UNITED KINGDOM
CIVIL AVIATION AUTHORITY

BA 7
Issue 18
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SCOTTISH AVIATION
BULLDOG SERIES 100
MODELS 101, 102, 103, 104
BULLDOG SERIES 120
MODELS 121, 122, 123, 125, 126, 127, 128, 129, 1210

TYPE CERTIFICATE DATA SHEET NO. BA7

This data sheet is a part of CAA Type Certificate No. BA7, and gives the basis upon which the certificate was issued, together with other information to define the product.

TYPE DESIGN ORGANISATION: **de Havilland Support Ltd**
Building 213
Duxford Airfield
Cambridgeshire
CB2 4QR

Type to which the Certificate relates: Scottish Aviation
Bulldog Series 100 approved 30th June 1971,

and

Bulldog Series 120 approved 12th February 1973.

Approved variants:
Model 101 approved 30th June 1971
Model 102 approved 10th December 1971
Model 103 approved 3rd July 1972
Model 104 approved 25th January 1974
Model 121 approved 11th May 2001
Model 122 approved 12th July 1973
Model 123 approved 4th December 1973
Model 125 approved 25th June 1974
Model 126 approved 22nd August 1975
Model 127 approved 4th June 1976
Model 128 approved 12th September 1977
Model 129 approved 20th December 1979
Model 1210 approved 20th June 1980

CERTIFICATION BASIS

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

BCAR Section K - Light Aeroplanes - Issue 3 dated 1st October 1969
BCAR Section J - Electrical - Issue 3 dated 15th September 1966

BCAR Blue Papers:

No. 377 Sub-section K7 - Operating Limitations and Information, dated 18th September 1969.

No. 402 Flight Manuals for Light Aeroplanes, dated 24th September 1969, and as amended by ARB letter reference REQ/IBL dated 25th September 1970.

No. 452 Performance - Extrapolation Ranges, dated 18th September 1969.

CERTIFICATION BASIS (continued)

No. 470 Ditching Emergency Exits, dated 10th January 1969.

No. 497 Miscellaneous Amendments to Handling Requirements - First Set, dated 18th September 1969.

No. 503 Miscellaneous Amendments to Handling Requirements - Second Set, dated 18th September 1969.

Series 100 and Series 120. Non-compliance with the requirement of BCAR K6-1, 2.10.2, relating to the maximum value of airspeed indicator system error was accepted on the basis that amount (0.5 knots) by which the requirement was exceeded was not likely to jeopardise safety.

Model 101. The type design of this variant complies with BCAR K6-1, 2.10.2 but does not comply with certain other requirements; these are listed in full in CAA Airworthiness Approval Note No. 11604. The type design of the Model 101 is therefore not acceptable to CAA in these respects and a product confirming to it is eligible for certification only for export to a State which is notified of this situation.

Model 102. In addition to non-compliance with BCAR K6-1, 2.10.2 to which reference is made under 'Series 100', the type design of the Model 102 does not comply with the following:-

a) BCAR K4-2, 3.1.1 in that the magnetic compass causes unacceptable intrusion into the pilot's field of view; and

b) BCAR K4-8, 2.2.1(c) in that a device for locking the flying controls forms part of the type design but the means of indicating to the pilot that the locks are engaged did not provide unmistakable warning.

This type design is not therefore acceptable to CAA in this respect and a product conforming to it is eligible only for export to a State which is notified of this situation.

Model 103. In addition to non-compliance with BCAR K6-1, 2.10.2 to which reference is made under 'Series 100', the type design of the Model 103 does not comply with BCAR K4-8, 2.2.1(c) in that there is inadequate warning of engagement of the flying control ground locking device.

Model 121. In addition to non-compliance with BCAR K6-1, 2.10.2 to which reference is made under 'Series 120', the type design of the Model 121 does not comply with the following:-

(a) BCAR K4-4, 3.2 in that the crew restraint harness is not approved. For aircraft on the UK register an approved harness must be fitted at the next scheduled or unscheduled replacement.

(b) BCAR Blue Paper No. 377, Sub-section K7 - Operating Limitations and Information, 18th September 1969:-
(i) Chapter K7-3, 4.3 in that the markings of the canopy jettison handle are incorrect.

Model 122 and Model 123. In addition to non-compliance with BCAR K6-1, 2.10.2 to which reference is made under 'Series 120', the type design of the Models 122 and 123 does not comply with the following:-

a) BCAR Blue Paper No. 377, Sub-section K7 - Operating Limitations and Information, 18th September 1969:-

i) Chapter K7-3, 4.3 in that the markings on the canopy jettison handle are incorrect.

ii) Chapter K7-3.5.1 in that an airspeed placard is not provided.

iii) Chapter K7-3, 5.2 in that a manoeuvres placard is not provided.

iv) Chapter K7-3, 5.4 in that an aircraft operation placard is not provided.

v) Chapter K7-3, 5.8 in that a No Smoking placard is not provided.

In addition, the Model 123 does not comply with BCAR K4-4, 3.2 in that the crew restraint harness is not approved.

Model 125 and Model 128. In addition to non-compliance with BCAR K6-1, 2.10.2 to which reference is made under 'Series 120', the type design of the Models 125 and 128 does not comply with the following:-

a) BCAR K4-4, 3.2 in that the crew restraint harness is not approved.

b) BCAR Blue Paper No. 377, Sub-section K7 - Operating Limitations and Information, 18th September 1969:-

i) Chapter K7-3, 4.3 in that the markings on the canopy jettison handle are incorrect.

CERTIFICATION BASIS (continued)

Models 126, 127 and 129. In addition to non-compliance with BCAR K6-1, 2.10.2 to which reference is made under 'Series 120', the type design of the Models 126, 127 and 129 does not comply with the following:-

a) BCAR Blue Paper No. 377, Sub-section K7 - Operating Limitations and Information, 18th September 1969:-

i) Chapter K7-3, 4.3 in that the markings on the canopy jettison handle are incorrect.

Models 1210. In addition to non-compliance with BCAR K6-1, 2.10.2 to which reference is made under 'Series 120', the type design of the Model 1210 does not comply with the following:-

a) BCAR Blue Paper No. 377 Sub-section K7 - Operating Limitations and information, 18th September 1969, Chapter K7-3, 4.3 in that the canopy jettison handle has incorrect markings.

b) BCAR K4-4, 3.2 in that the crew restraint harness is not aprpoved.

c) Although the presence of fixed fittings for removable external stores is acknowledged, the adequacy or efficiency of these fittings has not been the subject of an investigation into strength or safety aspects and neither has the performance of the aircraft with external stores attached been investigated.

Note: The above statements of non-compliance do not include the radio station. Items of the radio station which are not acceptable to CAA will be specified on the Export Certificate of Airworthiness of each aircraft.

FLIGHT MANUAL

Series 100. The limitations, recommended procedures, and information required, are contained in the Flight Manual Doc. No. SH.3.1, which was approved by CAA on 15th June 1971. This Manual forms part of Scottish Aviation Bulldog Series 100 Owners Handbook reference BG. 100/OH/1-06-71.

Model 101. S.A. Supplement No. 1, which was approved by CAA on 15th June 1971, is required in addition to Flight Manual SH.3.1.

Model 102. S.A. Supplement No. 2, which was approved by CAA on 7th December 1971, is required in addition to Flight Manual SH.3.1

Model 103. S.A. Supplement No. 3, which was approved by CAA on 3rd July 1972, is required in addition to Flight Manual SH.3.1.

Model 104. S.A. Supplement NO. 4, which was approved by CAA on 25th January 1974, is required in addition to Flight Manual SH.3.1.

Series 120. The limitations, recommended procedures, and information required, are contained in the Flight Manual Doc. No. SH.3.3, which was approved by CAA on 12th February 1973. This Manual forms part of Scottish Aviation Bulldog Series 120 Owners Handbook reference BG. 120/OH/1-1-73. Whenever an aircraft is fitted with a ferry fuel tank to Scottish Aviation modification BCR 131, its flight manual must contain S.A. Supplement 5 approved by CAA on 21st April 1975.

Model 121. S A Supplement No. 4, which was approved by CAA on 27th February 1975, and BAE Systems (Operations) Ltd Supplement No. 11, which was approved by CAA on 9th May 2001 are required in addition to Flight Manual Doc. No. SH3.3.

Model 122. S.A. Supplement No. 1, which was approved by CAA on 15th June 1973, is required in addition to Flight Manual Doc. No. SH.3.3.

Model 123. S.A. Supplement No. 2, which was approved by CAA on 5th November 1973, is required in addition to Flight Manual Doc. No. SH.3.3.

Model 125. S.A. Supplement No. 3 which was approved by CAA on 25th June 1974, and S.A. Supplement No. 4, which was approved by CAA on 27th February 1975, are required in addition to Flight Manual Doc. No. SH.3.3.

Model 126. S.A. Supplement No. 4, which was approved by CAA on 27th February 1975 and S.A. Supplement No. 6 which was approved by CAA on 7th August 1975, are required in addition to Flight Manual Doc. No. SH.3.3.

Model 127. S.A. Supplement No. 7, which was approved by CAA on 6th April 1976, is required in addition to Flight Manual Doc. No. SH.3.3.

Model 128. S.A. Supplement No. 8, which was approved by CAA on 23rd September 1977, is required in addition to Flight Manual Doc. No. SH.3.3.

FLIGHT MANUAL (continued)

Model 129. British Aerospace, Scottish Division, Supplement No. 9, which was approved by CAA on 20th December 1979, is required in addition to Flight Manual Doc. No. SH.3.3.

Model 1210. British Aerospace, Scottish Division, Supplement No. 10, which was approved by CAA on 24th June 1980 is required in addition to Flight Manual Doc. No. SH.3.3.

AIRWORTHINESS CATEGORY

UK: Transport Category (Passenger)

PERFORMANCE GROUP

UK: Group D.

MINIMUM CREW

UK: One pilot

MAXIMUM NUMBER OF OCCUPANTS

Series 100, all models except 102, and Series 120 all models except 121.

Number of persons, including 1 pilot, not to exceed 3.

Series 100, Model 102 and series 120, Model 121

Number of persons, including 1 pilot, not to exceed 2.

Note: With the equipment provided in the type design, weight and balance considerations preclude the carriage of more than this number of persons.

POWER-UNIT

All models except the Model 121, 125, 126 and 129: one Avco Lycoming IO-360-A1B6 engine fitted with one Hartzell type HC-C2YK-4/C7666A-2 or type HC-C2YK-4B/C7666A-2, or type HC-C2YK-4F/FC7666A-2 or type HC-C2YK-4BF/FC7666A-2propeller.

Model 121 and 125: one Avco Lycoming AEIO-360-A1B6 engine or one Avco Lycoming IO-360-A1B6 engine incorporating Scottish Aviation Ltd modifications No. BCR 114 and BCR 139, fitted with one Hartzell type HC-C2YK-4/C7666A-2 or type HC-C2YK-4B/C7666A-2 or type HC-C2KY-4F/FC7666A-2 or type HC-C2YK-4BF/FC7666A-2 propeller.

Model 126 and 129: one Avco Lycoming AEIO-360-A1B6 engine fitted with one Hartzell HC-C2YK-4/C7666A-2 or type HC-C2YK-4B/C7666A-2 or type HC-C2YK-4F/FC7666A-2 or type HC-C2YK-4BF/FC7666A-2 propeller.

Note: For all models, Hartzell propellers with equivalent part numbers commencing HC-C2YR- are approved as direct alternatives to those listed above.

FUEL CAPACITY

The capacity of the fuel tanks, in Imp. gallons, is:

Tank	Usable	Unusable	Total
Left Wing	16	0.5	16.5
Right Wing	16	0.5	16.5
Total	32	1.0	33.00

OIL CAPACITY

The capacity of the engine oil system is 1.67 Imp. gallons.

MAXIMUM WEIGHTS

	Series 100 All models	Series 120 All models
Maximum take-off and landing weight	2350 lb (1066 kg)	2350 lb (1066 kg)
Maximum permissible weight for aerobatics:-		
maximum normal acceleration: 6.0g	2150 lb (975 kg)	2238 lb (1015 kg)
maximum normal acceleration: 4.4g	-	2350 lb (1066 kg)
Maximum zero fuel weight:-		
normal acceleration >4.4g only		2050 lb (930 kg)

NUMBER OF WHEELS AND MAXIMUM TYRE PRESSURES

Number of wheels in the nose-wheel unit		1
Number of main-wheel units		2
Number of wheels in each main-wheel unit		1
Maximum tyre pressures:	Nose wheel	40 lbf/in^2
	Main wheels	30 lbf/in^2

STALL WARNING

There is insufficient natural aerodynamic warning of the onset of a stall. The equipment listed below must be installed to provide acceptable stall warning.

All Series and Models, except Model 101:

Vane on port wing: Safe Flight type 164

Horn in cockpit: Safe Flight type 1C 53514/102

Model 101:

The stall warning system provided in the type design of the Model 101 is not acceptable. See the statement of certification basis for the Model 101 made on page 2.

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