

LEADING PARTICULARS

ROVER AIRBORNE AUXILIARY POWER PLANT Mk. 10301

Description

Turbine engine driving a.c. generator and also providing air bleed for vent suits. Electrical load, max. 32 kW. The whole unit is contained in a fire proof box.

A.C. generator	...	...	...	...	40 kVA, 3 phase, 208V, 400 c/s at 8,000 rev/min
Type...	...	...	...	...	Rotax N.0306 or N.0311 (Ref. No. 5UA/5720 or 5UA/7017)

Engine performance

Sea level static	...	...	...	...	32 kW at ambient air temperature up to 45°C. Air bleed 0.10 lb/sec at 41.7 lb/in ² abs. at I.S.A. S.L.S.
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Flight performance

For a typical installation, world wide atmospheric temperature limits.

◀ 23 kW for a period not exceeding 4 minutes, 0 to 5000 ft with undercarriage down ▶

32 kW for periods up to 30 minutes, 0 to 10000 ft 130-415 Kt E.A.S.

17 kW for periods up to 30 minutes, 10000 to 30000 ft 185-415 Kt or Mach 0.95 (whichever is less)

Compressor	...	...	...	...	Single stage centrifugal
Air mass flow	...	...	...	...	1.45 lb/sec at I.S.A. S.L. conditions
Pressure ratio	...	...	...	...	3.2 at I.S.A. S.L. conditions

Combustion chamber	...	...	...	...	Single can, reverse flow Spill type burner with oxygen enrichment for altitude starting
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Turbine	...	...	...	...	Single stage, axial flow
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Reduction gear	...	...	...	...	Countershaft type
Ratio	...	...	...	...	0.01647 (6.074 : 1)

Rotation

Rotor assembly	...	...	...	...	Anti-clockwise viewed from turbine end
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A.C. generator	...	...	...	...	Anti-clockwise viewed from driven end of a.c. generator
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Fuel system (Pre Mod. M182)

Fuel pump	...	...	...	...	Plessey Mk. V1
Speed relative to engine	...	...	...	...	1 : 10.28
Air fuel ratio control unit	...	...	...	...	Lucas AAC.1/1A
Metering valve	...	...	...	...	Lucas AAC.1/1A
Burner	...	...	...	...	Lucas SSC.3/2A
Governor	...	...	...	...	Lucas DDG.1/1A
Temperature control	...	...	...	...	Lucas TC.2/2A
Fuel	...	...	...	...	Refer to operating limitations
Fuel consumption (max.)	...	...	...	...	94 lb/h

Fuel system (Mod. M182)				
Fuel system...	...	...	...	Lucas A.T.C.P.101
Speed relative to engine	...	...	...	1 : 10.28
Burner	...	...	...	Lucas S.S.C.8/5E
Fuel	...	...	...	Refer to operating limitations
Fuel consumption (max.)	...	...	...	94 lb/h
Oil system				
Type	...	...	...	Wet sump, pressure and splash
Oil	...	...	...	Refer to operating limitations
Oil consumption (max.)	...	...	...	0.1 pt/h
Sump capacity	...	...	...	4½ pints
Total engine capacity	...	...	...	5 pints
Blower unit lubricating oil	...	...	...	OX-38 to Specification D.Eng.R.D.2487
Starting Electric or cartridge				
Electric starter	...	...	...	Rotax 24V. C.10501/1
Speed relative to engine	...	...	...	1 : 10.28
Direction of rotation	...	...	...	Anti-clockwise, viewed on driving spindle
Cartridge starter	...	...	...	Rover 424800, two barrels
Cartridge type	...	...	...	Cartridge, electric, a.a.p.p. starting No. 1, Mk. 1 (Ref.No. 12K/1288) 600 gram
Igniter plug	...	...	...	K.L.G. RH231/14
Overall dimensions	...	...	...	Length 53 in. Width 24 in. Depth 38 in.
Weight	...	...	...	◀ 415 lb. + 1¼% ▶
Centre of gravity	...	...	...	1.7/16 in. forward of main attachments
Miscellaneous equipment				
ACTUATOR FOR AIRBLEED VALVE	...	...	...	PLESSEY CZ 135792 OR ENGLISH ELECTRIC AE 4512
ACTUATOR FOR OIL COOLER BUTTERFLY	...	...	...	ROTAX C5530/1
AIR BLEED VALVE	...	...	...	SAUNDERS M.10198/P8
AXIAL FLOW BLOWER UNIT	...	...	...	ROVER 428682
EXHAUST THERMOCOUPLES	...	...	...	K.L.G.SMITH F.1210, 1211 & 1212/1
FIRE DETECTORS	...	...	...	THERMAL CONTROL CO., TP7090A/1 (REF. NO. 5CZ/5129)
FIRE EXTINGUISHER BOTTLE (methyl bromide)	...	...	...	GRAVINER 12A or 4 AX
FUEL PRESSURE WARNING SWITCH	...	...	...	SMITHS AIRCRAFT INSTRUMENTS 126 I.P.G. (Ref. No. 6A/1912)
OIL COOLER	...	...	...	MORRIS RADIATORS/ROVER (Rover Part No. 420616)
OIL IMMERSION HEATER	...	...	...	G.E.C., 600W. (Cat. No. HE 43336)
OIL PRESSURE TRANSMITTER	...	...	...	SANGAMO WESTON S122-1 (Ref. No. 6A/3850)
OXYGEN ENRICHMENT EQUIPMENT	...	...	...	NORMALAIR O.P. 4420
MOTORISED AIR PUMP (Mod. M.182)	...	...	...	LUCAS M.A.P.100
HOURS COUNTER	...	...	...	Ref. No. 36AF/1226
STARTS COUNTER	...	...	...	Ref. No. 36AF/1018