

Why an automotive Diesel for an Aircraft?

Cost Reduction	
50-70% Fuel Costs Savings, at least 1000 € / 100 hours!	35% lower fuel consumption and the much lower fuel price of Diesel/JetA1 lead to fuel cost savings of 50-70%!
Simple Fixed Pitch Prop is Sufficient	Due to the high torque at low rpm the TD diesel engines can deliver nearly 90% of full power at take off whilst using a fixed "cruise" prop (see graphs).
Robust Engine & Easy Maintenance	As diesel engines are designed to handle very high combustion pressures continuously, our target TBO is 2500h. Maintenance is nearly as simple as in you car.
Performance Increase	
Altitude Performance Increase	With highly turbo charged engines, the power loss in altitude is reduced by 50%.
Longer range	35% longer range with same tank.
Ease of Use & Security	
Single Lever Control & Easy Start	Electronic control unit provides optimal mixture at all altitudes and temperatures.
Higher Security	No carburetor icing, no thermo shocks (water thermostat), less explosive and less inflammable fuel.
Comfort & Ecology	
Less Vibrations	ECO-MOTORS uses high tech automotive hydro bearings instead of simple rubber bushings to provide passenger car like vibration comfort.
Lower Noise Emissions	The lower rpm and the higher compression ratio of diesel engines, lead to significant lower and much more convenient noise emissions.
Lowest Exhaust Emissions	By using the most modern common rail injection technology, the diesel engines are able to reach the latest EU4 emission limits.

"Many people asked us for it ...

Now we start a limited special „early adopter“ production program..."



After 4 years of development and 3 flight seasons of intensive testing our prototype MCR-01 confirmed our expectations:

At 120kts cruise it consumes 9.4l diesel per hour! This gives over 1750km range and more than 8h of fun. At high altitude a speed of 150kt is possible. Quite surprisingly, also the engine noise and cabin vibration is a new benchmark. You need to come to believe it...

Contacts

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Technical Description:

Engine Version	EM-80	EM-100
General Info	Both all aluminum 4-cylinder in-line diesel engines, two valves per cylinder, DOHC, common rail injection system, turbo charged, water cooled, air inter cooled (Eco-100), three blade fixed pitch props from DUC recommended	
Fuel Types	- Diesel or - Kerosene/Jet A1 (mixed with 1:100 two stroke oil)	
Displacement	1.4 liter	1.4 liter
Max. Take off Power (5min)	80 HP	100 HP
Max. Continuous Power	70 HP	90 HP (80HP UL)
Compression Ratio	18 : 1	18 : 1
Max. Boost Pressure	2.0 bar	2.4 bar
Reduction Gear	Pinion gears reduction ratio 1:1.67 Oil bath separate from engine	
Fuel Consumption (50% of max. power)	6.9 liter / Hour	7.9 liter / hour
Fuel Consumption. (75% of max. power)	10.3 liter / Hour	11.8 liter / hour
Engine Dry Mass ¹⁾	96 kg	98 kg

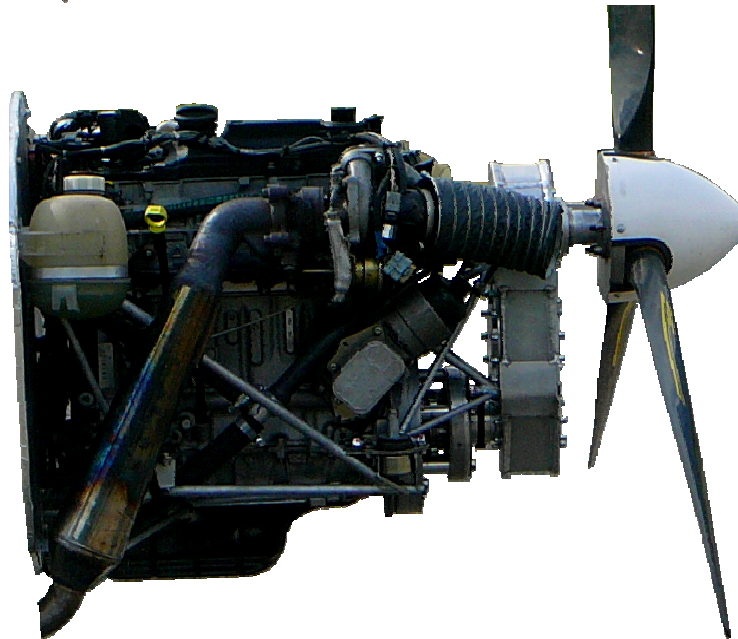
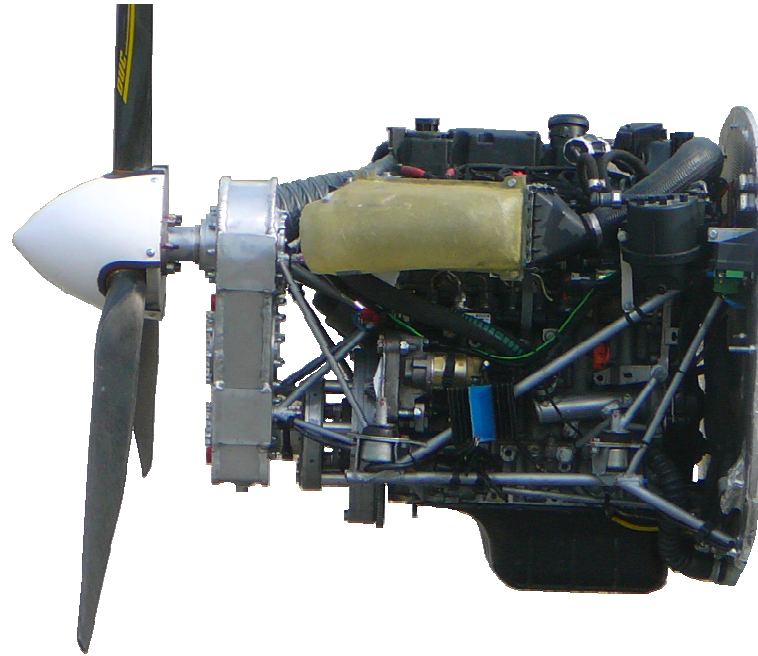
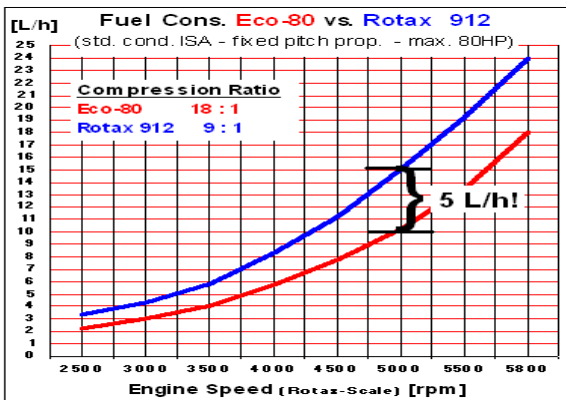
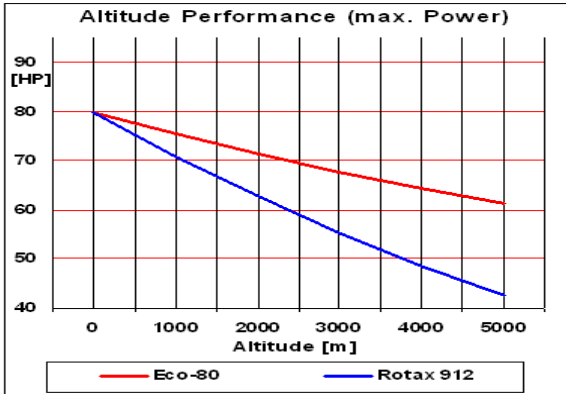
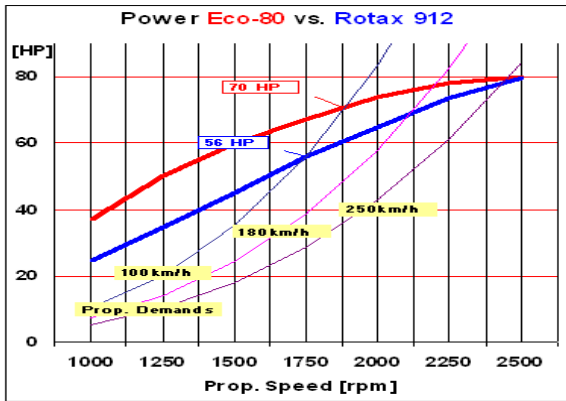
¹⁾ A complete Eco-100 diesel engine installation is around 23kg heavier than a comparable Rotax 912S installation.

Disclaimer!

This is are non certified aircraft engines!

They have not received the safety and durability testing specified by aircraft standards. They are only for use in uncertificated experimental aircraft or vehicles when there is no risk for the safety due to an engine failure. Never fly the aircraft equipped with this engines in circumstances or in areas, in weather conditions or in altitudes where you have no chance for successful landing after an engine failure. The user is taking all risk resulting from the use of this engines and he is aware of the possibility of sudden functional disturbances. Specification and offer might be subject to change any time.

Engine Performance



Prices (excl. tax)

Engine Version	Eco-80	Eco-100
Basic Engine Kit* Base aluminum diesel engine, common rail injection system, fuel pump, fuel filter, electronic control unit, reduction gear unit, turbo charger, air intercooler (Eco-100 only), oil reservoir, engine wiring harness, all sensors, device to readout and erase engine diagnostic state	12.499 € * 9.899 €	14.499 € * 11.999 €
MCR-1 Installation Kit** Water cooler, thermostat, engine mount, hydro bushings, engine cowling, muffler, battery, prop, prop spinner, air filter, water tubes, fuel tubes, fuel cooler, starter, alternator	5869 €	6249 €



*) Eco-Motors.com will produce ten engines for ten first customers with good technical background only! As a joint offer **DynAero** gives a 5% discount on the first 5 ULC Kits

The reduced engine kit prices are only valid for this first ten bookings. Booking an engine is done by signing the attached engine booking sheet.

**) Other aircrafts are also of interest, but have to be discussed individually. Significant support from customer will be necessary here.

Standard Payment Conditions:

- At engine booking 750€ have to be paid
- At production start 50% of total price has to be paid
- Remaining money has to be paid at engine delivery

Warranty:

- One year or 200 hours parts & labor

*) Prop. demands of fixed pitch prop optimized for 120kt cruise at different aircraft speeds