

500/DP

(AQ211/DP)

500 V-8 4-stroke carburettor engine with DP or SP drive.

The 500 is a power package which, together with the DP or SP drive and Power Trim, gives the boat excellent performance: Speed, acceleration and fuel economy.

The engine has been specially adapted for marine use. The cylinder block and cylinder head are manufactured in special cast iron, which means there is less risk of corrosion. Piston rings and valves are specially developed and manufactured for marine operation. The raw water pump is driven directly off the crankshaft for best durability, long service life and easy accessibility.

The exhaust manifold is entirely water-jacketed for a lower temperature in the engine compartment.

Power Trim enables the drive to be adjusted to the best operating angle for better acceleration, increased top speed or lower fuel consumption.

The transom shield kit is designed for simple, reliable and time-saving installation work.

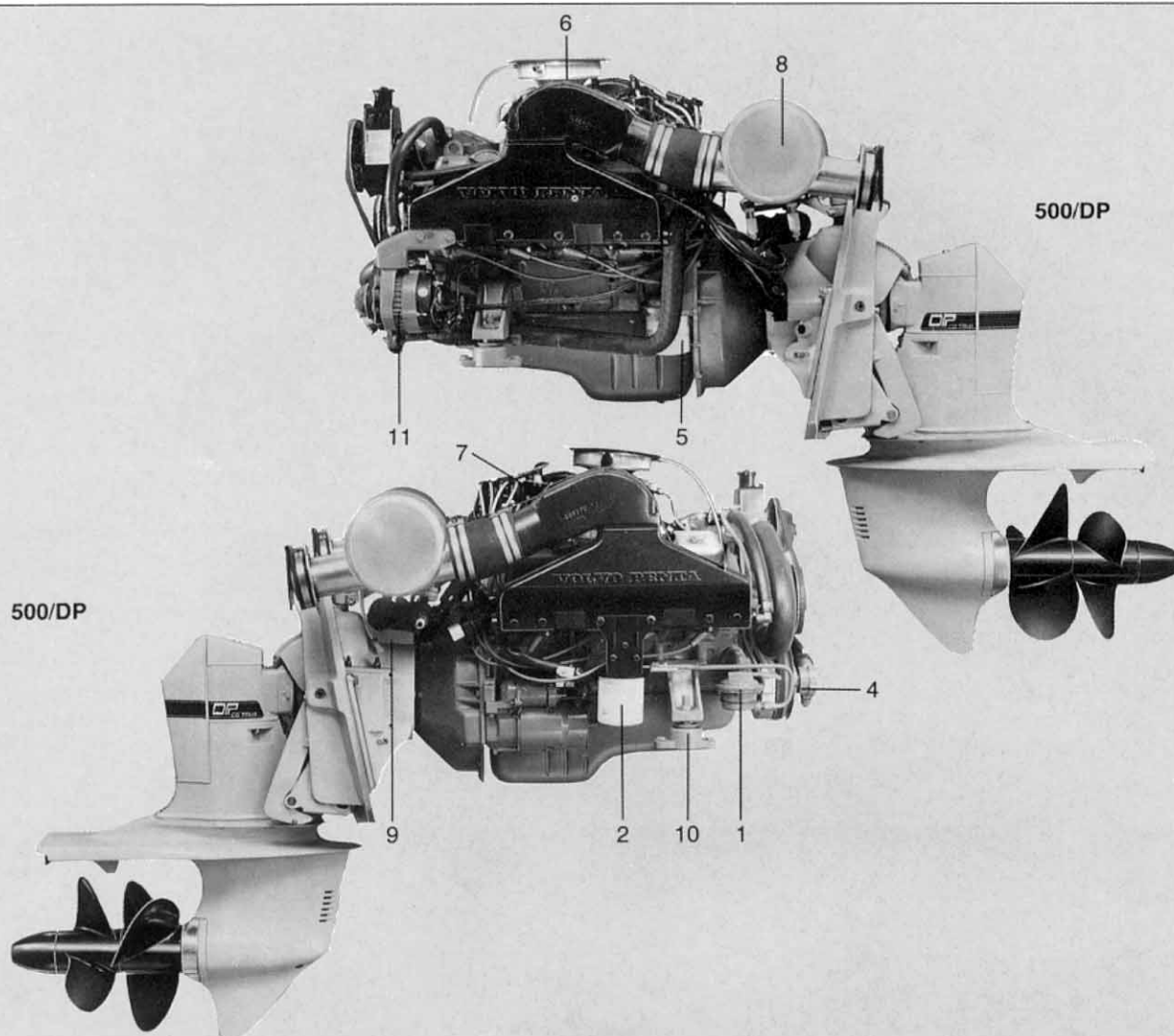
The DP drive is designed and built for maximum riding comfort within the speed range of 20 to 45 knots; i.e. low steering forces, low noise level, low planing threshold, good acceleration and low fuel consumption.

Volvo Penta has a well-established service network in more than 100 countries. Authorized workshops, stocking Genuine Parts and staffed by qualified personnel, make sure you get the best service.



500/DP equipped with silencer "POWER PLUS" and power steering. (Extra equipment).

VOLVO PENTA



PLEASE NOTE: A silencer or Y-connector has to be selected as extra equipment in connection with ordering of engine and transmission units.

Engine and equipment

ENGINE

Engine block and cylinder head of cast iron for good corrosion resistance and long service life. V8 engine, 90° between cylinders. Pistons manufactured in aluminium alloy have two compression rings and one oil scraper ring. Pushrods act on overhead valves through hydraulic valve lifters. Exhaust valves have rotators. Crankshaft with 5 main bearings.

FUEL SYSTEM

Two-port down-draught carburettor with automatic choke and acceleration pump. Fuel pump (1). Replaceable fuel filter (2).

COOLING SYSTEM

Thermostatically-controlled raw water cooling with easily accessible impeller pump and circulation pump for more consistent temperature in engine block. Raw water pump with neoprene impeller (4).

LUBRICATING SYSTEM

Pressurized lubricating system with full-flow oil filter of spin-on type (5).

INTAKE SYSTEM

Flame damper (6) of approved type.

EXHAUST SYSTEM

Raw water cooled exhaust manifold of cast iron with high exhaust riser (7). Volvo Penta offers a new and unique silencer system, POWER PLUS (8), which will meet stringent noise requirements. The exhaust system provides low back-pressure and thereby minimal performance losses. Two different designs are offered; one for direct connection to the stern and another where the outgoing exhaust gases are either led out through the stern or the hull. For customers who prefer an under-water exhaust system through the drive, a Y-connector is available as an option.

DRIVE

Complete with transom shield, fly-wheel casing and installation parts. All gearwheels are helically cut and the tensile strength of the lower gears is designed for operation in both directions. Cone clutch (patented) for reliable,

smooth and light engagement. The drive unit can be tilted 48°. Sacrificial zinc ring to counteract corrosion.

Coolant inlet in leading edge and at bottom of drive for reliable supply of coolant water to the engine. Reverse latch of patented design for reliable reversing action in all angles of trim permits the drive to kick up if run aground or in collision with objects in the water.

Power Trim version with electric motor powered hydraulic system (9) for trimming of drive angle while running. (The motor-powered hydraulic pumps is mounted either on a bulkhead or on the transom).

SP Drive:

The shift mechanism has an easily reversible link rod for switching from counter-clockwise to clockwise propeller rotation.

Attachment for steering cable mounted on shield.

ENGINE MOUNTS

Flexible mounting for insulation from noise and vibration. The engine has two adjustable rubber mounting points

at the front and a rubber mounting between the flywheel casing and the rear of the shield.

STEERING SYSTEM

Power steering is also available as an optional extra. (Only one kit supplied for a twin installation).

ELECTRICAL SYSTEM

12V corrosion-protected electrical system complete with instrument panel. Alternator (11) with 14V/50A charging capacity. Designed for marine operation. The alternator is prepared for the fitting of a twin diode unit which will automatically distribute charging current to two or more batteries. Automatic 40A fuse with resetting button mounted on engine. Starter motor output 960W (1.3 hp).

TRIM INDICATOR (CD)



The trim angle is indicated by five green diode lamps plus a digital display. A continuous red light indicates when the drive is in the "beach" sector. The red light flashes when the drive is in the "tilt" position. The control panel has two switches with easy-to-read symbols; one for up/down drive control and one override switch to come from "tilt" sector into "beach" sector.

INSTRUMENT PANEL



(Extra equipment on selected markets). Instrument panel equipped with key-operated switch, tachometer, oil pressure gauge, voltmeter, temperature gauge, fuses and switch for instrument lighting. Cable harness length 0.9 m. Extension cable length 6 m (19.7 ft), complete with plug-in contact.

DATA

Configuration	4-stroke carburettor engine with overhead valves.
Type designation	500
Crankshaft power at 4400 r/min	154 kW (210 hp)
Prop. shaft power ³⁾⁴⁾⁵⁾ at 4200 r/min	140 kW (190 hp)
Recommended max full load speed	4000-4400 r/min
Number of cylinders	V8
Displacement, litres (in ³)	4,998 (305)
Bore/stroke, mm (in)	95/88,4 (3.74/3.48)
Compression ratio	9,3:1
Fuel grade	min. 91 octane RON
Drive DP, ratio	1,95:1
Drive SP, ratio	1,61:1
Dry weight, engine with DP drive approx kg (lb)	402 (886)
Dry weight, engine with SP drive approx kg (lb)	398 (877)

¹⁾Crankshaft power acc. to SAE J607.

²⁾ Usable power will be reduced by transmission or gearbox losses.

³⁾ Prop. shaft power acc. to ISO 8665 or acc. to the technically identical standards SAEJ1228 and JCOMIA 28-83.

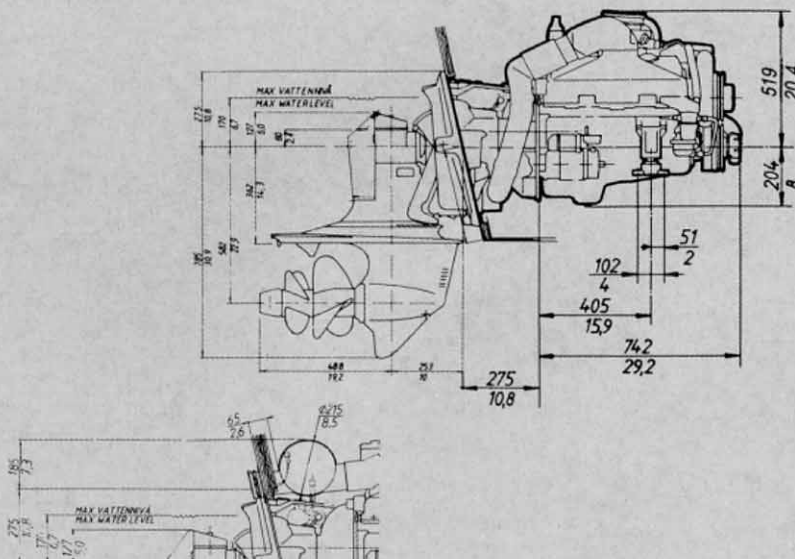
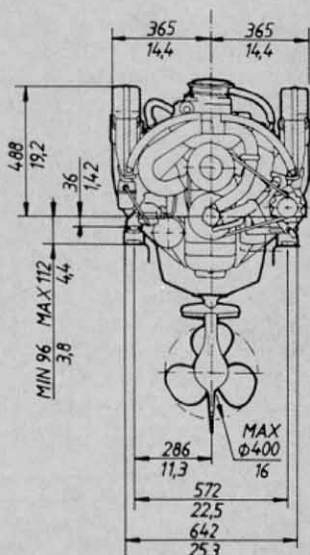
⁴⁾ Prop. shaft power incl

⁵⁾The power will be different for other optional configurations

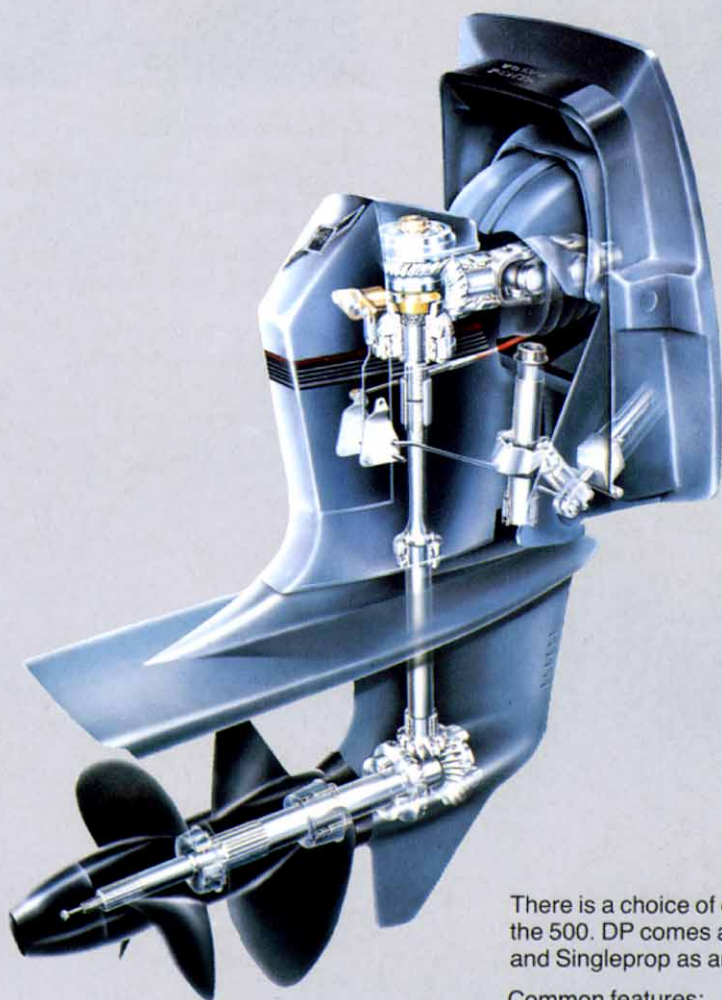
⁶⁾The DB drive enables utilization of about 10% higher process

^(c) The DP drive enables utilization of about 10% higher propeller thrust at full throttle when compared with a SP drive.

The above engine power data applies to engines equipped with silencer "Power Plus"



Volvo Penta DP and SP



There is a choice of outdrives for the 500. DP comes as standard and Singleprop as an option.

Common features:

- Robust steering arm on inside of shield prepared for steering cable connection.
- Robust, double universal joint.
- Quiet helical gears.

- Patented cone clutch works smoothly and silently with little effort.
- Stainless steel pipes connect trim cylinders to hydraulics.
- Cavitation plate at exhaust outlet.
- Zinc ring in front of propeller and extra zinc anode on shield for effective protection from corrosion.
- Cooling water intake.
- Patented reverse latch provides good astern capabilities while preventing the drive from floating up due to sudden reverse acceleration. Also permits the drive to kick up if run aground or obstructed.
- Electric motor-powered hydraulic pump fitted either to bulkhead or to transom.

DP

The Duoprop drive removes propeller cavitation and provides lower noise levels and a low planing threshold, plus improved acceleration and better fuel economy. One gear drives both propellers. The rear propeller shaft rotates inside the front propeller shaft.

SP

Optional drive for the 500. The SP-drive provides excellent corrosion protection in salt water. Together with the engine, this results in a stable and reliable power package with a long working life.

Space for a propeller of up to 16". Propeller rotation direction is easily altered by repositioning the articulated rod in the drive. Oil pump is of the impeller type.

Accessories

FUEL SYSTEM

Suction pipe of copper. Water separator. Fuel valve. Separate connecting cover for fuel tank.

COOLING SYSTEM

Freshwater cooling.

ELECTRICAL SYSTEM

Instrument panel for upper station "Flying Bridge". T-connector "Flying Bridge". Extension cable, in-

strument panel. Extension cable, trim equipment. Double diode charging distributor. Main switch. Battery.

TRANSMISSION

Extension for drive. Propellers.

CONTROLS

Single-lever control for single installations. Single-lever control for twin installations. Control cables. DS-

units (mechanical units which combine control cables from two control stations to a joint outgoing control cable). Wheel steering incl. cables. Power steering. Tie rod.

MISCELLANEOUS

Tool kit. On-board kit. Oil scavenging pump. Bilge pump. Touch-up paints. Lubricants. For other accessories, see Accessories Catalogue.

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Not all models, standard equipment, and accessories are available in all countries. All specifications are subject to change without notice.