

### 3.5 MANUAL SHAFT SEAL

#### REPLACE

1. Raise the vehicle and place on safety stands. Refer to [0A, GENERAL INFORMATION](#) in Volume 1 of this Service Manual Supplement for details.
2. Disconnect the transmission selector linkage. Refer Section 7C4, Operation 3.2, in [Volume 5](#) of the VR Series Service Manual, for all applications except V6 powered vehicles fitted with column gearshift. For this vehicle specification, refer to Section 9A, Operation 2.10, in [Volume 12](#) of the VR Series Service Manual.
3. Remove oil pan and filter, refer [Operation 2.2](#), in this Section, for details.
4. Remove bolt securing manual detent spring to control valve body and remove spring assembly.
5. Remove nut securing inner detent lever to manual shaft. While Figure 7C4-15 shows the V8/V6 powered, floor shift version, the column shift operation is exactly similar.
6. Remove retaining clip from manual shaft.
7. Carefully remove the manual shaft from the transmission case, by using a twisting/pulling motion.

**NOTE:** It may be necessary to first remove burrs from the inner end of the shaft, caused by the inner detent lever.

#### V6 Powered Vehicles with Column Shift Only

8. After withdrawing the manual shaft and selector lever assembly from the transmission, remove the two screws securing the neutral start and back-up lamp switch, then remove the switch from the transmission case.

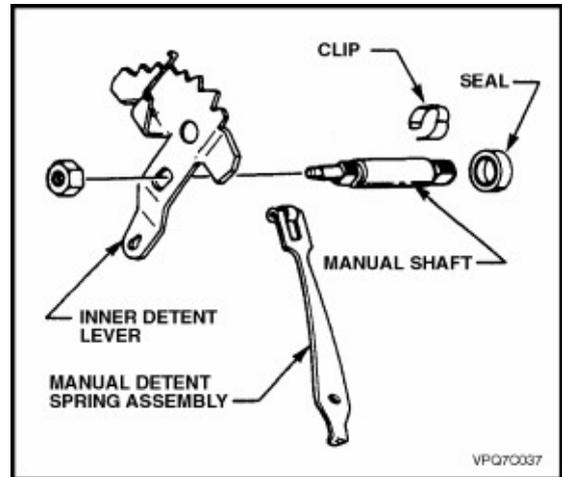


Figure 7C4-15

#### All Vehicles

9. Pry the manual shaft seal from the transmission case, using a suitable tool such as a screwdriver.
10. Tap a new seal into place using a suitable sized socket.

**NOTE:** The seal lips face inward.

#### V6 Powered Vehicles with Column Shift Only

11. Reinstall the neutral start and back-up lamp switch, tightening retaining screws finger tight only.
12. Reinstall remaining components in the reverse order of removal.
13. Reinstall and adjust gearshift linkage, as detailed in Section 9A, Operation 2.10, in [Volume 12](#) of the VR Series Service Manual.
14. Adjust the neutral start and back-up lamp switch as detailed in Section 9A, Operation 2.11, in [Volume 12](#) of the VR Series Service Manual.

#### All Vehicles with Floor Gearshift

15. Reinstall remaining components in the reverse order of removal.
16. Reinstall and adjust the gearshift linkage,

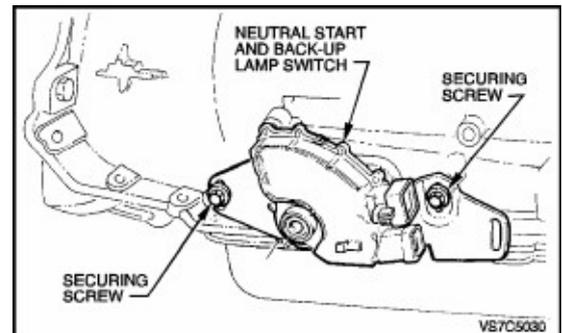


Figure 7C4-16

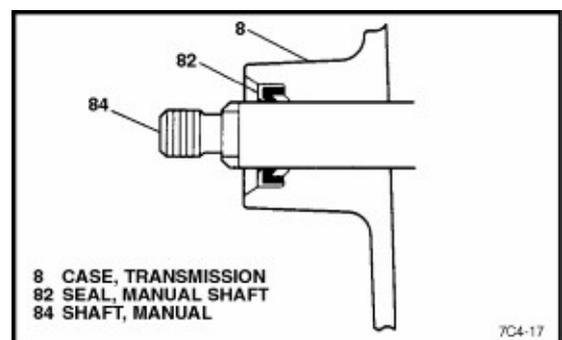


Figure 7C4-17

16. Reinstall and adjust the gearshift linkage, as detailed in Section 7C4, Operation 3.2, in [Volume 5](#) of the VR Series Service Manual.

**All Vehicles**

17. Tighten all fasteners to the correct torque specification.

**TORQUE SPECIFICATIONS**

**MANUAL SHAFT TO INNER DETENT LEVER**

**NUT**

31 Nm

**MANUAL DETENT SPRING RETAINING BOLT**

22 Nm

**MANUAL SHAFT LEVER NUT**

20-30 Nm

**NEUTRAL START AND BACK-UP LAMP SWITCH**

**SCREW - Column Gearshift Vehicles Only**

11 Nm

**SELECTOR LEVER LOCKING BOLT:**

18-24 Nm