

CLUTCH

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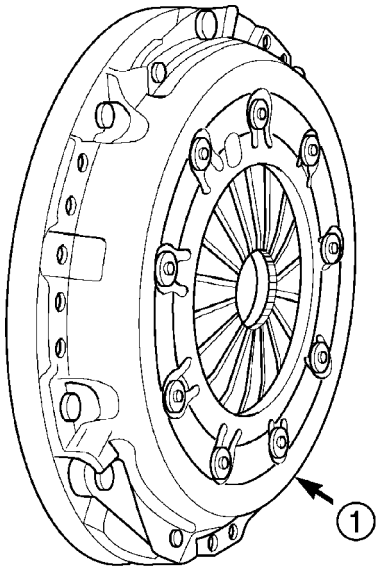
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CLUTCH

DESCRIPTION

CLUTCH COMPONENTS

Models equipped with a 2.4L Gas engine utilize a modular clutch assembly (Fig. 1). The modular clutch consists of a single, dry-type clutch disc, a diaphragm style clutch cover, and an integrated flywheel. The clutch cover (pressure plate) is riveted to the flywheel, and therefore can only be serviced as an assembly.

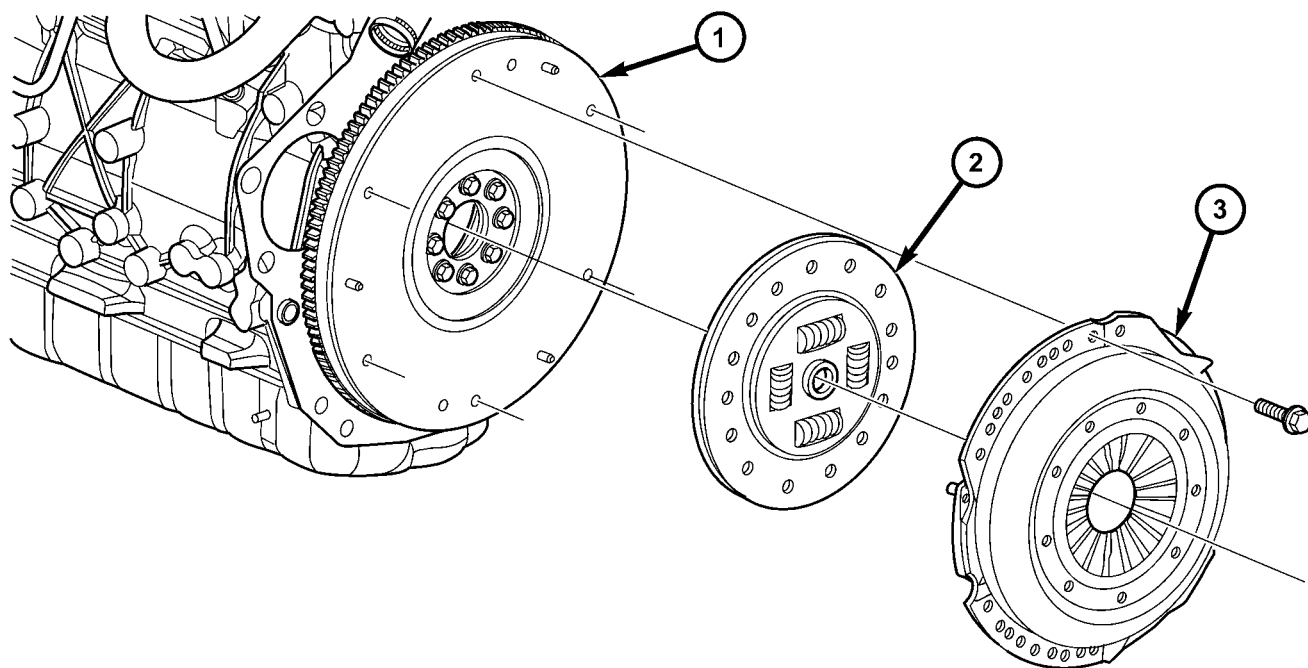


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Fig. 1 Modular Clutch Assembly—2.4L Gas Engines
 1 - MODULAR CLUTCH ASSEMBLY

CLUTCH (Continued)

Models equipped with the 2.5L Turbo Diesel engine utilize a conventional clutch system (Fig. 2). This system consists of a flywheel, clutch disc, and clutch cover (pressure plate), which is fastened to the flywheel, capturing the clutch disc within. Each component is individually serviceable, however it is **highly recommended that the clutch cover and disc be replaced as a set**.



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Fig. 2 Clutch Disc and Pressure Plate—2.5L TD Engines

1 - FLYWHEEL
2 - DISC

3 - PRESSURE PLATE

CLUTCH (Continued)

RELEASE SYSTEM

All models utilize a hydraulic clutch release system, consisting of a clutch master cylinder attached to the clutch pedal (Fig. 3), and a slave cylinder fastened to the transaxle which operates the clutch release lever (Fig. 4). When the driver depresses the clutch pedal, the master cylinder pushrod travels through the cylinder bore, displacing fluid through the master cylinder plumbing. This fluid displacement forces the slave cylinder piston to travel, forcing the clutch release bearing into the clutch diaphragm spring via the release lever and leverage (Fig. 5). This releases the clamping force on the clutch disc, allowing the engine crankshaft to rotate independently from the transaxle input shaft.

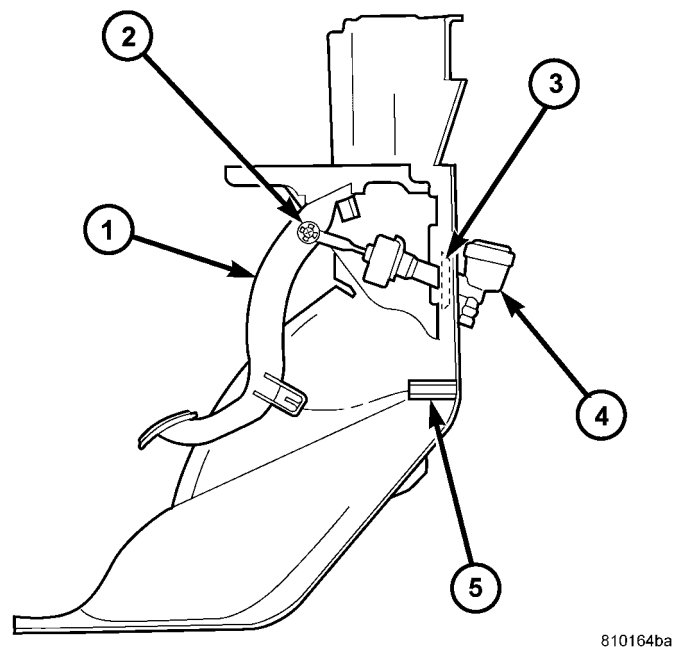


Fig. 3 Clutch Master Cylinder - Typical

- 1 - CLUTCH PEDAL
- 2 - BUSHING
- 3 - GROMMET
- 4 - MASTER CYLINDER
- 5 - STOP

DIAGNOSIS AND TESTING

DIAGNOSIS AND TESTING - CLUTCH SYSTEM

Clutch problem diagnosis will generally require a road test to determine the type of fault. Component inspection will then determine the problem after road testing.

Drive the vehicle at normal speeds during road test. Shift the transaxle through all gear ranges and observe clutch action. If chatter, grab, slip, or improper release is experienced, remove and inspect

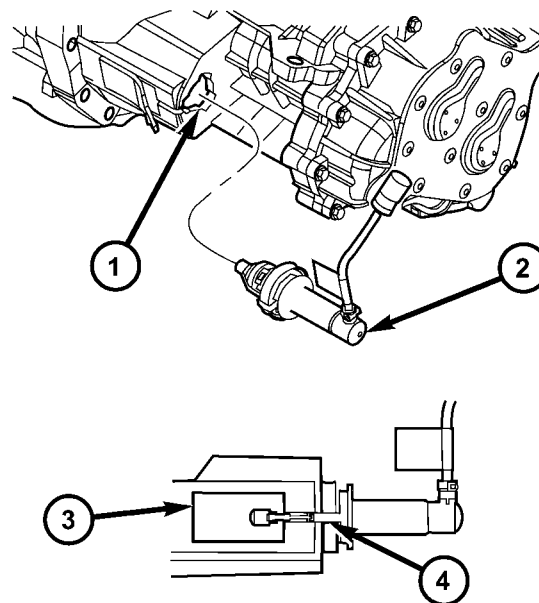


Fig. 4 Slave Cylinder Removal/Installation

- 1 - MOUNTING HOLE
- 2 - SLAVE CYLINDER
- 3 - ACCESS HOLE
- 4 - NYLON ANTI-ROTATION TAB

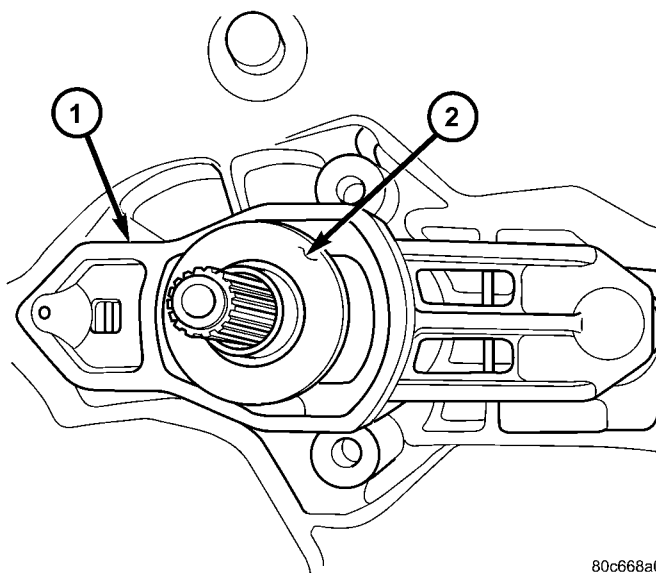


Fig. 5 Release Bearing and Lever

- 1 - RELEASE LEVER
- 2 - RELEASE BEARING

the clutch components. If the problem is noise or hard shifting, further diagnosis may be needed. The transaxle or other driveline components may actually be at fault.

CLUTCH (Continued)

SERVICE DIAGNOSIS - CLUTCH GRAB/CHATTER

CONDITION	POSSIBLE CAUSES	CORRECTION
CLUTCH DISC FACING COVERED WITH OIL OR GREASE	Oil leak at engine rear main or transaxle input shaft seal.	Correct leak and replace modular clutch assembly (2.4L Gas) or clutch cover and disc (2.5L TD).
	Too much grease applied to splines of disc and input shaft.	Apply lighter coating of grease to splines.
NO FAULT FOUND WITH CLUTCH COMPONENTS	Problem actually related to suspension or driveline component.	Further diagnosis required. Check engine/transmission mounts, suspension attaching parts and other driveline components as needed.
	Engine related problems.	Check EFI and ignition systems.
PARTIAL ENGAGEMENT OF CLUTCH DISC	Clutch cover, spring, or release fingers bent, distorted (rough handling, improper assembly).	Replace modular clutch assembly (2.4L Gas) or clutch cover and disc (2.5L TD).
	Clutch disc damaged or distorted.	Replace modular clutch assembly (2.4L Gas) or clutch cover and disc (2.5L TD).
	Clutch misalignment.	Verify modular clutch pilot plate alignment to crankshaft. Replace the modular clutch assembly (2.4L Gas) or clutch cover and disc (2.5L TD) if the pilot plate is loose or bent.
	Improper transaxle-to-engine installation.	Verify transaxle is properly installed to engine.

SERVICE DIAGNOSIS - CLUTCH SLIPS

CONDITION	POSSIBLE CAUSES	CORRECTION
DISC FACING WORN OUT	Normal wear.	Replace modular clutch assembly (2.4L Gas) or clutch cover and disc (2.5L TD).
	Driver frequently rides (slips) clutch, results in rapid wear, overheating.	Replace modular clutch assembly (2.4L Gas) or clutch cover and disc (2.5L TD).
	Insufficient clutch cover diaphragm spring tension	Replace modular clutch assembly (2.4L Gas) or clutch cover and disc (2.5L TD).
CLUTCH DISC FACING CONTAMINATED WITH OIL OR GREASE	Leak at rear main oil seal or transaxle input shaft seal	Replace leaking seals. Replace modular clutch assembly (2.4L Gas) or clutch cover and disc (2.5L TD).
	Excessive amount of grease applied to input shaft splines	Apply less grease to input shaft. Replace modular clutch assembly (2.4L Gas) or clutch cover and disc (2.5L TD).
	Road splash, water entering housing	Seal housing. Inspect clutch assembly.

CLUTCH (Continued)

CONDITION	POSSIBLE CAUSES	CORRECTION
CLUTCH IS RUNNING PARTIALLY DISENGAGED	Release bearing sticking or binding, does not return to normal running position.	Verify that bearing is actually binding. Then, replace bearing and transmission front bearing retainer if sleeve surface is damaged.
	Clutch pedal not returning to static position.	Inspect pedal assembly for damage and/or obstructions. Replace components as necessary.
	Clutch master cylinder or pushrod damaged causing high preload.	Replace clutch master cylinder assembly.
	Slave cylinder binding or stuck.	Replace slave cylinder.
CLUTCH DISC FACINGS HAVE FRACTURED INTO SMALL PIECES	Leak at rear main or transaxle input shaft seal	Replace seal. Replace modular clutch assembly (2.4L Gas) or clutch cover and disc (2.5L TD)..
	Excessive heat from slippage	Replace modular clutch assembly (2.4L Gas) or clutch cover and disc (2.5L TD).

SERVICE DIAGNOSIS - IMPROPER CLUTCH RELEASE

CONDITION	POSSIBLE CAUSES	CORRECTION
CLUTCH DISC BINDS ON INPUT SHAFT SPLINES	Clutch disc hub splines damaged during installation	Clean, smooth, and lubricate disc and shaft splines. Replace modular clutch assembly, or clutch disc, and/or input shaft if splines are severely damaged.
	Input shaft splines rough, damaged.	Clean input shaft splines. Then lube.
	Corrosion or rust formations on splines of input shaft and disc	Clean input shaft splines and disc splines, then lube
CLUTCH DISC RUSTED TO FLYWHEEL AND/OR PRESSURE PLATE	Occurs in vehicles stored or not driven for extended period of time. Also occurs after steam cleaning if vehicle is not used for extended period.	Replace modular clutch assembly (2.4L Gas) or clutch cover and disc (2.5L TD).
CLUTCH WILL NOT DISENGAGE PROPERLY	Disc bent, distorted during transaxle installation	Replace modular clutch assembly (2.4L Gas) or clutch cover and disc (2.5L TD).
	Clutch cover diaphragm spring damaged during transaxle installation	Replace modular clutch assembly (2.4L Gas) or clutch cover and disc (2.5L TD).
	Release fork bent, loose, or damaged	Replace fork if worn or damaged
	Air in clutch hydraulic circuit.	Allow system to self-bleed or replace hydraulic components.
	Leak in clutch hydraulic circuit.	Replace worn/damaged/leaking hydraulic components.
Clutch pedal requires excessive force (high release load).	Clutch disc is worn.	Replace modular clutch assembly (2.4L models) or clutch cover and disc (2.5L TD models).

CLUTCH (Continued)

SERVICE DIAGNOSIS - CLUTCH PEDAL NOISE

CONDITION	POSSIBLE CAUSES	CORRECTION
CLUTCH PEDAL SQUEAKS WHEN DEPRESSED TO FLOOR	Pedal bushings worn out or inadequate lubrication	Replace or lubricate bushings at clutch pedal pivot or master cylinder pushrod.
	Clutch pedal return spring worn out	Lubricate or replace return spring
CLUTCH PEDAL SQUEAKS DURING OPERATION	Clutch release lever pivot stud has inadequate lubrication	Lubricate or replace clutch release lever

DIAGNOSIS AND TESTING - DRIVE PLATE MISALIGNMENT

Common causes of misalignment are:

- Heat warping
- Mounting drive plate on a dirty crankshaft flange
- Incorrect bolt tightening
- Improper seating on the crankshaft shoulder
- Loose crankshaft bolts

Clean the crankshaft flange before mounting the drive plate. Dirt and grease on the flange surface may misalign the flywheel, causing excessive runout. Use new bolts when mounting drive plate to crankshaft. Tighten drive plate bolts to specified torque only. Over-tightening can distort the drive plate hub causing excessive runout.

DIAGNOSIS AND TESTING - CLUTCH COVER AND DISC RUNOUT

Check condition of the clutch cover before installation. A warped cover or diaphragm spring will cause grab and/or incomplete release or engagement. Use care when handling the clutch assembly. Impact can distort the cover, diaphragm spring, and release fingers.

DIAGNOSIS AND TESTING - CLUTCH CHATTER COMPLAINTS

For all clutch chatter complaints, perform the following:

(1) Check for loose, misaligned, or broken engine and transmission mounts. If present, they should be corrected at this time. Test vehicle for chatter. If chatter is gone, there is no need to go any further.

(2) If chatter persists, check hydraulic clutch release system is functioning properly.

(3) Check for loose connections in drivetrain. Correct any problems and determine if clutch chatter complaints have been satisfied. If not:

- Remove transaxle.
- Check to see if the release bearing is sticky or binding. Replace bearing, if needed.
- Check linkage for excessive wear on the pivot stud and fork fingers. Replace all worn parts.

(d) Check clutch assembly for contamination (dirt, oil). Replace clutch assembly, if required.

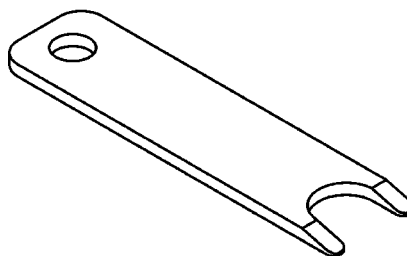
(e) Check to see if the clutch disc hub splines are damaged. Replace with new clutch assembly, if necessary.

(f) Check input shaft splines for damage. Replace, if necessary.

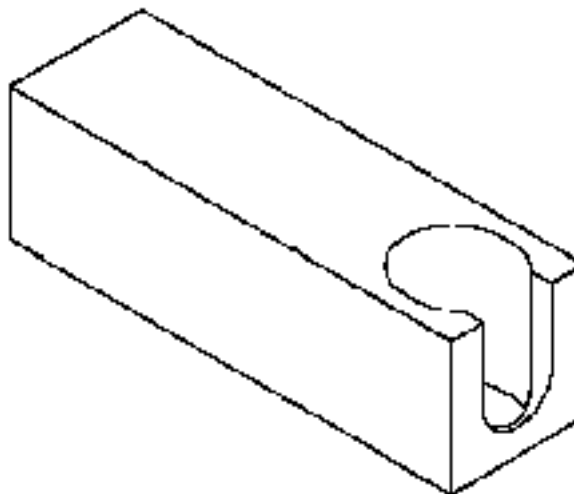
(g) Check for uneven wear on clutch fingers.

(h) Check for broken clutch cover diaphragm spring fingers. Replace with new clutch assembly, if necessary.

SPECIAL TOOLS - T850 TRANSAXLE



Disconnect Tool, 6638A



Remover/Installer, 6891

CLUTCH RELEASE LEVER AND BEARING

REMOVAL

(1) Remove transaxle assembly. (Refer to 21 - TRANSMISSION/TRANSAXLE/MANUAL REMOVAL)

(2) Remove modular clutch assembly from input shaft (2.4L Gas models only).

(3) Grasp clutch release lever and bearing (Fig. 6) with both hands and pull outward using moderate pressure to release lever from pivot ball.

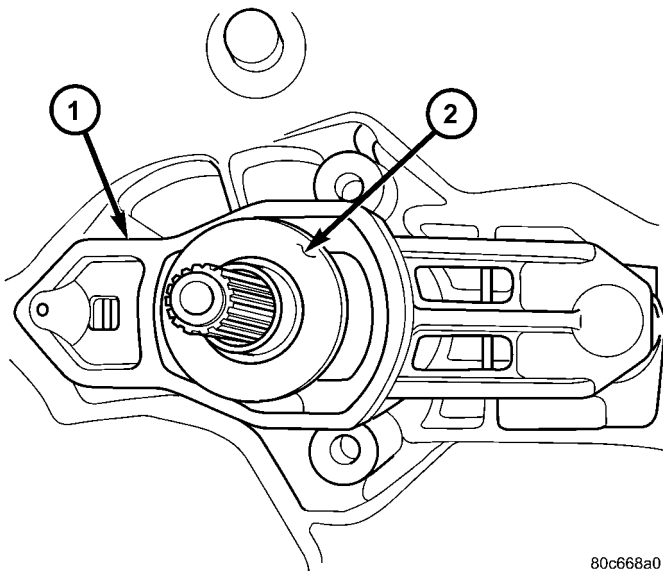


Fig. 6 Release Bearing and Lever

- 1 - RELEASE LEVER
- 2 - RELEASE BEARING

(4) Separate release bearing from lever.

NOTE: Remove release lever pivot ball(s) **ONLY** if replacement is necessary.

(5) Remove pivot ball(s) using slide hammer C-3752 and remover/installer 6891 (Fig. 7).

INSTALLATION

(1) If removed, install **new** release lever pivot ball(s) using slide hammer C-3752 and remover/installer 6891 (Fig. 8) (Fig. 9).

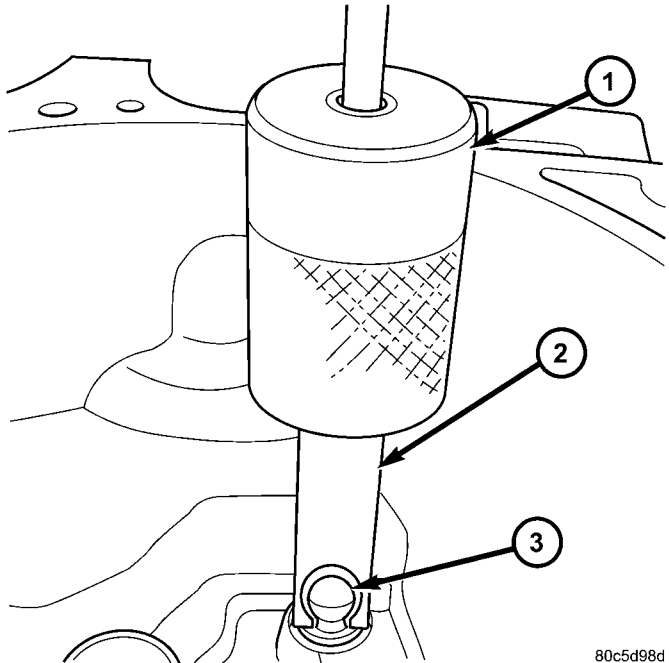


Fig. 7 Pivot Ball Removal/Installation

- 1 - C-3752 SLIDE HAMMER
- 2 - REMOVER/INSTALLER 6891
- 3 - PIVOT BALL

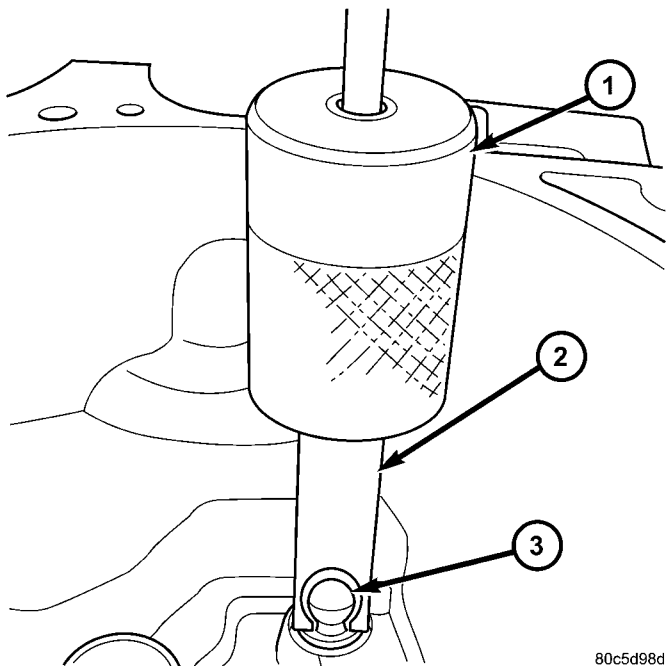
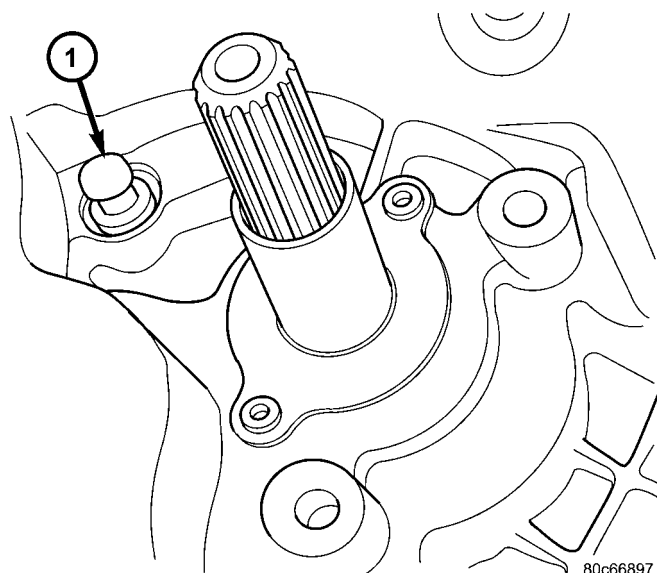


Fig. 8 Pivot Ball Removal/Installation

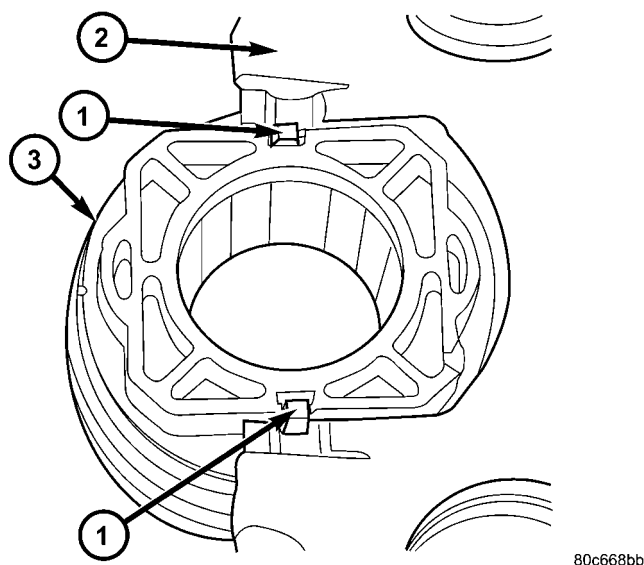
- 1 - C-3752 SLIDE HAMMER
- 2 - REMOVER/INSTALLER 6891
- 3 - PIVOT BALL

CLUTCH RELEASE LEVER AND BEARING (Continued)

**Fig. 9 Pivot Ball Position**

1 - PIVOT BALL (1)

(2) Install clutch release bearing to lever. Apply grease to interface points. Make sure release bearing retainers engage lever pocket as shown in (Fig. 10).

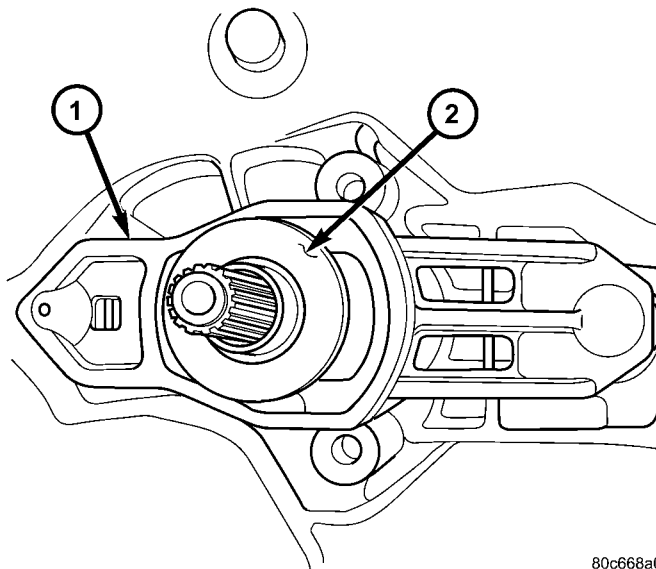
**Fig. 10 Release Bearing-to-Lever**

1 - RETAINER (2)
2 - RELEASE LEVER
3 - RELEASE BEARING

(3) Apply grease to pivot ball, and on release lever at slave cylinder contact point.

(4) Install clutch release bearing/lever assembly into position by sliding bearing onto input bearing retainer, and using moderate hand pressure to seat release lever to pivot ball(s) (Fig. 11). A “pop” sound should be heard. Verify proper engagement by lightly

pulling outward on lever at pivot ball location, and then actuating lever and bearing to ensure proper operation.

**Fig. 11 Release Bearing and Lever**

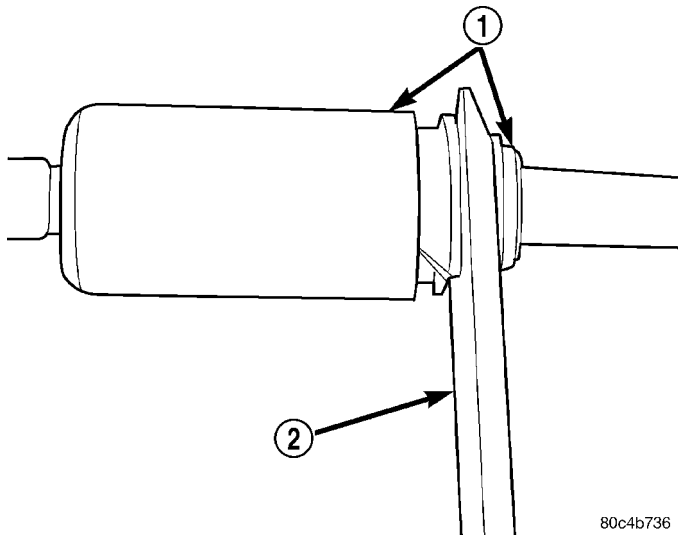
1 - RELEASE LEVER
2 - RELEASE BEARING

MASTER CYLINDER - RHD

REMOVAL

- (1) Disconnect battery negative cable.
- (2) Remove master cylinder to clutch pedal pin retainer clip. Disengage pushrod from clutch pedal pin (Fig. 13).
- (3) Disengage master cylinder grommet from cowl panel.
- (4) Remove battery and tray.
- (5) **Diesel models:** Remove windshield wiper module assembly. (Refer to 8 - ELECTRICAL/WIPERS/WASHERS/WIPER MODULE - REMOVAL)
- (6) Discharge Air Conditioning system. (Refer to 24 - HEATING & AIR CONDITIONING/PLUMBING/REFRIGERANT - STANDARD PROCEDURE)
- (7) Remove suction/discharge line from evaporator junction block.
- (8) Using tool 6638A, disconnect clutch hydraulic “quick-connect” fitting (Fig. 12).
- (9) Remove clutch master cylinder tubing from retainers in engine compartment.
- (10) Remove clutch master cylinder from dash panel/clutch pedal bracket by rotating 45° clockwise and pulling outward towards engine (Fig. 13).
- (11) Carefully guide clutch master cylinder and hydraulic plumbing from engine compartment.

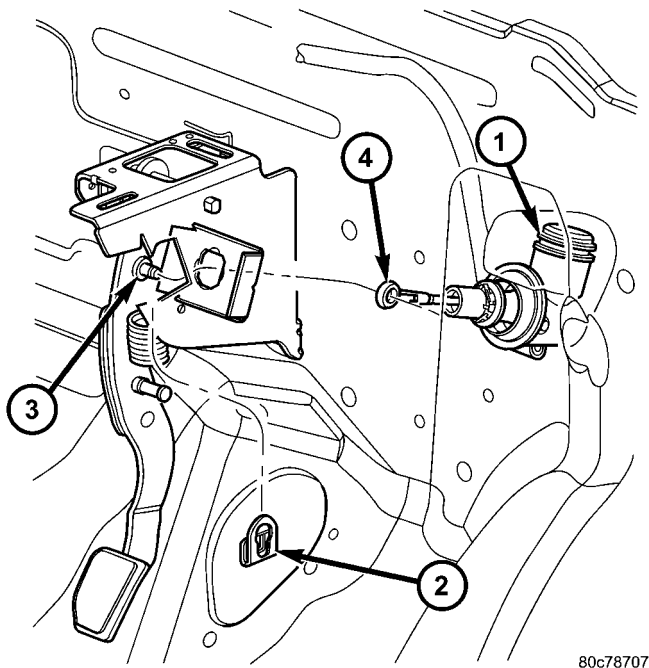
MASTER CYLINDER - RHD (Continued)



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Fig. 12 Disconnect Quick-Connect Using Tool 6638A

- 1 - QUICK CONNECT FITTING
- 2 - TOOL 6638A



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Fig. 13 Clutch Master Cylinder at Pedal Bracket

- 1 - CLUTCH MASTER CYLINDER
- 2 - RETAINER CLIP
- 3 - CLUTCH PEDAL PIN
- 4 - PUSH ROD

INSTALLATION

(1) Carefully route master cylinder plumbing into engine compartment as removed and position master cylinder to dash panel hole.

(2) Rotate master cylinder 45° clockwise, insert into dash panel hole, engaging clutch pedal bracket. Rotate master cylinder 45° counter-clockwise, securing it to pedal bracket (Fig. 13).

(3) Install and secure grommet to dash panel.

(4) Connect pushrod to clutch pedal pin. Install retainer clip (Fig. 13).

(5) Secure master cylinder plumbing to retainers in engine compartment.

(6) Connect clutch master cylinder plumbing to slave cylinder "quick connect" fitting. An audible "click" should be heard. Verify connection by pulling outward.

(7) Connect A/C suction/discharge line to evaporator junction block.

(8) **Diesel models:** Install wiper module assembly. (Refer to 8 - ELECTRICAL/WIPERS/WASHERS/WIPER MODULE - INSTALLATION)

(9) Install battery and tray.

(10) Connect battery negative cable

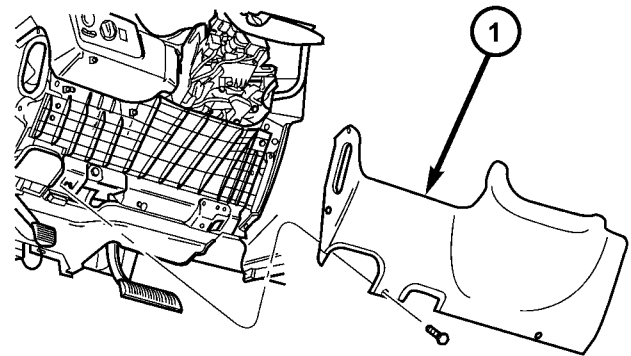
(11) Charge Air Conditioning system. (Refer to 24 - HEATING & AIR CONDITIONING/PLUMBING/REFRIGERANT - STANDARD PROCEDURE)

MASTER CYLINDER - LHD

REMOVAL

(1) Disconnect battery cables.

(2) Remove instrument panel lower silencer (Fig. 14).



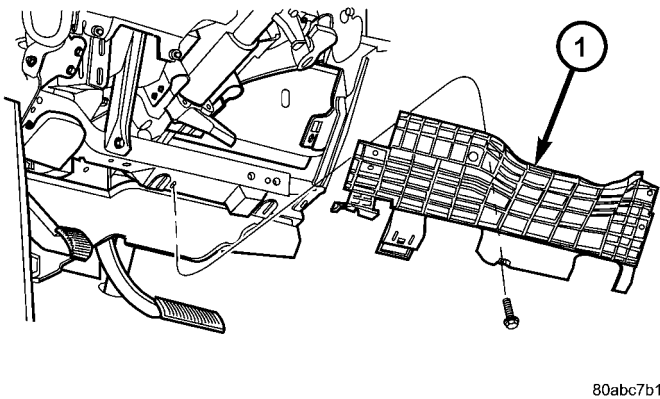
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Fig. 14 Instrument Panel Lower Silencer

- 1 - INSTRUMENT PANEL LOWER SILENCER

MASTER CYLINDER - LHD (Continued)

(3) Remove knee bolster (Fig. 15).

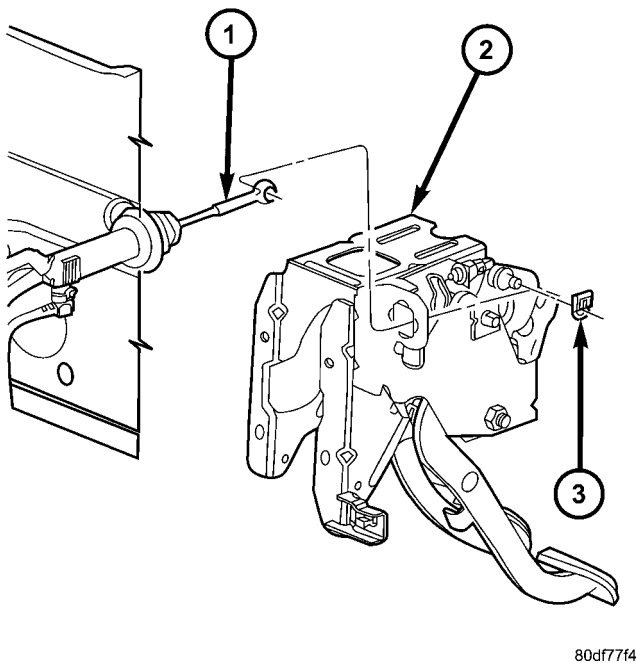


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Fig. 15 Knee Bolster

1 - KNEE BOLSTER

(4) Remove clutch master cylinder pushrod retainer clip (Fig. 16).



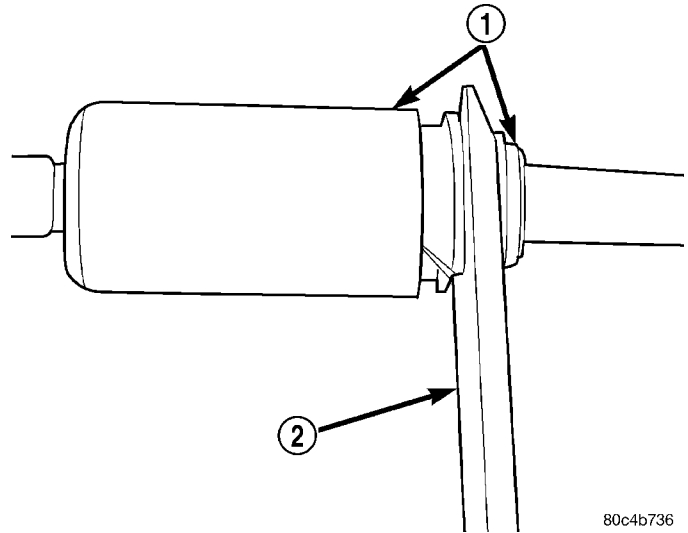
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Fig. 16 Master Cylinder Pushrod at Pedal

1 - MASTER CYLINDER PUSHROD
2 - CLUTCH/BRAKE PEDAL ASSEMBLY
3 - PUSHROD RETAINER

- (5) Disconnect pushrod from clutch pedal (Fig. 16).
- (6) Remove battery shield.
- (7) Remove battery.
- (8) Remove battery tray.
- (9) Remove windshield wiper module assembly (Refer to 8 - ELECTRICAL/WIPERS/WASHERS/WIPER MODULE - REMOVAL).

(10) Using Tool 6638A, disconnect clutch master cylinder "quick connect" fitting (Fig. 17). Disengage plumbing retainer from body stud.

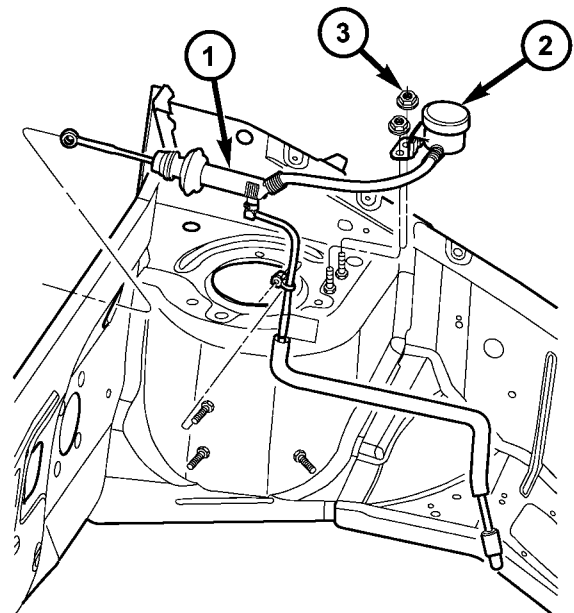


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Fig. 17 Disconnect Quick-Connect Using Tool 6638A

1 - QUICK CONNECT FITTING
2 - TOOL 6638A

(11) Remove master cylinder reservoir-to-strut tower nuts (Fig. 18). Reposition reservoir off to side.



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Fig. 18 Clutch Master Cylinder Removal/Installation

1 - CLUTCH MASTER CYLINDER
2 - RESERVOIR
3 - NUT (2)

(12) Remove clutch master cylinder from dash panel by rotating clockwise 45° and removing from dash panel (Fig. 18).

MASTER CYLINDER - LHD (Continued)

(13) Remove master cylinder and plumbing from engine compartment. Use care not to bend or kink plumbing. Note plumbing routing to aid in installation.

INSTALLATION

(1) Install master cylinder into position, while routing plumbing as originally installed.

(2) Insert master cylinder pushrod through dash panel (Fig. 18) and rotate 45° counter-clockwise to secure.

(3) Connect master cylinder plumbing quick-connect fitting. An audible "click" should be heard. Verify connection by pulling outward.

(4) Install master cylinder reservoir onto strut tower. Install and tighten two (2) master cylinder reservoir-to-strut tower nuts to 11 N·m (100 in. lbs.) (Fig. 18).

(5) Install windshield wiper module assembly (Refer to 8 - ELECTRICAL/WIPERS/WASHERS/WIPER MODULE - INSTALLATION).

(6) Install battery tray.

(7) Install battery.

(8) Install battery shield.

(9) Connect master cylinder pushrod to clutch pedal lever (Fig. 16). Install retainer clip.

(10) Install knee bolster and instrument panel lower silencer (Fig. 15) (Fig. 14).

(11) Connect battery cables.

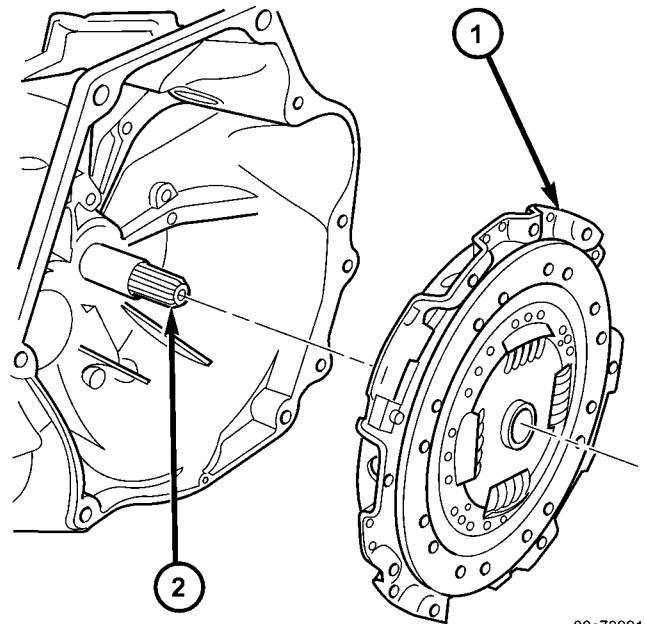


Fig. 19 Modular Clutch Assembly—Typical

- 1 - MODULAR CLUTCH ASSEMBLY
- 2 - INPUT SHAFT

(3) Remove clutch slave cylinder (Fig. 20) by lifting nylon tab with a small screwdriver, and then depressing cylinder inward towards case and rotating cylinder 60° counter-clockwise.

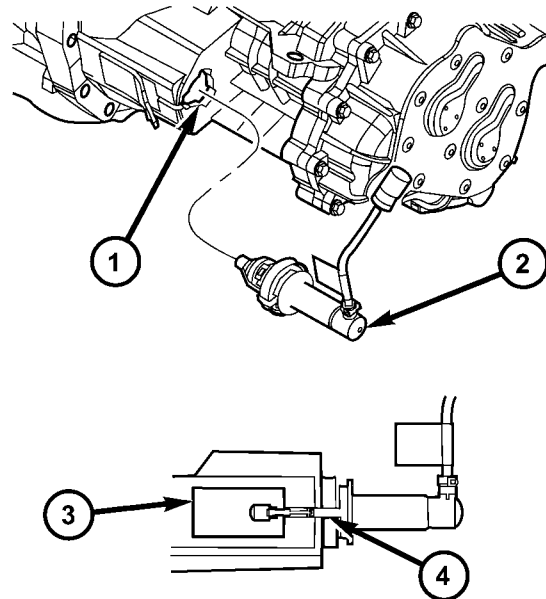


Fig. 20 Slave Cylinder Removal/Installation

- 1 - MOUNTING HOLE
- 2 - SLAVE CYLINDER
- 3 - ACCESS HOLE
- 4 - NYLON ANTI-ROTATION TAB

MODULAR CLUTCH ASSY - 2.4L GAS

REMOVAL

(1) Remove transaxle from vehicle. (Refer to 21 - TRANSMISSION/TRANSAXLE/MANUAL - REMOVAL)

(2) Remove modular clutch assembly from input shaft (Fig. 19).

INSTALLATION

(1) Install modular clutch assembly to transaxle input shaft (Fig. 19).

(2) Install transaxle to vehicle. (Refer to 21 - TRANSMISSION/TRANSAXLE/MANUAL - INSTALLATION)

SLAVE CYLINDER

REMOVAL

(1) Raise vehicle on hoist. **Diesel models:** Remove underbody splash shield.

(2) Using Tool 6638A, disconnect hydraulic clutch circuit quick connect fitting.

SLAVE CYLINDER (Continued)

INSTALLATION

(1) Install clutch slave cylinder into position, noting orientation of different sized lugs. While depressing inward, rotate slave cylinder clockwise until nylon locating tab rests in transaxle case cutout, and the hydraulic tube is vertical (Fig. 20).

(2) Connect "quick-connect" connection until an audible "click" is heard. Verify connection by pulling outward on connection.

(3) **Diesel models:** Install underbody splash shield.

(4) Lower vehicle.

CLUTCH DISC AND PRESSURE PLATE - 2.5L TD

REMOVAL

(1) Remove transaxle assembly. (Refer to 21 - TRANSMISSION/TRANSAXLE/MANUAL - REMOVAL)

(2) Remove six (6) clutch pressure plate-to-flywheel bolts. Remove pressure plate and disc from flywheel (Fig. 21).

(3) Inspect flywheel. Resurface/replace as necessary.

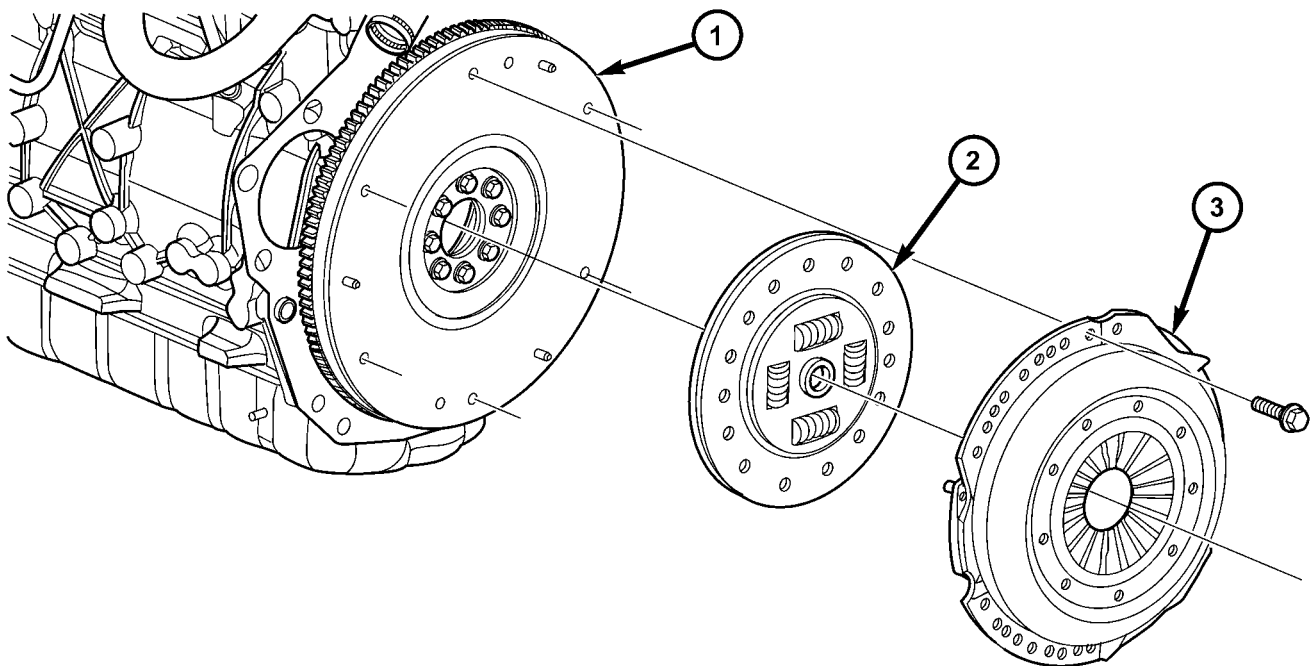
(4) Inspect clutch release bearing and lever. Replace as necessary. (Refer to 6 - CLUTCH/CLUTCH RELEASE BEARING - REMOVAL)

INSTALLATION

(1) Install clutch release bearing and lever (if removed). (Refer to 6 - CLUTCH/CLUTCH RELEASE BEARING - INSTALLATION)

(2) Install clutch disc and pressure plate to flywheel (Fig. 21). Install clutch alignment tool, and install and torque pressure plate-to-flywheel bolts to 28 N·m (250 in. lbs.).

(3) Install transaxle assembly. (Refer to 21 - TRANSMISSION/TRANSAXLE/MANUAL - INSTALLATION)



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Fig. 21 Clutch Disc and Pressure Plate

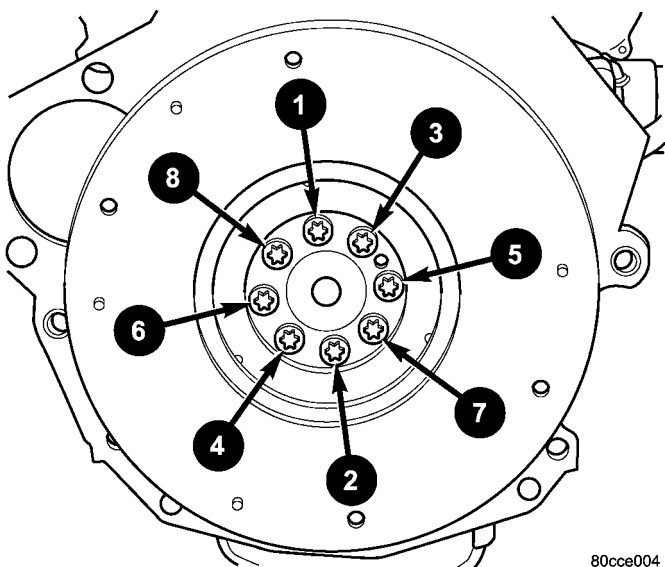
1 - FLYWHEEL
2 - DISC

3 - PRESSURE PLATE

FLYWHEEL

REMOVAL

- (1) Remove transaxle assembly. (Refer to 21 - TRANSMISSION/TRANSAXLE/MANUAL - REMOVAL)
- (2) Remove clutch pressure plate and disc. (Refer to 6 - CLUTCH/CLUTCH DISC - REMOVAL)
- (3) Remove flywheel assembly (Fig. 22).



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Fig. 22 Flywheel Bolt Torque Sequence

INSTALLATION

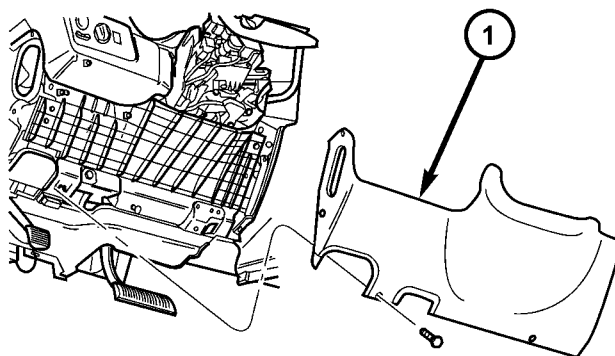
- (1) Install NEW flywheel-to-crankshaft bolts by hand.
- (2) Torque bolts in a criss-cross sequence to 25 N·m (18 ft. lbs.) (Fig. 22).
- (3) Torque bolts in a criss-cross sequence an additional 60°.
- (4) Install clutch pressure plate and disc. (Refer to 6 - CLUTCH/CLUTCH DISC - INSTALLATION)
- (5) Install transaxle assembly. (Refer to 21 - TRANSMISSION/TRANSAXLE/MANUAL - INSTALLATION)

CLUTCH PEDAL INTERLOCK SWITCH

REMOVAL

LHD

- (1) Disconnect battery negative cable.
- (2) Remove instrument panel lower silencer (Fig. 23).

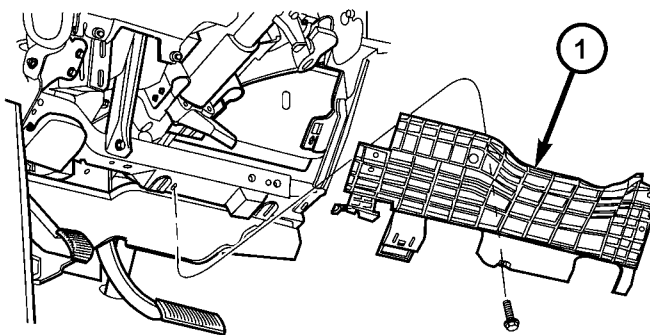


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Fig. 23 Instrument Panel Lower Silencer—LHD Shown

1 - INSTRUMENT PANEL LOWER SILENCER

- (3) Remove knee bolster (Fig. 24).



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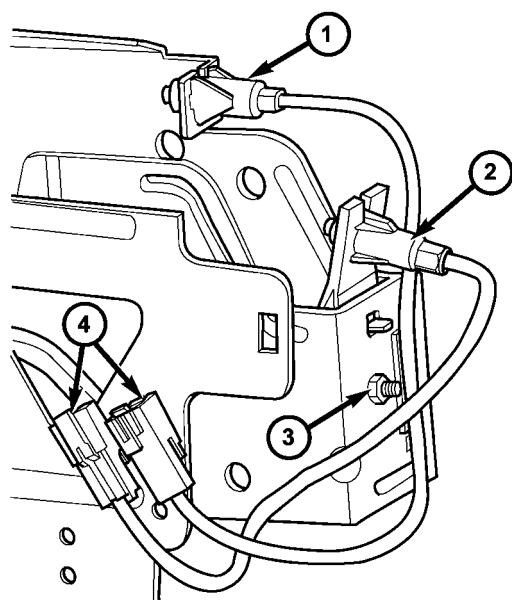
Fig. 24 Knee Bolster—LHD Shown

1 - KNEE BOLSTER

CLUTCH PEDAL INTERLOCK SWITCH (Continued)

(4) Disconnect interlock switch connector (Fig. 25).

(5) Remove interlock switch by depressing four (4) plastic wing tabs, and sliding switch through mounting bracket (Fig. 25). If difficulty is encountered gaining access to and removing interlock switch, removing the upstop switch/bracket assembly (Fig. 25) allows for over-travel of the pedal, giving more room for interlock switch access.



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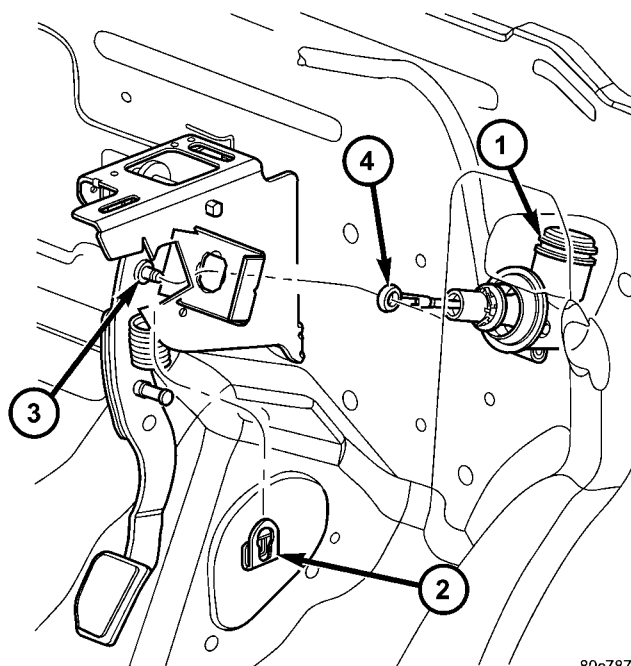
Fig. 25 Interlock/Upstop Switch Location

- 1 - INTERLOCK SWITCH
- 2 - UPSTOP SWITCH
- 3 - RETAINER - UPSTOP BRACKET
- 4 - CONNECTORS

(6) Remove interlock switch harness from pedal bracket at retainer. Remove switch.

RHD

- (1) Disconnect battery negative cable.
- (2) Remove instrument panel lower silencer (Fig. 23).
- (3) Remove knee bolster (Fig. 24).
- (4) Remove master cylinder to clutch pedal pin retainer clip (Fig. 26). Disengage pushrod from clutch pedal pin.
- (5) Disconnect interlock and upstop switch connectors.
- (6) Disengage master cylinder grommet from dash panel.
- (7) Remove clutch master cylinder tubing from retainers in engine compartment.
- (8) Remove clutch master cylinder from dash panel/clutch pedal bracket by rotating 45° clockwise and pulling outward towards engine (Fig. 26).

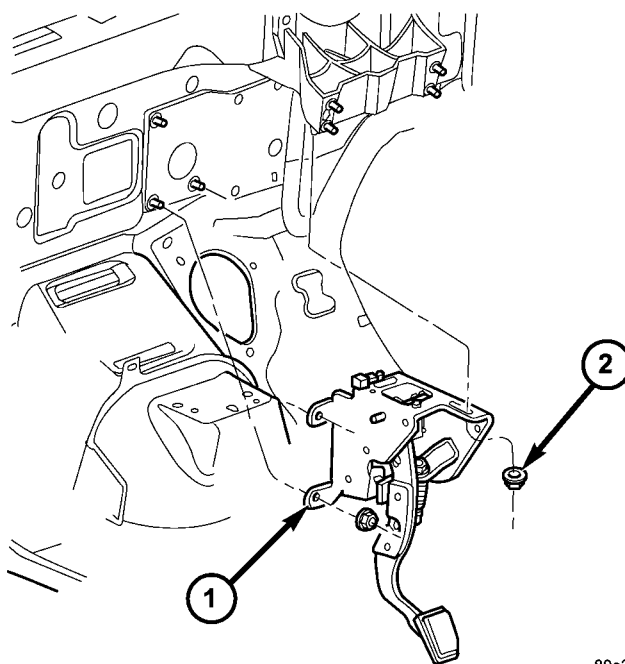


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Fig. 26 Clutch Master Cylinder at Pedal Bracket

- 1 - CLUTCH MASTER CYLINDER
- 2 - RETAINER CLIP
- 3 - CLUTCH PEDAL PIN
- 4 - PUSH ROD

(9) Remove clutch pedal bracket assembly (Fig. 27).



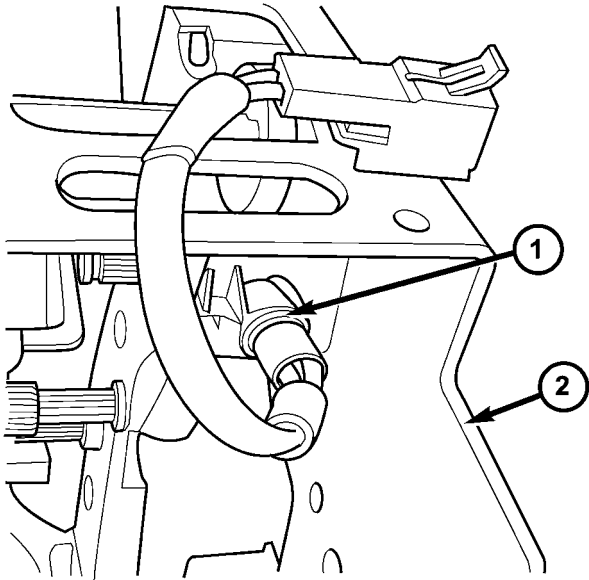
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Fig. 27 Clutch Pedal/Bracket Assembly

- 1 - CLUTCH PEDAL/BACKET ASSY.
- 2 - NUT (4)

CLUTCH PEDAL INTERLOCK SWITCH (Continued)

(10) Remove interlock switch harness from pedal bracket at retainer. Remove switch (Fig. 28).



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Fig. 28 Clutch Pedal Interlock Switch

- 1 - CLUTCH INTERLOCK SWITCH
2 - CLUTCH PEDAL/BRAKET ASSY.

INSTALLATION

LHD

- (1) Install interlock switch into pedal bracket hole, and secure harness with retainer as shown in (Fig. 28). Make sure switch wing tabs are fully expanded.
- (2) Connect interlock switch connector.
- (3) Install knee bolster (Fig. 24).
- (4) Install instrument panel lower silencer (Fig. 23).
- (5) Connect battery negative cable.
- (6) Verify function of starter interlock switch. Switch must actuate when pedal is depressed.

RHD

- (1) Install interlock switch to pedal bracket assembly as shown in (Fig. 28). Secure connector with retainer to hole in bracket.
- (2) Install clutch pedal bracket assembly into position. Install pedal bracket mounting nuts and torque to 28 N·m (250 in. lbs.).

(3) Connect interlock and upstop switch connectors.

(4) Install clutch master cylinder into position and rotate 45° counter-clockwise to secure to pedal bracket (Fig. 26). Secure dash panel grommet and secure hydraulic plumbing into dash panel retainers.

(5) Connect master cylinder pushrod to clutch pedal pin and secure with retainer clip (Fig. 26).

(6) Install knee bolster (Fig. 24).

(7) Install instrument panel lower silencer (Fig. 23).

(8) Connect battery negative cable.

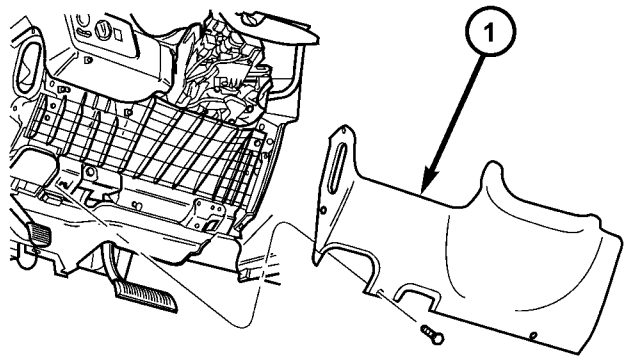
(9) Verify function of starter interlock switch. Switch must actuate when pedal is depressed.

CLUTCH PEDAL UPSTOP SWITCH

REMOVAL

LHD

- (1) Disconnect battery negative cable.
- (2) Remove instrument panel lower silencer (Fig. 29).



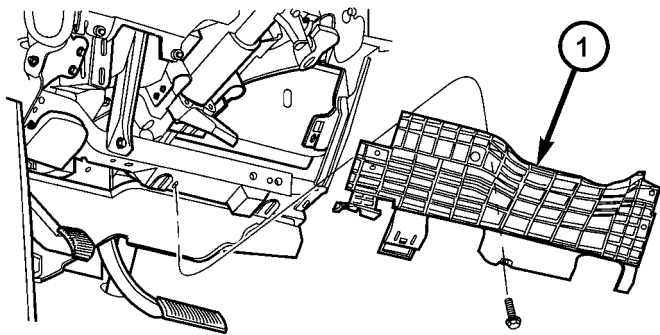
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Fig. 29 Instrument Panel Lower Silencer—LHD Shown

- 1 - INSTRUMENT PANEL LOWER SILENCER

CLUTCH PEDAL UPSTOP SWITCH (Continued)

(3) Remove knee bolster (Fig. 30).

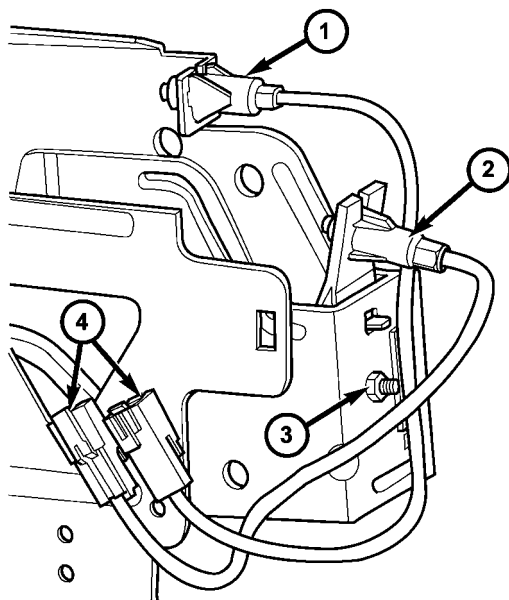


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Fig. 30 Knee Bolster—LHD Shown

1 - KNEE BOLSTER

(4) Remove upstop switch by depressing four (4) plastic wing tabs, and sliding switch through mounting bracket. If necessary, remove mounting bracket and remove switch (Fig. 31).



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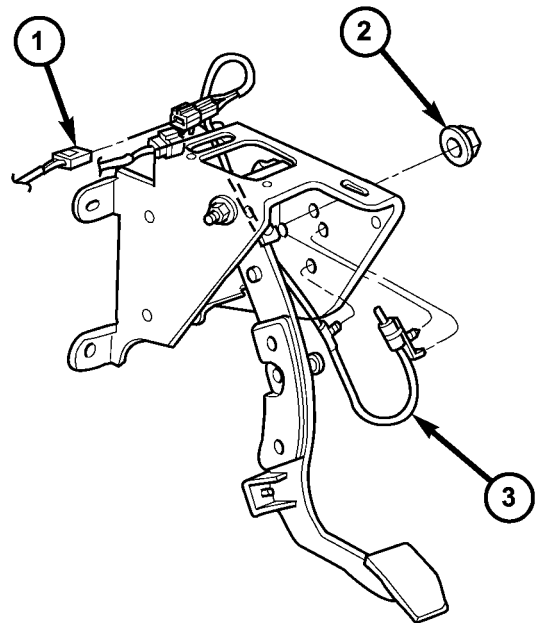
Fig. 31 Interlock/Upstop Switch Location

1 - INTERLOCK SWITCH
2 - UPSTOP SWITCH
3 - RETAINER - UPSTOP BRACKET
4 - CONNECTORS

RHD

(1) Disconnect battery negative cable.
(2) Remove instrument panel lower silencer (Fig. 29).

(3) Remove knee bolster (Fig. 30).
(4) Disconnect upstop switch connector (Fig. 32).
(5) Remove upstop switch/bracket-to-clutch pedal bracket nut. Remove switch (Fig. 32).



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Fig. 32 Clutch Pedal Upstop Switch—RHD

1 - CONNECTOR
2 - NUT
3 - UPSTOP SWITCH/BACKET

INSTALLATION

LHD

(1) Install upstop switch into bracket (Fig. 31). Ensure switch wing tabs are fully expanded. If removed, re-install bracket and torque to 13 N·m (115 in. lbs.).
(2) Connect upstop switch connector.
(3) Install knee bolster (Fig. 30).
(4) Install instrument panel lower silencer (Fig. 29).
(5) Connect battery negative cable.

RHD

(1) Install switch and bracket assembly. Torque nut to 12 N·m (110 in. lbs.) (Fig. 32).
(2) Connect upstop switch assembly (Fig. 32).
(3) Install knee bolster (Fig. 30).
(4) Install instrument panel lower silencer (Fig. 29).
(5) Connect battery negative cable.