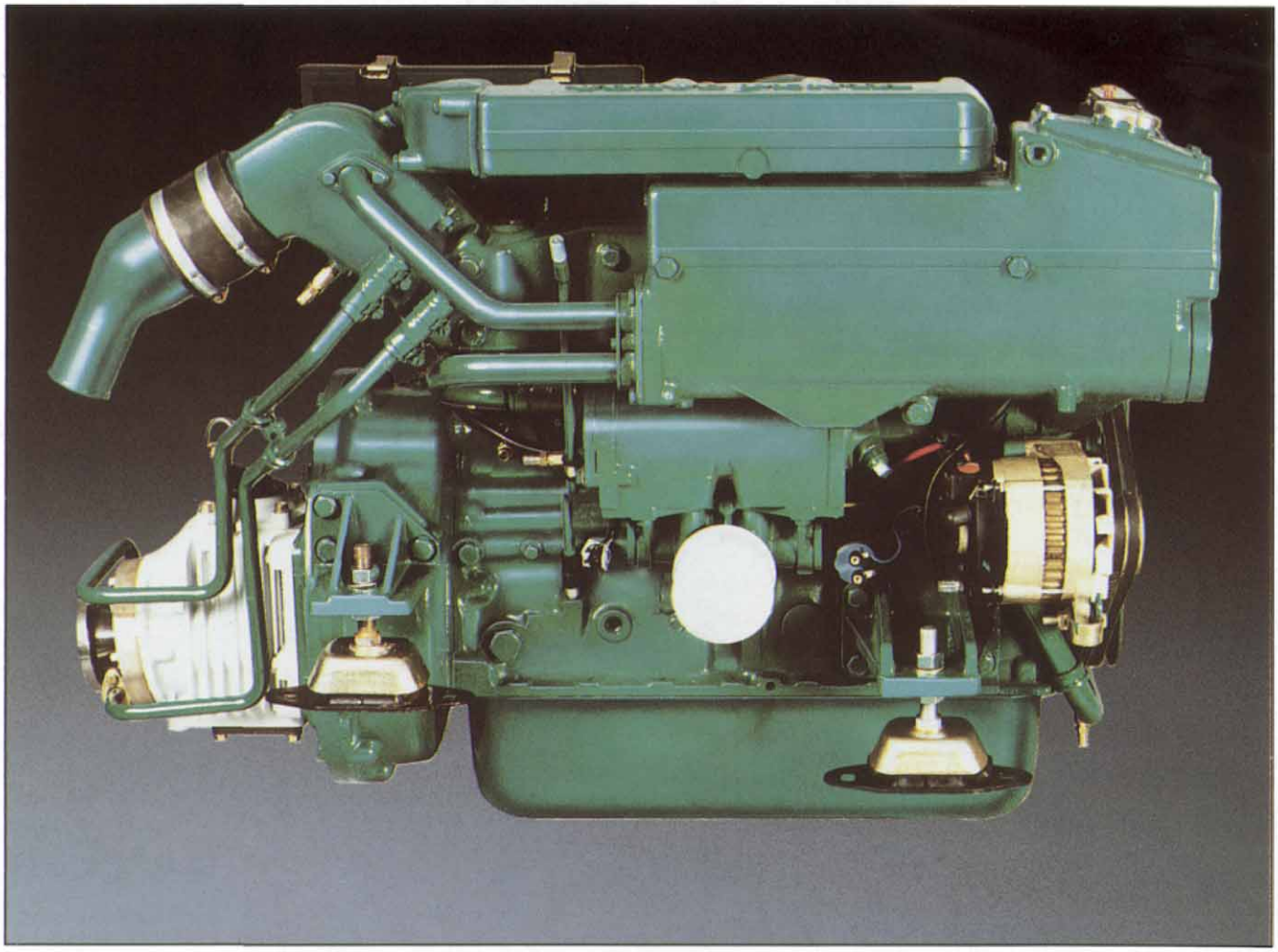
VOLVO PENTA

MD30



Four-cylinder, four-stroke marine diesel engine of swirl chamber type. Output* 48 kW (65 hp).

A compact 2.39 litre diesel engine of the swirl chamber type. Its high torque, together with the Volvo Penta MS2B or MS2V reverse gear, gives excellent thrust even at low speed and thus good boat handling. At 3800 r/min, it produces maximum output with good fuel economy. The swirl chamber system and the five-bearing crankshaft, together with flexible engine mounts, make their contribution towards quiet and vibration-free running.

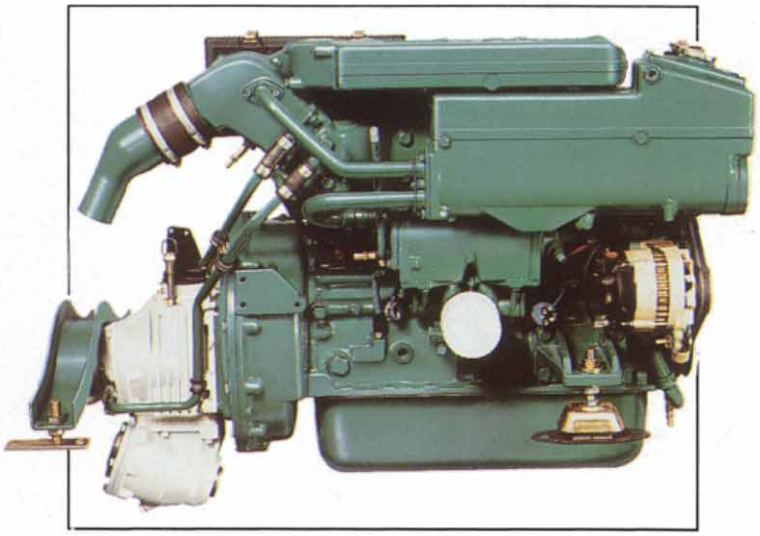
Cast-iron block and cylinder head, light-alloy pistons and replaceable, wet cylinder liners ensure a long lifetime and simplify servicing.

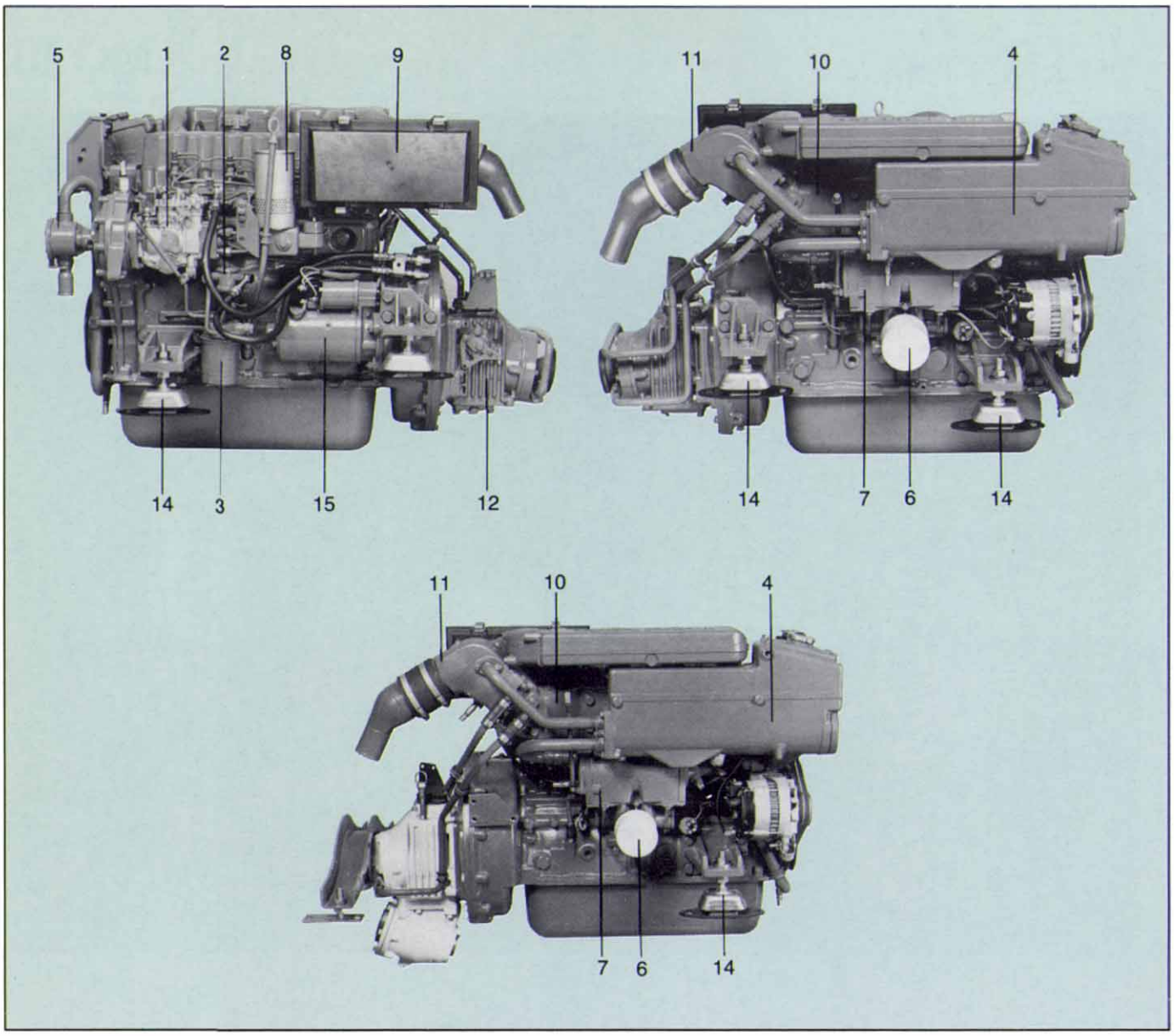
The 12 V electrical system includes a brushless alternator with a built-in electronic regulator to ensure high charging capacity (14V/50A).

The starter motor has a rating of 2.2 kW (3 hp).

In order to save space, the output shaft has a 7° down angle on the MS2B reverse gear and an included angel of 20° on the MS2V reverse gear.

*** Flywheel output according to DIN 6270 output B.**





Standard equipment

ENGINE BODY

Cylinder block and cylinder head of cast-iron. Replaceable wet cylinder liners. Two compression rings and one oil scraper ring on each piston. Crankshaft carried in five bearings. Replaceable valve seats in cylinder head.

FUEL SYSTEM

Rotor type fuel injection pump with mechanical governor for precision speed control (1). Feed pump (2) with hand primer. Fine filter (3) with water deflector. Electrically actuated stopping system.

COOLING SYSTEM

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

LUBRICATING SYSTEM

Pressure lubricating system with full-flow lubricating oil filter of spin-on type (6). Cleanable oil cooler of tubular type (7).
Crankcase ventilation filter (8).

INDUCTION SYSTEM

Induction silencer with replaceable filter (9).

EXHAUST SYSTEM

Fresh-water cooled exhaust manifold (10). Sea-water cooled exhaust elbow bend made of cast-iron (11) with stainless steel insert.

REVERSE GEAR

MS2B and MS2V: Reduction ratio 2.4:1 or 3:1. Seawater cooled. The MS2B (12) has the output shaft angled 7° downwards. The MS2V (13) has the output shaft included angel of 20°.

ENGINE MOUNTS

MS2B: Flexible mounts consisting of four rubber blocks with adjustable mounting plates (14) for noise and vibration insulation.
MS2V: Flexible mounts consisting of three rubber blocks with four adjustable mounting plates for noise and vibration insulation.

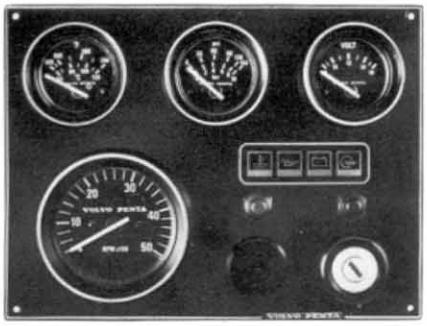
ELECTRICAL SYSTEM

Corrosion-protected 12 V electri-

cal system. 14 V/50 A alternator. Automatic fuse with resetting button fitted on engine. Starter motor rating 2.2 kW (3 hp) (15).

INSTRUMENT PANEL

Fitted with key switch, tachometer, temperature gauge, oil pressure gauge and voltmeter. Control display for low oil pressure, high engine temperature, battery charging and glow plug operation. Accoustic alarm for oil pressure and water temperature. Alarm test button and instrument lighting switch. Extension cable, 5 m long, with plug-in connector between engine and instruments.



Data

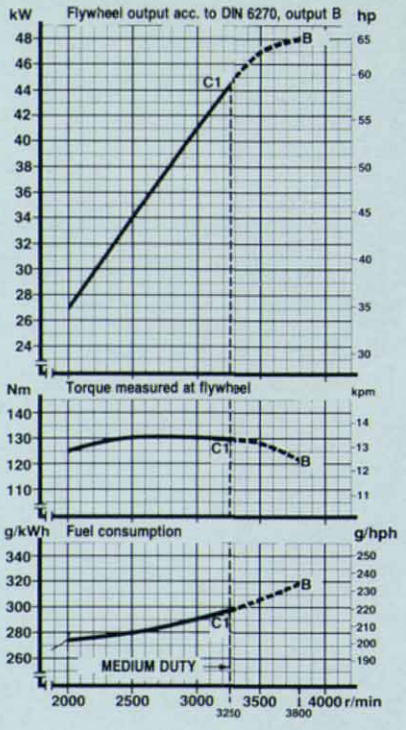
Type ..... Four-stroke diesel engine with swirl chamber

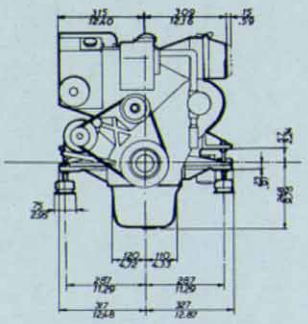
MD 30A–	Light duty	Medium duty
Flywheel output*	48 kW (65 hp)	44 kW (60 hp)
Propeller shaft output*	46 kW (62 hp)	41 kW (56 hp)
Engine speed r/min	3800	3250

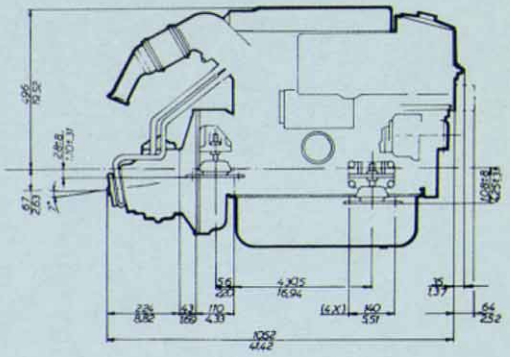
No. of cylinders 4
Bore/stroke, mm (in.) 92/90 (3.62/3.54)
Capacity, dm^3 (cu.in.) 2.39 (146)
Valves ..... Overhead
Weight MD30 with MS2B reverse gear, approx, kg (lbs) .. 332 (732)
Weight, MD30 with MS2V reverse gear, approx, kg (lbs) . 340 (750)

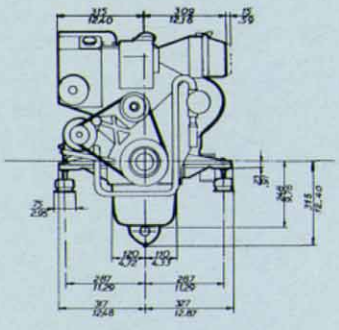
* According to DIN 6270 output B

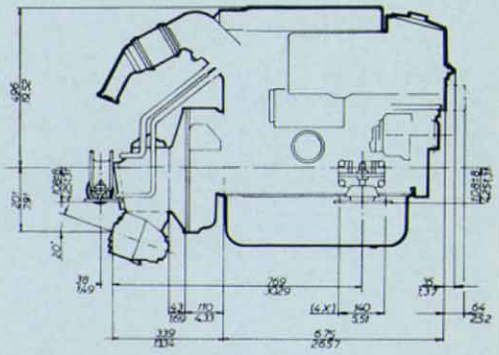
DIAGRAM MD30A











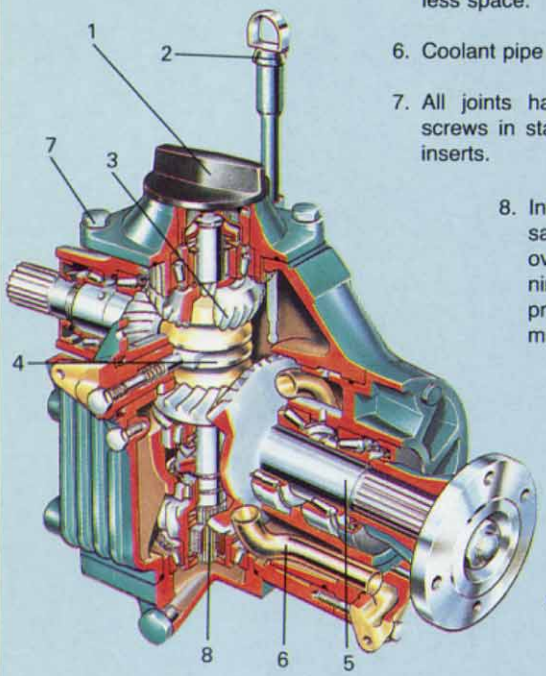
Curve B: Light duty.
The use of rated power at rated speed is limited to short periods followed by extended cruising at reduced speed. In commercial applications the operation is limited to 200 hours per year.
Ex. Pleasure boats, fireboats, certain patrol boats, rescue boats.

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.

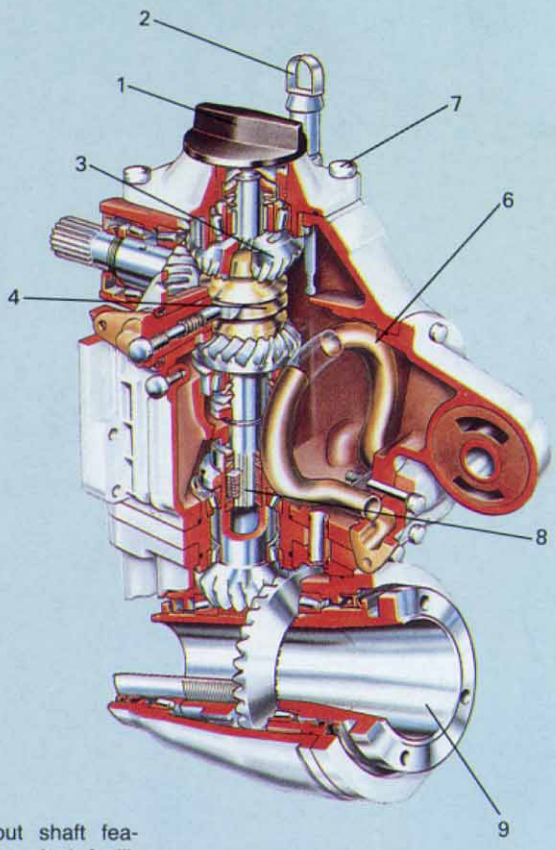
Mentioned outputs are flywheel outputs. The propeller shaft output is approx 5% lower.

MS2B reverse gear

1. Easy access oil filler.
2. Oil dipstick.
3. Spiral bevel gears for quiet, efficient operation.
4. Volvo Penta's patented cone clutch gives smooth quiet engagement of forward and reverse.
   Single lever control of both speed and forward/reverse.
5. Output shaft with 7° down angle. Enables installation of engine in less space.
6. Coolant pipe for oil cooling.
7. All joints have stainless steel screws in stainless steel thread inserts.
8. Integral slip coupling safeguards against overloding (e.g. running aground) thereby protecting the transmission.
9. Through-running output shaft featured angled 20° (to engine) facilitates installation and saves space.



MS2V reverse gear



Accessories

FUEL SYSTEM

Water-deflecting filter with or without flexible hoses.
Copper fuel piping.
Cover with connections for fuel tank.

COOLING SYSTEM

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

LUBRICATING SYSTEM

Electric oil scavenging pump 12 V or 24 V

EXHAUST SYSTEM

Hull fitting
Exhaust rubber hose, wet
Silencer, wet
Elbow bend, wet, 45°
Silencer, dry
Compensator dry

ELECTRICAL SYSTEM AND INSTRUMENTS

Extra alternator, 14V 50A
Extra alternator, 24V 25A
Charging distributor for simultaneous charging of two battery systems.
Extra instrument panel for flying bridge.
Instrument panel for two extra instruments.
Extra instruments: Electric hour meter, rudder indicator, fuel and water tank gauges, log, clock, ammeter and extra temperature gauge.
Master switch.
Extension cable for instrument panel, alternative lengths: 3, 5 or 7 m (9.8, 16.4 or 23.0 ft).
Safety contact to stop engine.

POWER TAKE-OFF

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

BOAT ACCESSORIES

Electric bilge pump.
Genuine paints. Oil.
On-board kit. Batteries.

CONTROLS AND MANOUEVRING SYSTEMS

VP single-lever control for both throttle and gear-changing, top or side fitted.
Single or double installation.
Neutral position switch for VP control – the engine can only be started with the gear lever in the neutral position.
Controls for two command positions.
Speed control kit for flying bridge.
Control cables.
Steering gears.
Wheels.
Steering cables.
Ball joint and fork for control cables.

PROPELLER EQUIPMENT

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

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

VOLVO PENTA

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