

Light duty flywheel output (B)			Medium duty flywheel output (C1)			Heavy duty flywheel output (C)			Displacement dm ³ in ³	Compression- ratio	Dry weight with- out reverse gear		
kW	hp	r/min	kW	hp	r/min	kW	hp	r/min			kg	lb	
221	300	2500	198	270	2500	155	211	2000	6,73	411	14.5:1	810	1786

★ Flywheel output at sea level. Atmospheric pressure 1.01 bar (14.6 p.si). Temperature 15°C (59°F).

Powerful. Fuel-thrifty. Dependable in use.

The TAMD70E is a four-stroke, direct injection, in-line, six-cylinder diesel that has been built for marine operation. Designed right from the very start for turbocharging and aftercooling. Some of the advantages:

- High output.** Compact outer dimensions and low weight in relation to output facilitate installation and provide the conditions for excellent performance. At maximum output utilization, the weight/output ratio is 2.7 kg/hp.
- Low fuel consumption.** The extensive experience of Volvo Penta and intensive work on turbocharging and aftercooling have resulted in extremely efficient combustion of the fuel throughout the entire engine speed range.
- High level of operational dependability.** The TAMD70E is based on the reliable and well-tested six-cylinder Volvo engine. A robust and well-balanced design that paves the way to superb dependability and a long lifetime.
- An extensive range of accessories.** For example flushing and bilge pumps, power take-offs, generators, alternative cooling systems, etc. This permits individual customization for both pleasure craft and workboats.
- Easy to install.** Compact. Low profile. In order to facilitate installation, all cables terminate in an electrical connector box where the cable harness to the instrument panel is attached by means of bayonet connectors.

TAMD 70 E

Specification

= Ordered separately (not included in the standard specification) (For details see Group 4)

Engine body

Cylinder block and cylinder heads are made from a special alloy cast iron
Replaceable wet cylinder liners
Replaceable valve seats
Two cylinder heads
Crankshaft run in seven bearings
Brackets on engine for rigid installation
 Flexible mounts for engine

Electrical system - 24V

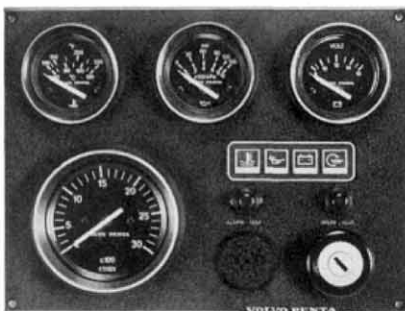
Starter motor 24V
Stop solenoid
Sender for tachometer
Sender + switch for oil pressure
Sender + switch for temperature
Electrical terminal board with two automatic fuses
Charging alternator 55A 60A

Electrical system - 12V

Starter motor 12V
Stop solenoid
Electrical terminal board with two automatic fuses
 Charging alternator 50 A

Basic instrument panel including:

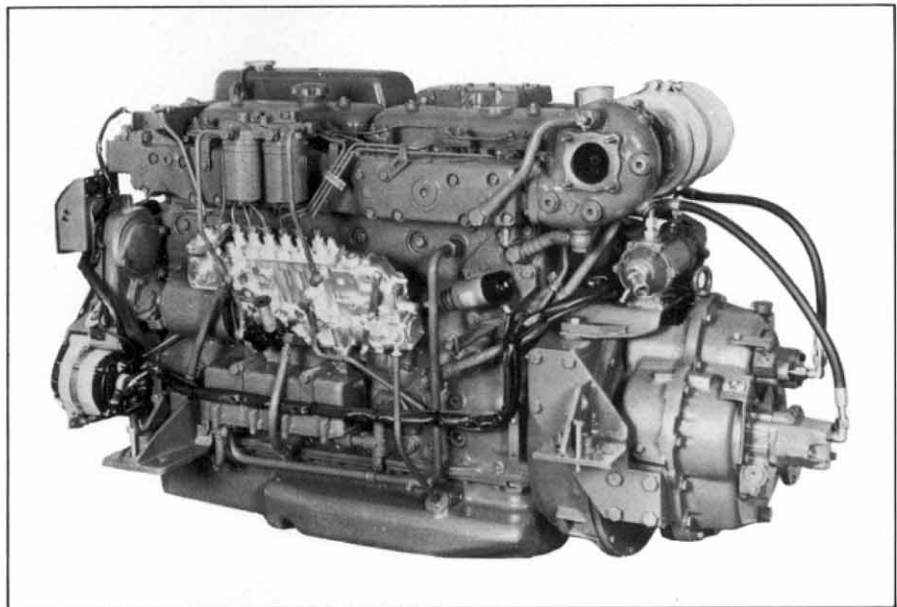
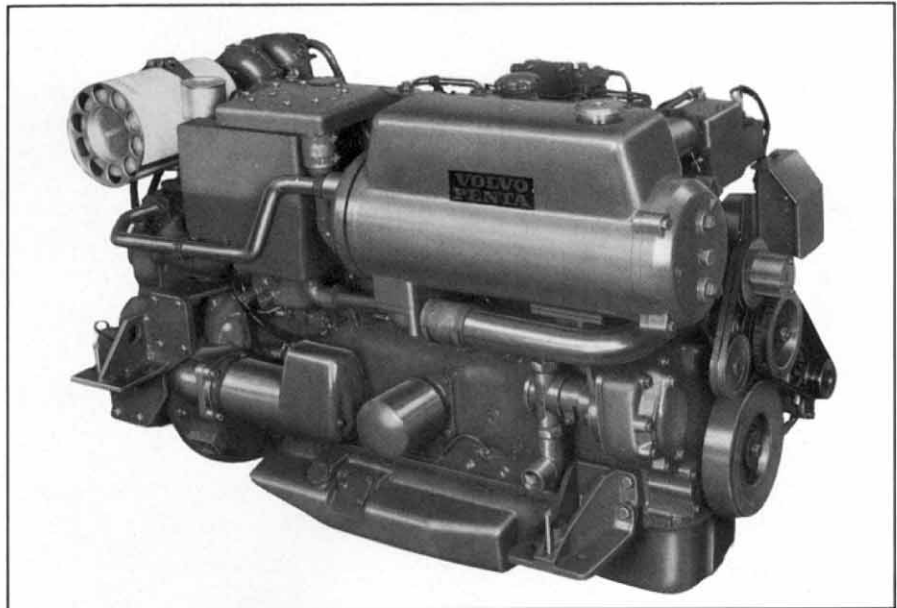
Tachometer
Temperature gauge
Oil pressure gauge
Voltmeter
Warning lamps for oil pressure, engine temp and charging
Push button for alarm test
Key switch for start and stop, with starter motor protection
Alarm for high engine temp and low oil pressure



The instrument panel has clearly marked ISO symbols for temperature, oil pressure and charging. Double cover glass over instrument to prevent condensation. Key switch with starting and stopping functions and built-in starter motor protection.

Instrument panel for a second control station including:

Tachometer
Warning lamps for oil pressure, engine temp and charging



Key switch for start and stop of engine
Push button for instrument lighting
Push button for alarm test
Alarm for high engine temp and low oil pressure

Extra instrument panel including:

Oil pressure gauge (reverse gear)
Boost pressure gauge (turbocharger)

Cable harnesses

- Cable harness 3 m (9.8 ft)
- Cable harness 5 m (16.4 ft)
- Cable harness 7 m (23.0 ft)
- T-connection for "second control station"

Reverse gears

Reverse gear TDMG 506 Output limitations see page 4.

Ratio 1:1 1,5:1 2:1
Weight incl. mounting kit (2:1) 105 kg (231 lb)

Reverse gear TDMG 507 Output limitations see page 4.

Ratio 1:1 1,5:1
 2:1 3:1
Weight incl. mounting kit 165 kg (364 lb)
 Connection parts for SCG MRF HD 3B, ratio 1,5-3,0:1

Power take offs

PTO, front end, disengageable:

Ratio 1:1 | Clutch disc diam
 8" 10"

TAMD 70 E

Auxiliary Drive with pulley, right hand front, forward facing

- 3B grooves Ø 116 mm (4.57")
- 3B grooves Ø 140 mm (5.51")

Auxiliary Drive with pulley, right hand front, rearward facing (keel cooled engines only)

- 3B grooves Ø 116 mm

Crankshaft pulley

- 3B grooves Ø 158 mm (6.24")

Bilge pumps

- 1" direct driven
- 1" for sep mounting
- Ejector for bilge pump

Lubricating system

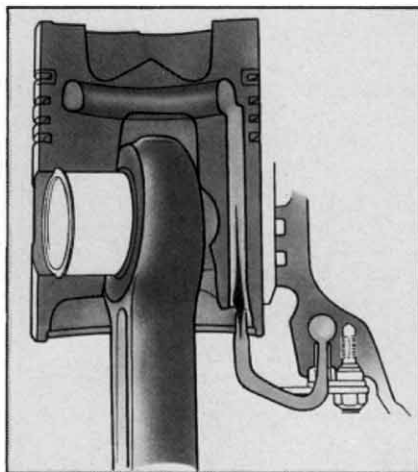
- Oil filter, spin-on type
- Water cooled oil cooler
- Oil separating filter for crankcase ventilation
- Hose connection for crankcase ventilation

Oil scavenging pump

- Mechanical Electric

Fuel system

- Injection pump with centrifugal governor
- Feed pump
- Twin fine filters
- Flexible fuel pipes with connection for suction and return lines
- Twin fuel filter type Racor
- Single fuel filter type Racor



Piston cooling reduces thermal stress and wear. For maximum durability, the top piston ring is chromed and fitted in a special ring carrier.

Turbocharging system

- Turbocharger driven by exhaust gases, water-cooled
- Water cooled aftercooler
- Air cleaner with paper element

Cooling system

- Plate heat exchanger and 1" sea water pump
- Tubular heat exchanger and 1" sea water pump
- Keel cooling
- Fresh water filter "Perry"
- Sea water strainer

Exhaust system

- Fresh-water cooled exhaust manifold
- Flexible exhaust compensator hose,

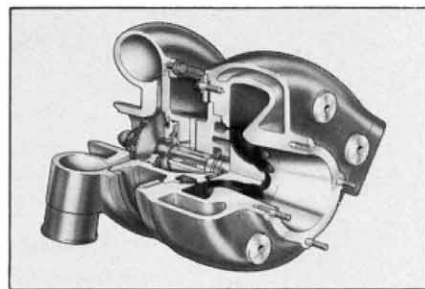
- length 590 mm (23.2") with connecting flanges
- Silencer dry
- Compensator 85 mm (3.35")
- Compensator 185 mm (7.28")
- Exhaust rubber hose 5'

Controls

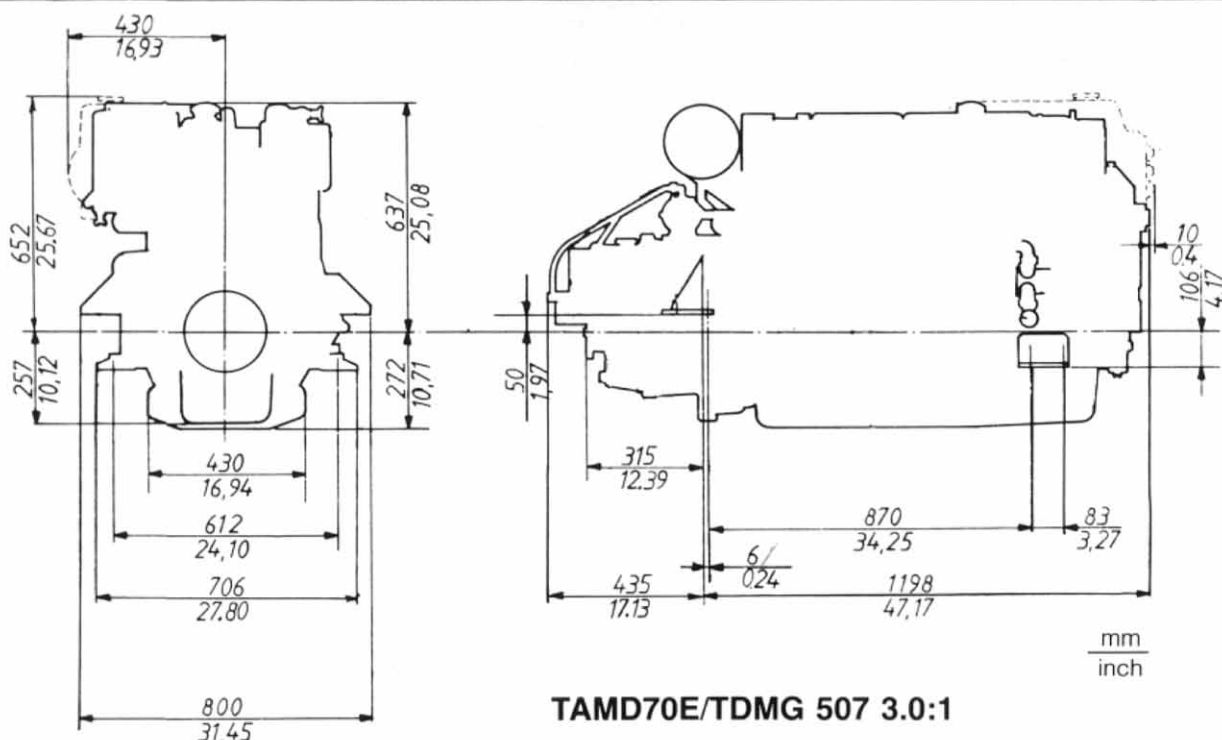
- Control model S for operating of trolling valve
- Control cables
- DS unit

Miscellaneous

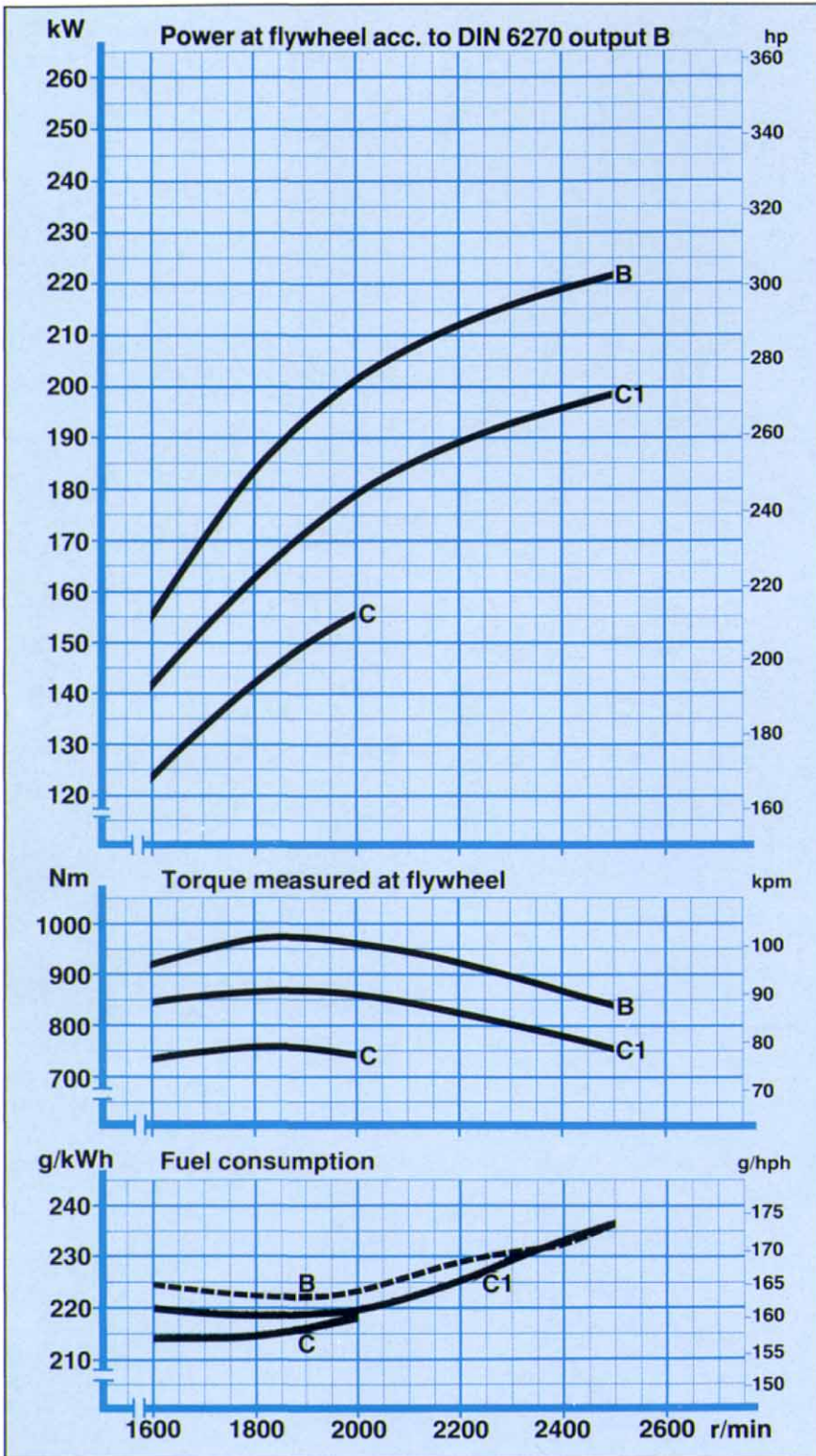
- Spare parts kit for engine
- Tool kit
- Propeller shaft coupling
- Propellers
- Oils
- Paints
- Anti-freeze
- Rustproofing
- Charging distributor for charging 2-battery system
- Hydraulic pump for steering and other applications



The turbo unit with fresh-water cooled turbine housing. Supercharging contributes to high output in relation to fuel consumption, low weight and compact installed dimensions.



TAMD70E/TDMG 507 3.0:1



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.

Curve C: Heavy duty.

The use of rated power at rated speed may be continuous. No interruption or load cycling is expected other than for service purposes. Unlimited operation time per year.

Ex. Tugboats, ferries, freighters, fishing boats. Most commercial applications in displacement hulls.

Mentioned outputs are flywheel outputs. The propeller shaft output is approx 4% lower. Otherwise see table below.

Maximum propeller shaft output.

	TDMG 506	TDMG 507	TDMG 509
Light duty	199 kW (270 hp)	Ratio 1:1, 1.5:1, and 2:1 211 kW (288 hp)	
Medium duty	–	177 kW (240 hp) Ratio 1:1, 1.5:1 and 2:1 191 kW (259 hp)	
Heavy duty			Not ratio 3.32:1 and 4.95:1 149 kW (202 hp)

Density of diesel fuel: 830 g/litre.
Conversion from g/kWh and g/hph to litre/h:

$$\frac{\text{g/kWh} \times \text{kW}}{830} = \text{litre/h}$$

$$\frac{\text{g/hph} \times \text{hp}}{830} = \text{litre/h}$$

Your Volvo Penta representative: