Ref. No. 7731221-3 Eng

TAMD 71 A

6-cylinder, 4-stroke, direct-injected turbocharged marine diesel with aftercooler – crankshaft output* 262 kW (357 hp)

The TAMD 71A is a powerful, reliable and economical marine diesel. It has a power/weight ratio of 0.32 kW/kg (0.20 hp/lb). Thanks to Volvo Penta's very comprehensive programme of equipment, the engine can be perfectly matched to specific customer and market demands.

The engine block and cylinder heads are iron castings. The cylinder liners incorporate a flame barrier which protects the cylinder head gasket. The cylinder heads are tightened down with 20 bolts. The pistons are oil-cooled which reduces the amount of carbon deposits. The heat exchanger matrix and charge air cooler matrix are identical, which means they are fully interchangeable.

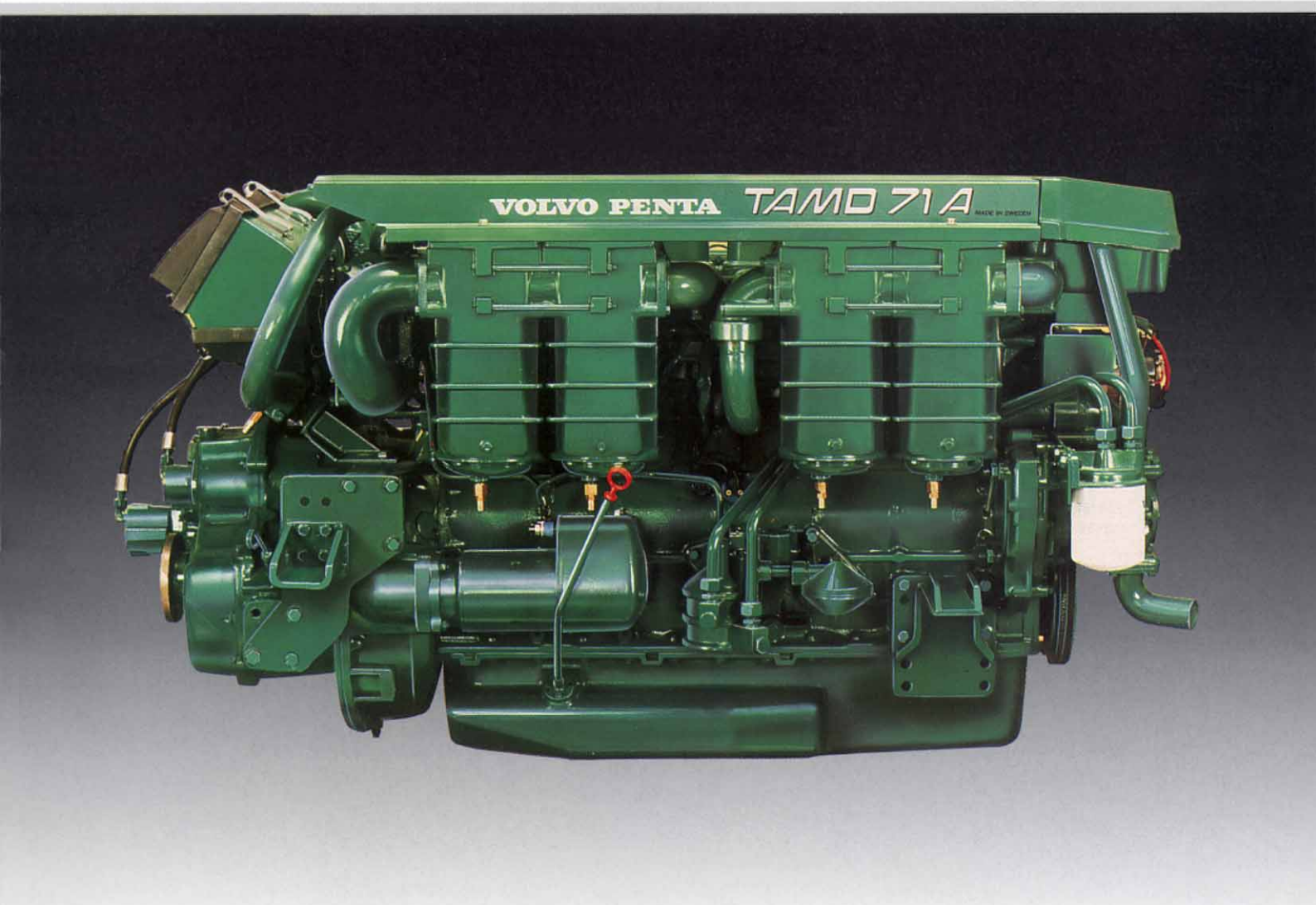
The electrical system is plug-compatible and the electrical wiring is complete. A 12 V or 24 V electrical system can be specified. Automatic heating of the induction air gives reliable starting in low temperatures.

The injection pump is equipped with a smoke limiting device which reduces smoke emissions during fast acceleration and under heavy loads. A bypass valve between the turbo unit and charge air cooler reduces white smoke emissions when starting and under conditions of low load. An automatic wastegate controls the degree of boost, either through the charge air cooler or at low speeds directly through the induction manifold.

The coolant pump is gear wheel driven and the raw water pump is mounted on the front of the timing casing for easy service. The oil filter and oil filler are also mounted on the front of the engine.

Volvo Penta has a well-established service network in more than 100 countries. Authorized workshops using genuine parts and staffed by skilled personnel provide the customer with the best possible service.

*** Crankshaft output ISO 3046 standard fuel stop power. This output must not be exceeded. Output is reduced by losses in transmissions and reverse/reduction gear.**



VOLVO PENTA

TAMD71A

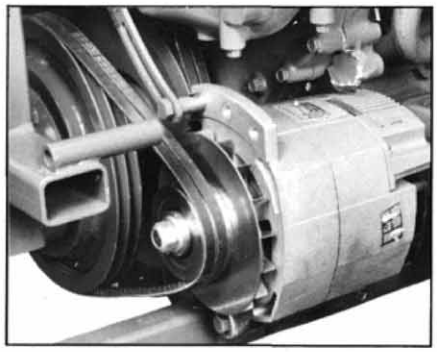
Full range of extra equipment enables each engine to be customized.

Engine block:
Flexible engine mountings.

Cooling system:
Heat exchanger with raw water pump.
Keel-cooling system for engine.

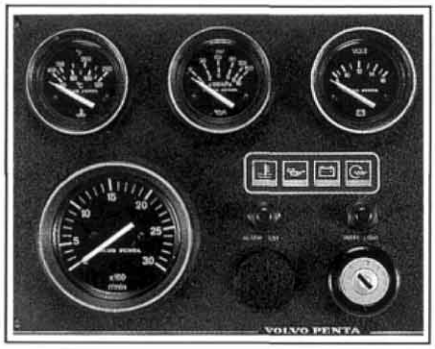
Electrical system:
24 V. With start and stopping controls, incl. relays.
Pre-heater element incl relay 24 V.

Alternator 12 V/50 A or 24 V/55 A.
For larger charging requirements, you can specify an extra alternator 12 V/ 130 A or 24 V/100 A. Various installation alternatives available.

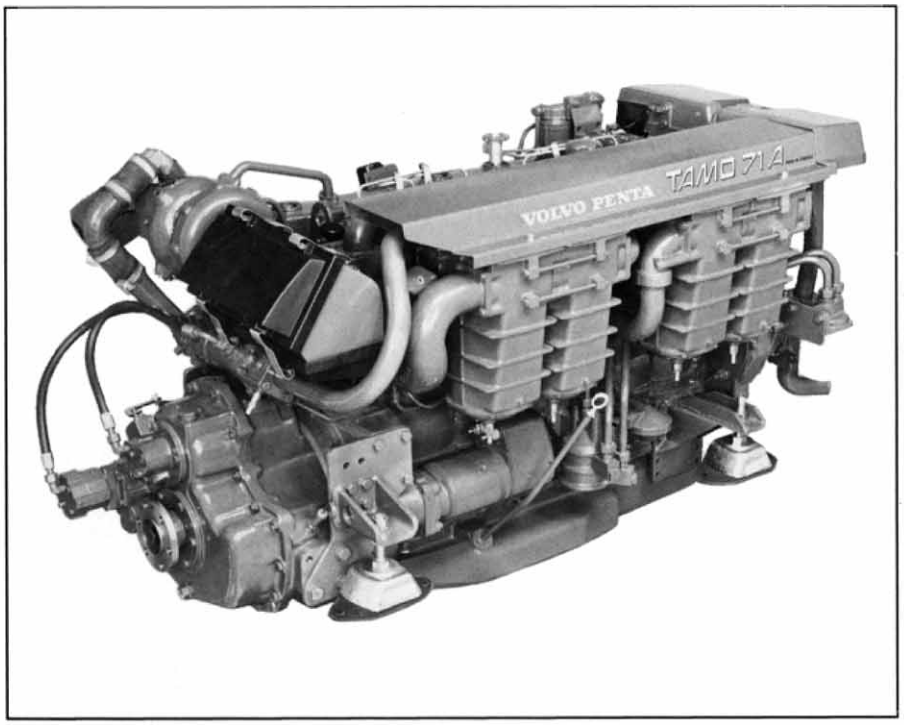


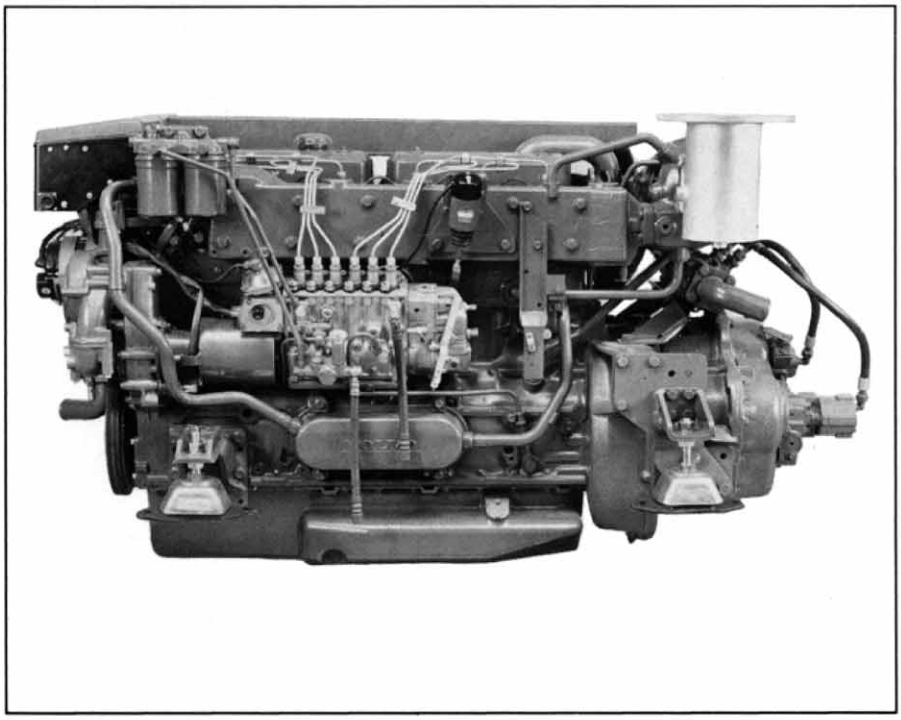
There is a choice of four alternators for the TAMD71A: 12 V/50 A, 24 V/55 A, and extra alternators of 12 V/130 A and 24 V/100 A output.

Instrument panel (main panel) with:
Tachometer.
Oil pressure and temperature gauges, Voltmeter.
Key-operated switch with starting and stopping function, and built-in starter motor guard.
Alarm for high engine temperature and low oil pressure.
Warning lamps for high cooling water temperature, low oil pressure and weak battery charging.
Switches for instrument lighting and test of the alarm function.



Instrument panel with clear and easily-read ISO-symbols for temperature, oil pressure and charging. Double glazing of instruments prevents condensation. Key-operated switch with starting and stopping functions and built-in starter motor protection.





Instrument panel for alternative installation, including:
Tachometer.
Key-operated switch with starting and stopping function, starter motor guard.
Alarm for high engine temperature and low oil pressure.
Warning lamps for high cooling water temperature, low oil pressure and weak battery charging.
Switches for instrument lighting and test of the alarm function.

Extra instrument panel with:
Oil pressure gauge for reverse/reduction gear.
Turbo-compressor boost gauge.

Cables:
Cables between instrument panel and engine. 3 alt. 5 or 7 metres.

Lubricating system:
Oil filter of by-pass type for extra efficient cleaning of engine oil. Mounted on front of engine for easy servicing. Oil filler cap also on front of engine for easy accessibility.

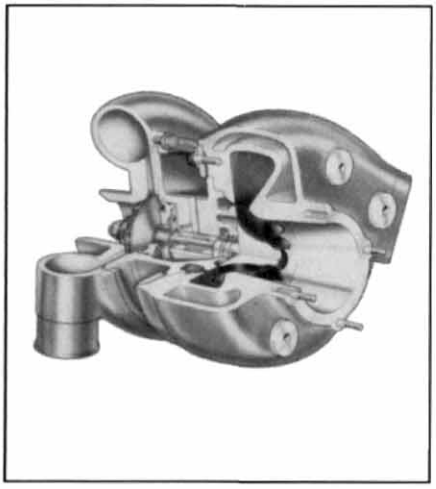
TAMD71A

Reverse/reduction gear:

Twin Disc MG 507 (A). Not approved for heavy duty operation. Both straight and down-angled versions. Weight including installation kit (2:1) 165 kg.

Twin Disc MG 509. Weight including installation kit (2,5:1) 286 kg.

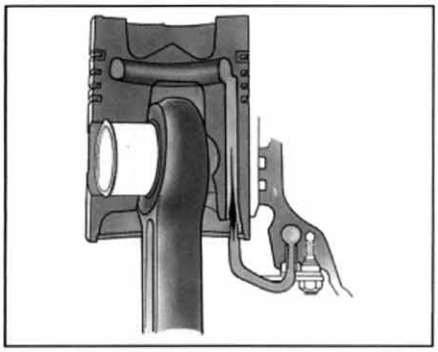
All reverse/reduction gears available with a variety of ratios.



Turbo unit with freshwater-cooled turbine housing. Turbocharging provides higher output relative to fuel consumption, weight and installation dimensions.

Power take-off:

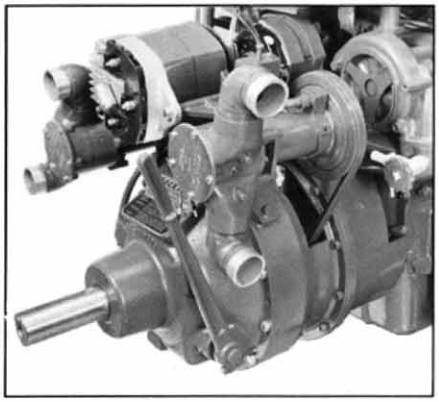
Crankshaft pulley. Frontmounted, 8" or 10" clutch. Installation kit for SAE 4 clutch.



Piston cooling reduces the risk of carbon deposits. For maximum resistance to wear, the top piston ring is chromed and lies in a special ring carrier of cast iron.

Bilge and flushing pumps:

1 1/4" and 2" bilge and flushing pumps. Disconnectable. Bilge pump equipped with vacuum-operated switch.

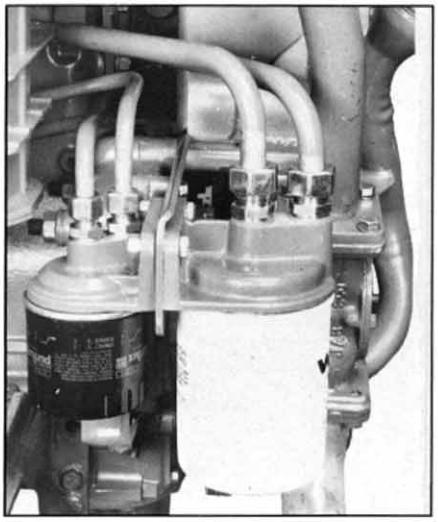


Front-mounted 10" power take-off. Disengageable. An extra 24 V/100 A alternator is fitted as well as a bilge pump and a flushing pump.

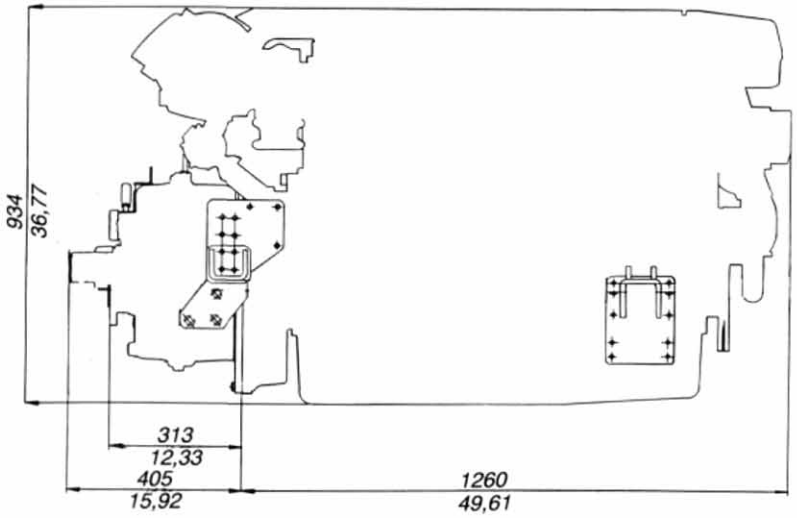
Other equipment:

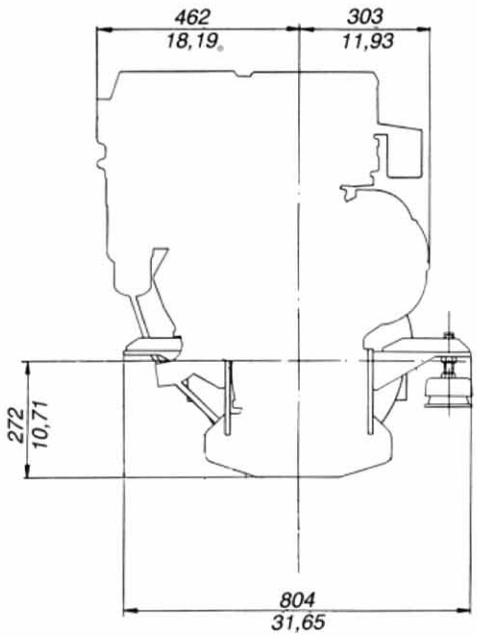
Oil scavenge pump, manual or electric.
Raw water filter.
Exhaust riser.
Exhaust hose.
Silencer.
Fuel filter.
Controls and control cables.
Propeller shaft couplings.
Expansion tank kit.
Ejector for bilge pump.
Battery charging diode.
Hydraulic pump for steering system or other purposes.

For further information, see the Volvo Penta Accessories Brochure.



Oil filter of bypass type is intended for engines with long operating periods and can, subject to regular oil sampling, extend the oil change intervals. Mounted on front of engine for easy replacement.





TAMD71A/TDMG507

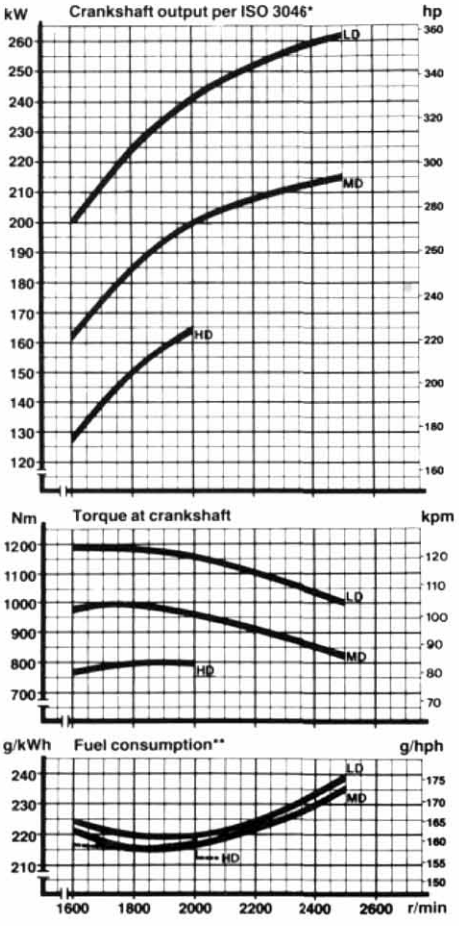
TAMD 71 A

Light duty (LD) Crankshaft output*			Medium Duty (MD) Crankshaft output*			Heavy duty (HD) Crankshaft output*			Displacement	Compression ratio	Dry weight excl. reverse/red. gear
kW	hp	r/min	kW	hp	r/min	kW	hp	r/min	dm^3		kg
262	357	2500	214	292	2500	163	222	2000	6.73	14:1	810

* Acc. to ISO 3046

STANDARD EQUIPMENT:

- Engine block and cylinder head of special alloy cast iron
- Seven-main bearing crankshaft
- Two cylinder heads
- Oil-cooled pistons
- Complete with engine brackets
- Expansion tank
- 24 V electrical system incl. starter motor
- Fully wired, 24 V, including starting and stopping relays
- Alarms for oil pressure and temperature
- Pre-heater unit, incl. relay, 24 V
- Elec. distribution box with automatic fuses
- Oil filter of spin-on type. Mounted on front edge of engine for easy servicing
- Freshwater cooled oil cooler
- Injection pump with centrifugal regulator and smoke limiter
- Feed pump
- Double fine fuel filters
- Freshwater-cooled turbo-charger
- Freshwater-cooled exhaust manifold
- UNIQUE by-pass valve for charge-air cooling. Means less white smoke when starting and during low-load operation



Curve LD: Light duty
Engines with this power rating is intended for usage that complies with the following conditions.
- *rated output at rated engine speed is only used for short periods which are followed by longer operation at reduced engine speed.*
- *operating times in commercial use do not exceed 200 hours per year.*

Example: Pleasure boats, fire tenders, selected patrol boats, rescue boats.

Curve MD: Medium duty
Engines with this power rating is intended for usage that complies with the following conditions:
- *rated output at rated speed is utilized maximum four hours per 12-hour period. Utilization of rated output is followed by operation at reduced engine speed.*
- *operating times do not exceed 2000 hours per year.*

Example: Patrol boats, pilot boats, police boats, and fishing vessels.

Curve HD: Heavy duty
Engines with this power rating should be used when LD or MD specifications are not applicable.
- *rated output at rated engine speed can be used continuously. Engine standstills and load shifting are not required to a greater extent than is necessary for servicing purposes.*

Examples: Towboats, ferries, cargo and fishing vessels.

* Crankshaft output ISO 3046 Standard fuel stop power. Output is reduced by losses in transmissions and reverse/reduction gear.

** ISO 3046 specific fuel consumption as per ISO Standard fuel stop power.

Output, torque and fuel consumption figures refer to a run-in engine and ISO standard atmospheric conditions, 27°, 100 kPa and 60% relative humidity. The same data apply for DIN 6271 and BS 5514. The figures are based on a lower diesel fuel energy value of 42000 kJ/kg, density 845 g/litre and fuel temperature 27°C. With a fuel density of 835 g/litre, torque and output drop by approx 1%.

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

$$\frac{g/kWh \times kW}{845} = litre/h$$

$$\frac{g/hph \times hp}{845} = litre/h$$

Printed in Sweden Feb. 1987. Falkenbergs Tryckeri AB 87 073

VOLVO PENTA
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S-405 08 GÖTEBORG