

C - SPECIFICATIONS

1994 Volvo 960

1994 ENGINE PERFORMANCE
Volvo Service & Adjustment Specifications

Volvo; 850, 940, 960

INTRODUCTION

Use this article to quickly find specifications related to servicing and on-vehicle adjustments. This is a quick-reference article to use when you are familiar with an adjustment procedure and only need a specification.

CAPACITIES

BATTERY SPECIFICATIONS

Application	Cold Cranking Amp. Rating
850	440 or 520
940	520
960	600

FLUID CAPACITIES

Application	Qts. (L)
Crankcase (Includes Filter)	
850 (1)	5.6 (5.3)
940 (2)	4.0 (3.8)
960	5.9 (5.7)
Cooling System (Includes Heater)	
850	
Non-Turbo	7.6 (7.2)
Turbo	7.4 (7.0)
940	10.0 (9.5)
960	10.5 (10)
Manual Transaxle (Volvo Synthetic Gearbox Oil (97308))	
850 (M56L)	2.2 (2.1)
Automatic Transmission/Transaxle	
850 (AW 50) (3)	8.0 (7.6)
940 (AW 71) (4)	7.9 (7.5)
960 (AW 30/40) (4)	7.9 (7.5)
Differential (SAE 80-90W/API GL-5)	
940	
960	1.7 (1.6)
Sedan	1.4 (1.3)
Wagon	1.7 (1.6)

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- (1) - On turbo models, add .95 qt. (.9L) if oil cooler has been drained.
 - (2) - On turbo models, add .70 qt. (.6L) if oil cooler has been drained.
 - (3) - Use ATF Dexron IIE or Mercon fluid.
 - (4) - Use ATF Dexron IID or Dexron IIE fluid.
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QUICK-SERVICE

SERVICE INTERVALS & SPECIFICATIONS

REPLACEMENT INTERVALS

Component	Miles
Air Filter	30,000
A/T Fluid (1) (940)	20,000
Timing Belt	
850	70,000
940 & 960	50,000
Coolant	(2)
EGR	
850 & 960	
Inspect	60,000
Clean (3)	100,000
940	
Inspect	60,000
Clean (4)	20,000
Fuel Filter	60,000
Oil & Filter	
Normal Service	10,000
Severe Service	5000
PCV (Inspect & Clean)	60,000
Spark Plugs	30,000

- (1) - Transmission fluid replacement for 850 and 960 is not recommended by manufacturer.
- (2) - Coolant replacement interval is no longer recommended by manufacturer.
- (3) - After 100,000 mile EGR service, clean every 20,000 miles.
- (4) - After 60,000 mile inspection, clean every 20,000 miles.

VALVE ADJUSTMENT INTERVALS (1)

Application	Miles
940	30,000

- (1) - 850 and 960 are equipped with hydraulic lifters.

BELT ADJUSTMENT

Application	Deflection - In. (mm)
Accessory Drive Belt	
850 & 960	(1)
940 (2) .....	.2-.4 (5-10)
Timing Belt	
850 & 960	(1)
940	(3)

- (1) - No adjustment is necessary, vehicles are equipped with a self-tensioner.
- (2) - Deflection is measured with moderate thumb pressure applied midway on longest belt run.
- (3) - See D - ADJUSTMENTS article in the ENGINE PERFORMANCE section.

MECHANICAL CHECKS

ENGINE COMPRESSION

COMPRESSION SPECIFICATIONS

Application	Specification
Compression Ratio	
850	
Non-Turbo	10.5:1
Turbo	8.5:1
940	
Non-Turbo	9.8:1
Turbo	8.7:1
960	10.7:1

VALVE CLEARANCE

NOTE: 850 and 960 models are equipped with hydraulic lifters.

VALVE CLEARANCE SPECIFICATIONS - 940

Application	In. (mm)
Cold	
When Checking .....	.010-.018 (.25-.45)
When Setting .....	.014-.016 (.35-.40)
Warm	
When Checking .....	.012-.020 (.30-.50)
When Setting .....	.016-.018 (.40-.45)

IGNITION SYSTEM

IGNITION COIL

IGNITION COIL RESISTANCE - Ohms @ 68°F (20°C)

Application	Primary	Secondary
850		
Non-Turbo .....	.5	8400
Turbo .....	.5-1.5	8000-9000
940		
EZ 116K (Bosch) .....	.6-.9	7000-8500
REX-I (Bendix) .....	.5-.6	5000-7000
960 .....	.5	N/A

SPARK PLUGS

SPARK PLUG TYPE

Application	Bosch	Champion
850		
Non-Turbo	FR6DC	RC9YC

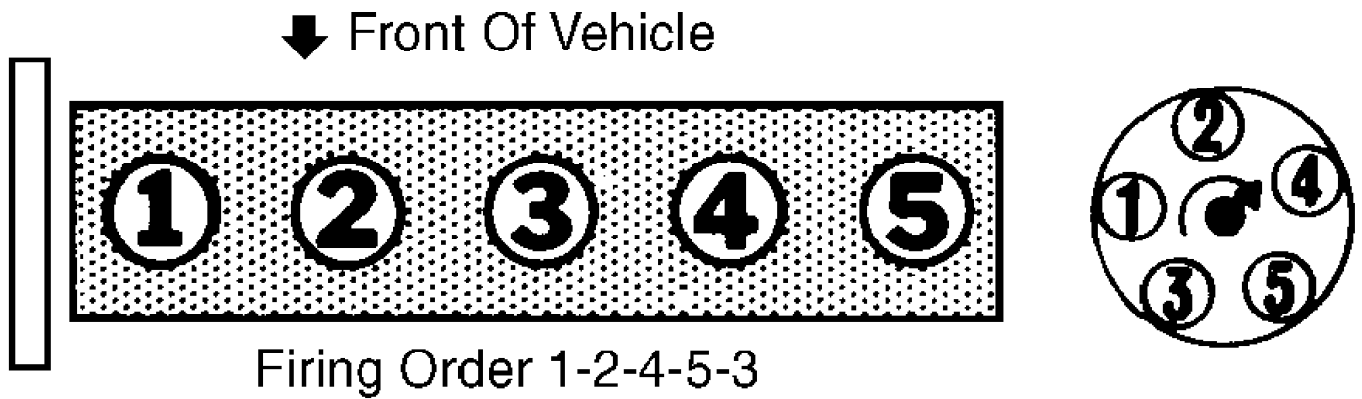
Turbo	.....	.....	RC7GYC
940	.....	WR7DC	N/A
960	.....	.....	.....
Normal Driving	.....	FR7DC	RC9YC
High-Speed Driving	...	FR6DC	RC7YC

SPARK PLUG SPECIFICATIONS

Application	Gap		Torque
	In.	(mm)		Ft. Lbs. (N.m)
All Models028-.032 (.70-.80)	18 (25)

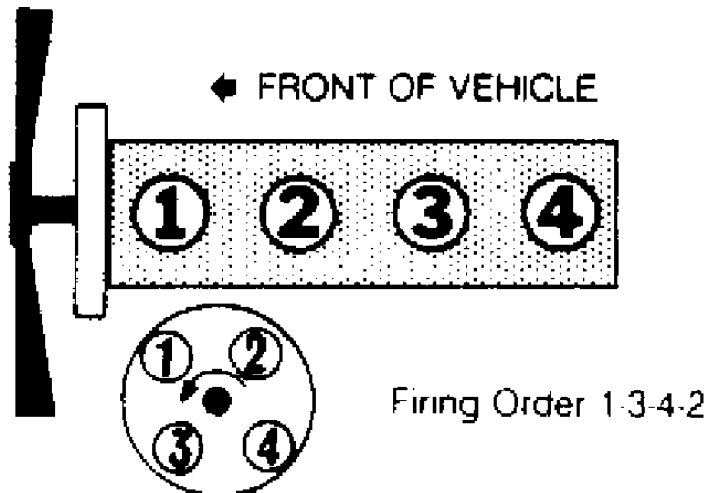
FIRING ORDER

Refer to appropriate illustration for firing order and distributor rotation. See Fig. 1, 2 or 3.



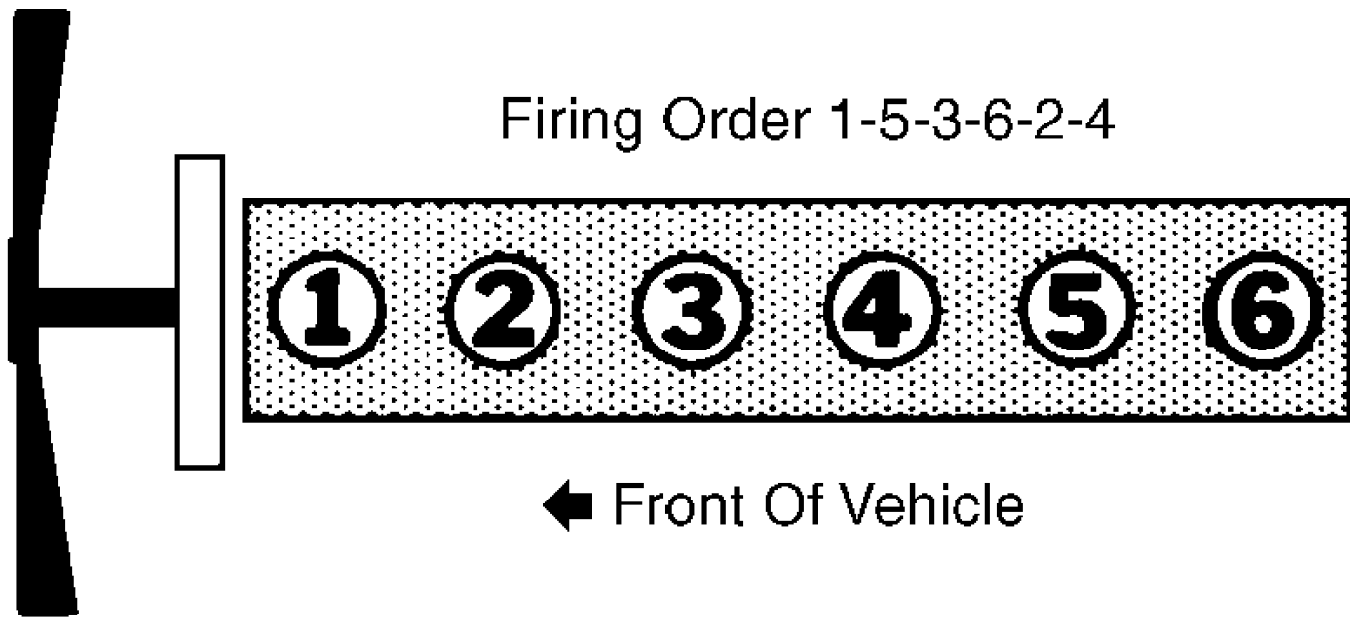
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Fig. 1: Firing Order & Distributor Rotation - 850



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Fig. 2: Firing Order & Distributor Rotation - 940



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Fig. 3: Firing Order - 960

IGNITION TIMING

IGNITION TIMING (Degrees BTDC @ RPM)

Application	(1) Timing
850	
Non-Turbo	8-12 @ 750-850
Turbo	4-8 @ 750-850
940	
Non-Turbo	
EZ 116K (Bosch)	12 @ 725-825
REX-I (Bendix)	10 @ 725-825
Turbo	12 @ 750
960	5 @ 750

(1) - Ignition timing is computer-controlled and is not adjustable.

FUEL SYSTEM

FUEL PUMP

FUEL PUMP PERFORMANCE (1)

Application	Pressure psi (kg/cm ²)	Volume In 30 Sec. Pts. (L)
All Models	43.5 (3.06)	1.1 (.52)

(1) - At 12 volts, 68°F (20°C), with engine off and fuel pump relay by-passed.

IDLE SPEED & MIXTURE

IDLE SPEED & CO LEVEL (1)

Application	Idle RPM	(2) CO Level
850	(3) 850	(3) .2-.8%
940		
Non-Turbo	7754-.8%
Turbo	7504-.8%
960	7504-.8%

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- (1) - Idle speed and CO level can only be checked, not adjusted.
(2) - Measured upstream of catalytic converter with oxygen sensor connected.
(3) - With cooling fan off.
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FAST IDLE

NOTE: All idle speeds are controlled by electronic control unit. Specifications on fast idle are not available from manufacturer.

THROTTLE SWITCH

See D - ADJUSTMENTS article for switch adjustments.