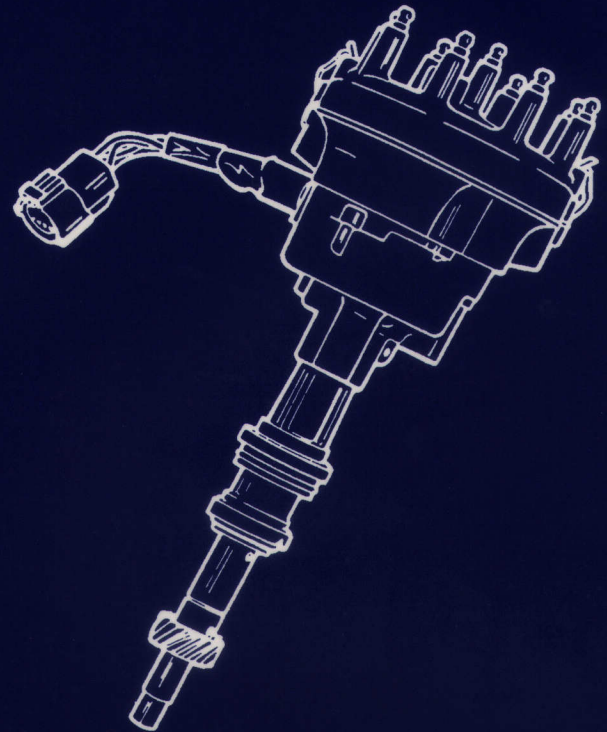
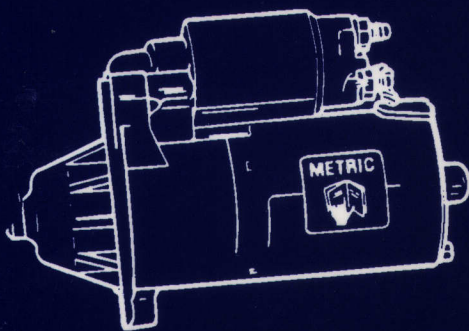
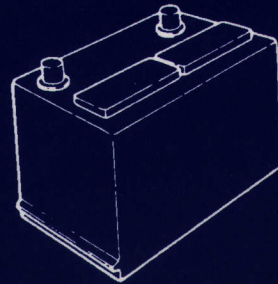
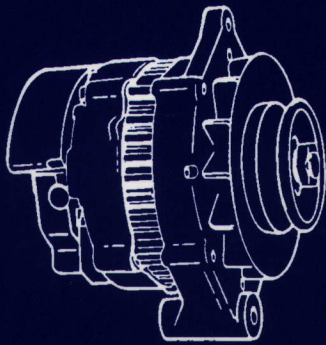


Workshop Manual

"BY" Models

Electrical & Ignition




**VOLVO
PENTA**

Safety Warning

This Workshop Manual will alert you to certain procedures that must be done very carefully. If you ignore this information, you could...

- Injure yourself or people around you
- Injure the boat operator, boat passengers, or people around the boat
- Damage the Volvo Penta product or its systems

Understand the following symbols before proceeding:

 Safety Warning	Alerts you to the possibility of danger and identifies information that will help prevent injuries.
Note	Identifies information that will help prevent damage to machinery.
Important	Appears next to information that controls correct assembly and operation of the product.

This Workshop Manual is written for qualified, factory trained service technicians familiar with the use of Volvo Penta special tools.

This Workshop Manual tells you how to correctly maintain and service Volvo Penta products and systems. When correctly serviced, the Volvo Penta product will be reliable and safe to operate.

When Volvo Penta special tools are called for, use them. Where mentioned, the tools are required to perform the service procedure.

If you use service procedures or service tools that are not recommended in this manual, **YOU ALONE** must decide if your actions might injure people or damage the Volvo Penta product.

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This workshop manual is one of a set of four that covers Volvo Penta stern-drive "BY" models. All four books can be ordered as a set from Volvo Penta Parts. Order P/N 7797450-9.

Individual workshop manuals covering these models are also available. Order the following part numbers from *Volvo Penta Parts*.

• ***P/N 7797451-7 Engine Components***

Includes information on Engine service and troubleshooting; Engine removal and installation; Steering systems; Throttle and Shift Control systems; and Cooling systems.

• ***P/N 7797452-5 Electrical & Ignition System***

Includes service and troubleshooting information on Cranking systems; Charging systems; Trim/Tilt electrical systems; Ignition systems; and Engine and Instrument wiring diagrams.

• ***P/N 7797453-3 Fuel System***

Includes service and troubleshooting information on all carburetor, MFI and TBI fuel systems and related components.

• ***P/N 7797454-1 EFI Diagnostic Manual GM***

Contains troubleshooting procedures for all Electronic Fuel Injected GM models and related components.

• ***P/N 7797455-8 SX and DP-S Sterndrives and Transom Shield***

Includes information on Transom Shield, Upper Gear Unit and Lower Gear Unit service; Drive Unit removal and installation; Propellers; and Trim/Tilt hydraulic operation.

**This Volvo Penta Workshop Manual is part of a set that
covers the following Volvo Penta "BY" Models**

Engine	Steering	Model Number	Transom Shield	Drive Unit	
3.0 GS	Manual	30GSMBYCCE	3868844	3868895 (1.97:1) SX-M	
	Manual	30GSMBYCCE	3868844	3868896 (2.18:1) SX-M	
	Manual	30GSMBYCCE	3868845	3868895 (1.97:1) SX-M	
	Manual	30GSMBYCCE	3868845	3868896 (2.18:1) SX-M	
	Power	30GSPBYCCE	3868844	3868895 (1.97:1) SX-M	
	Power	30GSPBYCCE	3868844	3868896 (2.18:1) SX-M	
	Power	30GSPBYCCE	3868845	3868895 (1.97:1) SX-M	
	Power	30GSPBYCCE	3868845	3868896 (2.18:1) SX-M	
4.3 GL	Power	43GLPBYC	3868844	3868892 (1.66:1) SX-M	
	Power	43GLPBYC	3868844	3868893 (1.79:1) SX-M	
	Power	43GLPBYC	3868844	3868894 (1.89:1) SX-M	
	Power	43GLPBYC	3868844	3868913 (1.95:1) DP-SM	
Power 3868846	43GLPBYC	3868844	3868914 (2.32:1) DP-SM	Power 43GLPBYC	
	Power	43GLPBYC	3868846	3868893 (1.79:1) SX-M	
	Power	43GLPBYC	3868846	3868894 (1.89:1) SX-M	
	Power	43GLPBYC	3868846	3868913 (1.95:1) DP-SM	
	Power	43GLPBYC	3868846	3868914 (2.32:1) DP-SM	
	4.3 GS	Power	43GSJBYA	—	3868694 PJX-C1
		Power	43GSPBYC	3868844	3868892 (1.66:1) SX-M
		Power	43GSPBYC	3868844	3868893 (1.79:1) SX-M
Power		43GSPBYC	3868844	3868913 (1.95:1) DP-SM	
Power		43GSPBYC	3868844	3868914 (2.32:1) DP-SM	
Power		43GSPBYC	3868846	3868892 {1.66:1} SX-M	
Power		43GSPBYC	3868846	3868893 (1.79:1) SX-M	
Power		43GSPBYC	3868846	3868913 {1.95:1} DP-SM	
Power		43GSPBYC	3868846	3868914 (2.32:1) DP-SM	
4.3 Gi	Power	43GIJBYA	—	3868694 PJX-C1	
	Power	43GIPBYCCE	3868844	3868892 (1.66:1) SX-M	
	Power	43GIPBYCCE	3868844	3868893 (1.79:1) SX-M	
	Power	43GIPBYCCE	3868844	3868913 (1.95:1) DP-SM	
	Power	43GIPBYCCE	3868844	3868914 (2.32:1) DP-SM	
	Power	43GIPBYCCE	3868846	3868892 (1.66:1) SX-M	
	Power	43GIPBYCCE	3868846	3868893 (1.79:1) SX-M	
	Power	43GIPBYCCE	3868846	3868913 (1.95:1) DP-SM	
	Power	43GIPBYCCE	3868846	3868914 (2.32:1) DP-SM	
5.0 GL	Power	50GLPBYC	3868844	3868891 (1.60:1) SX-M	
	Power	50GLPBYC	3868844	3868890 (1.51:1) SX-M	
	Power	50GLPBYC	3868844	3868912 (1.78:1) DP-SM	
	Power	50GLPBYC	3868844	3868913 (1.95:1) DP-SM	
	Power	50GLPBYC	3868846	3868891 (1.60:1) SX-M	
	Power	50GLPBYC	3868846	3868890 (1.51:1) SX-M	
	Power	50GLPBYC	3868846	3868912 (1.78:1) DP-SM	
	Power	50GLPBYC	3868846	3868913 (1.95:1) DP-SM	

**This Volvo Penta Workshop Manual is part of a set that
covers the following Volvo Penta "BY" Models**

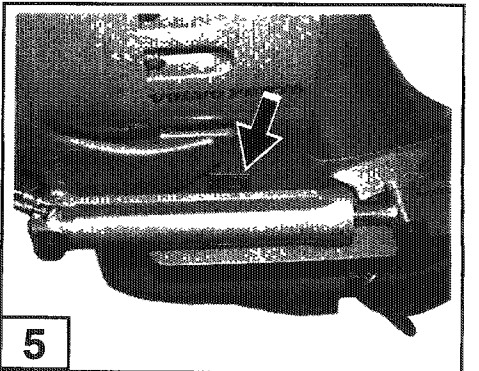
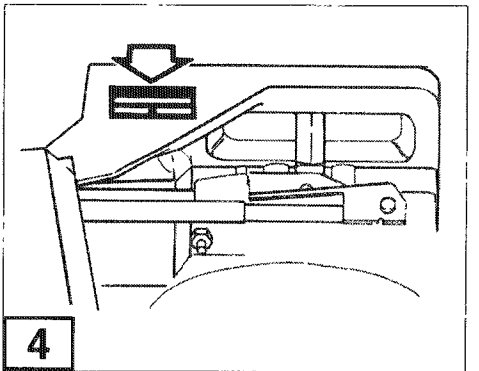
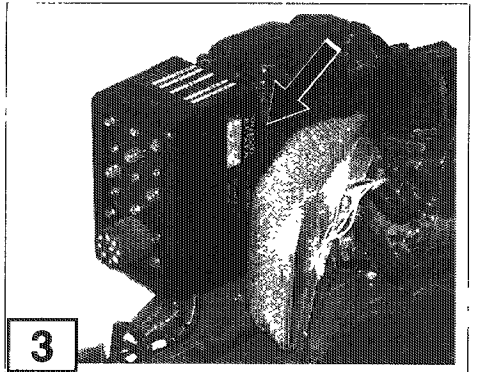
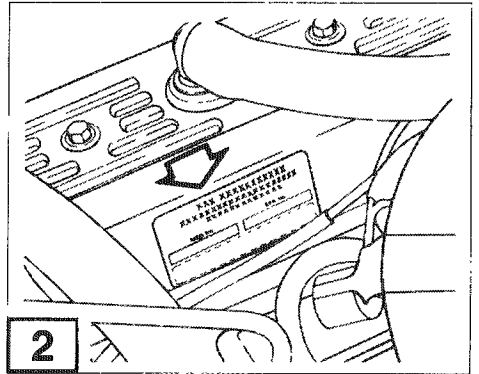
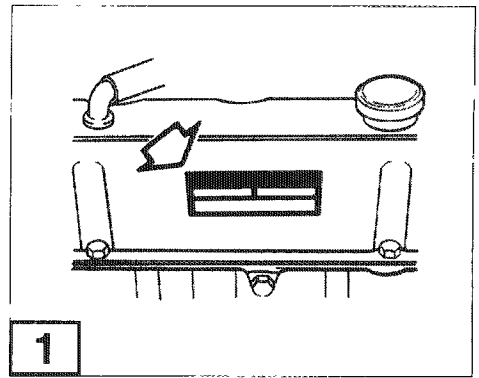
Engine	Steering	Model Number	Transom Shield	Drive Unit
5.0 Gi	Power	50GIPBYCCE	3868844	3868891 (1.60:1) SX-M
	Power	50GIPBYCCE	3868844	3868890 (1.51:1) SX-M
	Power	50GIPBYCCE	3868844	3868912 (1.78:1) DP-SM
	Power	50GIPBYCCE	3868844	3868913 (1.95:1) DP-SM
	Power	50GIPBYCCE	3868846	3868891 (1.60:1) SX-M
	Power	50GIPBYCCE	3868846	3868890 (1.51:1) SX-M
	Power	50GIPBYCCE	3868846	3868912 (1.78:1) DP-SM
	Power	50GIPBYCCE	3868846	3868913 (1.95:1) DP-SM
5.7 GS	Power	57GSPBYC	3868844	3868889 (1.43:1) SX-M
	Power	57GSPBYC	3868844	3868890 (1.51:1) SX-M
	Power	57GSPBYC	3868844	3868912 (1.78:1) DP-SM
	Power	57GSPBYC	3868844	3868913 (1.95:1) DP-SM
	Power	57GSPBYC	3868846	3868889 (1.43:1) SX-M
	Power	57GSPBYC	3868846	3868890 (1.51:1) SX-M
	Power	57GSPBYC	3868846	3868912 (1.78:1) DP-SM
	Power	57GSPBYC	3868846	3868913 (1.95:1) DP-SM
5.7 GSi	Power	57GSIPBYCCE	3868844	3868889 (1.43:1) SX-M
	Power	57GSIPBYCCE	3868844	3868912 (1.78:1) DP-SM
	Power	57GSIPBYCCE	3868844	3868913 (1.95:1) DP-SM
	Power	57GSIPBYCCE	3868846	3868889 (1.43:1) SX-M
	Power	57GSIPBYCCE	3868846	3868912 (1.78:1) DP-SM
	Power	57GSIPBYCCE	3868846	3868913 (1.95:1) DP-SM
7.4 Gi	Power	74GIPBYCCE	3868844	3868889 (1.43:1) SX-M
	Power	74GIPBYCCE	3868844	3868911 (1.68:1) DP-SM
	Power	74GIPBYCCE	3868844	3868912 (1.78:1) DP-SM
	Power	74GIPBYCCE	3868844	3868913 (1.95:1) DP-SM
	Power	74GIPBYCCE	3868846	3868889 (1.43:1) SX-M
	Power	74GIPBYCCE	3868846	3868911 (1.68:1) DP-SM
	Power	74GIPBYCCE	3868846	3868912 (1.78:1) DP-SM
	Power	74GIPBYCCE	3868846	3868913 (1.95:1) DP-SM
7.4 GSi	Power	74GSIPBYCCE	3868850	3868911 (1.68:1) DP-SM
	Power	74GSIPBYCCE	3868850	3868912 (1.78:1) DP-SM
	Power	74GSIPBYCCE	3868916	3868911 (1.68:1) DP-SM
	Power	74GSIPBYCCE	3868916	3868912 (1.78:1) DP-SM
8.2 GSi	Power	82GSIPBYCCE	3868850	3868911 (1.68:1) DP-SM
	Power	82GSIPBYOCE	3868850	3868912 (1.78:1) DP-SM
	Power	82GSIPBYCCE	3868916	3868911 (1.68:1) DP-SM
	Power	82GSIPBYCCE	3868916	3868912 (1.78:1) DP-SM
DPX 385	Xact	DPX385XBYDCE	3868289	3868637 (1.59:1) DPX-S1
	Xact	DPX385XBYDCE	3868289	3868638 (1.68:1) DPX-S1
	Xact	DPX385XBYDCE	3868289	3868639 (1.78:1) DPX-S1
DPX 415	Xact	DPX415XBYDCE	3868289	3868637 (1.59:1) DPX-S1
	Xact	DPX415XBYDCE	3868289	3868638 (1.68:1) DPX-S1
	Xact	DPX415XBYDCE	3868289	3868639 (1.78:1) DPX-S1

Volvo Penta Model Identification

Note All sterndrive systems must be matched for either single or dual engine installations. Failure to properly match engine, transom bracket and sterndrive will result in poor boat performance, and risk or damage to the engine and or drive because of incorrect drive gear ratio.

The model identification is located on the engine valve cover, and **MUST** correspond with the transom bracket and sterndrive numbers as listed in this document.

- Engine Model Number **1** **2** **3**
- Transom Bracket Model Number **4**
- Sterndrive Model Number **5**



Notes

A series of horizontal dotted lines for writing notes.

Section 1

General Information

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Safety Warning

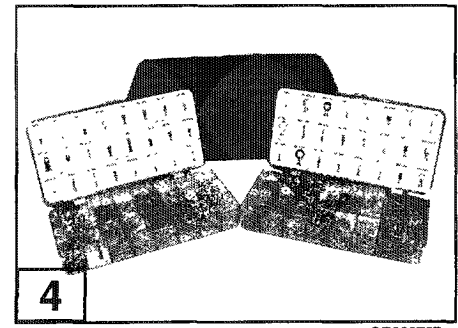
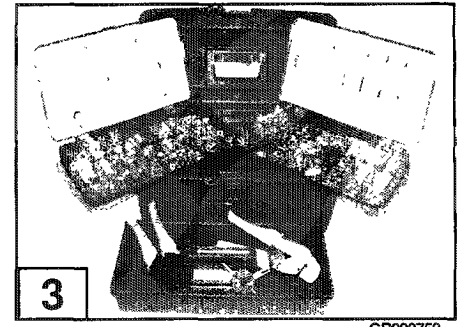
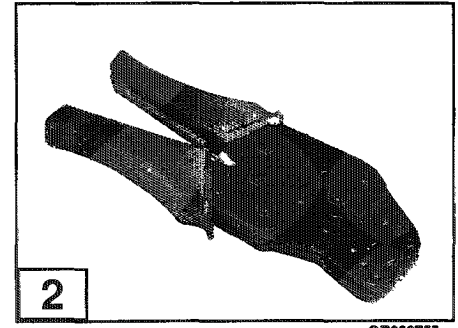
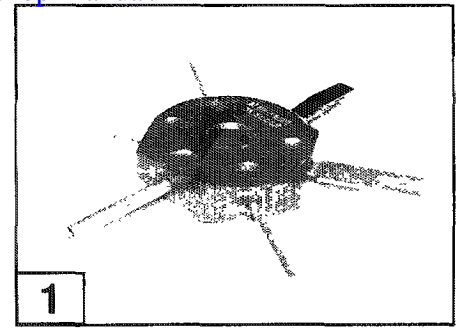
Before working on any part of the electrical system, read the section called Safety at the end of this manual.

The original mounting, support and routing of electrical system parts conform with U.S. Coast Guard requirements. It is important to maintain the original mounting, support and routing after servicing the electrical system to prevent possible fire and explosion in boat's engine compartment.

Do not substitute automotive parts. *Volvo Penta* marine components meet U.S. Coast Guard regulations for external ignition proof operation and marine use. *Volvo Penta* marine components are specially designed not to cause ignition of fuel vapors in the bilge or engine compartment. The use of automotive parts can result in fire and explosion.

Volvo Penta Special Tools

Description	Part No.	
Terminal Tool	3856042-1	1
Crimping Tool	3856010-8	2
Crimping Tool	3856011-6	2
Terminal Repair Kit with Tools	3856051-2	3
Terminal Repair Kit without Tools	3856054-6	4



Sealants, Lubricants and Adhesives

- Neoprene Dip or equivalent
- Terminal Grease
- Isopropyl Alcohol