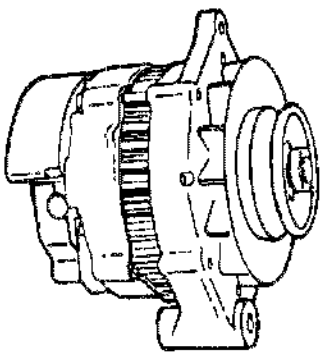
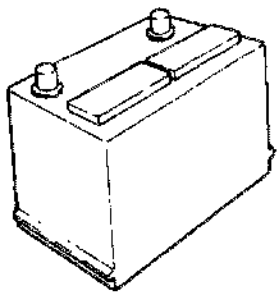
P/N 7788887-3
4-1996

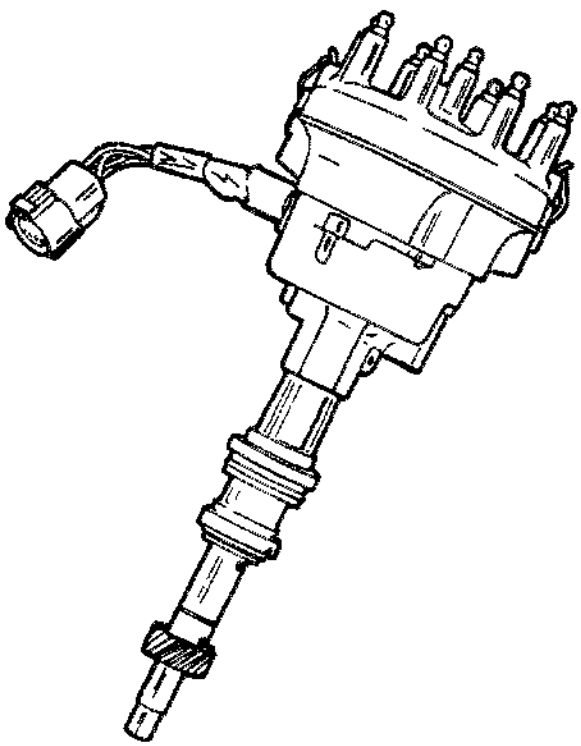
Workshop Manual

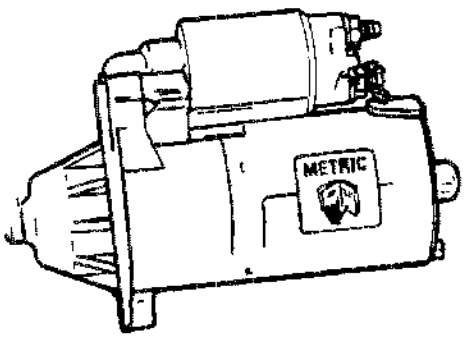
"NC" Models

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 decided if your actions might injure people or damage the Volvo Penta product.

Contents

This Workshop Manual is one of a set of nine that covers *Volvo Penta* stemdrive models. All nine books can be ordered as a set from *Volvo Penta Parts*. Order P/N 7788880-8.

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

- **P/N 7788881-6 *SX, DP-S Drive Unit 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.

- **P/N 7788882-4 *MFI Diagnostic (5.0 Fi, 5.8 FI/FSi) - Ford***
  Includes step by step troubleshooting procedures for all MFI Ford related components and wiring.

- **P/N 7788883-2 *TBI Diagnostic (4.3 Gi, 5.7 GI/GSi) - GM***
  Contains troubleshooting procedures for all TBI GM models and related components.

- **P/N 7788884-0 *MFI Diagnostic (7.4 GI/GSi, 8.2 GSi) - GM***
  Includes step by step troubleshooting procedures for all MFI GM related components and wiring.

- **P/N 7788885-7 *SP-DP Drive Unit and Transom Shield***
  Includes information on Transom Shield, Upper Gear Unit, Lower Gear Unit service; Drive Unit removal and installation; Propellers; and Trim/Tilt hydraulic operation and servicing procedures.

- **P/N 7788886-5 *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 7788887-3 *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 7788888-1 *Fuel System***
  Includes service and troubleshooting information on all carburetor, MFI and TBI fuel systems and related components.

- ***P/N 7788889-9 DPX-Lower Unit and Xact™ Steering System***
  Includes specific information for repair and overhaul of the DPX Lower unit and Xact™ steering systems not covered in the SP and DP Workshop manual.

This *Volvo Penta* Workshop Manual
Covers The Following *Volvo Penta* "NC" Models

Engine

3.0 LITER	
30GSMNCA	3868181
30GSMNCS	3868181
30GSPNCA	3868182
30GSPNCS	3868182
4.3 LITER	
43GLPNCA	3868184
43GLPNCS	3868477
43GLPNCB	3868566
43GSPNCA	3868186
43GSPNCS	3868478
43GSPNCM	3868321
43GSPNCB	3868484
43GSJNCS	3868453
43GSJNCC	3868487
43GiPNCACE	3868185
43GiPNCSCE	3868479
43GiPNCMCE	3868320
43GiPNCBCE	3868485
5.7 LITER	
57GLPNCS	3868570
57GiPNCACE	3868429
57GiPNCSCE	3868553
57GSiPNCS	3868564
57GiPNCMCE	3868533
57GiPNCBCE	3868556
57GiINCSCE	3868507
57GiINCCCE	3868507
5.0 LITER	
50FLPNCA	3868414
50FLPNCS	3868414
50FLPNCM	3868419
50FiPNCACE	3868416
50FiPNCSCE	3868416
50FiPNCMCE	3868421
50FiPNCBCE	3868421
5.8 LITER	
58FLPNCA	3868415
58FLPNCS	3868540
58FLPNCM	3868420
58FLPNCB	3868544
58FLINCS	3868284
58FLINCC	3868546
58FiPNCACE	3868417
58FiPNCSCE	3868541
58FiPNCMCE	3868422
58FiPNCBCE	3868545
58FSiINCS	3868538
58FSiINCC	3868547
58FSiPNCD	3868537
58FSiPNCS	3868543
58FSiPNCACE	3868418
7.4 LITER	
74GLPNCA	3868196
74GLPNCS	3868555
74GLINCS	3868283
74GLINCC	3868559
74GiPNCACE	3868450
74GiPNCSCE	3868527
74GLPNCM	3868328
74GLPNCB	3868557
74GiPNCMCE	3868335
74GiPNCBCE	3868528
74GiINCSCE	3868282
74GiINCCCE	3868529
74GSiXNCM	3868198
74GSiXNCB	3868558
74GSiINCS	3868509
74GSiINCC	3868560
8.2 LITER	
82GSiXNCB	3868457

Transom Shield

SX-C1	3868404
SX-CLT1	3868432
SX-C1AC	3868515
DP-S	3868299
DPX-C	3868289

Sterndrive

SX-CT1	1.97:1	3868397
SX-CT1	1.85:1	3868396
SX-C1	1.85:1	3868465
SX-C1	1.66:1	3868395
DP-S	2.30:1	3868163
DP-S	1.95:1	3868164
SX-C1	1.60:1	3868394
SX-C1	1.51:1	3868393
SX-C1	1.43:1	3868392
DP-S	1.78:1	3868165
DP-S	1.68:1	3868166
SX-RT1	1.66:1	3868398
SX-RT1	2.18:1	3868333
DP-C1	1.95:1	3868002
DP-D1	1.95:1	872862
DP-D1	1.78:1	3868022
DP-D1	1.68:1	3868455
DPX-S	1.59:1	3868020
DPX-S1	1.59:1	3868637
DPX-S	1.68:1	3868021
DPX-S1	1.68:1	3868638
DPX-S	1.78:1	3868023
DPX-S1	1.78:1	3868639

Jet Drive

PJX-S	3868467
PJX-C	3868694

Section 1

General Information

Table of Contents

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.

Introduction

This workshop manual covers *Volvo Penta* stern drive models. It is divided into sections concerning various systems and assemblies. Refer to the **Contents** to locate the section covering the system or assembly requiring service. Each section title page has an additional listing that will describe the section's contents in more detail. Be sure to read the **Safety Section** at the end of this manual, and pay special attention to all safety warnings as they appear throughout the text. Since models are subject to change at any time, some photos may not depict actual product.

Good Service Practice

Service required for *Volvo Penta* stern drives is generally one of three kinds:

- **Normal care and maintenance** - which includes putting a new stern drive into operation, storing engines, lubrication, and care under special operating conditions such as salt water and cold weather.
- **Operating malfunctions** - due to improper engine or drive mounting, propeller condition or size, boat condition, or the malfunction of some part of the engine. This includes engine servicing procedures to keep the engine in prime operating condition.
- **Complete disassembly and overhaul** - such as major service or rebuilding a unit.

It is important to determine before disassembly just what the trouble is and how to correct it quickly, with minimum expense to the owner.

When repairing an assembly, the most reliable way to ensure a good job is to do a complete overhaul on that assembly, rather than just to replace the bad part. Wear not readily apparent on other parts could cause malfunction soon after the repair job. Repair kits and seal kits contain all the parts needed to ensure a complete repair, to eliminate guesswork, and to save time.

Repair time can also be minimized by the use of special tools. *Volvo Penta* special tools are designed to perform service procedures unique to the product that cannot be completed using tools from other sources. They also speed repair work to help achieve service flat rate times. In some cases, the use of substitute tools can damage the part.

Note **Do not operate engine out of water even momentarily.** If operated in test tank, use proper test wheel. Failure to do so can damage water pump, overheat engine, or allow excessive engine RPM.

Preparation for Service

Proper preparation is extremely helpful for efficient service work. A clean work area at the start of each job will minimize tools and parts becoming misplaced. Clean an engine that is excessively dirty before work starts. Cleaning will occasionally uncover trouble sources. Obtain tools, instruments and parts needed for the job before work is started. Interrupting a job to locate special tools or repair kits is a needless delay.

⚠ Use proper lifting and handling equipment. **Working on stern drives without proper equipment can cause damage and personal injury.**

Always use clean fresh fuel when testing engines. Troubles can often be traced to the use of old or dirty fuel.

Service Policy

Whether within or following the warranty period, *Volvo Penta* has a constant interest in their products.

It is *Volvo Penta's* policy to provide dealers with service knowledge so they can give professional service demanded by today's consumer. The *Volvo Penta* Training Centers, frequent mailing of Service Bulletins, Letters and Promotions, Special Tools and this Workshop Manual represent *Volvo Penta's* efforts to assist dealers in giving consumers the best and most prompt service possible. This Workshop Manual covers all phases of servicing the *Volvo Penta®* stern drive unit. If a service question does not appear to be answered in this manual, you are invited to write to the *Volvo Penta* Service Department for additional help. Always be sure to give complete information, including engine model number and serial number.

Be sure that you are familiar with *Volvo Penta's* Warranty. If you have any questions, write the *Volvo Penta* Service Department. If other than genuine *Volvo Penta* replacement components or parts are used, *Volvo Penta* may refuse subsequent warranty claims involving that engine.

When a brand-name product or specific tool is called for, another item may be used. However, the substitute must have equivalent characteristics, including type, strength, and material. You must determine if incorrect substitution could result in product malfunction and personal injury to anyone. To avoid hazards, equivalent products which are used must meet all current U.S. Coast Guard Safety Regulations and ABYC standards.

Replacement Parts

⚠ **When replacement parts are required, always use genuine *Volvo Penta* parts, or parts with equivalent characteristics, including type, strength, and material. Failure to do so may result in product malfunction and possible injury to the operator and/or passengers.**

Parts Catalogs

Parts Catalogs contain exploded views showing the correct assembly of all parts, as well as a complete listing of the parts for replacement. These catalogs are helpful as a reference during disassembly and reassembly, and are available from *Volvo Penta Parts*.

Special Service Tools

Volvo Penta has specially designed tools to simplify some of the disassembly and assembly operations. These tools are illustrated in this Workshop Manual, in many cases in actual use. All *Volvo Penta* special tools can be ordered from *Volvo Penta Parts* division. Individual purchasers of Workshop Manuals must order Special Tools through an authorized dealer.

Product References, Illustrations & Specifications

Volvo Penta reserves the right to make changes at anytime, without notice, in specifications and models and also to discontinue models. The right is also reserved to change any specifications or parts at any time without incurring any obligation to equip same on models manufactured prior to date of such change. All information, illustrations and specifications contained in this manual are based on the latest product information available at the time of printing. The right is reserved to make changes at anytime without notice.

All photographs and illustrations used in this manual may not depict actual models or equipment, but are intended as representative views for reference only. The continuing accuracy of this manual cannot be guaranteed.

Tuning The Engine

The purpose of an engine tune-up is to restore power and performance that has been lost through wear, corrosion or deterioration of one or more parts or components. In the normal operation of an engine, these changes can take place gradually at a number of points, so that it is seldom advisable to attempt an improvement in performance by correction of one or two items only. Time will be saved and more lasting results will be obtained by following a definite and thorough procedure of analysis and correction of all items affecting power and performance.

Economical, trouble-free operation can better be ensured if a complete tune-up is performed once every year, preferably in the spring. Components that affect power and performance can be divided into three groups:

- Components affecting compression
- Components affecting ignition
- Components affecting fuel system

Tune-up procedures should cover these groups in the order given. While the items affecting compression and ignition may be handled according to personal preference, correction of items in the fuel system group should not be attempted until all items affecting compression and ignition have been satisfactorily corrected. Most of the procedures for performing a complete engine tune-up will be covered in greater detail in this manual. This section will deal mainly with the order of procedures involved in tuning the engine.

Engine Compression Testing

⚠ **During all work done around the engine, while the engine is running or being cranked, use extreme care to avoid getting fingers or clothing caught in any belts, pulleys, or other moving parts.**

⚠ 1. Visually inspect stern drive unit for leaks, missing parts or other obvious defects. **Replace deteriorated parts.**

2. Compression check: Proper compression is essential for good engine performance. An engine with low or uneven compression cannot be properly tuned.

a. Operate engine to normal operating temperature.

Note Engine must **not** be started and run without water for cooling.

b. Remove any foreign matterfrom around spark plugs by blowing out with compressed air.

c. Remove and inspect all spark plugs. Install thread-type compression gauge in spark plug hole.

⚠ d. **To Prevent Sparking:**

- 3.0 GS, 4.3 GL, GS, 4.3, 5.7, 7.4, 8.2 Gi, and GSi Models - **remove (pink and brown) 2-wire connector from ignition coil. On all models except 3.0 GS models, remove electric fuel pump relay**
- 5.7, 7.4, 8.2 GL, 5.0 and 5.8 FL Models **remove both distributor primary wires from the ignition coil, and tape wire terminals to prevent accidental grounding.**
- 7.4 GL with E.E.M. Models - **remove 14 wire connector at the ignition module. Remove electric fuel pump relay.**
- 5.0 and 5.8 Fi, FSi Models - **Unplug 2-way connector at ignition coil.**

e. With choke and throttle plates wide open, crank engine through at least four comPression strokes, Carbureted models only.

Test Conclusion

The indicated compression pressures are considered normal if the lowest reading cylinder is within 75% of the highest.

Example:

If the highest pressure reading was 140 PSI, 75% of 140 is 105. Therefore, any cylinder reading less than 105 PSI indicates an improperly seated valve, worn valve guides or worn or broken piston rings. Any cylinder reading 105 PSI or greater is within specifications, and compression is considered normal.

If one or more cylinders read low, squirt approximately one tablespoon of engine oil on top of the pistons in the low reading cylinders. Repeat compression pressure check on the cylinders.

1. If compression improves considerably, the piston rings are at fault.

2. If compression does not improve, valves are sticking or seating poorly, or valve guides are worn.

3. If two adjacent cylinders indicate low compression pressures and squirting oil on the pistons does not increase the compression, the cause may be a cylinder head gasket leak between the cylinders. This problem could allow engine oil and/or coolant to enter the cylinders.

It is recommended the following quick reference chart be used when checking cylinder compression pressures. The chart has been calculated so that the lowest reading number is 75% of the highest reading.

Compression Pressure Limit Chart

Max. PSI	Min. PSI	Max. PSI	Min. PSI	Max. PSI	Min. PSI	Max. PSI	Min. PSI
134	101	154	115	174	131	194	145
136	102	156	117	176	132	196	147
138	104	158	118	178	133	198	148
140	105	160	120	180	135	200	150
142	107	162	121	182	136	202	151
144	108	164	123	184	138	204	153
146	110	166	124	186	140	206	154
148	111	168	126	188	141	208	156
150	113	170	127	190	142	210	157
152	114	172	129	192	144	212	158

After checking cylinder compression, repairs should be made as necessary. Subsequent adjustments to an engine that does not have proper compression will not measurably improve performance or correct operational problems. After verifying compression, check ignition and fuel system components.

Ignition System

- Spark Plugs
- Spark Plug Leads
- Distributor Cap
- Rotor
- Ignition Coil
- High Tension Lead
- Ignition Switch
- Circuit Wiring and Connectors
- TFI Module
- ECM

Fuel System

- Fuel Tank Pickup and Screen
- Fuel Tank Vent
- Anti-Siphon Valve (if equipped)
- Fuel Octane and Quality
- Boat Fuel Lines and Valves
- External Engine Fuel Filter
- Fuel Pump and Line
- Carburetor Fuel Filter or Screen
- Carburetor Adjustments
- Engine PCV Valve (if equipped)
- Flame Arrestor
- Pressure Regulator and Injectors
- TBI

All of the above listed components are not necessarily part of an engine tune-up, but must be considered when attempting to correct engine/boat performance problems. Repair or replace components only as required.

⚠ **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.**

Crankcase Capacities

Model	Less Filter	With Filter
3.0 GS	3.5 qts. (3,3 liters)	4.0 qts. (3,8 liters)
4.3 GL, GS, and Gi	4.0 qts. (3,8 liters)	4.5 qts. (4,3 liters)
*4.3 GL, GS, and Gi	4.5 qts. (4,3 liters)	5.0 qts. (4,7 liters)
5.0 FL	5.0 qts. (4,7 liters)	6.0 qts. (5,7 liters)
5.7 Gi	5.0 qts. (4,7 liters)	6.0 qts. (5,7 liters)
5.8 FL	5.0 qts. (4,7 liters)	6.0 qts. (5,7 liters)
5.0 Fi	5.0 qts. (4,7 liters)	6.0 qts. (5,7 liters)
5.8 Fi, FSi	4.0 qts. (3,8 liters)	5.0 qts. (4,7 liters)
7.4, 8.2 GL	6.0 qts. (5,7 liters)	7.0 qts. (6,6 liters)
7.4 Gi, GSi	8.0 qts. (7,5 liters)	9.0 qts. (8,5 liters)

* with ribbed aluminum oil pans

Engine Firing Order

3.0 GS 1-3-4-2
4.3 GL, GS, Gi 1-6-5-4-3-2
5.0 / 5.8 FL, Fi, FSi 1-3-7-2-6-5-4-8
5.7 / 7.4 / 8.2 GL, Gi, GSi 1-8-4-3-6-5-7-2

Fuel Pump Pressure

All Carbureted Models ..... 40 - 48 kPa (5.75 - 7 psi)
All Fuel Injected ..... Low 13,8 - 27,6 kPa (2-4 psi)
4.3 / 5.7 Gi ..... High 62,0 - 89,6 kPa (9-13 psi)
5.0 / 5.8 Fi, FSi ..... High 214 - 269 kPa (31-39 psi)
7.4 Gi, GSi ..... High 214 - 269 kPa (31-39 psi)

For more detailed information on fuel injection refer to pertinent *Diagnostic Workshop Manuals.*

For Fi and FSi models, see:
MFI Diagnostic Workshop Manual (5.0 Fi, 5.8 Fi/FSi) - Ford

For Gi and GSi models see:
TBI Diagnostic Workshop Manual (4.3 Gi, 5.7 Gi) - GM
MFI Diagnostic Workshop Manual (7.4 Gi/GSi) - GM

Distributor Specifications

3.0 GS
Sensor Air Gap ..... N/A - *Delco® EST* ignition system
Distributor Rotation ..... clockwise
4.3 GL, GS, Gi
Sensor Air Gap ..... N/A - *Delco® EST* ignition system
Distributor Rotation ..... clockwise
5.0 FL
Sensor Air Gap ..... 0.008 inch (0,203 mm)
Distributor Rotation ..... counter-clockwise
5.0 Fi
Sensor Air Gap ..... N/A - *Ford* TFI-IV® ignition system
Distributor Rotation ..... counter-clockwise
5.7 Gi
Sensor Air Gap ..... N/A - *Delco® EST* ignition system
Distributor Rotation ..... clockwise
5.8 FL
Sensor Air Gap ..... 0.008 inch (0,203 mm)
Distributor Rotation ..... counter-clockwise
5.8 Fi, FSi
Sensor Air Gap ..... N/A - *Ford* TFI-IV® ignition system
Distributor Rotation ..... counter-clockwise
5.7, 7.4*, 8.2 GL
Sensor Air Gap ..... 0.008 inch (0,203 mm)
Distributor Rotation ..... clockwise
7.4, 8.2 Gi, GSi
Sensor Air Gap ..... N/A - *Delco® EST* ignition system
Distributor Rotation ..... clockwise
8.2 GL
Sensor Air Gap ..... 0.008 inch (0,203 mm)
Distributor Rotation ..... clockwise

* Without Volvo Penta E.E.M. system.

Oil Filters

3.0 GS	835440-9
4.3 GL, GS, Gi	841750-3
5.0 FL, FI	835779-0
5.7 Gi	835440-9
5.8 FL, Fi, FSi	835779-0
7.4 GL, Gi, GSi	835440-9
8.2 GL	835440-9

Oil Pressure - All Models

800 RPM	103-207 kPa (15-30 psi)
2000 RPM	276-414 kPa (40-60 psi)

Idle* and Operating RPM

3.0 GS	
Idle	650-750 RPM
WOT	4200-4600 RPM
4.3 GL	
Idle	550-650 RPM
WOT	4200-4600 RPM
4.3 GS	
Idle	550-650 RPM
WOT	4400-4800 RPM
4.3 Gi	
Idle	600 RPM - Not Adjustable
WOT	4400-4800 RPM
5.0 FL	
Idle	550-650 RPM
WOT	4200-4600 RPM
5.0 Fi	
Idle	600 RPM - Not Adjustable
WOT	4200-4600 RPM
5.7 Gi	
Idle	600 RPM - Not Adjustable
WOT	4200-4600 RPM
5.8 FL	
Idle	550-650 RPM
WOT	4000-4400 RPM
5.8 Fi	
Idle	600 RPM - Not Adjustable
WOT	4200-4600
5.8 FSi	
Idle	600 RPM - Not Adjustable
WOT	4600-5000
7.4 GL	
Idle	550-650 RPM
WOT	4200-4600
7.4 Gi	
Idle	600 RPM - Not Adjustable
WOT	4200-4600
7.4 GSi	
Idle	600 RPM - Not Adjustable
WOT	4800-5200
8.2 GL	
Idle	550-650 RPM
WOT	4400-4800 RPM
8.2 GSi	
Idle	600 RPM - Not Adjustable
WOT	4600 - 5000 RPM

* In forward gear

Timing and Fuel Requirements

3.0 GS	0° TDC - w/87 AKI or higher *Volvo Penta* 885163-6 shunt required
4.3 GL, GS	0° TDC - w/89 AKI or higher 5° ATDC - w/87 AKI *Volvo Penta* 885163-6 shunt required
4.3 GL, GS*	6° TDC - w/89 AKI or higher 1° BTDC - w/87 AKI *Volvo Penta* 885163-6 shunt required
4.3 Gi	8° BTDC - w/87 AKI or higher Service Mode required
5.7 GL	8° BTDC - w/86 AKI or higher
5.7 Gi	8° BTDC - w/87 AKI or higher Service Mode required
5.0 FL	10° BTDC - w/86 AKI or higher
5.8 FL	10° BTDC - w/86 AKI or higher
5.0 Fi	5° BTDC - SPOUT removed
5.8 Fi, FSi	5° BTDC - SPOUT removed
7.4 GL	10° BTDC - w/89 AKI or higher 6° BTDC w/87 AKI or higher
7.4 GL w/E.E.M.	10° BTDC - Non Adjustable w/86 AKI or higher
7.4 Gi	10° BTDC - w/87 AKI or higher Service Mode required
7.4 GSi	10° BTDC - w/87 AKI or higher Service Mode required
8.2 GL	8° BTDC - w/89 AKI or higher 3° BTDC - w/87 AKI or higher
8.2 GSi	10° BTDC - w/87 AKI or higher Service Mode required

E.E.M. = *Volvo Penta* Electronic Engine Management
*with ribbed aluminum oil pan

Spark Plugs

3.0 GS
Spark Plug *VP*-3851857-7, *AC*-MR43LTS, *CH*-RS12YC
Gap ..... 0.045" (1,143 mm)
Torque ..... 20 ft. lb. (27Nm)

4.3 GL, GS
Spark Plugs *VP*-3851859-3, *AC*-MR43LTS, *CH*-RS12YC
Gap ..... 0.045" (1,143 mm)
Torque ..... 20 ft. lb. (27Nm)

4.3 Gi
Spark Plugs *VP*-3851859-3, *AC*-MR43TS,*CH*-RV15YC4
Gap ..... 0.045" (1,143 mm)
Torque ..... 20 ft. lb. (27Nm)

***4.3 GL, GS, Gi**
Spark Plugs *VP*-3856756-0, *AC*-MR43LTS, *CH*-RS12YC
Gap ..... 0.045" (1,143 mm)
Torque ..... 20 ft. lb. (27Nm)

5.0 FL
Spark Plugs *VP*-3851861-9, *MC*-ASF32C, *CH*-RV15YC4
Gap ..... 0.035"(0.889 mm)
Torque .....5-10 ft. lb. (6.7-13.5 Nm)

5.0 Fi
Spark Plugs *VP*-3851857-7, *MC*-AWSF32C, *CH*-RS12YC
Gap ..... 0.045"(1.14 mm)
Torque .....5-10 ft. lb. (6.7-13.5 Nm)

5.7 GL
Spark Plugs *VP*-3851859-3, *AC*-MR43T, *CH*-RV15YC4
Gap ..... 0.035" (0.89mm)
Torque ..... 20 ft. lb. (27Nm)

5.7 GI
Spark Plugs *VP*-3851862-1, *AC*-R43TS, *CH*-RV15YC4
Gap ..... 0.045" (1,143 mm)
Torque ..... 20 ft. lb. (27Nm)

5.8 FL
Spark Plugs *VP*-3851861-9, *MC*-ASF32C, *CH*-RV15YC4
Gap ..... 0.035" (0,889 mm)
Torque ..... 5-10 ft. lb.(6.7-13.5 Nm)

5.8 Fi, FSi
Spark Plugs *VP*-3851868-4, *MC*-AWSF22C, *CH*-RS9YC
Gap ..... 0.045"(1.14 mm)
Torque .....5-10 ft. lb. (6.7-13.5 Nm)

7.4 GL
Spark Plugs *VP*-3851861-9, *AC*-MR43T, *CH*-RV15YC4
Gap ..... 0.045" (1,143 mm)
Torque ..... 20 ft. lb. (27Nm)

7.4 Gi
Spark Plugs *VP*-3851862-1, *AC*-R43TS, *CH*-RV15YC4
Gap ..... 0.045" (1,143 mm)
Torque ..... 20 ft. lb. (27Nm)

7.4 GSi
Spark Plugs *VP*-3851861-9, *AC*-MR43T, *CH*-RV15YC4
Gap ..... 0.045" (1,143 mm)
Torque ..... 20 ft. lb. (27Nm)

8.2 GSi
Spark Plugs *VP*-3851861-9, *AC*-MR43T, *CH*-RV15YC4
Gap ..... 0.045" (1,143 mm)
Torque ..... 20 ft. lb. (27Nm)

VP = Volvo Penta,CH = Champion, AC = AC Delco, MC = Motorcraft
*With ribbed aluminum oil pan