

VOLKSWAGEN VANAGON

DESCRIPTION

Clutch is single disc, dry diaphragm spring type which is hydraulically operated by a firewall mounted master cylinder and a clutch housing mounted slave cylinder. Slave cylinder is nonadjustable and clearance is automatically compensated for by internal design of cylinder.

REMOVAL & INSTALLATION

CLUTCH ASSEMBLY

Removal (Gasoline Engine Models)

1) Disconnect battery ground. Remove right upper engine-to-transmission bolt. Remove hydraulic clutch line bracket from transmission but do not disconnect line. Remove the slave cylinder from mounting bracket and suspend with wire.

2) Remove the left upper engine/transmission bolt. Remove left lower engine/transmission nut. Remove left drive shaft hex bolts and remove drive shaft from transmission and suspend with wire. Disconnect starter cables.

3) Remove right drive shaft hex bolts and suspend drive shaft with wire. Remove right side lower engine/transmission nut. Support engine with chain or engine support (VW 785/1). Disconnect ground strap from near transmission mount.

4) Remove front transmission mount from body. Support transmission using jack (US 618 & US 618/5). Lower front of transmission by loosening engine support (loosen spindle on VW 785/1) until there is enough room to remove transmission.

5) Separate transmission from engine and remove from vehicle. Lock flywheel with VW 215C (or equivalent). Index mark pressure plate and flywheel for reassembly reference. Loosen bolts holding pressure plate to flywheel evenly in a diagonal fashion and remove clutch assembly.

Installation

1) Apply Molybdenum Disulphide grease to release bearing. Lubricate transmission input shaft with Molybdenum Disulphide powder. Position clutch disc against flywheel and align using a centering tool.

2) Install pressure plate and tighten bolts evenly in a diagonal fashion. Replace transmission, reversing removal procedure. Insert rear bolt for slave cylinder before installing. Position air deflector plates correctly.

Removal (Diesel Engine Models)

NOTE: Never drain coolant while engine is hot. Doing so could cause engine block or cylinder head to warp.

1) Disconnect battery ground. Remove top of air cleaner. Remove lower engine cover. Open coolant expansion tank cap. Drain cooling system (engine cool). Disconnect lower hose from water pump at connecting pipe to radiator. Disconnect center hose from water pump.

2) Disconnect wiring from oil pressure switch, temperature sensors and glow plugs. Disconnect all remaining fuel, coolant, emission control and vacuum lines and position out of way. Disconnect accelerator cable from pump lever and bracket. Disconnect cold start cable.

3) Disconnect wire from fuel shut-off solenoid. Remove coolant reservoir. Remove oil fill cap and dipstick. Remove nuts from rear engine mounts (leave bolts in place). Remove all (7) engine and transmission mounting bolts. Remove bolts. Remove support member. Support engine with a crane and adapter (3058 or equivalent).

4) Remove nuts from front engine mount and remove engine mount bolts. Lower engine and transmission assembly until engine can be separated from transmission. Support transmission, remove engine from transmission and lower out of vehicle. Remove bolts attaching pressure plate to flywheel in a diagonal fashion and remove clutch assembly from flywheel.

Installation

To install, reverse removal procedure. Align clutch disc and pressure plate with alignment tool (10-231). Spring plate on clutch disc faces pressure plate. When installing engine, note that fuel supply and return union screws are not interchanged. Fuel return pipe union screw is marked "OUT" on hexagonal head.

CLUTCH RELEASE BEARING

NOTE: Information for diesel engine models was not available from manufacturer.

Removal (Gasoline Engine Models)

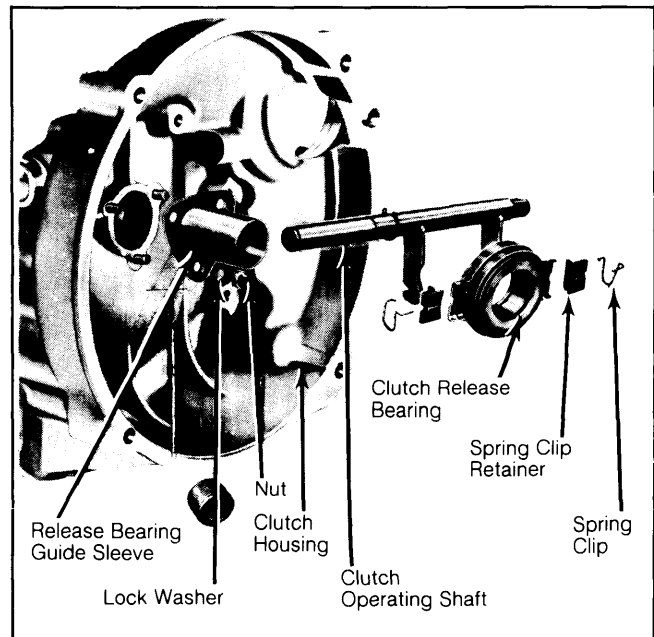
Remove transmission as outlined in Clutch Assembly in this article. Pry off clip retainers from bearing and disengage spring clips. Remove release bearing by sliding off guide tube.

NOTE: Do not wash bearing in solvent or cleaning solution. Wipe with dry cloth to clean.

Installation

Lubricate release shaft and release bearing pivot points with Molybdenum Disulphide grease. Position bearing to shaft and install spring clips and retainers. Make sure clips are correctly positioned.

Fig. 1: Clutch Release Bearing Assembly (Gasoline Engine Models)



Clutches

VOLKSWAGEN VANAGON (Cont.)

CLUTCH MASTER CYLINDER

NOTE: Information for diesel engine models was not available from manufacturer.

Removal (Gasoline Engine Models)

Disconnect master cylinder push rod at clutch pedal by removing cotter pin and clevis. Disconnect hydraulic line at cylinder. Remove cylinder attaching bolts and remove cylinder from firewall.

Installation

To install, reverse removal procedure and pressure bleed the system following bleeder manufacturer's instructions.

CLUTCH SLAVE CYLINDER

NOTE: Information for diesel engine models was not available from manufacturer.

Removal (Gasoline Engine Models)

Disconnect hydraulic line from slave cylinder. Disconnect slave cylinder push rod from clutch lever ball. Remove mounting bolts and remove cylinder.

Installation

Grease clutch lever ball lightly. Insert rear bolt to slave cylinder and install on vehicle. Install front bolt, attach hydraulic line and clutch lever. Pressure bleed system following bleeder manufacturer's instructions.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Engine-to-Transmission Nuts & Bolts	
Gasoline Models	22 (30)
Diesel Models	
10 mm Bolts	33 (45)
12 mm Bolts	58 (80)
Drive Shaft-to-Transmission	
Bolts (Gasoline Models)	33 (45)
Pressure Plate-to-Flywheel Bolts	18 (24)