

## CLUTCH

### Article Text

1993 Volkswagen Passat

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Wednesday, March 22, 2000 10:04PM

## ARTICLE BEGINNING

1993 CLUTCHES

Volkswagen FWD - Corrado SLC & Passat

Volkswagen; Corrado SLC & Passat

## DESCRIPTION

The clutch is a single dry disc type, which uses a diaphragm spring-type pressure plate. The clutch is hydraulically operated.

## ADJUSTMENTS

### CLUTCH PEDAL

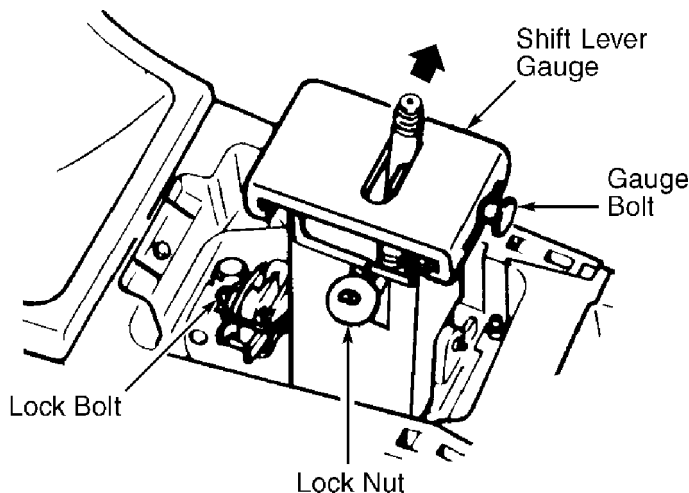
Clutch is automatically adjusted and requires no manual adjustment. If clutch pedal does not operate clutch or return properly, check hydraulic system for leaking fluid or air in system.

### GEARSHIFT LEVER CABLES

1) Place gearshift in Neutral position. Remove gearshift knob and boot. Loosen bolt and nut (at transaxle slotted levers) of both cables.

2) Loosen lock bolt below gearshift lever. See Fig. 1. Install Shift Lever Gauge (3193). Pivot gauge locating pin under bearing plate and tighten lock nut.

3) Push gearshift lever leftward into detent of slide. Push gearshift lever and slide leftward and hold against stop (opposite direction of arrow shown). See Fig. 1. Tighten gauge bolt.



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Fig. 1: Adjusting Shift Cables (Gearshift Lever Position)  
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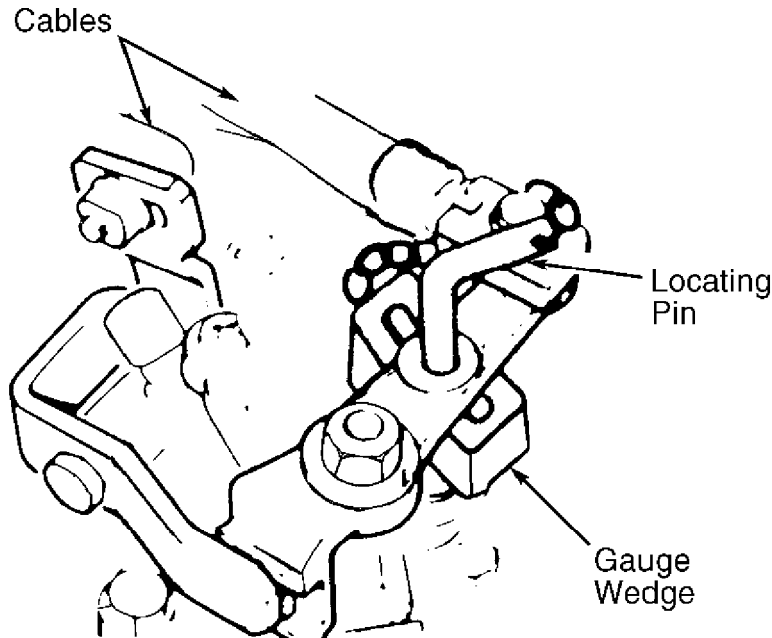
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4) Push gearshift lever rightward into right side detent (direction of arrow shown). See Fig. 1. Tighten lock bolt. Install Gauge Wedge and Locating Pin (3192/1). See Fig. 2.

5) Push wedge in-between lever and cover until there is no free play in lever. DO NOT push in so as to make shift lever ride up. Reconnect shift cables to levers. Use care not to disturb wedge or lever positions. Recheck wedge location.



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Fig. 2: Adjusting Shift Cables (Installing Cables)

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## REMOVAL & INSTALLATION

### CLUTCH ASSEMBLY

**NOTE:** Transaxle may be lowered out of vehicle without removing engine.

#### Removal

1) Disconnect negative battery cable. Disconnect electrical connectors from transmission. Remove connecting tube to intercooler (if equipped).

2) Disconnect gearshift cables, cable supports and linkage from transmission. Remove clutch slave cylinder and wire aside. disconnect speedometer drive from transmission. Remove upper engine-to-transaxle bolts.

3) Remove 3 right side engine mount-to-engine bolts and one left side transmission mount bracket through bolt. In vehicles with ABS (Anti-Lock Brake System) it may be necessary to remove coolant overflow reservoir to access left side through bolt.

4) Remove radiator fan, cover and mount. Remove nut from

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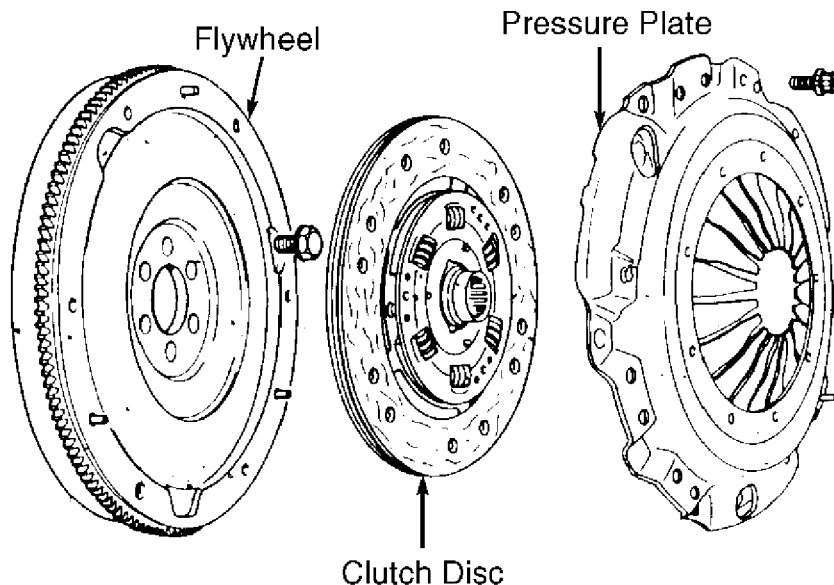
front transmission mount. Attach Engine Support (10-222A) with Bases (10-222A/1) to engine. Slightly tighten engine support and remove starter. Remove left transaxle mount bracket.

5) Remove long left side transmission support bracket. Remove balance weight from mount. Remove heat shield for right side inner CV (constant velocity) joint.

6) Disconnect axle shafts at flanges and wire aside. Remove left side transaxle mount from transaxle. It will be necessary to push rearward on mount for clearance to remove long transaxle mount bolt.

7) Push transaxle mount to right and pull down to remove from vehicle. Remove small gear carrier housing cover. Support transaxle with floor jack. Remove rear transaxle mount. Remove lower transaxle-to-engine bolts. Carefully pry transaxle from engine and lower.

8) Using Flywheel Lock (3067) or similar device, hold engine from turning. Remove pressure plate bolts. Remove pressure plate and clutch disk. If flywheel needs repair or replacement, remove flywheel from engine.



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Fig. 3: Viewing Clutch Components

Courtesy of Volkswagen United States, Inc.

#### Inspection

Inspect pressure plate springs ends for damage or scoring. Scores up to .12" (3mm) deep are acceptable. Replace pressure plate if:

- \* Contact Surface Has Burns, Cracks Or Chatter Marks
- \* Contact Surface Has Grooves Or Defective Spring Connections
- \* Diaphragm Spring Has Deep Scores, Pointed Tips Or Are Bent Or Broken

- \* Pressure Plate Housing Is Distorted Or Broken
  - \* Pressure Plate Housing Spring Connections Are Defective
  - \* Pressure Plate Housing Dowel Pin Bores Are Deformed
  - \* Pressure Plate Housing Rivets Are Damaged Or Loose
- Replace clutch disk if;

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- \* Worn To Surface Of Rivet Heads
- \* Rivets Are Loose, Missing Or Damaged
- \* Friction Material Is Oil Or Grease Soaked
- \* Friction Material Is Loose, Cracked Or Grooved
- \* Hub Is Rusted Or Damaged
- \* Springs Are Rusted Solid, Broken, Cracked Or Loose
- \* Torsion Damper Spring Guide Is Broken
- \* Torsion Damper Cover Damaged
- \* Torsion Damper Grooved Or Not Functioning

NOTE: Pressure plate has a protective grease coating. Remove contact surface grease only. Service life will be shortened if remaining portions of pressure plate protective grease are removed.

### Installation

1) Replace input shaft "O" ring. See Fig. 4. Ensure clutch disk slides on input shaft spines. Splines may be lightly greased. Wipe off excess grease. If flywheel was removed, reinstall on engine. Using flywheel lock or similar device, hold engine from turning. Tighten flywheel bolts to specification. See TORQUE SPECIFICATIONS table at end of article.

2) Mount clutch disk and pressure plate on engine. Install pressure plate bolts finger tight. Using Clutch Centering Plug (3190), align clutch disk and pilot bushing holes. Tighten pressure plate bolts to specification using a crisscross pattern.

3) To install transaxle, reverse removal procedure. Plug transaxle openings to prevent contamination or fluid loss. Push clutch release lever rearward and temporarily install mounting pin or an 8 x 22 mm bolt through pivot arm. Remove pin or bolt after installation is complete.

4) Ensure gear carrier housing cover fits properly. To install gearshift lever cables, see GEARSHIFT LEVER CABLES under ADJUSTMENTS. Tighten nuts and bolts to specification. See TORQUE SPECIFICATIONS table.

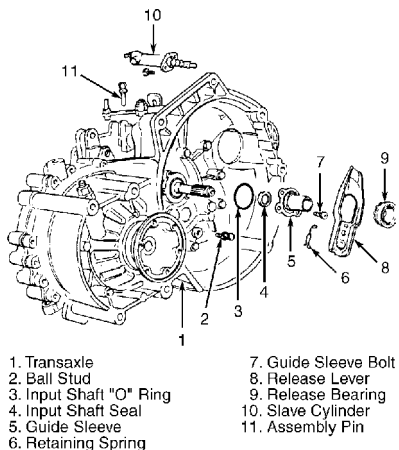


Fig. 4: Exploded View Of Clutch Assembly Components  
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### TORQUE SPECIFICATIONS

#### TORQUE SPECIFICATIONS TABLE

Application		Ft. Lbs. (N.m)
Balance Weight-To-Mount Bolt	.....	22 (30)
Drive Axle-To-Flange Bolt	.....	33 (45)
Flywheel Bolt	..... 22 (30) + 1/4 Turn	
Front Transaxle Mount Nut	.....	44 (60)
Gearshift Cable Bolt	.....	18 (25)
Gearshift Cable Support Bolt	.....	18 (25)
Left Transaxle Mount		
Bracket-To-Mount Bolt	.....	44 (60)
Bracket-To-Transaxle Bolt	.....	18 (25)
Pressure Plate Bolt	.....	15 (20)
Right Rear Transaxle Mount Bolt	.....	18 (25)
Slave Cylinder Bolt	.....	18 (25)
Starter Bolt	.....	44 (60)
Transaxle Support-To-Transaxle Bolt	.....	44 (60)
Transaxle-To-Engine Bolt	.....	59 (80)

END OF ARTICLE