

## BMW 3.0 & 530i

3.0  
530i

### DESCRIPTION

Clutch is dry, single plate, diaphragm spring type. Clutch release system is self-adjusting and hydraulically actuated. Pedal travel is only adjustment required in system.

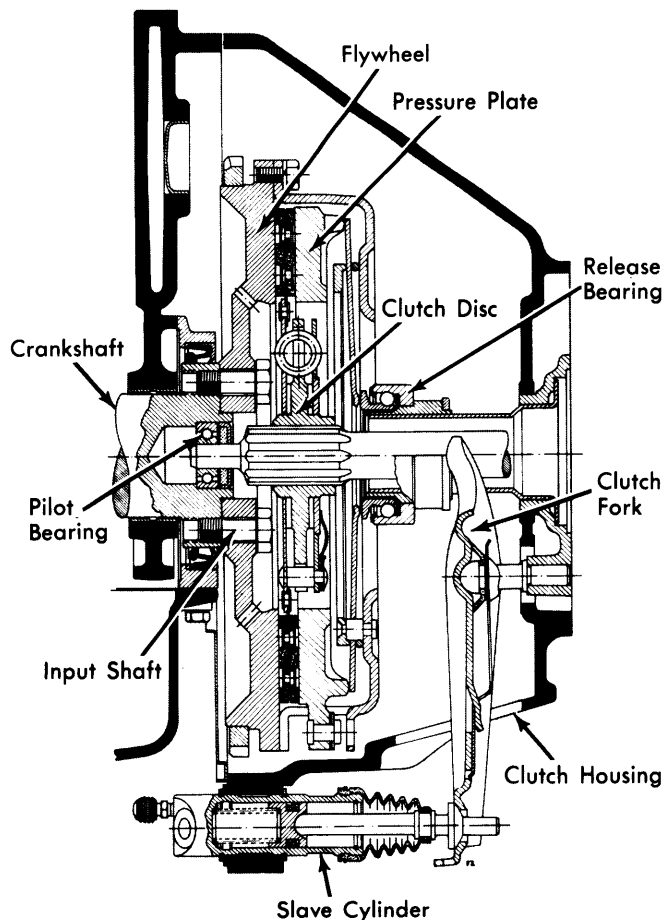


Fig. 1 Sectional View of Clutch Assembly (3.0 Shown)

### REMOVAL & INSTALLATION

#### CLUTCH ASSEMBLY

**Removal, 3.0 Models** – 1) From inside driver compartment, pull up rubber boot and foam insert on gear shift lever. Remove snap ring and gear shift lever assembly.

2) Disconnect exhaust pipes from exhaust manifold, then disconnect exhaust support brackets from transmission case. Disconnect propeller shaft from transmission flange, remove center support bearing block from body mount, then pull propeller shaft from transmission.

3) Disconnect speedometer cable and electrical leads from transmission. Remove transmission to clutch housing attaching

bolts, then support engine between front axle supports. Loosen rubber insulator at transmission, then remove crossmember.

4) Pull transmission to rear to remove. Pull back slave cylinder boot, remove retaining clip, then remove slave cylinder toward front of vehicle. Remove clutch housing cover plate, then remove clutch housing. Loosen clutch assembly bolts alternately one to one and a half turns at a time and remove clutch assembly.

**Installation** – To install, reverse removal procedure and note the following: Use a suitable aligning tool (BMW 603) to center clutch disc on flywheel. Pre-stress center bearing block .08" (2 mm) before tightening attaching nuts.

**Removal, 530i Models** – 1) Remove heat guard and detach exhaust pipes at exhaust manifold. Remove exhaust pipe clamp and disconnect front muffler holder. Supporting front of exhaust system, separate muffler from rear clamps and lower exhaust system from vehicle.

2) Unscrew set screw from lower portion of gear shift lever; punch out pin. Slide gear shift cover up and remove snap ring, lever can now be removed.

3) Disconnect drive shaft at transmission coupling flange. Remove heat shield, loosen center support bearing, then lift out drive shaft. Support engine and remove crossmember.

4) Disconnect electrical wires from transmission. Remove clutch slave cylinder. Separate transmission from bell housing and remove from vehicle.

5) Remove spring and release bearing assembly. Loosen clutch assembly mounting bolts evenly until pressure on clutch is released, then remove clutch assembly from vehicle.

**Installation** – To install, reverse removal procedure and note the following: Use aligning tool (BMW 212 100) to center clutch disc on flywheel. Pre-stress center bearing holder to .08" (2 mm). Install gear shift pin so chamfer faces toward set screw.

#### CLUTCH MASTER CYLINDER

1) Remove dash under panel on left side. Siphon sufficient fluid from master cylinder reservoir until level falls below fluid supply line. Remove fluid supply line from master cylinder, then remove pressure line to slave cylinder.

2) Disconnect master cylinder push rod from clutch pedal, then remove master cylinder attaching nuts and remove cylinder. To install, reverse removal procedure and note the following: Insert fluid supply line into master cylinder so that no air will enter cylinder. Coat clutch pedal bolt with Molykote Longterm 2 lubricant prior to installing. Adjust pedal travel at master cylinder push rod. **Bleed hydraulic system.**

#### CLUTCH SLAVE CYLINDER

**Removal** – 1) Siphon sufficient fluid from master cylinder reservoir until level falls below fluid supply line. On 3.0 models only, disconnect pressure line from slave cylinder, pull back rubber boot, remove retaining clip and then lift out toward front of vehicle.

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2) On 530i models only, disconnect pressure line from slave cylinder, remove mounting nuts and lift off slave cylinder.

**Installation** — To install slave cylinder on all models, reverse removal procedure and note the following: Coat face of slave cylinder push rod with Molykote Longterm 2. Tang on slave cylinder must engage in slot in clutch housing cover, if applicable. Bleed hydraulic system.

## CLUTCH FORK &amp; RELEASE BEARING

**NOTE** — On 3.0 models only, clutch fork and release bearing can be removed and installed without removing clutch housing.

**Removal, 3.0 Models** — With transmission and slave cylinder removed, pry clutch fork retaining clip over ball stud and remove clutch fork and release bearing from clutch housing by pulling sideways.

**Installation** — To install, reverse removal procedure and note the following: Coat retaining clips, angle seal and ball stud with Molykote Longterm 2 before installing. Angle seal of lever must be between ball stud and release lever.

**Removal & Installation, 530i Models** — With transmission removed, disengage release bearing retaining spring and slave cylinder push rod. Lift bearing and lever out as an assembly. Separate bearing from lever and fill lubricating groove in bearing and guides in release lever with Molykote Longterm 2. Place bearing in release lever, ensuring bearing is properly fitted, and reinstall.

## PILOT BEARING

1) With clutch assembly removed, rotate pilot bearing and check for roughness or noise. If bearing requires replacement, remove using a suitable puller.

2) To install, pack bearing with high temperature multi-purpose grease and install into end of crankshaft. Install cover plate with symbol outward, then install lubricated felt ring and cap. Press cap in until it bottoms on stop.

## ADJUSTMENT

## PEDAL TRAVEL

Adjust pedal travel at master cylinder push rod. Vary rod length by loosening lock nut and turning rod in or out to obtain a total pedal travel of approximately 6.3" (160 mm), 3.0 models or 6.1 (155 mm), 530i models.

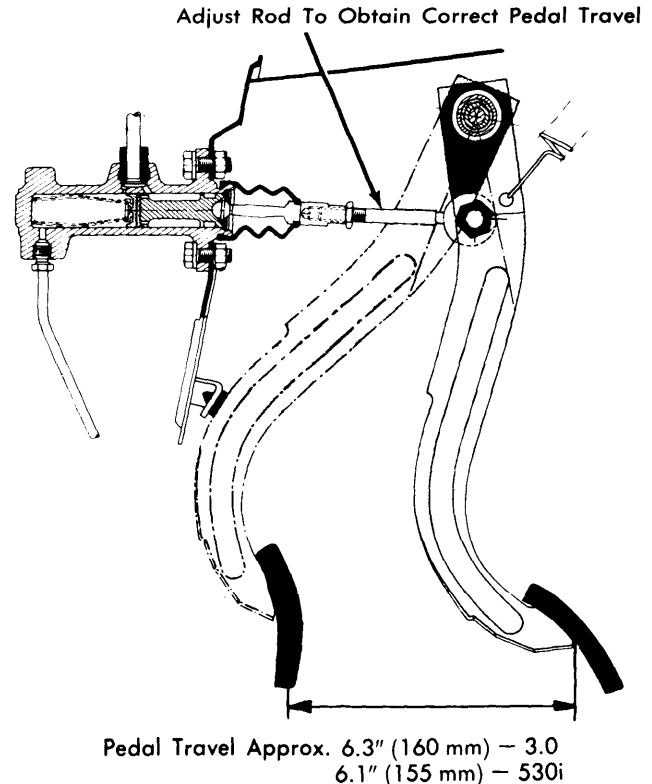


Fig. 2 Measuring & Adjusting Clutch Pedal Travel

## HYDRAULIC SYSTEM BLEEDING

Attach a suitable hydraulic system bleeder to master cylinder reservoir. Open bleeder screw on slave cylinder and allow system to expel air. Bleeding operation is complete when air bubbles are no longer seen in fluid container.

## TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Clutch-to-Flywheel	
3.0.....	15-18 (2.1-2.5)
530i.....	23-26 (3.2-3.6)
Clutch Housing-to-Engine	
8 mm Bolts.....	22-24 (3.0-3.3)
10 mm Bolts.....	31-35 (4.3-4.8)
Transmission-to-Clutch Housing	
3.0.....	34 (4.7)
530i	
8 mm Bolts.....	16-17 (2.2-2.3)
10 mm Bolts.....	34 (4.7)