

VOLKSWAGEN TYPE 4

Type 4

DESCRIPTION

Clutch is dry, single plate, diaphragm spring type. Clutch actuation is hydraulic, using a master cylinder mounted on pedal assembly and a slave cylinder mounted on flywheel housing of transaxle. A prelubricated clutch release bearing is also used.

REMOVAL & INSTALLATION

CLUTCH ASSEMBLY

Removal — *NOTE* — Engine must be removed to gain access to clutch assembly. See Volkswagen Engines in ENGINE Section. With engine removed, install a suitable holding tool (VW215C) to prevent flywheel from turning. Mark position of clutch assembly on flywheel for reassembly reference, loosen clutch mounting bolts alternately and evenly, and remove clutch.

Installation — Apply multi-purpose grease to pilot bearing and light oil to felt ring. Lubricate transmission input shaft with molybdenum disulphide powder. Position clutch disc against flywheel and center using a suitable aligning tool. Install pressure plate and mounting bolts, tightening alternately and evenly.

CLUTCH MASTER CYLINDER

Removal — Remove floor covering from driver compartment. Remove cap and siphon fluid from master cylinder reservoir. Disconnect fluid supply line elbow from cylinder sealing plug and disconnect pressure line. Remove mounting bolts and master cylinder from support.

Installation — Position master cylinder to support and install and tighten mounting bolts evenly. Check and adjust clutch pedal free play. Moisten sealing plug, elbow, and flared end of pressure line with hydraulic fluid and connect to cylinder. Bleed hydraulic system.

CLUTCH SLAVE CYLINDER

Removal — Disconnect hydraulic pressure line from slave cylinder. Remove nuts attaching slave cylinder to flywheel housing and remove slave cylinder.

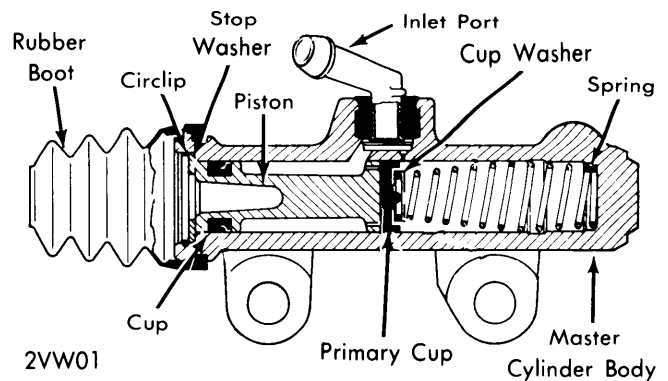
Installation — Position slave cylinder to flywheel housing, install attaching nuts, and tighten evenly. Connect hydraulic pressure line and bleed hydraulic system.

OVERHAUL

CLUTCH MASTER CYLINDER

Disassembly — Pull back rubber boot, remove retaining ring, and remove stop washer, piston assembly, primary cup, cup washer, spring, and spring plate.

Cleaning & Inspection — Clean all parts in alcohol or brake fluid and inspect for wear or damage; replace complete cylinder if cylinder bore or piston is damaged or worn. Check compensating port for burrs or blockage; repair or replace as necessary.



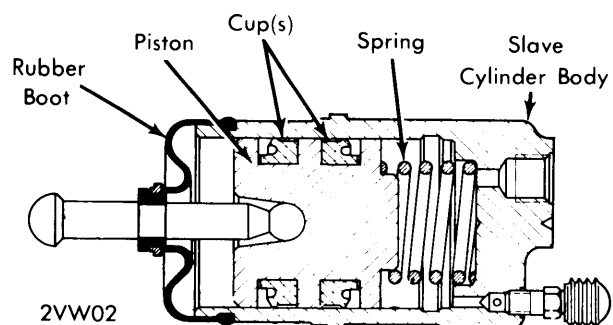
MASTER CYLINDER COMPONENTS

Reassembly — *NOTE* — Manufacturer recommends replacing cylinder cups whenever master cylinder has been disassembled. Install secondary cup on piston using a suitable sleeve to prevent damaging cup. Mount master cylinder in a holding fixture with bore downward. Place cup washer, primary cup, spring plate and spring onto piston, and insert assembly vertically into cylinder bore. Install stop washer and retaining ring.

CLUTCH SLAVE CYLINDER

Disassembly — Remove push rod and boot, and remove piston assembly and return spring. Remove cup(s) from piston, and bleeder screw from cylinder body.

Cleaning & Inspection — Clean all parts in alcohol or brake fluid and inspect for wear or damage; replace parts as necessary.



SLAVE CYLINDER COMPONENTS (TYPICAL)

Reassembly — 1) Two different slave cylinders are used: Teves, which uses a piston having two cylinder cups; and Schaefer, using a piston having one cylinder cup. Ensure correct repair kit is used when overhauling slave cylinder.

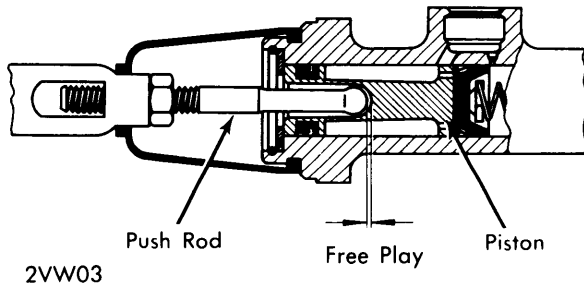
2) On Schaefer cylinders, install cylinder cup on piston with lip facing bottom of cylinder. On Teves cylinders, install cups with lips facing outward from center of piston. Install spring, piston assembly, push rod and boot into cylinder body.

VOLKSWAGEN TYPE 4 (Cont.)

ADJUSTMENT

MASTER CYLINDER PUSH ROD FREE PLAY

Loosen push rod lock nut and shorten length of master cylinder push rod. Remove rubber cap from stop screw of brake pedal and adjust distance "A" to .89" (see illustration). Reinstall rubber cap on brake pedal stop screw. Adjust length of master cylinder push rod until free play, measured at clutch pedal pad, is .118-.157". Tighten push rod lock nut and reposition rubber boot.

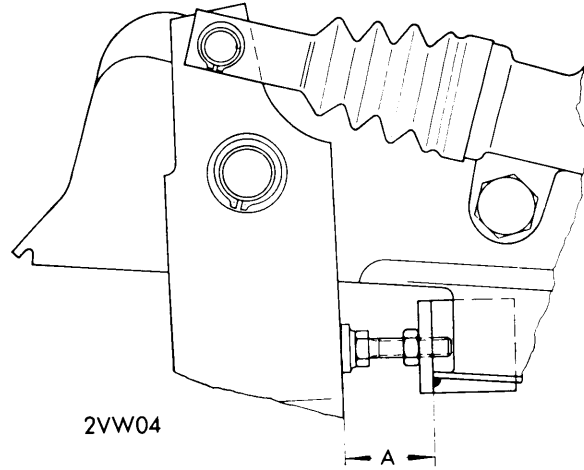


MASTER CYLINDER PUSH ROD FREE PLAY

BLEEDING HYDRAULIC SYSTEM

Ensure master cylinder reservoir is full of hydraulic fluid. Install a bleed tube on slave cylinder bleeder screw and immerse opposite end of tube in a container partially filled with hydraulic fluid. Pump clutch pedal several times, hold in depressed position, open bleeder screw and allow air to escape, close bleeder

screw, and allow pedal to return slowly. Continue operation until air bubbles are no longer seen in discharged fluid. Refill master cylinder reservoir.



PEDAL STOP BOLT MEASURING POINT

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Clutch Master Cylinder-to-Mount	29-33 (4.0-4.6)
Clutch Slave Cylinder-to-Mount.....	14 (1.9)
Clutch Cover-to-Flywheel	18 (2.5)