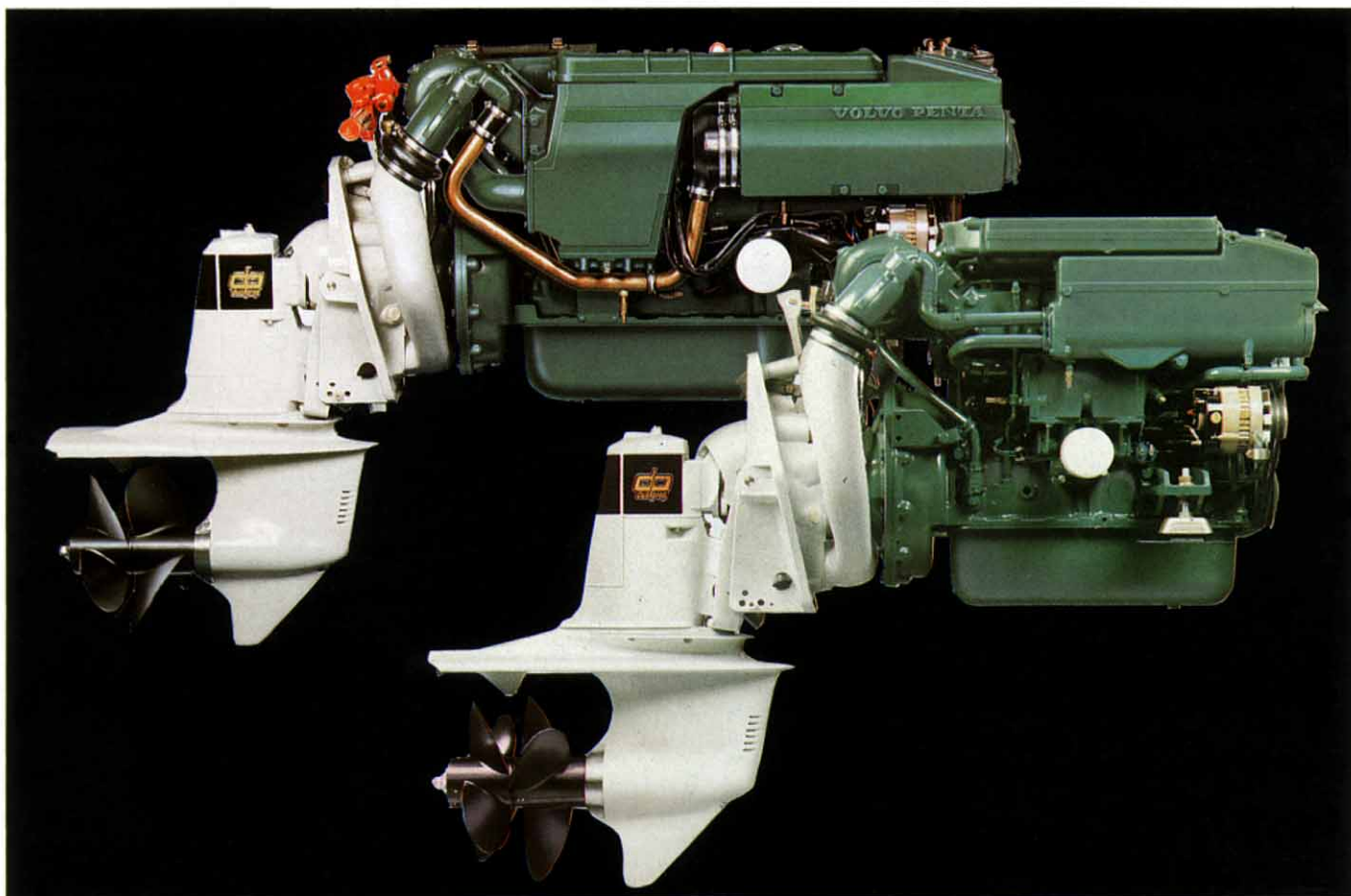


**VOLVO
PENTA****AQAD30A/DP
AQAD40B/DP****DUOPROP®**

Four-stroke, turbocharged and aftercooled marine diesel engines with DUOPROP® drive.

Type AQAD 30/DP, output* 81 kW (110 hp),

Type AQAD 40/DP, output* 121 kW (165 hp).

Two engines with high power to weight ratios, designed for marine applications and turbocharging right from the very start.

Cast iron engine block and cylinder head, oil-cooled pistons, thermostatically controlled fresh water cooling systems and wet replaceable cylinder liners. A 12 Volt marine electrical system and an alternator with a charging output of 14 Volts/50 Amps.

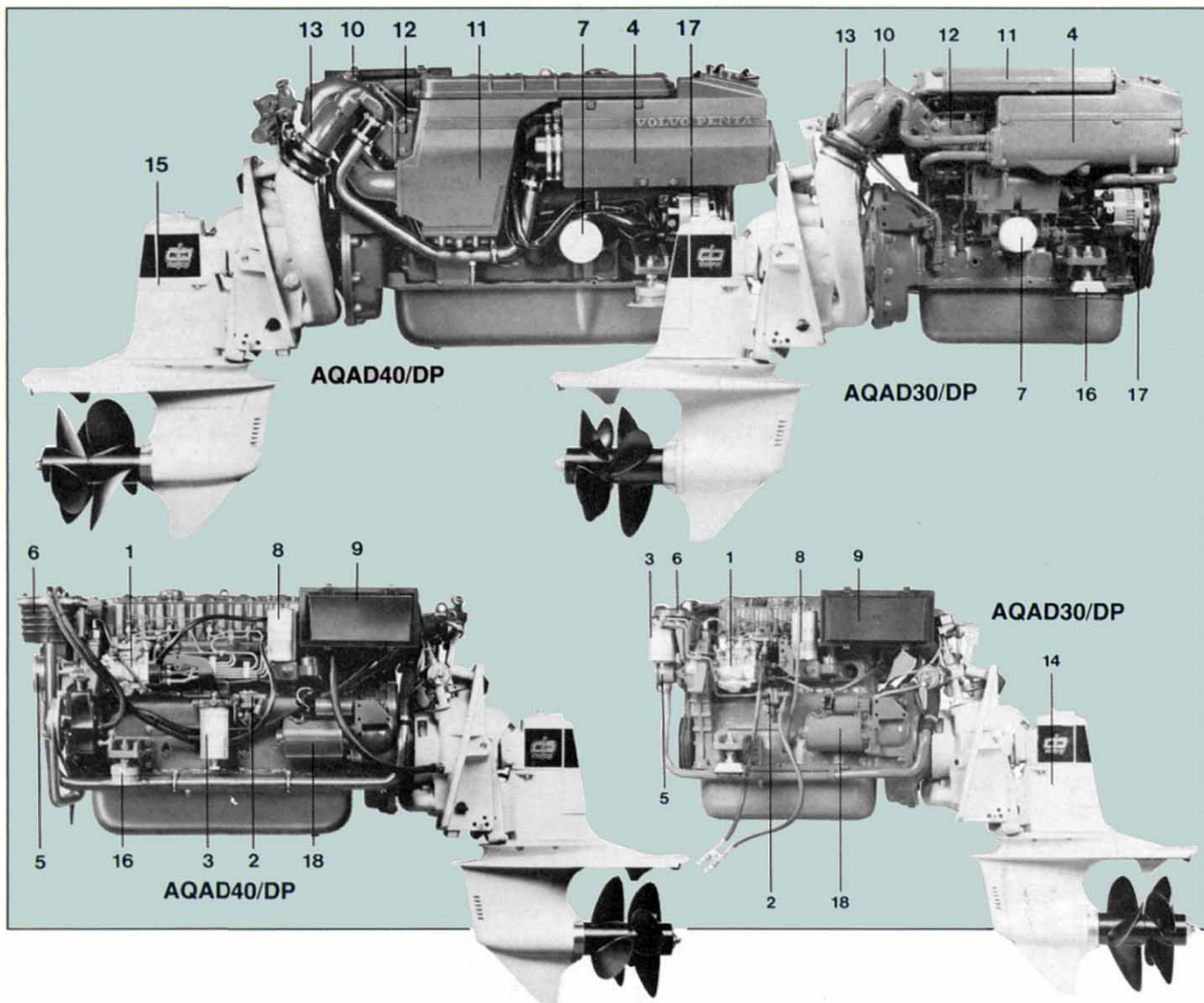
The AQAD 30 and AQAD 40 optionally combined with the Volvo Penta Duoprop® drive (DP) and counter rotating propellers provide increased efficiency and many advantages. Greater thrust, 10-15% more than a single propeller drive, helping to provide better acceleration and faster planing. This increased efficiency helps to improve top speed potential. Course holding

and boat handling are improved at cruising and top speeds. Compared to a standard outdrive, fuel consumption with Duoprop® decreases due to a lower engine operating speed for a given boat speed.

The Duoprop® drive system utilizes matched counter rotating propellers (a three blade forward and a rear four blade) computer generated for optimum performance.

*Flywheel output according to DIN 6270 B.

VOLVO PENTA



Standard equipment

ENGINE BODY

Cast iron block and cylinder head. Replaceable wet cylinder liners. Oil-cooled pistons each with two compression rings and one oil scraper ring. Replaceable valve seats in cylinder head.

AQAD 30- crankshaft is supported by five main bearings.

AQAD 40- crankshaft is supported by seven main bearings.

FUEL SYSTEM

Bosch PFE1Q rotary type fuel injection pump with mechanical governor for precise fuel metering (1). Feed pump with hand primer (2). Single high filtration fuel filter with water separator (3). Electrical stop solenoid.

COOLING SYSTEM

Thermostatically controlled fresh water cooling with tubular heat exchanger (4), expansion tank and

circulating pump. Seawater pump with neoprene impeller (5). The engine cooling system is supplied with a cleanable seawater strainer (6).

LUBRICATING SYSTEM

Pressure lubricating system with full flow spin-on oil filter (7). Tubular oil cooler (8). Crankcase ventilation with replaceable filter.

INTAKE SYSTEM

Intake silencer with replaceable air filter (9).

TURBOCHARGING SYSTEM

Fresh water cooled exhaust driven turbocharger (10). Seawater cooled aftercooler (11) to decrease intake air temperature for longer engine life and increased power output.

EXHAUST SYSTEM

Fresh water cooled exhaust manifold (12). Seawater cooled exhaust elbow (13). Complete exhaust line for connection to drive.

TRANSMISSION

DP drive: reduction ratio 2,30:1 (14) for AQAD 30.

DP drive: reduction ratio 1,95:1 (15) for AQAD 40.

An electro-mechanical system to lift up the drive when boat is stationary is standard equipment. Power Trim version with electro-hydraulic system to trim drive while underway is also available.

STEERING SYSTEM

The AQAD 30/DP is supplied with leverage steering as standard equipment. The AQAD 40/DP is supplied with power steering as standard equipment (with dual installations, one power steering system is used with a tie bar).

ENGINE MOUNTS

Flexible engine mounts provide insulation from noise and vibrations. The engines are fitted with two adjustable rubber mounts at the front (16) and a rubber mounting between the flywheel housing and at the rear edge of the transom mounting collar.

ELECTRICAL SYSTEM

12 Volt corrosion resistant system, with instrument panel. Alternator rated at 14V/50A (17). Resettable circuit breaker mounted on the engine. Starter motor rated at 2.2 kW (3 hp) (18).

INSTRUMENT PANEL

Includes ignition switch, floating key, tachometer gauge, oil pressure gauge and voltmeter. Visual alarm display for low oil pressure, high engine temperature, battery charge and glow plugs operation. Audible alarm for oil pressure and water temperature. Test button for alarm check and switch for instrument lighting. Cable harness 5 m (16.4 ft) with plug-in connector contacts for single harness connection of panel to engine. Electro-mechanical lifting device for drive, indicator lamp and operating switch, for optional power trim

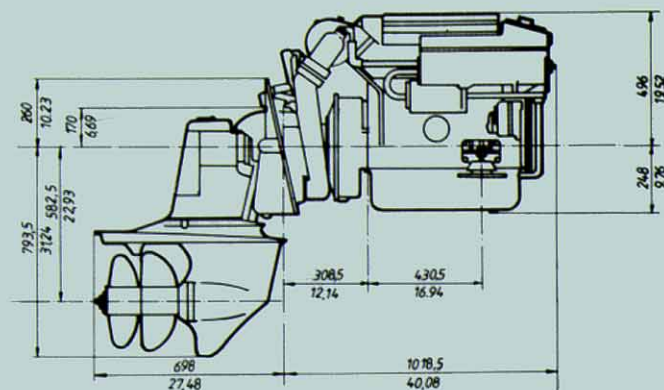
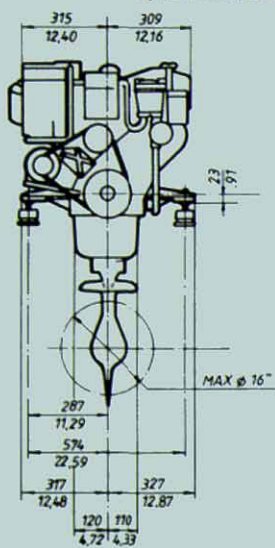
execution, drive indicator gauge and trim limiter switch. Optional instrument panels with quick connection harnesses are available for the flybridge and extra instruments.



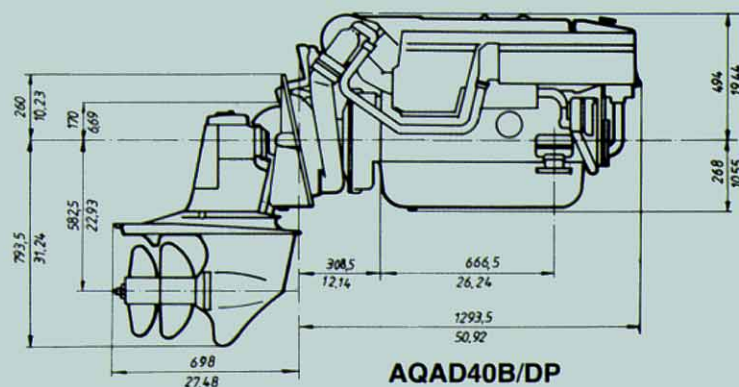
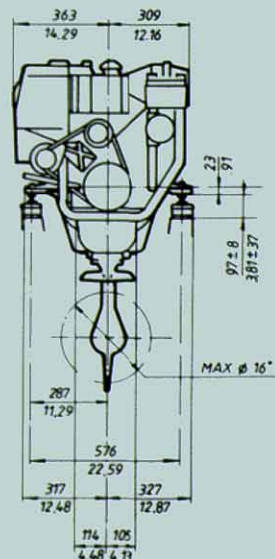
DATA

Engine/transmission	AQAD 30A/DP	AQAD 40B/DP
No of cylinders	4	6
Displacement, litres (cu in)	2.39 (146)	3.59 (220)
Maximum output*	81 kW (110 hp) at 3800 r/min	121 kW (165 hp) at 3600 r/min
Bore/stroke, mm (in)	92/90 (3.62/3.54)	92/90 (3.62/3.54)
Drive reduction ratio	2.30:1	1.95:1
Weight incl drive approx kg (lb)	422 (930)	520 (1147)

* Flywheel output according to DIN 6270B



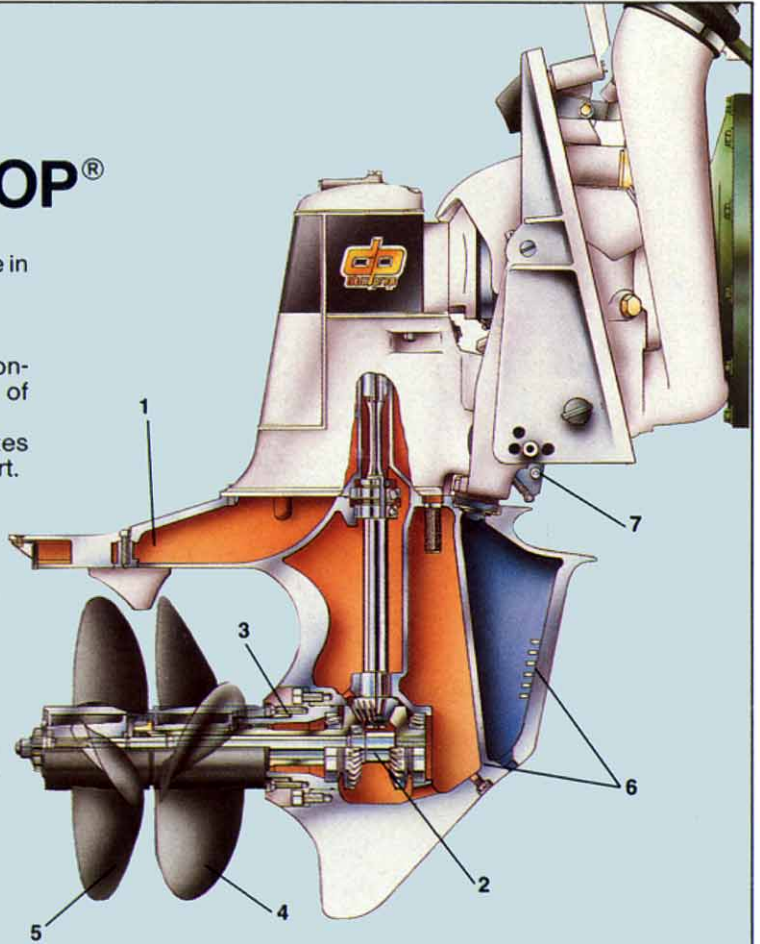
AQAD30A/DP



AQAD40B/DP

Volvo Penta DUOPROP®

- Accessible steering arm within transom collar for ease in steering cable connection.
 - Double universal joint.
 - Easily accessible oil dipstick.
 - All gears are helical cut bevel type designed for continuous low noise operation in either direction of rotation.
 - Silent Shift cone clutch (patented). Operates smoothly and quietly, with minimal operating effort.
 - Link rod for clutch.
1. Cavitation plate with integrated exhaust outlet.
 2. Co-axial output shafts allow two propellers to operate in opposite directions.
 3. Two sacrificial zinc anodes protect the drive against corrosion.
 4. Three-blade propeller.
 5. Four-blade propeller.
 6. Cooling water intake.
 7. Patented retaining latch design permits the drive kick up on striking an underwater object, yet holds the drive down when throttling back rapidly or when in reverse.



Accessories

FUEL SYSTEM

Water-separating filter with or without flexible hoses.

COOLING SYSTEM

Hot-water engine outlet fittings.

LUBRICATING SYSTEM

Electrically operated oil scavenging pump, 12V or 24V..

ELECTRICAL SYSTEM AND INSTRUMENTS

Extra alternator - 14 V/50 A.
 Extra alternator - 24 V/30 A.
 Charging distributor for independent charging of dual battery systems.
 Instrument panel for flying bridge.

Instrument panel for two extra instruments.

Extra instruments: Electrically operated hour meter, rudder indicator, fuel and water tank gauges and turbocharger pressure gauge. Master battery switch.

Extension cables for instrument panel, length 3 m (9.8 ft) 5 m (16.4 ft) or 7 m (23.0 ft).

Safety switch to stop engine.

POWER TAKE-OFF

Vee-belt pulley for crankshaft, 3B grooves, diameter 165 mm (6.5").

BOAT ACCESSORIES

Electrical pump.
 Original Volvo Penta paint.
 On-board spare parts kits.
 Tool kit - intended for minor repair work.

CONTROLS AND OPERATING SYSTEMS

Volvo Penta single lever control (for both speed regulation and gearchanging). Models to suit single or twin installation, top or sidemounted.

Neutral safety switch (engine can only be started with gear in neutral position).

Control systems for dual station.

Control cables.

Steering gears, wheels and cables.

PROPELLERS

Propellers in matched sets or supplied separately.

Not all models, standard equipment, and accessories are available in all countries. Volvo Penta reserves the right, without prior notice, to revise prices, materials, standard equipment, specifications, models, and discontinue models.