

Instrument panel, alternative A (Standard)

1. Alarm "Low oil pressure" or "Cooling water temperature"
2. Alarm check
3. Switch for instrument panel
4. Start button
5. Alarm panel
6. Warning lamp, high cooling water temperature
7. Warning lamp, low oil pressure
8. Warning lamp, no charging
9. Revolution counter

Instrument panel, alternative B, (De Luxe)

1. Temperature gauge for cooling water (fresh water)
Normal cooling water temperature 75–90°C (167–194°F)
2. Oil pressure gauge
3. Voltmeter
4. Rev counter
5. Alarm, "Low oil pressure", "Temperature too high"
6. Alarm check
7. Ignition switch
8. Switch for instrument lighting
9. Alarm panel
10. Warning lamp, high temperature
11. Warning lamp, low oil pressure
12. Warning lamp, no charging

Engine component guide

1. Fuel strainer
2. Oil filling, engine
3. Sea-water pump (draining, sea-water)
4. Oil filter
5. Fuel filter
6. Thermostat
- ~~7. Zinc anode (2001, 2002)~~
8. Oil dipstick
9. Oil dipstick, drive/reverse gear
10. Oil filling, drive/reverse gear
11. Zinc anodes, drive
12. Oil drainage, drive
13. Fresh water filler
14. Zinc anode (2003)
15. Drain plug
16. Oil drainage, V-drive
- ~~17. Venting, turbo~~

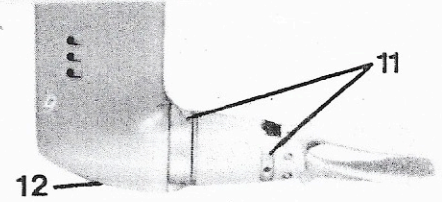
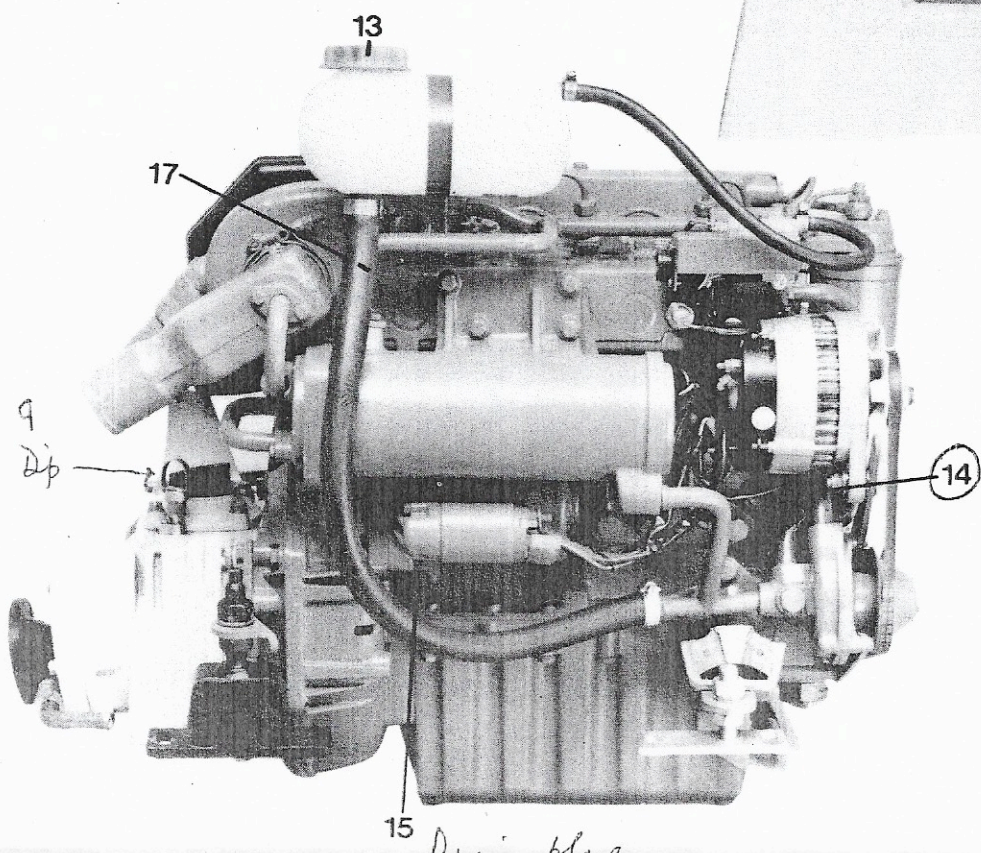
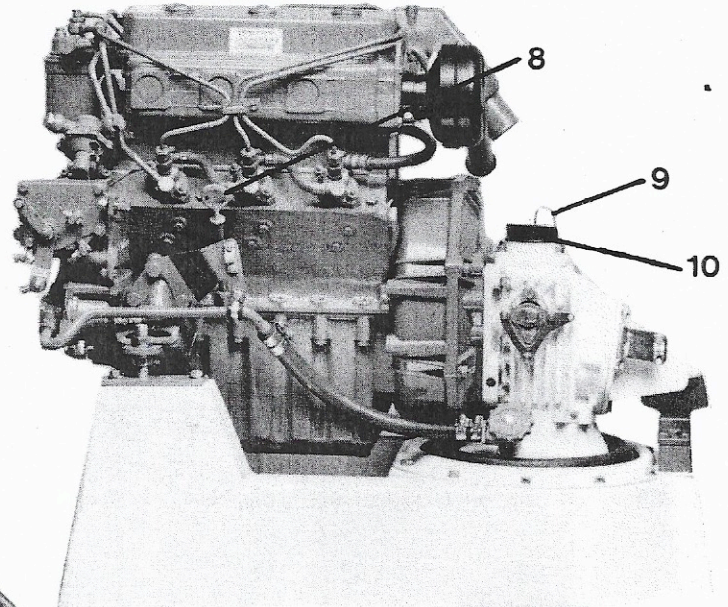
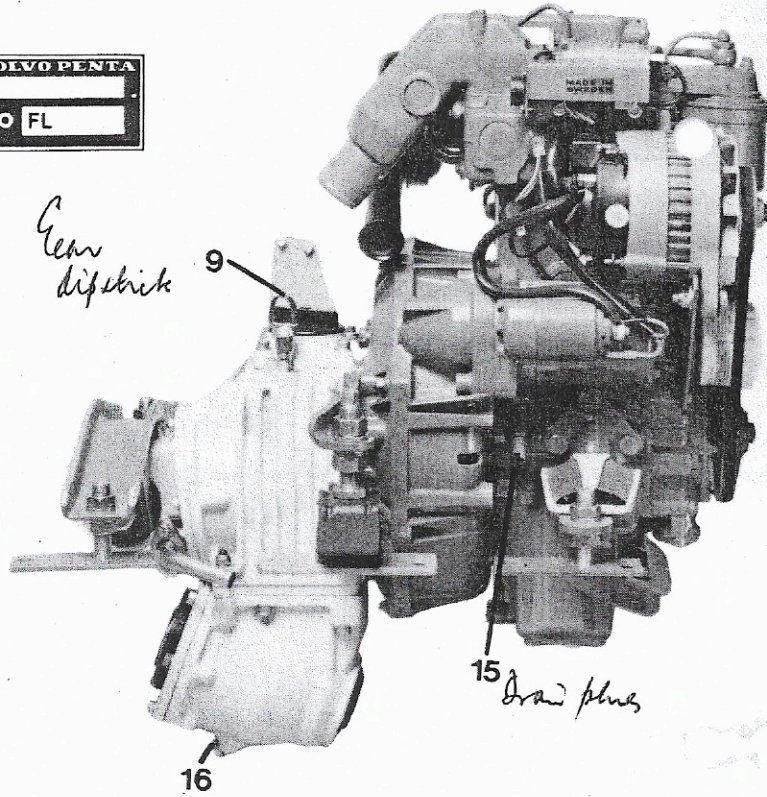
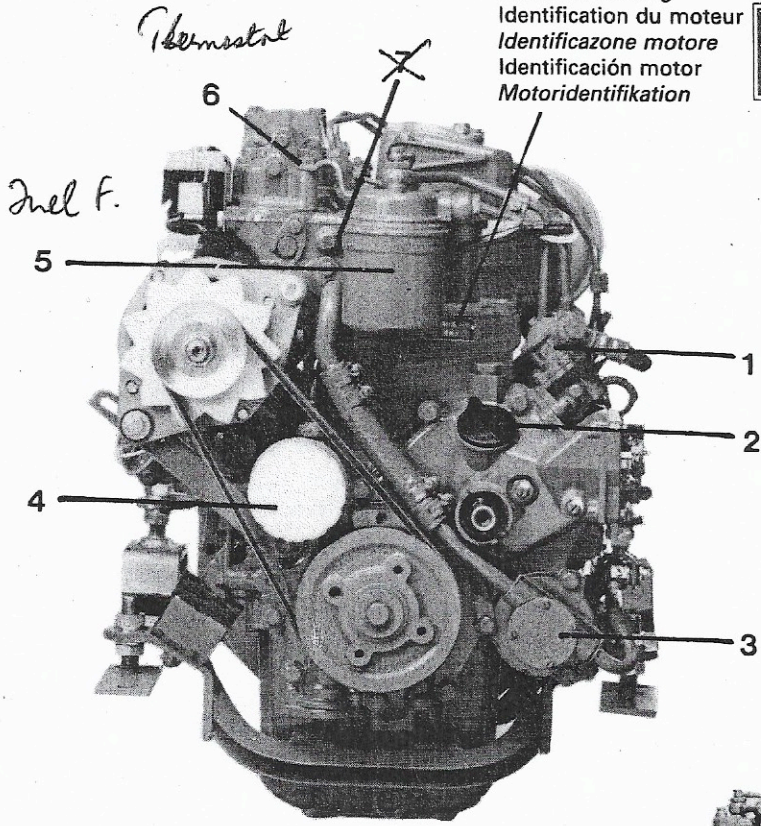
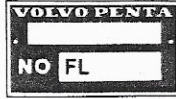
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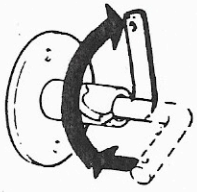
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Important Information

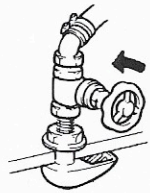
Figures before text refer to illustrations on pull-out pages of cover.

Engine identification
 Motor Erkennung
 Identification du moteur
 Identificazione motore
 Identificación motor
 Motoridentifikation

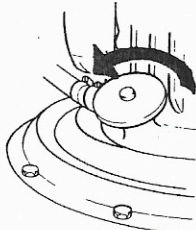




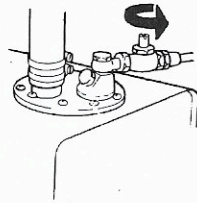
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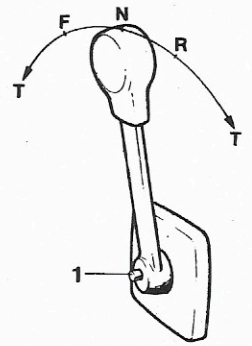
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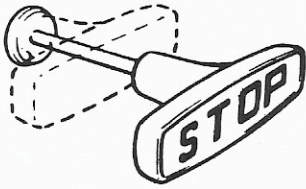
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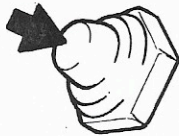
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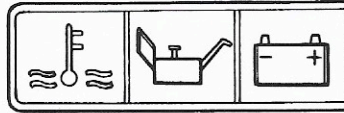
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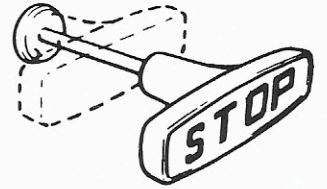
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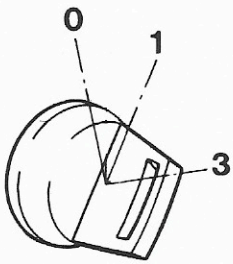
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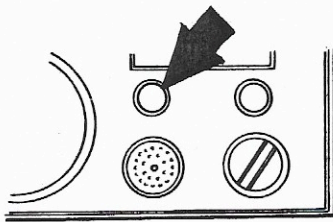
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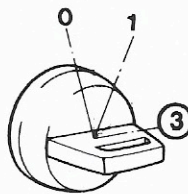
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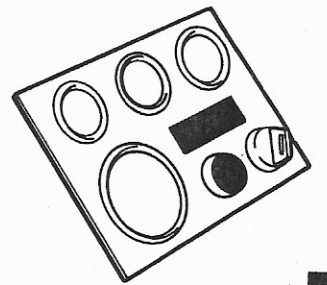
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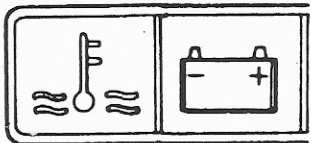
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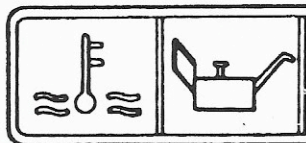
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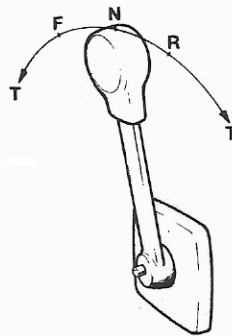
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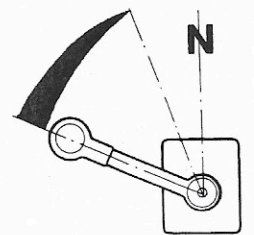
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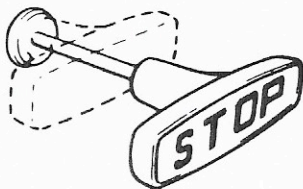
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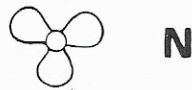
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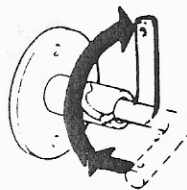
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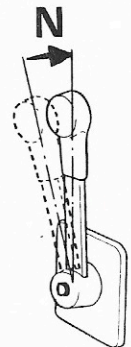
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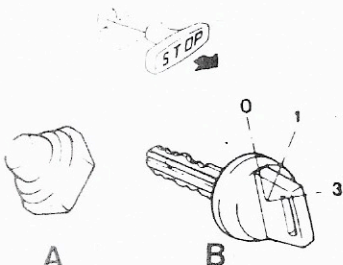
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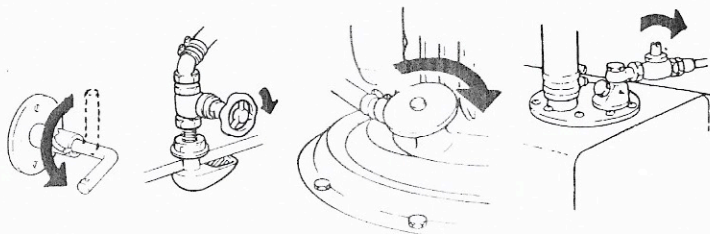
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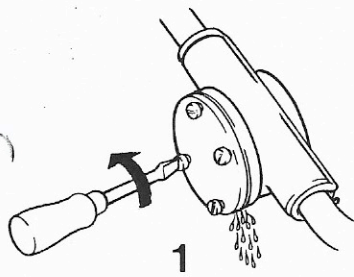
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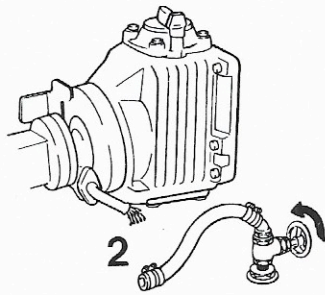
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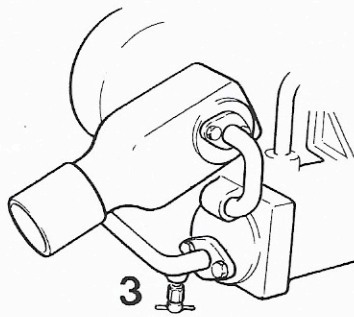
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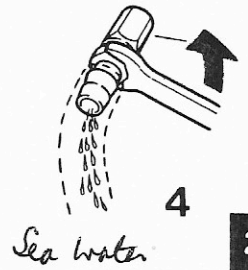
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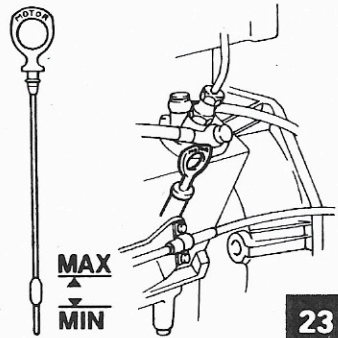
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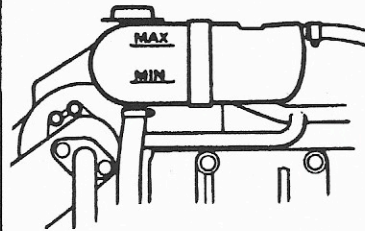
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Sea water

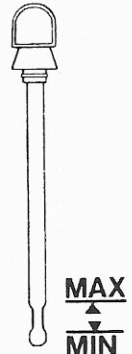
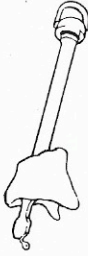
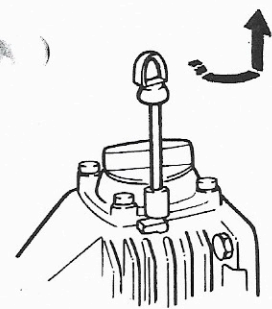
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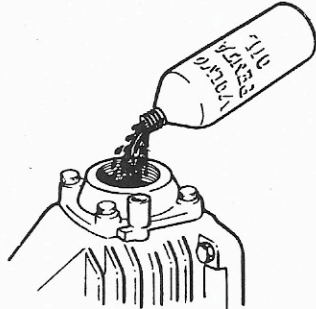
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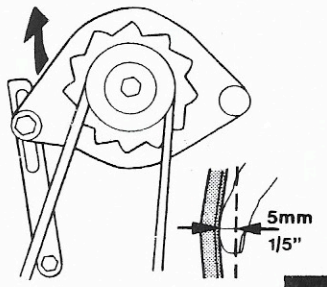
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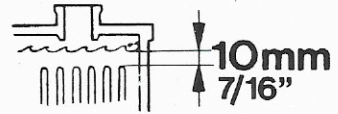
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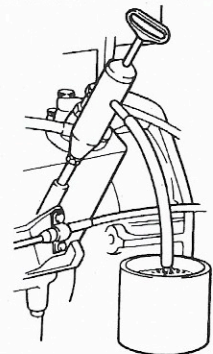
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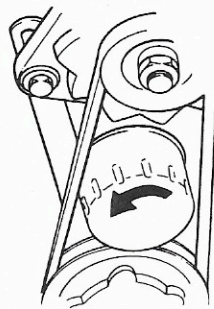
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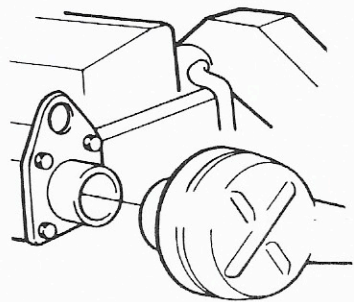
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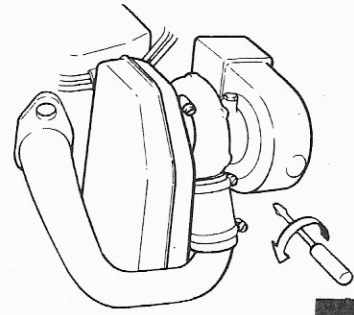
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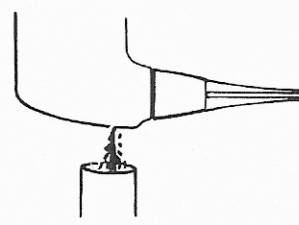


2001, 2002, 2003

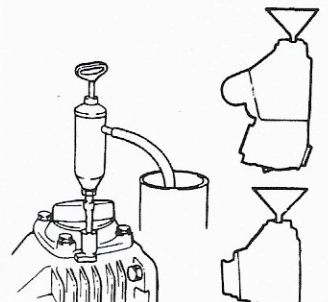


Intake Oil. 2003T

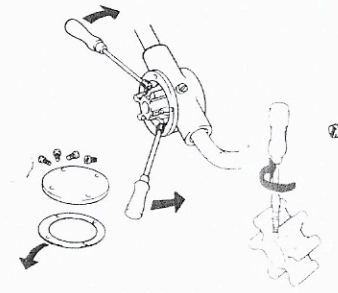
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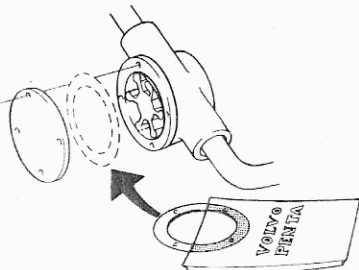
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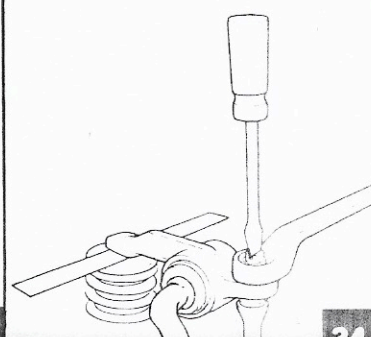
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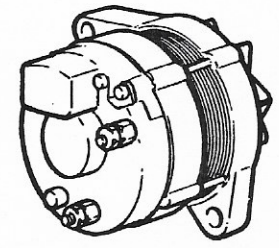
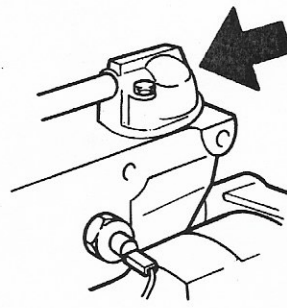
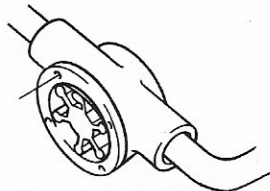
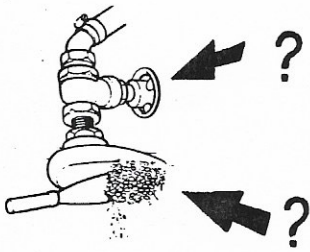
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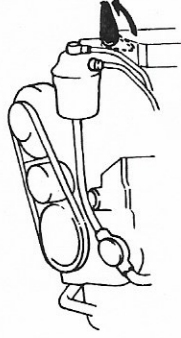


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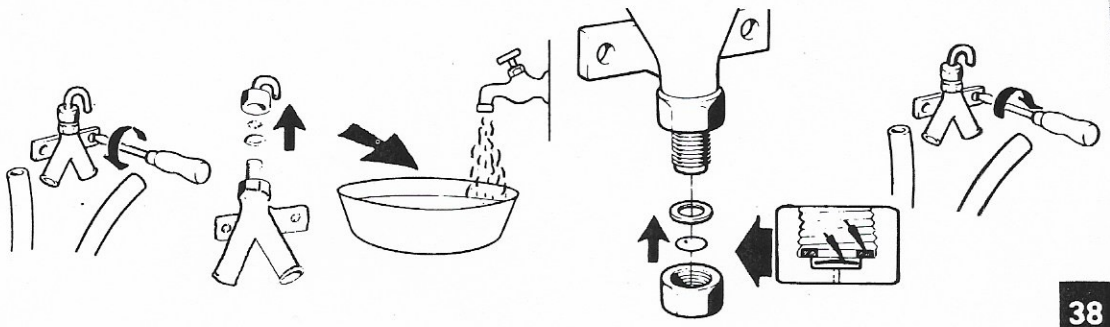


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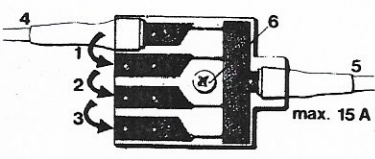
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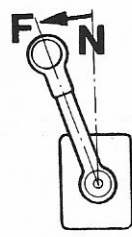
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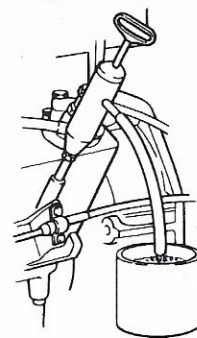
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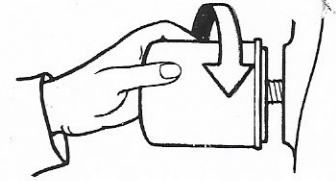
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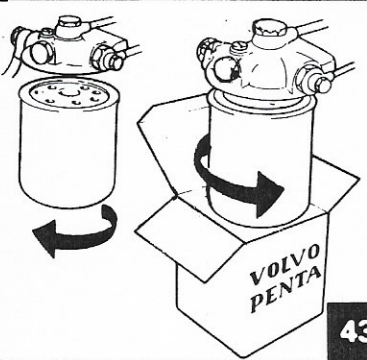
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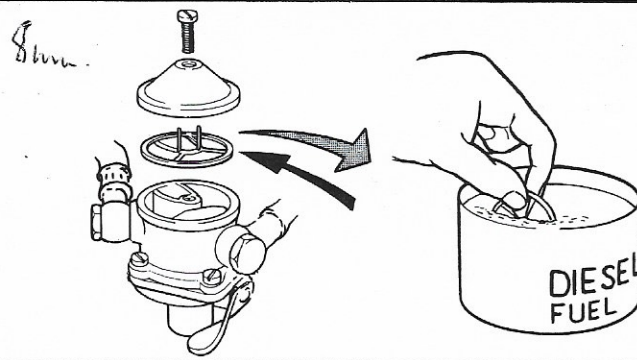
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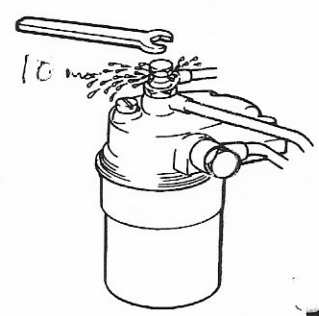
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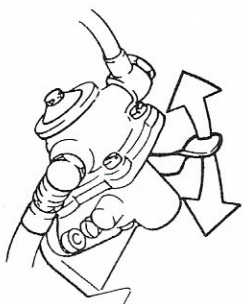
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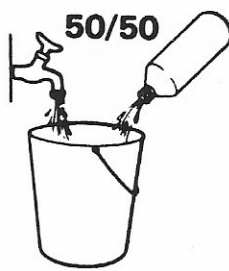
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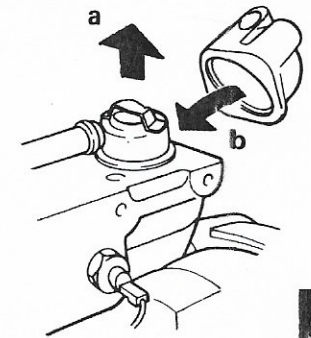
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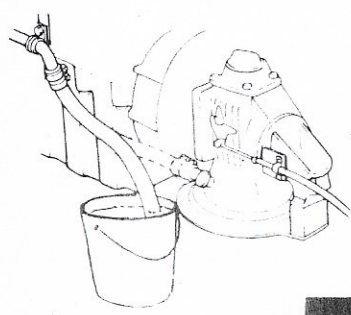
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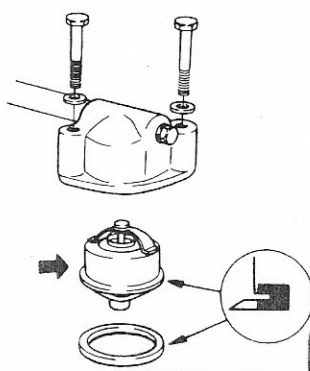
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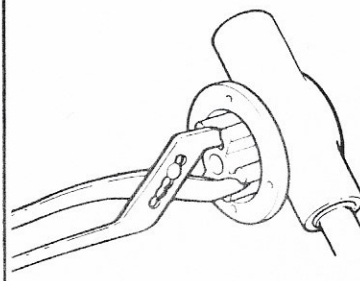
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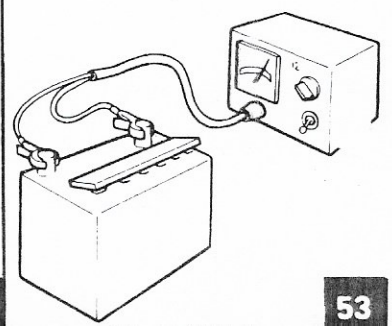
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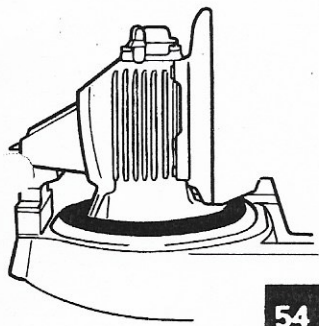
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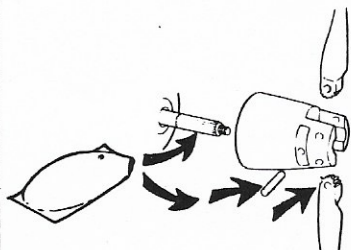
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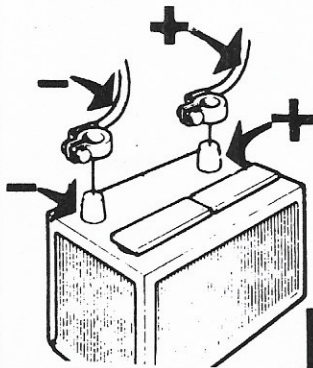
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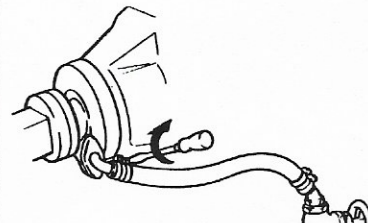
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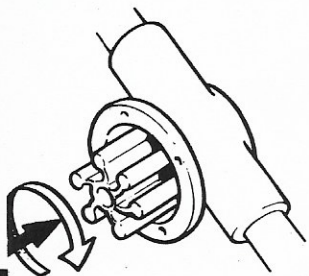
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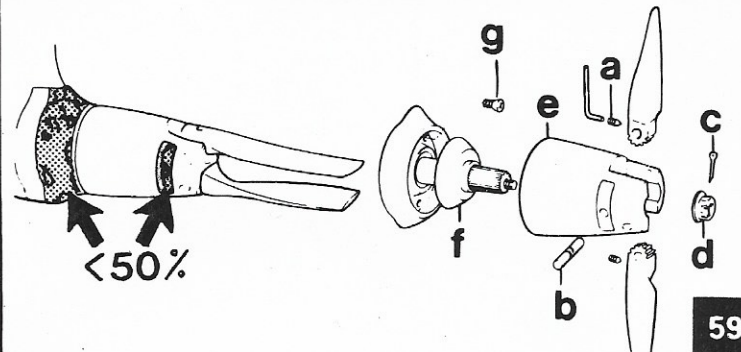
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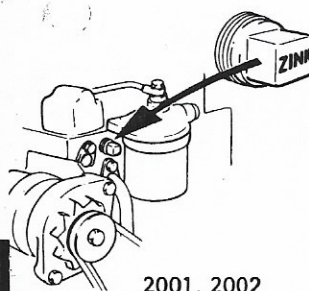
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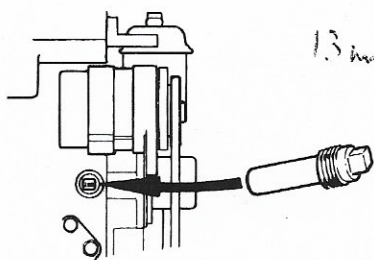
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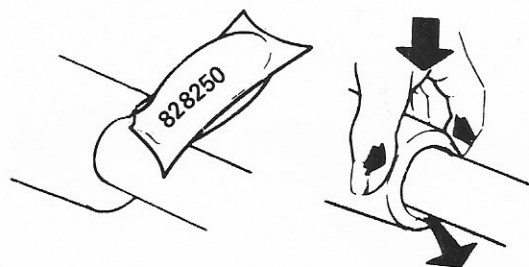


2001, 2002



2003, 2003T

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TECHNICAL DATA

ENGINE DESCRIPTION

	2001	2002	2003	2003T
	1	2	3	3
Number of cylinders	1	2	3	3
Propeller shaft output ¹⁾ 3200 rpm	6.6 kW (9 hp)	13.0 kW (18 hp)	20.5 kW (28 hp)	32 kW (43.5 hp)
Max. operating speed rpm		3200		
Bore, mm (inch)		79 (3.110")		
Stroke, mm (inch)		87 (3.425")		
Displacement, dm ³ (in ³)	0.43 (26.2)	0.85 (51.8)	1.28 (78.1)	1.28 (78.1)
Idling speed rpm		850		
Max. angle of incline when under way		10°		
Max. angle of lateral incline under way		30°		
Engine weight incl. reverse gear				
(MS2) kg (lbs)	112 (246)	139 (305)	159 (349)	176 (387)
(V-drive) kg (lbs)	118 (259)	145 (319)	165 (363)	182 (400)
Engine weight incl. S drive kg (lbs)	126 (277)	153 (336)	173 (380)	—
Fuel		Autodiesel (No 2 Diesel)		

VALVES

Valve clearance, inlet mm, warm engine	0.30 (0.012")
Valve clearance, outlet mm, warm engine	0.30 (0.012")
Decompressed depression, mm	0.50 (0,020")

LUBRICATING SYSTEM

Oil capacity, incl. filter lit (US qts)	1.4 (1.5)	2.75 (2.9)	4.1 (4.3)	4.3 (4.5)
Oil quality		CD		
Viscosity above +10°C		SAE 20W30 ²⁾		
below +10°C		SAE 10W ³⁾		
Ratio, MS2, MS2V		2,4:1 alt. 3,0:1		
Oil capacity MS2 lit (US qts)		0,8 (0.85)		
Oil capacity MS2V lit (US qts)		1,8 (1.9)		
Oil quality (as for engine)		CD		
Viscosity, above +10°C		SAE 20W30 ²⁾		
below +10°C		SAE 10W ³⁾		
Ratio 120S		2,20:1		
Oil capacity 120 S lit (US qts)		2,6 (2.75)		
Oil quality (as for engine)				
Viscosity (as for engine)				
Thermostat begins opening				
sea water cooled engine °C (°F)	60 (140)	60 (140)	60 (140)	—
fresh water cooled engine °C (°F)	—	74 (165)	74 (165)	74 (165)
Thermostat, fully open				
Sea water cooled engine °C (°F)	75 (167)	75 (167)	75 (167)	—
Fresh water cooled engine °C (°F)	—	87 (188)	87 (188)	87 (188)
Fresh water cooling system, lit. (US qts)	—	4 (4.2)	5.5 (5.8)	7 (7.4)

ELECTRICAL SYSTEM

Battery voltage		12		
Starter motor battery, max Ah		70		
Starter motor output, kW	0.8	1,4	1,4	1,4
Alternator output, A (W)		50 (14x50)		
Specific gravity of electrolyte				
Recharge at g/cm ³		1230		
Fully charged, g/cm ³		1,275-1,285		

TORQUE FACTORS

Nuts for injectors, Nm (kpm) (ft.lbs)	20 (2.0) (15)
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¹⁾ Propellershaft output according to DIN Leistung B für Dauerbetrieb.

²⁾ Volvo Penta CD oil Double Grade.

³⁾ Volvo Penta CD oil Single Grade.

AB VOLVO PENTA

Technical Publications Dept.