

## MERCEDES-BENZ 240D

### DESCRIPTION

Dry single disc type clutch uses a diaphragm spring type pressure plate. Clutch actuation is hydraulic, using a clutch pedal mounted master cylinder and a clutch housing mounted slave cylinder.

Clutch free play is adjusted automatically. A pedal mounted over center spring assists in clutch pedal actuation. A sealed prelubricated clutch release bearing is also used.

### REMOVAL & INSTALLATION

#### Removal

1) Disconnect battery ground cable, support transmission with jack, then remove rear crossmember, exhaust support bracket, exhaust pipe and clamp. Loosen, DO NOT remove, propeller shaft center bearing.

2) Remove propeller shaft-to-transmission bolts. Ensuring that companion plate remains attached to propeller shaft, push propeller shaft towards rear. Remove speedometer drive from rear of transmission.

3) Remove clutch slave cylinder and pull towards the rear with lines connected, until rod is released from clutch housing. Remove shift linkage from transmission shift levers. Remove starter.

4) Remove transmission-to-intermediate flange attaching bolts (removing two upper bolts last). Pull transmission out until input shaft is clear of clutch assembly. Remove transmission.

5) Loosen pressure plate attaching bolts 1 to 1 1/2 turns at a time until tension is released, then remove all bolts, pressure plate and clutch disc.

#### Installation

1) Place slave cylinder and line above transmission. Using an aligning tool, center clutch disc on flywheel and install pressure plate. Tighten bolts 1 to 1 1/2 turns at a time until tight.

**NOTE:** When installing propeller shaft to transmission, raise engine and transmission with jack. Torque propeller shaft center bearing clamp nut to 22-29 ft. lbs (30-39 N.m).

2) During installation, make sure that clutch is fully seated in flywheel recess. To complete installation, reverse removal procedure. Bleed hydraulic system. Check clutch pedal and shift linkage adjustment.

### RELEASE BEARING & LEVER

#### Removal

Remove release bearing from bearing tube on front transmission cover. Move release lever down and to the left, then pull from ball pin on clutch housing.

#### Installation

To install, apply light coat of lubricant to all bearing and lever contact surfaces, and reverse removal procedure.

### CLUTCH MASTER CYLINDER

#### Removal

1) Remove floor mats and lining from driver compartment. Remove cover under instrument panel. Siphon fluid from reservoir to below minimum mark and loosen input line by pulling elbow out of rubber clamping ring on master cylinder.

2) Disconnect pressure line from master cylinder and unscrew master cylinder from pedal assembly. Remove master cylinder and connecting hose, leaving push rod on clutch pedal.

#### Installation

To install, reverse removal procedure. Refill fluid level in reservoir and bleed hydraulic system. Adjust master cylinder push rod clearance. See Adjustments.

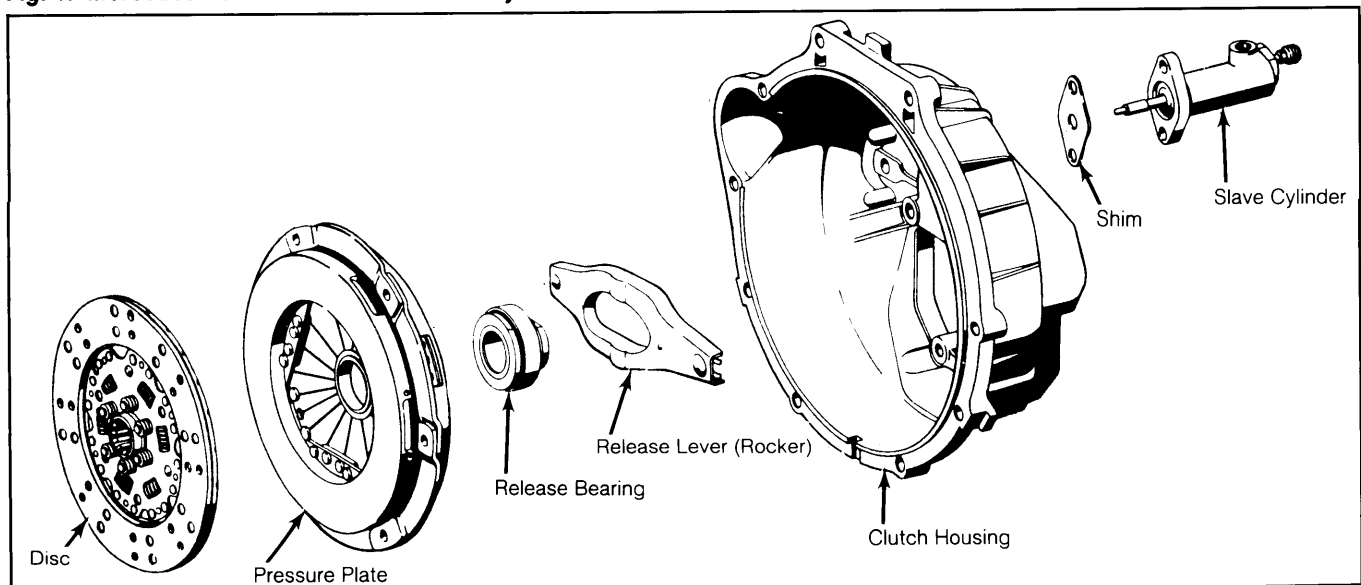
### CLUTCH SLAVE CYLINDER

#### Removal

Disconnect hydraulic line from slave cylinder, then plug line with a rubber cap to prevent loss of fluid. Remove bolts attaching cylinder to clutch housing, then remove slave cylinder and push rod from housing as an assembly.

**CAUTION:** Take care not to loose plastic shim installed between cylinder and housing. Shim is recessed to accommodate inspection gauge.

Fig. 1: Mercedes-Benz 240D Clutch Assembly



# Clutches

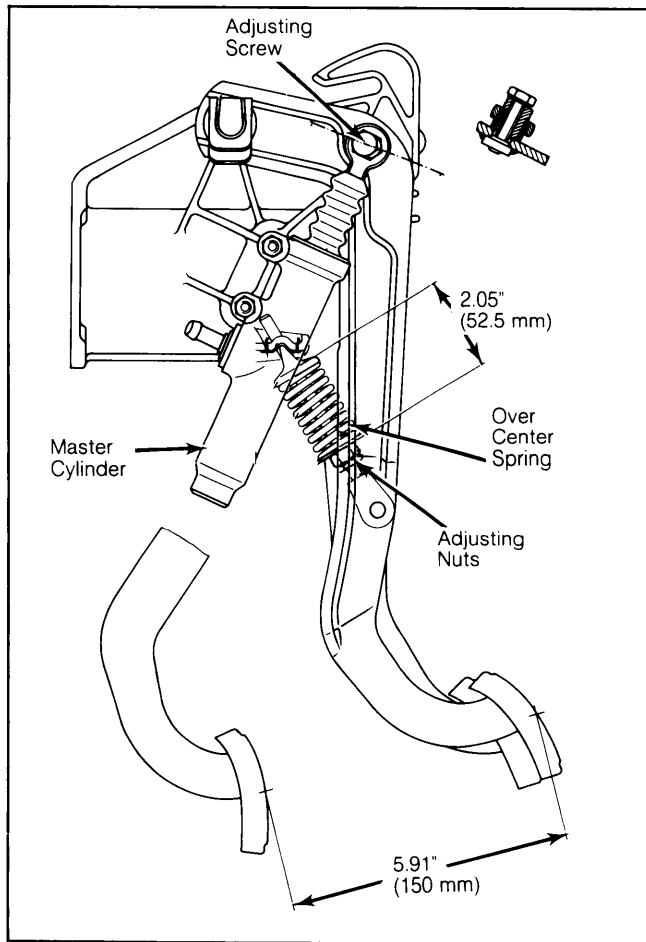
## MERCEDES-BENZ 240D (Cont.)

### Installation

1) To install, place shim with grooved end against clutch housing and hold in position. Notches in shim must face outward.

2) Insert slave cylinder with push rod into clutch housing, and install and tighten mounting bolts. Connect hydraulic line to cylinder and bleed hydraulic system.

**Fig. 2: Exploded View of Clutch Pedal Assembly**



## ADJUSTMENTS

### OVER-CENTER SPRING

Adjust nuts at bottom of over-center spring so that spring length measured across retainers is 2.05" (52.5 mm). Improper adjustment will result in failure of pedal to return when released or excessive pressure required to depress pedal.

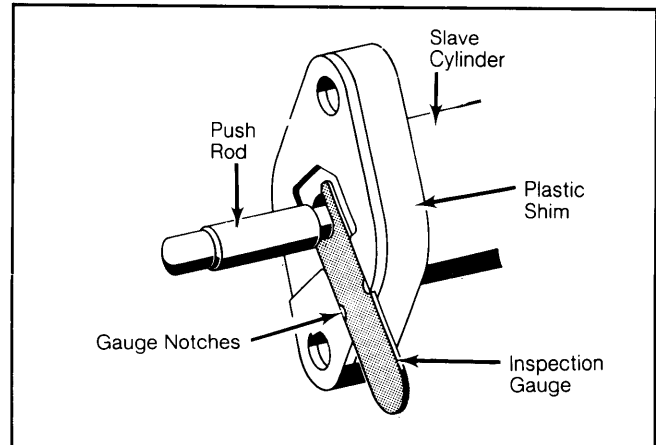
### MASTER CYLINDER PUSH ROD CLEARANCE

Adjust master cylinder push rod length to a clearance of .008" (.2 mm) between push rod and piston. To adjust, loosen hex nut of eccentric adjusting screw and turn screw.

### CHECKING CLUTCH DISC WEAR

Wear on clutch disc may only be checked using special inspection gauge. With slave cylinder installed on clutch housing, insert inspection gauge in groove of plastic shim. Disc is serviceable if notches on gauge disappear in flange. If notches remain visible, wear limit is exceeded and disc must be replaced. See Fig. 3.

**Fig. 3: Checking for Clutch Disc Wear**



*Disc is serviceable if notches disappear in flange.*