

TRANSMISSION AND TRANSFER CASE

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NV3550 MANUAL TRANSMISSION

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REMOVAL AND INSTALLATION

TRANSMISSION - 2.5L TURBO DIESEL ENGINE

REMOVAL

1. Disconnect and isolate the negative battery cable.
2. Remove the floor console, shifter boot and shifter. Refer to group 23, Body for the procedure.
3. Raise the vehicle on a hoist.
4. Drain the transmission fluid (Fig. 1).

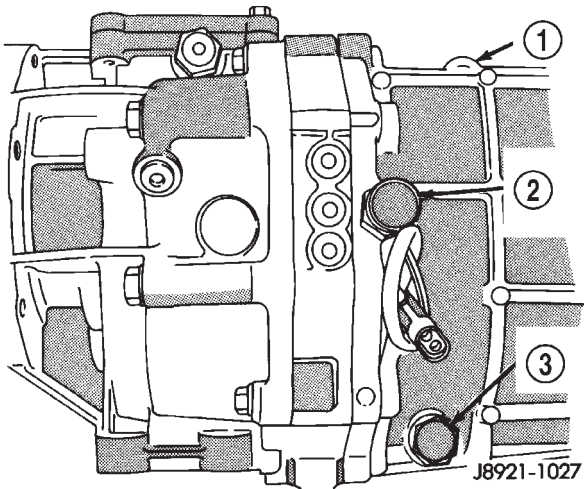


Fig. 1 Drain Plug and Backup Light Switch Location

- 1 – GEAR CASE
- 2 – BACKUP LIGHT SWITCH
- 3 – DRAIN PLUG

5. Remove exhaust pipe and heat shield.
6. Mark the front and rear propeller shafts for installation alignment (Fig. 2).

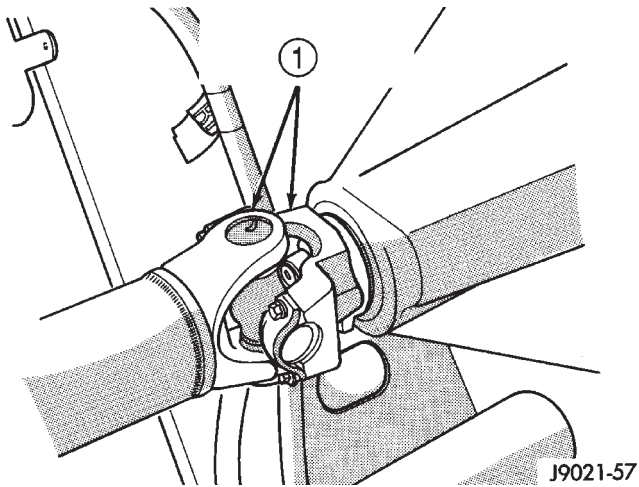
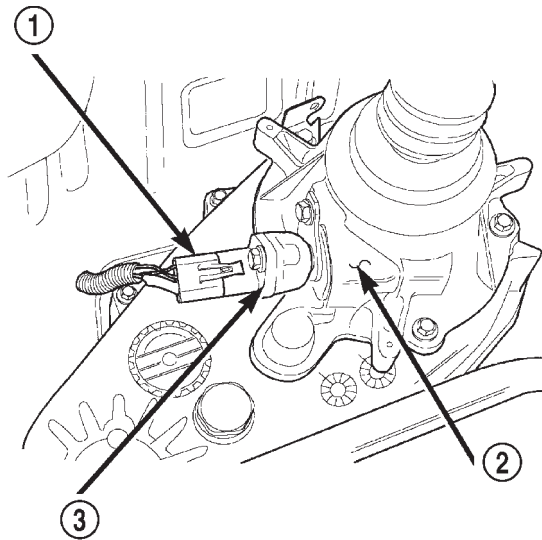


Fig. 2 Marking Propeller Shaft and Axle Yoke
1 – MARK BOTH YOKES FOR ALIGNMENT AT INSTALLATION

7. Remove the front propeller shaft.
8. Remove the rear propeller shaft.
9. Remove the transmission skid plate.
10. Disconnect the transfer case linkage and vehicle speed sensor electrical connector and vent tube hose (Fig. 3).
11. Support the engine with an adjustable jack stand.
12. Place a transmission jack under the transmission and secure the transmission with safety chains.

REMOVAL AND INSTALLATION (Continued)

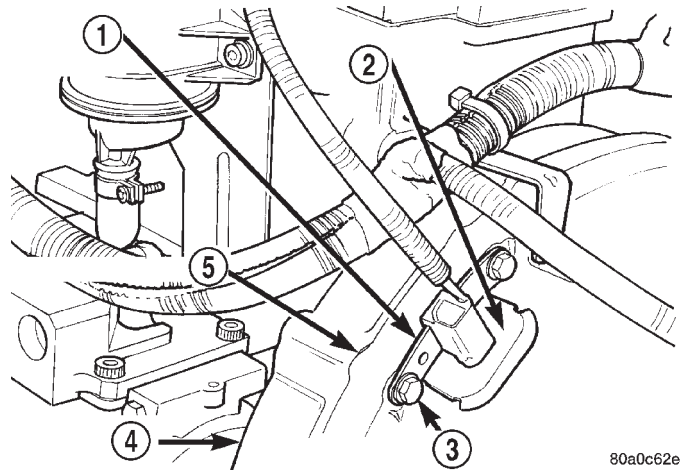
**Fig. 3 Vehicle Speed Sensor**

- 1 - SENSOR ELECTRICAL CONNECTOR
- 2 - 4WD TRANSFER CASE EXTENSION
- 3 - VEHICLE SPEED SENSOR

13. Remove the rear transmission mount.
14. Remove the rear crossmember.
15. Remove the transfer case assembly. Refer to Transfer Case removal later in this Group.
16. Lower the engine and transmission no more than 7.6 cm.
17. Remove the two (2) upper and two (2) mid clutch housing to engine bolts.
18. Remove the engine speed sensor (crankshaft position sensor) (Fig. 4).
19. Remove the clutch slave cylinder from the clutch housing.
20. Remove the lower transmission bolts.
21. Remove the transmission assembly from the vehicle.

INSTALLATION

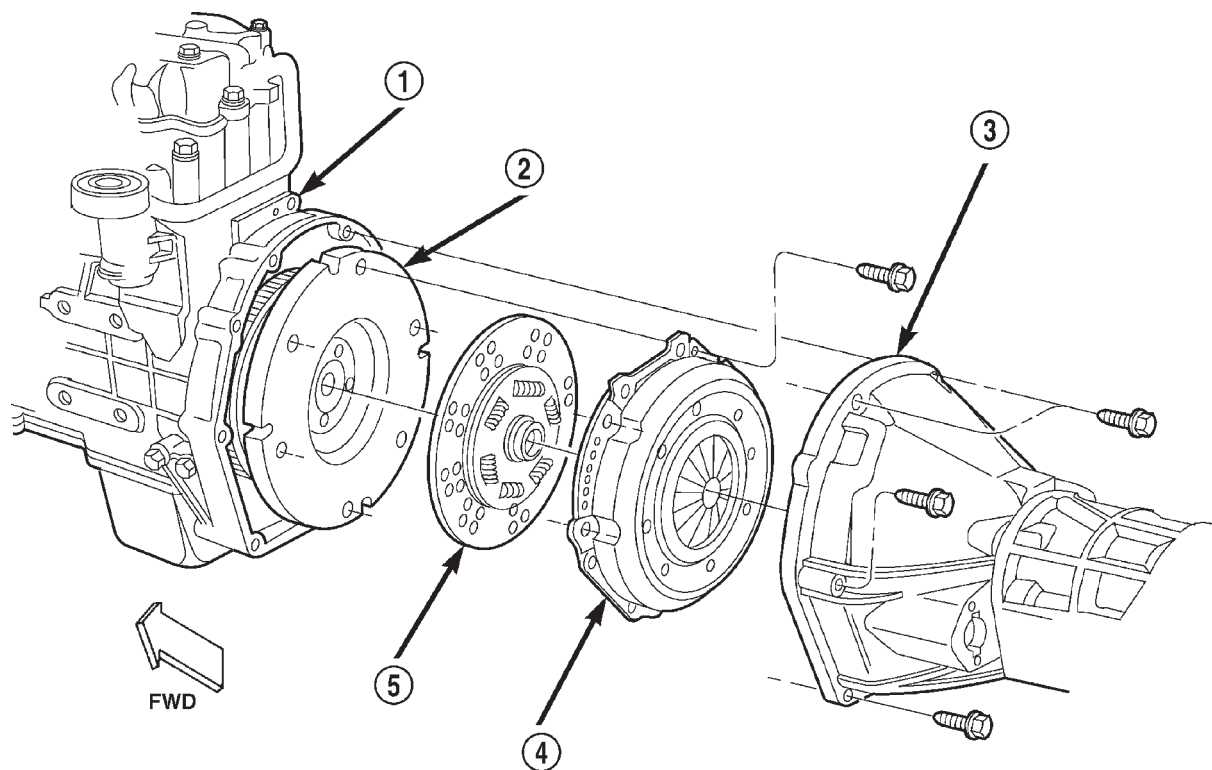
1. Mount the transmission on a transmission jack and secure the transmission with safety chains.
2. Position the transmission in the vehicle (Fig. 5).
3. Install the two (2) lower transmission bolts. Tighten the bolts to 74.6 N-m.
4. Install the clutch slave cylinder on the clutch housing.
5. Install the engine speed sensor (crankshaft position sensor) on the vehicle (Fig. 4).

**Fig. 4 Engine Speed Sensor**

- 1 - ENGINE SPEED SENSOR
- 2 - GROMMET
- 3 - MOUNTING BOLT(S)
- 4 - LEFT REAR OF ENGINE
- 5 - TRANSMISSION

6. Install the two (2) upper clutch housing to engine bolts. Tighten the bolts to 36.6 N-m.
7. Install the two (2) mid clutch housing to engine bolts. Tighten the bolts to 58.3 N-m.
8. Raise the engine and transmission with the adjustable jackstand.
9. Install the transfer case assembly. Refer to Transfer Case installation later in this Group.
10. Install the rear crossmember.
11. Install the rear transmission mount.
12. Connect the transfer case linkage and vehicle speed sensor electrical connector and vent tube (Fig. 3).
13. Install the transmission skid plate.
14. Install the front and rear propeller shafts in their original position, using the reference marks scribed earlier.
15. Install the exhaust pipe and heat shield.
16. Remove the transmission jack.
17. Fill the transmission with the proper fluid (Fig. 7).
18. Remove the adjustable jackstand from under the engine.
19. Lower the vehicle from the hoist.
20. Install the shifter, shifter boot and floor console.
21. Reconnect the negative battery cable.
22. Using the DRB III Scan Tool clear any DTC's and reset customer preferences.

SPECIFICATIONS (Continued)



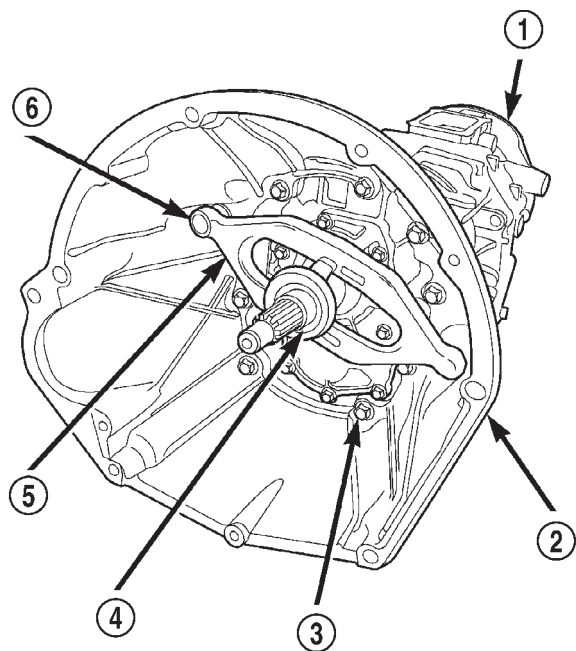
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Fig. 5 Transmission to Engine Mounting

- 1 - ENGINE BLOCK
- 2 - FLYWHEEL
- 3 - CLUTCH HOUSING AND TRANSMISSION

- 4 - CLUTCH COVER
- 5 - CLUTCH DISC

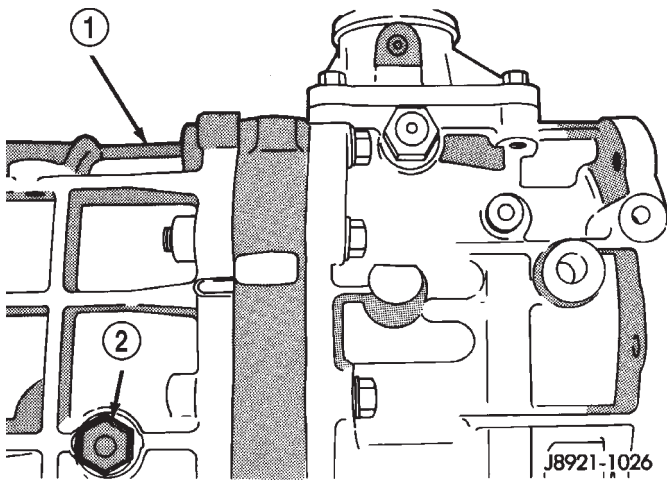
SPECIFICATIONS (Continued)



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Fig. 6 Clutch Housing to Transmission

- 1 - TRANSMISSION
- 2 - CLUTCH HOUSING
- 3 - CLUTCH HOUSING BOLT
- 4 - RELEASE BEARING
- 5 - RELEASE FORK
- 6 - PIVOT

**Fig. 7 Fill Plug Location**

- 1 - GEAR CASE
- 2 - FILL PLUG

SPECIFICATIONS

TORQUE

DESCRIPTION	TORQUE
Clutch Housing to Engine Top (2) Bolts . .	36.6 N·m (27 ft. lbs.)
Clutch Housing to Engine Mid-Point (2) Bolts	58.3 N·m (43 ft. lbs.)
Clutch Housing to Engine Bottom (2) Bolts	74.6 N·m (55 ft. lbs.)
Clutch Housing to Transmission bolts . . .	38.0 N·m (28 ft. lbs.)
Transfer Case to Transmission	
Attaching Nuts	35 N·m (26 ft. lbs.)
Propeller Shaft Bolts	26.5 N·m (19.5 ft. lbs.)

NV231 TRANSFER CASE

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REMOVAL AND INSTALLATION

TRANSFER CASE

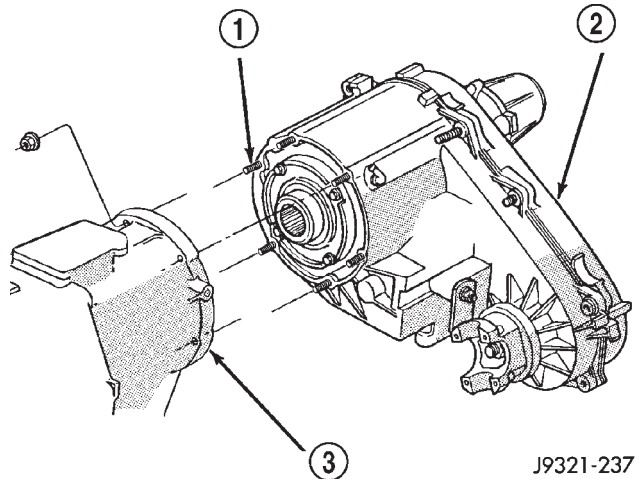
REMOVAL

- (1) Shift transfer case into Neutral.
- (2) Raise vehicle.
- (3) Drain transfer case lubricant.
- (4) Mark front and rear propeller shaft yokes for alignment reference.
- (5) Support transmission with jack stand.
- (6) Remove rear crossmember and skid plate, if equipped.
- (7) Disconnect and support front/rear propeller shafts at transfer case.
- (8) Disconnect vehicle speed sensor wires.
- (9) Disconnect transfer case linkage rod from range lever.
- (10) Disconnect transfer case vent hose (Fig. 1) and indicator switch harness, if necessary.
- (11) Support transfer case with transmission jack.
- (12) Secure transfer case to jack with chains.
- (13) Remove nuts attaching transfer case to transmission.
- (14) Pull transfer case and jack rearward to disengage transfer case.
- (15) Remove transfer case from under vehicle.

INSTALLATION

- (1) Mount transfer case on a transmission jack.
- (2) Secure transfer case to jack with chains.
- (3) Position transfer case under vehicle.
- (4) Align transfer case and transmission shafts and install transfer case on transmission.
- (5) Install and tighten transfer case attaching nuts to 35 N·m (Fig. 1).
- (6) Connect vehicle speed sensor wires, and vent hose.
- (7) Connect indicator switch harness to transfer case switch, if necessary. Secure wire harness to clips on transfer case.

NOTE: Do no reuse bearing straps or bolts. Discard and replace with new.



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Fig. 1 Transfer Case Mounting

- 1 - MOUNTING STUDS
- 2 - TRANSFER CASE
- 3 - TRANSMISSION

- (8) Align and connect propeller shafts. Tighten shaft attaching bolts to 26.5 N·m torque.
- (9) Fill transfer case with correct fluid. Refer to Recommended Lubricant And Fill Level section for proper fluid and capacity.
- (10) Install rear crossmember and skid plate, if equipped. Tighten crossmember bolts.
- (11) Remove transmission jack and support stand.
- (12) Connect shift rod to transfer case range lever.
- (13) Adjust transfer case shift linkage.
- (14) Lower vehicle and verify transfer case shift operation.

SPECIFICATIONS

TORQUE

DESCRIPTION	TORQUE
Plug, Drain/Fill	40 N·m
Nuts, Mounting	35 N·m
Switch, Indicator	26 N·m

