

Tools

Engine
 Type
 Thermostat:
 Type

Starts to open at

Fully open at

REVERSE GEAR

Type
 Reverse gear ratio, "ahead"
 Reverse gear ratio, "astern"
 Lubricating system
 Propeller type

WEAR TOLERANCES

CYLINDERS

To be re-bored when wear attains
 (or if engine has abnormally high oil consumption)

CRANKSHAFT

Main bearing journals: Permissible out-of-round
 Main bearing journals: Permissible taper
 Big-end bearing journals: Permissible out-of-round
 Big-end bearing journals: Permissible taper
 Maximum axial clearance on crankshaft

VALVES

Valve spindles, permissible wear
 Permissible clearance between valve spindle and valve guide:
 Inlet valves
 Exhaust valves
 The valve disc edge must be at least

CAMSHAFT

Bearing journals, permissible out of round with new bushings
 Bushings, permissible wear

TIGHTENING TORQUE

ENGINE

Cylinder head nuts
 Centre bearing
 Crankshaft gear bolts
 Flywheel
 Connecting rod bolts
 Injectors
 Oil filter nipple
 Water pump flange
 Main bearing cover

REVERSE GEAR

Bolt for clutch half

D1, MD1	D2, MD2
	MD2 Sea-water cooled
	Bellows thermostat 62-67°C (144-153°F) 78°C (173°F)
	Volvo Penta RB 1.87:1 1.87:1 1.7:1 Same as engine Left hand thread
	0.20 mm (0.008")
	0.06 mm (0.0024") 0.05 mm (0.0020") 0.06 mm (0.0024") 0.05 mm (0.0020") 0.35 mm (0.0140")
	0.02 mm (0.0008") 0.15 mm (0.0060") 0.17 mm (0.0067") 1.0 mm (0.040")
	0.03 mm (0.0012") 0.05 mm (0.0020")
	11 kgm (80 lb.ft.) 8 kgm (60 lb.ft.) 8 kgm (60 lb.ft.) 70 kgm (500 lb.ft.) 6.5 kgm (47 lb.ft.) 2 kgm (14 lb.ft.) 4 kgm (30 lb.ft.) 8 kgm (60 lb.ft.) 4.5 kgm (33 lb.ft.)
	14 kgm (100 lb.ft.)