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BMW 3-Series 320i & 320xi (12-14), 325i, 325xi, 330i & 330xi (06) & 328i & 328xi (07-14) Haynes Online Manual

## 2 Clutch - description and check

### Description

All models are equipped with a single dry plate clutch, which consists of five main components; friction disc, pressure plate, diaphragm spring, covers and release bearing.

The friction disc is free to slide along the splines of the transmission input shaft, and is held in position between the flywheel and the pressure plate by the pressure exerted on the pressure plate by the diaphragm spring. Friction lining material is riveted to both sides of the friction disc. All models are equipped with a Self-Adjusting Clutch (SAC). The SAC uses a spring loaded wedge ring that rotates against the spring fingers within the pressure plate cover. As the friction lining material is worn, the wedge ring rotates under spring pressure, taking up the gap that is created as the friction lining material wears. This ensures a consistent clutch pedal feel over the life of the clutch.

The diaphragm spring is mounted on pins, and is held in place in the cover by annular fulcrum rings.

The release bearing is located on a guide sleeve at the front of the transmission, and the bearing is free to slide on the sleeve under the action of the release arm, which pivots inside the clutch bellhousing.

The clutch release system is hydraulically operated. The release system consists of the clutch pedal, the clutch master cylinder, the clutch release cylinder, the hydraulic line between the master cylinder and release cylinder, and the clutch release bearing.

When pressure is applied to the clutch pedal to release the clutch, the clutch master cylinder transmits this movement to the clutch release cylinder, which moves the clutch release lever. As the lever pivots, the shaft fingers push against the release bearing. The bearing pushes against the fingers of the diaphragm spring of the pressure plate assembly, which in turn releases the clutch plate.

Terminology can be a problem regarding the clutch components because common names have in some cases changed from that used by the manufacturer. For example, the clutch release cylinder is sometimes referred to as a slave cylinder, the driven plate is also called the clutch plate or disc, the pressure plate assembly is also known as the clutch cover, and the clutch release bearing is sometimes called a throw-out bearing.

### Check

Other than replacing components that have obvious damage, some preliminary checks should be performed to diagnose a **clutch** system failure. Refer to the “Troubleshooting” Section at the beginning of this manual for diagnosis of clutch problems.

- A. Before proceeding, check and, if necessary, adjust clutch pedal freeplay and height (see [Chapter 1](#) ).
- B. To check clutch spin down time, run the engine at normal idle speed with the transaxle in Neutral (clutch pedal up - engaged). Disengage the clutch (pedal down), wait several seconds and shift the transaxle into Reverse. No grinding noise should be heard. A grinding noise would most likely indicate a problem in the pressure plate or the clutch disc.
- C. To check for complete clutch release, run the engine (with the parking brake applied to prevent movement) and hold the clutch pedal approximately 1/2-inch from the floor. Shift the transaxle between 1st gear and Reverse several times. If the shift is not smooth, component failure is indicated.
- D. Visually inspect the clutch pedal bushing at the top of the clutch pedal to make sure there is no sticking or excessive wear.
- E. Under the vehicle, verify that the clutch release lever is solidly mounted on the ballstud.
- F. Make sure that the hydraulic lines aren't leaking at either the master cylinder or the release cylinder (see [Sections 3](#) and [4](#) ).
- G. Bleed the system if necessary (see [Section 5](#) ).

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