

BMW 3-Series (92-98) & Z3 (96-98) Haynes Online Manual

1 General information

Models covered in this manual are equipped with a four-speed fully-automatic transmission, consisting of a <u>torque converter</u>, a planetary geartrain and hydraulically operated clutches and brakes.

The <u>torque converter</u> provides a fluid coupling between engine and transmission, which acts as a <u>clutch</u>, and also provides a degree of torque multiplication when accelerating.

The planetary geartrain provides either of the four forward or one reverse gear ratio, according to which of its component parts are held stationary or allowed to turn. The components of the geartrain are held or released by brakes and clutches which are activated by a <u>hydraulic control unit</u>. A fluid pump within the transmission provides the necessary hydraulic pressure to operate the brakes and clutches.

Driver control of the transmission is by a seven-position selector lever, and a four-position switch. The transmission has a "drive" position, and a "hold" facility on the first three gear ratios. The "drive" position ("D") provides automatic changing throughout the range of all forward gear ratios, and is the position selected for normal driving. An automatic kickdown facility shifts the transmission down a gear if the accelerator pedal is fully depressed. The "hold" facility is very similar, but limits the number of gear ratios available - i.e., when the selector lever is in the "3" position, only the first three ratios can be selected; in the "2" position, only the first two can be selected, and so on. The lower ratio "hold" is useful when traveling down steep gradients, or for preventing unwanted selection of high gear on curved roads. Three driving programs are provided for selection by the switch; "economy," "sport," and "manual."

Due to the complexity of the automatic transmission, any repair or overhaul work must be left to a BMW dealer with the necessary special equipment for fault diagnosis and repair. The contents of the following Sections are therefore confined to supplying general information, and any service information and instructions that can be used by the owner.

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