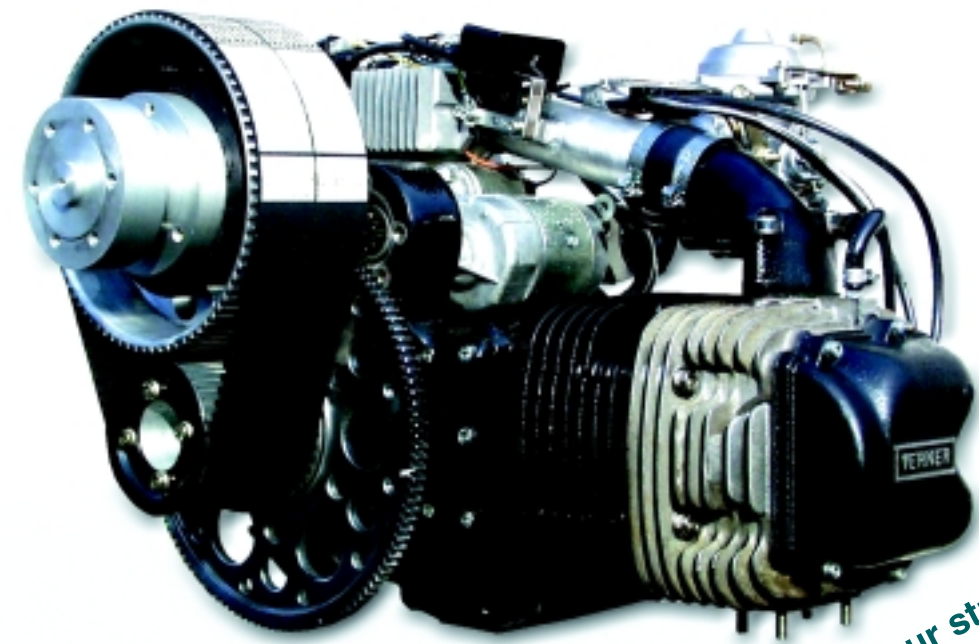




# VERNER 1400

Engine For Ultralight and Amateur Built Aircraft



*... the affordable four stroke engine  
without elusive „options“ ...*



## VERNER - MOTOR

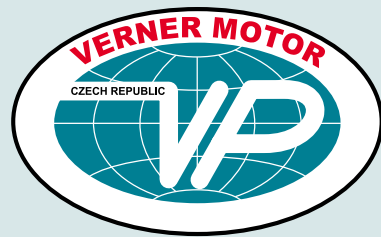
Vikyrovice 229  
787 01 Sumperk  
Czech Republic

phone/fax: (+420 649) 21 15 76  
mobile: (+420 602) 59 57 39  
e-mail: [verner\\_motor@pvtnet.cz](mailto:verner_motor@pvtnet.cz)

AUTHORIZED DISTRIBUTOR



Designed and Manufactured in the Czech Republic by VERNER - MOTOR



## GENERAL INFORMATION

The Verner 1400 engine was designed and developed to bring four stroke reliability and economy of operation within the affordable reach of many owners and operators of ultralight and amateur built aircraft. Since 1995 the engine has been installed and tested successfully in a number of different ultralight and amateur built types, including such well known ones as the Kitfox, Avid Flyer, Rans Coyote, Colibri, and the Petrel amphibian, - just to name a few.

In 1997 September, during the World Air Games in Turkey, a Czech contestant was flying a Rans Coyote with the Verner 1400 engine and placed 5th overall in its class. In 1998 March, after subjecting the engine to a prescribed series of strenuous tests, the Czech Ultralight Aviation Authority issued the Type Approval for the engine to be used in various Czech factory built „ready to fly“ ultralight aircraft. Both of these events help to underscore the recognised reliability and the increasing popularity of this engine. In 1999 our pilot occupied on World Mastery in Hungary again 3rd place.

The traditional design of the engine employs only well proven concepts, allowing the cost of production to be relatively low. This cost effective approach to the design and construction is reflected in the affordable purchase price, but despite its low cost, the Verner 1400 engine incorporates many technologically advanced features, including:

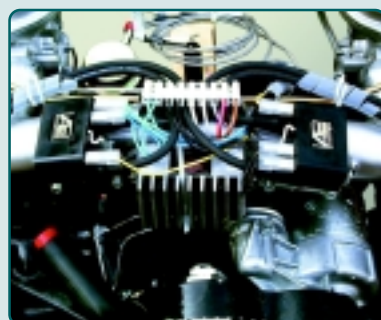
- OHC operated four valves per cylinder
- Breakerless dual electronic ignition with two spark plugs per cylinder
- Dual Bing 64 carburetors with full-bore equalising manifold
- Dry sump, forced pressure lubrication
- Needle roller bearings
- Maintenance free cogged-belt reduction drive
- Torsional vibration dampener

All of the following accessories are included in the price, therefore there are no easily overlooked (and sometimes surprisingly costly!) additional „options“ to buy for the installation:

- Stainless Steel exhaust system
- Engine shock - mounts
- Carburettor air filters
- Oil tank and oil cooler with hoses and clamps
- Voltage regulator/rectifier
- Electric starter
- Dual CHT gauge with thermocouples
- Electric tachometer
- Oil pressure and temperature gauge with sensors
- English language Operating and Maintenance Manual

Each engine is tested and adjusted at the factory during 2.5 hours total running time, therefore no „breaking in“ period is required and the engine may be put into actual service once fit is installed in the aircraft. All engines are supplied with six (6) months Warranty by the manufacturer, commencing on the date of delivery to the Customer, while the ex-factory delivery time is normally between four to six weeks from the date of receiving a firm order.

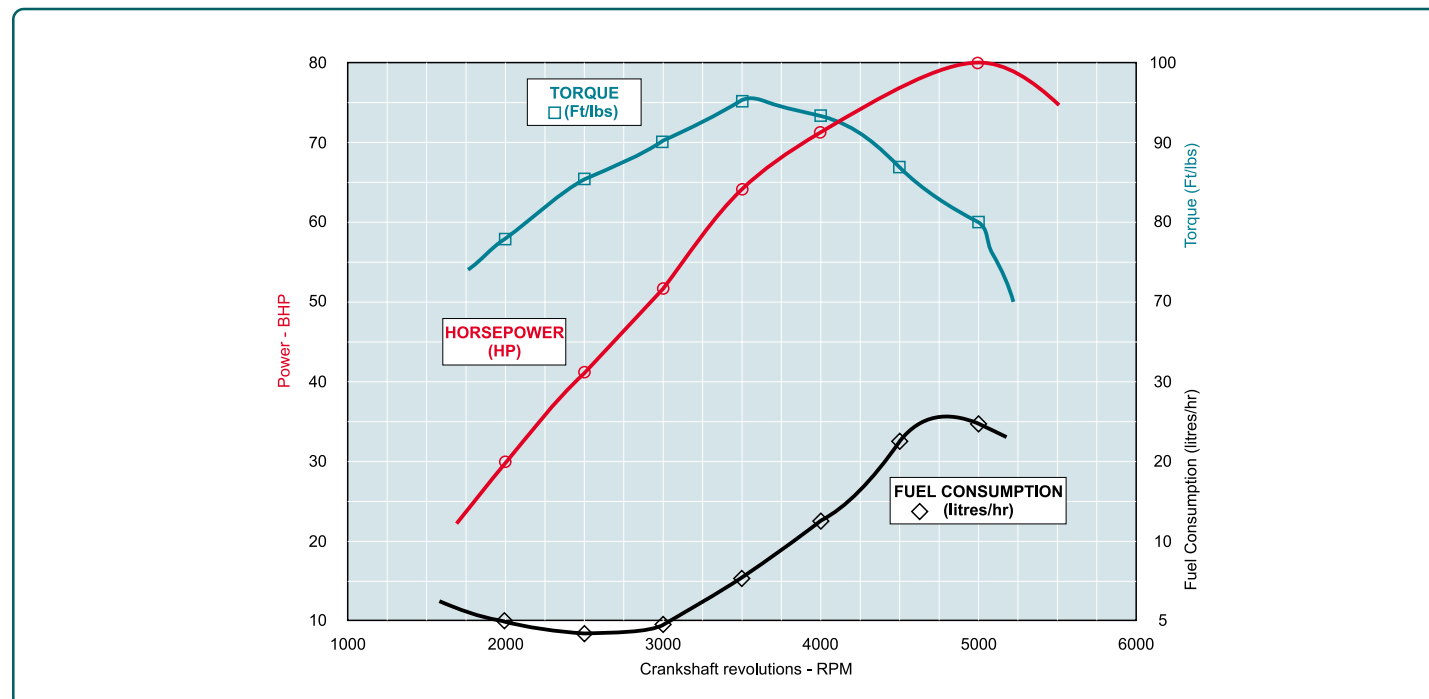
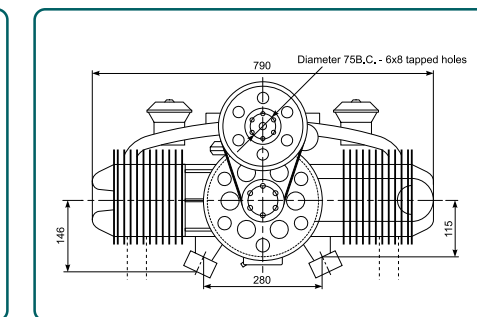
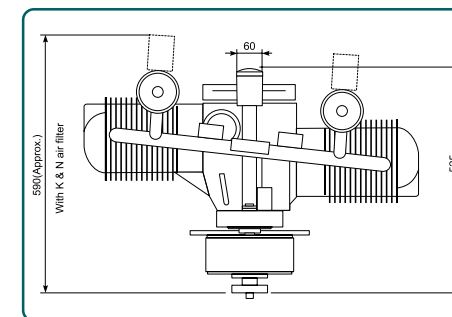
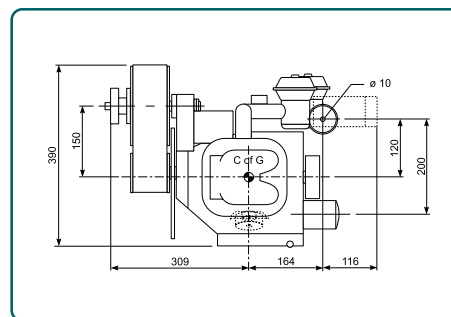
Basic tools for installing and maintaining the engine are also included and, in addition to the engine mount, propeller and battery, on other major component needs to be purchased separately by the Customer from other sources.



## TECHNICAL SPECIFICATIONS

Displacement	1387 ccm / 85.43 cubic inch
Bore	94 mm / 3.70 inch
Stroke	100 mm / 3.94 inch
Compression ratio	1 : 10.2
Maximum power	80 BHP (59 kW) @ 5000 RPM (5 minutes max.)
Max. continuous power	70 BHP (52 kW) @ 4000 RPM
Torque	129 Nm (95 ft/lbf) @ 3500 RPM
Fuel consumption	8.6 lit/hr \ 2.2 Imp. gal/hr. @ 3550 RPM (70% power)
Propeller rotation	CW, viewed from the front, tractor propeller
Weight	75 kg (165 lbs), including all accessories* (without oil)
Spark plugs	NGK CR9EK + NGK CR9EVX or Champion RG 92 DC + Champion RG94C
Electric starter	12 V / 1000 W
Generator (Alternator)	12 V / 70 W (6 Amp)
Lubrication	AeroShell 15 - 50 W or oil class SH/SG 5
Fuel	Motor petrol, octane number 91 and more or aviation petrol 100 LL Avgas
Fuel pump	Pierburg 7.20971.63
Carburetors	2 x Bing 64 - model Verner
Reduction drive	1 : 2 (1 : 1.65 - 2.5) via cog - belt (width 85 mm, pitch 8 mm)
Propeller hub	75 mm B.C. x 6 x 8 mm tapped holes (after consultation with producer also 100 mm is possible)
Battery	17 Ah minimum (24 Ah recommended)
Recommended TBO	600 hrs

\*) Others informations are available on special request. Specification are subject to change without notice.



The manufacturer reserves the right to make changes and improvements to the design of the engine at any time and without prior notice. Check for the continued validity of the information available from this brochure before placing your order for an engine.