

January 24, 1975

AIRCRAFT TYPE APPROVAL

Manufacturer The Bristol Aeroplane Company Limited,
Bristol, England.

1. Model: Type 170, Series 31 (Transport Category) Approved April 23, 1952.
2. Model: Type 170, Series 32 (Transport Category) Approved June 29, 1971.

Engines 2 Bristol Hercules 734

Fuel Aviation Gasoline, 100/130 Octane.
Maximum Lead Content: 5.5 mls T.E.L./Imp. Gal.

Engine Limits	Altitude	R.P.M.	M.P. (psi)
Take-off (5 min.)	S.L.	2800	+13
Max. Continuous	---	2500	+8.5
Max. Weak Mixture	---	2400	+3.5

Restricted Speed Range: The engines shall not be operated continuously within the range of 2550 to 2650 RPM.

Max. Overspeed Conditions: Overspeeds up to 3000 RPM are permissible for periods not exceeding 20 seconds.

Propellers and Propeller Limits 2 de Havilland Aircraft of Canada 4 bladed metal Hydromatic non-braking constant speed L.H. Tractor. Type PD 122/446-1 or -2. Diameter 14 ft 0 in. Pitch settings at 42 in. station:

Basic (indexing)	26° - 102°
Fine	26°
Feather	95°

Airspeed Limits (IAS)	Never Exceed	V	207 kts.
		NE	
	Maximum Cruise	V	156 kts.
		C	
	Manoeuvring	V	120 kts.
		P	
	Flaps Extended 30°	V	124 kts.
		F	
	Flaps Extended 60°	V	116 kts.
		F	
	Automatic Pilot		140 kts.

Maximum Weights	Landing & Take-off
	Series 31 (with items 201(a) & 205(a)) 44,000 lbs.
	Series 31 (with items 201(b) & 205(b)) 42,000 lbs.
	Series 32 44,000 lbs.
	Zero fuel and oil (usable) 41,640 lbs.
	See NOTE 3
C.G. Limits	Forward: 80.5 inches aft of datum at 44,000 lbs. or less
	Aft: Series 31: 90.5 inches aft of datum at 44,000 lbs.
	93.5 inches aft of datum at 42,000 lbs.
	Linear variation between points given.
	Series 32: 91 inches aft of datum except that during climb and cruising flight the C of G may lie as far aft as 93.5 inches aft of datum.
Datum	54 inches forward of Station "0" and 72 inches below rigging datum line.
Levelling Means	Longitudinal and lateral levelling determined inside fuselage by two pegs on starboard side at Station 360 inches, and two pegs on port side at Station 440 inches.
Minimum Crew	2 (Pilot and co-pilot)
Maximum Occupants	Including crew, Series 31, 58; Series 32, 65; in accordance with drawings approved by, or acceptable to, the Canadian Department of Transport.

Maximum Cargo	<u>Series 31</u>	<u>Max. Permissible Load (lb.)</u>	<u>Max. Permissible Loading (lb./sq.ft.)</u>
	Compartment Main hold	42,500	200
	Lobby	3,550	70
	<u>Series 32</u>		
	Compartment Main hold	49,208	200
	Aft Compartment	4,963	70
Fuel Capacity	Tank No. 1 Port (inner)		350 Imp. Gal.
	Stbd. (inner)		350 Imp. Gal.
	Tank No. 2 Port		136 Imp. Gal.
	Stbd.		136 Imp. Gal.
	Tank No. 3 Port (outer)		100 Imp. Gal.
	Stbd (outer)		100 Imp. Gal.
Oil Capacity	Series 31	22	Imp. Gal. in each nacelle.
	Series 32	23.5	Imp. Gal. in each nacelle.
Control Surface Movements	Ailerons	Up 19°	Down 14°
	Elevator	Up 27°	Down 17.5°
	Rudder: Series 31	Left 28.5°	Right 28.5°
	Series 32	Left 22.5°	Right 22.5°
Type Approval Basis	British Civil Airworthiness Requirements, ARB Normal Category, subdivisions (a), (b), (c), (d), (e), (h) and (i), dated 1st January, 1951 (Issue 16). Canadian Department of Transport Validation of ARB Airworthiness Approval Note #2138 approving the Bristol Type 170 Series 32 aircraft.		
Serial Nos Eligible	All Bristol Type 170 Series 31 or Series 32 aircraft for which a United Kingdom Certificate of Airworthiness for Export is submitted.		

Import Requirements The import documentation must include a United Kingdom Certificate of Airworthiness for Export signed by a representative of the U.K. Civil Aviation Authority and containing the following statement:

"The airplane identified by this certificate has been examined and found to conform to Canadian Department of Transport Aircraft Type Approval No. A-25".

Required Equipment See Manufacturer's List of Principal Proprietary Components contained in Bristol Type 170 Series 31 or Series 32 Maintenance Manual.

See NOTE 1

Approved Equipment and Installations

PROPELLER ACCESSORIES

2 De Havilland Aircraft of Canada, Ltd. Propeller Governors, PAY 6200.

2 De Havilland Aircraft of Canada, Ltd. Spinner Fan Assemblies, PPS 4465054.

LANDING GEAR

- 201. Series 32 - 2 Main Wheel Tires, Goodyear GA299.
- 201. (a) Series 31 - 2 Main wheel Tires, Dunlop DR5311.
- 201. (b) Series 31 - 2 Main Wheel Tires, Dunlop HOD R.14N.48X18 - 18 heavy (61 psi.)
- 202. Series 31 - 2 Main Wheel Tubes, Dunlop HOD 8.
Series 32 - 2 Main Wheel Tubes, Goodyear GA49 or GA96.
- 203. 1 Tail Wheel Tire, Dunlop NB16, 9.75 in.x8 heavy (70 psi.)
- 204. 1 Tail Wheel Tube, Dunlop NB2.
- 205. (a) Series 31 - 2 Main Wheel Brake Assemblies - Dunlop AH9761.
Series 32 - 2 Main Wheel Brake Assemblies - Goodyear E40284.
- 205. (b) Series 31 - 2 Main Wheel Brake Assemblies - Dunlop AH 9504.

INTERIOR EQUIPMENT

- 401. Approved Flight Manual.
- 403. Auto Control (relay) Unit: Smith's Model 12D1.
- 405. Instrument List (See List of Principal Proprietary Components in Bristol Type 170 Series 31 Maintenance Manual or Series 32 Maintenance Manual).

DE-ICING EQUIPMENT

- 501. Wings, Fin and Tailplane - TKS system using fluid TKS-R328 or D.T.D. 406A.
- Windscreens - Fluid Specification B.S.S.3.D.9.
- Propellers - Fluid Specification TKS-R328 or D.T.D. 406A.

- NOTE 1 Current Weight and Balance Report, including list of equipment included in certificated weight, must be in each aircraft at the time of original certification.
- NOTE 2 The aircraft must always be loaded within the C.G. limits stated in this Type Approval. For a description of the interior arrangement of the freight hold, allowable loadings and strength attachments, refer to the respective Bristol Maintenance Manual for Type 170 Aircraft.
- NOTE 3 The zero fuel and oil weight is defined as the maximum gross weight with zero usable fuel and zero usable oil in the aircraft. All weight in excess of 41,640 pounds must consist of usable fuel and usable oil, the usable fuel to be in the tanks in the outer wing.

E. P. Bridgland.

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