

# TRANSMISSION REMOVAL & INSTALLATION - M/T

## Article Text

1996 Volkswagen Golf  
For Volkswagen Technical Site  
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Thursday, August 19, 1999 11:51PM

### ARTICLE BEGINNING

#### MANUAL TRANSMISSION REMOVAL Volkswagen

Cabrio, Golf, Golf III, GTI VR6, Jetta, Jetta III, Passat

### MODEL IDENTIFICATION

#### MANUAL TRANSAXLE APPLICATIONS

|                   |       |       |
|-------------------|-------|-------|
| Application       |       | Model |
| 1995              |       |       |
| Cabrio & Golf III | ..... | 020   |
| GTI VR6 & Passat  | ..... | 02A   |
| Jetta III         |       |       |
| 4-Cylinder        | ..... | 020   |
| V6                | ..... | 02A   |
| 1996              |       |       |
| Cabrio            | ..... | 020   |
| Golf & Jetta      |       |       |
| 4-Cylinder        |       |       |
| Gas Engine        | ..... | 020   |
| Turbo Diesel      | ..... | 02A   |
| V6                | ..... | 02A   |
| Passat            | ..... | 02A   |

### REMOVAL & INSTALLATION

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

**CAUTION:** On models with theft protection system, obtain stereo security code from vehicle owner before disconnecting battery cable.

#### CABRIO, GOLF, GTI & JETTA (02A TRANSAXLE)

##### Removal & Installation

1) Disconnect battery cables and remove battery. Remove power steering fluid reservoir. Remove battery bracket. Disconnect all electrical connections to transaxle and position harness aside.

2) Remove bolt from right-side engine mount. Remove wire harness bracket located next to engine mount if necessary. Remove balance weight located near gear selector cable.

3) Disconnect gear selector cable from gear selector lever. Disconnect gate selector cable at actuating arm/relay lever. Remove cable bracket-to-transmission bolts. Remove clutch slave cylinder (DO NOT open hydraulic system) and position aside.

# **TRANSMISSION REMOVAL & INSTALLATION - M/T**

## **Article Text (p. 2)**

1996 Volkswagen Golf

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4) Remove bolt from left-side transaxle mount. Remove transaxle support (if equipped). Remove connector attachment from front transaxle bracket. Support engine and transaxle with Support Bridge (10-222A) and Adapter Spindles (10-222A3). Slightly lift engine with support.

5) Remove engine undercover. Remove starter. Disconnect both axle shafts from flanges. Turn steering wheel to full-left lock. Tie axle shafts out of way. Remove lower support between engine and transaxle (if equipped).

6) Remove small clutch cover plate. Push engine/transaxle assembly as far right as possible. Remove transaxle mount. Push engine/transaxle assembly rearward, towards bulkhead. Remove lower mounting bolt.

7) Lower engine/transaxle assembly to previous position. Remove clutch cover plate. Remove bolt from transaxle mount above right-side axle flange. Place transmission jack under transaxle.

8) Remove lower engine-to-transaxle bolt. Separate transaxle from engine and remove from vehicle. To install, reverse removal procedure. Ensure engine/transaxle mounts are free of stress when tightening. Tighten bolts to specification. See TORQUE SPECIFICATIONS.

CABRIO, GOLF, GTI & JETTA (020 TRANSAXLE)

### **Removal & Installation**

1) Disconnect negative battery cable. Disconnect all electrical connectors from transaxle and position harness aside. Remove upper transaxle-to-engine bolts.

2) Remove right-side engine support bracket bolt. Remove connector support plate (if equipped). On Cabrio, remove front engine-to-body support. On all models, disconnect both selector rods from selector lever.

3) Remove long selector rod from relay lever. Remove 2 upper bolts from transaxle bracket at left side of transaxle. On Cabrio, remove transaxle-to-body support.

4) On all models, remove front bracket-to-engine mount bolt. Attach Engine Support (10-222A) and Adaptor Spindles (10-222 A/1). Slightly lift engine/transaxle assembly. Remove engine undercover.

5) Remove starter. Remove front bracket. Remove engine mount attaching bolts and large clutch shield. Remove small clutch shield from behind right-side axle shaft flange.

6) Remove left-side transaxle bracket. Using left-side adapter spindle, lower left side of transaxle. Remove left-side transaxle support if equipped. Disconnect both axle shafts from transaxle. If necessary, remove heat shield from inner Constant Velocity (CV) joint.

7) Turn steering wheel to full-left lock. Suspend both axle shafts as high as possible. Push engine/transaxle assembly toward front of vehicle. Place transmission jack under transaxle.

8) Remove lower transaxle-to-engine bolt. Separate transaxle from engine. Carefully lower and remove transaxle from vehicle. To install, reverse removal procedure. Ensure engine/transaxle mounts are free of stress when tightening. Tighten bolts to specification. See

# TRANSMISSION REMOVAL & INSTALLATION - M/T

## Article Text (p. 3)

1996 Volkswagen Golf

For Volkswagen Technical Site

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Thursday, August 19, 1999 11:51PM

### TORQUE SPECIFICATIONS.

#### PASSAT (4-CYLINDER ENGINE)

##### Removal

1) Disconnect battery cables and remove battery. Remove radiator cover. Disconnect all electrical connections to transaxle and position harness aside.

2) Remove balance weight and disconnect gear selector cable from gear selector lever. Remove bolt with threaded sleeve from shift lever. Remove gear selector cable along with washer and square self-locking nut.

3) Disconnect gate selector cable from actuating arm/relay lever. Remove cable bracket support. Remove clutch slave cylinder (DO NOT open hydraulic system) and position aside.

4) Remove air intake duct between air cleaner and intake air elbow. Remove 3 bolts from right-side engine mount. Remove ground strap from upper transaxle-to-engine bolt. Remove upper rear transaxle-to-engine bolts. Loosen, but DO NOT remove front transaxle-to-engine bolts.

5) Remove bolt from left-side transaxle mount, and nut from front mount bracket. Support engine/transaxle assembly with Support Bridge (10-222A) and Adapter Spindles (10-222 A/1). Slightly raise engine. Remove engine undercover.

6) Remove starter. Remove power steering bracket from transaxle. Remove front mounting bracket and engine mount. Mark balance weight at subframe for installation reference. Remove balance weight.

7) Disconnect exhaust system in front of Three-Way Catalytic Converter (TWC). Remove right-side inner Constant Velocity (CV) joint protective cover from engine. Remove left-side air deflector from lower control arm.

8) Disconnect both axle shafts from flanges. Turn steering wheel to full-left lock. Push engine/transaxle assembly as far forward as possible. Tie axle shafts out of way.

9) Remove transaxle-to-mount bracket. Remove adapter spindles and lift engine/transaxle assembly until exhaust system contacts heat shield. Push engine/transaxle assembly forward and remove lower transaxle bracket mounting bolt.

10) Remove small clutch cover from behind right-side axle flange. Remove large clutch cover plate. Lower engine to previous position, then push as far as possible toward right side and lower engine using left-side adapter spindle.

11) Remove lower transaxle-to-engine bolt. Push engine/transaxle assembly forward from underneath vehicle using Set-Up Press (3300A). Place transmission jack under transaxle. Remove forward bolt from upper engine/transaxle support. Separate transaxle from engine. Lower transaxle and remove from vehicle.

##### Installation

1) To install, reverse removal procedure. Plug transaxle openings to prevent contamination or fluid loss. Push clutch release

# TRANSMISSION REMOVAL & INSTALLATION - M/T

## Article Text (p. 4)

1996 Volkswagen Golf

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Thursday, August 19, 1999 11:51PM

lever rearward and temporarily install mounting pin or an 8 x 35 mm bolt through pivot arm. Remove pin or bolt after installation is complete.

2) Ensure engine/transaxle mounts are free of stress when tightening. Tighten bolts and nuts to specification. See TORQUE SPECIFICATIONS.

### PASSAT (V6 ENGINE)

#### Removal

1) Disconnect battery cables and remove battery. Remove upper section of air cleaner housing. Remove radiator cover. Remove right-side bracket-to-engine mount bolt and bracket. Disconnect all electrical connections to transaxle and position harness aside.

2) Remove balance weight and disconnect gear selector cable from gear selector lever. Disconnect gate selector cable from actuating arm/relay lever. Unclip clutch slave cylinder hose at cable support bracket. Remove cable support bracket.

3) Remove clutch slave cylinder (DO NOT open hydraulic system) and position aside. Remove upper transaxle-to-engine bolts. Remove cooling system recovery tank and position aside.

4) Remove left-side transaxle mount bolt. Remove bracket and mount. Install Engine Support (10-222A) and Adaptor Spindles (10-222 A/1 and 10-222 A/3). Slightly lift engine/transaxle assembly.

5) Remove lower belt guard and engine undercover. Remove starter. Remove balance weight from subframe. Disconnect exhaust system in front of Three-Way Catalytic Converter (TWC).

6) Disconnect both axle shafts from flanges. Turn steering wheel to full-left lock. Tie both axle shafts aside, as high as possible. Push engine/transaxle assembly as far right as possible.

7) Remove accessible transaxle mount-to-bracket bolts. Using adapter spindles, lift engine/transaxle assembly until exhaust system contacts heat shield. Remove remaining bolts and transaxle bracket (push engine/transaxle assembly rearward, toward bulkhead as needed).

8) Lower engine/transaxle assembly to previous position. Using left-side adapter spindle, tilt engine. Remove clutch cover plate. Remove transaxle-to-engine bolts above right-side axle flange.

9) Place transmission jack under transaxle. Remove lower transaxle-to-engine mounting bolt. Separate transaxle from engine. Using Engine Support (3300), push engine forward until it contacts subframe. Lower transaxle and remove from vehicle.

#### Installation

1) To install, 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 35 mm bolt through pivot arm. Remove pin or bolt after installation is complete.

2) Ensure engine/transaxle mounts are free of stress when tightening. Tighten bolts and nuts to specification. See TORQUE SPECIFICATIONS.

# TRANSMISSION REMOVAL & INSTALLATION - M/T

## Article Text (p. 5)

1996 Volkswagen Golf

For Volkswagen Technical Site

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Thursday, August 19, 1999 11:51PM

### TORQUE SPECIFICATIONS

#### TORQUE SPECIFICATIONS

AA

Application Ft. Lbs. (N.m)

#### Cabriolet, Golf, GTI, & Jetta

##### 02A Transaxle

|                                       |         |
|---------------------------------------|---------|
| Axle Shaft-To-Flange Bolts            | 33 (45) |
| Left-Side Bracket-To-Engine Bolt      | 18 (25) |
| Lower Starter Bolt                    | 44 (60) |
| Lower Transaxle Support Bolts         | 33 (45) |
| Right-Side Bracket-To-Subframe Bolt   | 44 (60) |
| Selector Cable Support Bracket Bolts  | 18 (25) |
| Selector Cable-To-Selector Lever Bolt | 18 (25) |

##### Transaxle Mounting Bolts

|               |         |
|---------------|---------|
| M10 X 30 Bolt | 37 (50) |
| M10 X 45 Bolt | 37 (50) |
| M10 X 62 Bolt | 33 (45) |

##### Transaxle-To-Engine Bolts

|          |         |
|----------|---------|
| M7 Bolt  | 7 (10)  |
| M10 Bolt | 44 (60) |
| M12 Bolt | 59 (80) |

##### 020 Transaxle

|                                     |         |
|-------------------------------------|---------|
| Axle Shaft-To-Flange Bolts          | 33 (45) |
| Engine Mount-To-Subframe Bolt       | 37 (50) |
| Engine Support-To-Body (1)          |         |
| Bolts                               | 37 (50) |
| Nuts                                | 37 (50) |
| Left-Side Bracket-To-Transaxle Bolt | 26 (35) |
| Right-Side Bracket-To-Subframe Bolt | 44 (60) |
| Slave Cylinder-To-Engine Bolt       | 22 (30) |

##### Transaxle Mounting Bolts

|               |         |
|---------------|---------|
| M10 Nut       | 7 (10)  |
| M10 X 30 Bolt | 44 (60) |
| M10 X 45 Bolt | 44 (60) |
| M10 X 60 Bolt | 33 (45) |

##### Transaxle Support-To-Body Bolts (1)

##### Transaxle-To-Engine Bolts

|                |         |
|----------------|---------|
| M6 X 8 Bolt    | 59 (80) |
| M7 X 12 Bolt   | 7 (10)  |
| M10 X 140 Bolt | 44 (60) |
| M12 X 55 Bolt  | 59 (80) |
| M12 X 64 Bolt  | 59 (80) |

#### Passat

|                                       |         |
|---------------------------------------|---------|
| Axle Shaft-To-Flange Bolts            | 33 (45) |
| Balance Weight-To-Assembly Carrier    | 22 (30) |
| Balance Weight-To-Selector Lever Bolt | 18 (25) |
| Left-Side Bracket-To-Engine           | 18 (25) |
| Lower Starter Bolt                    | 44 (60) |
| Lower Transaxle Support Bolts         | 33 (45) |
| Right-Side Bracket-To-Subframe        | 44 (60) |

# TRANSMISSION REMOVAL & INSTALLATION - M/T

## Article Text (p. 6)

1996 Volkswagen Golf

For Volkswagen Technical Site

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Thursday, August 19, 1999 11:51PM

|   |         |
|---|---------|
| Selector Cable Support Bracket Bolts .....  | 18 (25) |
| Selector Cable-To-Selector Lever Bolt ..... | 18 (25) |
| Transaxle Mounting Bolts                    |         |
| M10 X 30 Bolt .....                         | 37 (50) |
| M10 X 45 Bolt .....                         | 37 (50) |
| Transaxle-To-Engine Bolts                   |         |
| M7 Bolt .....                               | 7 (10)  |
| M10 Bolt .....                              | 44 (60) |
| M12 Bolt .....                              | 59 (80) |

(1) - Cabrio only.

AA

END OF ARTICLE