

# CLUTCH

## Article Text

1993 Volkswagen EuroVan  
For Volkswagen Technical Site  
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Saturday, March 18, 2000 10:31PM

### ARTICLE BEGINNING

1993 CLUTCHES  
Volkswagen FWD - EuroVan

Volkswagen; EuroVan

### DESCRIPTION

The hydraulically operated clutch is a single dry disc type, which uses a diaphragm spring-type pressure plate. The clutch is hydraulically operated. Master cylinder is mounted in the clutch pedal bracket housing and slave cylinder is mounted on the clutch housing.

### 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.

### REMOVAL & INSTALLATION

#### CLUTCH ASSEMBLY

##### Removal

1) Obtain radio code. Disconnect negative battery cable. Remove radiator. Disconnect all wiring harness connectors from transaxle and starter. Remove shift linkage from transaxle.

2) Remove slave cylinder from transaxle. Disconnect speedometer. Remove all necessary brackets and cooling lines. Remove upper engine-to-transaxle mounting bolts. Remove brake booster and vacuum hose.

3) Measure protrusion of torsion bar adjusting nut. Release tension from torsion bar. Loosen drive shaft/wheel hub bolt. Remove wheel bearing housing. Disconnect shock absorber. Remove drive axle.

4) Remove starter and alternator. Disconnect tranaxle carrier from bearing housing. Remove A/C compressor (if equipped). Disconnect front exhaust pipe. Using tranaxle jack, support tranaxle. Support engine and remove remaining engine-to-transaxle mounting bolts. Lower transaxle out of vehicle.

5) 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.

## CLUTCH

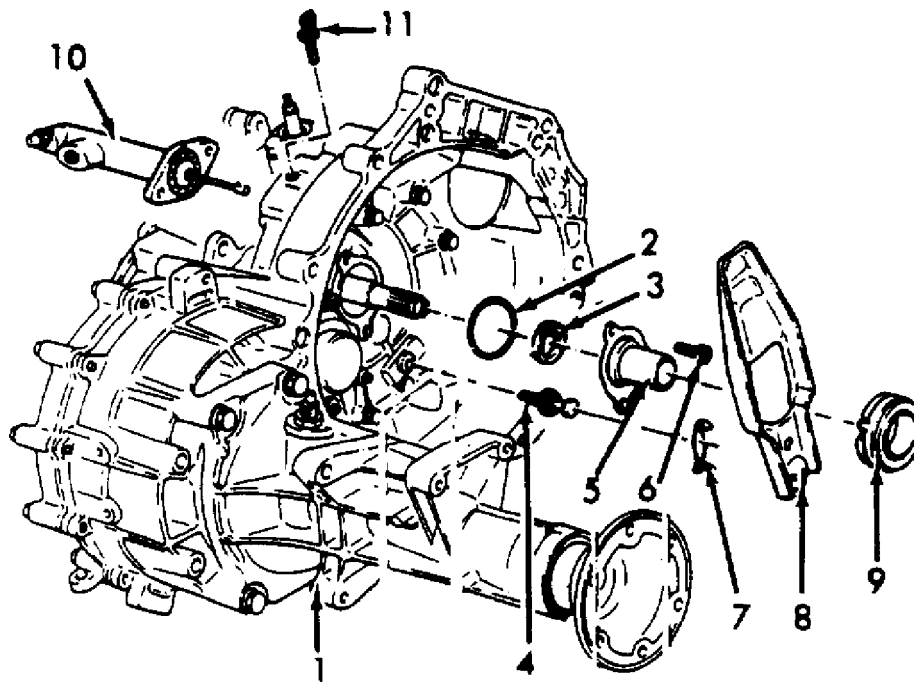
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- |                         |                      |
|-------------------------|----------------------|
| 1. Transaxle            | 6. Guide Sleeve Bolt |
| 2. Input Shaft "O" Ring | 7. Retaining Spring  |
| 3. Input Shaft Seal     | 8. Release Lever     |
| 4. Ball Stud            | 9. Release Bearing   |
| 5. Guide Sleeve         | 10. Slave Cylinder   |
|                         | 11. Assembly Pin     |

### 93F83233

Fig. 1: Exploded View Of Clutch Assembly 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 Or Damaged Pointed Tips
- \* 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 friction disk if:

- \* 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

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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 seal. See Fig. 1. Ensure friction 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 friction disk and pressure plate on engine. Install pressure plate bolts finger tight. Using Clutch Centering Plug (3190), align friction disk and pilot bushing holes. Tighten pressure plate bolts to specification using a crisscross pattern.

3) To complete installation, 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. Tighten nuts and bolts to specification. See TORQUE SPECIFICATIONS table.

## TORQUE SPECIFICATIONS

### TORQUE SPECIFICATIONS TABLE

Application	Ft. Lbs. (N.m)
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