

Leisure craft engines are often subject to greater wear and tear than other engines. The reason is simple: Leisure craft are frequently run intensively for short periods and then laid up for long periods. It is therefore especially important to choose the correct oil, coolant and grease for marine applications. Not just for economic reasons but also to ensure safety at sea.

Volvo Penta oils, for instance, contain many protective additives that minimize wear, mop up soot, sludge and metallic particles, neutralize acids, trap water and have preservative properties. They are also adapted to the special demands of low emission engines.

#### 18.1 DIESEL ENGINE OIL



*Volvo Penta original oils are therefore the best you can give your engine. They ensure lower operating costs through lower oil consumption. They also extend the life of your engine and improve onboard safety.*

#### Abbreviations

SAE	Society of Automotive Engineers. Specifies the viscosity of oils within a given temperature range.
SAE 15W-50	Oil can be used all year round, in temperatures down to -15°C.
VG	Viscosity Grade.
NLGI	National Lubricating Grease Institute. Indicates consistency of grease.
API	American Petroleum Institute. Specifies quality of oil.
CCMC	Committee of Common Market automobile Constructors. A committee of European engine manufacturers which has set up its own classification system.
VDS-2	Volvo Drain Specification - 2. Further improvement of requirements for VDS. Volvo's extra high standards for protection against cylinder polishing, ring wear, cam/camshaft wear, high oil consumption, etc. Indicates requirements for oil with longer intervals between oil changes.
API CF-4	For turbocharged diesel engines with or without intercooler. In comparison with API CE gives better control over oil consumption, wear and piston deposits.
CCMC D5	For heavy diesel engines with strict requirements for protection against cylinder polishing, wear and piston deposits. Specially designed for European engines.
API SG	Improved oxidation stability and protection against wear in comparison to API SF, also extra protection against sludge formation.
API CD	Protects against wear and piston deposits in turbocharged diesel engines with or without intercooler.
CCMC G4/PD2	Equivalent to API SG with additional requirements for viscosity at high temperatures, evaporation losses and "black sludge".
API GL-5	Applies to oils for hypoid gears under heavy load.



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#### 18.1-4 DIESEL ENGINE OIL

A multigrade oil, i.e. for use all year round. Developed for harsh conditions under heavy load and high temperatures. Complies with VDS-2; tested to Volvo's highest specification for purity and protection against wear, which involves long-term engine tests. Offers a string of advantages: longer intervals between oil changes, cleaner engines, reduced wear and combats cylinder polishing. Suitable for engines with or without turbo.

**Viscosity:** SAE 15W-40  
**Grade:** VDS-2, API CF-4, CCMC D5

Pos.no.	Part no.	Quantity	Pack
18.1	1141626-0	1 Litre	Plastic bottle
18.2	1141627-8	5 Litre	Plastic cont.
18.3	1141628-6	20 Litre	Metal drum
18.4	1141629-4	208 Litre	Metal barrel



18.5-6 2394

#### 18.5-8 PETROL ENGINE OIL

A multigrade oil, i.e. for use all year round, for four-stroke petrol engines. Specially developed for high performance engines. The special properties of this oil allow it to lubricate the engine even during low temperature starting. The oil combats sludge build-up and gives excellent protection against wear. Particularly suitable for engines that are subject to frequent starting and stopping.

**Viscosity:** SAE 15W-50  
**Grade:** API SG/CD, CCMC G4/PD2

Pos.no.	Part no.	Quantity	Pack
18.5	1141630-2	1 Litre	Plastic bottle
18.6	1141631-0	5 Litre	Plastic cont.
18.7	1141632-8	20 Litre	Metal drum
18.8	1141633-6	208 Litre	Metal barrel



18.9, 91

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18.11, 111

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**18.9-10, 91****SYNTHETIC TRANSMISSION OIL**

A fully synthetic oil of the highest quality for drives and transmissions. Specially tested by Volvo Penta in drives and transmissions. Because the oil is synthetic it provides excellent protection against wear at both high and low extremes of temperature. It also withstands very high temperatures without breaking down, and can tolerate high loads without wear.

**Viscosity:** SAE 75W-90

**Grade:** API GL-5

Pos.no.	Part no.	Quantity	Pack
18.9	1141634-4	1 Litre	Plastic bottle
18.91	1141635-1	5 Litre	Plastic bottle
18.10	1141636-9	20 Litre	Metal drum

**18.11-12, 111****TRANSMISSION OIL**

Lubrication properties protect drive and transmission even under heavy load. Also provides excellent corrosion protection. Withstands high temperatures without breaking down.

**Viscosity:** SAE 90

**Grade:** API GL-5

Pos.no.	Part no.	Quantity	Pack
18.11	1141637-7	1 Litre	Plastic bottle
18.111	1141638-5	5 Litre	Plastic bottle
18.12	1141639-3	20 Litre	Metal drum



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**18.13****HYDRAULIC OIL**

Part no. 1141640-1. Protects against wear at high and low temperatures. Also provides excellent corrosion protection. Particularly suitable for marine use. Does not affect seal materials.

**Viscosity:** ISO VG 15

Quantity	Pack
1 Litre	Plastic bottle

**18.14****COMPRESSOR OIL**

Part no. 1141641-9. Specially tested in Volvo Penta compressors. Fully synthetic oil that withstands both high and low temperatures. Protects compressor against corrosion.

**Viscosity:** ISO VG 68

Quantity	Pack
250 ml	Plastic bottle

**18.51****ATF-OIL**

Part no. 1161941-8. Protects against wear, even at high temperatures. Also provides a very good corrosion protection.

**Note!** Must not be used where API-GL5 is recommended.

ATF-oil, type Dexron 2.

Quantity	Pack
5 Litre	Plastic bottle



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**18.15****INHIBITING OIL**

Part no. 1141642-7. Special oil for protecting cooling channels during winter lay-up. This oil produces a protective film that provides effective protection against corrosion. Proven not to damage seals in Volvo Penta engines. Very good miscibility with water.

**Dosage:** 1 part oil to 20 parts water.

Quantity	Pack
1 Litre	Plastic bottle

**18.16****UNIVERSAL OIL**

Part no. 1161657-0. Moisture repellent electrical contact oil, ideal for the protection of all marine electrical equipment.

Quantity	Pack
200 ml	Spray can

**18.17****GREASE**

Part no. 828250-1. The grease is solid and water-resistant, for use in rubber packing boxes and for the teeth and shafts of folding propellers.

**Viscosity:** NLGI 2

Quantity	Pack
27 g	Tube

**18.18****PROPELLER SHAFT GREASE**

Part no. 1141644-3. Propeller shaft grease is used for conventional packing boxes. Special grease for marine environments – especially suitable for salt water applications. Lubricates, seals and protects against corrosion. Withstands long-term high loading without any deterioration in protective properties.

**Viscosity:** NLGI 4

Quantity	Pack
500 g	Plastic container

**18.112****LOW TEMPERATURE GREASE**

Part no. 1161417-9. A special grease recommended for low temperatures and loads. This grease is especially suitable for use on controls, hinges, lock parts and for greasing electric contacts, switches, etc.

**Viscosity:** NLGI 1

Quantity	Pack
30 g	Tube



### 18.19 LIQUID SEALING AGENT - MASTER GASKET

Part no. 840879-1. Replaces conventional paper gaskets and provides an immediate "custom made" gasket. Resistant to petrol, oil, anti-freeze, transmission oils and solvents.

Quantity	Pack
25 ml	Syringe applicator

### 18.20 SEALANT - GASKET CEMENT

Part no. 1161099-5. A viscous and slow drying cement intended primarily for gaskets and similar. Dries to a pliable film.

Quantity	Pack
125 ml	Plastic container

### 18.21-22 SILICON ADHESIVES - BLACK

A single component black silicon adhesive that cures at room temperature. Suitable for both gluing and sealing operations where a strong elastic seam capable of withstanding temperatures from  $-65^{\circ}\text{C}$  to  $+200^{\circ}\text{C}$  is required. Excellent adhesion to metal, rubber, glass and most plastics. Prior to application, the surface to be treated must be cleaned and free from moisture. The silicon adhesive is resistant to oils, greases, solvents, etc.

Pos.no.	Part no.	Quantity	Pack
18.21	1161231-4	310 ml	Plastic cartridge for grease gun
18.22	1161277-7	20 g	Plastic tube

### 18.23 WHITE SEALING COMPOUND FOR DRIVES

Part no 1141570-0. Recommended for use on the surfaces of the drive that require sealing. Does not harden. Can also be used to seal leaks in gaskets, threaded couplings and hose connections. Adheres to all types of material. The sealing compound remains elastic even under extreme conditions. Temperature range  $-55^{\circ}\text{C}$  -  $+200^{\circ}\text{C}$ .

Quantity	Pack
60 g	Tube

### 18.24 SEALANT

Part no. 591247-2. A graphite based sealant and rust-proofing agent for pipe joints, flanges, threaded connections on, for example, the exhaust system. Will not damage gasket materials even at high temperatures.

Quantity	Pack
1 kg	Metal tin



### 18.25-27 COOLANT TYPE 90

Volvo Penta coolant gives vastly superior corrosion protection in comparison with non-branded products. It also has good anti-freeze properties. The coolant is specially tested in Volvo engines and is recommended for fresh water cooled engines. Ideal for modern engines (diesel and petrol) since the coolant contains additives that protect aluminium and aluminium alloys. Coolant retains its corrosion inhibiting and anti-freeze properties even in strongly acidic water. Its characteristics also make it suitable for winter engine protection.

Pos.no.	Part no.	Quantity	Pack
18.25	1141645-0	1 Litre	Plastic bottle
18.26	1141646-8	5 Litre	Plastic cont.
18.27	1141647-6	210 Litre	Metal barrel

### 18.54-55 COOLANT, TYPE 90, READY-TO-USE

Protects down to  $-25^{\circ}\text{C}$ .

Pos.no.	Part no.	Quantity	Pack
18.54	1161994-7	5 Litre	Plastic bottle
18.55	1161990-5	210 Litre	Metal barrel

### 18.28 ANTI-CORROSION AGENT

Part no. 1129709-0. The anti-corrosion agent has been specially developed for fresh water cooled engines and should be used where anti-freeze is not required. As with Volvo Penta coolant type 90, the anti-corrosion agent is ideal for modern engines as it does not damage aluminium or aluminium alloys.

**Dosage:** 1 Litre per 30 Litre water.

**Note!** The anti-corrosion agent must not be mixed with other coolants or anti-corrosion agents.

Quantity	Pack
0.5 Litre	Plastic bottle

### 18.48 LOCKING FLUID

Part no. 1161053-2. Protection fluid for screws and nuts. Permits removal in the normal manner. The protection fluid is also effective on lightly-oiled surfaces, and prevents corrosion, leakage and vibration.

**Drying time:** 15-45 min.  
**Shear strength:** 8-12 N/mm<sup>2</sup>  
**Colour:** Blue

Quantity	Pack
10 ml	Bottle

### 18.53 ENVIRONMENTALLY FRIENDLY COOLANT SYSTEM CLEANER

Part no. 1141658-3. High engine temperature can be caused by build-up of deposits in the cooling system which occur, usually, after long running time or the use of mineral rich water. When this occurs the cooling system must be cleaned with the help of a cleaning agent. The cleaner is a citric acid based solvent with the addition of a neutraliser.



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**18.29-41, 44-47****PAINTS**

Volvo Penta original paints are the best protection against rust and corrosion for engines, drives and transmissions. The appearance and second hand values of the engine is enhanced if all painting operations are carried out using original paints.

**18.49****ANTIFOULING**

Volvo Penta's Antifouling for Aquamatic and Sailboat drives meets very high standards of effectiveness and environmental safety. Developed for professional marine use, this treatment has achieved excellent results. Tests have shown that the antifouling survives even the most demanding conditions.

Volvo Penta Antifouling can be painted over all earlier paint coverings. It remains effective for two normal boat seasons, with intervening winter lay-ups\*. As a result it is only necessary to apply new antifouling treatment every other season.

The active ingredient is pure metallic copper. The copper is bound efficiently in the paint to ensure minimal leakage. It forms a hard repellent surface layer that combats fouling. It does not contain any chemical biocides.

\*) For boats in very warm waters, application is recommended annually.

Pos.no.	Part no.	Colour	Quantity, Litres	Pack
<b>Touch-up paint, engine</b>				
18.29	1141566-8	Green, gloss	0.4	Spray can
18.30	837124-7	Green, gloss	1.0	Tin
18.31	827501-8	Red	0.4	Spray can
18.32	1141564-3	Red	1.0	Tin
18.34	1141662-5	White	1.0	Tin
18.44	1141609-6	Green, matt	1.0	Tin
18.45	3851221-6	Dark grey	0.4	Spray can
<b>Primer</b>				
18.33	1141562-7	Blue-Grey, for drive	0.4	Spray can
18.37	1141663-3	White, for engine	1.0	Tin
<b>Touch-up paint, drive</b>				
18.35	1141567-6	Blue-Grey	0.4	Spray can
18.36	1141575-9	Grey	0.4	Spray can
18.38	1141560-1	White	0.4	Spray can
18.39	1141568-4	Black, matt	0.4	Spray can
18.40	827502-6	Clear varnish	0.4	Spray can
18.46	3851219-0	Silver, SX, DP-S	0.4	Spray can
18.47	3851220-8	Grey + clear varnish, DPX	0.8	Spray can, 2 pcs
<b>Anti-fouling, primer</b>				
18.41	1141593-2	Grey	0.3	Spray can
<b>Anti-fouling, touch-up paint</b>				
18.49	1141654-2	Silver, SX, DP-S	0.5	Spray can

## OIL RECOMMENDATIONS

ENGINE/DRIVE	TYPE OF OIL	QUANTITY	PART NO.		
DIESEL ENGINES 1, 2, 3, 4, 6 CYL	Diesel engine oil	1 Litre	1141626-0		
		5 Litres	1141627-8		
		20 Litres	1141628-6		
		208 Litres	1141629-4		
PETROL ENGINES 2, 4, 6, 8 CYL	Petrol engine oil	1 Litre	1141630-2		
		5 Litres	1141631-0		
		20 Litres	1141632-8		
		208 Litres	1141633-6		
<b>AQ-DRIVE</b>					
(DP):280, 290, DP-A, DP-A1	Transmission oil <sup>1)</sup>	1 Litre	1141637-7		
		5 Litres	1141638-5		
		20 Litres	1141639-3		
(DP): DP-A2, DP-B, DP-B1, DP-C, DP-D, DP-D1, DPX, DP-S, DP-E	Synthetic transmission oil	1 Litre	1141634-4		
		5 Litres	1141635-1		
		20 Litres	1141636-9		
(SP): 100B, 200, 250, 270, 275, 280, 285, 290, SP-A, SP-A1, SP-A2, SP-C, SP-C1	Same as engine				
		SX	Synthetic transmission oil	1 Litre	1141634-4
				5 Litres	1141635-1
		20 Litres	1141636-9		
<b>S-DRIVE</b>					
100S, 110S, 120S, 120S-B, 120S-C, 120S-D, MS25S, MS25SR 120S-E	Same as engine (diesel)				
		Synthetic transmission oil	1 Litre	1141634-4	
			5 Litres	1141635-1	
		20 Litres	1141636-9		
<b>REVERSE GEARS</b>					
MS, MS2, MS2B, MS2L-D, MS2A-D, MS3, MS10A, MS10L, MS15A, MS15L, MS25A, MS25L	Same as engine (diesel)				
		MS2L-E, MS2A-E	Synthetic transmission oil	1 Litre	1141634-4
				5 Litres	1141635-1
		20 Litres	1141636-9		
MS4, MS5	Synthetic transmission oil	1 Litre	1141634-4		
		5 Litres	1141635-1		
		20 Litres	1141636-9		
HS1	Same as engine				
HS25A, HS45A, HS45V, HS63A, HS63AE, HS63V, HS63VE	ATF-oil Dexron 2	5 Litres	1161941-8		
PRM	Same as engine				
MPM	Single grade oil, SAE 30		–		
Twin Disc (for oil temp. 65–85°C)	Single grade oil, SAE 30		–		
Twin Disc (for oil temp. 80–100°C)	Single grade oil, SAE 40		–		
<b>MISCELLANEOUS</b>					
Compressor for KAD42 and KAMD42	Compressor oil	0.25 Litres	1141641-9		
Protection of cooling system (winter lay-up)	Inhibiting oil	1 Litre	1141642-7		
Hydraulic controls, servo controls DPX	Hydraulic oil	1 Litre	1141640-1		
Power steering (not DPX)	Hydraulic oil or ATF type G, not to be mixed		–		
Power Trim	ATF, type G		–		
Electrical equipment	Universal oil	0.2 Litres	1161657-0		
<b>QL RANGE</b>					
Trim tab	Biodegradable hydraulic oil <sup>2)</sup>	0.47 Litres	41102100-9		
Bow thruster (gear housing)	Oil for bow thrusters	0.25 Litres	41100129-0		

1) If the drive was manufactured before 1986 with 30 or 40 engines and engine oil has previously been used in the drive, then engine oil should also be used in future.

2) If oils 41100091-2 or 41100252-0 have previously been used for the trim pump 41100384-1 then you should continue to use them in the future.