

DEPARTMENT OF TRANSPORT
AIR SERVICES
OTTAWA, CANADA

A-101 Issue 1
Argosy AW 650
Series 222
July 16, 1970

AIRCRAFT TYPE APPROVAL

Manufacturer Hawker Siddeley Aviation Limited,
Greengate,
Middleton, Manchester,
U.K.

1. MODEL Argosy Type AW 650 Series 222 (Transport Category Cargo Only)
Approved April 17, 1970.

Engines 4 Rolls Royce Dart 7/2 Mark 532-1.

Fuel British D.Eng. R.D. 2482, 2488, 2494 and 2498
Canadian 3-GP-23e Type 1 and 3-GP-24d
American MIL-J-5624F Grade JP.5 and ASTM.D
1655-63T Jet A or Jet A-1
I.A.T.A. Kerosene type fuel

Wide-Cut Type Fuels

British D.Eng. R.D. 2486
Canadian 3-GP-22e Type 2
American MIL-J-5624F Grade JP.4 and
ASTM.D 1655-63T Jet B.
I.A.T.A. Wide-cut type fuel.

Water Methanol Current issue of Rolls Royce Specification
Reference AEP-1-W/M.

Oil The approved oils for use with this installation
are:

Esso Turbo Oil 35
Esso Extra Turbo Oil 274
Esso Aviation Turbo Oil 35
Castrol 98 Gas Turbine Oil
Aeroshell Turbine Oil 750
B.P. Aero Turbine Oil 35, also
known as Sinclair Turbo Oil 35
Texaco Synthetic Aviation Turbo Oil 35.

Oil to the above specifications, when reclaimed
to the approved Rolls Royce standards for the
particular oil, is also approved. Oil to
Specification D.Eng. R.D. 2479/0 or /1 is also
approved for use in the engine driven accessory
gearbox only.

<u>Engine Limits</u>	<u>R.P.M.</u>	<u>T.G.T. °C</u>	<u>Time Limit</u>
Max. Take-off, Wet	15,000	835	5 Min.
Max. Take-off, Dry	15,000	795	5 Min.
Max. Overspeed	17,000	-	20 Sec.
Max. Starting	-	930	Momentary
Static Ground Idling	below 10,400	550	Unlimited
Cruising	15000-14000	775	Unlimited
	14000-13000	760	Unlimited
	13000-12000	730	Unlimited
	12000-10400	680	Unlimited
	below 10400	550	Unlimited

Prolonged ground running at engine speeds between 8,500 r.p.m. and 9,500 r.p.m. shall be avoided.

Propeller and
Propeller Limits

Rotol Type CR 212/4-30-4/22
Diameter 12 feet.

Airspeed Limits

Never Exceed	270 Kts. IAS between 0 and 10,000 feet altitude varying linearly to 195 Kts. IAS at 25,000 feet.
Never Exceed with Auto-pilot Engaged	235 Kts. IAS between 0 and 10,000 feet altitude varying linearly to 175 Kts. IAS at 25,000 feet.
Normal Operating	235 Kts. IAS between 0 and 10,000 feet altitude varying linearly to 175 Kts. IAS at 25,000 feet.
Manoeuvring	166 Kts. IAS.
Flap:	
Take-off Position	12° 180 Kts. IAS
Approach Position	24° 160 Kts. IAS
Landing Position	34° 140 Kts. IAS
Landing Gear Lowered	160 Kts. IAS

Maximum Weight

Take-off 93,034 lbs.
 Landing 88,515 lbs.
 Zero Fuel 80,027 lbs.

C.G. Limits

Gross Weight (lb.)	Forward Limit (ins.)	Aft Limit (ins.)
50,000	18.48	29.78
62,000	12.83	43.23
76,000	13.18	-
93,000	21.89	43.85

Above limits are with landing gear extended.
 Undercarriage retraction moment is 115,850 in. lb.
 Straight line variation between points given.

Datum

Datum is marked by a spigot on the outside of the skin on each side of the fuselage and which is 350 inches aft of the fuselage nose.

Levelling Means

Longitudinal - Straight edge on two datum spigots on fuselage side.
 Lateral - Straight edge on freight floor sill at fuselage frame 1.

Maximum Cargo

Payload including pallets, restraint system, "Rolamat" and disposable weight in the door must not exceed 31,000 lbs.

Maximum allowable loads in:

Hold 1 (door closed)	-	550 lbs.
Total in Bays A, B & C	-	16,000 lbs.
Bay D		13,940 lbs.
Total in Bays E and F		17,500 lbs.
Hold 4 (door closed)		1,025 lbs.

Standard Mean Chord

152.348 inches long. Leading edge is 0.54 inches forward of datum.

Minimum Crew

2, Pilot and Co-pilot.

Maximum Occupants

3 Crew Members, No Passengers, Cargo Only.

Fuel Capacity

3,460 Imp. Gals. Usable.

Water Methanol Capacity

136 Imp. Gals.

Oil Capacity

For one engine: 26.5 Imp. Pints.

Control Surface
Movements

	<u>Up</u>	<u>Down</u>
Flaps	0°	34°
Elevator	25°	15°
Elevator Trim Tab	20°	33°
Elevator Spring Tab	26-1/2°	26-1/2°
Aileron	23°	13-1/2°
Aileron Spring Tab	20°	20°
Aileron Geared/Trim Tab		
(Geared)	3-1/2°	3-1/2°
(Trim)	15°	5°
	<u>Port</u>	<u>Starboard</u>
Rudder	20°	20°
Rudder Spring Tab	20°	20°
Rudder Geared/Trim Tab		
(Geared)	7°	7°
(Trim)	15°	15°

Maximum Operating
Altitude

25,000 feet.

Type Approval Basis

- (a) Canadian Department of Transport examination of the aircraft type, (ground technical evaluation and flight test);
- (b) British Civil Airworthiness Requirements (1956);
- (c) See NOTE 4 for operation from gravel surface runways.

Serial Nos. Eligible

Manufacturer's build Nos. 6801, 6802, 6803 and 6805.

Import Requirements

A United Kingdom Certificate of Airworthiness for Export containing the following conformity statement and signed by an authorized representative of the United Kingdom Board of Trade, Civil Aviation Department, must be included in the import documentation for each aircraft imported into Canada:

"The airplane identified by this certificate has been examined and conforms to Canadian Department of Transport Type Approval No. A-101."

Required Equipment

The basic required equipment as prescribed in the relevant airworthiness requirements, (see Type Approval Basis), must be installed in the aircraft prior to the issuance of a Canadian Certificate of Airworthiness.

- NOTE 1.
- (a) Current weight and balance report, including list of equipment included in certificated empty weight, and loading instructions, must be provided for each aircraft at the time of original certification and at all times thereafter.
 - (b) The aircraft must be loaded in accordance with prescribed methods which conform with the overall loading instructions given in the Hawker Siddeley weight and balance control instruction for the aircraft.
- NOTE 2.
- (a) The aircraft must be operated in accordance with the ARB Approved Flight Manual Document No. A.H. 1.4, placards and instrument markings.
 - (b) Placards and instrument markings must conform to BCAR Section D, Chapter D7-3.
 - (c) Cargo compartment load placards must present the maximum allowable load in pounds.

NOTE 3. For IFR Flight a DOT approved alternate static pressure system must be installed as required by Canadian Air Navigation Order, Series II, No. 7.

NOTE 4. Cargo aircraft may operate from non-hard surface runways provided inspections after each gravel operation determine that no stone damage affecting structural integrity of the aircraft has been sustained, and the take-off and landing distances determined from the ARB Flight Manual Document No. A.H. 1.4 for hard dry surface runways are increased by 10%.



(W.M. McLeish),
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Department of Transport.