

To remove and disassemble shift lever

Fig. 2 is an exploded view of the typical gear shift assembly, showing the early version for the M46 transmission with overdrive. Later versions differ mainly in the design and attachment of the reverse gear pull-rod.

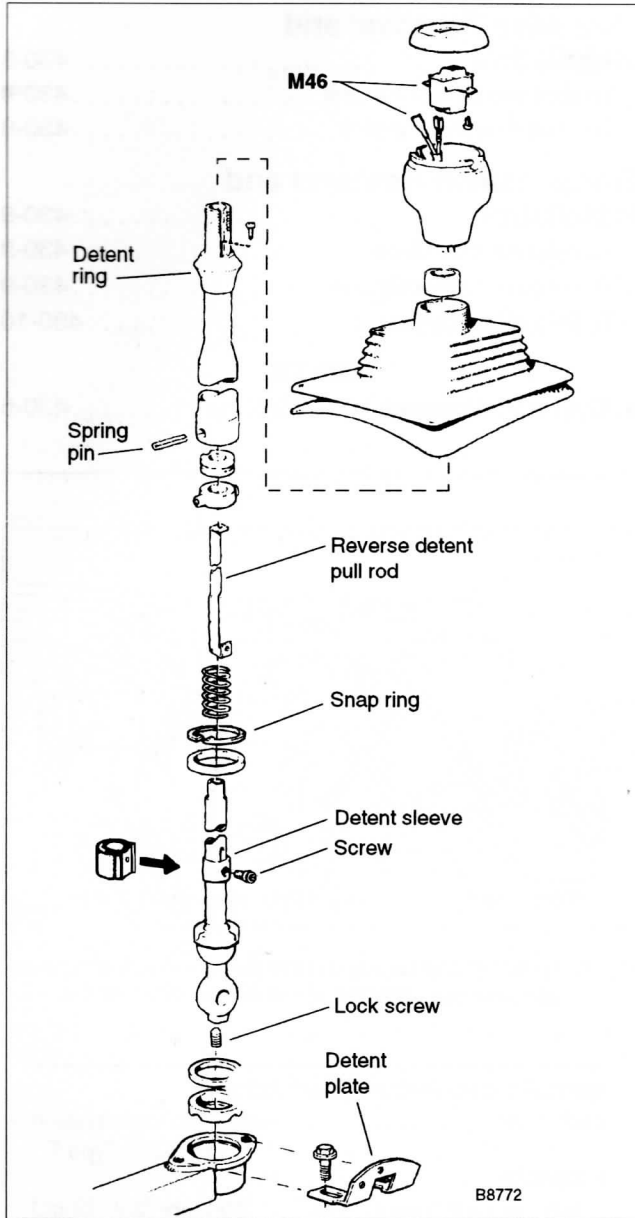


Fig. 2. Exploded view of shift lever, early type for M46 (w/overdrive switch and wiring harness) shown. Top of lever attaches with spring pin.

1. Loosen the shift lever boot from the floor, secured with four clips, and pull the boot up. On M46 transmissions (four-speed w/overdrive), disconnect the harness connector for the wiring to the overdrive switch.

2. Drive out the spring pin that mounts the top part of the shift lever to the lower part.
3. Pry off the trim piece from the top of the shift knob and, on M46 transmissions, disconnect the overdrive switch.
4. Secure the shift lever assembly in a soft-jawed vise and drive off the shift knob as shown in Fig. 3.

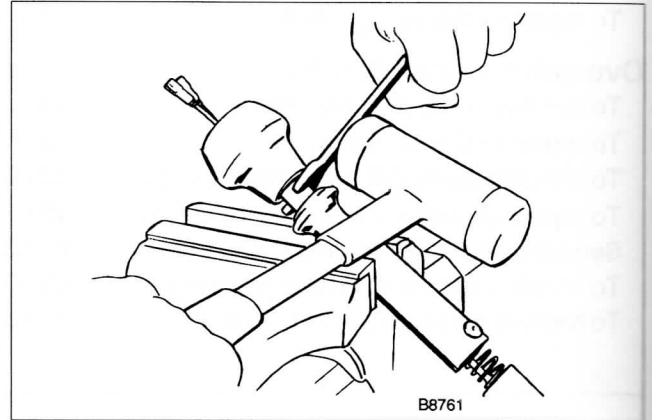


Fig. 3. Shift knob being driven off top part of shift lever. Open end wrench fits around shaft. Drive off with soft-faced mallet.

5. On cars with overdrive, carefully inspect the wiring harness that runs up the lever to the overdrive switch. The movement caused by shifting gears is a common cause of wiring damage and overdrive malfunction.
6. To make repairs to the overdrive wiring harness or the reverse-gear detent mechanism, remove the detent ring and pull rod. See Fig. 4 and Fig. 5.

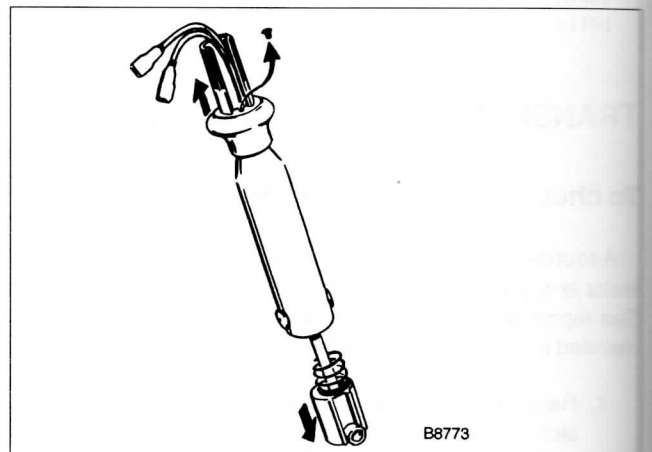


Fig. 4. Early type reverse-gear detent assembly. Small screw fastens detent ring (knob) at top to pull rod. Remove screw and ring (top arrow), then remove pull rod with spring and sleeve from below (bottom arrow).

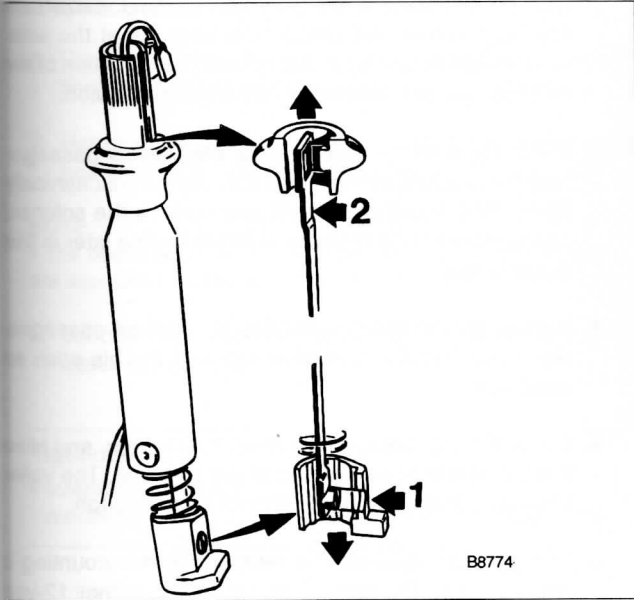


Fig. 5. Later type reverse-gear detent assembly. Press in cleat at **1** to remove detent sleeve and spring. **M46**: raise ring slightly, disconnect pull rod (**2**) and remove from bottom. **M47**: lift out detent ring and pull rod together from top.

7. Assembly is the reverse of removal. Lubricate moving parts with multi-purpose grease. For best results, use a new spring pin to install the top part of the shift lever.
8. On M46 transmissions, reconnect the overdrive switch in the knob, and reconnect the overdrive wiring harness connector.

CAUTION

- When assembling the earlier type mechanism, use a thread locking fluid on the small set screw that mounts the detent sleeve to the bottom of the pull rod.
- When assembling the later type mechanism, make sure that the cleat at the bottom of the pull rod is aligned with and fully engaged in the hole in the detent sleeve.

To adjust reverse gear detent

When 1st or 2nd gear are engaged, there should still be some side-play in the lever before bumping up against the reverse gear lock-out. If there is no play, or if 1st or 2nd gear are hard to engage, adjust the detent as described below.

1. Lift the shift lever boot and engage 1st gear.
2. Measure the clearance between the detent plate and the detent sleeve on the shift lever.

Reverse gear detent adjustment

- detent plate to detent sleeve (shift lever) in 1st and 2nd gear . . . 0.5 to 1.5 mm (0.020 to 0.059 in.)

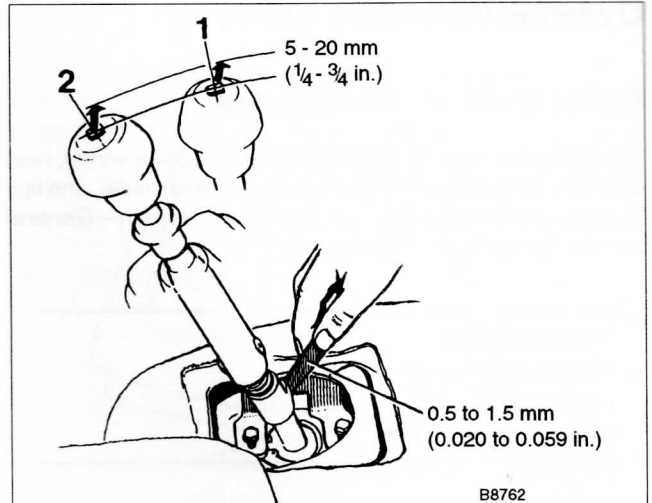


Fig. 6. Feeler gauge being used to check clearance for reverse gear detent. Check clearance in 1st gear and in 2nd gear.

3. Loosen the detent plate mounting screws. Use the slotted holes to reposition the plate so that the clearance is within the specified range in both 1st and 2nd gears.
4. Tighten the bolts and reinstall the shift lever boot.

To replace back-up light switch

The back-up light switch operates the back-up lights when reverse gear is engaged. Replacing the switch requires access to the top of the transmission, usually by lowering the rear of the transmission slightly. See **Transmission Removal and Installation**, later in this repair group.

NOTE

- The back-up light switch is on the left side. The similar switch on the right side of M46 transmissions is the overdrive switch.
1. Clean the area around the switch, then disconnect the electrical connections.
 2. Remove and replace the switch. Use a 22 mm (7/8 in.) wrench. See Fig. 7.

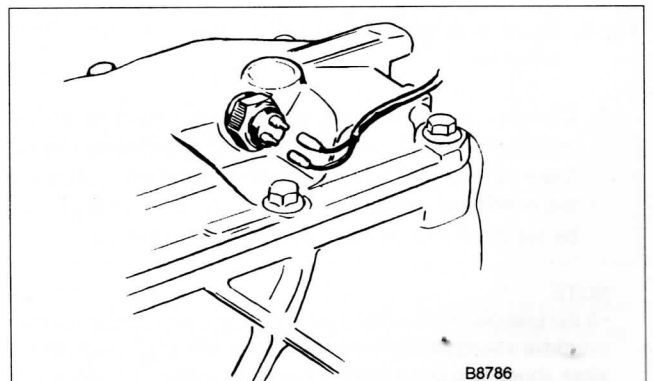


Fig. 7. Back-up light switch at left side of transmission top cover.