

**Haynes**
shows you how

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

1 General information

The transmission is a 6-speed unit contained in an aluminum housing bolted to the rear of the engine.

Drive is transmitted from the crankshaft via the clutch to the input shaft, which has a splined extension to accept the clutch friction disc. The output shaft transmits the drive via the driveshaft to the rear differential.

The input shaft runs in line with the output shaft. The input shaft and output shaft gears are in constant mesh with the cluster-gear shaft. Selection of gears is by sliding synchromesh hubs, which lock the appropriate output shaft gears to the output shaft.

Gear selection is via a floor-mounted lever and selector mechanism or, depending on model, switches mounted on the steering wheel. A Sequential Manual Transmission (SMT) option is available for some models, where the gear changes can be performed sequentially using the floor-mounted lever, or the paddle shift switches on the steering wheel. On models so equipped, the gear changes can be performed automatically, with the Powertrain Control Module (PCM) controlling shifting and clutch operation (via hydraulic controls) dictated by driving style and road conditions. A launch control is available on some models, where at the press of a button, the PCM will control engine speed, clutch operation and shift functions, to achieve maximum acceleration - consult your owner's manual for further details.

The selector mechanism causes the appropriate selector fork to move its respective synchro-sleeve along the shaft, to lock the gear pinion to the synchro-hub. Since the synchro-hubs are splined to the output shaft, this locks the pinion to the shaft, so that drive can be transmitted. To ensure that shifting can be made quickly and quietly, a synchromesh system is fitted to all forward gears, consisting of synchro rings and spring-loaded fingers, as well as the gear pinions and synchro-hubs. The synchromesh cones are formed on the mating faces of the baulk rings and gear pinions.

The transmission is filled for life, and the manufacturer does not provide any fluid change specifications.

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