UAV ENGINES

AR682R - 95 BHP
ROTARY ENGINE FOR UAVs



The AR682R aero-engine has been developed to power UAVs which require up to 120 bhp. It is based on the proven AR642 core engine which was designed to meet UK CAA/European JAR-E and US FAA FAR-33 certification standards for manned flight.

DESIGN FEATURES

- High power to weight ratio.
- Small frontal area.
- Economical fuel consumption.
- Low levels of vibration.
- Integral lightweight belt-type reduction drive to propeller.

TECHNICAL SPECIFICATION

Engine Type:	Twin rotor Wankel-type rotary engine.
Capacity:	294 cc per rotor.
Power Output:	90 bhp at 7000 engine rpm. Alternatively up to 120 bhp at 8000 rpm with EFI System
Weight:	56.5 kg for full wet-running installed assembly as illustrated, including 2 kW generator, throttle actuator, fuel pump and pressure regulator etc. Propeller not included.
Direction of Rotation:	Anti-clockwise (looking at face of prop flange).
Ignition System:	Fully duplicated 28V c.d. system with magnetic triggering, R.F. shielded.
Fuel Type:	Avgas (100LL) or Regular grade (min 92 RON) Mogas automotive (leaded or unleaded)
Specific Fuel Consumption:	0.55lb/bhp/hr at 70% cruise. (See overleaf for fuel quantity usage).
Reduction Drive:	Tooth belt system including heavy-duty rubber anti-torsional-vibration device. Standard ratio 2.03 to 1.

NOTE

Certain design features of the engine are covered by British, U.S. and other foreign patents.

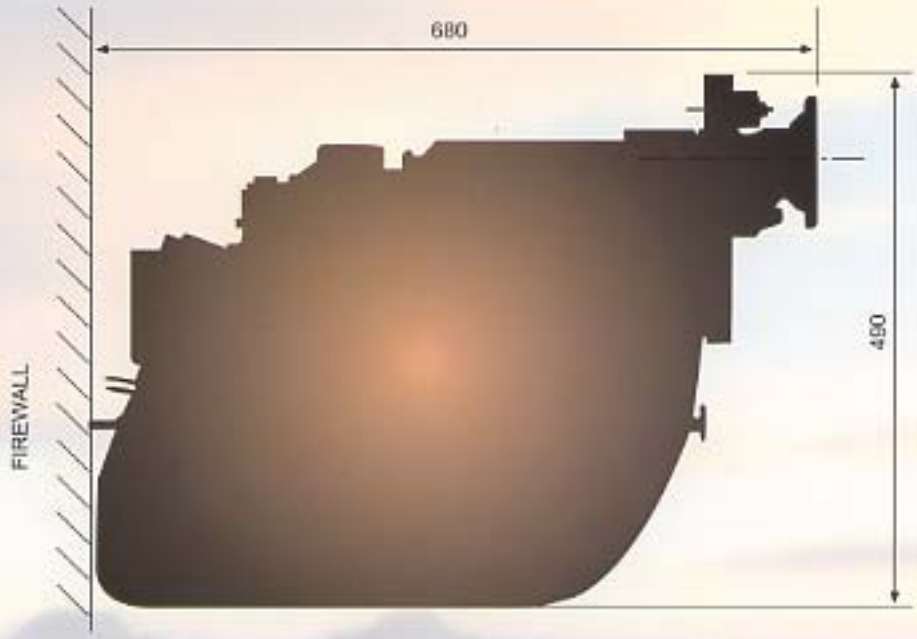
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AR682R - ENGINE FOR UAVs

APPROX. EXTERNAL DIMENSIONS (mm)



Above shows typical Installation of complete power unit with accessories, excepting radiator.

PERFORMANCE UP A TYPICAL PROPELLER LOAD LINE

Power (bhp)	% of Max POWER	SFC ib/bhp/hr	FUEL USAGE (galls/hr) IMP.	US
85.0	100	0.54	6.3	7.6
76.5	90	0.54	5.7	6.8
68.0	80	0.55	5.1	6.1
59.5	70	0.55	4.5	5.4
51.0	60	0.56	3.9	4.7
42.5	50	0.56	3.3	3.9