Surrendered June 13, 2011

FEDERAL AVIATION AGENCY

7A7
Revision 4
British Aerospace
Aircraft Group,
Scottish Aviation

Twin Pioneer
Series 2
Series 3

June 24, 2011

TYPE CERTIFICATE DATA SHEET NO. 7A7

This data sheet which is a part of type certificate No. 7A7 prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Civil Air Regulations.

Type Certificate Holder — British Aerospace, Aircraft Group,
Scottish Aviation
Prestwick Airport, Ayrshire
Scotland KA9 2RW

(1) This TC was surrendered for cancellation on June 13, 2011. Only standard airworthiness certificates issued prior to June 13, 2011 are valid.

(2) Future unsafe conditions existing in the aircraft may result in the revocation of the airworthiness certificates of the aircraft if there is no entity to comply with 14 CFR § 21.99(a), "Required design changes."

(3) Replacement parts may not be available in the future.

I Twin Pioneer Series 2 (Transport Category), Approved November 11, 1959

Engines — 2 Pratt & Whitney S 3H1-G

Fuel — 87 Minimum grade aviation gasoline

Engine limits

	HP	RPM	MP IN.HG.	ALT.
Takeoff (5 min.)	600	2250	36.0	S.L.
Maximum continuous	550	2200	34.0	S.L.
Maximum continuous	550	2200	32.5	5000 ft.

Propeller and propeller limits — 2 Hamilton Standard three-bladed, constant speed, feathering; hubs 23D40 with 7005-7 blades
Diameter: 10.92 ft.
Pitch settings at 42 in.sta.: Low +12 1/2°, fine +14°, feathered +88°.

or

2 Hamilton Standard three-bladed, constant speed, feathering; hubs 23D40 with 6601-7 blades
Diameter: 10.92 ft.
Pitch settings at 42 in.sta.: Low +12 1/2°, fine +14°, feathered +88°.

Airspeed limits (I.A.S.)

Vne (Never exceed)	187 m.p.h.	(162 knots)
Vno (Normal operating)	168 m.p.h.	(146 knots)
Va (Maneuvering)	127 m.p.h.	(110 knots)

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Vfe (Flaps extended)	115 m.p.h.	(100 knots)
Vlle (Landing light extended)	150 m.p.h.	(130 knots)
Vllo (Landing light operation)	150 m.p.h.	(130 knots)
Vmc (Minimum control)	79 m.p.h.	(69 knots)

C.G. range
(+12.5) to (+19.0) at 11,600 lb.
(+15.0) to (+19.0) at 14,000 lb.
Straight line variation between points.

Maximum weight
14,000 lb. (Takeoff, Landing and Zero Fuel)

Maximum baggage

Compartment	Station	Capacity	Floor Loading	C.G.
Fwd. belly	29 to 90	300 lb.	16 lb/ft.²	(-120)
Aft	365 to 416	700 lb.	80 lb./ft.²	(+200)

Fuel capacity
(See NOTE 1(b) for data on system fuel and oil)

	Total	Usable
2 Main tanks	108 U.S. gal. ea.	107 U.S. gal. ea. (+28)
2 long range tanks	40 U.S. gal. ea.	38 U.S. gal. ea. (+28)

Oil capacity
(See NOTE 1(b) for data on system fuel and oil)
One oil tank per nacelle with an oil capacity of 9.6 U.S. gal. usable. Total usable oil 19.2 U.S. gal. (-10)

Max. operating altitude
17,000 ft.

Control surface movements

Elevator	Up	30 1/2°	Down	20 1/2°
Elevator tab trim	Up	10°	Down	8°
Rudder	Right	19°	Left	17°
Rudder trim tab (Center)	Right	18°	Left	18°
Rudder balance tab (Outbd. right and left)	Right	19°	Left	17°
Aileron	Up	21°	Down	21°
Aileron trim tab (left only)	Up	13°	Down	13°
Aileron balance tab (Right and left)	Up	20°	Down	20°
Flaps			Down	19 1/2°

II Twin Pioneer Series 3 (Transport Category), Approved August 2, 1961

Engines
2 Alvis Leonides 531/8B

Fuel
100/130 Minimum grade aviation gasoline

Engine limits

	HP	RPM	MP IN.HG.	ALT.
Takeoff (5 min.)	600/625	3200	46.0	S.L.
Maximum continuous	570	3000	43.0	S.L.
Maximum continuous	560/585	3000	43.0	2750 ft.

Propeller and propeller limits
2 De Havilland three-bladed, constant speed, feathering;
Type PD.237/323/1
Diameter: 11 ft.
Pitch settings at 42 in.sta.: Fine +23°, feathered +93°.

Airspeed limits (I.A.S.)

Vne (Never exceed)	187 m.p.h.	(162 knots)
Vno (Normal operating)	168 m.p.h.	(146 knots)
Va (Maneuvering)	132 m.p.h.	(115 knots)
Vfe (Flaps extended)	115 m.p.h.	(100 knots)
Vlle (Landing light extended)	150 m.p.h.	(130 knots)
Vllo (Landing light operation)	150 m.p.h.	(130 knots)
Vmc (Minimum control)	78 m.p.h.	(68 knots)

C.G. range

(+13.6) to (+22.4) at 11,000 lb.
(+15.0) to (+22.4) at 14,600 lb.
Sraight line variation between points.

Maximum weight

14,600 lb. (Takeoff, Landing and Zero Fuel)

Maximum baggage

Compartment	Station	Capacity	Floor Loading	C.G.
Fwd. belly	29 to 90	360 lb.	16 lb/ft.²	(-120)
Aft	320 to 362	560 lb.	80 lb./ft.²	(+161)

* If the toilet compartment is removed, this figure may be increased to 800 lbs.

Fuel capacity

(See NOTE 1(b) for data on system fuel and oil).

	Total	Usable
2 Main tanks	108 U.S. gal. ea.	107 U.S. gal. ea. (+28)
2 long range tanks	40 U.S. gal. ea.	38 U.S. gal. ea. (+28)
2 extra long range tanks	74 U.S. gal. ea.	72 U.S. gal. ea. (+28)

Oil capacity

(See NOTE 1(b) for data on system fuel and oil)
One oil tank per nacelle with an oil capacity of 18.0 U.S. gal. usable. Total usable oil 36.0 U.S. gal. (-10)

Max. operating altitude

21,000 ft.

Control surface movements

Elevator	Up	30 1/2°	Down	20 1/2°
Elevator tab trim	Up	16 1/2°	Down	16 1/2°
Rudder	Right	17°	Left	19°
Rudder trim tab (Center)	Right	18°	Left	18°
Rudder balance tab (Outbd. right and left)	Right	17°	Left	19°
Aileron	Up	21°	Down	21°
Aileron trim tab (left only)	Up	13°	Down	13°
Aileron balance tab (Right and left)	Up	20°	Down	20°
Flaps			Down	19 1/2°

Data Pertinent to All Models

Datum

180 in. aft of fuselage nose

Standard mean chord

105.1 in. (Leading edge is 12.8 in. fwd. of C.G. datum)

Leveling means

2 external pegs on right side of fuselage on frame stations 200 and 219.

Minimum crew

1

Maximum passengers

19

Other operating limitations

Aircraft shall be operated in compliance with the operating limitations specified in the appropriate A.R.B. Approved Airplane Flight Manual

Serial Nos. eligible

The United Kingdom Certificate for Airworthiness for Export endorsed as noted under "Certification basis" must be submitted for each individual aircraft for which application for certification is made.

Certification basis

CAR 10. Type Certificate No. 7A7 issued November 11, 1959.
Date of Application for Type Certificate October 26, 1955.

The CAA originally type certificated this aircraft under its type certificate. The FAA validated this product under U.S. Type Certificate Number 7A7. Effective September 28, 2003, the European Aviation Safety Agency (EASA) began oversight of this product on behalf of the CAA.

Each aircraft and any replacement parts manufactured in the United Kingdom must be designated as "import" and clearly labeled as such in accordance with CAR 10.30.

The U.S. Airworthiness Certificate may be issued on the basis of a United Kingdom Certificate of Airworthiness for Export signed by a representative of the Ministry of Aviation containing the following notation: "The aeroplane covered by this certificate has been examined and found to comply with British Airworthiness Requirements (1951) and the Special Requirements for Twin Pioneer Series 2 and Series 3 notified by the U.S.A. Government to the Government of the United Kingdom and conforms to T.C. 7A7." (This certification equivalent to CAR 4b amended to December 31, 1953, plus amendments 4b-1, 4b-2 and 4b-4.)

The FAA can issue a U.S. airworthiness certificate based on an CAA Export Certificate of Airworthiness (Export C of A) signed by a representative of the CAA on behalf of the European Community. The Export C of A should contain the following statement: 'The aircraft covered by this certificate has been examined, tested, and found to conform to the type design approved under U.S. Type Certificate No 7A7 and to be in a condition for safe operation.'

Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. Approved equipment is shown in Scottish Aviation Equipment List No. TP/2/1 for Series 2 aircraft and in Equipment List No. TP/3/1 for Series 3 aircraft. In addition, the following items of equipment are required:

(a) Engine Power Failure Warning System.

NOTE 1. (a) Current weight and balance report, including list of equipment included in certificated empty weight, and loading instructions when necessary, must be in each aircraft at the time of original certification and at all times thereafter (except in the case of operators having an approved weight control system).

(b) "Unusable Fuel and System Oil" and all hydraulic fluid must be included in the certificated empty weight. Unusable fuel is that quantity of fuel in the system and in the tanks which is unavailable to the engine under critical flight conditions as defined in CAR 4b.416. This unusable fuel includes "system fuel" which is defined as the quantity required to fill the system and tanks to the tank outlet level when the airplane is in the ground level attitude. The fuel gauges are calibrated with the unusable fuel level as the zero datum. The total amount of fuel is as follows:

	Usable fuel @ 6.0 lb./U.S. gal.	Unusable fuel @ 6.0 lb./U.S. gal.
Series 2	290 U.S. gal.	6 U.S. gal.
Series 3	434 U.S. gal.	10 U.S. gal.

System Oil is that amount of oil required to fill the oil system and tanks to the tank outlets to the engines. The propeller feathering oil is not considered usable oil and is included in "System Oil". System oil weight is 36 lb. The oil tank capacities shown in this data sheet include only the usable oil for which the tanks are placarded. Dipstick readings indicate the amount of usable oil.

NOTE 2. The following is a list of aircraft parts which are critical from the fatigue standpoint and must be replaced at the time specified:

Component	Time
All main bolts and bushes of main lift strut and U/C system	2,400 hr.
Wing V-brace structure Undercarriage V-brace.	3,250 hr.
Outer wing and lift strut	6,500 hr.
Fuselage undercarriage frames	10,000 hr.
Tailplane attachments, frames and fittings	7,000 flights
Relief valve, Part No. 71795,000 flights	
Hydraulic accumulator, slat jack assembly, flap jack assembly	10,000 flights
Hydraulic cut-out valve	12,500 flights

NOTE 3. SERVICE INFORMATION:

Each of the documents listed below that contain a statement that it is approved by the European Aviation Safety Agency (EASA) or for approvals made before September 28, 2003 - by the CAA are accepted by the FAA and are considered FAA approved. These approvals pertain to the type design only.

- British Aerospace Service Bulletins, except as noted below,
- Structural repair manuals,
- Vendor manuals referenced in British Aerospace service bulletins
- Aircraft flight manuals,
- Repair Instructions.

Design changes that are contained in Service Bulletins and are classified as level 1 major in accordance with the US Bilateral Aviation Safety Agreement Implementation Procedures for Airworthiness must be approved by the FAA.

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