment	Beagle Report TECH/B121/62 contains a list of all required equipment as well as optional approved equipment installations.
Flight Manual	Doc. No. BS 3/1 approved 1 February 1968 Amendment AL13 approved 1 September 2011

1.1.2.I Model B121 Series 2 approved 15 July 1968

All B121 Series 2 except serial number B121/ 004* are the same as the model B121 Series 1 with the following differences.

* Serial Number B121/004 includes a number of modifications to the design standard compared to the B121 Series 2. The design definition for this aircraft is defined in UK CAA Airworthiness Approval Note No.11319. Limitations and conditions specific to this aircraft serial number B121/004 are defined in section 4 of this SAS.

1.1.2.II Certification Basis

In addition non compliance with BCAR K2-9 was accepted.

1.1.2.III Technical Characteristics and Operating Limitations

Engine	Lycoming O-320-A2B
Fuel	91/96 minimum grade Avgas
Engine Limits	2700 r.p.m. for all operations (150 h.p.)
Propeller	1. Sensenich M74DMS-0-60 Diameter range 74" max. -72" min. Static r.p.m. at maximum possible throttle setting (cross wind) : Not over 2400, not under 2200 r.p.m. No additional tolerance permitted. 2. Sensenich 74DM6S5-0-60 Diameter range 74" max. -72" min. Static r.p.m. at maximum possible throttle setting (cross wind) : Not over 2400, not under 2200 r.p.m. No additional tolerance permitted.
Fuel Capacity	Optional extra tankage (modification BE13) increases capacity to 36 Imperial Gallons (See Note 1 for data on unusable fuel. Refer to AFM for effect on c.g.)
Oil Capacity	1.63 Imperial Gallons
Tyre pressures	35 p.s.i. Main wheels and Nose wheel
Equipment	Beagle Report TECH/B121/76 contains a list of all required equipment as well as optional approved equipment installations.
Flight Manual	All except s/n B121/004 - Doc. No. BS 3/2 approved 15 July 1968 and for s/n B121/004 - Doc. No. BS 2/2 approved 28 February 1968. Amendment AL10 approved 1 September 2011

1.1.3.I Model B121 Series 3 approved 24 February 1969

Same as model B121 Series 2 with the following differences.

1.1.3.III Technical Characteristics and Operating Limitations

Engine	Lycoming O-320-D2C
Fuel	91/96 minimum grade Avgas
Engine Limits	2750 r.p.m. for all operations (160 h.p.)
Propeller	1. Sensenich M74DMS-0-62 Diameter range 74" max. -72" min. Static r.p.m. at maximum possible throttle setting (cross wind) : Not over 2400, not under 2200 r.p.m. No additional tolerance permitted. 2. Sensenich 74DM655-0-62 Diameter range 74" max. -72" min. Static r.p.m. at maximum possible throttle setting (cross wind) : Not over 2400, not under 2200 r.p.m. No additional tolerance permitted.
Number of Seats	Four (refer to AFM)
Control Surface Movements	
	Wing flaps Up 0° Down 39.5°
	Aileron Up 28° Down° 12°
	Elevator Up 27° Down° 25°
	Elevator trim tab Up 13° Down° 35°
	Rudder Left 25° Right 25°
Equipment	Beagle Report TECH/B121/89 contains a list of all required equipment as well as optional approved equipment installations.
Flight Manual	Doc. No. BS 3/3 approved 15 January 1969 Amendment AL7 approved 1 September 2011

1.2 Data Pertinent to all Models

1. Fuselage Datum

Fuselage station zero is 73.0 inches forward of the of the weighing reference station which is marked on a plate on the fuselage

2. Levelling Means

Holes for datum pins on which straight edge is placed are located at Stations 104 and 128.5 on left side of the fuselage for longitudinal levelling and on each side of door frame at Station 100 for lateral levelling.

3. Weight and Balance

Current weight and balance report including list of equipment in certificated empty weight, and loading instructions when necessary must be provided for each aircraft at the time of original certification.

4. Empty Weight

The certificated empty weight and corresponding centre of gravity location must include consideration of unusable fuel - as specified in the applicable Flight Manual.

5. Placards

All placards that are required by the Flight Manual must be installed in the appropriate locations.

SECTION 2: Airworthiness Directives

Airworthiness Directives issued by EASA and CAA-UK apply.

2047 PRE 80 – Modification BE 264 *Fuel* – Fuel tanks and associated wing attachment modification – Modified tank support angle. Applicable to all B.121 Series up to Serial No. 50. Should have been embodied by 1 September 1969. Service Bulletin B121/5 refers.

2048 PRE 80 – Modification BE 280 *Landing Gear* – Main Wheel Hubs AH 52595 –Modification. Applicable to all B.121 Series. Should have been embodied by 1 July 1969. Service Bulletin B121/6 refers.

2049 PRE 80 – Modification BE 318 *Flight Controls* – Rudder Control Tube Assemblies Modification. Applicable to all B.121 Series up to and including Serial No. 092. Compliance required by 31 August 1969. In the interim Service Bulletin B121/8 must be complied with.

2050 PRE 80 – Modification BE 344 *Placards* – No Smoking Placarding. Applicable to all B.121 Series. Should have been embodied by 31 July 1969. Service Bulletin B121/9 refers.

2051 PRE 80 – Modification BE 347 *Equipment/Furnishings* – Cabin fire extinguishers. Applicable to all B.121 Series. Modification BE 251 is an acceptable alternative. Service Bulletin B121/17 refers.

2052 PRE 80 – Modification BE 349 *Power Plant* – Introduction of Modified Engine Bearers. Applicable to all B.121 Series 2 and 3 aircraft prior to Serial No. B121/107. Compliance required not later than 300 flying hours. Service Bulletin B121/11 refers.

2053 PRE 80 – Modification BE 381 *Equipment/Furnishings* – Baggage lashing ring fittings. Applicable to B.121 Series Serial Nos. 005, 006, 007, 008 and 009. Compliance required before any baggage or freight is carried and in any case before 28 February 1970. Service Bulletin B121/18 refers.

2054 PRE 80 – Modification BE 382 *Landing Gear* – Nose wheel assemblies AH 52594 – Modification. Applicable to all B.121 Series. Should have been embodied by 31 December 1969. Service Bulletin B121/19 refers.

2055 PRE 80 – Service Bulletin B121/21 *Fuel* – Fuel tank non-return valves. Inspection for, and removal of the non-return valve springs. Applicable to B.121 Series 1, 2 and 3 aircraft Serial Nos. 005 to 032 inclusive and any subsequently constructed aircraft on which the fuel tanks have been changed since initial manufacture. Compliance required not later than 31 March 1970.

- 2056 PRE 80 – Service Bulletin B121/30 *Power Plant* – Chafing of engine mounting tubes. Applicable to all B.121 Pup aircraft. Compliance requires an immediate inspection upon receipt of this Service Bulletin.
- 2057 PRE 80 – Service Bulletin B121/49 *Engine* – Teledyne Continental Engine Valve Guide Inspection. Applicable to all B.121 Series 1 aircraft. Compliance required as detailed in Service Bulletin.
- 2058 PRE 80 – Service Bulletin B121/51 *Engine* – Avco Lycoming Type O–320 Engine Replacement of magneto drive shaft bushing – Applicable to B.121 Series 2 and 3 aircraft. Should have been complied with by 24 March 1975. Bendix Service Bulletin No. 556B refers.
- 2059 PRE 80 – Service Bulletin B121/61 *Flight Controls* – Inspection of flap actuating lever assemblies. Applicable to all B.121 Series 1, 2 and 3 aircraft. Compliance required as detailed in Service Bulletin.
- 2061 PRE 80 – Service Bulletin B121/67 *Engine* – Procedures to be carried out following reported engine overspeed. Applicable to all B.121 Series 2 and 3 aircraft. Compliance required as detailed in Service Bulletin. Note: Reference should be made to Avco Lycoming Service Bulletin No. 369B.
- 2062 PRE 80 – Service Bulletin B121/69 *Landing Gear* – Nosewheel steering head failure – Loss of nosewheel steering. Applicable to all B.121 aircraft. Compliance as detailed in Service Bulletin.
- 2063 PRE 80 – Service Bulletin B121/71 *Flight Controls* – Failure of Rudder Control Lever (Fuselage Station 217.75). Applicable to all B.121 aircraft. Compliance as detailed in Service Bulletin.
- 2064 PRE 80 – Service Bulletin B121/72 *Flight Controls* – Rudder Control Lever Part No. BE45.50.107. Applicable to all B.121 aircraft (pre-Modification BE 414). Compliance not later than 31 October 1977.
- 2065 PRE 80 – Service Bulletin B121/73 *Flight Controls* – Rudder pedal anchorages. Failure of rivets. – Applicable to all B.121 aircraft. Compliance as detailed in Service Bulletin.
- 2066 PRE 80 – Service Bulletin B121/74 *Engine Fuel and Control* – Failure of throttle cable assembly and introduction of Modifications BE 424 and BE 425. Applicable to all B.121 Series 2 and 3 aircraft. Mandatory Compliance required as detailed in Service Bulletin.
- 2067 PRE 80 – Service Bulletin B121/75 *Fuselage* – Mainplane attachments. Applicable to all B.121 Series 1 aircraft. Compliance as detailed in Service Bulletin.
- 2068 PRE 80 – Service Bulletin B121/76 *Fuselage* – Mainplane attachments – Port and Starboard Fuselage/Main-plane lower joint plate assemblies. Applicable to all B.121 Series 2 and 3. Compliance required as detailed in Service Bulletin.
- 2070 PRE 80 – Service Bulletin B121/79 *Wings* – Mainplanes – Repair Scheme No BE.03.10169 to mainplanes not having Mod. BE 214 embodied.. Applicable to all B.121 aircraft. Compliance required as detailed in Service Bulletin. To be accomplished on all aircraft which have exceeded 1300 flying hours. Mandatory by 31 March 1991 and on all other aircraft before they reach the 1300 flying hour threshold.
- 2071 PRE 80 – Service Bulletin B121/80 *Engine* – Bendix Magnetos – Inspection of Impulse couplings and stop pins. Applicable to B.121 Series 2 and 3 aircraft. Compliance required as detailed in Service Bulletin.

2072 PRE 80 – Service Bulletin B121/81 *Power Plant* – Engine Mounting Structure Inspection for cracks. – Applicable to all B.121 Series 1 and 2. Compliance required as detailed in Service Bulletin.

009–06–84 – Service Bulletin B121/86 *Fuselage* – Cracking of angle diaphragm and flange at tailplane spar attachment. Applicable to B.121 Series 1, 2 and 3 aircraft. Compliance required as detailed in Service Bulletin.

008–04–87 – Service Bulletin B121/91 *Flight Controls* – Control rod end fittings Security of attachment. – Applicable to all B.121 aircraft. Compliance required as detailed in Service Bulletin.

003–07–88 – Service Bulletin B121/94 *Flight Controls* – Rudder controls – Incorrect assembly. Applicable to all B.121 aircraft. Compliance required as detailed in Service Bulletin.

010–05–90 – Service Bulletin B121/95 *Flight Controls* – Failure of handgrip fitting on control column. Applicable to all B.121 aircraft. Compliance required as detailed in Service Bulletin.

001–11–91 – Service Bulletin B121/28 *Flight Controls* – Corrosion of elevator torque tubes. Applicable to all B.121 aircraft. Compliance required as detailed in Service Bulletin.

007–01–95 – Service Bulletin B121/100 *Mainplanes* – To introduce an additional inspection at the left and right mainplane/ fuselage mainspar attachment fitting. Applicable to B.121 Series 2 and 3 aircraft. Compliance required as detailed in Service Bulletin.

014–03–95 – Service Bulletin B121/101 Notification of fatigue life limitation for aircraft. Applicable to all B.121 aircraft. Compliance required as detailed in Service Bulletin.

003–10–95 – Service Bulletin B121/103 *Landing Gear* – Brake system – Foot brake controls – To inspect the brake torque tube assemblies. Applicable to all B.121 aircraft. Compliance required as detailed in Service Bulletin.

005–01–98 – Service Bulletin B121/105 *Fuselage* – To introduce inspections at the main-spar. Applicable to all B.121 aircraft. Compliance required as detailed in Service Bulletin.

006–01–98 – Service Bulletin B121/106 *Mainplanes* – To introduce new nuts at the wing to fuselage main-spar attachment Applicable to all B.121 aircraft. Compliance required as detailed in Service Bulletin.

G-2005-0030 – Service Bulletin B121/65 Issue 2 *Controls* – ATA 27 - rudder torque tubes – Inspection. Compliance required as detailed in Service Bulletin.

NOTE

1. Airworthiness Directives published after June 2007 can be found on the EASA website (<http://easa.eu.int> and http://www.easa.europa.eu/home/aw_dir_en.html)

2. Service Bulletins can be obtained from de Havilland Support Ltd

SECTION 3: Occurrence Reporting

This Specific Airworthiness Specification may be used as a basis for the issue of a Restricted Certificate of Airworthiness in accordance with 21A.173(b)(2) under the following conditions:

- a) The holder of a Restricted Certificate of Airworthiness based on this Specific Airworthiness Specification shall report to the State of Registry all information related to occurrences associated with the operation of the aircraft which affects or could affect the safety of operation¹.
- b) Such reports shall be despatched within 72 hours of the time when the occurrence was identified unless exceptional circumstances prevent this.
- c) The State of Registry shall forward the information received under (a) to the Agency when it relates to failures, malfunctions, defects or other occurrences which cause or might cause adverse effects on the continuing airworthiness of the aircraft.

SECTION 4: Other Limitations

Limitation applicable to B121 Series 2, serial Number B121/004 only:-

Operation of this aircraft is limited to flights for Private purposes.

¹ AMC 20-8 contains guidance describing the occurrences which are to be reported. This document can be found on the EASA website under Regulations>Certification Specifications: