U.S. DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

E-301
Revision 1
TURBOMECA
PALOUSTE IV

April 14, 1958

AIRCRAFT ENGINE SPECIFICATION

Engines of models described herein conforming with this specification and approved data on file with the Civil Aeronautics Administration are rated as airworthy for use in certificated aircraft in accordance with pertinent aircraft specifications and applicable portions of the Civil Air Regulations provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals.

Manufacturer	Turbomeca Bordes, B. P. France	
Model	Palouste IV	
Type - Turbo Air Generator for Helicopters	Single stage centrifugal compressor Annular combustion chamber Two stage turbine	
Rating		
Max. continuous at sea level; compressed air supplied in lb/sec., pressure ratio, rpm		2.31-3.50-33,000
Takeoff (5 min.) at sea level; compressed air supplied in lb/sec., pressure ratio, rpm		2.42-3.6 -34,000
Fuel control	Turbomeca Governor	050.79.000
	Turbomeca Fuel Pump	050.79.704
	Fuel cock LeBozec	A61563
	Acceleration Limiter	092.07.000
	Turbomeca Micropump (for starting)	044.25.000
Fuel (see Note 9)	JP-1 (MIL-F-5616) or JP-4 (MIL-F-5624) British D.Eng. DED 2482 Issue No. 2 or DED 2486 French TRO (AIR 3405) or TR4 (AIR 3407) Aviation Gasoline (MIL-F-5572 or MIL-C-3506) British D.Eng. DED 2485 French MT80 (AIR 3401)	
Oil (see Note 1)	French AIR 3516, MIL-O-6081A Grade 1010 (for ambient air below -13°F.) (-25°C.) MIL-L-7870A British DED 2001 or 2490 French AIR 3515 (for ambient air above -13°F.) (-25°C.)	
Principal Dimensions:	Length, in.	52.3
	Width, in.	22.
	Height, in.	37.3
C.G. location Aft of front mounts, in.		9.07
Weight (dry) lbs.)	215. (includes all controls, fuel pump, intake silencer, airflow limiter venturi, manual starter, tailpipe, but excludes oil tank.)	

Ignition system — Dual with two Turbomeca torch igniters Nos. 050.35.753 or .755 and Morel type G2A magneto.

Certification basis — Engine Type Certificate No. 301 under CAR 10. Each individually imported engine must be accompanied by a certificate from the BUREAU VERITAS.

NOTE 1. Maximum permissible temperatures:

Turbine exhaust gas temperatures:

Takeoff, 1125°F. (607°C.)
Maximum continuous, 986°F. (530°C.)
Maximum for starting, 1202°F. (650°C.)
Maximum transient, 1238°F. (670°C.)

Oil inlet temperatures:

104 to 158°F. (40 to 70°C.)	For ambient air temperatures -13°F. (-25°C.) and above with appropriate grade of oil.
86 to 140°F. (30 to 60°C.)	For ambient air temperatures below -13°F. (25°C.) with appropriate grade of oil.

NOTE 2. Fuel and oil pressure limits:

Fuel, at engine inlet, minus 7 to plus 7 psi..
Oil, at engine inlet, minus 7 psi minimum
Normal engine gage pressures are 30 to 70 psig except a minimum of 10 psig is permitted for idling.

NOTE 3. The engine ratings are the minimum guaranteed and are based on the following conditions:

Static sea level conditions of 59°F. and 29.92 in.Hg.
Rated rpm and rated air delivery and turbine gas inlet temperature not more than 1472°F. (800°C.) for takeoff.
No aircraft accessory loads.
No intake silencer installed.
With standard jet pipe.
With two exhaust gas thermocouples.
Each engine will be stamped with the tailpipe temperature corresponding to rated output. This will be a maximum of 1065°F. (575°C.) for the takeoff rating, and 986°F (530°C) for the maximum continuous rating.

NOTE 4. The following aircraft accessory provisions are provided:

Drive	Rotation (facing drive)	Speed Ratio	Static Torque (in-lb.)
Tachometer (Jaeger TAFRA)	Clockwise	1:10	10

NOTE 5. This engine is used in helicopters and includes the following special equipment:

Air supply limiter Venturi Turbomeca No. 050.98.000
Intake silencer, ESO 555
Turbomeca starter (manual), No. S.A. 097.01.1000

NOTE 6. This engine meets CAA requirements for adequate turbine disc integrity and rotor blade containment and does not require external armoring.

NOTE 7. This engine has no provision for anti-icing the inlet and has not been substantiated for use in icing weather.

NOTE 8. Use of any of the specified alternate fuels does not require readjustment of fuel controls. Use of leaded Aviation Gasoline as an alternate fuel is limited to no more than 25 hours between overhauls as engine power output will decrease significantly with its extended use.

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