

# ACCESSORIES & MAINTENANCE PARTS

Features, benefits and specifications





**When using Genuine Volvo Penta Parts and Accessories, you're helping to ensure your Volvo Penta product will be maintained and optimized to the highest quality standard.**

Our core values – Quality, Safety and Environmental Care – are always built into each component. We design, test, develop and manufacture our genuine parts and accessories to the same quality level as we do with our engines. In this way you get high quality products with a warranty that you can rely on. Each component is original and made to match.

At your Volvo Penta Dealer, you will find specially trained mechanics that will handle and fit the components correctly. More than this, you get one contact for everything. Volvo Penta dealers also provide service, maintenance, support and warranties for all Volvo Penta products.

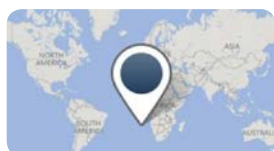




## Double your warranty

Genuine Volvo Penta parts and accessories are covered by our standard 12 month warranty. Have them supplied and installed by an authorized Volvo Penta dealer and we'll extend your warranty to 24 months — including the labor.

Consult your nearest dealer for more details.



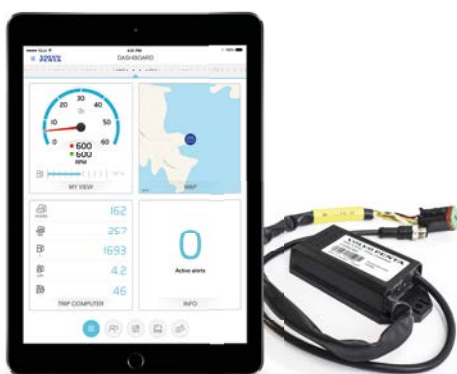
## Find your dealer

Visit [www.volvopenta.com/dealerlocator](http://www.volvopenta.com/dealerlocator) or download our app to search among our 3,500 dealers worldwide.

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# HIGHLIGHTS



## EASY CONNECT WITH YOUR SMART DEVICES

We're putting the boat in the palm of even more hands with Volvo Penta Easy Connect. Now, the solution that gives boaters a dashboard-style overview of data, route information, and much more – directly on a smart device – is compatible with even more engines and also available for Android.

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## MECHANICAL CONTROLS FOR POWERBOATS

Our range of side and top mount controls for mechanically operated engines has been developed with ergonomics and safety as top priorities. Easy to operate trim buttons and neutral safety switch are standard.

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## NEW ACTIVE CORROSION PROTECTION FOR STERNDRIVES

With Active Corrosion Protection for Sterndrives, Volvo Penta is taking yet another step towards easier boat ownership. The system is designed to constantly monitor and protect your drive from galvanic corrosion, thus replacing the traditional anodes. Full system integration means you can see the protection status at helm.



## VOLVO PENTA MAINTENANCE KITS

Time to prepare for next season? Volvo Penta Maintenance Kits come pre-packaged with the basic parts needed. Available for diesel engines and Aquamatic Sterndrives.

# VOLVO PENTA EASY CONNECT



Volvo Penta Easy Connect gives you a dashboard-style overview of boat and engine data, route information, and more – via Bluetooth®, directly on your smart devices. All you need is the Easy Connect Interface connected to your engine, and the Easy Connect app installed on your tablet or smartphone. The

functions also make it an ideal complement to the mounted instruments at the helm. But the experience doesn't just stay onboard. You can easily access saved routes and boat data from home – reliving the moments, or plan for your next trip.



## Share the experience

Let your friends and family monitor the trip onboard with Easy Connect. The app lets them follow and save routes, with the possibility to share them on social media – while still keeping a curious eye on speed and heading. Routes and boat data are automatically stored in the Easy Connect app, and can later be accessed and shared from anywhere (sharing function requires an Internet connection).

## Interact with your Volvo Penta dealer <sup>4) 5)</sup>

Easy Connect makes it possible to share diagnostic trouble codes with your selected Volvo Penta dealer, including; serial number and engine hours. A useful function when booking a service or inspection – allowing your dealer to prepare service and help more efficiently.

## Easy installed interface

To get started, the Easy Connect interface plugs directly into the multilink at the helm station, or into the engine harness on non-EVC gasoline engines.

## NMEA functionality

The Easy Connect interface includes NMEA2000 functionality. This means it can also be connected to an existing NMEA network within the boat. This enables you to access additional data from i.e. speed and depth sensors.

In addition, the Easy Connect interface can be used to convert engine data into NMEA2000 compatible chart plotters/multi-function displays onboard.

## Compatibility

Easy Connect is available for the following engines in single and twin installations:

- D1/D2 engines with MDI
- Non-EVC gasoline engines from model year 2006
- Diesel and gasoline engines with EVC (except D3 and gasoline engines produced before 2007 with EVC-MC A/B)

The application is available for Apple devices with iOS 10 and later. For Android devices, the operating system version must be 5.0 or later with Bluetooth® 4.2.

Please note that certain functions and features are not available for all engine types. For more information, visit [www.volvopenta.com/easyconnect](http://www.volvopenta.com/easyconnect).

## Featured data within the app

The Easy Connect app is capable of showing data provided by your engine, as well as information from additional sensors and functionality installed in your boat:

| Engine and boat data                   |                                      |
|----------------------------------------|--------------------------------------|
| Engine speed                           | Battery voltage                      |
| Engine hours                           | Warnings and alarms                  |
| Oil pressure                           | Coolant temperature                  |
| Diagnostic trouble codes <sup>5)</sup> | Boat speed <sup>3)</sup>             |
| Depth <sup>2)</sup>                    | Rudder position <sup>1) 2)</sup>     |
| Fuel tank level <sup>1) 2)</sup>       | Drive trim (Aquamatic) <sup>1)</sup> |

## With Trip computer software (EVC)

|                                    |               |
|------------------------------------|---------------|
| Average fuel economy <sup>2)</sup> | Trip distance |
| Distance to empty <sup>2)</sup>    | Fuel used     |
| Fuel economy <sup>2)</sup>         | Fuel rate     |
| Time to empty <sup>2)</sup>        |               |

## Additional features

|                                                     |                              |
|-----------------------------------------------------|------------------------------|
| Journeys <sup>3)</sup>                              | Share journeys <sup>4)</sup> |
| Share engine data with your dealer <sup>4) 5)</sup> |                              |

1) Require EVC 2) Require additional sensors 3) Require additional sensors or mobile device GPS 4) Sharing function requires an internet connection 5) Not available for D1/D2 and engines with EVC produced before 2009 (available from EVC-C3).

## Easy Connect interface kits

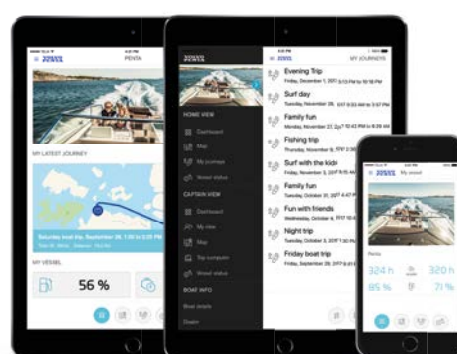
| Part no                                                        | Interface kit                               |
|----------------------------------------------------------------|---------------------------------------------|
| 23194818                                                       | D1 and D2 engines with MDI*                 |
| 23194818                                                       | Diesel and gasoline engines with EVC        |
| 23194833                                                       | Non-EVC gasoline engines MY 2006 and later* |
| <b>Adapter cable is required for the engines listed below:</b> |                                             |
| 23370425                                                       | Adapter cable, diesel engines with EVC-A    |
| 3883170                                                        | Adapter cable, non-EVC gasoline MY2006-2008 |

\* Order two interface kits for twin installations.



## Captain's View (connected)

When onboard, Easy Connect provides a complete view of the boat's vital information in real time. Switch between different menu screens, showing boat speed, engine speed, maps etc. and share your experiences on social media.



## Home View (not connected)

Home View stores your past journeys so that you can recreate them and share on social media. You can also access an overview of key data such as fuel tank level and engine hours, and e-mail engine status to your Volvo Penta dealer.

# EVC

EVC – Electronic Vessel Control – is Volvo Penta's common electronic platform for controlling engine and transmission and integrating all driver information. EVC is based on CAN-bus technology and lets engine, drives, controls and instruments quickly exchange information. It constantly supervises all important functions and takes precautionary measures if needed, always keeping you updated in an intuitive way.

Furthermore, EVC also opens up a lot of possibilities when it comes to installing new, previously unthinkable, hardware and software features. Joystick driving and docking, Low-speed mode, Powertrim assistant and more – are all based on the intelligence of EVC.

## CONTROLS

Volvo Pentas wide range of ergonomically, solid and smart EVC controls.

## INSTRUMENTS

Multi-information displays and EVC instruments with all the information that you want.



## Easy Boating options

Take the opportunity to customize your boat with the options of your choice – when you order a new boat or when you wish to upgrade your present boat. The table shows what is available for each drive system. Talk to your Volvo Penta dealer for advice!

|                                   | Volvo Penta<br>IPS | Aquamatic<br>Sterndrive | Forward<br>Drive | Diesel<br>inboard | Sailboat drive<br>system |
|-----------------------------------|--------------------|-------------------------|------------------|-------------------|--------------------------|
| Joystick Docking                  | ●                  | ●1, 5                   | —                | ●5                | —                        |
| Joystick Driving (diesel engines) | ●                  | ●1, 5                   | —                | ●5                | —                        |
| Dynamic Positioning System        | ●                  | —                       | —                | —                 | —                        |
| Battery Management System         | ●                  | ●                       | ●                | ●                 | ●                        |
| Sportfish Mode                    | ●                  | —                       | —                | —                 | —                        |
| Autopilot                         | ●                  | ●1, 5                   | —                | ●1, 5             | —                        |
| Interceptor System                | ●                  | ●5                      | —                | ●                 | —                        |
| Powertrim Assistant               | —                  | ●                       | ●                | —                 | —                        |
| Water Sport Control               | —                  | ●7                      | ●7               | —                 | —                        |
| Tow Mode for water sport          | —                  | ●2                      | ●                | —                 | —                        |
| Glass Cockpit system              | ●                  | ●                       | ●                | ●                 | ●4                       |
| Trip computer                     | ●                  | ●                       | ●                | ●                 | ●4                       |
| Cruise control                    | ●                  | ●                       | ●                | ●                 | ●4                       |
| Single-lever Mode                 | ●                  | ●5                      | —                | ●5                | —                        |
| Low-speed Mode                    | ●                  | —                       | —                | ●3                | ●6                       |
| Active Corrosion Protection       | ●                  | ●                       | ●                | —                 | —                        |

● Available

— Not available

1) Requires factory-installed electronic steering

2) Single installations

3) D4–D13

4) D3–D4

5) Requires twin installation

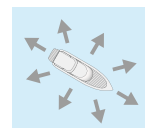
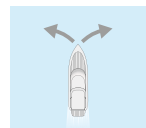
6) D4

7) Single gasoline installation



### Dynamic Positioning System

The Dynamic Positioning System for IPS is a perfect feature when you wish to automatically maintain your position and heading for a moment, i.e., when preparing for docking. With the repositioning feature, you can automatically rotate the boat, move forward, backward and sideways, while remaining in DPS- mode – with just a simple tap of the joystick.



### Joystick Driving

A whole new way to maneuver with precision at all speeds. You steer comfortably with the joystick. The integrated autopilot supports by automatically engaging after every course change.

### Joystick Docking

Makes docking easy, even fun. Forget complicated maneuvers in close quarters. Just move the joystick in any direction and your boat will follow. You can install up to six Joystick Docking stations on your boat.



### Interceptor System

The robust and compact design of the Interceptor System (IS) ensures efficient and reliable trimming for Volvo Penta-powered yachts 35–100 feet. Fully integrated with EVC, it has become the perfect Auto-mode solution. Fully automatic trim adjustments will make your driving easier than ever. Available in sizes between 300–1.050 mm.



### Cruise control

With fingertip control of your engine rpm, you can fine-tune your boat's speed for best possible fuel economy and comfort.



### Low-speed Mode

Reduces boat speed at idling by 50% from 5–6 knots to 2–3 knots. Integrated in the control. Perfect when you're driving in marinas and canals.



### Glass Cockpit System

Gathers all driver information in one place – for enhanced overview and instant control of both navigation and engine.



### Battery Management System

The system gives you a complete overview of battery status, helping you to manage your onboard electrical system. See page 10.



### Autopilot

EVC-integrated, locks automatically to steering wheel course changes (shadow drive).



### Powertrim Assistant

Gives you the best possible drive trim – fully automatically – for perfect running attitude. Results in optimum performance and low fuel consumption.



### Trip computer

Get trip computer functionality with information about fuel consumption, distance to empty, trip time and much more for optimizing your boat's performance.



### Sportfish Mode

Makes it possible for you to rapidly turn your boat around its own axis – and follow the fish at high speed in reverse, using only the engine controls.



### Water Sport Control

Take full control of boat speed, drive trim, ballast tanks and trim tabs. Create your own user presets.



### Single-lever Mode

Operate twin, triple or quad engines with only one lever. Gives you easy control over speed even in rough seas.

# BATTERY MANAGEMENT SYSTEM

Forget heavy bunches of keys and finding main circuit breakers. The Battery Management System – with e-Key remote – allows you to manage your onboard electrical system remotely. By pressing the ON button the system powers up with car functionality and at the same time authorizes you as the user of the boat.

In combination with EVC, the Battery Management System gives you a complete overview of battery status in user displays conveniently located in up to six stations onboard. The system offers you a number of smart features such as battery protection and automatic start aid.



## Battery Management System

| Part no  | Description                |
|----------|----------------------------|
| 22645632 | Battery Control Module     |
| 22645608 | Battery Management Display |
| 22468483 | Battery Management Sensor  |
| 23060771 | e-Key remote               |
| 23060773 | e-Key remote (only Japan)  |

## Complete Control

With the Battery Control Module acting as a hub, the boat's entire electrical system will be both more reliable and easier to monitor. Stay constantly updated at the helm on the boat's battery status in the intuitive display –peace of mind, ease of use and easier boating guaranteed! On our website for battery management you can easily get information regarding which parts you need and what your installation would look like. Visit our website at: [volvopentabatterymangement.com](http://volvopentabatterymangement.com)

## Requirements

With Volvo Penta EVC-E3, the EVC and battery management systems are integrated together. This means you receive battery data in the boat's driver display (Glass cockpit) and connection to the boat's ignition system via the e-Key.

In older EVC systems – or when using a non-Volvo Penta engine – the battery management system is available as a stand-alone unit. All interaction is done via the battery management display and the button panel on the battery control module. Using the e-Key, you can turn on the main switch, lights, windlass etc.

## Installation

Volvo Penta recommends installing battery management for all new installations or re-powering. If you already have the battery management module it is easy to install e-Key remote as an accessory. Battery management reduces number of components needed in installation.



### Push-buttons for EVC options such as:

- Low-speed mode
- Single-lever mode
- Cruise control



## CONTROLS

The line-up of EVC controls features something for every taste. All features are chosen and designed to offer the best level of safety and comfort. All Volvo Penta controls are ergonomic and have a solid feel to them. The EVC controls are developed together with the EVC system for maximum reliability.

In line with Volvo Penta's "Easier boating" concept, a number of functions have been built into the new controls. The controls comes with:

- Station on/off function
- Throttle only function

|              | IPS                       |                 | Diesel Inboard            |                           |                 | Aquamatic Sterndrive    |                           |                 |
|--------------|---------------------------|-----------------|---------------------------|---------------------------|-----------------|-------------------------|---------------------------|-----------------|
|              |                           |                 |                           |                           |                 |                         |                           |                 |
|              | <b>Twin<sup>1,4</sup></b> | <b>Joystick</b> | <b>Twin<sup>2,4</sup></b> | <b>Single<sup>4</sup></b> | <b>Joystick</b> | <b>Twin<sup>4</sup></b> | <b>Single<sup>4</sup></b> | <b>Joystick</b> |
| <b>EVC-E</b> | 22861802                  | 22862204        | 22861802                  | 22893474                  | 22862207        | 22893867                | 22893819                  | 22862202        |
| <b>EVC-D</b> |                           | 22862204        |                           |                           | 22862207        |                         |                           | 22862202        |
|              |                           |                 |                           |                           |                 |                         |                           |                 |
|              | <b>Twin<sup>1,3</sup></b> | <b>Joystick</b> | <b>Twin<sup>3</sup></b>   | <b>Single</b>             |                 | <b>Twin</b>             | <b>Single</b>             | <b>Joystick</b> |
| <b>EVC-E</b> | 22498615                  | 22596764        | 22498615                  | 22498549                  |                 | 22498457                | 22498346                  | 22561262        |
| <b>EVC-D</b> | 22498615                  | 22596764        | 22498615                  | 22498549                  |                 | 22498457                | 22498346                  | 22561262        |

1) Also for triple and quadruple installations.

2) For installation with Interceptor System use 22861796.

3) For installation with Interceptor System use 22498661.

4) Requires stand-alone HCU

|               | IPS                         |                         | Diesel Inboard |               | Aquamatic Sterndrive |               |
|---------------|-----------------------------|-------------------------|----------------|---------------|----------------------|---------------|
|               |                             |                         |                |               |                      |               |
|               | <b>Twin<sup>1</sup></b>     | <b>Twin<sup>1</sup></b> | <b>Twin</b>    | <b>Twin</b>   | <b>Twin</b>          | <b>Twin</b>   |
| <b>EVC-C</b>  | 21164033                    | 21164029                | 21164033       | 21164029      | 21164033             | 21164029      |
| <b>EVC-B2</b> | 21164033                    | 21164029                | 21164033       | 21164029      | 21164033             | 21164029      |
| <b>EVC-B1</b> |                             | 3819900                 |                | 3819900       |                      | 3819900       |
| <b>EVC-A</b>  |                             | 3819900                 |                | 3819900       |                      | 3819900       |
|               |                             |                         |                |               |                      |               |
|               | <b>Joystick<sup>5</sup></b> |                         | <b>Single</b>  | <b>Single</b> | <b>Single</b>        | <b>Single</b> |
| <b>EVC-C</b>  | 22498703                    |                         | 21164031       | 21164027      | 21164031             | 21164027      |
| <b>EVC-B2</b> | 22498703                    |                         | 21164031       | 21164027      | 21164031             | 21164027      |
| <b>EVC-B1</b> |                             |                         |                | 3819899       |                      | 3819899       |
| <b>EVC-A</b>  |                             |                         |                | 3819899       |                      | 3819899       |

1) Also for triple and quadruple installations.

5) Replaces the old Joystick.

## INSTRUMENTS

The information you want, at up to four different places on board, including the availability of engine data in your chart plotter. The instruments are developed for Volvo Penta engines, and give highly accurate readings and reliability.

Volvo Penta instruments are developed exclusively for the EVC system. A guarantee for accurate readings and high reliability. Furthermore they are easy to read day and night, thanks to double glazing and sophisticated lighting.

### Engine monitoring displays

With Volvo Penta engine monitoring displays, you get all the information you need in one place. Thanks to the trip computer functions, it is easy to find your most economical cruising speed, adjust for the optimum trim angle, etc. You have direct access to all essential engine and boat data and you can adapt the information presentation to your own preferences. An important benefit is that you get messages, such as error codes, in plain text.



#### 2.5" display

The 2.5" display is an information center in a compact size.

| Generation | Part no  |
|------------|----------|
| EVC-E      | 22499270 |
| EVC-D      | 22499270 |



#### 4" display (b/w)

The 4" black and white display can show data from two engines at the same time, plus trip computer information.

| Generation | Part no  |
|------------|----------|
| EVC-D      | 22072273 |
| EVC-C      | 22072254 |
| EVC-B      | 22072190 |
| EVC-A      | 3807827  |



#### 4" colour display

The 4" full-colour display is easy to read with custom screens. It shows all available information for one or two engines.

| Generation | Part no  |
|------------|----------|
| EVC-E      | 22369186 |
| EVC-D      | 22369186 |



#### 7" colour display

The 7" full-colour display shows all available information for up to three engines in a new interface. Digital or analogue readers, your tailored view or standard view, etc. Active software functions, such as Low-speed Mode, are displayed. Operation is intuitive thanks to the easy to understand menus.

| Generation | Part no  |
|------------|----------|
| EVC-E      | 22722418 |
| EVC-D      | 22722418 |
| EVC-C      | 22722418 |



#### EVC Tachometer

Tachometer 85 mm or 110 mm, with engine hours and alarm symbols in the LCD-display.

| Generation    | Part no  | Color | RPM    | Size     |
|---------------|----------|-------|--------|----------|
| EVC A-B       | 881646   | Black | 0-4000 | 85 mm    |
| EVC A-B       | 881652   | White | 0-4000 | 85 mm    |
| EVC C         | 21628160 | Black | 0-4000 | 85 mm    |
| EVC C         | 21628159 | White | 0-4000 | 85 mm    |
| EVC MC, EVC C | 21628157 | White | 0-6000 | 85 mm    |
| EVC MC, A-B   | 881647   | Black | 0-6000 | 85 mm a) |
| EVC MC, A-B   | 881653   | White | 0-6000 | 85 mm a) |
| EVC C1-E3     | 21511178 | Black | 0-4000 | 110 mm   |
| EVC C1-E3     | 21511176 | White | 0-4000 | 110 mm   |
| EVC C1-E3     | 21511183 | Black | 0-6000 | 110 mm   |
| EVC C1-E3     | 21511180 | White | 0-6000 | 110 mm   |

a) Petrol - secondary station

## Engine monitoring display options

| Features and data                              | 2.5" | 4" | 7" * | Tacho-meter |
|------------------------------------------------|------|----|------|-------------|
| Color screen                                   |      | ●  | ●    |             |
| Day/night mode                                 |      | ●  | ●    |             |
| Pop-up menus (shortcuts)                       |      | ●  | ●    |             |
| Video input                                    |      |    | ●    |             |
| Neutral beep (on/off)                          | ●    | ●  | ●    |             |
| Engines displayed (max)                        | 1    | 2  | 3    | 1           |
| Engine rpm                                     | ●    | ●  | ●    | ●           |
| Engine hours                                   | ●    | ●  | ●    | ●           |
| Coolant temperature                            | ●    | ●  | ●    |             |
| Voltage                                        | ●    | ●  | ●    |             |
| Oil pressure                                   | ●    | ●  | ●    |             |
| Turbo pressure (diesel)                        | ●    | ●  | ●    |             |
| Alarms and warnings                            | ●    | ●  | ●    | ●           |
| Diagnostics in text                            | ●    | ●  | ●    |             |
| Diagnostics in text, extended info             |      | ●  | ●    |             |
| Transmission, oil pressure *                   | ●    | ●  | ●    |             |
| Transmission, oil temperature *                | ●    | ●  | ●    |             |
| Boat speed <sup>1)</sup>                       | ●    | ●  | ●    |             |
| Fuel level <sup>2)</sup>                       | ●    | ●  | ●    |             |
| Fresh water level <sup>2)</sup>                | ●    | ●  | ●    |             |
| Depth with alarm <sup>2)</sup>                 | ●    | ●  | ●    |             |
| Sea water temperature <sup>2)</sup>            | ●    | ●  | ●    |             |
| Rudder angle <sup>2)</sup>                     | ●    | ●  | ●    |             |
| Powertrim angle (Aquamatic)                    | ●    | ●  | ●    |             |
| Active Corrosion Protection info <sup>3)</sup> | ●    | ●  | ●    |             |
| Low-speed mode, slip rate <sup>4)</sup>        | ●    | ●  | ●    |             |
| <b>With Trip computer software:</b>            | ○    | ○  | ○    |             |
| Instant fuel rate                              | ●    | ●  | ●    |             |
| Trip time                                      | ●    | ●  | ●    |             |
| Trip fuel                                      | ●    | ●  | ●    |             |
| Average fuel rate                              | ●    | ●  | ●    |             |
| Time to empty <sup>2)</sup>                    | ●    | ●  | ●    |             |
| Instant fuel economy <sup>1)</sup>             | ●    | ●  | ●    |             |
| Trip distance <sup>1)</sup>                    | ●    | ●  | ●    |             |
| Average fuel economy <sup>1)</sup>             | ●    | ●  | ●    |             |
| Distance to empty <sup>1)</sup>                | ●    | ●  | ●    |             |
| <b>With Dynamic Positioning System:</b>        |      |    | ○    |             |
| Bearing                                        |      |    | ●    |             |
| Direction of movement                          |      |    | ●    |             |
| GPS signal strength                            |      |    | ●    |             |

\* Refers to 7" colour display on page 12.

● Standard ○ Optional. \*Depending on transmission. Requires sensors.

1) Requires extra sensor or NMEA interface.

2) Requires extra sensor.

3) Volvo Penta IPS. Requires Active Corrosion Protection.

4) Requires low-speed mode.



### Glass Cockpit Multi-Function Display (MFD) 7"

The 7inch Multi-Function Display (MFD) is the perfect stand-alone solution for smaller boats. It allows you to monitor and control all driver information including; navigation, engine data, warnings and electronic features in one place. It consists of all-in-one solutions with built in GPS antenna and SD-card reader.

#### Features:

- Pinch-to-zoom and other multi-touch controls
- Preloaded with BlueChart g2 maps and LakeVü HD Maps
- Fully integrated with Volvo Penta Electronic Vessel Control (EVC) monitoring features such as Dynamic Positioning System (DPS), Interceptors and Autopilot through the displays
- Heading and position refreshed 10 times per second
- Simplified SOS calling
- View and control your device from a smartphone or tablet
- Low profile flush mount or smooth flat mount for a glass helm look

Dimensions, W x H x D: 22.2 x 14.2 x 6.1 cm (8.75" x 5.6" x 2.6")

Display size, W x H:

15.5 x 8.6 cm; 17.8 cm diagonal (6.1" x 3.4"; 7.0" diagonal)

| Generation | Part no  |
|------------|----------|
| EVC-E      | 23093413 |



### Display engine data on your chartplotter

NMEA is a communication standard used to connect sensors, displays and other marine electronics to a network. With a NMEA interface, you can connect the engine to this network and enable engine data in a NMEA- compatible device, such as chartplotter or multi-function display.

Volvo Penta offers NMEA 0183 and NMEA 2000 interfaces to support the compatibility of your device. In addition, the Volvo Penta Easy Connect interface features both NMEA 2000 functionality and Bluetooth® connectivity, which offers even more opportunities. Learn more on page 6-7.

| EVC Generation | System    | Part no  |
|----------------|-----------|----------|
| EVC B-E4       | NMEA 0183 | 3807587  |
| EVC B-E4       | NMEA 2000 | 22813366 |

## 1. 2. Speedometer instrument (5"/110 mm)

No units, select mph, km/h or knots.

| Part no  | Colour | Generation     | Interval |    |
|----------|--------|----------------|----------|----|
| 21234531 | Black  | MC (D3), EVC-C | 0-40     | a) |
| 21234532 | White  | MC (D3), EVC-C | 0-40     | a) |
| 21234533 | Black  | MC (D3), EVC-C | 0-60     | a) |
| 21234534 | White  | MC (D3), EVC-C | 0-60     | a) |

## 3. Speedometer instrument, 85 mm

| Part no | Colour | Speed             |    |
|---------|--------|-------------------|----|
| 874916  | Black  | 0-20 knots/23 mph | a) |
| 874929  | White  | 0-20 knots/23 mph | a) |
| 874917  | Black  | 0-40 knots/45 mph | a) |
| 874930  | White  | 0-40 knots/45 mph | a) |
| 881645  | Black  | 0-60 knots/70 mph | a) |
| 881650  | White  | 0-60 knots/70 mph | a) |

## 4. 4-in-1 gauge (5"/110 mm)

Instrument with 4 gauges.

| Part no | Colour | Functions                                        |    |
|---------|--------|--------------------------------------------------|----|
| 3847876 | Black  | Coolant temp., voltage, oil pressure, fuel level | b) |
| 3885214 | White  | Coolant temp., voltage, oil pressure, fuel level | b) |
| 3847879 | Black  | Coolant temp., voltage, trim, fuel level         |    |
| 3885215 | White  | Coolant temp., voltage, trim, fuel level         |    |

## 5. Fuel tank level instrument, 52 mm

Sensor 874840 is needed.

| Part no | Colour |
|---------|--------|
| 874914  | Black  |
| 874926  | White  |

## 6. Alarm instrument, 52 mm

7 alarms: Oil pressure, water in fuel filter, battery, coolant temperature, coolant level, oil level, fault/serious fault.

| Part no | Colour |    |
|---------|--------|----|
| 874915  | Black  |    |
| 874927  | White  | c) |

## Oil temperature instrument, 52 mm

| Part no | Colour | Temperature |
|---------|--------|-------------|
| 874905  | Black  | 0-150° C    |
| 874922  | White  | 0-150° C    |
| 881857  | Black  | 40-300° F   |
| 881858  | White  | 40-300° F   |



1



2



3



4



5



6



7



8



9



10



11



12



13



14

## 7. Engine oil pressure instrument, 52 mm

| Part no | Colour | Pressure  |    |
|---------|--------|-----------|----|
| 874908  | Black  | 0-7 bar   | b) |
| 874923  | White  | 0-7 bar   | b) |
| 874919  | Black  | 0-100 PSI | b) |
| 874932  | White  | 0-100 PSI | b) |

## 8. Engine coolant temperature instrument, 52 mm

| Part no | Colour | Temperature |
|---------|--------|-------------|
| 874904  | Black  | 0-120° C    |
| 874921  | White  | 0-120° C    |
| 874918  | Black  | 40-250° F   |
| 874931  | White  | 40-250° F   |

## 9. Water tank level instrument, 52 mm

Freshwater level sensor 3809098 is needed.

| Part no | Colour |
|---------|--------|
| 3809992 | Black  |
| 3809993 | White  |

## 10. Rudder position instrument, 52 mm

Also order 3809099 and 3594073.  
SX and DPS require only 3809099.

| Part no | Colour |
|---------|--------|
| 3812914 | Black  |
| 3812917 | White  |

## 11. 12. Drive trim position instrument, 52 mm

Diameter 52 mm.

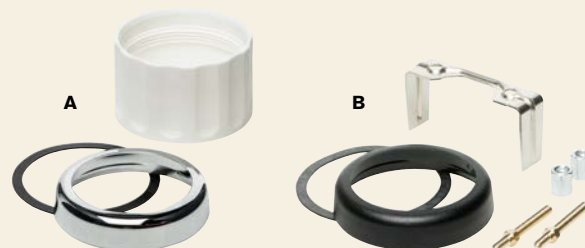
| Part no | Colour | Description |
|---------|--------|-------------|
| 881648  | Black  | LCD (7-40)  |
| 881654  | White  | LCD (7-40)  |
| 3812881 | Black  | Analogue    |
| 3812911 | White  | Analogue    |

## 13. Turbo pressure instrument, 52 mm

| Part no | Colour | Interval |
|---------|--------|----------|
| 874910  | Black  | 0-3 bar  |
| 874924  | White  | 0-3 bar  |
| 874920  | Black  | 0-45 PSI |
| 874933  | White  | 0-45 PSI |

## 14. Battery voltage instrument, 52 mm

| Part no | Colour | Voltage |
|---------|--------|---------|
| 881649  | Black  | 12 V    |
| 881658  | White  | 12 V    |
| 874913  | Black  | 24 V    |
| 874925  | White  | 24 V    |



### Mounting kit with front ring

A. Panel thickness up to 12 mm/15 mm

| Part no | Instrument diameter | Panel thickness | Description |
|---------|---------------------|-----------------|-------------|
| 874709  | 52 mm               | 0-12 mm         | Black ring  |
| 874708  | 85 mm               | 0-12 mm         | Black ring  |
| 3847888 | 110 mm              | 0-15 mm         | Black ring  |
| 874733  | 52 mm               | 0-12 mm         | Chrome ring |
| 874732  | 85 mm               | 0-12 mm         | Chrome ring |
| 3885216 | 110 mm              | 0-15 mm         | Chrome ring |

B. Panel thickness 12-25 mm

| Part no | Instrument diameter | Panel thickness | Description |
|---------|---------------------|-----------------|-------------|
| 881611  | 52 mm               | 12-25 mm        | Black ring  |
| 881612  | 85 mm               | 12-25 mm        | Black ring  |
| 881613  | 52 mm               | 12-25 mm        | Chrome ring |
| 881614  | 85 mm               | 12-25 mm        | Chrome ring |



### X-ring for flush mounting

| Part no | Instrument diameter | Description    |
|---------|---------------------|----------------|
| 874843  | 52 mm               | Flush mounting |
| 874844  | 85 mm               | Flush mounting |

### ADU - Auxiliary Dimmer Unit

The ADU makes it possible to dim all your EVC-instruments through the EVC main panel.

Note! "Easy Link" must be installed on the application.

| Part no |
|---------|
| 3848966 |

a) Also order multi sensor. Through hull 3587054. Transom mount 3587055.  
b) Not D3.  
c) Petrol - secondary station.

# MECHANICALLY OPERATED CONTROLS & INSTRUMENTS





## MECHANICALLY OPERATED CONTROLS

The Volvo Penta mechanical control heads are known for their quality, durability and excellent performance thanks to high-precision mechanics. Use low-friction control cables for even greater ease.

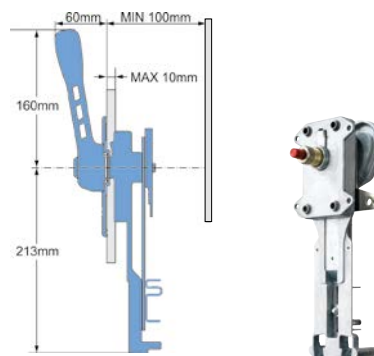
### Sailboat control

The Volvo Penta mechanical sailboat control is designed very much with sailing in mind as well as for controlling your engine.

#### Features and benefits:

- Designed to minimize risk of rope entanglement
- Tough and robust, made for the harsh marine environment
- High quality stainless steel
- Splash protected installation
- Reliable and proven mechanism with adjustable friction brake
- Mechanism can be mounted horizontally or vertically
- Neutral safety switch available as option

| Part No       | Description                           |
|---------------|---------------------------------------|
| 22688044      | Lever & small cover (stainless steel) |
| 851601        | Mechanism                             |
| 855352        | Neutral safety switch                 |
| Select length | Control cable                         |



### Upgrade your existing Volvo Penta sailboat control

If you have a previous model of Volvo Penta's sailboat control, you can easily upgrade to a new lever and a cover plate in stainless steel. If the existing control mechanism is in good condition, it does not need to be replaced.

Different upgrade options are available depending on the size of your current cover plate – consult the table.



### Upgrading from large cover plate (107 x 166 mm)

| Part No  | Description                                 |
|----------|---------------------------------------------|
| 22576994 | Lever (stainless steel)                     |
| 22167713 | Large cover plate* (stainless steel)        |
| 851601   | Mechanism (for stainless steel cover plate) |
| 853713   | Large cover plate (black plastic)           |
| 1140095  | Mechanism (for black plastic cover plate)   |
| 855352   | Neutral safety switch                       |

### Upgrading from small cover plate (100 x 121 mm)

| Part No  | Description                                    |
|----------|------------------------------------------------|
| 22688044 | Lever and small cover plate* (stainless steel) |
| 851601   | Mechanism                                      |
| 855352   | Neutral safety switch                          |

\* If you keep the current control mechanism, minor modifications will be needed in order to fit the new stainless steel cover plate (detailed in the provided installation Instructions).

**Xact Powerboat controls**

The range of controls for mechanically operated engines has been developed with focus on ergonomics and safety. Easy to operate trim buttons and neutral safety switch are standard on all models. Pair that with a state of the art mechanism for smooth yet solid action, and you get a safe, robust and comfortable package.

This is the next generation of Xact controls, and replaces the previous versions.

**Top mount**

Great ergonomics, stylish looks and a state of the art mechanism guarantees a smooth yet solid experience.

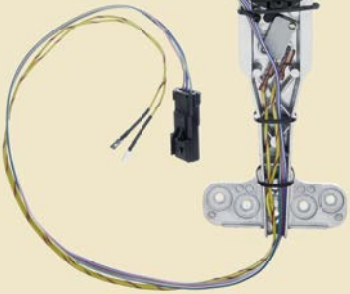
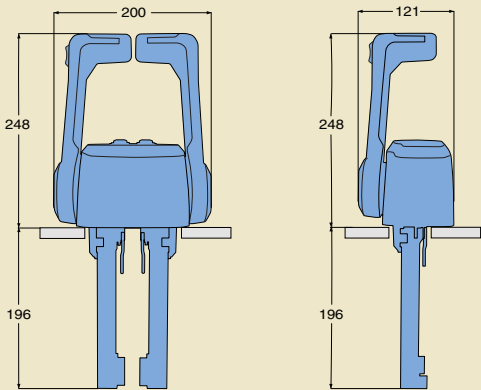
**Features and benefits:**

- Neutral warm up - Release button for warming up the engine in neutral position.
- Neutral safety switch - Electrical neutral position switch, prevents engine being started in gear.
- Trim and tilt button - Tactile switch for simple operation of the drives trim and tilt.
- Master trim and tilt - Tactile switch to trim both drives (twin drives only).
- Friction adjustment - Adjustable friction brake for fine tuning.

| Part no  | Description                                                          |
|----------|----------------------------------------------------------------------|
| 22928974 | Single Top Mount with Trim switch and extension harness              |
| 22928976 | Top Mount Twin installation with Trim switches and extension harness |
| 22903907 | Side Mount with Trim switch, safety lanyard and extension harness    |
| 22928971 | Side Mount with Trim switch and safety lanyard                       |



Xact control cables available on page 22.



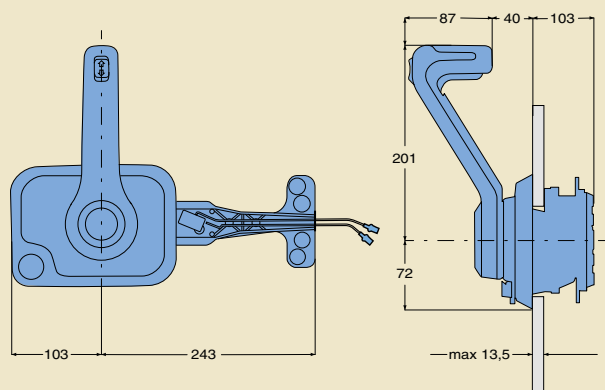
All controls have pre-mounted control mechanisms.

## Side mount

With top class ergonomics, neutral interlock and safety lanyard it's the perfect choice for single engine installations. Designed for starboard side mount.

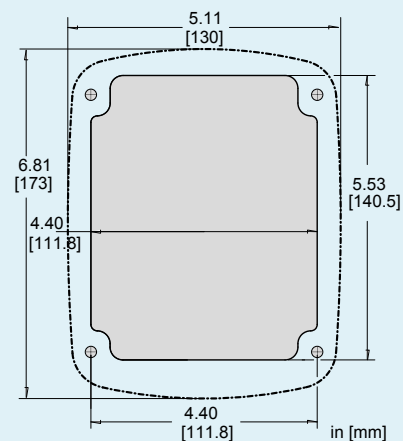
### Features and benefits:

- Neutral interlock - Mechanical neutral position lock, prevents unintentional gear change.
- Neutral warm up - Release button for warming up the engine in neutral position.
- Neutral safety switch - Electrical neutral position switch, prevents engine being started in gear.
- Trim and tilt button - Tactile switch for simple operation of the drives trim and tilt.
- Safety cut-off switch - Connected to the included lanyard for emergency engine shut down.
- Friction adjustment - Adjustable friction brake for fine tuning.

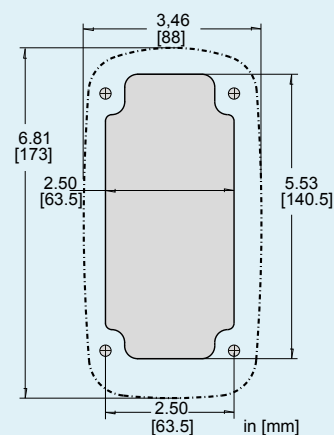


## HOLE PATTERNS/CUTOUTS

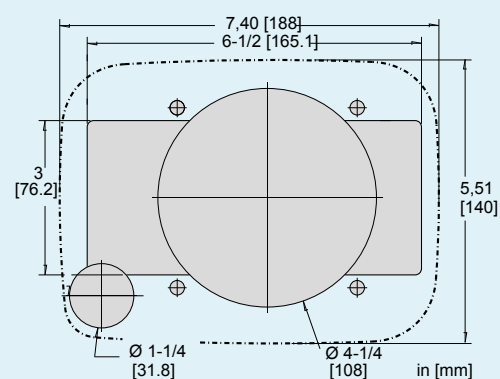
### Top mount twin

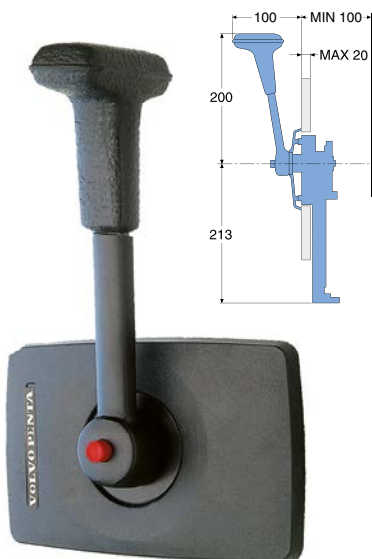


### Top mount



### Side mount





#### Control lever assembly PC-741, side-mounted

Control mechanism for side-mounting, part no. 1140095.

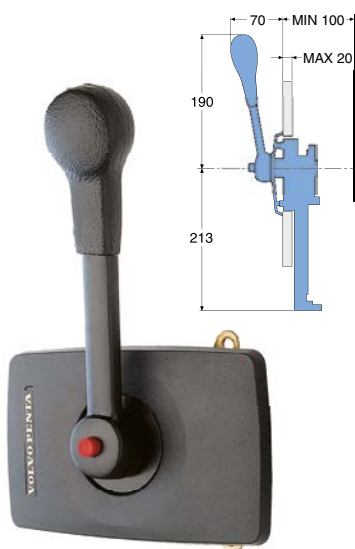
Part no  
1140092



#### Control lever assembly PC-841, side-mounted with Power Trim function

Control mechanism for side-mounting, part no. 1140095.

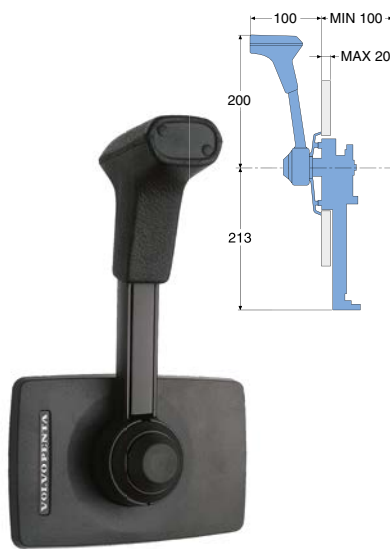
Part no  
1140091



#### Control lever assembly PC-741, with sailboat lever, side-mounted

The sailboat control lever is specially designed for sailboats where lines and halyards could snag on a joystick. Control mechanism for side-mounting, part no. 1140095.

Part no  
1140093



#### Control lever assembly PC-841, side-mounted

Control mechanism for side-mounting, part no. 1140095.

Part no  
1140090



#### Control mechanism for top-mounting

The control mechanisms must be ordered separately for PC-740 and PC-840 control lever assembly kits.

Volvo Penta's control mechanisms have a simple and safe design and are manufactured of corrosion-resistant material. The mechanism has an accelerated action which transmits lever movements into even and economic engine acceleration.

Two control mechanisms are required for twin engine installations with single lever controls.

Part no  
851600



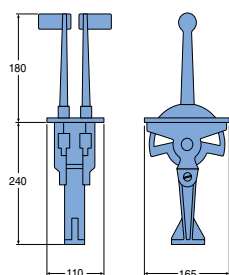
#### Control mechanism for side-mounting

The control mechanism must be ordered separately for PC-741 and PC-841 assemblies. Volvo Penta's control mechanisms have an uncomplicated and safe design and are manufactured of corrosion resistant materials.

The mechanism has an accelerated action which transmits lever movements into even and economic engine acceleration.

| Part no | Description |
|---------|-------------|
| 1140095 | PC-741/841  |

Control mechanisms and cables are not included unless this is specifically stated.



### Double lever controls - PC-870/871 - top-mounted

Double lever controls have separate levers for gear changing and acceleration. The accelerator lever has an adjustable friction brake making it possible to adjust the "feel" of the lever to personal requirements. Two models are available, gear shift to the left or to the right. Double lever control for twin engine installations can be combined so as to have both accelerator levers in the centre of the installation. A mechanical neutral locking device allows gear shifting only at engine idling speeds. As an additional safety measure, a neutral safety switch, which only allows the engine to be started in the neutral position, is also fitted as standard.

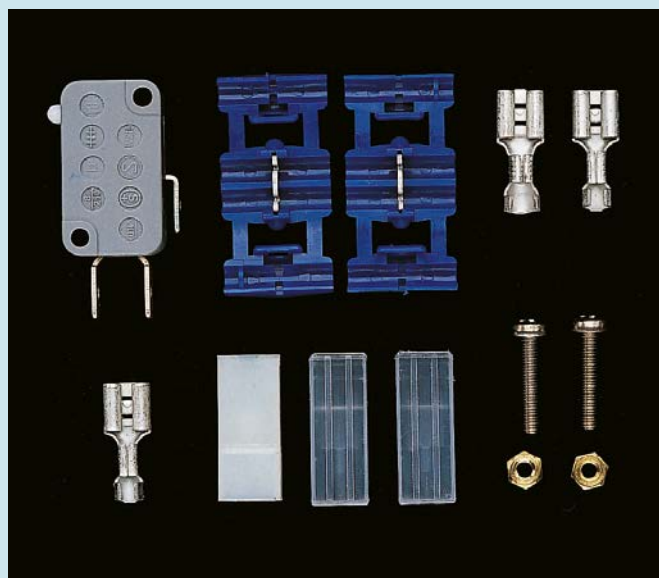
The control lever is supplied complete with assembly kit for easy installation and connections to Volvo Penta control cables (including Xact cable).

### For dual control stations with the PC-870/871 controls, the following parts are required:

- 2 x control lever assembly
- 2 x connection fork, part no. 1140074 for control cables
- 2 x control cable between upper and lower control station
- 2 x control cable to engine and transmission respectively

**Note!** For dual control station installations with the PC-870/871 control mechanisms, no DS unit is required.

| Part no | Control | Gear shift |
|---------|---------|------------|
| 1140067 | PC-870  | Port       |
| 1140068 | PC-871  | Starboard  |



### Neutral safety switch

The switch prevents unintentional manoeuvring of the vessel as it only permits starting of the engine when the gear shift is in the neutral position.

| Part no | Fits               |
|---------|--------------------|
| 855352  | PC-740/741/840/841 |



### Safety lanyard

The safety lanyard is an important safety device, particularly for fast moving boats. It consists of two parts, a switch connected to the engine's electric system and a cord that is attached to the pilot. Should the pilot fall in the boat or fall overboard, the engine is automatically stopped.

| Part no  | Fits                      |
|----------|---------------------------|
| 3889798  | TMD22-KAD300              |
| 3889799  | Gasoline engines/D3 mech. |
| 21469024 | EVC-D to EVC-E3           |
| 3817104  | EVC-A to EVC-C            |

### Cord only

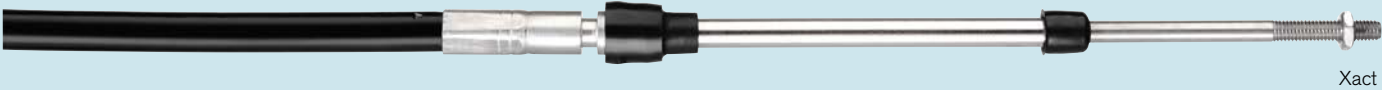
| Part no  | Fits                            |
|----------|---------------------------------|
| 22027280 | 3889798-3889799                 |
| 21552068 | EVC sidemount                   |
| 3858779  | Xact sidemount, all generations |

Control cables

Volvo Penta's control cables are manufactured of corrosion-resistant material with an outer sheath of HD polyethylene. They are designed following Volvo Penta's extremely stringent requirements for efficient operation with a minimum of play. They are permanently lubricated to ensure a minimum of friction and long service life. Single engine installations require two cables, twin installations require four.

Xact control cables

Volvo Penta Xact Control Cables have been designed to provide the smoothest and easiest throttle/shift operation; while at the same time reducing lost motion. All fittings are stainless steel and plated brass. The all stainless steel armored strand core allows for greater flexibility and is capable of being put into tighter bends for those difficult cable routings.

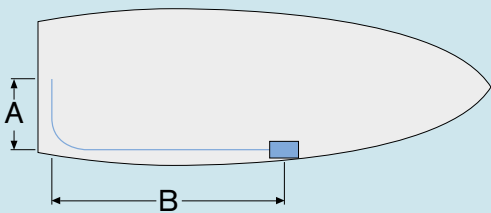


| Part no  | L, m |
|----------|------|
| 21633476 | 1.50 |
| 21633477 | 1.75 |
| 21633478 | 2.00 |
| 21633479 | 2.25 |
| 21633480 | 2.75 |
| 21633481 | 3.00 |
| 21633482 | 3.25 |
| 21633483 | 3.50 |
| 21633484 | 4.00 |
| 21633485 | 4.25 |
| 21633486 | 4.50 |
| 21633487 | 4.75 |
| 21633488 | 5.00 |
| 21633489 | 5.50 |
| 21633490 | 5.75 |
| 21633491 | 6.00 |
| 21633492 | 6.25 |
| 21633493 | 6.50 |
| 21633494 | 7.00 |
| 21633495 | 7.25 |

| Part no  | L, m  |
|----------|-------|
| 21633496 | 7.50  |
| 21633497 | 7.75  |
| 21633498 | 8.25  |
| 21633499 | 8.50  |
| 21633500 | 8.75  |
| 21633501 | 9.00  |
| 21633502 | 9.25  |
| 21633503 | 9.75  |
| 21633504 | 10.00 |
| 21633505 | 10.25 |
| 21633506 | 10.50 |
| 21633507 | 11.00 |
| 21633508 | 11.25 |
| 21633509 | 11.50 |
| 21633510 | 11.75 |
| 21633511 | 12.00 |
| 21633512 | 12.50 |
| 21633513 | 12.75 |
| 21633514 | 13.00 |

| Part no  | L, ft |
|----------|-------|
| 21407218 | 3     |
| 21407219 | 4     |
| 3594991  | 4.7   |
| 3595377  | 5     |
| 40005275 | 6     |
| 21407220 | 7     |
| 21407221 | 8     |
| 21407222 | 9     |
| 21407223 | 10    |
| 21407225 | 12    |
| 21407226 | 13    |
| 21407227 | 14    |
| 21407228 | 15    |
| 21407229 | 16    |
| 21407230 | 17    |
| 21407231 | 18    |
| 21407232 | 19    |
| 21407233 | 20    |
| 21407234 | 21    |
| 21407235 | 22    |
| 21407236 | 23    |
| 21407237 | 24    |
| 21407238 | 25    |
| 21407239 | 26    |

| Part no  | L, ft |
|----------|-------|
| 21407240 | 27    |
| 21407241 | 28    |
| 21407242 | 29    |
| 21407243 | 30    |
| 21407244 | 31    |
| 21407245 | 32    |
| 21407246 | 33    |
| 21407247 | 34    |
| 21407248 | 35    |
| 21407249 | 36    |
| 21407250 | 37    |
| 21407251 | 38    |
| 21407252 | 39    |
| 21407253 | 40    |
| 21407254 | 41    |
| 21407255 | 42    |
| 21407256 | 43    |
| 21407257 | 44    |
| 21407258 | 45    |
| 21407259 | 46    |
| 21407260 | 47    |
| 21407261 | 48    |
| 21407262 | 49    |



It is very important to select the exact cable length, fewer bends mean better operation and durability. Measure, in as straight a line as possible, the distance between the control mechanism and the engine/transmission connections. Calculate a radius of 200 mm for all bends. Adapt the cable as shown in the illustration  $L = A + B + 200\text{ mm}$ . If the measurement falls between two standard cable lengths, select the longer cable.

The cables must not be cut to size.



## INSTRUMENT RANGE FOR NON-EVC GASOLINE ENGINES

Volvo Pentas instruments for non-EVC gasoline engines are based on the well proven design concept used by the EVC instruments, but modified to be able to communicate with all gasoline applications produced 2008 or later. With the tachometer gateway (easy link), additional EVC gauges will be available to form a complete dashboard range.

### Instrumentation

The tachometer is available both in black or white, and has monochrome display for engine hours and instant fuel rate.

Included in the tachometer is an easy-link gateway which makes it possible to connect instruments for drive trim, oil pressure, coolant temperature and charging voltage.

The speedometer features a built-in GPS for accurate speed, and has a display for viewing COG and heading.

| Part no  | Description                                                 |
|----------|-------------------------------------------------------------|
| 23040335 | Tachometer 85 mm, 6000 RPM, white dial                      |
| 23040364 | Tachometer 85 mm, 6000 RPM, black dial                      |
| 23045964 | Speedometer 85 mm, 60 knots, white dial                     |
| 23045963 | Speedometer 85 mm, 60 knots, black dial                     |
| 22894884 | Cable between engine and tachometer. (required)             |
| 874759   | 1 m – extension cable, tachometer to additional instruments |
| 3807043  | 3 m – extension cable, tachometer to additional instruments |

### Applicable instrument

In addition to the tachometer and speedometer, the instruments below can also be connected. Please see page 14-15 for more information regarding the instruments. All instruments are available with white or black dial.



Engine oil pressure



Engine coolant temperature



Drive trim position

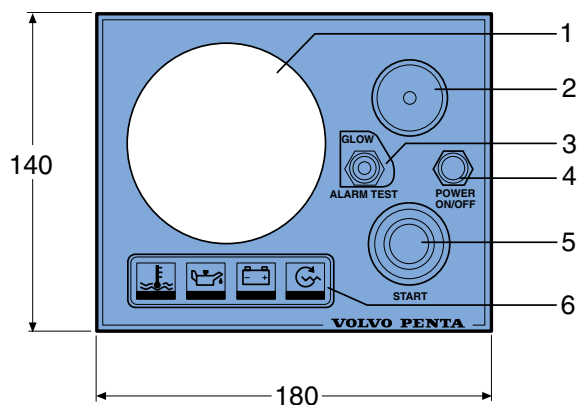


Drive trim position



Battery voltage





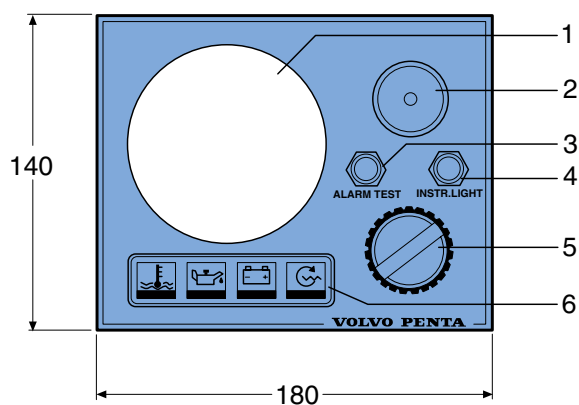
### Instrument panel, standard

For either Main control position or Flybridge installation.

1. Opening for tachometer
2. Alarm buzzer
3. Toggle switch for pre-heater/alarm test
4. Instrument panel lighting ON/OFF switch
5. Start button
6. Warning light panel for:
  - coolant temperature
  - oil pressure
  - battery charging
  - pre-heater

Also order cover plate 858648 or tachometer.

| Part no | Description                   |
|---------|-------------------------------|
| 873594  | Instrument panel, 12 V        |
| 873998  | Tachometer, 3400 rpm, 12/24 V |
| 873992  | Tachometer, 4600 rpm, 12/24 V |



### Instrument panel, standard

Intended for either Main control position or Flybridge installation.

1. Opening for tachometer
2. Alarm buzzer
3. Push-button switch for alarm test
4. Push-button switch for instrument panel lighting
5. Ignition lock
6. Warning light panel for:
  - coolant temperature
  - oil pressure
  - battery charging
  - pre-heater

Also order cover plate 858648 or tachometer.

| Part no | Description                   |
|---------|-------------------------------|
| 3587077 | Instrument panel, 12 V        |
| 3587076 | Instrument panel, 24 V        |
| 873998  | Tachometer, 3400 rpm, 12/24 V |
| 873992  | Tachometer, 4600 rpm, 12/24 V |

### Cover plate

To cover the tachometer opening in the instrument panel should a tachometer not be installed.

| Part no |
|---------|
| 858648  |



### Flipped Flybridge instrument panel, De Luxe

Excluding instruments, lamps and switches. The same design and dimensions as 3587074 but in reversed image.

#### Part no

860184



### Front ring for instruments

| Part no | Instrument diameter | Hole diameter |
|---------|---------------------|---------------|
| 858643  | 52                  | 60            |
| 873517  | 72                  | 90            |



### Alarm panel display

Used when alarm functions are moved from the instrument panel and separately installed. The panel contains symbols for coolant temperature, oil pressure, battery charging and pre-heater.

**Note!** The display panel is merely an empty housing, the required connections, lamps, etc., must be taken from the instrument panel.

Dimensions: 113 x 50 mm

#### Part no

858876



### Toggle switch

#### Part no

814322





#### Tachometer kit, diesel engines

Also includes operating clock. Suitable for both standard and De Luxe instrument panels 873594, 3587077, and instrument installation kits 873582.

##### If required, also order:

Front ring 873517

Mounting bracket 873208

| Part no |
|---------|
| 873992  |

#### Instrument kit with tachometer, petrol engines Includes:

Tachometer part no. 3855604

Coolant temperature gauge part no. 856811

Oil pressure gauge part no. 856812

Voltmeter part no. 873199

| Part no |
|---------|
| 3858636 |



#### Digital Power Trim instrument kit

For Flybridge installation. Equipped with display showing the trim angle of the drive. Control unit 3855650 is suitable to operate the Power Trim.

Note! 3855650 must be ordered separately.

| Part no | Drive     |
|---------|-----------|
| 872498  | DP-E/DP-G |
| 3819708 | SX/DP-S   |



#### Analog Power Trim instrument

For SX/DP-S drive. Shows the drive trim angle. Control unit 3855650 is suitable to operate the Power Trim.

| Part no |
|---------|
| 3851787 |



#### 4" electronic display

For Volvo Penta EDC engines.

| Part no  |
|----------|
| 22949191 |



#### Power Trim control unit

For custom made Power Trim control units:

Push-button switch for by-pass, part no. 828718.

Toggle switch, part no. 814322.

Rubber seal for toggle switch, part no. 828743.

Manoeuvring from controls – see group Control system.

| Part no |
|---------|
| 3855650 |



### Fuel gauge, kit

The fuel gauge shows the quantity of fuel in the fuel tank – an important function for marine safety. The sensor, which is installed in the fuel tank, is equipped with a float that follows the level of fuel in the tank.

**Includes:** instrument, sensor, cables and front ring.

#### Part no

873808



### Fuel gauge, instrument

Instrument only for 873808. Including mounting bracket but excluding front ring. Front ring, see 858643.

#### Part no

863940

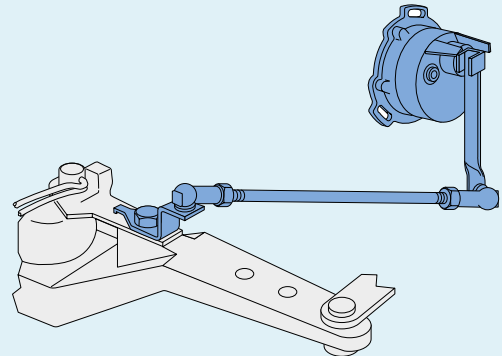


### Fuel gauge, sensor

Sensor only for 873808.

#### Part no

873772



### Rudder indicator, kit for drives, 12 V

The indicator shows the drive angle and is an invaluable aid when manoeuvring and mooring in crowded harbours. Complete kit for connection of sensor to the steering arm of the drive.

#### Part no

1140463

### Rudder indicator, instrument, 24 V

Including mounting bracket but excluding front ring. Front ring, see 858643.

#### Part no

874416

### Rudder indicator, kit

The indicator shows the angle of the rudder and is an invaluable aid when manoeuvring and mooring in crowded harbours.

**Includes:** Instrument, sensor, cables and front ring.

For DPH drive please also order 3594718.

#### Part no

1140465

### Rudder indicator, instrument, for 12 V

Instrument only for 1140465. Including mounting bracket but excluding front ring. Front ring, see 858643.

#### Part no

863944

### Rudder indicator, sensor

Sensor only for 1140465.

#### Part no

837772

# STEERING

Volvo Penta offers reliable mechanical and hydraulic systems. Both systems have zero feed back function so the steering is not affected by forces such as waves etc. All Volvo Penta steering wheels are specially adapted to marine conditions, which means that they are anti-magnetic and made of corrosion resistant materials.

## VOLVO PENTA STEERING SYSTEMS

With the tilt mechanism the boat driver can choose the most comfortable steering wheel angle. Just one example of superb steering control from the wide range of electronic, hydraulic and mechanical steering systems offered by Volvo Penta. For more information, please contact your local Volvo Penta dealer or visit [www.volvopenta.com](http://www.volvopenta.com)



### Steering wheels

- Designed to match Volvo Penta controls and displays
- Non-magnetic stainless steel
- High-quality materials
- Fits most types of steering system
- Steering wheel hub included
- Conforms with the EN 28848 standard of the Recreational Craft Directive (94/25/EC) and with the ABYC P22 Safety standards for Steering Wheels.\*

| Model           | Classic Mahogany                                                                    | Leather                                                                             | Stainless                                                                            | Sport Mahogany                                                                        |
|-----------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                 |  |  |  |  |
| Part no         | 21729995                                                                            | 21649809                                                                            | 21673214                                                                             | 3843317                                                                               |
| Grip            | Mahogany                                                                            | Leather                                                                             | 316 Stainless steel                                                                  | Mahogany                                                                              |
| Spokes          | 316 Stainless steel                                                                 | 304 Stainless steel                                                                 | 316 Stainless steel                                                                  | Anodized aluminium                                                                    |
| Recommended use | Indoor/Cabin                                                                        | Indoor/Cabin                                                                        | Outdoor                                                                              | Indoor/Cabin                                                                          |
| Diameter        | 350 mm                                                                              | 350 mm                                                                              | 370 mm                                                                               | 340 mm                                                                                |
| Mounting        | Std 3/4" tapered shaft                                                              | Std 3/4" tapered shaft                                                              | Std 3/4" tapered shaft                                                               | Std 3/4" tapered shaft                                                                |

\* Does not apply to the Sport Mahogany steering wheel.

## Hydraulic Steering

The strength required to steer a boat equipped with a hydraulic steering system is inversely proportional to the number of turns of the wheel lock-to-lock. The wheel turns are determined by the ratio between the cylinder volume, the pump displacement and the free movement of the steering device, e.g. the rudder. A large cylinder volume and small pump displacement results in a greater number of wheel turns and a small cylinder volume and a large pump displacement results in less number of wheel turns.

Fewer wheel turns means quicker steering response but more effort needed and more wheel turns means slower steering response but less effort. The Hydraulic Steering Helm pumps are available in three different displacement sizes, i.e. 28 cc, 33 cc and 39 cc. Each of them are available for three different ways of mounting, i.e. front mount, rear mount and tilt mount. Three steering cylinders are available, all for rudder installations, and comprising volume 116 cc, 168 cc and 215 cc respectively.

## Adjustable steering wheel

The tilt mechanism allows for five locking positions in the range of 48 degrees (+/- 24 degrees) tilt angle of the Steering Wheel. With the tilt steering mechanism, the boat driver can choose the best personal steering wheel angle.



## Hydraulic Steering

| Part no  | Displ./rev | Max. wheel dia. | No. of pistons | Pump                  | Relief valve setting | Weight, kg |
|----------|------------|-----------------|----------------|-----------------------|----------------------|------------|
| 22275070 | 28 cc      | 711 mm          | 5              | Front mount helm pump | 70 bar               | 5 kg       |
| 22275071 | 33 cc      | 711 mm          | 7              | Front mount helm pump | 70 bar               | 5 kg       |
| 22275072 | 39 cc      | 711 mm          | 7              | Front mount helm pump | 70 bar               | 5 kg       |
| 22275073 | 28 cc      | 711 mm          | 5              | Rear mount helm pump  | 70 bar               | 5 kg       |
| 22275074 | 33 cc      | 711 mm          | 7              | Rear mount helm pump  | 70 bar               | 5 kg       |
| 22275075 | 39 cc      | 711 mm          | 7              | Rear mount helm pump  | 70 bar               | 5 kg       |
| 22275076 | 28 cc      | 508 mm          | 5              | Tilt mount helm pump  | 70 bar               | 5 kg       |
| 22275077 | 33 cc      | 508 mm          | 7              | Tilt mount helm pump  | 70 bar               | 5 kg       |
| 22275078 | 39 cc      | 508 mm          | 7              | Tilt mount helm pump  | 70 bar               | 5 kg       |
| 22299003 |            |                 |                | Tilt mechanism        |                      |            |

a) Requires the tilt mechanism, which has to be ordered separately.

## Steering cylinders for hydraulic steering

| Part no | 3/8" (9,5 mm) fittings          | Output force | Stroke | Torque  | Volume, cm <sup>3</sup> |
|---------|---------------------------------|--------------|--------|---------|-------------------------|
| 3809981 | For high pressure flexible hose | 455 kg       | 178 mm | 53 kgm  | 116                     |
| 3809982 | For high pressure flexible hose | 682 kg       | 178 mm | 87 kgm  | 168                     |
| 3809983 | For high pressure flexible hose | 682 kg       | 228 mm | 111 kgm | 215                     |

## Connecting kit, etc.

| Part no | Description                                      |
|---------|--------------------------------------------------|
| 1140584 | Hydraulic high pressure flexible nylon hose 3/8" |
| 192618  | Air bleed hose                                   |
| 3809446 | Hydraulic oil, 1 litre                           |



## Tie bar

For double engine installations. Conforms with the EN 28848 standard of the Recreational Craft Directive (94/25/EC). Conforms with the ABYC P22 Safety standards for Steering Wheels

| Part no | CC between engines | Fits drive |
|---------|--------------------|------------|
| 3841706 | 660-1040 mm        | SX/DP-S    |
| 3841707 | 840-1220 mm        | SX/DP-S    |
| 3594639 | 1000-1240 mm       | DPH/DPR    |



### Mechanical Steering

The mechanical steering helms are available in four models, all using a Planetary Gear Design with three satellite gears that rotate on their axis and at the same time rotate around the central helm axis. This design provides an optimum reduction ratio with a minimum of physical effort, increased efficiency and less torque feedback compared to cheaper single pinion gear helms.

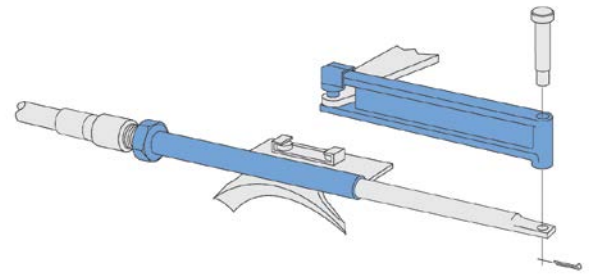
#### No feedback helms

A special patented device allows the helm shaft to lock until turned by the driver, maintaining the boat direction and neutralizing the feedback loads on the steering cable. The mechanism is engaged when the driver applies pressure on the wheel to change direction of the boat.

| Image | Part no  | Description                                     |
|-------|----------|-------------------------------------------------|
| 2     | 3818019  | Rear mount planetary helm gear                  |
| 2     | 21580930 | Rear mount planetary helm gear, No-Feedback     |
| 1     | 3818025  | Planetary helm gear for tilt mount              |
| 1     | 3818027  | Planetary helm gear, No-Feedback for tilt mount |
| 4     | 21580825 | Bezel kit - for 90° mounting, black             |
|       | 3818096  | Bezel kit - for 70° mounting, black             |
|       | 3883509  | Bezel kit - for 90° mounting, white             |
| 3     | 3883508  | Bezel kit - for 70° mounting, white             |
| 1     | 22299003 | Tilt mechanism                                  |

a) Requires a bezel kit for the installation. Has to be ordered separately.

b) Requires the tilt mechanism, which has to be ordered separately.

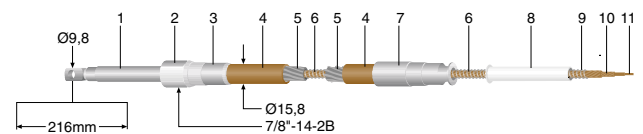


### Steering cable attachment

This steering cable attachment is used to attach the steering cable on DP-E drives without power steering.

#### Part no

872388



### Steering cable

Volvo Penta steering cables are high quality products designed to provide optimum efficient performance, i.e., a minimum of physical effort with a minimum of play.

1. Telescopic sleeve
2. Connection nut
3. End sleeve
4. Protective outer sheathing in brown HD polyethylene
5. Hardened steel wire armature
6. Inner cable
7. End sleeve
8. Protective sleeve in white HD polyethylene
9. Spring steel covering
10. 36 strand steel wire – laid to left and right
11. Core wire

| Part no | Cable length, m |
|---------|-----------------|
| 3848176 | 2.00            |
| 3848177 | 2.25            |
| 3848178 | 2.50            |
| 3848179 | 2.75            |
| 3848180 | 3.00            |
| 3848181 | 3.25            |
| 3848182 | 3.50            |
| 3848183 | 3.75            |
| 3848184 | 4.00            |
| 3848185 | 4.25            |
| 3848252 | 4.50            |
| 3848253 | 4.75            |
| 3848254 | 5.00            |
| 3848255 | 5.25            |
| 3848347 | 5.50            |

| Part no | Cable length, m |
|---------|-----------------|
| 3848348 | 5.75            |
| 3848349 | 6.00            |
| 3848350 | 6.25            |
| 3848351 | 6.50            |
| 3848352 | 6.75            |
| 3848353 | 7.00            |
| 3840265 | 7.25            |
| 3848355 | 7.50            |
| 3840267 | 7.75            |
| 3848357 | 8.00            |
| 3848358 | 8.25            |
| 3848359 | 8.50            |
| 3848360 | 8.75            |
| 3848517 | 9.00            |

# BOAT TRIM SYSTEM

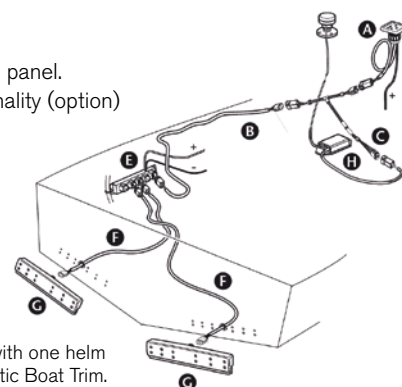


The Boat Trim System (BTS) with its patented interceptor technology gives you perfect control over pitch and heel with rapid response, quicker onto plane, lower fuel consumption and a more comfortable ride. Even better, add the Automatic Boat Trim option which takes over the task of keeping the boat correctly trimmed - automatically!

This trim system is a perfect match for almost all planing boats in the range of 17 to 40+ feet. Outboard, sterndrive or inboard does not matter, it's compact design make for an easy installation. The kits come with a comprehensive installation guide which mean upgrading from conventional trim tabs is a small job.

## You get

- Improved fuel efficiency.
- Greater lift and less drag compared with conventional trim tabs.
- Quickly onto the plane.
- Intuitive, user-friendly control panel.
- Automatic Boat Trim functionality (option)



Single installation with one helm station and Automatic Boat Trim.

| BTS 300 mm kit, Part no 21914554 |              |
|----------------------------------|--------------|
| 2 Interceptor units, 300         | 2 x 22656800 |
| 1 Control panel                  | 1 x 21809318 |
| 1 Control unit                   | 1 x 21546221 |
| 2 Cables, 2,5 m                  | 2 x 3817171  |
| 1 Cable, 5 m                     | 1 x 874789   |

| BTS 450 mm kit, Part no 21914555 |              |
|----------------------------------|--------------|
| 2 Interceptor units, 450         | 2 x 22656801 |
| 1 Control panel                  | 1 x 21809318 |
| 1 Control unit                   | 1 x 21546221 |
| 2 Cables, 4 m                    | 2 x 3817172  |
| 1 Cable, 9 m                     | 1 x 889551   |

| Automatic Boat Trim kit, Part No. 21561103 *** |             |
|------------------------------------------------|-------------|
| 1 GPS receiver                                 | 1 x 3847459 |
| 1 Attitude control unit                        |             |

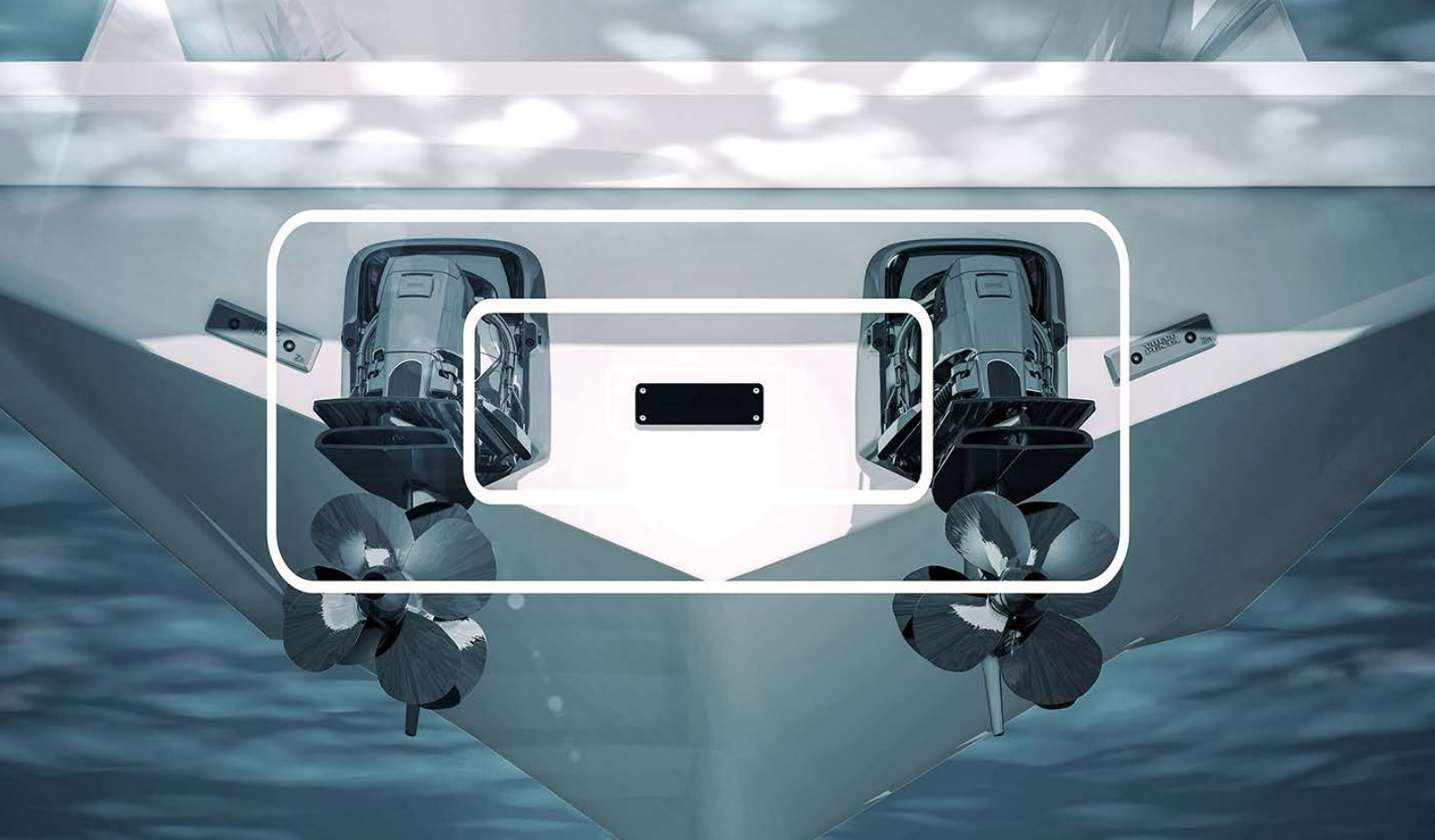
## Ordering and component guide

| Description                 |                                        | Part no  | 1 helm station |       |                 |       |       | 2 helm stations* |       |                 |       |       |
|-----------------------------|----------------------------------------|----------|----------------|-------|-----------------|-------|-------|------------------|-------|-----------------|-------|-------|
|                             |                                        |          | 2x300          | 2x450 | 2x300+<br>2x450 | 4x300 | 4x450 | 2x300            | 2x450 | 2x300+<br>2x450 | 4x300 | 4x450 |
| <b>Mandatory components</b> |                                        |          |                |       |                 |       |       |                  |       |                 |       |       |
| <b>A</b>                    | Control panel                          | 21809318 | 1              | 1     | 1               | 1     | 1     | 2                | 2     | 2               | 2     | 2     |
| <b>B</b>                    | 6-pole cable (select length)           |          | 1              | 1     | 1               | 1     | 1     | 1                | 1     | 1               | 1     | 1     |
|                             | 5 m                                    | 874789   |                |       |                 |       |       |                  |       |                 |       |       |
|                             | 7 m                                    | 889550   |                |       |                 |       |       |                  |       |                 |       |       |
|                             | 9 m                                    | 889551   |                |       |                 |       |       |                  |       |                 |       |       |
|                             | 11 m                                   | 889552   |                |       |                 |       |       |                  |       |                 |       |       |
|                             | 13 m                                   | 888013   |                |       |                 |       |       |                  |       |                 |       |       |
| <b>C</b>                    | 6-pole Y-cable                         | 3588972  |                |       |                 |       |       | 1                | 1     | 1               | 1     | 1     |
| <b>D</b>                    | 6-pole extension cable (select length) |          |                |       |                 |       |       | 1                | 1     | 1               | 1     | 1     |
|                             | 1,5 m                                  | 3889410  |                |       |                 |       |       |                  |       |                 |       |       |
|                             | 3 m                                    | 3842733  |                |       |                 |       |       |                  |       |                 |       |       |
|                             | 5 m                                    | 3842734  |                |       |                 |       |       |                  |       |                 |       |       |
|                             | 7 m                                    | 3842735  |                |       |                 |       |       |                  |       |                 |       |       |
|                             | 9 m                                    | 3842736  |                |       |                 |       |       |                  |       |                 |       |       |
|                             | 11 m                                   | 3842737  |                |       |                 |       |       |                  |       |                 |       |       |
| <b>E</b>                    | Control unit                           | 21546221 | 1              | 1     | 1               | 1     | 1     | 1                | 1     | 1               | 1     | 1     |
| <b>F</b>                    | 4-pole cable (select length)           |          | 2              | 2     | 4               | 4     | 4     | 2                | 2     | 4               | 4     | 4     |
|                             | 2.5 m                                  | 3817171  |                |       |                 |       |       |                  |       |                 |       |       |
|                             | 4.0 m                                  | 3817172  |                |       |                 |       |       |                  |       |                 |       |       |
| <b>G</b>                    | Interceptor unit 300 mm                | 22656800 | 2              |       | 2               | 4     |       | 2                |       | 2               | 4     |       |
|                             | Interceptor unit 450 mm                | 22656801 |                | 2     | 2               |       | 4     |                  | 2     | 2               |       | 4     |
| <b>Optional component</b>   |                                        |          |                |       |                 |       |       |                  |       |                 |       |       |
| <b>H</b>                    | Automatic Boat Trim ***                | 21561103 | 1              | 1     | 1               | 1     | 1     | 1                | 1     | 1               | 1     | 1     |
|                             | Resettable breaker 8A **               | 966689   | 2              | 2     | 2               | 2     | 2     | 2                | 2     | 2               | 2     | 2     |

\* **Note!** For each extra helm station (max 4 helm stations possible), add one control panel (A), one 6-pole Y-cable (C) and one 6-pole extension cable (D).

\*\* **Note!** If the boat does not have a separate fuse box accessible, Volvo Penta resettable 8A breaker may be used. 966689 is not ignition proof and must therefore not be used in gasoline engine rooms.

\*\*\* **Note!** For the installation one 6-pole Y-cable (C) is always needed. Depending on installation type, there might be a need for a 6-pole extension cable (D). The 6-pole cable on the Attitude control unit (H) is approx. 25 cm.



# ACTIVE CORROSION PROTECTION

Volvo Penta Active Corrosion Protection (ACP) provides easier ownership and enhanced corrosion protection for your drive, compared to using conventional sacrificial anodes. The system

continuously measures the electrical potential of the drive and, if needed, uses impressed currents to protect the drive.

## ACP for Aquamatic Sterndrives

The system is available both for single and twin installations and gives ideal corrosion protection – in both brackish and salt water. The system replaces the need for sacrificial anodes on the drive.

### Easy to use

The system is fully automated and EVC integration means that the protection status is continuously monitored and presented in the engine displays at the helm. No extra displays are needed and no need to worry about sacrificial anodes; the solution provides additional peace of mind.

### Requirements

- Drives: DPH, DPS, SX, OX, FWD or DPR
- Electronic Vessel Control (EVC) generation C2 and later
- EVC displays: 2,5", 4", 7" or Glass Cockpit
- Fiberglass hull

### A complete package

The Active Corrosion Protection system consists of a control unit, a transom unit and back-up sacrificial zinc anodes (one per drive).

It is delivered with all components needed including installation instructions and operator's manual. Cables can be routed upwards along the transom and enter through hull above the water line.



| Part no  | Application         |
|----------|---------------------|
| 23025862 | Single installation |
| 23254031 | Twin installation   |

## HOW DOES IT WORK?

The ACP system is using the impressed current cathodic protection (ICCP) principle to protect the drive. It constantly monitors the electrical potential of the drive and carefully adjusts the current output via the transom unit to keep the drive within safe potential levels. Compared to conventional sacrificial anodes, the main benefits of an active system are better control of the level of protection, visibility of the protection status at the helm and, of course, that no anodes are consumed while the system is active.

Although the system usually operates at much lower effect levels, it has the capability to output a current of up to 1 A to protect

the drive and it is therefore recommended to have shore power connected while berthed. When shore power is not available, the system will switch and the auxiliary battery will be used. If the battery load level drops below 75%, the system will enter a monitor only mode where the protection status can be viewed at the helm but protection will be provided by the back-up sacrificial anodes. Below 50% battery load level, the system will be inactive and again rely on the back-up anodes.

### ACP for Volvo Penta IPS

The system is available for all configurations and gives ideal corrosion protection for the drive and propeller – in both brackish and salt water. The system replaces the standard transom mounted sacrificial anodes.

#### Easy to use

The system is fully automated and EVC integration means that the protection status is continuously monitored and presented in the engine displays at the helm. No extra displays are needed and no need to worry about sacrificial anodes; the solution provides additional peace of mind.

#### Requirements

- Drive: Volvo Penta IPS
- Electronic Vessel Control (EVC) generation C2 and later
- EVC displays: 2,5", 4", 7" or Glass Cockpit
- Fiberglass hull

#### A complete package

The ACP system consists of a control unit, a transom unit with active and back-up sacrificial zinc anodes.

It is delivered with all components needed including installation instructions and operator's manual. Note: extra bonding cable needed for Triple and Quad installations.



| Part no | IPS 1    | IPS 15   | IPS 2    | IPS 3    |
|---------|----------|----------|----------|----------|
| Twin    | 22037078 | 22037078 | 22037078 | 22037078 |
| Triple  | 22037078 | 22037078 | 22564286 | 22564286 |
| Quad    | 22037078 | —        | 22564286 | 22564286 |

| Part no  | Description                                                                                          |
|----------|------------------------------------------------------------------------------------------------------|
| 21200402 | Bonding cable, between IPS-units. Order one for Triple installations and two for Quad installations. |

### ACP-S for sterndrives and outboards

This is a stand alone system designed for sterndrives and outboards in general. It has a lower capacity than the EVC integrated systems and complements the standard sacrificial anodes rather than replacing those. It is not recommended for DPH drives or larger outboards.

The ACPS is designed to protect one sterndrive or outboard, and an additional kit is required for installation on a twin engine boat.

#### Requirements

- Fiberglass hulls used in salt water.
- 12 V Electrical system



The system comes complete with wiring and detailed installation instructions. Standard tools, a drill and suitable underwater sealant are all that is required for most installations.

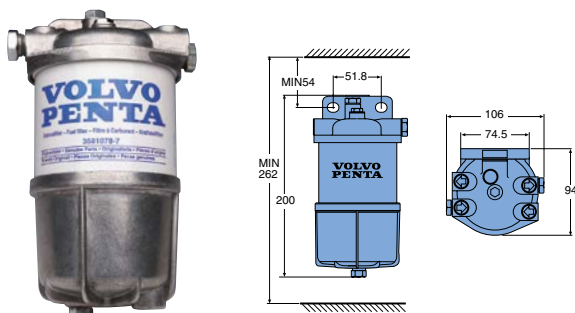
| Part no | Drive                               |
|---------|-------------------------------------|
| 3587839 | Sterndrives (not DPH) and outboards |
| 3887090 | SX-A, DPS-A                         |

# ENGINE ACCESSORIES

Volvo Penta engines are recognized all over the world as technically sophisticated and reliable marine engines.

Every accessory is a part in a system. They are all designed and developed to work together. All accessories fulfill our tough demands of durability and reliability. They are tailor made designed for easy mounting to engine and drive, eliminating complicated adaptations and tested as carefully as the engine.





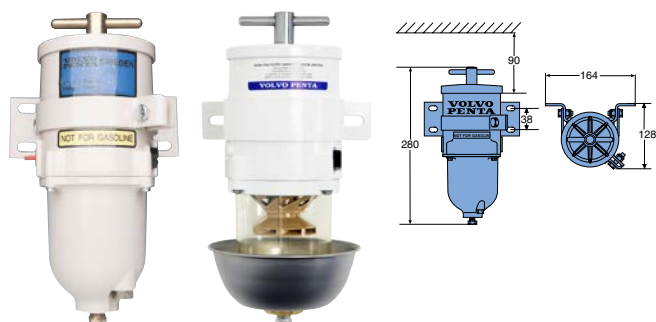
### Fuel filter/water separator, diesel engines

Fuel filter/water separator for small diesel engines. The filter is intended for installation between the fuel tank and the engine. The filter is supplied without connection parts for the fuel lines (see "Fuel line fittings").

| Part no |
|---------|
| 877766  |

### Filter element for 877767 and 877766

| Part no |
|---------|
| 3581078 |



### Fuel filter/water separator, diesel engines

The filter is intended for installation between the fuel tank and engine. Three progressive stages – separation, coagulation and filtration ensure that fuel arrives at the engine free from contamination. The filter is prepared for connection of a water alarm.

The filter is supplied without connectors or union nuts for fuel line connection (see "Fuel line fittings").

Weight: 2 kg

Flow, max.: 227 l/hour

Degree of separation: 10 micron

Initial pressure drop at max. fuel flow, 10 micron filter element: 4.1 kPa

Recommended filter: Replaceable filter element 861014, 3581760.

| Part no   | Discription      |
|-----------|------------------|
| 877763*   | white metal bowl |
| 22677639* | see through bowl |

\* Complies with applicable parts of RCD 2013/53/EU Harmonized standard EN ISO 10088. Complies with Classification Society requirements for fuel systems for propulsion engines.

### Filter element for 877762, 877763, 877764 and 22677639

| Part no | Micron |
|---------|--------|
| 861014  | 10     |
| 3581760 | 30     |
| 1147147 | 2      |

## FUEL SUPPLY

A reliable supply of clean fuel to the engine. Nothing is more important for reliability and safety at sea.

### Water in Fuel Alarm

To get an early warning for water in the fuel tank the best position for a water sensor is in the Fuel Filter/Water separator between the tank and the engine. The sensor will detect water in the bowl of the water separator and give the early warning wanted.



### Water in Fuel Alarm (D3, D4 and D6)

For D3-D6 engines a new sensor is developed that e.g. fits fuel filter / water separator 877763, 877768 & 877764. The sensor is connected to the EVC system and will give you the alarm in your EVC instrumentation. It also works in parallel with an existing engine-mounted 'water in fuel' alarm.

The kit fits D3/D4/D6 engines produced 2011 and later (which have paired engine cable harness). For 12 V or 24 V systems.

| Part no  |
|----------|
| 21641493 |

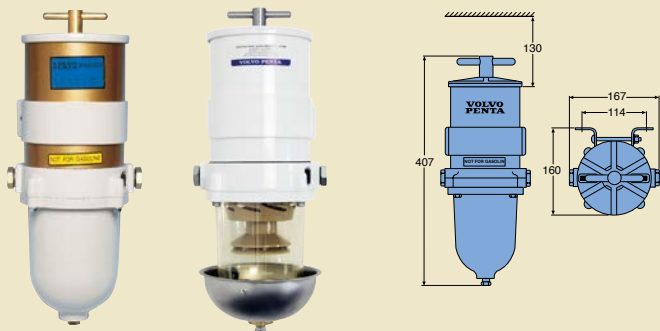


### Water in Fuel Alarm (Stand-alone)

When detecting water the system will warn with both a warning lamp and audio signal (buzzer).

Suitable for use in conjunction with fuel filters/water separators 877762, 877769, 877768, 877770, 877763, 877771, 889280. For 12 V or 24 V systems.

| Part no |
|---------|
| 1140724 |



### Fuel filter/water separator, diesel engines

For heavier diesel engines used in demanding environments with inconsistent fuel quality. Three progressive stages – separation, coagulation and filtration ensure that fuel arrives at the engine free from contamination.

All metal filter. Filter is adapted for connecting to water alarm. Complies with US Coast Guard standards for 2.5 minutes fire resistance in open flames. The filter is supplied with a 10 micron filter element, but without connectors or union nuts for fuel line connection (see "Fuel line fittings").

Weight: 3 kg

Flow, max.: 341 l/hour

Degree of separation: 10 micron

Initial pressure drop at max. fuel flow, 10 micron filter element: 2.3 kPa

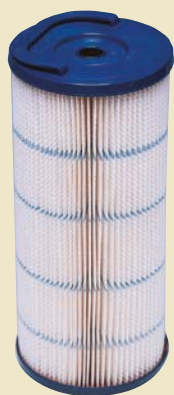
Recommended filter: Replaceable filter element 3838852 and 889419

| Part no   | Description       |
|-----------|-------------------|
| 877768*   | white metal bowls |
| 22677640* | see through bowls |

\* Complies with applicable parts of RCD 2013/53/EU Harmonized standard EN ISO 10088. Complies with Classification Society requirements for fuel systems for propulsion engines.

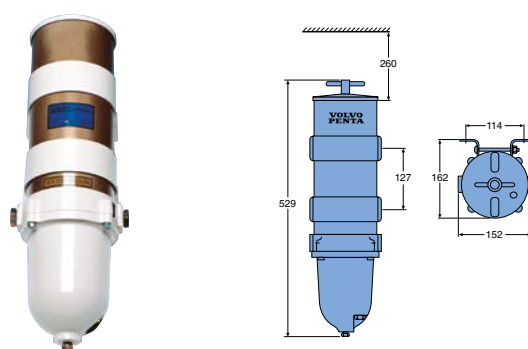
### Filter element for 877769, 877768 and 22677640

| Part no | Micron |
|---------|--------|
| 3838852 | 10     |
| 889419  | 30     |
| 889421  | 2      |



### Filter element for 877771, 889280 and 889281

| Part no | Micron |
|---------|--------|
| 3838854 | 10     |
| 889422  | 30     |
| 889425  | 2      |



### Fuel filter/water separator, diesel engines

For heavier diesel engines used in demanding environments with inconsistent fuel quality. The filter is intended for installation between the fuel tank and engine. Three-stage filtration – centrifugal separation, coagulation and filtration. Water and impurities are collected in the bowl beneath, from which they can be drained off by means of a drain valve.

All metal construction. Complies with US Coast Guard requirements for fire resistance on exposure to naked flame for 2.5 minutes. Filter is adapted for connecting to water alarm. Filter is supplied with a 10 micron filter element, but without connectors for fuel line connection (see "Fuel line fittings").

Weight: 5 kg

Flow, max: 681 l/hour

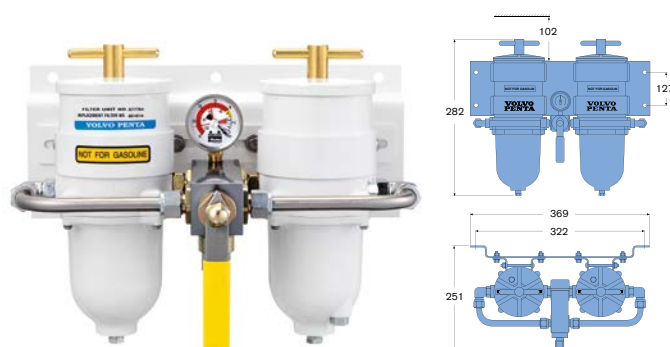
Degree of separation: 10 micron

Initial pressure drop at max. fuel flow, 10 micron filter element: 3.4 kPa

Recommended filter: Replaceable filter element, 3838854 and 889422

| Part no |
|---------|
| 877771* |

\* Complies with applicable parts of RCD 2013/53/EU Harmonized standard EN ISO 10088. Complies with Classification Society requirements for fuel systems for propulsion engines.



### Double fuel filter/water separator, diesel engines

Weight: 7.7 kg

Flow, max.: 454 l/hour

Degree of separation: 10 micron

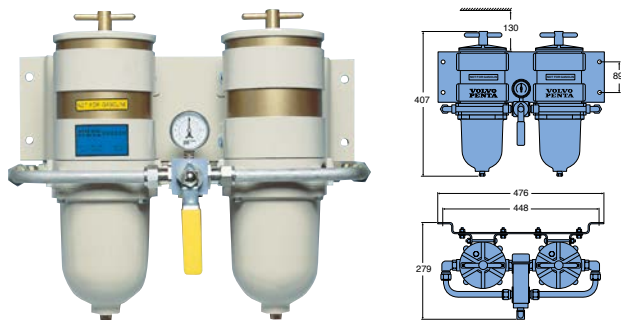
Initial pressure drop at max. fuel flow, 10 micron filter element: 4.83 kPa

Recommended filter: Replaceable filter element 861014

Fuel port connection 3/4"-16 UNF

| Part no |
|---------|
| 877764* |

\* Complies with applicable parts of RCD 2013/53/EU Harmonized standard EN ISO 10088. Complies with Classification Society requirements for fuel systems for propulsion engines.



### Double fuel filter/water separator, diesel engines

For heavier diesel engines used in demanding environments with inconsistent fuel quality.

All metal double filter with pressure gauge showing the pressure drop. Connections can be made between left hand, right hand or both filters, thus making it possible to change filter elements with the engine running. The filter thereby complies with Classification Association standards for propulsion engine fuel systems as well as the US Coast Guard standards for 2.5 minutes fire resistance in open flames.

Filter is adapted for connecting to water alarm. The filter is supplied with a 10 micron filter element, but without connectors or union nuts for fuel line connection (see "Fuel line fittings").

Weight: 10.4 kg

Flow, max.: 682 l/hour

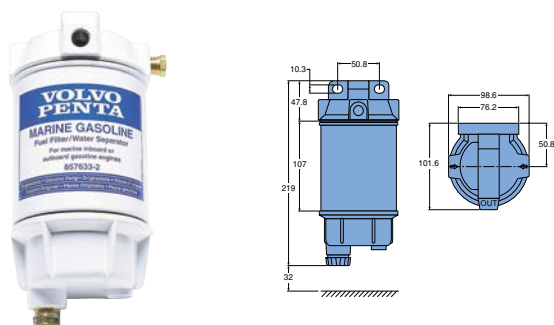
Degree of separation: 10 micron

Initial pressure drop at max. fuel flow, 10 micron filter element: 12.4 kPa

Recommended filter: Replaceable filter element 3838852 and 889419

| Part no |
|---------|
| 877770* |

\* Complies with applicable parts of RCD 2013/53/EU Harmonized standard EN ISO 10088. Complies with Classification Society requirements for fuel systems for propulsion engines.



### Extra fuel filter, petrol engines

The filter element is of the disposable spin-on type. The filter is supplied with a 10 micron filter element, but without connectors or union nuts for fuel line connection (see "Fuel line fittings").

Weight: 0.9 kg

Flow, max: 227 l/hour

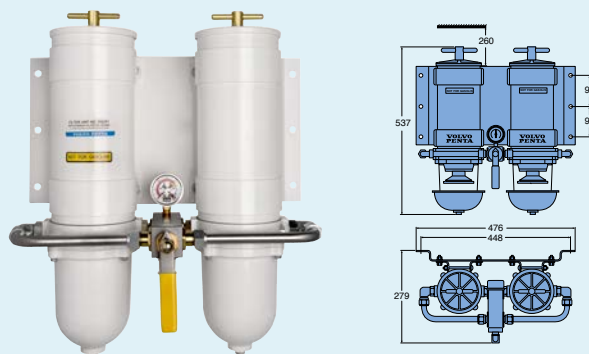
Degree of separation: 10 micron

Recommended filter: Replaceable filter element, 857633

The product fulfils the requirements of Recreational Craft Directive 94/25/EC.

| Part no |
|---------|
| 877765* |

\* Complies with applicable parts of RCD 2013/53/EU Harmonized standard EN ISO 10088.



### Fuel filter/water separator - twin diesel engines

For heavier diesel engines used in demanding environments with inconsistent fuel quality. Twin filter with gauge that indicates pressure drop. Transparent bowls fitted with heat shields. Can be connected to right, left or both filters to allow filter replacement while running.

Complies with classification body requirements for fuel systems for propulsion engines. Also complies with US Coast Guard requirements for fire resistance on exposure to naked flame for 2.5 minutes. The filter is supplied with a 10 micron filter element, but without connectors for fuel line connection (see "Fuel line fittings").

Weight: 11.3 kg (Metal bowls: 13.6 kg)

Flow, max: 1363 l/hour

Degree of separation: 10 micron

Initial pressure drop at max. fuel flow,

10 micron filter element: 24.1 kPa (Metal bowls: 25.5 kPa)

Recommended filter: Replaceable filter element,

3838854 and 889422

| Part no  | Description       |
|----------|-------------------|
| 889280*  | see through bowls |
| 889281** | white metal bowls |

\* Complies with applicable parts of RCD 2013/53/EU Harmonized standard EN ISO 10088

\*\* Complies with applicable parts of RCD 2013/53/EU Harmonized standard EN ISO 10088. Complies with Classification Society requirements for fuel systems for propulsion engines.



### Filter element for 877765

Spin-on disposable filter, 10 micron.

| Part no |
|---------|
| 857633  |



### Fuel Hose

High quality fuel hose for commonly available fuels such as diesel, biodiesel, gasoline and ethanol based fuels. Inner tube of FPM (Fluorinated Propylene Monomer), middle tube of ECO and a CSM cover. This gives it the capability to handle e.g. biodiesel, very low permeability and the ability to withstand high temperatures (-40°C to +120°C).

Fire resistant according to ISO7840 and ISO15540/15541. Type approved by D.N.V. and M.E.D certified (Wheelmarked).

Supplied per metre.

| Part no | Int. Ø, mm | Ext. Ø, mm |
|---------|------------|------------|
| 3830315 | 9,5        | 16,5       |



### Fuel hose

Fuel hose, fire resistant in accordance with ISO7840-A1 and J1527 USCG type 2. Internal diameter 3/8". Supplied per metre. Recommended stainless steel hose clips, part no. 961664.

The product fulfils the requirements of Recreational Craft Directive 94/25/EC.

| Part no | Int. Ø                  |
|---------|-------------------------|
| 861057  | Fuel hose 3/8" (9,5 mm) |



### Fuel level sensor

The fuel level sensor provides an all-in-one solution for the fuel tank. Level sensor, fuel in- and outlet ports for main engine, in- and outlet ports for diesel heater, de-aeration and fuel pickup / return pipe all integrated in one package. The bayonet fitting means it is easy to install together with our service hatch. NMEA connection for fuel level, 240 - 30 ohm (empty to full). M18 connections for fuel outlet port and M16 for fuel return port.

| Part no  | Length* |
|----------|---------|
| 22682855 | 472 mm  |
| 22682856 | 527 mm  |
| 22682858 | 627 mm  |
| 22682859 | 676 mm  |

\* Length from top of inside tank to bottom of level sensor

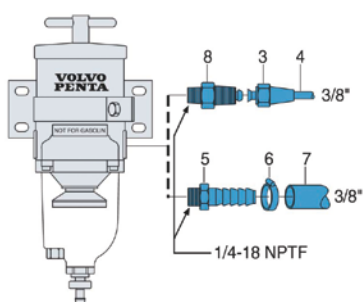


### Service hatch

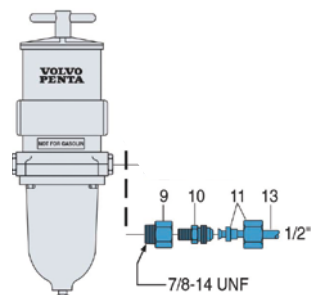
A service hatch designed with a laser cut bayonet hole for easy installation of the level sensor. Made of electro polished stainless steel with a 38 mm fuel fill connection. Delivered as a kit including screws, gaskets, flange and installation instruction. Volvo sealant 1161099 needs to be ordered separately.

| Part no  |
|----------|
| 22548277 |

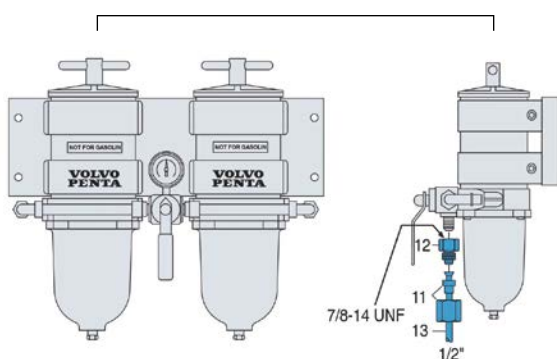
Part no: 877763



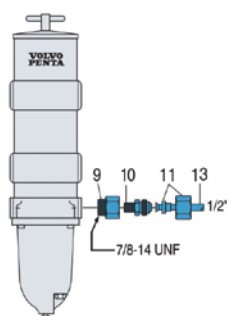
Part no: 877768, 877769



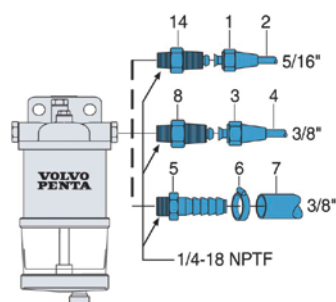
Part no: 877770, 889280, 889281



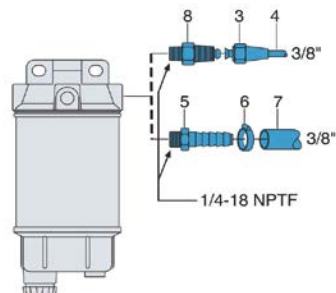
Part no: 877771



Part no: 877766



Part no: 877765



## Fuel line fittings

| Part no | No | Description                                  |
|---------|----|----------------------------------------------|
| 954322  | 1  | Union nut 5/16"                              |
| 954305  | 2  | Copper pipe 5/16"                            |
| 954323  | 3  | Union nut 3/8"                               |
| 1140062 | 4  | Copper pipe 3/8", 25 m                       |
| 3825000 | 5  | Hose connector                               |
| 961664  | 6  | Hose clamp                                   |
| 861057  | 7  | Fuel hose 3/8"                               |
| 954337  | 8  | Connector 3/8"                               |
| 3825034 | 9  | Adapter fitting                              |
| 3825512 | 10 | Connector 1/2"                               |
| 3825513 | 11 | Union nut 1/2"                               |
| 3825511 | 12 | Adapter fitting                              |
| -       | 13 | Copper pipe 1/2", not stocked by Volvo Penta |
| 190962  | 14 | Connector 5/16"                              |

## EXHAUST SYSTEM

Complete systems with silencers, hoses, elbows and everything else needed. Perfectly in tune with the respective engine series.

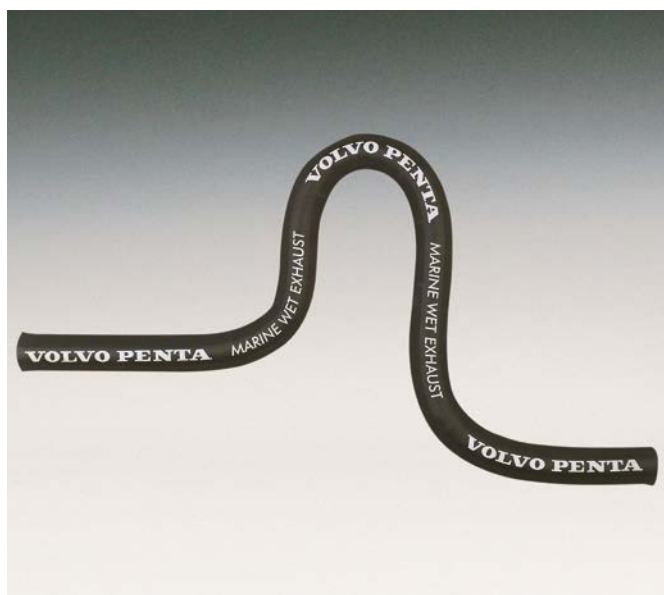
### The water-cooled system has a number of advantages:

- Low exhaust pipe temperature allows the use of rubber hoses.
- Extremely effective silencing of exhaust noises.
- Compact size and low weight.

### Rubber exhaust hoses

An flexible exhaust hose for marine wet exhaust systems that conforms with ISO13363 type 2 (+580°C) and SAE J 2006 type R2. It's minimized bend radius means easy and quick installation. Reinforced by synthetic textile layers and embedded steel wire helix it has plain and smooth inner surface for minimum exhaust back pressure. Smooth outer surface. Sold per meter.

| Part no | Min. bend radius mm | Rec. stainless steel hose clips | Int. Ø, mm | Ext. Ø, mm |
|---------|---------------------|---------------------------------|------------|------------|
| 1140664 | 200                 | 961669                          | 32         | 41.5       |
| 1140665 | 285                 | 961671                          | 45         | 55         |
| 1140670 | 305                 | 961672                          | 50         | 61.5       |
| 1140666 | 310                 | 961673                          | 57         | 69         |
| 1140671 | 355                 | 961674                          | 63         | 75         |
| 888212  | 455                 | 22274886                        | 76         | 88         |
| 1140667 | 535                 | 22274887                        | 89         | 101        |
| 1140668 | 610                 | 22274888                        | 102        | 115        |
| 1140669 | 760                 | 3817828                         | 127        | 140        |
| 1140672 | 950                 | 3595350                         | 152        | 165        |
| 1140673 | 1200                | 21609813                        | 205        | 217        |



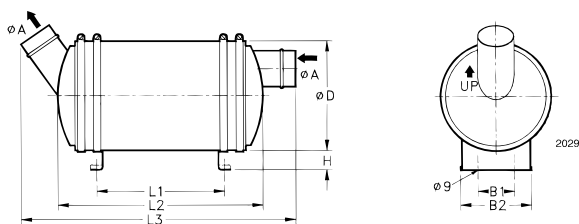
### Elbow coupling, wet exhaust systems

The elbow coupling provides an improved installation and reduces the risk of a kink forming in the exhaust hose.

Material: Stainless steel with pre-formed collar for hose connection.

| Part no | Angle, degrees | Ext. Ø, mm |
|---------|----------------|------------|
| 828256  | 45             | 45         |
| 828255  | 45             | 57         |
| 843287  | 45             | 89         |
| 872017  | 45             | 100        |
| 872024  | 90             | 100        |





### Silencer, wet exhaust systems

The silencer effectively silences engine exhaust noise with a minimum of back pressure. The silencer also functions as an effective water-lock. Its large capacity for cooling water eliminates the risk of water siphoning back into the engine when stopped. Adjustable mounting brackets make the silencer easy to install.

Material: Reinforced rubber with acid resistant stainless steel end pieces.

| Part no | ØA  | ØD  | B1 | B2  | H  | L1  | L2  | L3  | Hose dia. |
|---------|-----|-----|----|-----|----|-----|-----|-----|-----------|
| 828064  | 45  | 165 | 60 | 112 | 30 | 208 | 334 | 440 | 45 mm     |
| 828837  | 45  | 165 | 60 | 112 | 30 | 208 | 334 | 440 | 45 mm a)  |
| 838327  | 57  | 165 | 60 | 112 | 30 | 408 | 535 | 645 | 57 mm     |
| 842768  | 89  | 220 | 90 | 140 | 40 | 370 | 500 | 665 | 89 mm     |
| 854760  | 100 | 218 | 90 | 114 | 40 | 375 | 450 | 500 | 100 mm a) |

a) Horizontal exhaust exit suitable for installations with limited height.



### Through-hull exhaust fitting

Through-hull exhaust fitting with drip-edge to prevent cooling water from discolouring the side of the hull. With pre-formed collar for hose connection. Supplied complete with hose clips.

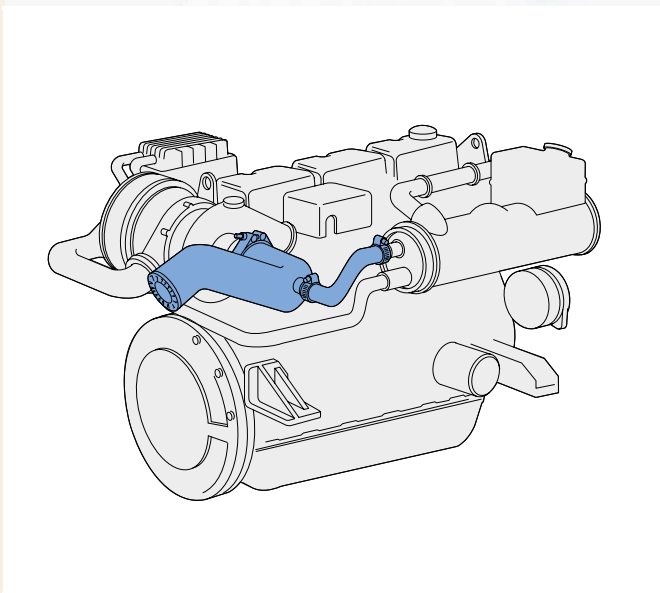
| Part no | Material        | Ext. Ø, mm |
|---------|-----------------|------------|
| 828295  | Aluminium       | 89         |
| 854754  | Stainless steel | 100        |
| 833738  | Brass           | 45         |
| 831781  | Brass           | 57         |

### Exhaust temperature alarm, wet exhaust systems

The temperature alarm sensor is installed in the exhaust hose and transmits a signal to a warning lamp in the event of excessive exhaust temperatures as a result of water shortage.

**Includes:** Sensor, cables.

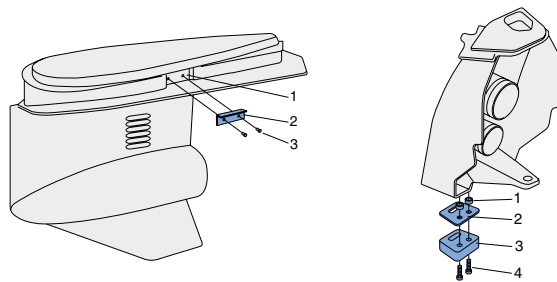
| Part no | Fits engine              |
|---------|--------------------------|
| 877773  | MD2010-2040, D1-13-D2-75 |



### Exhaust riser

An exhaust riser raises the level of the exhaust elbow. This is installed on vessels with engine installations at or below the water line. The riser reduces the risk of siphonage back into the engine via the exhaust system.

| Part no  | Height     |
|----------|------------|
| 3884165  | 100 mm/4"  |
| 40005141 | 150 mm/6"  |
| 40005142 | 150 mm/6"  |
| 3886142  | 75 mm/3"   |
| 3888846  | 75 mm/3"   |
| 3581031  | -          |
| 861097   | 100 mm/4"  |
| 861252   | 90 mm/3.5" |
| 3862907  | 150 mm/6"  |



### Exhaust cover kit

In order to comply with strict regional noise limitation requirements, Volvo Penta has developed exhaust cover kits for shields and drives. The kits are intended for 3.0 and 4.3 petrol engines with SX drive.

#### Exhaust cover for shield

Note! Delivered as standard in later versions of 3.0 GS/SX.

**Includes:** Spacer, cover, screws.  
Anode is also needed (not part of the kit).

##### Part no

3858758

#### Exhaust cover for drive

Note! To be used only in combination with exhaust cover kit for shield, 3858758.

**Includes:** Exhaust port, rivets (2 per side), exhaust cover (1 per side).

##### Part no

3856171



### Exhaust block-off kit

The standard exhaust fitting for I/O-engines leads the exhaust through the drive. If a separate silencer is required, then the exhaust port in the transom shield must be sealed.

**Includes:** Cover plate, fittings.

##### Part no

3850889

##### Drive

SX/DP-S



## CHEMICALS

Using high-quality chemicals is important to ensure maximum performance, wear protection and reliability. That's why Volvo Penta offers a range of high-quality products, specifically developed and tested to meet our exact specifications and stringent requirement – making them the best choice for maintenance and repair of Volvo Penta products.



### VOLVO PENTA OILS

We invest significant resources together with the Volvo Group to develop high-performance oils. And the reason is simple. As engines continue to evolve, with increased efficiency, more precise technology and tighter tolerances, it leaves less space between components, placing greater demands on oil performance than ever before.

Volvo Penta oils are extensively tested and approved according to our high-quality demands. All Volvo Penta oils include powerful additive technology that is individually selected to optimize performance, reduce fuel consumption and provide maximum wear protection.

#### VDS-3 Engine oil

VDS-3 covers even more stringent requirements on piston cleanliness and bore polish compared to VDS-2, ensuring the durability and reliability of the engines. The high quality of VDS-3 oils allows in certain cases an increase in drain intervals. Fits both diesel and gas engines (check operators manual).

Viscosity: SAE 15W-40

Grade: VDS-3, API CI-4, ACEA E5

#### VDS-4.5 Engine oil

VDS-4.5 15W40 is uniquely formulated heavy-duty engine oil incorporating proprietary additive technology. It is recommended for use in modern diesel engines under all operating conditions and in all environments. Therefore, it is fully backwards compatible to work with all Volvo Penta engines where VDS-2, VDS-3 or VDS-4 oils were used. It is also recommended for certain gasoline engines, please refer to the operators manual.

Viscosity: SAE 15W-40

Grade: VDS-4.5 API CK-4 / CJ-4 / CI-4 Plus / CI-4 / ECF-3 / ACEA E9 / E7

#### Synthetic gasoline engine oil

A fully synthetic oil specially developed for high performance gasoline engines. Its wide temperature range capability maximizes engine life. The additive system is designed to provide protection against wear and minimize deposit and sludge build-up. Particularly suitable for all engines equipped with catalyst but is also applicable to non-catalyst engines produced in model year 2008 and later.

Viscosity: SAE 5W-40

Grade: ACEA C3, API SN

| Part no  | Pack           | Quantity |
|----------|----------------|----------|
| 22479638 | Plastic bottle | 1 Litre  |
| 22479642 | Plastic cont.  | 5 Litre  |
| 22479643 | Plastic cont   | 20 Litre |

| Part no  | Pack          | Quantity |
|----------|---------------|----------|
| 23039848 | Plastic cont. | 5 Litre  |
| 23039851 | Plastic cont  | 20 Litre |

| Part no  | Pack              | Quantity |
|----------|-------------------|----------|
| 23211287 | Plastic bottle    | 1 Litre  |
| 23211288 | Plastic container | 5 Litre  |
| 23211290 | Plastic container | 20 Litre |



### Synthetic marine transmission oil

High-performance marine transmission oil designed to provide maximum protection for Volvo Penta IPS and Aquamatic sterndrives. Specifically formulated to offer excellent performance under extreme loads and temperatures while providing balanced frictional properties between grip and slip and maximum protection against wear and corrosion. Advanced additive technology include unique capability to minimize damage due to water contamination.

All this ensure significant advantages over conventional transmission oils and contributes to high-performance, smooth operation and long-term health of the drive.

### Volvo Penta IPS/Aquamatic synthetic transmission oil

| Part no  | Pack              | Quantity | SAE    |
|----------|-------------------|----------|--------|
| 22479650 | Plastic bottle    | 1 Litre  | 75W-90 |
| 22479648 | Plastic container | 5 Litre  | 75W-90 |
| 22479647 | Plastic container | 20 Litre | 75W-90 |

### Synthetic transmission oil 75W-140\*

| Part no  | Pack              | Quantity | SAE     |
|----------|-------------------|----------|---------|
| 22574246 | Plastic container | 5 Litre  | 75W-140 |

\* For DPH ratio 1.59:1 (D6-400) and DPG drives (KAD300).



### Transmission oil

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

Grade: API GL-5

| Part no | Pack           | Quantity | SAE    |
|---------|----------------|----------|--------|
| 3809445 | Plastic bottle | 5 Litre  | 80W-90 |



1



2

### 1. Hydraulic Oil

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

| Part no  | Pack           | Quantity |
|----------|----------------|----------|
| 22618337 | Plastic bottle | 1 Litre  |

### 2. Compressor oil

Specially tested in Volvo Penta compressors. Fully synthetic oil that withstands both high and low temperatures. Protects compressor against corrosion.

Viscosity: ISO VG 68

| Part no  | Pack           | Quantity |
|----------|----------------|----------|
| 85108974 | Plastic bottle | 250 ml   |



### ATF-Oil

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 III

| Part no  | Pack           | Quantity |
|----------|----------------|----------|
| 85122800 | Plastic bottle | 1 Litre  |
| 1161995  | Plastic bottle | 5 Litre  |



### Electric oil drain pump

An electric oil drain pump makes essential oil changes considerably easier. The pump is permanently installed, thus eliminating the dirt and inconvenience of manually draining the sump. The pump is self-priming and is also suitable for flushing and as a bilge pump.

**Note!** Do not use the pump for pumping paraffin or petrol.

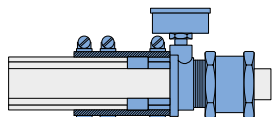
| Part no | Voltage |
|---------|---------|
| 843114  | 12 V    |
| 843410  | 24 V    |



### Rapid rust loosener

A multi purpose spray with excellent penetration and contact properties. It loosens rust seized metal parts connections and other mechanisms without destruction. It removes moisture in electric contacts, protects from corrosion and oxidation. It eliminates squeaking and reduces friction.

| Part no | Pack      | Quantity |
|---------|-----------|----------|
| 1161928 | Spray can | 400 ml   |



### Propeller shaft grease

Propeller shaft grease is used for conventional packing boxes.

Viscosity: NLGI 3

| Part no | Pack              | Quantity |
|---------|-------------------|----------|
| 3809449 | Plastic container | 500 g    |



### Grease

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. The grease is solid and water-resistant, for use in rubber packing boxes, greasing propeller shafts, folding propellers and all other propeller components.

Viscosity: NLGI 2

| Part no  | Pack                             | Quantity |
|----------|----------------------------------|----------|
| 828250   | Tube                             | 25 g     |
| 22618330 | Plastic cartridge for grease gun | 400 g    |

3



4



### 3. Low temperature grease

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

| Part no | Pack | Quantity |
|---------|------|----------|
| 1161417 | Tube | 30 g     |

### 4. Grease for Waterjet

For Waterjet K22 and K25. The grease can withstand high temperature peaks. Also provides excellent corrosion protection.

Viscosity: NLGI 2

| Part no | Pack                             | Quantity |
|---------|----------------------------------|----------|
| 1161251 | Plastic cartridge for grease gun | 400 g    |



### 1. Liquid sealing agent - master gasket

Replaces conventional paper gaskets and provides an immediate "custom made" gasket. Resistant to petrol, oil, anti-freeze, transmission oils and solvents.

| Part no  | Pack               | Quantity |
|----------|--------------------|----------|
| 22618325 | Syringe applicator | 25 ml    |

### 2. Sealant - gasket cement

A viscous and slow drying cement intended primarily for gaskets and similar. Dries to a pliable film.

| Part no | Pack              | Quantity |
|---------|-------------------|----------|
| 1161099 | Plastic container | 125 ml   |

### 3. 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°C to +200°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.

| Part no | Pack                             | Quantity |
|---------|----------------------------------|----------|
| 1161277 | Plastic tube                     | 20 g     |
| 1161231 | Plastic cartridge for grease gun | 310 ml   |

### 4. Sealant

A graphite based black 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.

| Part no | Pack      | Quantity |
|---------|-----------|----------|
| 591247  | Metal tin | 1 kg     |



### Paints

Volvo Penta 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 Volvo Penta paints.



### 5. Coolant VCS yellow

Yellow and green coolants may not be mixed.

| Part no  | Colour | Type         | Quantity        |
|----------|--------|--------------|-----------------|
| 22567314 | Yellow | Ready mixed  | 5 L (to -25°C)  |
| 22567335 | Yellow | Ready mixed  | 20 L (to -25°C) |
| 22567286 | Yellow | Concentrated | 1 L             |
| 22567295 | Yellow | Concentrated | 5 L             |
| 22567305 | Yellow | Concentrated | 20 L            |

### 6. Coolant green

Yellow and green coolants may not be mixed.

| Part no  | Colour | Type         | Quantity        |
|----------|--------|--------------|-----------------|
| 22567233 | Green  | Ready mixed  | 5 L (to -25°C)  |
| 22567259 | Green  | Ready mixed  | 20 L (to -25°C) |
| 22567185 | Green  | Concentrated | 1 L             |
| 22567206 | Green  | Concentrated | 5 L             |
| 22567215 | Green  | Concentrated | 20 L            |

### Coolant system cleaner

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. For yellow VCS coolant only.

| Part no  | Pack              | Quantity    |
|----------|-------------------|-------------|
| 21467920 | Plastic container | 500 + 200 g |

### Locking fluid

Protection fluid for screws and nuts. Permits removal in the normal manner. The protection fluid is effective on lightly oiled surfaces as well as preventing corrosion, leakage and vibration.

| Part no  | Pack   | Quantity |
|----------|--------|----------|
| 85145750 | Bottle | 10 ml    |

### Touch-up paint - engine

| Part no  | Colour       | Pack      | Quantity, Litres |
|----------|--------------|-----------|------------------|
| 22618341 | Green, gloss | Tin       | 1.0              |
| 3808216  | Red          | Tin       | 1.0              |
| 22618344 | Green, matt  | Tin       | 1.0              |
| 22618302 | White        | Tin       | 1.0              |
| 1141566  | Green, matt  | Spray can | 0.4              |
| 827501   | Red          | Spray can | 0.4              |
| 3851221  | Dark grey    | Spray can | 0.4              |



## 7-14. Touch-up paint - drive

| Part no | Colour                                                 | Pack             | Quantity, Litres | Image |
|---------|--------------------------------------------------------|------------------|------------------|-------|
| 1141567 | Blue-grey                                              | Spray can        | 0.4              | 7     |
| 1141575 | Grey                                                   | Spray can        | 0.4              | 8     |
| 1141560 | White                                                  | Spray can        | 0.4              | 9     |
| 1141568 | Black, matt                                            | Spray can        | 0.4              | 10    |
| 3851219 | Silver, SX, DPS, FWD, IPS 1*                           | Spray can        | 0.4              | 11    |
| 827502  | Clear varnish                                          | Spray can        | 0.4              | 12    |
| 889968  | Silver + clear varnish, DPG, DPH, DPR, S-drives, IPS** | Spray can, 2 pcs | 0.4 + 0.4        | 13    |
| 3851220 | Grey + clear varnish, DPX                              | Spray can, 2 pcs | 0.4 + 0.4        | 14    |

\* IPS 1 generation A, B, C (up to SN 3194009615) \*\* IPS 15, 2, 3, 30 and IPS 1 generation D and later (from SN 3194009616)

## 15. Primer

| Part no | Colour               | Pack      | Quantity, Litres | Image |
|---------|----------------------|-----------|------------------|-------|
| 1141562 | Blue-grey, for drive | Spray can | 0.4              | 15    |



## Bilge Oil Boom

The Bilge Oil Boom is ideal for keeping your bilge safe and clean. Simply drop or anchor (with attached rope) in the bilge and the Bilge Oil Boom will efficiently absorb waste oil, fuel and hydraulic fluid. Does not absorb water and will stay afloat even when soaked with oil.

### Features:

- Super absorbent and hydrophobic, does not absorb water.
- Absorbs all kinds of petroleum spills.
- Absorbs up to 4.5 l.
- Boom is 380 x 130mm.
- 100% polypropylene absorbent surrounded by spunbond, polypropylene sock and nylon netting.



## Oil & Water Sorbent Pads

The Oil & Water Sorbent Pads can be used for all engine and drive-related spills and leaks. Absorbs petroleum products, cooling liquid, water etc. You can even use it to wipe off the bilge after the work is done.

### Features:

- Absorbs up to 0.7 l per pad.
- 400 x 500 x 4.7 mm
- Sold in a roll of 4 pads.
- Made from recycled polypropylene.

| Part no  |
|----------|
| 21699860 |

| Part no  |
|----------|
| 21699859 |

## COOLING SYSTEM

The cooling system is an extremely important part of the engine assembly. A correct working temperature contributes to a longer operational lifespan of the engine and improved fuel economy. It is also important from a safety aspect. With a correctly dimensioned and correctly installed cooling system, overheating of the engine, unnecessary stoppages and expensive repairs due to engine failure, can be avoided.

### COOLING SYSTEMS CAN BE OF TWO DIFFERENT TYPES:

**Sea water cooled (direct cooling)**, where sea water is directly pumped into the engine's cooling system and subsequently discharged via the exhaust system (wet exhaust systems) or via a separate discharge point for cooling water (for dry exhaust systems).

**Fresh water cooled (indirect cooling)** where the engine has its own closed loop cooling system similar to that of a motor car. The temperature of the engine coolant is reduced by being passed through a heat exchanger which is itself cooled by a supply of continuously pumped sea water. The sea water is discharged either via the exhaust, when used with a wet exhaust system, or via a separate outlet, when used with a dry exhaust system.

Freshwater cooling has a number of advantages compared to sea water cooling, these being:

- Better comfort, i.e. availability of domestic hot water and onboard heating. More extensive usage.
- The anti-freeze and anti-corrosion agents contained within the coolant permit all year running. Should it be required to totally de-commission the engine, the coolant channels can simply be filled with inhibitors.
- Reduced engine wear as a result of higher running temperatures.
- Extended engine life due to better corrosion protection.

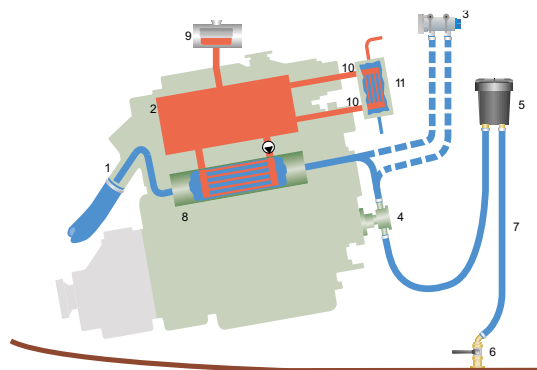
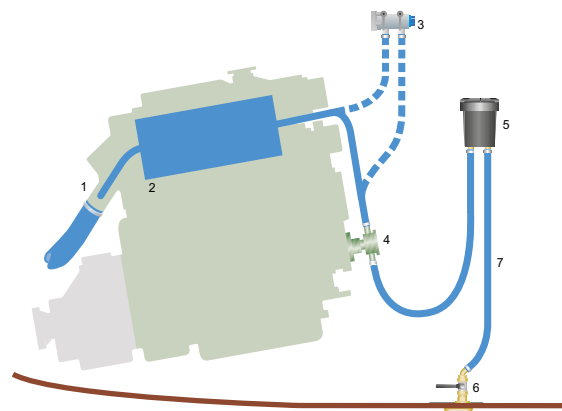
It is a relatively simple operation to fit a fresh water cooling system to a sea water cooled engine.

#### SEA WATER COOLING

1. Exhaust bend, wet type
2. Engine cooling galleries
3. Vacuum valve
4. Sea water pump
5. Sea water filter
6. Cooling water intake
7. Hose

#### FRESH WATER COOLING

1. Exhaust bend, wet type
2. Engine cooling galleries
3. Vacuum valve
4. Sea water pump
5. Sea water filter
6. Cooling water intake
7. Hose
8. Heat exchanger
9. Expansion tank
10. Hot water outlet
11. Hot water heater



#### Vacuum valve

For vessels with an engine installation at or below the water line a vacuum valve should be installed. The valve prevents siphonage occurring through the seawater intake, resulting in water ingress to the engine.

| Part no  | Hose dia. |
|----------|-----------|
| 21662701 | 16 mm     |
| 21662702 | 19 mm     |
| 21662703 | 22 mm     |
| 21662704 | 25 mm     |



### Seawater filter 32 mm

The seawater filter should be installed in the cooling system's suction line above the water line. The filter effectively separates any impurities from the seawater and contributes to extending the service life of the engine. The filter element is easy to clean.

Material: Plastic container and filter

Connection: In: 32 mm, Out: 32 mm

Height: 210 mm incl. hose connectors

Width: 130 mm

Depth: 130 mm

Rec. rubber hose: 1140664 (32 mm)

| Part no |
|---------|
| 3583840 |



### Seawater filter, heavy duty 50 mm

The filter has a large capacity suitable for use in extremely dirty or muddy waters. The filter element is easily cleaned and is covered with a transparent cover for ease of inspection.

Material: Plastic container and filter

Hose connection: Hose int. dia 50 mm

Height: 255 mm

Width: 220 mm

Depth: 200 mm

Volume: Approx. 2,7 litres

Rec. rubber hose: Part no. 1140670

| Part no  |
|----------|
| 21655254 |



### Seawater filter, heavy duty 63 mm

The filter has a large capacity suitable for use in extremely dirty or muddy waters. The metal filter strainer is easily cleaned and is covered with a transparent cover for ease of inspection.

Material: Bronze casting with clear sight glass

Volume: Approx 5 liters

Hose connection: Hose int. dia 63 mm

Rec. rubber hose: Part no. 1140671

The kit contains: Filter, mounting brackets

| Part no  | Description     |
|----------|-----------------|
| 23226380 | Seawater filter |
| 21298806 | Hose connection |
| 961673   | Hose clamp      |



### Sea water filter cover

The transparent cover fits all seawater filters for D4 and D6 engines.

| Part no  |
|----------|
| 21400685 |



### Hose adapters

For connection of seawater filter to cooling hoses of other diameters, cut adapter if necessary. Hose clamps for connection to filter included. Hose clamps for cooling hoses have to be ordered separately. One or two adapters are required for an installation.

| Part no  | Inner dia. | Outer dia. | Length    |
|----------|------------|------------|-----------|
| 21951974 | 50 mm      | 32/38 mm   | 142/99 mm |
| 21951975 | 32 mm      | 16/19 mm   | 87/62 mm  |



## Expansion tank

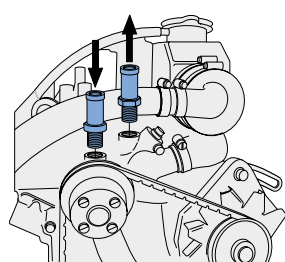
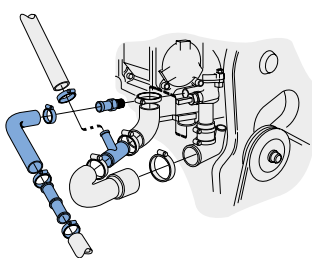
A separate expansion tank for engine coolant can be installed in an easily accessible position and thereby make checking and filling of the system considerably easier. The tank is manufactured of a semi-transparent material to enable the checking of the coolant level.

Material: Plastic

Installation: Max 1.2 metres above the highest point of the engine.

**Includes:** Tank, pressure cap, fittings for installation.

| Part no | Fits engine    |
|---------|----------------|
| 3581427 | 2010-2040/MD22 |
| 3581297 | MD31-42        |
| 3886264 | D4-D6          |



## Hot water outlet

A hot water connection is made to the engine cooling system which allows the hot coolant water to circulate through a water heater. The hot coolant heats up the water contained in the water heater. This then provides a domestic hot water supply.

Recommended hose for engine/water heater:

Hose, int. diameter 16 mm, part no. 952969

Recommended stainless steel hose clips: part no. 961665

Recommended hose for domestic supply:

Hose, int. diameter 12.7 mm, part no. 952968

Recommended stainless steel hose clips: part no. 961665

| Part no  | Fits engine                                                                 |
|----------|-----------------------------------------------------------------------------|
| 861523   | MD2010-20A, MD2030-40, D2-55                                                |
| 3856266  | 8.1Gi, DPX375, DPX420                                                       |
| 3862101  | 4.3GL, 5.0GL, 5.7GXi                                                        |
| 860706   | AD31/41, KAD300/43/44, KAMD300/43, TAMD31/31S/41                            |
| 3581632  | AMD22, TMD22, MD22                                                          |
| 3583734  | KAD32                                                                       |
| 3862102  | 8.1Gi, 8.1GXi                                                               |
| 40005450 | 4.3GL/GXi, 5.0GL/GXi, 5.7Gi/GiE/GXiE/GXi                                    |
| 21177136 | D9, D11                                                                     |
| 3818029  | 8.1GiE/Gi/GXiE/GXi                                                          |
| 40005445 | 3.0GLP-J                                                                    |
| 40005449 | 4.3GL/GXi, 5.0GL/GXiE/GXi, 5.7Gi/GiE/GXiE/GXi                               |
| 21145832 | D4, D6                                                                      |
| 21527832 | 4.3GL/GXiE/GXi, 5.0GXIC/GXiCE/GXiE/GXi, 5.7Gi/GiC/GiCE/GXiE/GXi-CE/GXiE/GXi |
| 3588682  | D3-130-190A                                                                 |
| 3841173  | D1-13-D2-40                                                                 |

a) (For model year EF and later).8.1Gi/DP-S: Only for sea water cooled engine.

b) Only for raw water cooled engine. 4.3GL - A, 4.3GXi -A, B, BF, 5.0GL - A, B, 5.0GXi - A, B, BF, 5.7GL - A, B, 5.7Gi - A, B, BF, 5.7GXi - B, C, CF.

c) Also for KAD/KAMD42 engines

d) Only for raw water cooled engines. 8.1Gi - B, BF, 8.1GSi, 8.1GXi - A, AF, DPX375 - B, BF, DPX420 - B, BF.



### Freshwater cooling kit

| Part no  | Fits engine                                                                                                                                                                                               |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3860972  | 8.1Gi - B, BF, 8.1GSi, 8.1GXi - A, AF                                                                                                                                                                     |
| 3862181  | 4.3Gi (EF), 4.3GL - A, 4.3GXi - A, B, BF, 5.0Gi, GSi, 5.7Gi, GSi (EF), 5.7GXi (EF), 5.0GL - A, B, 5.0GXi - A, B, BF, 5.7GL - A, B, 5.7Gi - A, B, BF, 5.7GXi - B, C, CF                                    |
| 40005807 | 4.3GL-J, 5.0GL-J                                                                                                                                                                                          |
| 40005446 | 4.3GXIE-M, 4.3GXi-J, 5.0GXIE-M, 5.0GXi-J, 5.7Gi-300-J, 5.7GXIE-300-M, 5.7GXIE-M, 5.7GXi-J                                                                                                                 |
| 3842763  | 8.1GiE-J, 8.1GiE-JF, 8.1Gi-J, 8.1GXIE-J, 8.1GXIE-JF, 8.1GXIE-M, 8.1GXi-J, 8.1GXi-JF                                                                                                                       |
| 21403116 | 5.0 GXiC-J, 5.0 GXiC-JF, 5.7 GiC-300-J, 5.7 GiC-300-JF, 5.7 GXiC-J, 5.7 GXiC-JF, 5.7 GiCE-300-J, 5.7 GiCE-300-JF, 5.7 GXICE-J, 5.7 GXICE-JF, 5.7 GXICE-300-M, 5.7 GXICE-300-MF, 5.7 GXICE-M, 5.7 GXICE-MF |
| 21403117 | 8.1 GiC-400-J, 8.1 GiC-400-JF, 8.1 GiC-400-Q, 8.1 GiCE-400-J, 8.1 GiCE-400-JF, 8.1 GiCE-400-M, 8.1 GiCE-400-MF, 8.1 GiCE-400-P, 8.1 GiCE-400-P.                                                           |



### Cooling water intake

The cooling water intake is a through-hull fitting with strainer, installed through the bottom of the hull. For motor boats the strainer should be directed forward. Once under way, the seawater is forced up into the system. However, for sailing boats, the strainer should be directed towards the rear of the boat in order to prevent seawater being forced into the system when under sail with the engine shut down. When a motor boat is being towed, the shut-off valve must be closed.

**Includes:** Through-hull fitting with strainer, fittings for pipe connection, shut-off valve, hose clips.

| Part no | Internal hose diameter |
|---------|------------------------|
| 861495  | 19 mm                  |
| 861496  | 19 mm                  |
| 1140129 | 32 mm                  |
| 3587668 | 38 mm                  |
| 1140127 | 50 mm                  |



### Rubber hoses

Volvo Penta rubber hoses are specifically designed for use with the engine's cooling system and are designed to withstand both suction and pressure.

| Part no | Min. bend radius mm | Rec. stainless steel hose clips | Int. Ø, mm | Ext. Ø, mm |
|---------|---------------------|---------------------------------|------------|------------|
| 952968  |                     | 961665                          | 12.7       | 20.6       |
| 952969  |                     | 961665                          | 16         | 23.8       |
| 952970  |                     | 961666                          | 19         | 27         |
| 952971  |                     | 961667                          | 22         | 30.2       |
| 952972  |                     | 22274884                        | 25.4       | 33.3       |
| 1140664 | 200                 | 961669                          | 32         | 41.5       |
| 1140670 | 305                 | 961672                          | 50         | 61.5       |
| 1140671 | 355                 | 961674                          | 63         | 75         |

NEUTRA-SALT

Neutra-Salt engine flushing kit

Designed for both freshwater- and saltwater-cooled engines that have an engine-driven sea-water pump.

The Neutra-Salt Engine Flushing System is available for installation on all inboards and sterndrives. This system is designed for both freshwater- and saltwater-cooled engines that have an engine-driven sea-water pump. As a saltwater boater, you are continually challenged by the corrosive effects of salt -both inside and outside your engine - particularly when the boat is sitting unused in the water. Now, with the installation and use of the Neutra-Salt Engine Flushing System, you have an effective and simple solution to combat internal corrosion and help extend the life of your engine.

Benefits of our flushing system:

- Flushes your engine while the boat is in the water -there is no need to trailer your boat or hook up to a freshwater supply in order to flush and protect your engine.
- Helps protect your engine from saltwater damage.
- Helps prevent corrosion by removing salt deposits, leaving a protective corrosion inhibitor on all metal surfaces, including: Power-steering and oil cooler, engine block, exhaust manifold and risers, thermostat housing, circulating and raw-water pumps.
- Installs easily and operates smoothly.

Kit includes:

0.95 litre of Neutra-Salt motor flushing concentrate, 2.85 litre reservoir with mounting bracket, eight feet of hose, brass sea-water inlet tee fitting, connecting hose for power-steering cooler, hose clamps, rocker switch, "Flush" switch, wiring harness with fuses, and solenoid.

How our flushing system works:

1. To operate, simply engage the "Flush" switch by pushing and holding the dash-mounted switch for 45 seconds while running the engine at idle speed, making sure the engine has an adequate supply of sea water.
2. Once the Flush switch is engaged, the Neutra-Salt concentrate solution will be injected into the cooling system, leaving a corrosion-inhibiting coating on all metal surfaces, thereby neutralizing the salinity of incoming seawater.
3. Before disengaging the Flush switch, you must turn off the engine. For best results, use the Neutra-Salt Engine Flushing System after every trip outing. Boat owners will typically get 10 to 15 flushes before a refill is needed.

Our exclusive Neutra-Salt Concentrate offers many benefits:

It flushes motors, dissolves salt and salt deposits, prevents rust and corrosion (includes a corrosion inhibitor which leaves a protective coating on all metal surfaces), extends the life of metal surfaces exposed to saltwater, and removes salt from engines, fishing equipment, scuba gear, boats, trailers, etc.



Neutra-Salt Concentrate

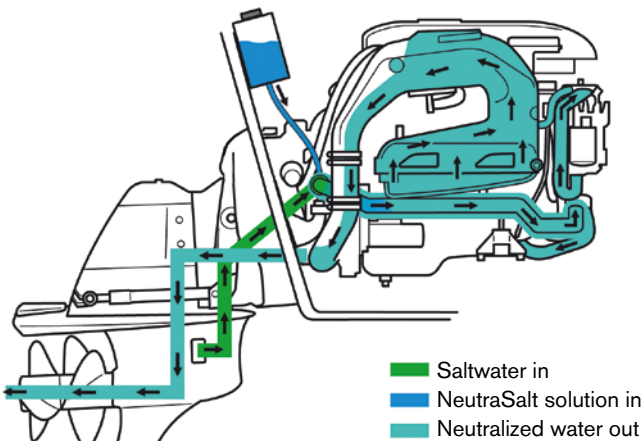
Our exclusive Neutra-Salt Concentrate offers many benefits:  
Flushes motors.

Dissolves salt and salt deposits.

Prevents rust and corrosion (includes a corrosion inhibitor which leaves a protective coating on all metal surfaces).

Extends the life of metal surfaces exposed to saltwater, and removes salt from engines, fishing equipment, scuba gear, boats, trailers, etc.

| Part no  | Quantity     |
|----------|--------------|
| 21687793 | Quart/0.95 l |
| 21687796 | Gallon/3.8 l |



| Part no  | Description                                       |
|----------|---------------------------------------------------|
| 21733731 | Kit for engine with 1" or 1 1/4" water inlet hose |



## POWER TAKEOFF

An extra alternator and an efficient distributor greatly increase your onboard power supply. And with the power take-off your engine can power a cooling compressor, hydraulic pump etc.

### Universal bracket

The front mounted universal bracket enables installation of extra equipment such as cooling compressor or hydraulic pump. The kit includes bracket and fittings.

| Part no | Fits engines                                                                                                                                             |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3584501 | D4, D6                                                                                                                                                   |
| 3581049 | MD2010A-D, MD2020A-D, MD2030A-D a)                                                                                                                       |
| 3583586 | MD2040A, MD2040B, MD2040C, MD2040D, TAM22, TMD22, MD22, D2-55 A, D2-55 B, D2-55 C, D2-55 D, D2-55 E, D2-55F, D2-60, D2-75 A, D2-75 B, D2-75 C, D2-75F b) |
| 3884549 | D1-20 A, D1-20 B, D1-20F, D1-30 A, D1-30 B, D1-30F                                                                                                       |
| 3884550 | D2-40 A, D2-40 B, D2-40F                                                                                                                                 |
| 3809865 | D3                                                                                                                                                       |

a) Pulley and drive belt ordered separately. For engines with S-drives, see information in selection charts.

b) Pulley and drive belt ordered separately. Adapter kit, 3583805, needed with S-drive installations.

### Extra pulleys

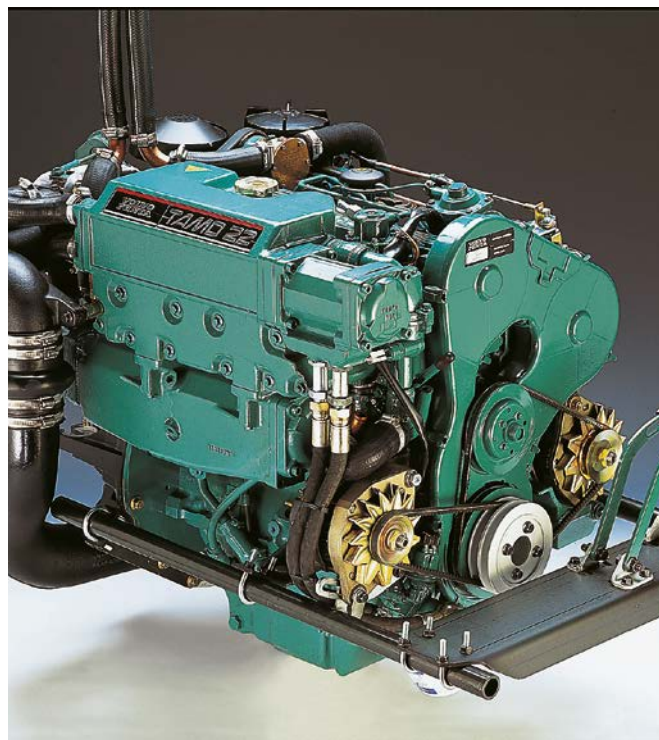
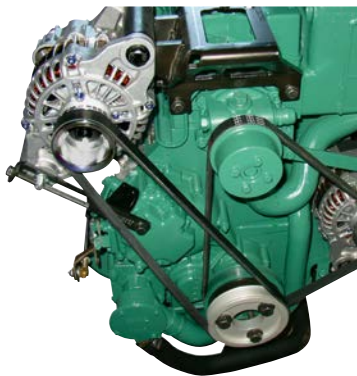
Auxiliary equipment driven by the drive belt on the crankshaft of the engine increase the load on the crankshaft. It is thus important that the axial location of the pulley on the crankshaft and the location of the equipment in relation to the crankshaft are suited to the extra power requirements of the extra equipment. Maximum power supplied depends on the alignment of the belt, the belt type and the engine type.

| Part no | No. of grooves/pulley | Outer mm | V-belt groove | Length, mm |
|---------|-----------------------|----------|---------------|------------|
| 861157  | 3                     | 165      | HC50          | 90         |
| 3809925 | 3                     | 165      | HC50          | 90         |
| 3809926 | 1                     | 165      | PK6           | 90         |
| 3581048 | 1                     | 120      | HC38          | 19         |
| 3581053 | 1                     | 120      | HC50          | 19         |

## ELECTRICAL SUPPLY

Today's boats are equipped with more and more electrically powered accessories for both comfort and safety.

Power for lighting, radio transmitters, TV, stereo equipment, fans, heating, etc., drain battery power. As the charging of batteries takes a relatively long time, an extra charge alternator and an extra battery are good investments.



### Mounting kit, excluding alternator

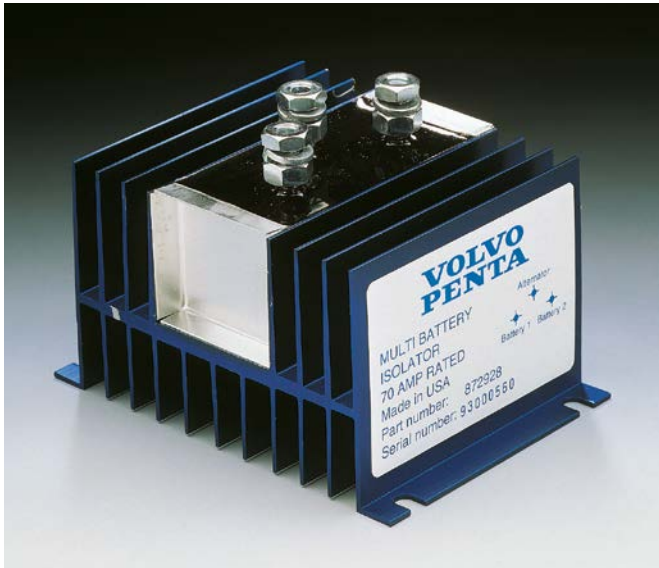
| Part no  | Capacity                          | Fits engine                                     | Note                                                                                                                                           |
|----------|-----------------------------------|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| 3581630  | 12V/60A alt.<br>24V/40A           | KAD300, KAD32, KAD43, KAD44,<br>KAMD300, KAMD43 | Alternator 12V/60A: 873770 Alternator 24V/40A: 872927                                                                                          |
| 3583573  | 12V/60A alt.<br>24V/40A           | D2-55A, D2-60, D2-75A                           | Only for D2-55/D2-75 generation A. Also order pulley kit 3583468 and cable kit 3583574, Alternator 12V/60A: 873770, Alternator 24V/40A: 872927 |
| 21384685 | 12V/115A alt.<br>24V/80A          | D2-55, D2-60, D2-75                             | Not for D2-55/D2-75 generation A, Alternator 12V/115A: 3840181<br>Alternator 24V/80A: 3840183                                                  |
| 21281679 | 24V/110A                          | D2-55, D2-60, D2-75                             | For large casing, 4" dual foot saddle mount alternator (SAE J180 mount)                                                                        |
| 3884494  | 12V/60A alt.<br>24V/40A           | D1-20                                           | Also order cable kit 3583574, Alternator: 873770 alt. 872927                                                                                   |
| 3884493  | 12V/60A alt.<br>24V/40A           | D1-30, D2-40                                    | Also order cable kit 3583574, Alternator: 873770 alt. 872927                                                                                   |
| 21268949 | 12V/130A,<br>24V/75A,<br>24V/110A | D3                                              | For large casing, 4" dual foot saddle mount alternator (SAE J180 mount)                                                                        |
| 3889549  | 12V/115A alt.<br>24V/80A          | D4, D6                                          | For EVC-A to EVC-C3. Can not be combined with servo steering.<br>Alternator 12V/115A: 3840181, Alternator 24V/80A: 3840183                     |
| 22448959 | 12V/115A alt.<br>24V/80A          | D4, D6                                          | From EVC-D. Can not be combined with servo steering.<br>Alternator 12V/115A: 3840181, Alternator 24V/80A: 3840183                              |

### Alternator kit, including alternator

| Part no  | Capacity | Fits engine             | Note                                    |
|----------|----------|-------------------------|-----------------------------------------|
| 828944   | 12V/60A  | 2001, 2002, 2003, 2003T |                                         |
| 3581045  | 12V/60A  | TAMD22, TMD22           | Can not be combined with servo steering |
| 22821293 | 12V/115A | D8                      |                                         |
| 22821286 | 24V/110A | D8                      |                                         |
| 21173893 | 24V/80A  | D9, D11                 |                                         |
| 21173894 | 12V/115A | D9, D11                 |                                         |

### Alternator

| Part no | Capacity | Fits engine                         |
|---------|----------|-------------------------------------|
| 873770  | 12V/60A  | D1-20, D1-30, D2-40, D2-55A, D2-75A |
| 872927  | 24V/40A  | D1-20, D1-30, D2-40, D2-55A, D2-75A |
| 3840181 | 12V/115A | D2-55, D2-75, D4, D6                |
| 3840183 | 24V/80A  | D2-55, D2-75, D4, D6                |

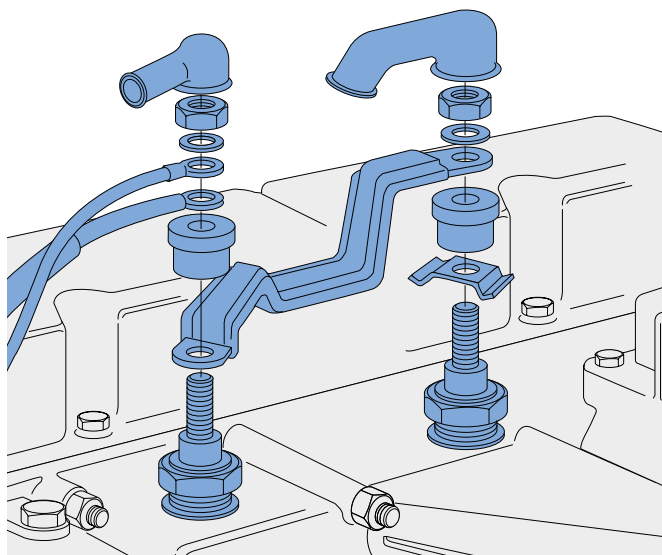
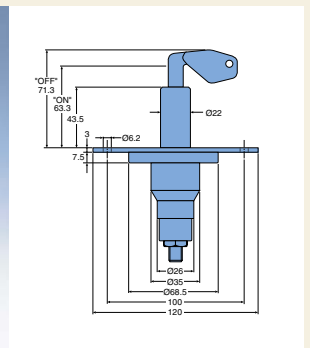
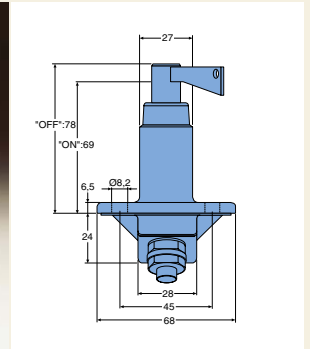


### Charge distributor

The charge distributors are specially adapted for Volvo Penta alternators. Two independent battery circuits can be charged at the same time. The starter motor battery will always be charged, even when onboard power consumption has been great and the second battery is flat.

For alternators 12-24 V/50-60 A. Equipped with sensor for directly monitoring the voltage of the battery in use.

| Part no | Description       |
|---------|-------------------|
| 873120  | 6-50 V/ Max 70 A  |
| 3840597 | 6-50 V/ Max 160 A |
| 3589487 | 12 V/Max 200 A    |



### Air pre-heater kit

For engines starting in low ambient temperatures.

The kit contains: 2 glow plugs that are installed in the intake pipe. The glow plugs are activated with the ignition key via a relay to warm up the intake air.

**Warning!** Never use start spray/gas on engines equipped with glow plugs.

| Part no |
|---------|
| 874117  |

### Main switch

Single pole switch in corrosion resistant material for marine use. With removable switch control. Breaks the power circuit for all electrical equipment and is thereby particularly useful in terms of comfort, safety and theft.

| Image | Part no  | Cont. load | Max load       | Working load      |
|-------|----------|------------|----------------|-------------------|
| 1     | 1140319  | 150 A      | 1000 A for 5 s | 450 A for 5.5 min |
| 2     | 22172491 | 300 A      | 2500 A for 5 s | -                 |

## PROPELLER SHAFT COUPLING

The Volvo Penta two-piece rigid propeller shaft coupling is designed to make installation much easier and less time consuming. It requires no costly machining and thanks to the two-piece conic design, the coupling is perfectly centred onto the propeller shaft. This is essential for minimal vibration, low noise and a better boating experience.



### No machining required

No costly machining for tapering and keyway-cutting is required. Just cut the propeller shaft to the correct length and fit the coupling cone. Secure it to the coupling flange with the bolts provided and the coupling is complete. The shaft coupling provides a high torsional hold without causing shaft damage.

### Perfect central alignment

The two-piece conic design gives the coupling perfect central alignment properties and also provides an absolute distortion free coupling fit. Altogether this makes it easier to achieve a correctly aligned drive-line, essential for minimal vibration and low noise.



### FEATURES AND BENEFITS:

- Simplified installation and alignment
- Less vibration and noise
- No machining required
- Two-piece conic design
- Perfect central alignment
- High torsional hold without shaft damage
- Compact dimensions, low weight
- Virtually maintenance free
- Easy to disconnect propeller shaft, without re-adjustment
- Integrated counterhold
- Better onboard comfort

### Component guide

The Volvo Penta two-piece rigid propeller shaft coupling is delivered complete with bolts, nuts, washers and installation instructions.

| Engine        | Gearbox          | Part no. coupling for shaft 25 mm* | Part no. coupling for shaft 30 mm* | Part no. coupling for shaft 35 mm* | Part no. coupling for shaft 40 mm* |
|---------------|------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| D1            | MS10, MS15       | 21827365                           | 21827366                           |                                    |                                    |
| D2-40         | MS10, MS15       |                                    | 21827366                           |                                    |                                    |
| D2-55 / D2-75 | MS25             |                                    | 21827366                           |                                    |                                    |
| D2-55 / D2-75 | HS25             |                                    | 21820009                           | 21820010                           | 21820011                           |
| D3, D4, D6    | HS25, HS45, HS63 |                                    |                                    |                                    | 21820011                           |

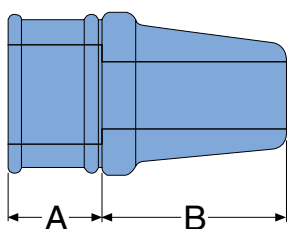
\* Required shaft tolerance: h9 (+0.0 -0.052)

### Dimensions

The shaft coupling is made from high grade 1018 steel (E 235 i ISO) with zinc-nickel coating and sealer. With its compact design the shaft coupling is also perfect for installations where space is limited. Suitable if you want to upgrade your boat driveline.

| Part no. coupling | L mm (inch) | D mm (inch) | Weight kg (lb) |
|-------------------|-------------|-------------|----------------|
| 21827365          | 63 (2.48)   | 102 (4.02)  | 3,1 (6.8)      |
| 21827366          | 63 (2.48)   | 102 (4.02)  | 3,0 (6.6)      |
| 21820009          | 63 (2.48)   | 127 (5.00)  | 4,9 (10.8)     |
| 21820010          | 67 (2.64)   | 127 (5.00)  | 4,8 (10.6)     |
| 21820011          | 67 (2.64)   | 127 (5.00)  | 4,7 (10.4)     |



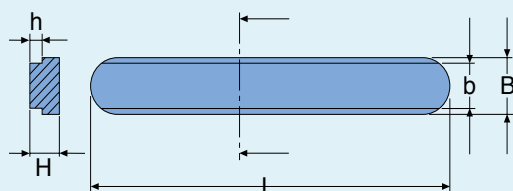


### Rubber packing box

Moulded packing box for effective lubrication/sealing. Simple, time saving installation and compact size. Minimal maintenance work – grease every 200 hours or once a year. The packing box is specifically dimensioned for Volvo Penta propeller shafts and sleeves. For effective lubrication it is essential that the packing box bearings are water-lubricated at all speeds. Supplied complete with installation tools and grease tube.

1) Diameter tolerance  $+0.5 -0.3$  mm. The distance between bearing points must not exceed 1500 mm.

| Part no | A, mm | B, mm | Shaft Ø, mm | Ext. dia. shaft sleeve mm <sup>1)</sup> |
|---------|-------|-------|-------------|-----------------------------------------|
| 828254  | 36    | 66    | 25          | 42                                      |
| 828422  | 36    | 72    | 30          | 48                                      |
| 828526  | 36    | 82    | 35          | 54                                      |
| 828527  | 36    | 82    | 40          | 60                                      |
| 3819722 | 36    | 92    | 45          | 64                                      |
| 3819723 | 36    | 92    | 50          | 70                                      |
| 3819724 | 36    | 66    | 1"          | 1 3/4"                                  |
| 3819725 | 36    | 75    | 1 1/4"      | 2"                                      |
| 3819726 | 36    | 82    | 1 1/2"      | 2 1/4"                                  |
| 3819727 | 36    | 92    | 1 3/4"      | 2 1/2"                                  |
| 3819728 | 36    | 92    | 2"          | 2 3/4"                                  |



### Key for older shafts

A new key is now available for older types of shaft with a 10 mm key slot to make them suitable for new ISO standard bronze propellers.

| Part no | b, mm | B, mm | h, mm   | H, mm | L, mm | Shaft Ø, mm |
|---------|-------|-------|---------|-------|-------|-------------|
| 3580804 | 8     | 10    | 3.5+0.1 | 6+0.1 | 58    | 30          |
| 3580805 | 10    | 12    | 3+0.1   | 6+0.1 | 80    | 40          |

### Rubber bearing

Water-lubricated rubber bearing for stern and support bearings.

| Part no | A, mm | B, mm | Shaft Ø, mm |
|---------|-------|-------|-------------|
| 812914  | 100   | 38    | 25          |
| 812916  | 127   | 44    | 30          |
| 827175  | 140   | 48    | 35          |
| 828131  | 160   | 54    | 40          |

### Lock washer for propeller shaft nuts

Note: V9338 = Week 38, year 1993.

| Part no | Shaft Ø, mm |
|---------|-------------|
| 873475  | 25          |
| 828383  | 25, 30      |
| 873488  | 30          |

- a) Lock washer for propeller shafts manufactured after V9338.  
b) Lock washer for propeller shafts manufactured before V9338.

### Trolling valve

For installation on the hydraulically operated reverse gear units. Permits a lower speed than is otherwise possible, for example when sport fishing. The trolling valve reduces the propeller speed at a given engine speed. In trolling mode the oil pressure in the discs is reduced enough to permit controlled slip in the disc assembly of the reverse gear unit. The trolling valve is able to reduce propeller speed by up to 80%. It cannot be used with electrically operated reverse gear units.

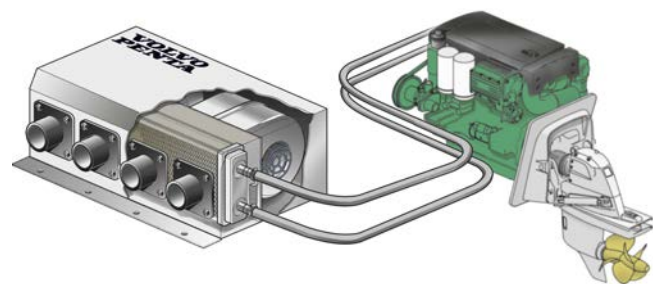
**Note!** The engine speed must not exceed 1200 rpm in trolling mode, to avoid overheating of the discs.

### Trolling valve kit

| Part no | Gearbox        |
|---------|----------------|
| 3583486 | For HS25.      |
| 3583485 | For HS45, HS63 |

## AIR HEATER

The air heater extracts heat from the engine's cooling system, which would otherwise be wasted, and transfers it into the cabin. A fan circulates air through a heat exchanger. The air heater makes it possible to make use of the engine closed-circuit cooling system without additional water pipes and radiators.



### Air heater

#### Product data:

Output: 10 kW/5 kW

Power supply: 12 V/24 V

Capacity (free flow): 550m<sup>3</sup>/330m<sup>3</sup>/hour at max. speed

Fan: 3 speed

Casing: Stainless steel

Heat exchanger: Copper/Brass

Weight: 6.6 kg/5.1 kg

Dimensions: 370 x 160 x 236 mm/230 x 160 x 236 mm

Fan type: Radial

Water connection: 16 mm

| Part no  | Effect | Voltage |    |
|----------|--------|---------|----|
| 21621753 | 10 kW  | 12 V    |    |
| 21621754 | 10 kW  | 24 V    | a) |
| 21621751 | 5 kW   | 12 V    | a) |
| 21621752 | 5 kW   | 24 V    | a) |
| 21621755 | 10 kW  | 12 V    | b) |

a) 55 mm, b) 60 mm

Four outlets are supplied that can be connected with air hoses. The standard outlets are 55 mm diameter. The airflow can be set at three different speeds.

The air heater is highly efficient and can be installed vertically or horizontally. Its compactness makes it easy to install almost anywhere. The selection of materials; stainless steel for the casing and copper/brass for the heat exchanger, ensures long service in a harsh onboard atmosphere.

The air heater comes in two sizes; 5 and 10 kW. Available for 12 V or 24 V supply, it consumes very little power. Its low noise level is another advantage. The air heater can be installed above the engine and any air trapped in the coolant can be released through a separate bleed valve.

Optional extras include air hoses, hose connections and various types of air valves.

### Air heater - accessories

| Part no  | Description                           |
|----------|---------------------------------------|
| 21656846 | Hose connector kit, 50 mm             |
| 21656848 | Hose connector kit, 60 mm             |
| 21656849 | Hose connector kit, air intake, 80 mm |
| 41103307 | Switch                                |
| 21656851 | Nozzle, adjustable, black 50 mm       |
| 21656852 | Nozzle, adjustable, black, 55 mm      |
| 21656853 | Nozzle, adjustable, black, 60 mm      |
| 21656854 | Hose, 50 mm (sold per meter)          |
| 21656855 | Hose, 55 mm (sold per meter)          |
| 21656856 | Hose, 60 mm (sold per meter)          |
| 21656857 | Hose, air intake, 80 mm               |
| 41103317 | Hose connector kit, 55 mm             |
| 41103316 | Y-connector, 80 mm                    |
| 41103325 | Y-connector, 60 mm                    |
| 21656859 | Y-connector, 55 mm                    |
| 41103329 | High-flex hose, 55 mm                 |



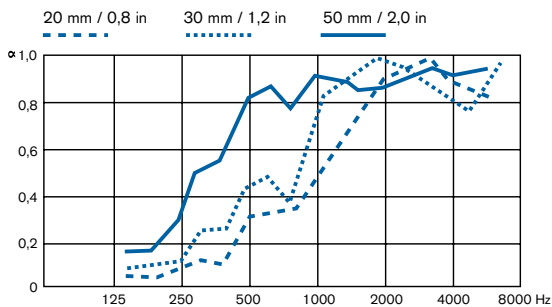


### Two versions

The sound absorbants are sold in sheets of 500 mm x 1000 mm (20 in x 40 in), they are easy to handle both in transport and when mounted. They are available in three thicknesses, 20, 30 and 50 mm, and can easily be cut to shape with a sharp knife. The sheets come in two versions, self-adhesive and nonadhesive.

### Fire resistant material

Sound Absorbent Panels are approved for installation in boats to be CE marked according to EU Directive 94/25/EC. The material is treated with a fire-resistant formula and withstands temperatures up to max. 200°C/390°F. The material is covered with an oil resistant foil that easily could be cleaned from any oil spray etc.



### Sound absorption diagram according to DIN 52215

Optimum performance is reached at  $\alpha \approx 1.0$ . Depending on the engine noise characteristics (100-8000Hz) select the appropriate thickness of Sound Absorbent panel.

## SOUND ABSORBENT PANELS

The sound absorbants have a very good isolating and absorbing effect with a density of 100 kg/m<sup>3</sup> (6,24 lb / ft<sup>3</sup>), and are well adapted to the noise frequency and noise level of marine engines (see diagram). They are made of recycled foam, which has a combination of weight and porosity that both insulates and absorbs.

### Features:

- Made of recycled polyurethane foam.
- Density of 100kg/m<sup>3</sup> / 6,24lb/ft<sup>3</sup>.
- Protection film of aluminium foil.
- Fire proof reg: ISO3795 (FMVSS302).
- Temperature resistance: Max. 200°C / 390°F.
- Oxygen index: 24% according to ASTM D2863-91 and fulfills ISO 4589-3.

### Sound absorbent panels

| Part no  | Dimension     | Rear side     | Sound absorbent panel |
|----------|---------------|---------------|-----------------------|
| 41103800 | 500 x 1000 mm | Non-adhesive  | 20 mm                 |
| 41103801 | 500 x 1000 mm | Non-adhesive  | 30 mm                 |
| 41103802 | 500 x 1000 mm | Non-adhesive  | 50 mm                 |
| 41103803 | 500 x 1000 mm | Self-adhesive | 20 mm                 |
| 41103804 | 500 x 1000 mm | Self-adhesive | 30 mm                 |
| 41103805 | 500 x 1000 mm | Self-adhesive | 50 mm                 |



### Best result

To achieve the best possible result, it is important that you fit the sheets properly. The joins must be as tight as possible and covered with foil tape to avoid noise leakage or penetration of water, which could be absorbed by the material. For convenient mounting you can use Sound Insulation Hangers.

### Foil tape

| Part no  | Aluminium tape | Rear side     | Length |
|----------|----------------|---------------|--------|
| 41103806 | Roll           | Self-adhesive | 5 m    |
| 41103809 | Roll           | Self-adhesive | 50 m   |

### Sound insulation hangers

For convenient mounting, 10 pcs.

| Part no  |
|----------|
| 41103810 |

# REPOWERING

Installing a new engine is an investment in a better boating experience. With the right engine, you'll enjoy increased reliability, better performance and improved fuel economy, along with a cleaner, quieter and more comfortable ride. Changing to a new engine will also increase the value of your boat.

Volvo Penta offers a wide range of engines – from 12 to 1000 hp – to suit your needs and bring new life to your boat. In addition, we offer several smart repowering kits, designed to make the transition to a new and modern engine easier and more cost effective.



THE D3 REPOWERING KIT

Replace your old diesel or gasoline engine with a new, modern Volvo Penta D3 diesel engine – all while keeping your current drive.

The D3 repowering kit consists of all components needed for a perfect match between the new engine and your existing drive. The kit provides full EVC functionality including electronic shift and throttle for smooth and precise control. In addition, it gives you access to a wide range of accessories, making your boating experience easier, safer and more enjoyable.

Read more about Volvo Penta D3 at [www.volvopenta.com](http://www.volvopenta.com)

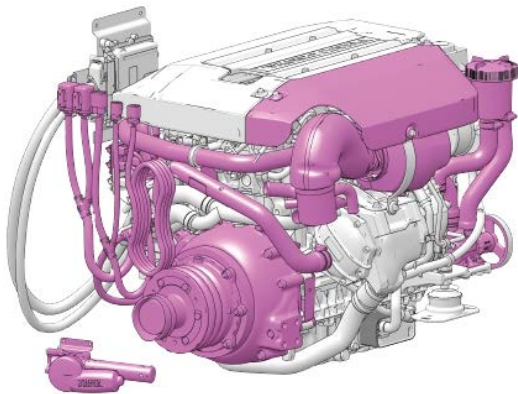
Drive and engine combinations

The table shows various drive and engine combinations that are available with the D3 Repowering Kit. Always consult your Volvo Penta dealer about the best engine option for your boat and drive.

| Drive          | D3-140 | D3-170 | D3-200 | D3-220 |
|----------------|--------|--------|--------|--------|
| AQ290          | ●      | ●      | ●      | ●      |
| AQ290A         | ●      | ●      | ●      | ●      |
| AQ290-DP       | ●      | ●      | ●      | ●      |
| AQ290A-DP      | ●      | ●      | ●      | ●      |
| SP-A, -A1, -A2 | ●      | ●      | ●      | ●      |
| SP-C           | ●      | ●      | ●      | ●      |
| SP-E           | ●      | ●      | ●      | ●      |
| DP-A, -A1, -A2 | ●      | ●      | ●      | ●      |
| DP-B, -B1      | ●      | ●      | ●      | ●      |
| DP-C, -C1      | ●      | ●      | ●      | ●      |
| DP-D, -D1      | ●      | ●      | ●      | ●      |
| DP-E           | ●      | ●      | ●      | ●      |



The D3 diesel engine connected to a classic AQ290 drive using the D3 repowering kit.



D3 repowering kit. All required components are included, such as adapter ring, exhaust riser, heat shield for turbo and riser, engine cover, installation instruction etc.

Whatever your needs are, your Volvo Penta dealer has the expertise and special tools required to evaluate your repowering options and help you to make the best choice for your boat.

Planning well ahead with a competent partner is the key for a successful repowering.

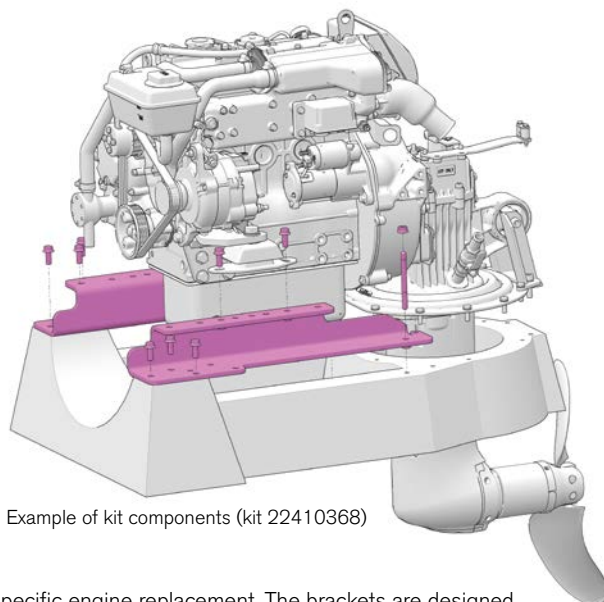


## D1/D2 REPOWERING KIT

Give your boat a new life by replacing your old engine with a new Volvo Penta D1 or D2 diesel engine. The D1/D2 Repowering Kit will make it easier to install the new engine and will cause minimal impact to your existing engine bed.

With a new Volvo Penta engine installed, you will experience the advantages of improved maneuverability, quieter operation, increased performance and charging capacity. You'll also boost the value of your boat.

The D1/D2 Repowering Kit is available for engines in both shaft and Saildrive installations.



Example of kit components (kit 22410368)

### MADE TO MATCH WITH EXISTING ENGINE BED

The D1/D2 Repowering Kit contains a unique set of components required for the specific engine replacement. The brackets are designed to perfectly match the new engine to your existing engine bed, minimizing time consuming fiberglass work. The installation will ensure low vibrations and a quiet boat operation.

Depending on your engine series, the D1/D2 Repowering Kit consists of: Brackets, screws, nuts and installation instruction.:

Below you'll find possible engine replacements available with the D1/D2 Repowering Kit. Please contact your Volvo Penta dealer for the best repowering options for your boat.

#### Repowering with Saildrive (from Volvo Penta engine)

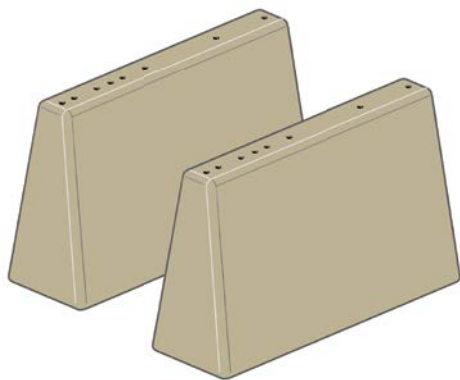
| Kit no        | Note                                  | Current engine   | New engine          |
|---------------|---------------------------------------|------------------|---------------------|
| 22410366      |                                       | MD5              | D1-13/20/30         |
| 22410368      |                                       | MD6/7/11/17      | D1-13/20/30 & D2-40 |
| 22410370      |                                       | MD17             | D2-50/60/75         |
| 22410372      | Engine bed modifications needed       | MD21             | D2-50/60/75         |
| 22410374      |                                       | 2001             | D1-13/20/30         |
| 22410376      | Engine bed modifications needed       | 2002/3(T)        | D1-13/20/30         |
| 22410378      |                                       | 2003/2003T       | D2-40               |
| No kit needed |                                       | MD2010/2020/2030 | D1-13/20/30         |
| 22410380      |                                       | MD2020/30        | D2-40               |
| 22410382      |                                       | MD2040           | D2-40               |
| No kit needed | Minor engine bed modifications needed | MD22 L/P & TMD22 | D1-13/20/30 & D2-40 |

For above installations the existing Saildrive needs to be replaced, except for the 120S saildrive when repowering to D1-13 to D2-40. Then it's possible to add the kit 22567193 and keep the 120S.

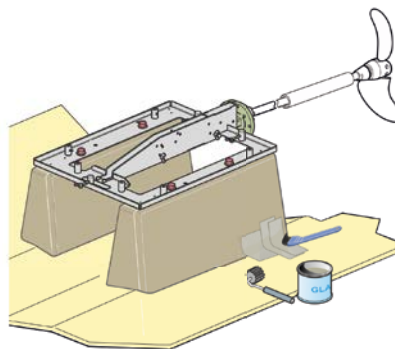
#### Repowering with gearbox (from Volvo Penta engine)

| Kit no        | Note                            | Current engine  | New engine          |
|---------------|---------------------------------|-----------------|---------------------|
| No kit needed | New gearbox MS15L               | MD1/2           | D1-13/20/30 & D2-40 |
| 22594876      |                                 | MD3             | D1-13/20/30 & D2-40 |
| Tool 22340457 | Engine bed modifications needed | MD5A-B          | D1-13/20/30 & D2-40 |
| 22567201      |                                 | MD6/7A-B        | D1-13/20/30 & D2-40 |
| 22567203      |                                 | MD11C-D         | D1-13/20/30 & D2-40 |
| Tool 22340457 | Engine bed modifications needed | MD17C           | D1-13 to D2-75      |
| Tool 22340457 | Engine bed modifications needed | MD21A-B         | D2-50/60/75         |
| 22567205      |                                 | 2001/2/3(T)     | D1-13/20/30 & D2-40 |
| No kit needed |                                 | MD2010          | D1-13/20/30         |
| No kit needed |                                 | MD2020/2030     | D1-13/20/30 & D2-40 |
| No kit needed |                                 | MD2040          | D2-50/60/75         |
| No kit needed |                                 | MD22L-P & TMD22 | D2-50/60/75         |

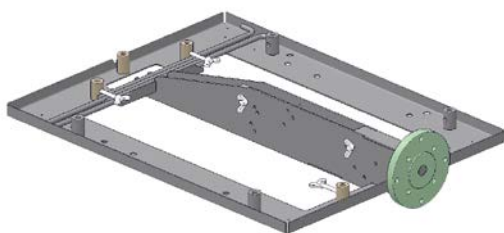
For above installations, the gearbox needs to be replaced.



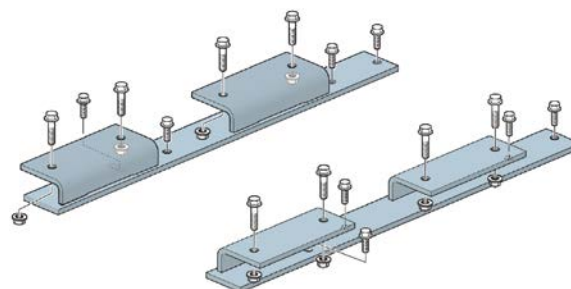
Beam 23065809 (order two)



Example from installation manual how to rebuild the engine bed



Tool 22340457



Example of kit components (kit 23059553)

### Repowering with Saildrive (from Yanmar engine)

| Kit no   | Note           | Current engine | New engine          |
|----------|----------------|----------------|---------------------|
| 23059555 | Bed 370 mm     | Yanmar SD20/25 | D1-13/20/30 & D2-40 |
| 23059557 | Bed 420/470 mm | Yanmar SD60    | D2-50/60/75         |

For above installations the existing Saildrive needs to be replaced.

### Repowering with gearbox (from Yanmar engine)

| Kit no   | Note                            | Current engine                   | New engine          |
|----------|---------------------------------|----------------------------------|---------------------|
| 23059549 |                                 | 1GM / 1GM10                      | D1-13/20/30         |
| 23059551 |                                 | 2GM / 3GMD / 3GM                 | D1-13/20/30 & D2-40 |
| 23059551 |                                 | 2QM15 / 2GM20                    | D1-13/20/30 & D2-40 |
| 23059551 |                                 | 3YM30 / 3YM20 / 2YM15            | D1-13/20/30 & D2-40 |
| 23059551 |                                 | 3HM                              | D1-13/20/30 & D2-40 |
| 23059553 |                                 | YSE8                             | D1-13/20/30         |
| 23065809 | Order two. Tool 22340457 needed | 4JH45-KM35P / 4JH45-ZF30M        | D2-40/50/60/75      |
| 23065809 | Order two. Tool 22340457 needed | 3QM30 / 3QM30H / 3QM30Y / 3QM30F | D1-30 & D2-40       |

For all installations the gear box must be replaced. All repowering kits for Yanmar are designed for straight (lined) gear box installation.



# PROPELLERS

## DEVELOPED FOR PERFECT MATCH

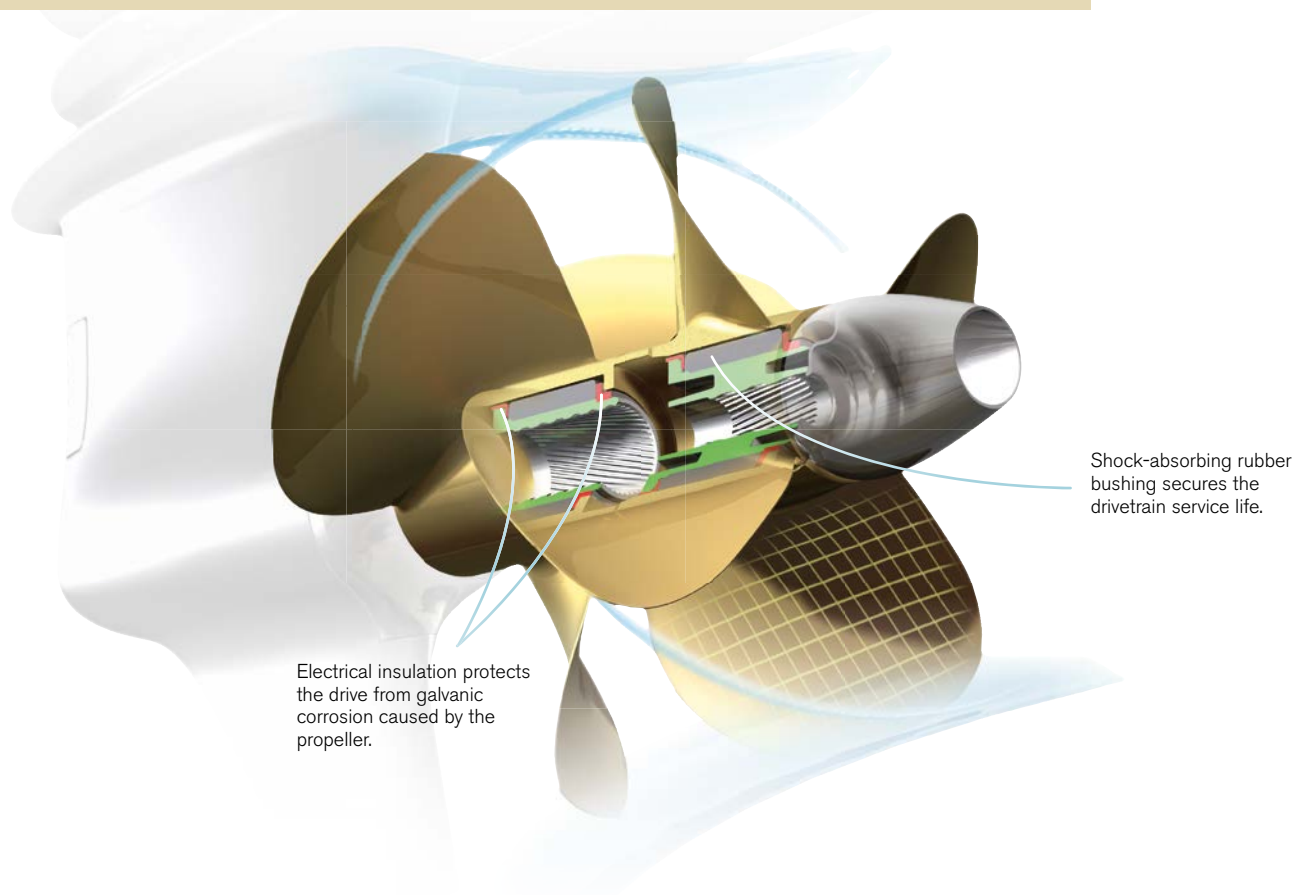
Volvo Penta is world-leading in propeller design. Each propeller is developed exclusively for a specific drive and engine. The design is unique and gives high efficiency at all speeds, safe handling and excellent onboard comfort. Our propellers are made from high-performance stainless steel, aluminium or nickel-bronze-aluminium depending on the specific drive and engine.

A correct choice of propeller is absolutely vital to get the most out of the engine and drive. Their performance decides whether the power produced is turned into boat performance or not.

To get an accurate analysis of what propeller to use with your propulsion system, please contact your local Volvo Penta dealer.

## DUOPROP PROPELLERS FOR AQUAMATIC

When Volvo Penta introduced the patented Duoprop in 1982, it was the biggest event in boating since the propeller was invented. Twin counter rotating propellers bite hard to produce unparalleled thrust, straight and true tracking - even in reverse - plus faster acceleration on the plane.



## STATE-OF-THE-ART PROPELLER TECHNOLOGY

The superior performance of Volvo Penta's world-leading propellers gives you a better boating experience – and peace of mind. Designed for perfect match, they also secure the service life of your drive.

## DUOPROP FOR THE DPH DRIVE

### Type G

Designed to capture the tremendous torque from the D4 and D6 engines, the patented blade geometry provides optimal interaction between front and rear propellers for outstanding efficiency and smooth and comfortable operation. The large blade area and great strength ensure maximum grip and maneuverability. The extremely strong nibral (nickel-bronze-aluminum) alloy ensures minimum growth and excellent durability. Complete with shock-absorbing rubber bushing and galvanic isolation makes it perfectly matched for the DPH-drive.

| DIM |  |  |  | DIM |  |  |  |
|-----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| G2  | 22898642                                                                          | 22898622                                                                          | 22898632                                                                          | G7  | 22898647                                                                          | 22898627                                                                           | 22898637                                                                            |
| G3  | 22898643                                                                          | 22898623                                                                          | 22898633                                                                          | G8  | 22898648                                                                          | 22898628                                                                           | 22898638                                                                            |
| G4  | 22898644                                                                          | 22898624                                                                          | 22898634                                                                          | G9  | 22898649                                                                          | 22898629                                                                           | 22898639                                                                            |
| G5  | 22898645                                                                          | 22898625                                                                          | 22898635                                                                          | G10 | 22898650                                                                          | 22898630                                                                           | 22898640                                                                            |
| G6  | 22898646                                                                          | 22898626                                                                          | 22898636                                                                          |     |                                                                                   |                                                                                    |                                                                                     |



## DUOPROP FOR THE DPR DRIVE

### Type GR

The GR propeller is developed to handle the outstanding demand for thrust and strength placed by the DPR high speed drive developed for the D4 and D6 engines. Made in stainless steel.

| DIM |  |  |  |
|-----|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| GR7 | 3863492                                                                           | 3863501                                                                            | 3863502                                                                             |
| GR8 | 3863493                                                                           | 3863503                                                                            | 3863504                                                                             |
| GR9 | 3863494                                                                           | 3863505                                                                            | 3863506                                                                             |



## Accessories for the DPH, DPR drives - type G/GR

| Part No  | Qty | Description              | Part No  | Qty | Description              |
|----------|-----|--------------------------|----------|-----|--------------------------|
| 21829326 | 1   | Propeller cone kit - G   | 828250   | 1   | Lubricating grease 25g   |
| 3863211  | 1   | Propeller nut, front     | 21347121 | 1   | Grease, prop shaft 400ml |
| 3863213  | 1   | Propeller nut, rear      | 22820893 | 1   | Bushing, front - G       |
| 21318669 | 1   | Propeller tool           | 22820909 | 1   | Bushing, rear - G        |
| 3588753  | 1   | Bellow kit, exhaust      | 3862770  | 1   | Bushing, front - GR      |
| 3594509  | 1   | Bellow kit, transmission | 3862771  | 1   | Bushing, rear - GR       |

## FWD DRIVE

### Type K

Specifically designed for the Volvo Penta Forward Drive. These propellers are made of a strong and durable stainless-steel to provide excellent acceleration and top speed. The patented bushing made of a naval brass reduces vibrations, stress on the drivetrain components and prevents corrosion by galvanically isolating the stainless-steel propeller from the aluminum drive casting.

| DIM |  |  |  | DIM |  |  |  |
|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| K2  | 22417005                                                                            | 22414377                                                                            | 22414383                                                                            | K5  | 22417008                                                                            | 22414380                                                                             | 22414386                                                                              |
| K3  | 22417006                                                                            | 22414378                                                                            | 22414384                                                                            | K6  | 22417009                                                                            | 22414381                                                                             | 22414387                                                                              |
| K4  | 22417007                                                                            | 22414379                                                                            | 22414385                                                                            | K7  | 22417010                                                                            | 22414382                                                                             | 22414388                                                                              |



## Accessories for the FWD drive - type K

| Part No  | Qty | Description             | Part No  | Qty | Description          |
|----------|-----|-------------------------|----------|-----|----------------------|
| 22592621 | 1   | Propeller hardware kit* | 22477740 | 1   | Propeller nut, front |
| 22413546 | 1   | Propeller cone          | 22477738 | 1   | Propeller nut, rear  |
| 60111646 | 1   | Hex socket screw        | 22436582 | 1   | Flow deflector       |
| 963683   | 1   | Hex socket screw        |          |     |                      |

DUOPROP FOR DP280, 290, DP-A TO DP-E DRIVES

Type J

A completely modern aluminum propeller designed for our classic Duoprop drives. The patented blade geometry and large propeller diameter provides optimal efficiency as well as quiet and smooth operation. A special high-strength aluminum alloy and squeeze casting process makes the propellers stronger and more durable than traditional die-cast propellers. Four layers of paint ensures excellent corrosion protection performance.

**Note!** Always use type C stainless steel propellers in engines exceeding 240 hp or capable of speeds above 38 knots (45 mph). See next page.

| DIM  |  |  |  |
|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| J 2  | 21924262                                                                          | 21924222                                                                          | 21924242                                                                          |
| J 3  | 21924263                                                                          | 21924223                                                                          | 21924243                                                                          |
| J 4  | 21924264                                                                          | 21924224                                                                          | 21924244                                                                          |
| J 5  | 21924265                                                                          | 21924225                                                                          | 21924245                                                                          |
| J 6  | 21924266                                                                          | 21924226                                                                          | 21924246                                                                          |
| J 7  | 21924267                                                                          | 21924227                                                                          | 21924247                                                                          |
| J 8  | 21924268                                                                          | 21924228                                                                          | 21924248                                                                          |
| J 9  | 21924269                                                                          | 21924229                                                                          | 21924249                                                                          |
| J 10 | 21924270                                                                          | 21924230                                                                          | 21924250                                                                          |



Upgrade from type A or type B propellers to type J propellers

To ensure the best performance for your boat, consult your Volvo Penta dealer for advice on the right propeller size for your drive and engine. **Note!** Do not mix Type A, B and J propellers. Always use propellers of the same type and size on the drive (or on both drives in twin installations).

Type A

Aluminium DP propeller for diesel engines up to 200 hp. The unique design, of the 3-blade propeller in the front and the 4-blade propeller behind, is the key to the outstanding grip in the water.

| DIM |  |  |  | DIM  |  |  |  |
|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| A 0 | 872270                                                                              | 872259                                                                              | 872264                                                                              | A 6  | **                                                                                  | 854779                                                                               | 854789                                                                                |
| A 1 | 854764                                                                              | 854774                                                                              | 854784                                                                              | A 7  | **                                                                                  | 854780                                                                               | 854790                                                                                |
| A 2 | **                                                                                  | 854775                                                                              | 854785                                                                              | A 8  | **                                                                                  | 854781                                                                               | 854791                                                                                |
| A 3 | **                                                                                  | 854776                                                                              | 854786                                                                              | A 9  | **                                                                                  | 854782                                                                               | 854792                                                                                |
| A 4 | **                                                                                  | 854777                                                                              | 854787                                                                              | A 10 | **                                                                                  | 854783                                                                               | 854793                                                                                |
| A 5 | **                                                                                  | 854778                                                                              | 854788                                                                              |      |                                                                                     |                                                                                      |                                                                                       |



\*\* For complete kit use the J-series propellers.

Type B

Aluminium DP propeller for gasoline and diesel engines (diesel up to 230 hp). The two 3-blade propellers have very thin blade profiles, demanding the highest level of precision. For speeds above 35 knots we recommend the stainless Type C propeller.

| DIM |  |  |  | DIM |  |  |  |
|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| B 1 | **                                                                                  | 854822                                                                              | 854830                                                                              | B 5 | **                                                                                  | 854826                                                                               | 854834                                                                                |
| B 2 | **                                                                                  | 854823                                                                              | 854831                                                                              | B 6 | **                                                                                  | 854827                                                                               | 854835                                                                                |
| B 3 | **                                                                                  | 854824                                                                              | 854832                                                                              | B 7 | **                                                                                  | 854828                                                                               | 854836                                                                                |
| B 4 | **                                                                                  | 854825                                                                              | 854833                                                                              | B 8 | **                                                                                  | 854829                                                                               | 854837                                                                                |



\*\* For complete kit use the J-series propellers.

## DUOPROP FOR DP280, 290, DP-A to DP-G DRIVES

### Type C

The Volvo Penta state-of-the-art stainless steel DP propeller has been specially designed to give maximum thrust where most needed. The high speed is achieved through thinner blades and powerful thrust. Greater torsional strength adds faster acceleration. The stainless steel material makes the propellers durable and highly resistant to cavitation, damage and corrosion. All these factors contribute to excellent handling and comfort.

| DIM |  |  |  | DIM |  |  |  |
|-----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| C 2 | 3588222                                                                           | 3587864                                                                           | 3587870                                                                           | C 5 | 3588225                                                                           | 3587867                                                                            | 3587873                                                                             |
| C 3 | 3588223                                                                           | 3587865                                                                           | 3587871                                                                           | C 6 | 3588226                                                                           | 3587868                                                                            | 3587874                                                                             |
| C 4 | 3588224                                                                           | 3587866                                                                           | 3587872                                                                           | C 7 | 3588227                                                                           | 3587869                                                                            | 3587875                                                                             |



### Accessories for the DP280, 290, DP-A to DP-G drives - type A, B, C, J

| Part No | Qty | Description                     | Part No  | Qty | Description                                |
|---------|-----|---------------------------------|----------|-----|--------------------------------------------|
| 3851334 | 1   | Propeller nut                   | 876294   | 1   | Bellow kit, CV joint (DP290, DP-A to DP-G) |
| 3858458 | 1   | Thrust ring                     | 873058   | 1   | Propeller tool                             |
| 3858457 | 1   | Thrust ring                     | 828250   | 1   | Lubricating grease 25g                     |
| 872549  | 1   | Propeller cone - shaft 20 mm    | 21347121 | 1   | Grease, prop shaft 400ml                   |
| 872614  | 1   | Propeller cone - shaft 16 mm    | 3851533  | 1   | Bushing, front (type A, B)                 |
| 876633  | 1   | Bellow kit, Exhaust (DP280-DPE) | 3851534  | 1   | Bushing, rear (type A, B)                  |
| 876631  | 1   | Bellow kit, Exhaust (DP290-DPE) | 3843315  | 1   | Bushing, front (type C)                    |
| 876294  | 1   | Bellow kit, CV joint (DP280)    | 3843316  | 1   | Bushing, rear (type C)                     |

## DUOPROP FOR THE DPX DRIVE

### Type E

This stainless steel propeller is specially developed to handle the high forces of the DPX high speed drive. Handling speeds up to 75 knots put high demands on the propellers performance.

| DIM |  |  |  |
|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| E 2 | 3860065                                                                             | 872422                                                                              | 3860011                                                                              |
| E 3 | 3860066                                                                             | 872423                                                                              | 3860012                                                                              |
| E 4 | 3860067                                                                             | 872424                                                                              | 3860013                                                                              |



### Accessories for the DPX drive - type E

| Part No | Qty | Description              | Part No  | Qty | Description              |
|---------|-----|--------------------------|----------|-----|--------------------------|
| 3851335 | 1   | Propeller nut            | 885195   | 1   | Propeller tool           |
| 872179  | 1   | Propeller nut            | 828250   | 1   | Lubricating grease 25g   |
| 872546  | 1   | Lock screw               | 21347121 | 1   | Grease, prop shaft 400ml |
| 876631  | 1   | Bellow kit, Exhaust      | 872176   | 1   | Bushing, front           |
| 876294  | 1   | Bellow kit, Transmission | 872177   | 1   | Bushing, rear            |

## DUOPROP FOR THE DPS-A DRIVE

### Type I

A propeller introduced replacing the D-series. The development work and experience from the successful DPH and IPS twin-propellers has been transferred to an aluminium propeller series with straight splines.

The propeller series are smooth running with high comfort level. The blade geometry with thinner and larger (patented design) gives improved performance regarding acceleration, top speed and propeller grip. The design, material and its surface treatment gives a good cavitation resistance. The series also have improved 4-layer surface treatment including pre-treatment for corrosion protection. The I-series is recommended for boat speeds up to 38 knots (45 mph)

**Note!** Do not mix D series with I series on the same drive. For twin installations use only the same propeller type on both drives.

| DIM |  |  |  | DIM  |  |  |  |
|-----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| I 2 | 21258482                                                                          | 21260642                                                                          | 21657162                                                                          | I 7  | 21258487                                                                          | 21260647                                                                           | 21657167                                                                            |
| I 3 | 21258483                                                                          | 21260643                                                                          | 21657163                                                                          | I 8  | 21258488                                                                          | 21260648                                                                           | 21657168                                                                            |
| I 4 | 21258484                                                                          | 21260644                                                                          | 21657164                                                                          | I 9  | 21258489                                                                          | 21260649                                                                           | 21657169                                                                            |
| I 5 | 21258485                                                                          | 21260645                                                                          | 21657165                                                                          | I 10 | 21258490                                                                          | 21260650                                                                           | 21657170                                                                            |
| I 6 | 21258486                                                                          | 21260646                                                                          | 21657166                                                                          |      |                                                                                   |                                                                                    |                                                                                     |



### Type D

The aluminium propeller for all gasoline and diesel engines using the DPS drive. The D-series is replaced by the I-series.

**Note!** Do not mix D series with I series on the same drive. For twin installations use only the same propeller type on both drives.

| DIM |  |  |  | DIM |  |  |  |
|-----|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| D 0 | **                                                                                 | 3851420*                                                                           | 3851440*                                                                           | D 5 | **                                                                                 | 3856345*                                                                            | 3856355*                                                                             |
| D 1 | **                                                                                 | 3851421*                                                                           | 3851441*                                                                           | D 6 | **                                                                                 | 3856346*                                                                            | 3856356*                                                                             |
| D 2 | **                                                                                 | 3851422*                                                                           | 3851442*                                                                           | D 7 | **                                                                                 | 3856347*                                                                            | 3856357*                                                                             |
| D 3 | **                                                                                 | 3851423*                                                                           | 3851443*                                                                           |     |                                                                                    |                                                                                     |                                                                                      |

\* The D-series front and rear propeller are only available as spare parts for existing installations.

\*\* For complete kit use the I-series propellers.



### Type F

The stainless steel option for high performance gasoline and diesel engines with DPS drive. The material used gives the propeller blades greater torsional strength. The propellers are electrically insulated from the drive to prevent galvanic corrosion.

| DIM |  |  |  | DIM |  |  |  |
|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| F 2 | 3857563                                                                             | 3857557                                                                             | 3857558                                                                             | F 6 | 3851496                                                                             | 3851466                                                                              | 3851476                                                                               |
| F 3 | 3857564                                                                             | 3857559                                                                             | 3857560                                                                             | F 7 | 3851497                                                                             | 3851467                                                                              | 3851477                                                                               |
| F 4 | 3851494                                                                             | 3851464                                                                             | 3851474                                                                             | F 8 | 3851498                                                                             | 3851468                                                                              | 3851478                                                                               |
| F 5 | 3851495                                                                             | 3851465                                                                             | 3851475                                                                             | F 9 | 3851499                                                                             | 3851469                                                                              | 3851479                                                                               |



### Accessories for the DPS-A drive - type D, F and I

| Part No  | Qty | Description              | Part No  | Qty | Description                 |
|----------|-----|--------------------------|----------|-----|-----------------------------|
| 3851569  | 1   | Propeller nut, front     | 3862808  | 1   | Propeller tool, rear        |
| 21631162 | 1   | Propeller nut, rear      | 3855516  | 1   | Propeller tool kit          |
| 3851600  | 1   | Front spacer ring        | 828250   | 1   | Lubricating grease 25g      |
| 3888916  | 1   | Bellow kit, Exhaust      | 21347121 | 1   | Grease, prop shaft 400ml    |
| 22197130 | 1   | Bellow kit, Transmission | 3851258  | 1   | Bushing, front (type D & F) |
| 3862797  | 1   | Propeller tool, front    | 3851259  | 1   | Bushing, rear (type D & F)  |

## DUOPROP FOR THE DPS-B DRIVE

### Type IH

The new IH-series have the same benefits as Type I but is specially made for the DPS-B drives with helical splines. Only FH- and IH-series propellers have the helical splines. The IH-series is the aluminium option for the DPS-B drive.

**Important!** IH propellers are only approved on D3 diesel and 4.3L gasoline applications below 38 knots (45mph).

| DIM  |  |  |  | DIM   |  |  |  |
|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| IH 2 | 21661942                                                                          | 21661902                                                                          | 21661922                                                                          | IH 7  | 21661947                                                                          | 21661907                                                                           | 21661927                                                                            |
| IH 3 | 21661943                                                                          | 21661903                                                                          | 21661923                                                                          | IH 8  | 21661948                                                                          | 21661908                                                                           | 21661928                                                                            |
| IH 4 | 21661944                                                                          | 21661904                                                                          | 21661924                                                                          | IH 9  | 21661949                                                                          | 21661909                                                                           | 21661929                                                                            |
| IH 5 | 21661945                                                                          | 21661905                                                                          | 21661925                                                                          | IH 10 | 21661950                                                                          | 21661910                                                                           | 21661930                                                                            |
| IH 6 | 21661946                                                                          | 21661906                                                                          | 21661926                                                                          |       |                                                                                   |                                                                                    |                                                                                     |



### Type FH

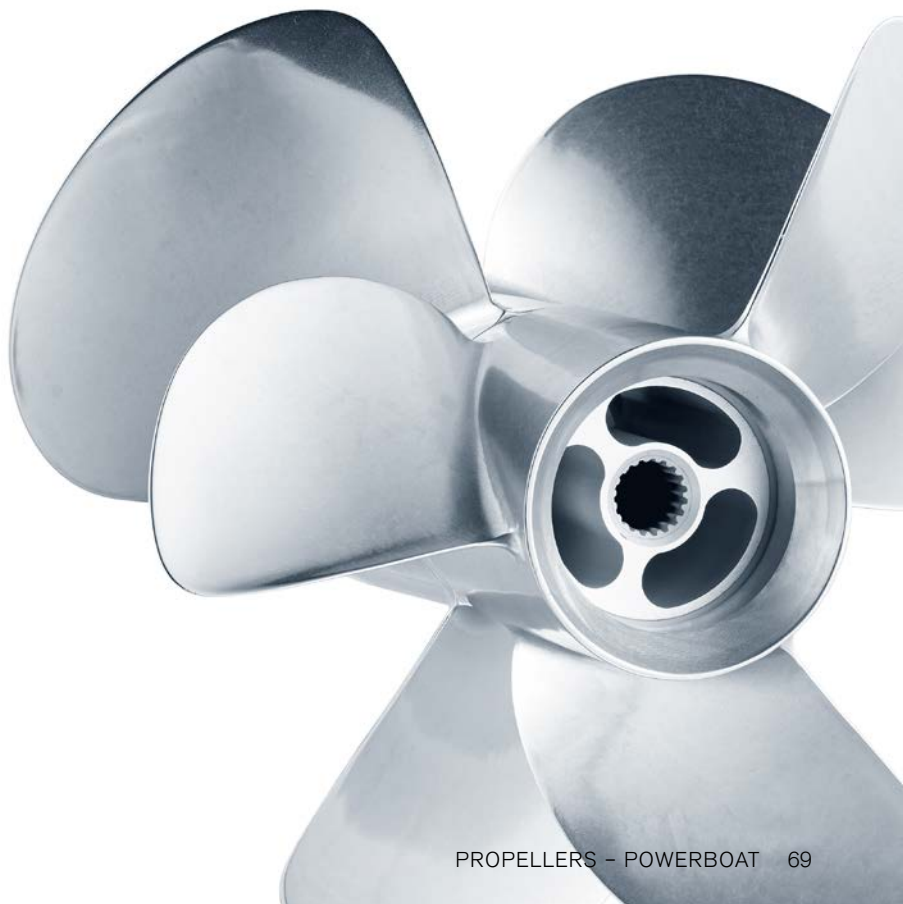
The stainless steel option for high performance gasoline and diesel engines with DPS-B drive. Only FH and IH series propellers have the helical splines. The FH propeller is designed to transfer all thrust from the propeller to the main body of bushing. This ensures that the propeller cannot walk forward on the bushing. The propellers are electrically insulated from the drive to prevent galvanic corrosion.

| DIM  |  |  |  | DIM  |  |  |  |
|------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| FH 2 | 3885838                                                                            | 3885846                                                                            | 3885847                                                                            | FH 6 | 3885842                                                                            | 3885854                                                                             | 3885855                                                                              |
| FH 3 | 3885839                                                                            | 3885848                                                                            | 3885849                                                                            | FH 7 | 3885843                                                                            | 3885857                                                                             | 3885859                                                                              |
| FH 4 | 3885840                                                                            | 3885850                                                                            | 3885851                                                                            | FH 8 | 3885844                                                                            | 3885860                                                                             | 3885861                                                                              |
| FH 5 | 3885841                                                                            | 3885852                                                                            | 3885853                                                                            | FH 9 | 3885845                                                                            | 3885862                                                                             | 3885863                                                                              |



### Accessories for the DPS-B drive - type FH and IH

| Part No  | Qty | Description              |
|----------|-----|--------------------------|
| 3851569  | 1   | Propeller nut, front     |
| 21631162 | 1   | Propeller nut, rear      |
| 3851600  | 1   | Front spacer ring        |
| 21604545 | 1   | Bushing, front (type FH) |
| 21604578 | 1   | Bushing, rear (type FH)  |
| 3888916  | 1   | Bellow kit, Exhaust      |
| 22197130 | 1   | Bellow kit, Transmission |
| 3862797  | 1   | Tool, front              |
| 3862808  | 1   | Tool, rear               |
| 3855516  | 1   | Tool kit                 |
| 828250   | 1   | Lubricating grease 25g   |
| 21347121 | 1   | Grease, prop shaft 400ml |



## SINGLE PROPELLERS FOR AQUAMATIC

The Volvo Penta single propellers are made from aluminium or high-performance stainless steel and are available for right-hand and left-hand rotation. Developed and tested for each application to ensure performance, handling and life expectancy. The design is unique, which results in high efficiency at all speeds, safe handling, easy maneuvering – and excellent onboard comfort.

### SINGLE PROPELLER FOR THE 200-290 DRIVES

The increased blade area of the high speed propeller makes it most suitable for use with high power engines and at high revs. In a fast boat this does not only mean increased speed, it also means that a heavily loaded boat will plane more quickly and enjoy better fuel economy. The high speed propeller's excellent reversing characteristics also mean faster and safer quayside manoeuvring.

#### Aluminium high speed long hub propeller

V6 and V8 engines should always be fitted with the long hub which is also suitable for 4 cylinder petrol engines.  
HS = High Speed propeller

| Ø x Pitch |  |  | Ø x Pitch |  |  |
|-----------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 14 x 17   | 854977                                                                            | 854992                                                                            | 16 x 9    | 854985                                                                            | —                                                                                   |
| 14 x 19   | 854978                                                                            | 854993                                                                            | 16 x 13   | 854986                                                                            | 872000                                                                              |
| 14 x 21   | 854979                                                                            | 854994                                                                            | 16 x 15   | 854987                                                                            | 872001                                                                              |
| 14 x 23   | 854980                                                                            | 854995                                                                            | 16 x 17   | 854988                                                                            | 872002                                                                              |
| 15 x 15   | 854981                                                                            | 854996                                                                            | 16 x 19   | 854989                                                                            | 872003                                                                              |
| 15 x 17   | 854982                                                                            | 854997                                                                            | 16 x 21   | 854990                                                                            | 872004                                                                              |
| 15 x 19   | 854983                                                                            | 854998                                                                            | 16 x 23   | 854991                                                                            | 872005                                                                              |
| 15 x 21   | 854984                                                                            | 854999                                                                            |           |                                                                                   |                                                                                     |



#### Aluminium high speed and standard propeller, short hub

STD = Standard Propeller HS = High Speed propeller

| Ø x Pitch |  |  | Ø x Pitch |  |  |
|-----------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 14 x 13   | 813284 STD                                                                          | 813285 STD                                                                          | 15 x 11   | 813296 STD                                                                          | 813297 STD                                                                            |
| 14 x 15   | 814626 HS                                                                           | 814631 HS                                                                           | 15 x 13   | 813316 STD                                                                          | 813317 STD                                                                            |
| 14 x 17   | 814627 HS                                                                           | 814632 HS                                                                           | 15 x 15   | 814611 HS                                                                           | 814615 HS                                                                             |
| 14 x 19   | 814628 HS                                                                           | 814633 HS                                                                           | 15 x 17   | 814612 HS                                                                           | 814616 HS                                                                             |



#### Accessories single propellers

| Part No  | Qty | Description              | Part No | Qty | Description           |
|----------|-----|--------------------------|---------|-----|-----------------------|
| 876294   | 1   | Bellow kit (DP200-290)   | 854047  | 1   | Spacer ring           |
| 873058   | 1   | Propeller tool kit       | 897367  | 1   | Tab washer            |
| 828250   | 1   | Lubricating grease 25g   | 850888  | 1   | Thrust washer         |
| 21347121 | 1   | Grease, prop shaft 400ml | 850889  | 1   | Screw                 |
| 854045   | 1   | Propeller cone           | 3851531 | 1   | Bushing (HS long hub) |

#### Standard propellers for 100 drives with cylindrical shaft and locking pin

HS = High Speed propeller

| Ø x Pitch |  |  |
|-----------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 13 x 13   | 813224                                                                              | 813233                                                                              |
| 13 x 15   | 839186 HS                                                                           |                                                                                     |
| 14 x 11   | 813227                                                                              |                                                                                     |
| 14 x 11   | 804449                                                                              |                                                                                     |
| 14 x 13   | 813229                                                                              |                                                                                     |
| 14 x 15   | 832992                                                                              |                                                                                     |



## SINGLE PROPELLERS FOR SX DRIVE

The SX propeller is available in 3-blade aluminium and stainless steel as well as 4-blade aluminium. The 3-blade SX is perfect for the standard installation and the stainless propeller being the perfect choice for high speeds. The 4-blade SX propeller is the perfect choice when acceleration and remaining planing at lower revs are important.

### 3-Blade

| Aluminium Ø x Pitch |  |  |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| 14,3 x 21           | –                                                                                 | 3817469                                                                           |
| 14,2 x 23           | –                                                                                 | 3817470                                                                           |
| 14,5 x 19           | 3817473                                                                           | 3817468                                                                           |
| 14,8 x 17           | 3817472                                                                           | 3817467                                                                           |
| 15 x 15             | 3817471                                                                           | 3817466                                                                           |
| 15,5 x 12           | 3855476                                                                           | –                                                                                 |
| 15,5 x 13           | 3855477                                                                           | 16 x 13 3840720                                                                   |
| 15,5 x 14           | 3855478                                                                           | –                                                                                 |



### 3-Blade

| Stainless steel Ø x Pitch |  |  |
|---------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 14,75 x 17                | 3860714                                                                             | 3862462                                                                             |
| 14,75 x 19                | 3860715                                                                             | 3860708                                                                             |
| 14,75 x 21                | 3860716                                                                             | 3860709                                                                             |
| 14,25 x 23                | 3860717                                                                             | 3860710                                                                             |



### 4-Blade

| Aluminium Ø x Pitch |  |  |
|---------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 14,75 x 15          | 3587519                                                                             | 3587517                                                                             |
| 14,5 x 17           | 3587521                                                                             | 3587520                                                                             |
| 14,25 x 19          | 3587523                                                                             | 3587522                                                                             |
| 14 x 21             | 3587525                                                                             | 3587524                                                                             |
| 14 x 23             |                                                                                     | 3587526                                                                             |



## Accessories for the SX drive - Aluminium, Stainless Steel

| Part No | Qty | Description                                 | Part No  | Qty | Description              |
|---------|-----|---------------------------------------------|----------|-----|--------------------------|
| 3850984 | 1   | Propeller nut kit                           | 3587601  | 1   | Bushing (4-blade)        |
| 3852350 | 1   | Spacer                                      | 828250   | 1   | Lubricating grease 25g   |
| 3862086 | 1   | Bushing (3-blade stainless steel/aluminium) | 21347121 | 1   | Grease, prop shaft 400ml |
| 3852056 | 1   | Cotter pin                                  |          |     |                          |

## PROPELLERS FOR VOLVO PENTA IPS

The Volvo Penta IPS propellers are made to add to the revolutionary Volvo Penta IPS propulsion systems outstanding performance. Our propellers for Volvo Penta IPS take full advantage of the twin, counter-rotating concept. The propellers have perfect balance and are developed to match perfectly.

The front and rear propellers must interact in perfect harmony to deliver optimized performance. Volvo Penta has done extensive testing to ensure a perfect match throughout to complete drivetrain. Incorrect balance leads to excessive wear on the drivetrain. The nickel-aluminium-bronze propeller is developed to add to the revolutionary IPS propulsion system's outstanding performance. The design combined with a material that withstands corrosion, as well as minimizing growth, ensure optimum performance and outstanding manoeuvrability.

### PROPELLERS FOR VOLVO PENTA IPS 1 DRIVE

#### Type T

| DIM |  |  |  | DIM |  |  |  |
|-----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| T2  | 3861092                                                                           | 3861093                                                                           | 3861094                                                                           | T7  | 3861107                                                                           | 3861108                                                                            | 3861109                                                                             |
| T3  | 3861095                                                                           | 3861096                                                                           | 3861097                                                                           | T8  | 3861110                                                                           | 3861111                                                                            | 3861112                                                                             |
| T4  | 3861098                                                                           | 3861099                                                                           | 3861100                                                                           | T9  | 3861113                                                                           | 3861114                                                                            | 3861115                                                                             |
| T5  | 3861101                                                                           | 3861102                                                                           | 3861103                                                                           | T10 | 3861116                                                                           | 3861117                                                                            | 3861118                                                                             |
| T6  | 3861104                                                                           | 3861105                                                                           | 3861106                                                                           |     |                                                                                   |                                                                                    |                                                                                     |



#### Type TS - Semi-planing

| DIM |  |  |  | DIM |  |  |  |
|-----|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| TS3 | 21368025                                                                           | 21368026                                                                           | 21368027                                                                           | TS5 | 21258473                                                                           | 21258474                                                                            | 21258475                                                                             |
| TS4 | 21368016                                                                           | 21368017                                                                           | 21368018                                                                           | TS6 | 21368012                                                                           | 21368013                                                                            | 21368014                                                                             |



#### Accessories for propellers to Volvo Penta IPS drive - type T & TS

| Part No  | Qty | Description        | Part No  | Qty | Description              |
|----------|-----|--------------------|----------|-----|--------------------------|
| 22077581 | 1   | Propeller cone kit | 3861088  | 1   | Lock plate               |
| 21293480 | 1   | Propeller cone     | 963699   | 9   | Hex. socket screw        |
| 3862454  | 1   | Plastic ring       | 21686492 | 1   | Line cutter              |
| 3861209  | 1   | Lock ring          | 828250   | 2   | Lubricating grease 25g   |
| 3861087  | 1   | Lock nut           | 21347121 | 1   | Grease, prop shaft 400ml |

### PROPELLERS FOR VOLVO PENTA IPS 15 DRIVE

#### Type N/NS

Specifically developed for IPS with D8 engines to give outstanding efficiency, onboard comfort and maneuverability.

| DIM |  |  |  | DIM |  |  |  |
|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| NS4 | 21916044                                                                            | 21915974                                                                            | 21915994                                                                            | N4  | 21808224                                                                            | 21808194                                                                             | 21808214                                                                              |
| NS5 | 21916045                                                                            | 21915975                                                                            | 21915995                                                                            | N5  | 21808225                                                                            | 21808195                                                                             | 21808215                                                                              |
| N1  | 21808221                                                                            | 21808191                                                                            | 21808211                                                                            | N6  | 21808226                                                                            | 21808196                                                                             | 21808216                                                                              |
| N2  | 21808222                                                                            | 21808192                                                                            | 21808212                                                                            | N7  | 21808227                                                                            | 21808197                                                                             | 21808217                                                                              |
| N3  | 21808223                                                                            | 21808193                                                                            | 21808213                                                                            |     |                                                                                     |                                                                                      |                                                                                       |



#### Accessories for propellers to Volvo Penta IPS drive - type N & NS

| Part No  | Qty | Description          | Part No  | Qty | Description           |
|----------|-----|----------------------|----------|-----|-----------------------|
| 21815881 | 1   | Propeller cone       | 21913550 | 2   | Line cutter           |
| 963699   | 9   | Hex socket screw     | 21815872 | 1   | Propeller nut, rear   |
| 21815875 | 1   | Propeller nut, front | 21808200 | 1   | Flow deflector        |
| 21816205 | 1   | Felt washer          | 963696   | 4   | Hex socket screw      |
|          |     |                      | 85145750 | 1   | Locking fluid (10 ml) |

## PROPELLERS FOR VOLVO PENTA IPS 2 DRIVE

### Type P & PS

| DIM |  |  |  | DIM |  |  |  |
|-----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| PS4 | 21622828                                                                          | 21622814                                                                          | 21622823                                                                          | P4  | 3843962                                                                           | 3843963                                                                            | 3843964                                                                             |
| PS5 | 21622827                                                                          | 21622813                                                                          | 21622822                                                                          | P5  | 3843965                                                                           | 3843966                                                                            | 3843967                                                                             |
| P1  | 3843980                                                                           | 3843981                                                                           | 3843982                                                                           | P6  | 3843968                                                                           | 3843969                                                                            | 3843970                                                                             |
| P2  | 3843956                                                                           | 3843957                                                                           | 3843958                                                                           | P7  | 3843971                                                                           | 3843972                                                                            | 3843973                                                                             |
| P3  | 3843959                                                                           | 3843960                                                                           | 3843961                                                                           | P8  | 3843974                                                                           | 3843975                                                                            | 3843976                                                                             |



### Accessories for propellers to Volvo Penta IPS drive – Type P & PS

| Part No  | Qty | Description    | Part No  | Qty | Description              |
|----------|-----|----------------|----------|-----|--------------------------|
| 21154200 | 1   | Propeller cone | 21154277 | 1   | Propeller nut            |
|          | 1   | Spacer sleeve  | 21686494 | 1   | Line cutter              |
| 3843992  | 1   | Plastic ring   | 828250   | 2   | Lubricating grease 25g   |
| 3593639  | 1   | Felt washer    | 21347121 | 1   | Grease, prop shaft 400ml |
| 21154206 | 1   | Propeller nut  |          |     |                          |

## PROPELLERS FOR VOLVO PENTA IPS 3 DRIVE

### Type Q & QS

| DIM |  |  |  | DIM |  |  |  |
|-----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| QS5 | 21821365                                                                          | 21821255                                                                          | 21821265                                                                          | Q4  | 21433624                                                                          | 21433604                                                                           | 21433614                                                                            |
| Q1  | 21433621                                                                          | 21433601                                                                          | 21433611                                                                          | Q5  | 21433625                                                                          | 21433605                                                                           | 21433615                                                                            |
| Q2  | 21433622                                                                          | 21433602                                                                          | 21433612                                                                          | Q6  | 21433626                                                                          | 21433606                                                                           | 21433616                                                                            |
| Q3  | 21433623                                                                          | 21433603                                                                          | 21433613                                                                          | Q7  | 21433627                                                                          | 21433607                                                                           | 21433617                                                                            |



### Type QE

The QE series is developed for marine commercial vessels operating in polluted waters with a lot of debris. It has thicker blades compared to Q, adding strength but can slightly reduce the top speed.

| DIM |  |  |  | DIM |  |  |  |
|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| QE1 | 22059721                                                                            | 22059611                                                                            | 22059631                                                                            | QE3 | 22059723                                                                            | 22059613                                                                             | 22059633                                                                              |
| QE2 | 22059722                                                                            | 22059612                                                                            | 22059632                                                                            | QE4 | 22059724                                                                            | 22059614                                                                             | 22059634                                                                              |

### Accessories for propellers to Volvo Penta IPS drive – type Q, QS & QE

| Part No  | Qty | Description      | Part No  | Qty | Description              |
|----------|-----|------------------|----------|-----|--------------------------|
| 40005165 | 1   | Propeller cone   | 40005165 | 1   | Spinner                  |
| 40005161 | 1   | Propeller nut    | 21686496 | 1   | Line cutter              |
| 40005157 | 1   | Propeller nut    | 828250   | 2   | Lubricating grease 25g   |
| 21235219 | 1   | Felt washer      | 21347121 | 1   | Grease, prop shaft 400ml |
| 963699   | 11  | Hex socket screw |          |     |                          |

### Line Cutter

The line cutter is mounted to the rear propeller which creates a very efficient rotating cutting action. It is easy to install using the existing locking bolts and does not increase drag or fuel consumption.

| Fits                 | Part No  | Qty | Diameter      | Material            |
|----------------------|----------|-----|---------------|---------------------|
| IPS 1 <sup>1)</sup>  | 21686492 | 1   | 95 mm / 3.7"  | 316 Stainless steel |
| IPS 15 <sup>2)</sup> | 21913550 | 2   | 105 mm / 4.1" | 316 Stainless steel |
| IPS 2 <sup>1)</sup>  | 21686494 | 1   | 120 mm / 4.7" | 316 Stainless steel |
| IPS 3 <sup>1)</sup>  | 21686496 | 1   | 140 mm / 5.5" | 316 Stainless steel |

<sup>1)</sup> Included as standard from serial number: IPS 1 = 3940018643, IPS 2 = 3950002140, IPS 3 = 3950001773.

<sup>2)</sup> Included as standard from production start.



## VOLVO PENTA FOLDING PROPELLERS - SAILING WITHOUT COMPROMISE

Volvo Penta folding propellers offer the best of both worlds – minimal drag while sailing combined with the high thrust of a fixed propeller while motoring – even in reverse. The unique and patented design always ensures quick and safe opening of the blades for excellent close-quarter maneuverability and minimal stopping distance.

**Excellent durability** and corrosion resistance thanks to specially developed nibral (nickel-bronze-aluminum) alloy.

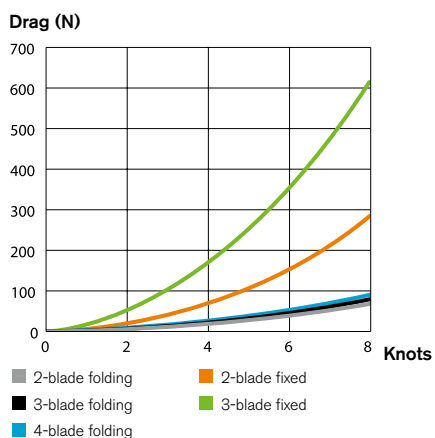
**High-skew blade design** reduces pressure pulses to ensure smooth, low-noise operation with minimal vibrations.

**Powerful thrust, even in reverse** thanks to the highly efficient and patented blade geometry.



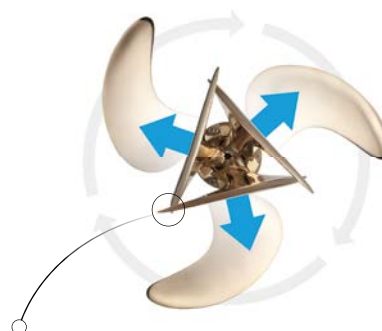
### Minimizing drag and increasing speed

Volvo Penta folding propellers improve the performance of your boat minimizing drag and increasing speed – up to 1.5 knots under sail, compared with a fixed propeller. In addition, the sleek profile also reduces the risk of snagging ropes, nets and debris when sailing.



The test was carried out by SSPA Maritime Consulting.  
All propellers were mounted on a Saildrive propulsion system.

The graph shows the difference in propeller drag and how rapidly the drag increases with fixed propellers and higher speed. At 8 knots for example, a 3-blade fixed propeller produces more than six times the drag of a 3-blade folding propeller. This means a typical journey across the English Channel can be reduced by up to 4 hours thanks to lower drag.



### Instant and powerful response – even in reverse

The patented design, with protruding blade tips ensures an instant opening action when the reverse gear is engaged. As soon as the propeller begins to rotate, mounting water pressure on the blade tips forces the blades to open. Centrifugal force then finalizes the opening action.



### Rubber bushing and galvanic isolation

Hubs for saildrive propellers include a shock-absorbing rubber bushing to minimize stress on the drivetrain caused by gear changes. In addition, the bushing is designed to galvanically isolate the propeller from the saildrive – preventing galvanic corrosion caused by the propeller.

## 2-BLADE FOLDING PROPELLER FOR 5-40 HP

Designed for engines from 5 up to 40 hp. Available in multiple sizes and pitches for both S-drives and shafts. Made of extremely strong and durable nibral (nickel-bronze-aluminum) alloy.

- Powerful thrust even in reverse thanks to patented blade geometry
- Smooth, low-noise operation with minimal vibrations
- Safe opening with quick response in both forward and reverse
- Rubber bushing and galvanic isolation (hubs for S-drives)

Note! For a complete propeller, order one blade kit and one hub kit. Propeller size has to be calculated to match engine and gear ratio, please contact your Volvo Penta dealer.



### Blade kits

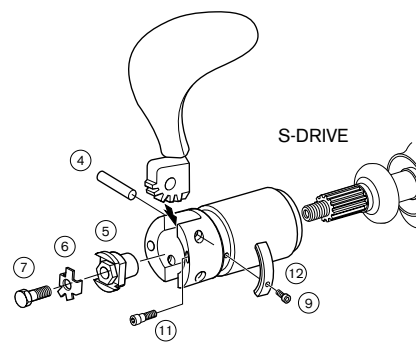
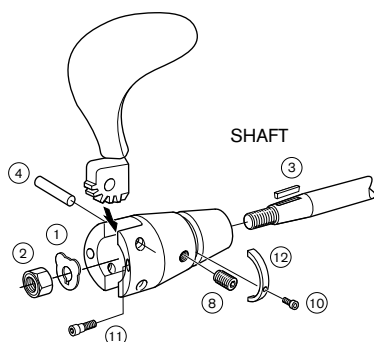
| S-Drive & shaft |          | Shaft    | S-Drive & shaft |          | Shaft    |
|-----------------|----------|----------|-----------------|----------|----------|
| Ø x Pitch       |          |          | Ø x Pitch       |          |          |
| 14 x 7          | 21629132 | 21629136 | 16 x 11         | 21629182 | 21629186 |
| 14 x 8          | 21629140 | 21629144 | 17 x 11         | 21629190 | 21629194 |
| 15 x 8          | 21629147 | 21629152 | 17 x 12         | 21629198 | 21629201 |
| 15 x 10         | 21629158 | 21629167 | 18 x 12         | 21629205 | 21629211 |
| 16 x 10         | 21629173 | 21629177 | 19 x 13         | 21629214 | 21629218 |

**Blade kit includes:** Blades, hex key for locking screw (pos 11), locking fluid and installation instruction.

### Hub kits

| Hub kit for S-drives                           |          | Hub kit for shafts                          |          |
|------------------------------------------------|----------|---------------------------------------------|----------|
| 110S, 120S, MS25S, 130S, 150S                  | 21630720 | Pre-drilled hub*                            | 21630725 |
| Hub kit for metric standard shaft (1:10 taper) |          | Hub kit for SAE standard shaft (1:16 taper) |          |
| 25 mm shaft (key 6 mm)                         | 21630721 | 1" shaft (key 5/16")                        | 21630723 |
| 30 mm shaft (Key 8 mm)                         | 21630722 | 1 1/4" shaft (key 5/16")                    | 21630724 |

**Hub kit includes:** Zinc anodes, locking fluid and installation hardware listed in the table below. \* Hub pre-drilled with 8 mm hole. Require final machining to the required shaft diameter and taper. Suitable for shafts up to 31,75 mm (1 1/4").



### Installation hardware, 2-blade folding propeller

| Pos | Part No  | Qty | Description            | Pos | Part No  | Qty | Description                 |
|-----|----------|-----|------------------------|-----|----------|-----|-----------------------------|
| 1   | 873475   | 1   | Tab washer, M16        | 6   | 3851994  | 1   | Lock washer 1)              |
| 1   | 873488   | 1   | Tab washer, M20        | 7   | 946730   | 1   | Hexagon screw 1)            |
| 2   | 873473   | 1   | Nut, prop shaft, M16   | 8   | 3581246  | 2   | Screw 2)                    |
| 2   | 873486   | 1   | Nut, prop shaft, M20   | 9   | 963677   | 2   | Hex. socket screw 1)        |
| 3   | 873474   | 1   | Key, prop shaft, Ø25mm | 10  | 963675   | 2   | Hex. socket screw 2)        |
| 3   | 873487   | 1   | Key, prop shaft, Ø30mm | 11  | 3595221  | 2   | Lock screw 1, 2)            |
| 4   | 21626924 | 2   | Shaft 1, 2)            | 12  |          | 2   | Zinc anode 1, 2, 3)         |
| 5   | 3584466  | 1   | Propeller nut 1)       |     | 85145750 | 1   | Locking fluid (10 ml) 1, 2) |

1) Included in hub kit for S-drive. 2) Included in hub kit for shaft. 3) For part number, see page 75.

### 3-BLADE FOLDING PROPELLER FOR 20-60 HP

Designed for engines from 20 up to 60 hp. Available in multiple sizes and pitches for both S-drives and shafts. Made of extremely strong and durable nibral (nickel-bronze-aluminum) alloy.

- Powerful thrust even in reverse thanks to patented blade geometry
- Smooth, low-noise operation with minimal vibrations
- Safe opening with quick response in both forward and reverse
- Rubber bushing and galvanic isolation (hubs for S-drives)

**Note!** For a complete propeller, order one blade kit and one hub kit. Propeller size has to be calculated to match engine and gear ratio, please contact your Volvo Penta dealer.



#### Blade kits

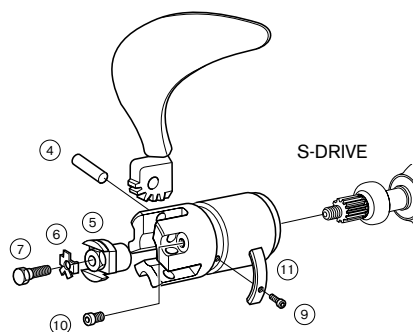
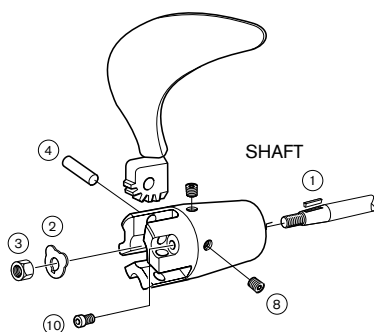
| S-Drive & shaft |         | Shaft   | S-Drive & shaft |         | Shaft   |
|-----------------|---------|---------|-----------------|---------|---------|
| Ø x Pitch       |         |         | Ø x Pitch       |         |         |
| 14 x 7          | —       | 3583409 | 17 x 12         | 3583388 | 3583417 |
| 14 x 8          | —       | 3583410 | 18 x 12         | 3583389 | 3583418 |
| 14 x 9          | 3583382 | 3583411 | 18 x 13         | 3583390 | 3583419 |
| 15 x 9          | 3583383 | 3583412 | 18 x 14         | 3583391 | 3583420 |
| 15 x 10         | 3583384 | 3583413 | 18 x 15         | 3583392 | 3583421 |
| 16 x 10         | 3583385 | 3583414 | 18 x 16         | 3584031 | 3583422 |
| 16 x 11         | 3583386 | 3583415 | 19 x 16         | 3583393 | 3583423 |
| 17 x 11         | 3583387 | 3583416 |                 |         |         |

**Blade kit includes:** Blades, hex key for locking screw (pos 10), locking fluid and installation instruction.

#### Hub kits

| Hub kit for S-drives                           |         | Hub kit for shafts                          |         |
|------------------------------------------------|---------|---------------------------------------------|---------|
| 110S, 120S, MS25S, 130S, 150S                  | 3858955 | Pre-drilled hub*                            | 3583428 |
| Hub kit for metric standard shaft (1:10 taper) |         | Hub kit for SAE standard shaft (1:16 taper) |         |
| 25 mm shaft (key 6 mm)                         | 3583424 | 1" shaft (key 1/4")                         | 3583426 |
| 30 mm shaft (Key 8 mm)                         | 3583425 | 1 1/4" shaft (key 5/16")                    | 3583427 |

**Hub kit includes:** Zinc anodes, locking fluid and installation hardware listed in the table below. \* Hub pre-drilled with 8 mm hole. Require final machining to the required shaft diameter and taper. Suitable for shafts up to 31,75 mm (1 1/4").



#### Installation hardware, 3-blade folding propeller

| Pos | Part No | Qty | Description            | Pos | Part No  | Qty | Description                 |
|-----|---------|-----|------------------------|-----|----------|-----|-----------------------------|
| 1   | 873474  | 1   | Key, prop shaft, Ø25mm | 6   | 3851994  | 1   | Lock washer 1)              |
| 1   | 873487  | 1   | Key, prop shaft, Ø30mm | 7   | 946730   | 1   | Hexagon screw 1)            |
| 2   | 873475  | 1   | Tab washer, M16        | 8   | 3581246  | 2   | Screw 2)                    |
| 2   | 873488  | 1   | Tab washer, M20        | 9   | 963677   | 3   | Hex. socket screw 1, 2)     |
| 3   | 873473  | 1   | Nut, prop shaft, M16   | 10  | 963695   | 3   | Hex. socket screw 1)        |
| 3   | 873486  | 1   | Nut, prop shaft, M20   | 11  |          | 2   | Zinc anode 1, 3)            |
| 4   | 3581243 | 3   | Shaft 1, 2)            |     | 85145750 | 1   | Locking fluid (10 ml) 1, 2) |
| 5   | 3584466 | 1   | Propeller nut 1)       |     |          |     |                             |

1) Included in hub kit for S-drive. 2) Included in hub kit for shaft. 3) For part number, see page 75.

## 4-BLADE FOLDING PROPELLER FOR 55-120 HP

Designed for engines from 55 up to 120 hp. Available in multiple sizes and pitches for both S-drives and shafts. Made of extremely strong and durable nibral (nickel-bronze-aluminum) alloy.

- Powerful thrust even in reverse thanks to patented blade geometry
- Smooth, low-noise operation with minimal vibrations
- Safe opening with quick response in both forward and reverse
- Rubber bushing and galvanic isolation (hubs for S-drives)

**Note!** For a complete propeller, order one blade kit and one hub kit. Propeller size has to be calculated to match engine and gear ratio, please contact your Volvo Penta dealer.



### Blade kits

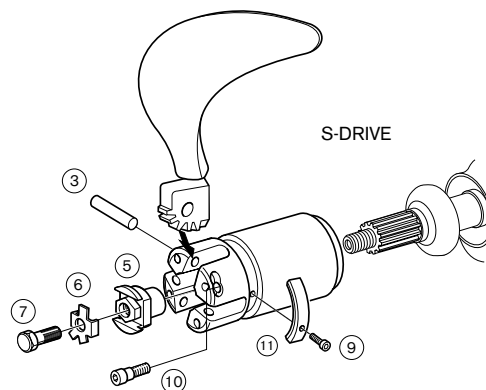
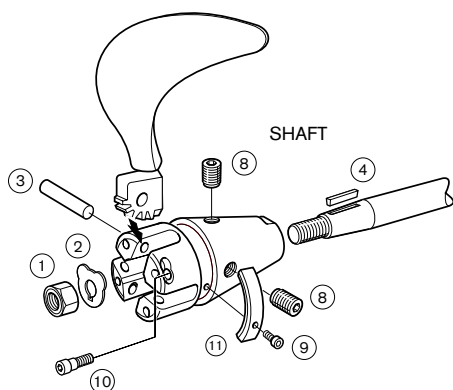
| S-Drive & shaft |         | Shaft   | S-Drive & shaft |         | Shaft   |
|-----------------|---------|---------|-----------------|---------|---------|
| Ø x Pitch       |         |         | Ø x Pitch       |         |         |
| 20 x 14         | 3583917 | 3583918 | 22 x 18         | 3583923 | 3583924 |
| 21 x 15         | 3583919 | 3583920 | 22 x 20         | 3583925 | 3583926 |
| 22 x 16         | 3583921 | 3583922 |                 |         |         |

**Blade kit includes:** Blades, hex key for locking screw (pos 10), locking fluid and installation instruction.

### Hub kits

| Hub kit for S-drives                        |         | Hub kit for metric standard shaft (1:10 taper) |         |
|---------------------------------------------|---------|------------------------------------------------|---------|
| 110S, 120S, MS25S, 130S, 150S               | 3583927 | 25 mm shaft (key 6 mm)                         | 3583928 |
| Hub kit for SAE standard shaft (1:16 taper) |         | 30 mm shaft (Key 8 mm)                         | 3583929 |
| 1 1/4" shaft (key 5/16")                    | 3583931 | 35 mm shaft (Key 10 mm)                        | 3583930 |
| 1 1/2" shaft (key 3/8")                     | 3583932 | 40 mm shaft (Key 12 mm)                        | 3584137 |

**Hub kit includes:** Zinc anodes, locking fluid and installation hardware listed in the table below. \* Hub pre-drilled with 8 mm hole. Require final machining to the required shaft diameter and taper. Suitable for shafts up to 31,75 mm (1 1/4").



### Installation hardware, 4-blade folding propeller

| Pos | Part No | Qty | Description            |
|-----|---------|-----|------------------------|
| 1   | 873473  | 1   | Nut, prop shaft, M16   |
| 1   | 873486  | 1   | Nut, prop shaft, M20   |
| 1   | 3587422 | 1   | Nut, prop shaft, M24   |
| 2   | 873475  | 1   | Tab washer, M16        |
| 2   | 873488  | 1   | Tab washer, M20        |
| 2   | 873506  | 1   | Tab washer, M24        |
| 3   | 3583951 | 4   | Shaft 1, 2)            |
| 4   | 873474  | 1   | Key, prop shaft, Ø25mm |
| 4   | 873487  | 1   | Key, prop shaft, Ø30mm |
| 4   | 873496  | 1   | Key, prop shaft, Ø35mm |

| Pos | Part No  | Qty | Description                   |
|-----|----------|-----|-------------------------------|
| 4   | 873505   | 1   | Key, prop shaft, Ø40mm        |
| 5   | 3584466  | 1   | Propeller nut 1)              |
| 6   | 3851994  | 1   | Lock washer 1)                |
| 7   | 946730   | 1   | Hexagon screw 1)              |
| 8   | 3581246  | 2   | Screw 2)                      |
| 9   | 963677   | 3   | Hex. socket screw M5x16 1, 2) |
| 10  | 963695   | 4   | Hex. socket screw M6x14 1, 2) |
| 11  |          | 2   | Zinc anode 1, 2, 3)           |
|     | 85145750 | 1   | Locking fluid (10 ml) 1, 2)   |

1) Included in hub kit for S-drive. 2) Included in hub kit for shaft. 3) For part number, see page 75.

## FIXED PROPELLERS FOR SAILDRIVE

Volvo Penta's S-drive propellers are manufactured of aluminium, developed to withstand salt water and cavitation damage. The propellers are manufactured to a high and consistent quality under rigid quality controls.

### 2-Blade (S-drives 110S, 120S, 130S and 150S)

| S-Drive Ø x Pitch |  | S-Drive Ø x Pitch |  |
|-------------------|-----------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|
| 14 x 7            | 21351239                                                                          | 16 x 13           | 21351240                                                                            |
| 14 x 8            | 21351270                                                                          | 17 x 14           | 21351232                                                                            |
| 14 x 9            | 21351241                                                                          | 17 x 16           | 21351265                                                                            |
| 14 x 11           | 21351275                                                                          | 17 x 17           | 21353570                                                                            |
| 15 x 11           | 21351281                                                                          | 19 x 17           | 21351284                                                                            |
| 16 x 11           | 21351235                                                                          |                   |                                                                                     |



### 2-Blade (S-drives 50S, 100S)

| S-Drive | Ø x Pitch |  |
|---------|-----------|-------------------------------------------------------------------------------------|
| MD6A    | 14 x 8    | 839514                                                                              |
| MB10A   | 16 x 11   | 839191                                                                              |
| MD11C   | 16 x 11   | 839191                                                                              |

### 3-Blade (S-drives 110S, 120S, 130S and 150S)

| S-Drive Ø x Pitch |  | S-Drive Ø x Pitch |  |
|-------------------|-------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------|
| 14 x 9            | 21381258                                                                            | 17 x 12           | 21381274                                                                              |
| 14 x 11           | 21381260                                                                            | 17 x 13           | 21381275                                                                              |
| 14 x 12           | 21381262                                                                            | 17 x 14           | 21401615                                                                              |
| 15 x 12           | 21381264                                                                            | 17 x 15           | 21381279                                                                              |
| 15 x 13           | 21381265                                                                            | 17 x 16           | 21381280                                                                              |
| 16 x 11           | 21381283                                                                            | 18 x 16           | 21381042                                                                              |



### Accessories for S-drive

| Part No  | Qty | Description                   |
|----------|-----|-------------------------------|
| 22629322 | 1   | Propeller cone kit            |
| 851773   | 1   | Screw *                       |
| 850888   | 1   | Plastic washer                |
| 828250   | 1   | Lubricating grease 25g        |
| 21347121 | 1   | Grease, propeller shaft 400ml |

\* Included in propeller cone kit

## Choose the right anode

Here are our general recommendations how to choose the anode for the type of water where the boat is used:

|                |   |            |
|----------------|---|------------|
| Saltwater      | – | Zinc       |
| Brackish water | – | Aluminium* |
| Freshwater     | – | Magnesium  |

\* If aluminum anode is not available for your product, select zinc anode instead.

## ANODES

Anodes are to be sacrificed in order to protect the drive unit and propeller against galvanic corrosion. Volvo Penta anodes are tested and specially produced for Volvo Penta drives and propellers.

### Aquamatic sterndrive - Single prop drives

| Lower gear     | Zinc    | Aluminum | Magnesium |
|----------------|---------|----------|-----------|
| 100 drive      | 875810  | —        | —         |
| 200 – 290, SP  | 875815  | —        | 876137    |
| Spray plate    | Zinc    | Aluminum | Magnesium |
| SX             | 3855411 | 3863193  | 3855412   |
| SX-A           | 3888814 | 3888813  | 3888815   |
| Transom shield | Zinc    | Aluminum | Magnesium |
| 200-280        | 832598  | —        | 873179    |
| 290, SP        | 852835  | —        | 873178    |
| SX             | 3854130 | 3586461  | 3855610   |
| SX-A           | 3888817 | 3888816  | 3888818   |

### Aquamatic sterndrive - Duoprop drives

| Lower gear        | Zinc    | Aluminum | Magnesium |
|-------------------|---------|----------|-----------|
| 280, 290, DP      | 875821  | —        | 876138    |
| Spray plate       | Zinc    | Aluminum | Magnesium |
| DP-S, DP-SM       | 3855411 | 3863193  | 3855412   |
| DPS-A, DPS-B, FWD | 3888814 | 3888813  | 3888815   |
| DPH               | 3588746 | 3588748  | 3588750   |
| DPR               | 3589875 | 3589876  | 3589877   |
| DPX               | 876638  | —        | —         |
| Transom shield    | Zinc    | Aluminum | Magnesium |
| 280               | 832 598 | —        | 873179    |
| 290, DP           | 852 835 | —        | 873178    |
| DP-S, DP-SM       | 3854130 | 3586461  | 3855610   |
| DPS-A, DPS-B, FWD | 3888817 | 3888816  | 3888818   |
| DPH, DPR          | 3588745 | 3588770  | 3588768   |
| DPX               | 872139  | —        | —         |

### S-Drive

| Lower gear                 | Zinc     | Aluminum | Magnesium |
|----------------------------|----------|----------|-----------|
| 110S                       | 875812   | —        | 876603    |
| 120S, MS25S                | 876286   | —        | 876604    |
| 130S, 150S (2 piece anode) | 22651246 | —        | 22651247  |

### Folding propeller

| S-drive                                          | Zinc    | Aluminum | Magnesium |
|--------------------------------------------------|---------|----------|-----------|
| 2-blade propeller                                | 3858399 | —        | 3858400   |
| 3-blade propeller                                | 3858399 | —        | 3858400   |
| 4-blade propeller                                | 3584442 | —        | 3584443   |
| Shaft                                            | Zinc    | Aluminum | Magnesium |
| 2-blade propeller                                | 3888491 | —        | 3888493   |
| 3-blade propeller (Use anode for shaft mounting) | —       | —        | —         |
| 4-blade propeller                                | 3584442 | —        | 3584443   |

### Volvo Penta IPS

|                                            | Part number* |
|--------------------------------------------|--------------|
| Lower gear anode                           | 3593981      |
| Transom anode IPS 1                        | 23172849     |
| Transom anode IPS 15, IPS 2, IPS 3, IPS 30 | 23172856     |

### Active Corrosion Protection (ACP)

|                                     | Part number |
|-------------------------------------|-------------|
| Back-up anode, IPS                  | 21174476    |
| Back-up anode, Aquamatic sterndrive | 23291530    |

\* The anode system for Volvo Penta IPS is designed to provide protection in salt-, brackish- and freshwater.

# EXCHANGE COMPONENTS

## Genuine performance, lower cost

The Volvo Penta Exchange system gives you access to a comprehensive range of factory remanufactured components – from injectors and turbos to longblocks and IPS drive units – offering a cost-effective alternative to repair and overhaul that brings new life and power to your Volvo Penta product.

## The benefits of Volvo Penta Exchange components

- Completely remanufactured to new condition by Volvo Penta
- Updated to the latest technical specifications

- Same quality, reliability and performance as new Genuine Volvo Penta Parts
- Cost-effective alternative to repair and overhaul
- Quick exchange, less downtime
- Environmental benefits through recycling
- Covered by the Volvo Penta 12-month standard warranty, or 24 months when fitted by an authorized Volvo Penta dealer

Download our Exchange catalogue at [volvopenta.com](http://volvopenta.com) or contact your local Volvo Penta dealer for more information.



Learn more about the Volvo Penta remanufacturing process  
– Watch the video.



## Based on a recycle program

Volvo Penta Exchange System is based on a recycle program where you trade in a corresponding worn component in return for a new Exchange component. The program allows you to return the worn component once the new component is installed and the engine is running again.

When buying an Exchange component, a fee will be added on the invoice. The fee is refunded as soon as the worn component is returned.



# MAINTENANCE PARTS

## Take care of your equipment

Regular maintenance and the use of Genuine Volvo Penta Parts will help you get the most out of your engine and your time on the water. This section gives you an overview of the most common parts that need to be replaced regularly to make sure your engine and drive continue to run smoothly and at peak performance.

Always refer the operators manual for recommended service intervals and the maintenance parts that are to be replaced for your engine.

Your Volvo Penta dealer is always ready to help you and provide expertise and service – tailored to your specific needs.



## DIESEL ENGINES

| 2001, 2002, 2003, 2003T |                             |
|-------------------------|-----------------------------|
| 22057107                | Oil filter                  |
| 829913                  | Fuel filter                 |
| 838929                  | Engine zinc anode           |
| 21951342                | Impeller (2001, 2002, 2003) |
| 21951346                | Impeller (2003T)            |

| AQAD31A, AD31A/B/D/XD/P/L-A, MD31A, TMD31A/B/D/L-A, TAMD31A/B/D/P/L/M/S-A, KAD32A |                              |
|-----------------------------------------------------------------------------------|------------------------------|
| 3517857                                                                           | Oil filter                   |
| 21492771                                                                          | Fuel filter                  |
| 838929                                                                            | Engine zinc anode            |
| 858488                                                                            | Air filter (earlier version) |
| 21646645                                                                          | Air filter (later version)   |
| 21951356                                                                          | Impeller                     |
| 876069                                                                            | Crankcase filter             |

| KAD44P-A/P-B/P-C, KAMD44P-A/P-B/P-C, KAD300A, KAMD300A |             |
|--------------------------------------------------------|-------------|
| 423135                                                 | Oil filter  |
| 21624740                                               | Fuel filter |
| 876185                                                 | Air filter  |
| 21951356                                               | Impeller    |

| D1-13, D1-20 |             |
|--------------|-------------|
| 861473       | Oil filter  |
| 861477       | Fuel filter |
| 22222936     | Impeller    |

| D1-30, D2-40 |             |
|--------------|-------------|
| 3840525      | Oil filter  |
| 861477       | Fuel filter |
| 22222936     | Impeller    |

| D2-50, D2-55, D2-60, D2-75 |             |
|----------------------------|-------------|
| 3840525                    | Oil filter  |
| 861477                     | Fuel filter |
| 21951346                   | Impeller    |

| D3, - MY 2009 |                    |
|---------------|--------------------|
| 8692305       | Oil filter         |
| 31261191      | Fuel filter        |
| 21646645      | Air filter, round  |
| 21171277      | Air filter, square |
| 21951352      | Impeller           |

| D3, MY 2010- |             |
|--------------|-------------|
| 30788490     | Oil filter  |
| 21139810     | Fuel filter |
| 21379288     | Air filter  |
| 21951352     | Impeller    |

| D4, D6   |                                                                        |
|----------|------------------------------------------------------------------------|
| 22030848 | Oil filter                                                             |
| 22030852 | Oil filter, by-pass                                                    |
| 21718912 | Fuel filter                                                            |
| 21702999 | Air filter                                                             |
| 3584145  | Crankcase ventilation filter                                           |
| 3588475  | Impeller for D4 all inboard engines, D4 engines A-D with AQ/IPS drives |
| 21951356 | Impeller for D4 model E and F with AQ/IPS drives SN 2004033317-        |
| 3593573  | Impeller for D6 all inboard engines, D6 engines A-D with AQ/IPS drives |
| 22994993 | Impeller for D6 model E and F with AQ/IPS drives SN 2006040970-        |

| MD1A/B, MD2A/B, MD5A/B/C, MD11C/D |                                    |
|-----------------------------------|------------------------------------|
| 22057107                          | Oil filter                         |
| 876554                            | (MD1/2, 5A/B, 11C)                 |
| 829913                            | Fuel filter, spin-on (alt. MD5/11) |
| 21951342                          | Impeller (4 screws in lid)         |
| 3586494                           | Impeller (6 screws in lid)         |

| MD3B, MD17C/D |                                  |
|---------------|----------------------------------|
| 22057107      | Oil filter                       |
| 829913        | Fuel filter, spin-on (alt. MD17) |
| 876554        | Fuel filter, insert              |
| 21951342      | Impeller                         |

| MD6A/B   |                            |
|----------|----------------------------|
| 22057107 | Oil filter                 |
| 21492771 | Fuel filter                |
| 21951342 | Impeller (4 screws in lid) |
| 3586494  | Impeller (6 screws in lid) |

| MD7A/B   |             |
|----------|-------------|
| 22057107 | Oil filter  |
| 21492771 | Fuel filter |
| 21951342 | Impeller    |

| MD21A/B, AQD21A/B |                   |
|-------------------|-------------------|
| 21549544          | Oil filter        |
| 3581078           | Fuel filter (CAV) |
| 21951350          | Impeller          |

| MD22A/B, TMD22A/B, TAMD22A |                   |
|----------------------------|-------------------|
| 3517857                    | Oil filter (B, C) |
| 861476                     | Oil filter (A)    |
| 21624740                   | Fuel filter       |
| 21951346                   | Impeller          |

| MD30A/B/D/AQ, TAMD30A/B/D/AQ, TMD30A/B/D/AQ, AQAD30A |                   |
|------------------------------------------------------|-------------------|
| 3517857                                              | Oil filter        |
| 21492771                                             | Fuel filter       |
| 838929                                               | Engine zinc anode |
| 21951356                                             | Impeller          |
| 876069                                               | Crankcase filter  |
| 876185                                               | Air filter        |

| MD40A, TMD40A/B/C, TAMD40A/B, AQD40A, AQAD40A/B |                         |
|-------------------------------------------------|-------------------------|
| 471034                                          | Oil filter              |
| 21624740                                        | Fuel filter             |
| 838929                                          | Engine zinc anode       |
| 21951356                                        | Impeller                |
| 21951360                                        | Impeller (TAMD40, AD40) |
| 876069                                          | Crankcase filter        |
| 876185                                          | Air filter              |

| MD2010, MD2020, MD2030, MD2040 |                           |
|--------------------------------|---------------------------|
| 861473                         | Oil filter (MD2010/2020)  |
| 3840525                        | Oil filter (MD2030/2040)  |
| 861477                         | Fuel filter               |
| 3586494                        | Impeller 1)               |
| 22222936                       | Impeller (MD2030/2040) 2) |

1) MD2010 SN -5101203008, MD2020 SN -5101309052

2) MD2010 SN 5101203009-, MD2020 SN 5101309053-

| TAMD41P/L/M/H-A/H-B, AD41P/L-A, KAD42A/B/P-A, KAMD42A/B/P-A, KAD43P-A, KAMD43P-A |                                             |
|----------------------------------------------------------------------------------|---------------------------------------------|
| 471034                                                                           | Oil filter (41)                             |
| 423135                                                                           | Oil filter (42-43)                          |
| 21624740                                                                         | Fuel filter                                 |
| 838929                                                                           | Engine zinc anode                           |
| 858488                                                                           | Air filter (TAMD41P/L/M/H-A/H-B, AD41P/L-A) |
| 21646645                                                                         | Air filter (later version 41)               |
| 876185                                                                           | Air filter                                  |
| 21951356                                                                         | Impeller                                    |

| TMD41A/B/D/L-A, TAMD41A/B/D, D41A/B/D/L-A, AD41A/B/D, AQD41A, AQAD41A |                            |
|-----------------------------------------------------------------------|----------------------------|
| 471034                                                                | Oil filter                 |
| 21624740                                                              | Fuel filter                |
| 838929                                                                | Engine zinc anode          |
| 858488                                                                | Air filter                 |
| 21646645                                                              | Air filter (later version) |
| 21951356                                                              | Impeller                   |
| 876069                                                                | Crankcase filter           |

| AD31, MD31 |                                  |
|------------|----------------------------------|
| 3517857    | Oil filter                       |
| 21492771   | Fuel filter                      |
| 838929     | Engine zinc anode (A, B)         |
| 858488     | Air filter (early model, metal)  |
| 21646645   | Air filter (late model, plastic) |
| 21951356   | Impeller                         |
| 876069     | Crankcase filter (A, B)          |



### Puller screw

The puller screw is the best way of removing the impeller from the sea water pump. It is very easy and there is no risk of damaging the pump housing.

| Part no | Fits impeller |
|---------|---------------|
| 3843947 | 21951356      |
| 3843948 | 21951352      |
| 3843949 | 21951358      |

## PETROL ENGINES

| 3.0GLP-C/D/E/J |                       |
|----------------|-----------------------|
| 835440         | Oil filter            |
| 21951348       | Impeller, kit (C)     |
| 21213664       | Impeller, kit (D/E/J) |
| 3853799        | Thermostat            |
| 3856537        | Thermostat (o-ring)   |
| 3854260        | Distributor cap       |
| 3854261        | Distributor rotor     |
| 3888324        | Plug wires            |
| 3586324        | Drive belt (C)        |
| 3586325        | Drive belt (D)        |
| 3860092        | Drive belt (E)        |
| 3851857        | Spark plugs           |

| 3.0GXi-J, 3.0GXiC-J |                       |
|---------------------|-----------------------|
| 835440              | Oil filter spin on    |
| 21213664            | Impeller kit          |
| 21148403            | Thermostat            |
| 3856537             | Thermostat (o-ring)   |
| 3854260             | Distributor cap       |
| 3854261             | Distributor rotor     |
| 3888324             | Plug wires            |
| 21132392            | Drive belt serpentine |
| 3851857             | Spark plugs           |

| 4.3GL-J/JF, GXi-J/JF, OSi-J/JF |                                 |
|--------------------------------|---------------------------------|
| 8692305                        | Oil filter insert               |
| 3862228                        | Fuel filter, spin on (GL-J, JF) |
| 3847644                        | Fuel filter, spin on (GXi, OSi) |
| 21213664                       | Impeller kit                    |
| 3831426                        | Thermostat kit fresh            |
| 3852111                        | Thermostat gasket fresh/raw     |
| 416033                         | Thermostat o-ring fresh         |
| 3587597                        | Thermostat raw                  |
| 983944                         | Thermostat o-ring raw           |
| 3854331                        | Distributor cap (GL)            |
| 3854311                        | Distributor rotor (GL)          |
| 3859019                        | Distributor cap (GXi, OSi)      |
| 3858977                        | Distributor rotor (GXi, OSi)    |
| 3888325                        | Plug wires                      |
| 21132390                       | Drive belt                      |
| 21513423                       | Spark plugs 6 Pack              |

| 4.3GXi-G/GF/OSi-G/GF |                            |
|----------------------|----------------------------|
| 835440               | Oil filter                 |
| 3862228              | Fuel filter                |
| 21213664             | Impeller kit               |
| 3831426              | Thermostat, kit (GF)       |
| 3587597              | Thermostat (G)             |
| 983944               | Thermostat, o-ring (G)     |
| 3852111              | Thermostat, gasket (G, GF) |
| 3859019              | Distributor cap            |
| 3858977              | Distributor rotor          |
| 3888327              | Plug wires                 |
| 3889124              | Drive belt                 |
| 21513423             | Spark plugs                |

| 5.0GL-J/JF, GXi-J/JF, OSi-J/JF |                                 |
|--------------------------------|---------------------------------|
| 8692305                        | Oil filter insert               |
| 3862228                        | Fuel filter, spin-on (GL)       |
| 3847644                        | Fuel filter, spin-on (GXi, OSi) |
| 21213664                       | Impeller kit                    |
| 983944                         | Thermostat o-ring raw           |
| 3852111                        | Thermostat gasket fresh/raw     |
| 3831426                        | Thermostat kit fresh/raw        |
| 3854548                        | Distributor cap                 |
| 3862014                        | Distributor rotor               |
| 21132390                       | Drive belt                      |
| 21467472                       | Spark plugs 4 pack              |

| 5.0GXi-G/GXi-GF/OSi-G/OSi-GF |                    |
|------------------------------|--------------------|
| 835440                       | Oil filter         |
| 3862228                      | Fuel filter        |
| 21213664                     | Impeller kit       |
| 3831426                      | Thermostat, kit    |
| 3858975                      | Distributor cap    |
| 3858977                      | Distributor rotor  |
| 3889124                      | Drive belt         |
| 21467472                     | Spark plugs 4 pack |

| 5.7Gi300-J/JF, 5.7OSi-J/JF, 5.7GXi-J/JF, 5.7OSXi-J/JF |                             |
|-------------------------------------------------------|-----------------------------|
| 8692305                                               | Oil filter insert           |
| 3847644                                               | Fuel filter, spin on        |
| 21213664                                              | Impeller kit                |
| 3831426                                               | Thermostat kit fresh/raw    |
| 3852111                                               | Thermostat gasket fresh/raw |
| 416033                                                | Thermostat o-ring fresh     |
| 3587597                                               | Thermostat raw              |
| 3858975                                               | Distributor cap             |
| 3858977                                               | Distributor rotor           |
| 21132390                                              | Drive belt                  |
| 21467472                                              | Spark plugs 4 pack          |

| 5.7Gi-F/Gi-FF/GXi-G/GXi-GF/OSi-E/OSi-EF |                             |
|-----------------------------------------|-----------------------------|
| 835440                                  | Oil filter                  |
| 3862228                                 | Fuel filter                 |
| 21213664                                | Impeller kit                |
| 3831426                                 | Thermostat, kit, fresh      |
| 3587597                                 | Thermostat raw              |
| 3852111                                 | Thermostat gasket fresh/raw |
| 983944                                  | Thermostat o-ring raw       |
| 3858975                                 | Distributor cap             |
| 3858977                                 | Distributor rotor           |
| 3889124                                 | Drive belt                  |
| 21467472                                | Spark plugs 4 pack          |

| <b>7.4GL</b> |                        |
|--------------|------------------------|
| 3850559      | Oil filter             |
| 3862228      | Fuel filter            |
| 3854286      | Impeller (MD)          |
| 21951346     | Impeller (HU, NC, LK)  |
| 3853983      | Thermostat             |
| 3852071      | Thermostat (seal ring) |
| 3852111      | Thermostat (gasket)    |
| 3851861      | Spark plugs            |

| <b>7.4Gi, GSi, DPX385</b> |                                    |
|---------------------------|------------------------------------|
| 3850559                   | Oil filter                         |
| 3862228                   | Fuel filter                        |
| 21951346                  | Impeller                           |
| 3853983                   | Thermostat                         |
| 3852071                   | Thermostat (seal ring)             |
| 3852111                   | Thermostat (gasket)                |
| 3851861                   | Spark plugs (Gi - MD-LK, GSi, DPX) |
| 3851857                   | Spark plugs (Gi - BY-EF)           |

| <b>8.1Gi-J/JF/GXi-J/JF/OSi-J/JF</b> |                             |
|-------------------------------------|-----------------------------|
| 8692305                             | Oil filter                  |
| 3847644                             | Fuel filter                 |
| 21213664                            | Impeller kit                |
| 3831426                             | Thermostat, kit, fresh      |
| 3852111                             | Thermostat gasket fresh/raw |
| 3853983                             | Thermostat, raw             |
| 3852071                             | Thermostat (o-ring, small)  |
| 3861000                             | Thermostat (o-ring, large)  |
| 21132385                            | Drive belt                  |
| 963699                              | Spark plugs                 |

| <b>8.1Gi-H/HF, 8.1GXi-G/GF, 8.1OSi-D/DF</b> |                            |
|---------------------------------------------|----------------------------|
| 835440                                      | Oil filter                 |
| 3862228                                     | Fuel filter                |
| 21213664                                    | Impeller kit               |
| 3831426                                     | Thermostat, kit, fresh     |
| 3853983                                     | Thermostat, raw            |
| 3852071                                     | Thermostat (o-ring, small) |
| 3861000                                     | Thermostat (o-ring, large) |
| 21132390                                    | Drive belt                 |
| 3861326                                     | Spark plugs                |

| <b>8.2GL</b> |                     |
|--------------|---------------------|
| 3850559      | Oil filter          |
| 3862228      | Fuel filter         |
| 3854286      | Impeller            |
| 3853983      | Thermostat          |
| 3852071      | Thermostat (o-ring) |
| 3852111      | Thermostat (gasket) |
| 3851861      | Spark plugs         |

| <b>8.2GSi, DPX415</b> |                        |
|-----------------------|------------------------|
| 3850559               | Oil filter             |
| 3862228               | Fuel filter            |
| 21951346              | Impeller (HU-BY)       |
| 21951348              | Impeller (WT)          |
| 3853983               | Thermostat             |
| 3852071               | Thermostat (seal ring) |
| 3852111               | Thermostat (gasket)    |
| 3851861               | Spark plugs            |

| <b>500A/B, 501A/B</b> |             |
|-----------------------|-------------|
| 835440                | Oil filter  |
| 855686                | Fuel filter |
| 3581078               | Fuel filter |
| 21951346              | Impeller    |
| 876305                | Thermostat  |
| 3851861               | Spark plugs |

| <b>570A, 571A, 572A</b> |                    |
|-------------------------|--------------------|
| 835440                  | Oil filter         |
| 855686                  | Fuel filter        |
| 21951346                | Impeller (w=31 mm) |
| 876120                  | Impeller (w=50 mm) |
| 876305                  | Thermostat         |
| 3851861                 | Spark plugs        |

| <b>740A, B</b> |             |
|----------------|-------------|
| 835440         | Oil filter  |
| 855686         | Fuel filter |
| 876120         | Impeller    |
| 876305         | Thermostat  |
| 3851861        | Spark plugs |

| <b>AQ95, AQ100, AQ110, AQ115, AQ120A, AQ130</b> |             |
|-------------------------------------------------|-------------|
| 3517857                                         | Oil filter  |
| 3581078                                         | Fuel filter |
| 22222936                                        | Impeller    |
| 876080                                          | Thermostat  |

| <b>AQ120B, AQ140, AQ145A, AQ165, AQ171</b> |             |
|--------------------------------------------|-------------|
| 3517857                                    | Oil filter  |
| 3581078                                    | Fuel filter |
| 21951350                                   | Impeller    |

| <b>AQ120B, AQ125A/B, AQ125B, AQ131A/B/C/D, 230A/B, BB140A, AQ140A, BB145A, AQ145A/B AQ151A/B/C, 250B, BB145A, AQ145A/B AQ151A/B/C, 250B</b> |             |
|---------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 3517857                                                                                                                                     | Oil filter  |
| 21951350                                                                                                                                    | Impeller    |
| 875580                                                                                                                                      | Thermostat  |
| 875820                                                                                                                                      | Spark plugs |

| AQ170A/B/C |             |
|------------|-------------|
| 3517857    | Oil filter  |
| 21951350   | Impeller    |
| 875791     | Thermostat  |
| 875804     | Spark plugs |

| AQ225B/C/D/E/F |                  |
|----------------|------------------|
| 835440         | Oil filter       |
| 877765         | Fuel filter      |
| 3581078        | Fuel filter      |
| 3854286        | Impeller (B/C)   |
| 876120         | Impeller (D/E/F) |
| 876305         | Thermostat       |
| 3851861        | Spark plugs      |

| AQ231A/B, BB231A |                     |
|------------------|---------------------|
| 835440           | Oil filter          |
| 855686           | Fuel filter         |
| 3581078          | Fuel filter         |
| 21951346         | Impeller (AQ231A/B) |
| 876120           | Impeller (BB231A)   |
| 876305           | Thermostat          |
| 3851861          | Spark plugs         |

| AQ255A/B |                            |
|----------|----------------------------|
| 835440   | Oil filter                 |
| 877765   | Fuel filter                |
| 3581078  | Fuel filter                |
| 3854286  | Impeller (AQ255A)          |
| 21951346 | Impeller (AQ255B, w=31 mm) |
| 876120   | Impeller (AQ255B, w=50 mm) |
| 876305   | Thermostat                 |
| 3851861  | Spark plugs                |

| AQ260A/B, BB260A/B/C |                    |
|----------------------|--------------------|
| 835440               | Oil filter         |
| 877765               | Fuel filter        |
| 3581078              | Fuel filter        |
| 21951346             | Impeller (w=31 mm) |
| 876120               | Impeller (w=50 mm) |
| 876120               | Impeller (AQ260B)  |
| 876305               | Thermostat         |
| 3851861              | Spark plugs        |

| AQ271A/B/C/D, BB261A |                    |
|----------------------|--------------------|
| 835440               | Oil filter         |
| 855686               | Fuel filter        |
| 3581078              | Fuel filter        |
| 21951346             | Impeller (w=31 mm) |
| 876120               | Impeller (w=50 mm) |
| 21951346             | Impeller (BB261A)  |
| 876305               | Thermostat         |
| 3851861              | Spark plugs        |

| AQ280A, AQ290A |                    |
|----------------|--------------------|
| 835440         | Oil filter         |
| 877765         | Fuel filter        |
| 3581078        | Fuel filter        |
| 21951346       | Impeller (w=31 mm) |
| 876120         | Impeller (w=50 mm) |
| 876305         | Thermostat         |
| 3851861        | Spark plugs        |

| AQ311A/B |                    |
|----------|--------------------|
| 835440   | Oil filter         |
| 855686   | Fuel filter        |
| 3581078  | Fuel filter        |
| 21951346 | Impeller (w=31 mm) |
| 876120   | Impeller (w=50 mm) |
| 876305   | Thermostat         |
| 3851861  | Spark plugs        |

| BB115A/B/C, AQ115A/B, AQ130A/B/C/D |             |
|------------------------------------|-------------|
| 3517857                            | Oil filter  |
| 3593654                            | Impeller    |
| 876080                             | Thermostat  |
| 875803                             | Spark plugs |

| BB225A/B/C |                    |
|------------|--------------------|
| 835440     | Oil filter         |
| 877765     | Fuel filter (A/B)  |
| 855686     | Fuel filter (C)    |
| 3581078    | Fuel filter        |
| 21951346   | Impeller (w=31 mm) |
| 876120     | Impeller (w=50 mm) |
| 876305     | Thermostat         |
| 3851861    | Spark plugs        |

## DRIVES

| 110S     |                          |
|----------|--------------------------|
| 22303438 | Cover plate against hull |
| 21389074 | Rubber seal              |

| 120S/S-B/S-C/S-D/S-E |                          |
|----------------------|--------------------------|
| 854932               | Cover plate against hull |
| 21389074             | Rubber seal              |

| 270, 270T |                    |
|-----------|--------------------|
| 876294    | Drive joint bellow |
| 875822    | Coolant hose (270) |
| 876631    | Exhaust bellow     |

| 280, 280TA/PT |                        |
|---------------|------------------------|
| 876294        | Drive joint bellow     |
| 876633        | Exhaust bellow         |
| 875822        | Coolant hose (280, PT) |

| 280DP  |                    |
|--------|--------------------|
| 876294 | Drive joint bellow |
| 876631 | Exhaust bellow     |
| 875822 | Coolant hose       |

| 290, 290A, SP-A, SP-A1, SP-A2, SP-C, SP-C1, SP-E |                    |
|--------------------------------------------------|--------------------|
| 876294                                           | Drive joint bellow |
| 876631                                           | Exhaust bellow     |
| 876632                                           | Coolant hose       |

| 290DP/DP-A/DP-A1/DP-A2/DP-B/DP-B1/DP-C/DP-C1, DP-D/DP-D1/DP-E |                    |
|---------------------------------------------------------------|--------------------|
| 876294                                                        | Drive joint bellow |
| 876631                                                        | Exhaust bellow     |
| 876632                                                        | Coolant hose       |

| DPX-S/S1/R/A |                           |
|--------------|---------------------------|
| 876294       | Drive joint bellow        |
| 3860384      | Exhaust bellow DPX-A      |
| 876631       | Exhaust bellow DPX-S/S1/R |
| 876632       | Coolant hose              |

| DPH-A/B/C, DPR-A |                                               |
|------------------|-----------------------------------------------|
| 3594509          | Drive joint bellow                            |
| 3588753          | Exhaust bellow                                |
| 21132674         | Anti-barnacle bellow kit (steering cylinders) |
| 3588767          | Coolant hose                                  |

| SX, DP-S, DP-SM |                    |
|-----------------|--------------------|
| 23075752        | Drive joint bellow |
| 3850426         | Exhaust bellow     |

| XDP      |                    |
|----------|--------------------|
| 21277185 | Drive joint bellow |
| 3885871  | Exhaust bellow     |

| SX-A, DPS-A, DPS-B |                    |
|--------------------|--------------------|
| 23075752           | Drive joint bellow |
| 3888916            | Exhaust bellow     |

| DPG     |                    |
|---------|--------------------|
| 876294  | Drive joint bellow |
| 3860384 | Exhaust bellow     |
| 876632  | Coolant hose       |



Anodes to be found in the propeller section, page 79.



### Maintenance kits for diesel engines

Contains oil filter, fuel filter and impeller with necessary gaskets. Kits for D4 and D6 engines also include air filter, by-pass oil filter and crankcase ventilation filter.

| Part no  | Engine                                                                 |
|----------|------------------------------------------------------------------------|
| 877194   | 2001, 2002, 2003                                                       |
| 21189380 | MD2010C, MD2020C, MD2030A, MD2030B, MD2030C, MD2040A, MD2040B, MD2040C |
| 877201   | D30, D31, D32                                                          |
| 877202   | D40, D41                                                               |
| 877203   | D42, D43, D44                                                          |
| 21105842 | D3 A-C                                                                 |
| 21189380 | D1-13, D1-20                                                           |
| 21189422 | D1-30, 2-40                                                            |
| 21189426 | D2-50, D2-55, D2-60, D2-75                                             |
| 21759184 | D3 D-H                                                                 |
| 21704968 | D4 all Inboard engines, D4 A-D with AQ/IPS drives                      |
| 22383875 | D4 E-F with AQ/IPS drives SN 2004033317-                               |
| 21704967 | D6 all Inboard engines, D6 A-D with AQ/IPS drives                      |
| 22383876 | D6 E-F with AQ/IPS drives SN 2006040970-                               |

## VOLVO PENTA MAINTENANCE KITS

Volvo Penta Maintenance Kits include the basic parts for regular maintenance. All kits contain exclusively Genuine Volvo Penta Parts and are pre-packed for easy ordering.



### Maintenance kits for Aquamatic Sterndrives

Contains zinc anodes, drive joint bellow and other required parts for regular maintenance.

| Part no  | Drive                           |
|----------|---------------------------------|
| 877118   | 290, 290A, SP-A, SP-A1, SP-A2   |
| 877119   | 290DP, DP-A, DP-A1, DP-B, DP-B1 |
| 877120   | SX, DP-S, DP-SM                 |
| 877122   | DP-C, DP-D, DP-E                |
| 23307656 | DPG                             |
| 23307655 | DPH, DPR                        |

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Products that are affected by EU legislation, RCD - Recreational Craft Directive, 2013/53/EU or EMC - Electromagnetic Compatibility Directive, 2014/30/EU, have been tested and approved according to the respective Directive.

Only products that fulfill the requirements of Recreational Craft Directive 2013/53/EU can be installed in new boats intended for sale in European markets.

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