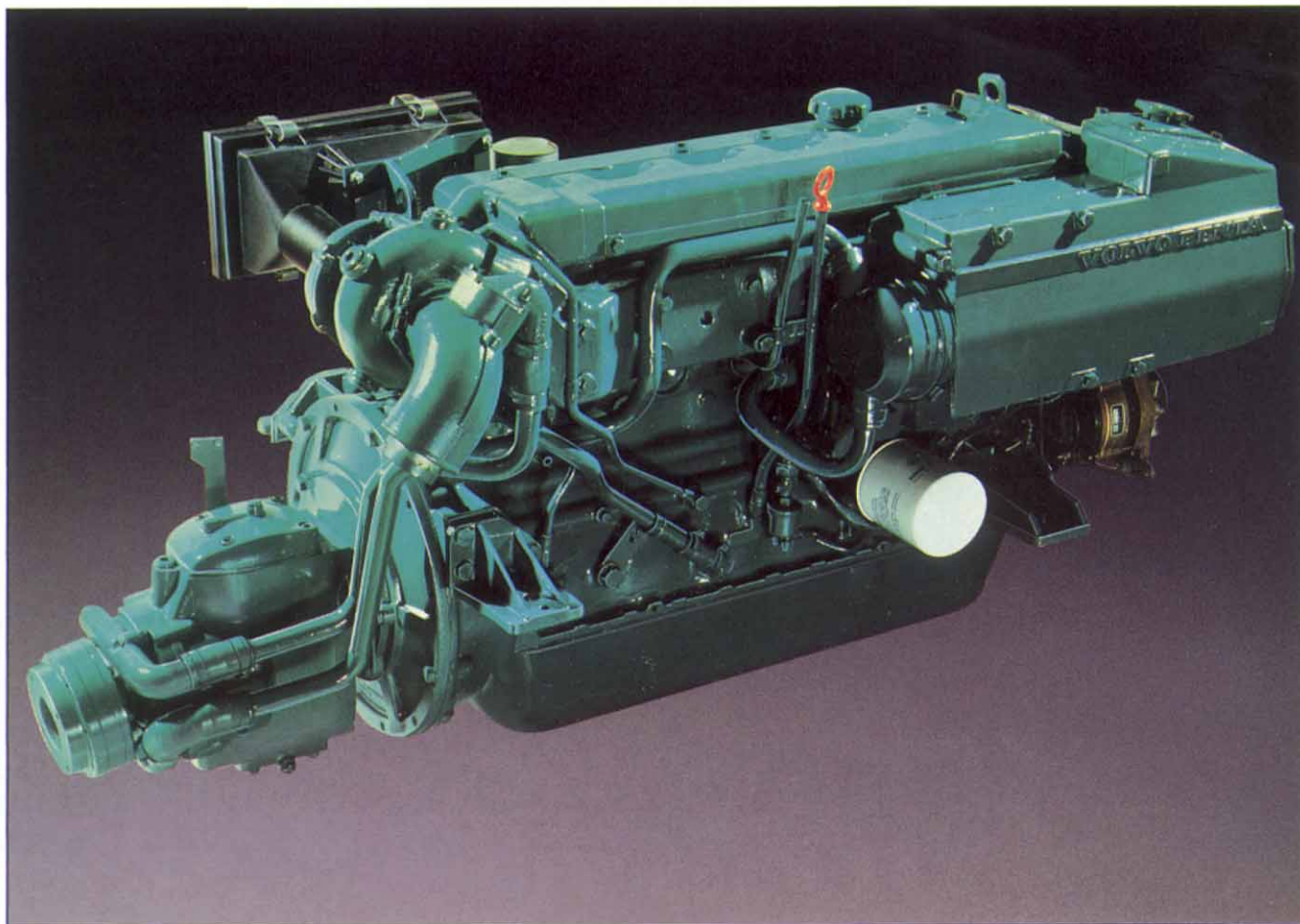


**VOLVO
PENTA****TMD40B**

Six-cylinder, 4-stroke turbocharged, swirl-chamber marine diesel engine. Power output* 100 kW (136 hp).

A compact 3.59 litre (219 cu.in.), swirl-chamber diesel engine. The high torque of this engine together with the Volvo Penta MS3B reverse gear provides fast acceleration and powerful thrust even at low speed. Maximum power output is produced at 3600 r/min, giving excellent reserves of speed and good fuel economy. The swirl-chamber system and the seven-bearing crankshaft, together with flexible engine mountings, contribute to quiet and vibration-free running.

The turbocharger with fresh-water cooled turbine housing and seawater cooled exhaust sys-

tem, together with effective oil-cooling, provide high output, a steady working temperature and long life. Cast iron engine block and cylinder head with oil-cooled light-alloy pistons and replaceable, wet cylinder liners give longer working life and simplified servicing.

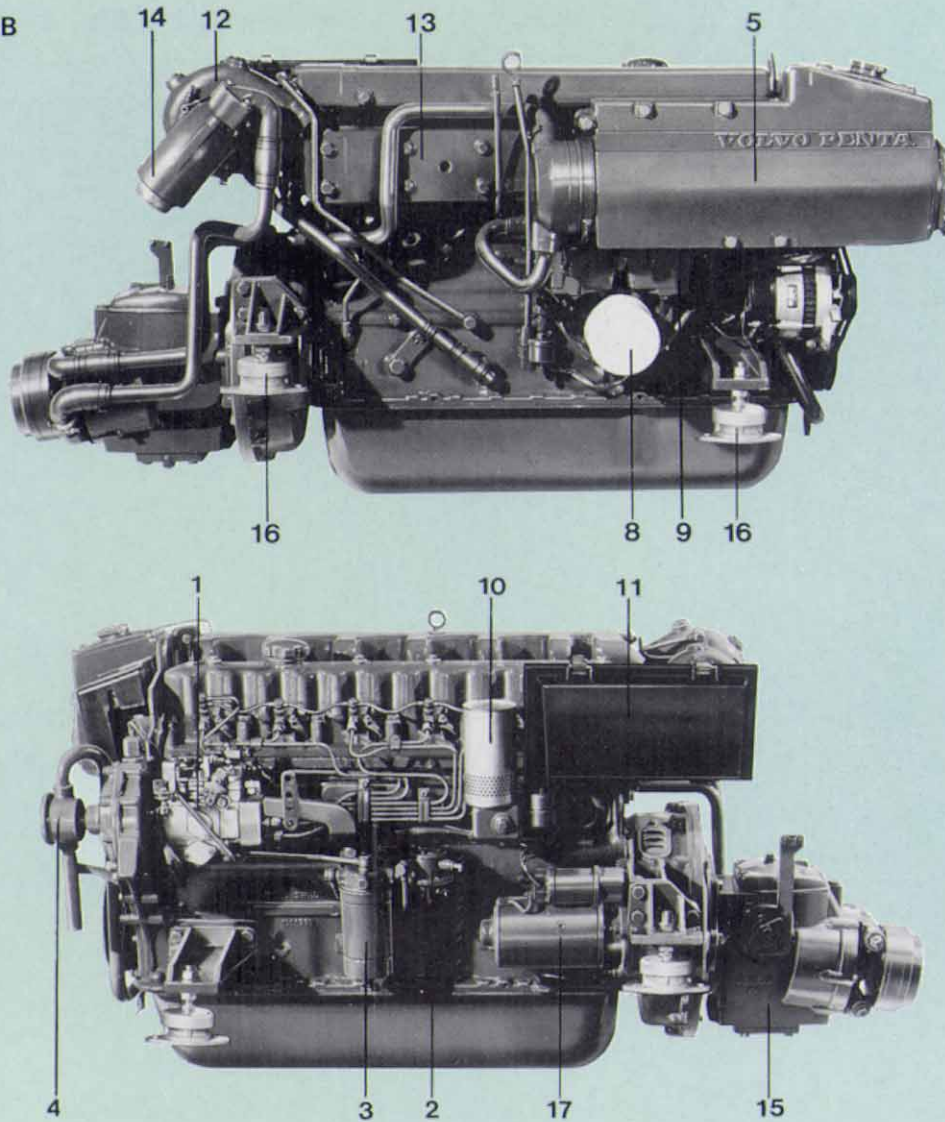
The 12 V electrical system is equipped with a brushless alternator with integrated electronic regulator producing high charging capacity and electricity reserves, (14 V/50 A).

Starter motor rating 2,2 kW (3 hp)

In order to ensure compact installed dimensions, the reverse gear is angled 8° downwards.

* Flywheel output according to DIN 6270B.

TMD40B/MS3B



Standard equipment

ENGINE BODY

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

FUEL SYSTEM

Rotary type fuel injection pump with mechanical governor for accurate speed control (1). Feed pump (2) with hand primer. Fine filter (3) with water-separator. Electrical stop solenoid.

COOLING SYSTEM

Thermostatically controlled fresh-water cooling with tubular heat exchanger (5), expansion tank and circulation pump. Seawater pump with neoprene rubber impeller (4).

LUBRICATING SYSTEM

Pressure lubrication with full-flow "spin-on" lubricating oil filter (8). Cleanable tubular oil cooler (9). Crankcase ventilation filter (10).

INTAKE SYSTEM

Intake silencer with replaceable filter (11).

TURBOCHARGING SYSTEM

Exhaust driven turbocharger with fresh-water cooled turbine housing (12).

EXHAUST SYSTEM

Fresh-water cooled exhaust manifold (13). Cast iron seawater cooled exhaust elbow (14) with stainless steel insert.

TRANSMISSION

MS3B reverse gear, reduction ratio 1.93:1 (15). Output shaft angled 8° downwards.

ENGINE MOUNTS

Flexible engine mounts provide insulation from noise and vibrations. The engine is fitted with four adjustable rubber mounts (16).

ELECTRICAL SYSTEM

Corrosion-proofed 12 V electrical system with instrument panel. Alternator 14 V/50 A. Automatic fuse with reset button mounted on the engine. Starter motor rating, 2.2 kW (3 hp) (17).



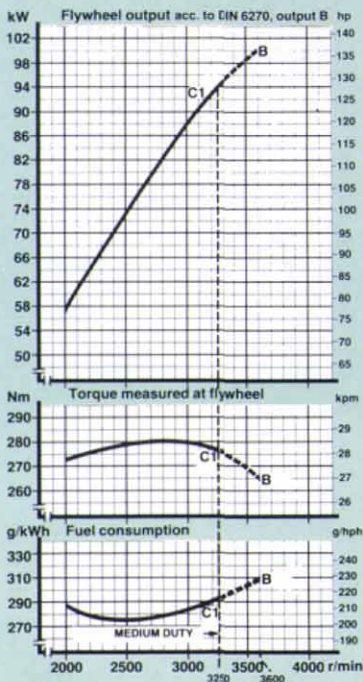
INSTRUMENT PANEL

Fitted with key switch, tachometer, temperature gauge, oil pressure

gauge, voltmeter, indicator lamp for glow plug operation, audible alarm for oil pressure and water temperature, rheostat-switch for instrument lighting. Cable harness, length 7 m (23 ft), with plug-in contacts for connection to the engine and instruments.

TOOL KIT

Intended for minor repair work.



Data

Type of operation 4-stroke swirl-chamber diesel engine

	Light duty	Medium duty
Flywheel output*	100 kW (136 hp)	94 kW (128 hp)
Propeller shaft output*	95 kW (129 hp)	90 kW (122 hp)
Engine speed r/min	3600	3250

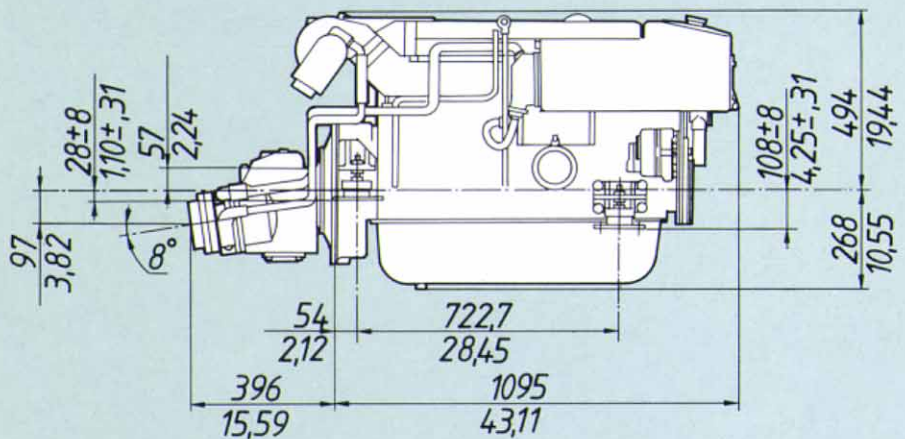
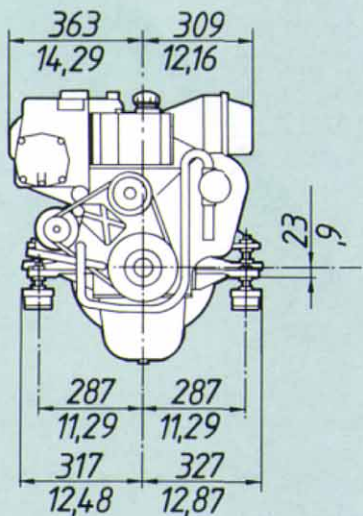
Number of cylinders 6
 Cylinder bore/stroke, mm (in) 92/90 (3.62/3.55)
 Capacity, dm³ (in³) 3.59 (219)
 Valve configuration Overhead
 Weight of engine with MS3B reverse gear, approx, kg (lbs) 460 (1014)

* According to DIN 6270 output B.

Curve B: Light duty. The use of rated power at rated speed is limited to short periods followed by extended cruising at reduced speed. In commercial applications operation is limited to 200 hours per year. Ex. Pleasure boats, fireboats, certain patrol boats and rescue boats.

Curve C1: Medium duty. The use of rated power at rated speed is limited to four hours per twelve-hour period. After use of rated power shall follow cruising at reduced speed. The operation is limited to 2000 hours per year. Ex. Patrol, pilot, police- and fishing boats with planing and semiplaning hulls.

Mentioned outputs are flywheel outputs. The propeller shaft output is approx. 4% lower.



MS3B Reverse gear

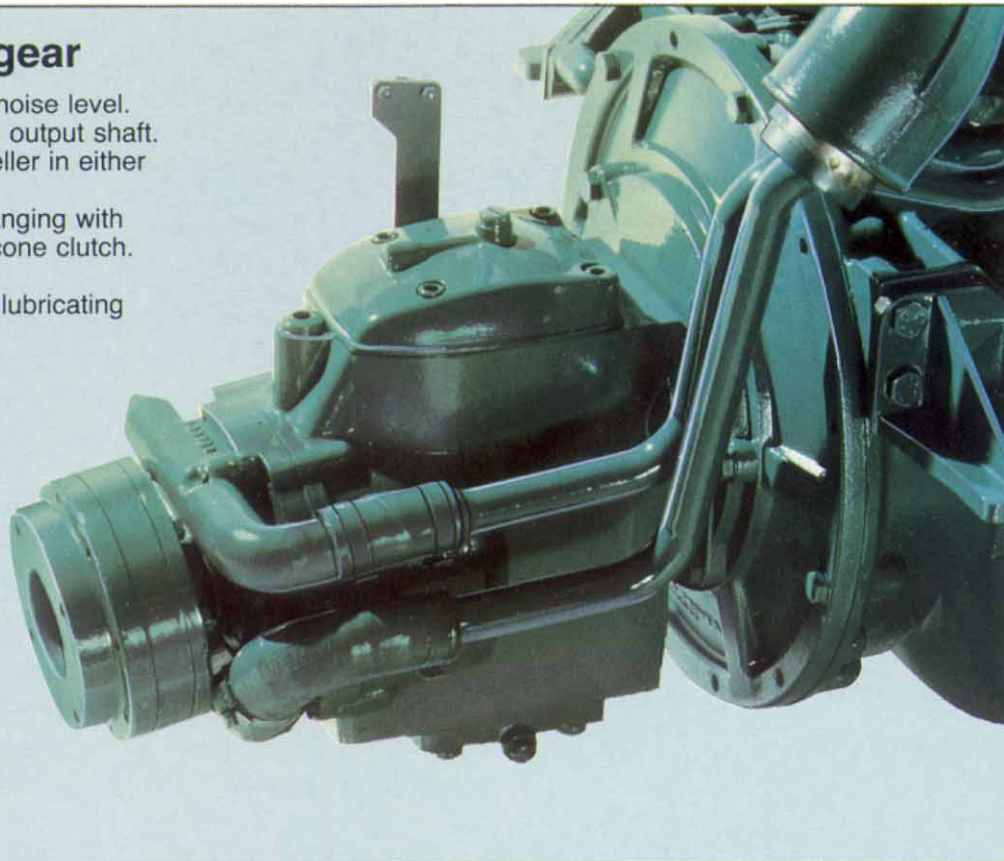
Helically cut gears for low noise level.
Torque-limiting coupling on output shaft.
Possibility to operate propeller in either direction of rotation.

Easy and smooth gear-changing with "Silent-Shift" mechanical cone clutch.
Built-in oil cooler.

Reverse gear uses same lubricating oil as engine.

High efficiency, 96–97%.

Output shaft angled 8° downwards.



Accessories

FUEL SYSTEM

Water-separating filter with or without flexible hoses.
Copper fuel pipes.
Cover, with connections, for fuel tank.

COOLING SYSTEM

Hot-water outlet.
Cooling water intake with cock.
Cooling water hose.
Vacuum valve.
Seawater strainer, cleanable.

LUBRICATING SYSTEM

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

EXHAUST SYSTEM

Hull outlet fitting.
Wet exhaust rubber sleeve.
Wet silencer.
Wet elbow bend, 45°.
Dry exhaust line.
Dry silencer.
Dry compensator.

ELECTRICAL SYSTEM AND INSTRUMENTS

Extra alternator, 14 V/50 A.
Extra alternator, 28 V/55 A.
Charging distributor for independent charging of dual battery systems.
Instrument panel for extra instruments.
Extra instruments: Electrical hour meter, rudder indicator, fuel and water tank gauges.
Master switch.
Extension cable harness for instrument panel.
Safety switch to stop engine.

POWER TAKE-OFF

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

BOAT ACCESSORIES

Electric bilge pump.
Paints, engine and drive touch-up, antifouling.
Oils.
On-board spare parts kit.
Batteries.

CONROLS AND OPERATING SYSTEMS

Volvo Penta single-lever control for engine speed and gearshift. Models to suit single or twin installations, top or side mounted.
Neutral safety switch (engine can only be started with Volvo Penta control in neutral position).
Control system for dual stations.
Speed control kit for flying bridge.
Control cables.
Steering gears, wheels and cables.
Ball joint and fork for control cables.

PROPELLER EQUIPMENT

Propeller shaft.
Propeller shaft flange.
Flexible propeller shaft coupling.
Propeller shaft sleeves.
Stuffing boxes.
Propellers.

**VOLVO
PENTA**

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

S-405 08 Göteborg, Sweden