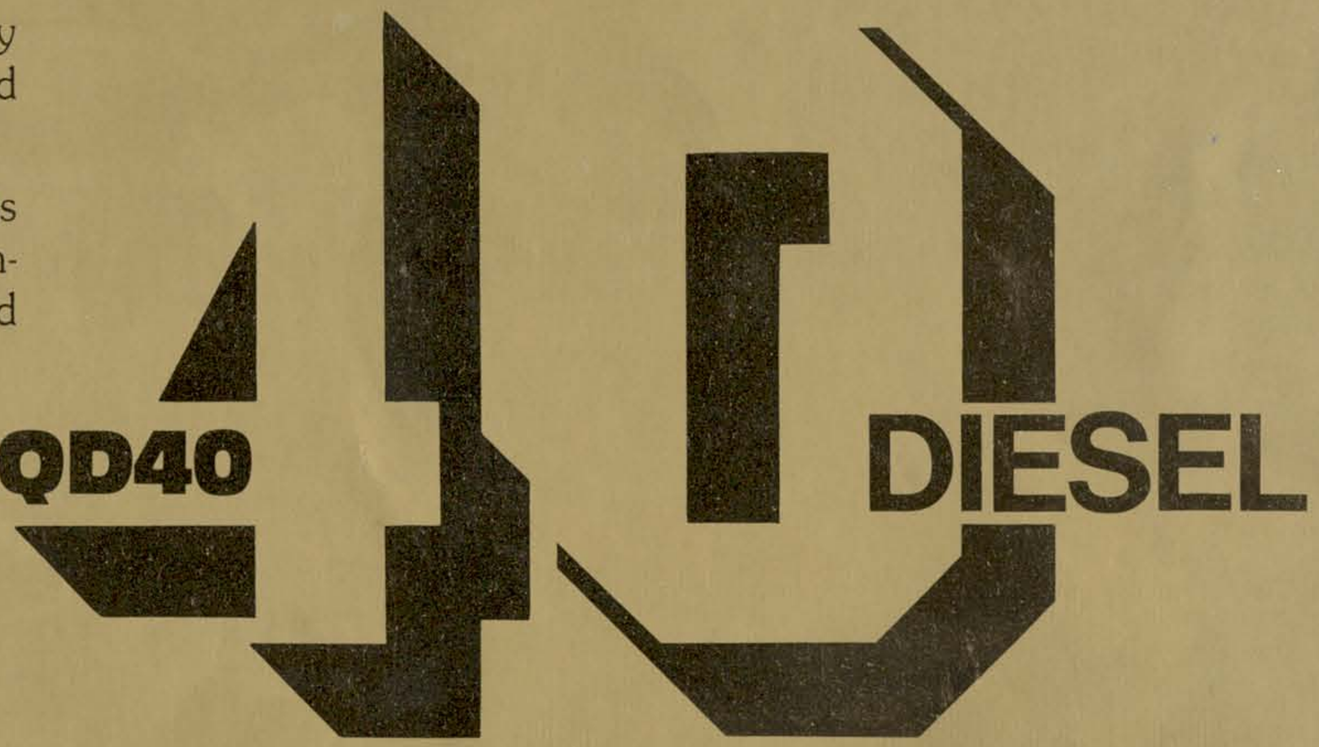
Ref. No. 7198
(Engelska)

The Volvo Penta TMD40 diesel engine is a revolutionary new unit in which is reflected 70 years of Volvo Penta experience in marine engine design. Many technical innovations lie behind this outstanding power pack especially developed for a wide range of different boat types and fields of application.

The TMD40 represents concentrated marine diesel skills within carefully considered technology and world-renowned Volvo quality. Different variants are specially adapted for both leisure craft and commercial use.

Volvo Penta TMD40 · AQD40



The Volvo Penta TMD40 – an extrem

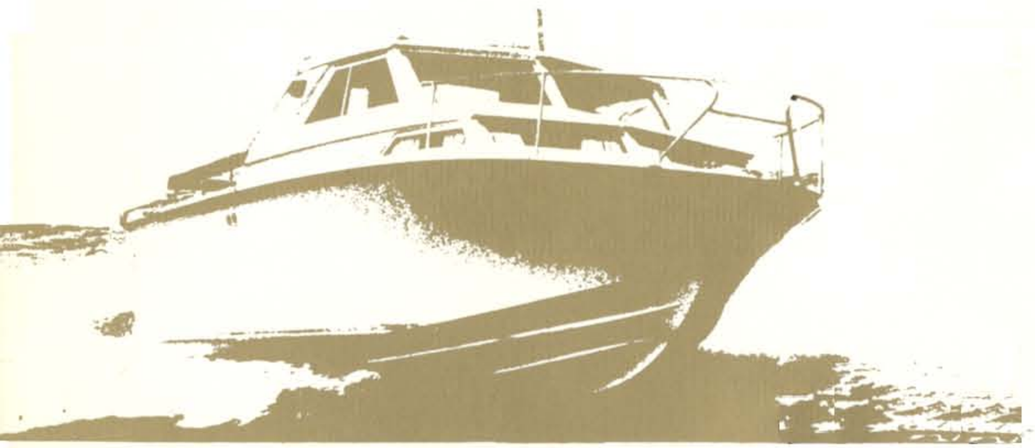
The engine itself is a six-cylinder, four-stroke, in-line unit of the indirect injection type and is fitted with oil-cooled pistons. This power pack has been designed from the start for Turbo-compressor supercharging which combines high output with low fuel consumption, cleaner exhaust emission and a low engine noise level. The power-weight ratio is in a class of its own. When installed in leisure craft, the ratio is as low as approx. 3.5 kg per horsepower. From the viewpoint of performance, the TMD40 is an obvious alternative to a petrol (gasoline) engine. It is certainly rather heavier but this is compensated for adequately by the higher torque of the diesel engine.

Compact design results in exceptionally small installed dimensions – see the dimension drawing – which are comparable with those of engines of much lower output.

The crankshaft, engine block and connecting rods have been dimensioned for marine use and a long life. The engine has been type-approved by Det Norske Veritas for an output of 150 horsepower at 3600 rpm in leisure craft (110 kW at 60 r/s).

Several versions of the TMD40 are available. The inboard engine is designated TMD40 and the I/O (inboard engine – outboard drive) version is designated AQD40.

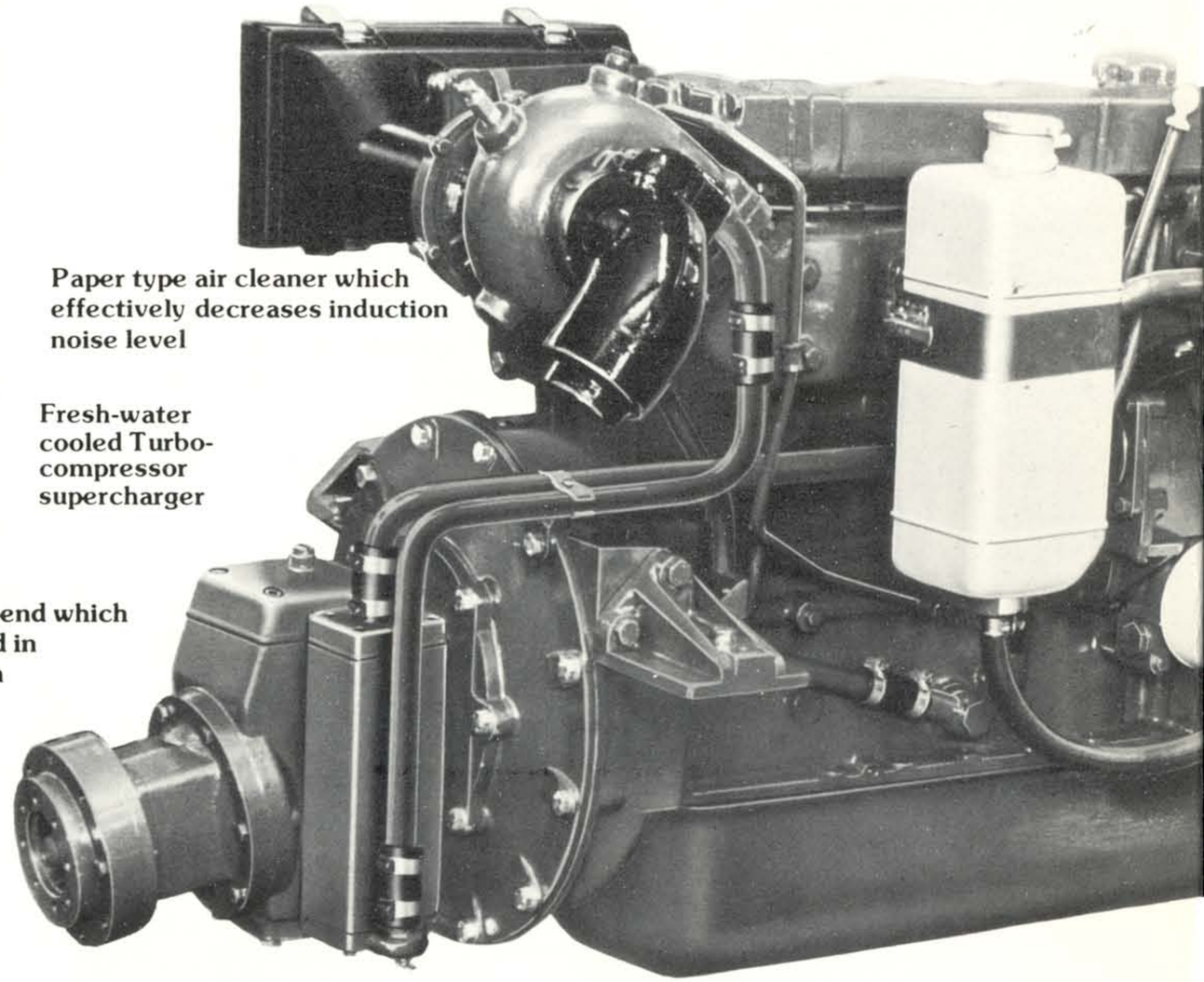
The inboard engines can be supplied with two reverse gear alternatives: the Volvo Penta MS3 with a ratio of 1.91:1 and the Borg Warner series 71 with ratios of 1.91:1 and 2.91:1. The Aquamatic version is fitted with the Volvo Penta model 280D outboard drive which has a ratio of 1.61:1.



The special features of the

Replaceable, wet type cylinder liners

Oil-cooled pistons



Paper type air cleaner which effectively decreases induction noise level

Fresh-water cooled Turbo-compressor supercharger

Water-jacketed exhaust bend which can be turned and secured in the most suitable position

High torque, 27 kpm at 3200 rpm, and a torque curve which ensures good acceleration at all engine speeds

Stainless steel oil sump ready for the installation of a sensor for remote indication of lubricating oil level

ely advanced marine diesel engine

TMD40 engine

Fresh-water cooled exhaust system

TMD 40

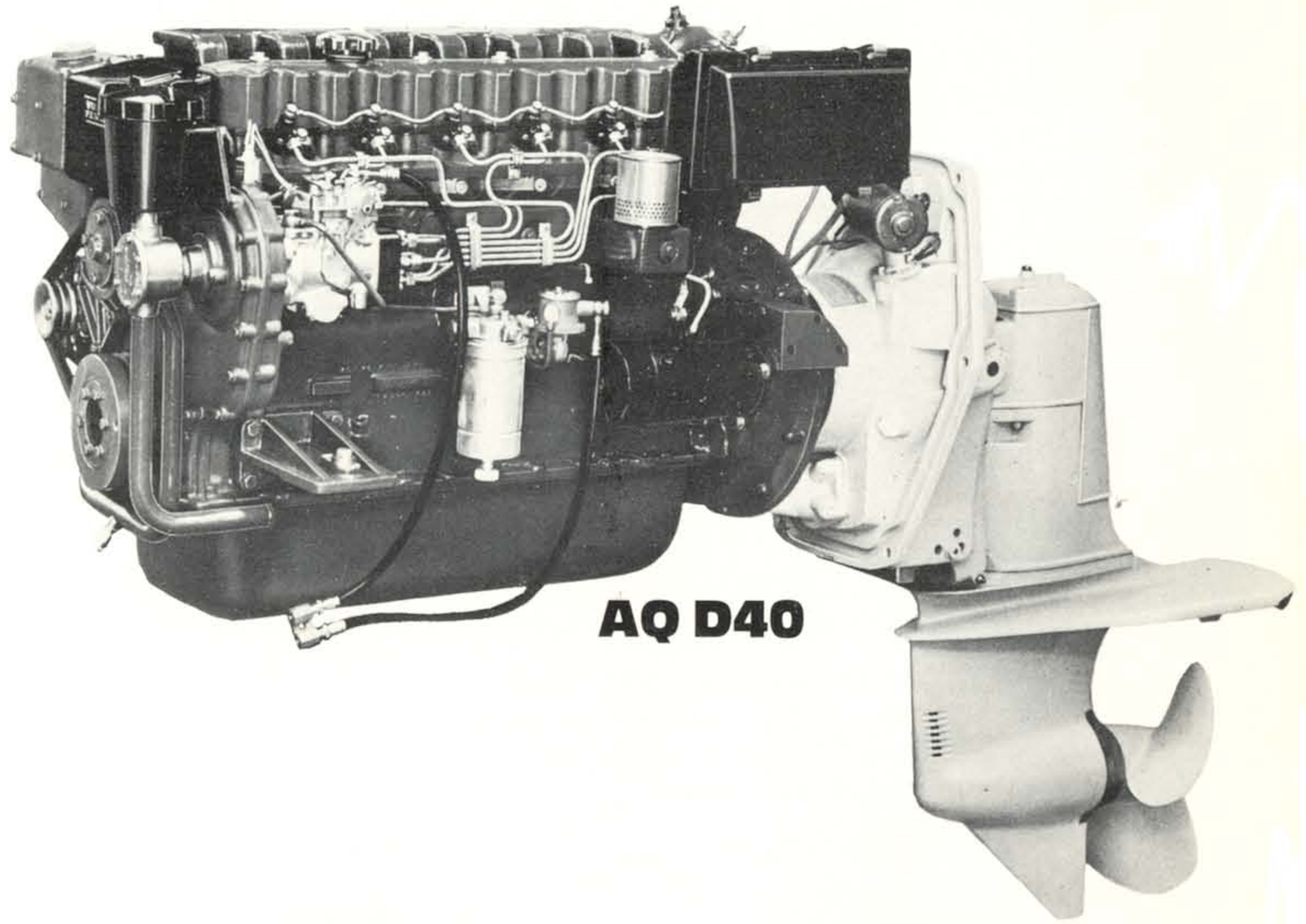
Crankcase ventilation with paper filter for oil separation

Sea-water strainer as standard equipment

An electric stop control as standard equipment

Expansion tank in cooling system. Can easily be moved to a more accessible location

Connections for a water heater or other form of heater installation



AQ D40

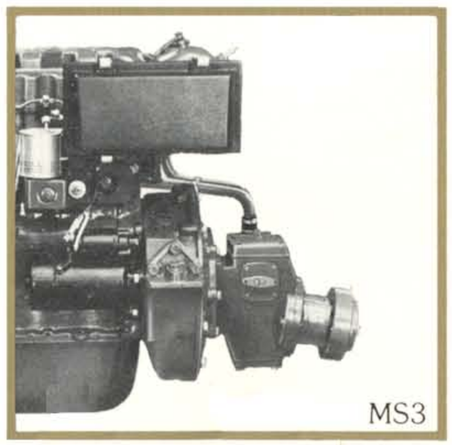
A new reverse gear

The Volvo Penta MS3 reverse gear is of a new design which reduces the problem of high engine inclination when installed. The reverse gear has an output shaft angle of 8° which considerably facilitates installation and provides a lower installation level.

The MS3 reverse gear includes conical involute gearing for quiet operation and the Aquamatic cone clutch for smooth gear shifting.

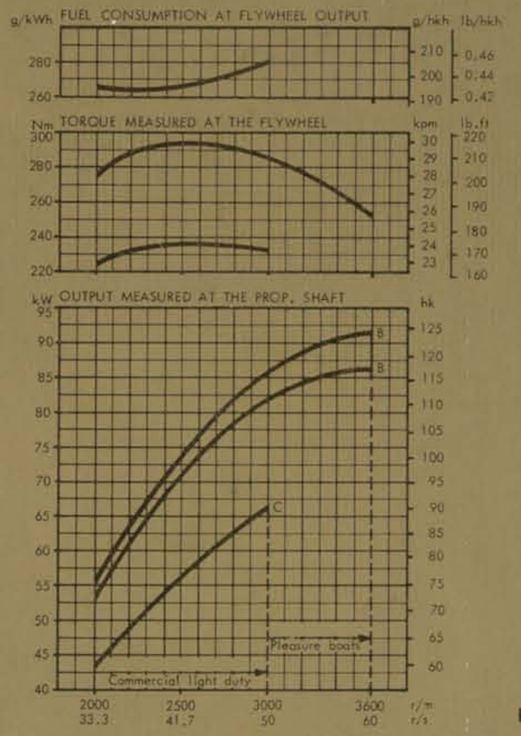
The design of the reverse gear permits both left-hand and right-hand rotation. The gear ratio of 1.91:1 is the same for both directions of rotation. Mechanical losses are only 5 % at maximum engine speed.

A further outstanding feature of the new Volvo Penta reverse gear is the extra clutch on the output shaft which slips when subjected to extreme torque. This is to prevent overloading [illegible]he case of [illegible]less manœuvring.

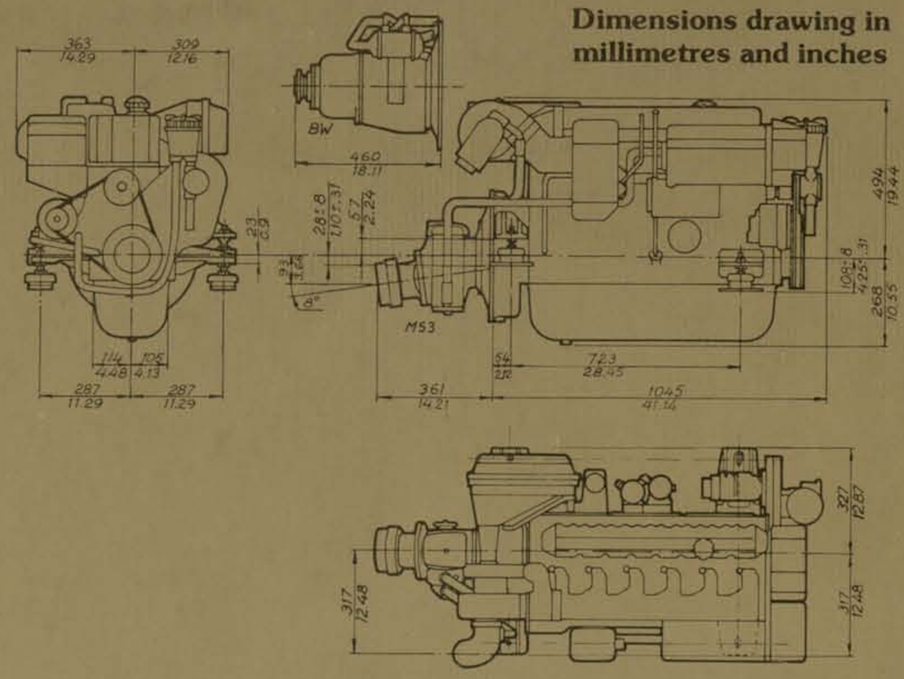


MS3

Borg Warner



Dimensions drawing in millimetres and inches



Technical data

Type of engine: Six-cylinder, fresh-water cooled, in-line unit of the indirect injection type. Cylinder block and head made of cast-iron. Wet type cylinder liners. Oil-cooled pistons. 12-volt electrical equipmen with glow plugs for starting.

Leisure boat output, TMD: 124 hp at 3600 rpm[1)] (91 kW at 60 r/s)
Leisure boat output, AQC40: 130 hp at 3600 rpm[2)] (96 kW at 60 r/s)
Displacement: 3.59 dm³ (litres) = 209 cu. in.
Bore x stroke: 92 x 90 mm (3.62 x 3.54 in.)
Compression ratio: 21:1
Weight, TMD40: 440 kg(970 lb)*
Weight, AQD40: 465 kg (1025 lb)

* When fitted with MS3 reverse gear

1) Propeller shaft output according to DIN 6270 Leistung B

2) Flywheel output according to DIN 6270 Leistung B

Test result in boat with single engine installation

The TMD40 engine has been subjected to testing in a 30-ft. cabin cruiser with a displacement of 4,300 kg and has reached a maximum speed of 16.9 knots. Acceleration time from 0 to 16 knots was 12 seconds. Propeller: 19 x 15".

The test result for the Aquamatic version in a 26-ft. cabin boat with a displacement of 2,600 kg indicated a top speed of 25.7 knots and a cruising speed of 21.8 knots at 3300 rpm.

A top speed of 26 knots was noted with the Aquamatic engine installed in a 24-ft. cabin boat with a displacement of 2,700 kg.

In both cases the model 280 outboard drive was fitted with a High Speed 15 x 17" propeller.

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