

N - REMOVE/INSTALL/OVERHAUL - GASOLINE

Article Text

1996 Volkswagen Golf
For Volkswagen Technical Site
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Thursday, August 19, 1999 11:40PM

ARTICLE BEGINNING

1996 ENGINE PERFORMANCE

Volkswagen Removal, Overhaul & Installation - Gasoline

Cabrio, Golf III, GTI, Jetta III, Passat

CAUTION: When battery is disconnected, vehicle computer and memory systems may lose memory data. Driveability problems may exist until computer systems have completed a relearn cycle.

INTRODUCTION

Removal, overhaul and installation procedures are covered in this article. If component removal and installation is primarily an unbolt and bolt-on procedure, only a torque specification may be furnished.

CAUTION: Before disconnecting battery, obtain radio anti-theft code. If wrong code is entered into radio after power is restored, radio will become inoperable.

IGNITION SYSTEM

CAMSHAFT POSITION (CMP) SENSOR

Removal & Installation (2.8L)

1) CMP sensor removal procedure is not available from manufacturer. To install CMP sensor, ensure cylinder No. 1 is at TDC of compression stroke.

2) Align mark on camshaft sprocket with mark on rear toothed-belt guard. Turn rotor so that it points to cylinder No. 1 mark on CMP sensor housing. Insert CMP sensor into engine. Check ignition timing.

DISTRIBUTOR

Removal (2.0L)

1) Ensure cylinder No. 1 is at TDC of compression stroke. Ensure camshaft gear lines up with mark on toothed-belt cover. See Fig. 1.

2) Ensure distributor rotor lines up with mark on distributor housing or notch in rim of Camshaft Position (CMP) sensor dust boot. With both camshaft and crankshaft at TDC position, remove distributor.

N - REMOVE/INSTALL/OVERHAUL - GASOLINE

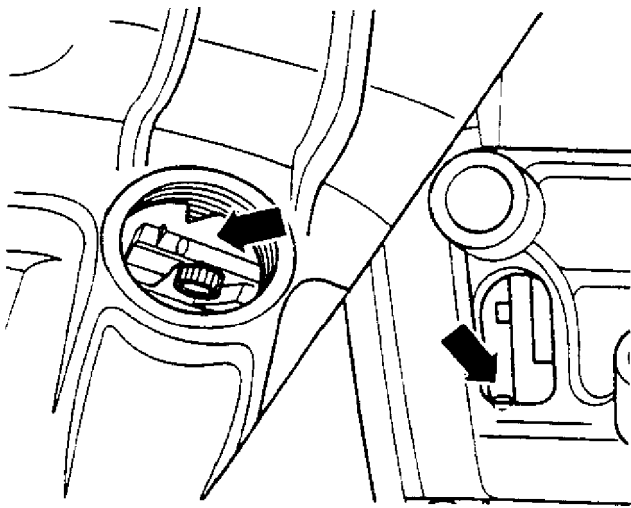
Article Text (p. 2)

1996 Volkswagen Golf

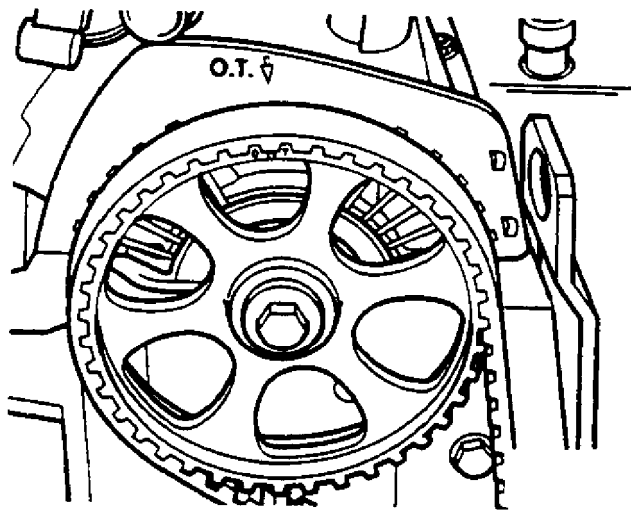
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Thursday, August 19, 1999 11:40PM



FLYWHEEL AT TDC



TDC MARK ON
TOOTHED BELT COVER

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Fig. 1: Removing Distributor (2.0L)

Courtesy of Volkswagen United States, Inc.

Installation

1) Ensure slot on oil pump shaft is parallel to crankshaft. Install distributor with pins toward hold-down bolt hole. Tighten distributor hold-down bolt. With distributor installed, distributor rotor should line up with mark on distributor housing or notch in rim of CMP sensor dust boot. See Fig. 2.

2) If marks do not align, remove upper timing belt guard. Loosen belt tensioner, and remove timing belt from camshaft sprocket. Turn intermediate shaft sprocket in direction of arrows, using timing belt, until distributor rotor aligns with mark on distributor housing.

N - REMOVE/INSTALL/OVERHAUL - GASOLINE

Article Text (p. 3)

1996 Volkswagen Golf

For Volkswagen Technical Site

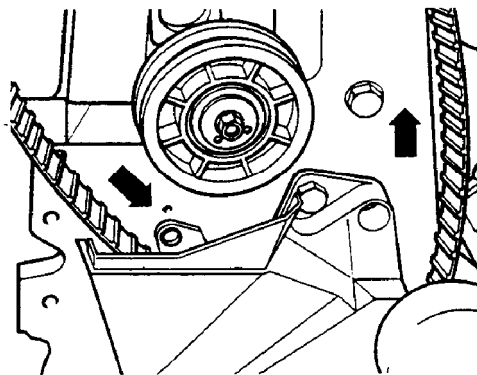
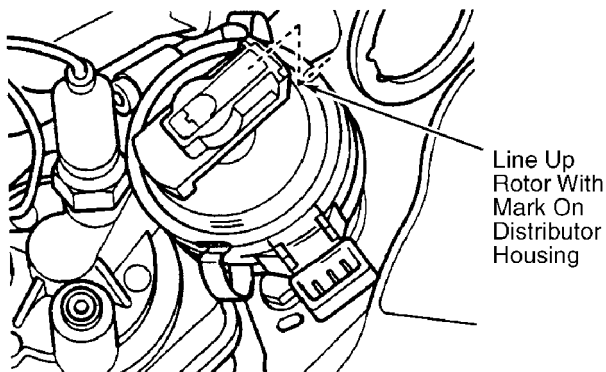
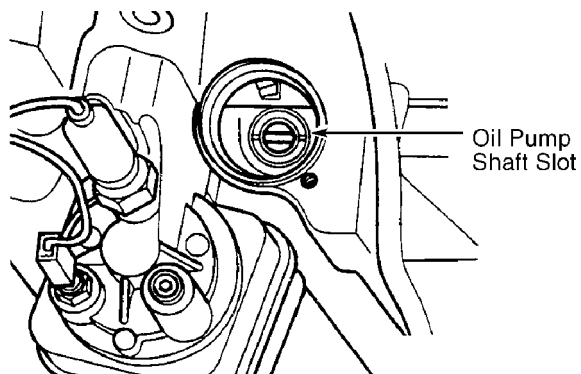
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Thursday, August 19, 1999 11:40PM

See Fig. 2.

3) With distributor rotor properly aligned, install timing belt onto camshaft sprocket. For easier installation of drive belt, tighten belt tensioner nut one turn.

4) Using Spanner Wrench (V159), turn belt tensioner down and inward toward belt. Tighten belt tensioner nut to 33 ft. lbs. (45 N.m). Install upper timing belt guard. Check ignition timing.



NOTE: Turn Intermediate Shaft Sprocket With
Timing Belt In Direction Of Arrows

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Fig. 2: Installing Distributor (2.0L)
Courtesy of Volkswagen United States, Inc.

N - REMOVE/INSTALL/OVERHAUL - GASOLINE

Article Text (p. 4)

1996 Volkswagen Golf

For Volkswagen Technical Site

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Thursday, August 19, 1999 11:41PM

FUEL SYSTEM

FUEL SYSTEM PRESSURE RELEASE

Disconnect ignition coil output stage wiring harness to deactivate ignition. To relieve fuel system pressure, remove fuel pump fuse No. 18, or fuel pump relay, to deactivate fuel pump. Place a clean shop rag around fuel line fitting and slowly loosen fitting.

WARNING: Fuel will be discharged when disconnecting fuel system components. DO NOT smoke or work near heaters or other fire hazards. Keep fire extinguisher available.

FUEL PUMP

NOTE: On 2.8L, an in-tank (transfer) fuel pump is also used. Disconnect fuel lines and remove plastic retaining collar. Remove fuel pump from fuel tank. To install, reverse removal procedure.

Removal & Installation

1) Obtain radio anti-theft code. Disconnect negative battery cable. Remove luggage compartment floor covering and fuel pump access cover. Disconnect wiring harness and fuel lines from fuel pump.

2) Using Wrench (3217), loosen fuel pump screw cap. Remove flange and sealing ring from fuel tank opening. Loosen fuel pump by twisting it to left. Remove fuel pump from fuel tank.

3) When installing fuel pump, ensure fuel gauge sending unit is not bent. Sending unit must be installed with a frontal angle of 5 degrees (70-75 degrees on Passat). Align mark on flange with fuel tank. To complete installation, reverse removal procedure.

FUEL RAIL & INJECTORS

Removal & Installation (2.0L)

Remove upper intake manifold. See Fig. 3. Remove fuel rail and fuel injectors. To install, reverse removal procedure.

NOTE: Sealing gasket beneath lower insert should be replaced when servicing fuel injector. When installing upper insert, clean its threads and lightly apply thread locking compound.

N - REMOVE/INSTALL/OVERHAUL - GASOLINE

Article Text (p. 5)

1996 Volkswagen Golf

For Volkswagen Technical Site

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Thursday, August 19, 1999 11:41PM

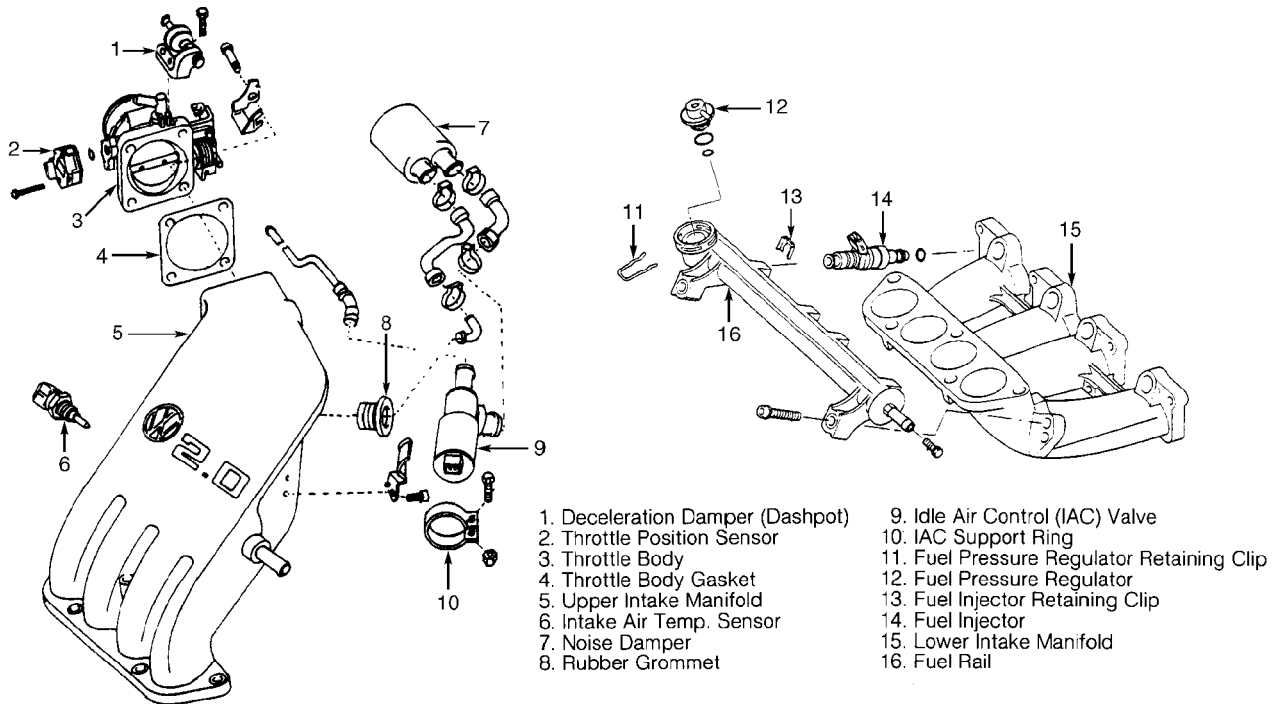


Fig. 3: Exploded View Of Upper & Lower Intake Manifolds (2.0L)
Courtesy of Volkswagen United States, Inc.

Removal & Installation (2.8L)

1) Remove ignition wires. Remove hose from mass airflow sensor. Disconnect hose to fuel evaporative (frequency) solenoid valve at throttle body.

2) Disconnect throttle position sensor and idle air control valve. Disconnect accelerator cable from throttle body. Disconnect and plug coolant hoses at throttle body.

3) Disconnect hose from air intake heated tube. Detach fuel lines at cylinder head cover and remove from fuel rail. Disconnect vacuum hose from fuel pressure regulator. Remove upper intake manifold.

4) With upper intake manifold removed, disconnect wiring harness from fuel injector(s). Pry off retaining clip(s) from injector(s). Lubricate injector "O" rings with fuel, and install injectors. To complete installation, reverse removal procedure.

MASS AIRFLOW (MAF) SENSOR

MAF sensor removal and installation procedure is not available from manufacturer.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS TABLE (2.0L)

Application Ft. Lbs. (N.m)

N - REMOVE/INSTALL/OVERHAUL - GASOLINE

Article Text (p. 6)

1996 Volkswagen Golf

For Volkswagen Technical Site

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Thursday, August 19, 1999 11:41PM

Distributor Hold-Down Bolts	18 (25)
Heated Oxygen Sensor	37 (50)
Knock Sensors	15 (20)
Upper Intake Manifold Bolts	15 (20)

INCH Lbs. (N.m)

Fuel Rail Bolts	84 (10)
Mass Airflow Sensor Bolts	84 (10)
Throttle Body Bolts	84 (10)
AA	

TORQUE SPECIFICATIONS TABLE (2.8L)

AA

Application	Ft. Lbs. (N.m)
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EGR Temperature Sensor	15 (20)
Heated Oxygen Sensor	37 (50)
Knock Sensors	18 (25)
Throttle Body Bolts	18 (25)
Upper Intake Manifold Bolts	18 (25)

INCH Lbs. (N.m)

Fuel Rail Bolts	84 (10)
Intake Air Temperature Sensor	84 (10)
AA	

END OF ARTICLE