



Haynes
shows you how

BMW 3-Series and Z4 (99-05) Includes 2006 325ci/330ci Coupe and Convertible models Haynes Online Manual.

5 Manual transmission - removal and installation

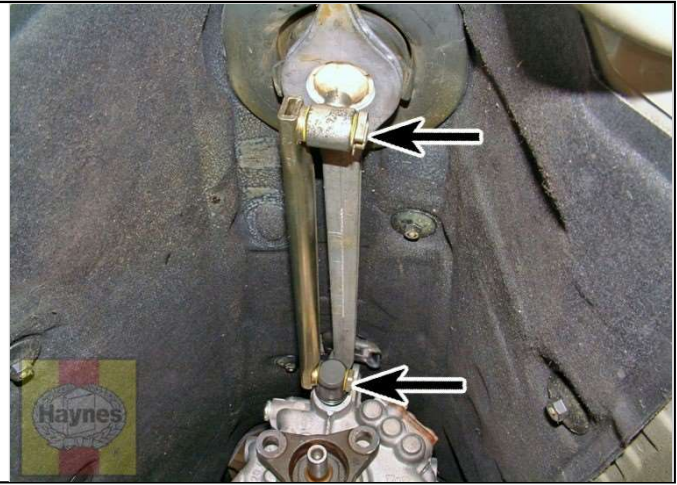
Note:

This is an involved operation. Read through the procedure thoroughly before starting work, and ensure that adequate lifting and/or jacking/support equipment is available.

Removal

- 1 Disconnect the cable from the negative battery terminal (see [Chapter 5, Section 1](#)).
- 2 Raise the vehicle and support it securely on jackstands. Note that the car must be raised sufficiently to allow clearance for the transmission to be removed from under the car. Remove the screws and remove the engine/transmission shields.
- 3 Remove the engine intake air duct located over the radiator and leading to the air cleaner (See [Chapter 4](#)).
- 4 Remove the starter motor as described in [Chapter 5](#) .
- 5 Remove the driveshaft as described in [Chapter 8](#) .
- 6 Working under the car, pry the retaining clip from the end of the gear selector rod pin. Withdraw the selector rod pin from the eye on the end of the transmission selector shaft, and recover the washers. Similarly, disconnect the selector rod pin from the end of the gear lever, and withdraw the selector rod (see illustration).

5.6 Remove the retaining clips and remove the selector rod



7 Working at the bellhousing, unscrew the nuts, and withdraw the clutch slave cylinder from the studs on the bellhousing. Support the slave cylinder away from the working area, but do not strain the hose. **Caution:** *Do not depress the clutch pedal with the slave cylinder removed.*

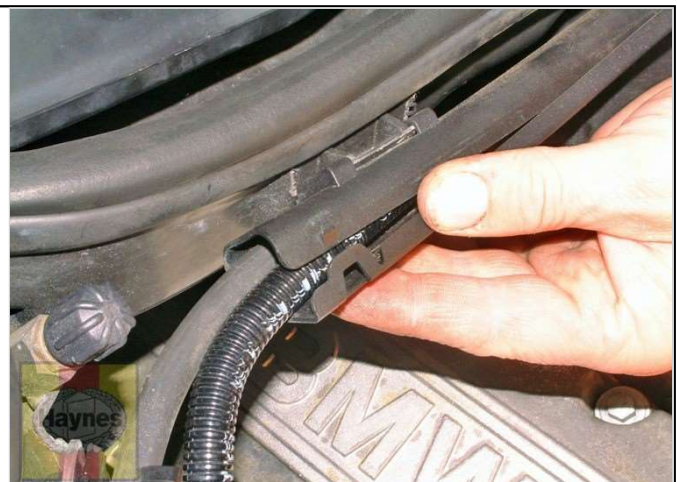
8 Note their installed locations, then disconnect all wiring connectors, and release any wiring harnesses from the transmission casing.

9 Remove the exhaust mounting bracket from the rear of the transmission casing.

10 Unscrew the securing bolts, and remove the front suspension reinforcement plate/brace (see [Chapter 2A, Section 12](#)).

11 Remove the heater/ventilation inlet air ducting from the rear of the engine compartment as follows (see illustrations).

5.11a Unclip the cable ducting



5.11b Remove the two Torx screws and remove the inlet housing



- A. Rotate the three fasteners 90° counterclockwise and remove the cabin filter cover from the rear of the engine compartment. Pull the filter forward and remove it.
- B. Loosen the four retaining clips and thread the cable out of the ducting.
- C. Unscrew the four screws and pull the filter housing forwards and remove it.
- D. Pull up the rubber strip, rotate the two fasteners counterclockwise, and move the dividing panel in the left-hand corner of the engine compartment forward a little.
- E. Remove the two screws and remove the inlet ducting upwards and out of the engine compartment.

12 Support the engine from above using an engine hoist or an engine support fixture. Connect it to the engine lifting eye at the rear left-hand corner of the cylinder block (incorporated in the rear flange of the cylinder block casting).

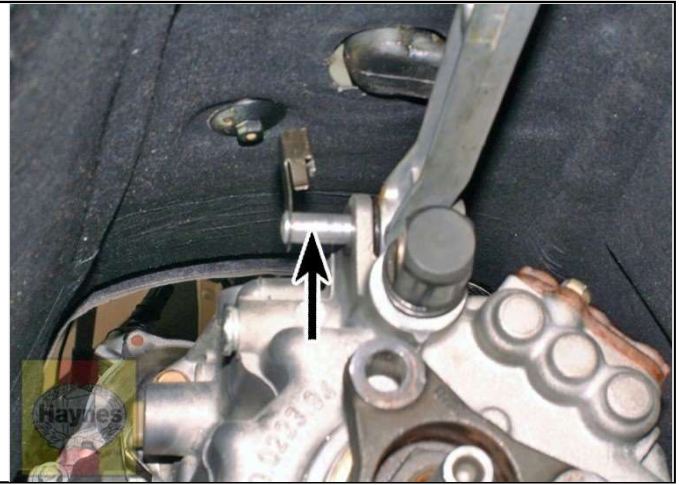
13 Place a jack under the transmission casing, just behind the bellhousing. If available, use a transmission jack and secure the transmission to the jack with safety chains. Raise the jack just enough to take the weight of the transmission.

14 Remove the crossmember and mounts from the rear of the transmission.

15 Using the jack and engine hoist, lower the engine and transmission until the rear of the engine cylinder head/manifold assembly is almost touching the engine compartment firewall. Check that the assembly is not resting against any hoses/lines on the firewall.

16 Working at the top of the transmission, pry up the clip securing the gear selector arm pivot pin to the transmission casing, then pull out the pivot pin to release the selector arm from the transmission (see illustration) .

5.16 Pry up the retaining clip and slide the pivot pin out



17 Where applicable, unscrew the bolt securing the engine/transmission adapter plate to the right-hand side of the bellhousing and/or remove the flywheel lower cover plate (see illustration) .

5.17 Unscrew the three bolts and remove the flywheel lower cover plate



18 Unscrew the engine-to-transmission bolts, and recover the washers, then slide the transmission rearwards to disengage the input shaft from the clutch. Take care during this operation to ensure that the weight of the transmission is not allowed to hang on the input shaft. As the transmission is released from the engine, check to make sure that the engine is not forced against the heater hose connections or the firewall.

19 Lower the transmission and carefully withdraw it from under the car. If the transmission is to be removed for some time, ensure that the engine is adequately supported in the engine compartment.

Installation

20 Refer to Chapter [8](#) and inspect the clutch components (now would be a good time to replace them).

21 Ensure that the clutch friction disc is centered as described in [Chapter 8](#) .

22 Inspect and grease the clutch release bearing and lever as described in [Chapter 8](#) .

23 The remainder of the installation procedure is a reversal of removal, bearing in mind the following points.

- A. Check that the transmission positioning dowels are securely in place at the rear of the engine.
- B. Make sure that the washers are in place on the engine-to-transmission bolts.
- C. Tighten all fasteners to the specified torque.
- D. Lightly grease the gear selector arm pivot pin and the gear selector rod pin before installation.
- E. Reconnect the driveshaft to the transmission flange as described in [Chapter 8](#) .
- F. Reinstall the starter motor as described in [Chapter 5](#) .
- G. Check the transmission lubricant level as described in [Chapter 1](#) .

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