

# CLUTCH

## 1994 Mitsubishi 3000GT

1994 Clutch

Dodge Stealth, Mitsubishi 3000GT

### DESCRIPTION

All clutches are single disc type. Pressure plate assembly uses a diaphragm spring to engage pressure plate to clutch disc and flywheel. Most models use a hydraulic clutch system. Some 4-speed models use a cable clutch system.

### ADJUSTMENTS & INSPECTION

#### CLUTCH BOOSTER

Booster Operation Inspection

- 1) Start engine and idle for 2 minutes. Turn engine off. Depress clutch pedal several times. If depressed pedal height gradually rises with successive pedal strokes, go to step 3).
- 2) If clutch pedal depressed height remains the same on each stroke, inspect booster check valve and vacuum hose. If check valve and vacuum hose are okay, replace booster.
- 3) Depress clutch pedal repeatedly until depressed height no longer changes. Depress and hold clutch pedal. Start engine. If pedal moves down slightly, go to next step. If pedal does not move when engine is started, inspect booster check valve and vacuum hose. If check valve and vacuum hose are okay, replace booster.
- 4) With engine running, depress and hold clutch pedal. Turn engine off. If pedal height does not change, booster is okay. If pedal height rises, inspect booster check valve and vacuum hose. If check valve and vacuum hose are okay, replace booster.

NOTE: Check valve is press fit into vacuum hose. DO NOT remove check valve from vacuum hose. If check valve is faulty, replace check valve and vacuum hose as an assembly.

Check Valve & Vacuum Hose Inspection

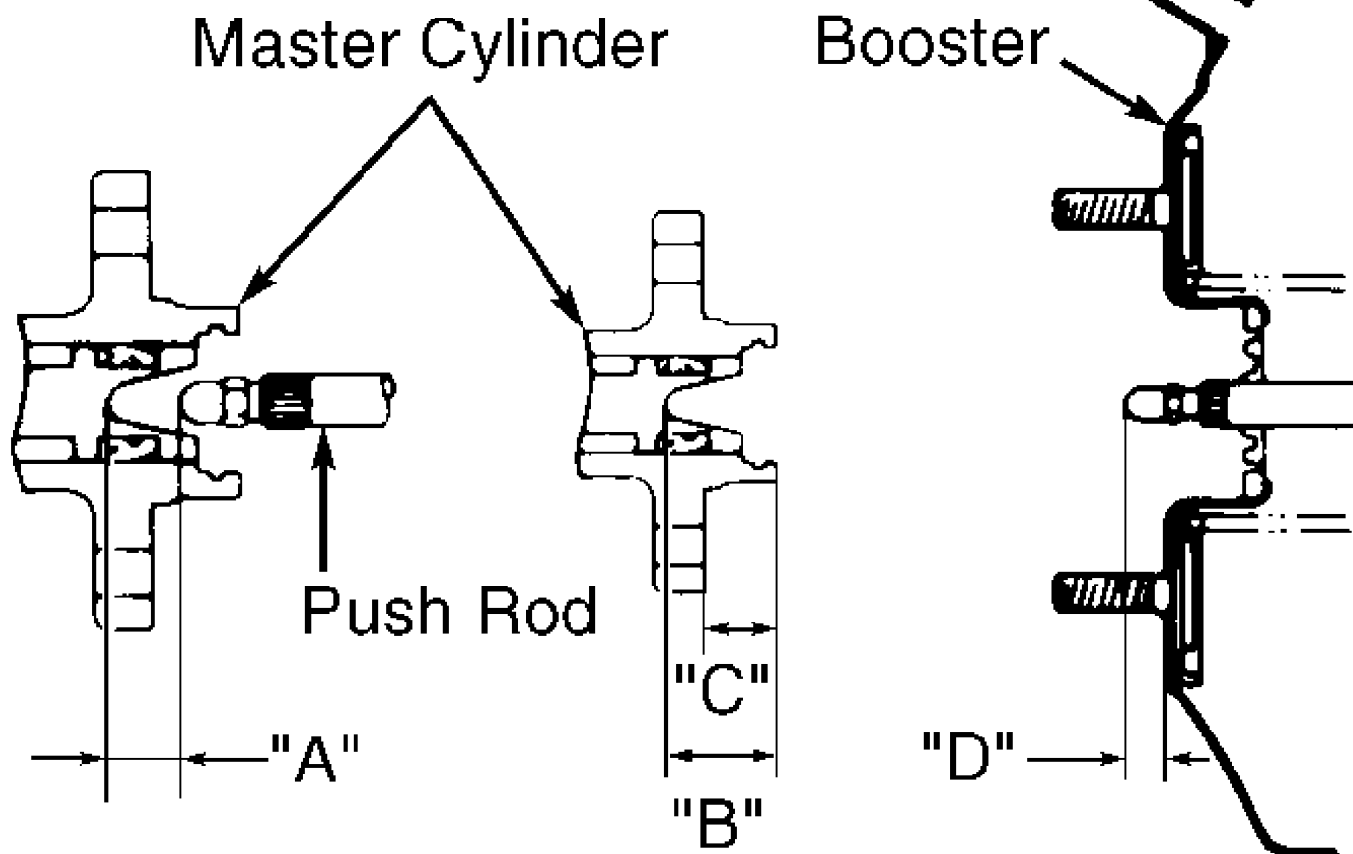
Remove booster vacuum hose from manifold and air line. Ensure air flows in manifold direction only. Ensure vacuum hose has no cracks or splits. Replace if necessary.

#### CLUTCH BOOSTER PUSH ROD

Push Rod Clearance Adjustment (AWD)

Check and adjust clearance between back of clutch master cylinder and clutch booster push rod. See Fig. 1. Dimension "A" should be .0083-.0181" (.210-.460 mm). Rotate push rod to adjust clearance. After adjusting push rod clearance, adjust pedal height and bleed hydraulic system.

# Push Rod Clearance "A"

$$\text{"A"} = \text{"B"} - \text{"C"} - \text{"D"}$$


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Fig. 1: Adjusting Clutch Booster Push Rod Clearance (AWD)  
Courtesy of Mitsubishi Motor Sales of America.

## CLUTCH PEDAL HEIGHT & FREE PLAY

NOTE: Clutch pedal height is not adjustable on cable-operated clutch system.

### Pedal Adjustment (Cable Clutch)

1) Measure clutch pedal height. See CLUTCH PEDAL SPECIFICATIONS table. If clutch pedal height is not within specification, check pedal bracket for damage or deformation. Repair or replace as necessary.

2) Depress clutch pedal and check depressed height when clutch is disengaged. See CLUTCH PEDAL SPECIFICATIONS table. If depressed height is not as specified, repair clutch assembly as necessary.

3) Check clutch pedal free play. See CLUTCH PEDAL SPECIFICATIONS table. Rotate outer cable adjusting nut at floor board to adjust clutch pedal free play.

CLUTCH PEDAL SPECIFICATIONS TABLE

Application	In. (mm)
Free Play .....	.24-.51 (6-13)
Pedal Height	
Pedal Depressed (1) .....	2.2 (56)
Pedal Released .....	7.0-7.2 (178-183)

(1) - Specification given is minimum distance.

#### Pedal Adjustment (Hydraulic Clutch)

1) Loosen adjusting bolt or clutch pedal switch lock nut located at upper end of clutch pedal. Rotate adjusting bolt or switch until correct pedal released height is obtained. See CLUTCH PEDAL SPECIFICATIONS table.

2) Depress clutch pedal and check depressed height when clutch is disengaged. See CLUTCH PEDAL SPECIFICATIONS table. If measurement is not as specified, readjust clutch pedal.

3) Check clutch pedal free play. See CLUTCH PEDAL SPECIFICATIONS table. If clutch pedal free play and pedal height are okay and system fails to operate, defective system components exist.

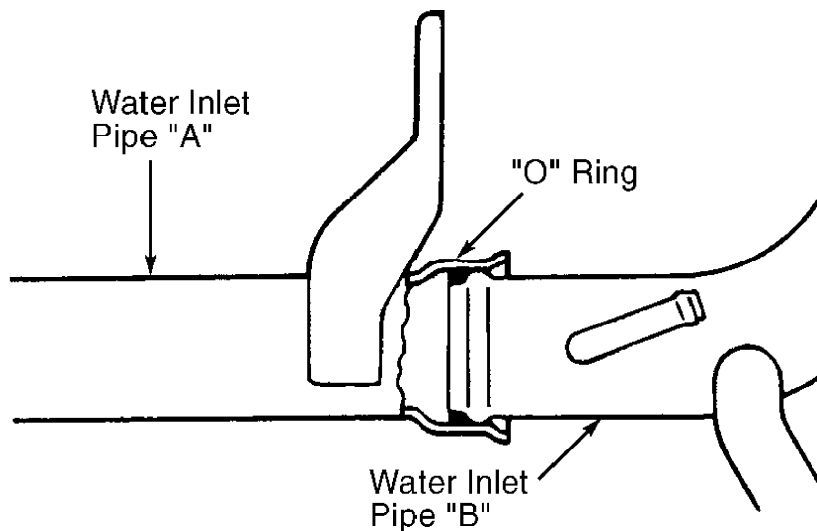
## REMOVAL & INSTALLATION

### CLUTCH ASSEMBLY

#### Removal

1) Remove both inner fender splash shields. On AWD models, remove air cleaner cover, air hoses and vacuum pipe. On all models, remove air cleaner, intake hose, battery, battery tray and washer tank.

2) On Stealth SOHC, disconnect lower radiator hose and water inlet pipe "B". See Fig. 2. On all models, disconnect transaxle control cables and speedometer cable.



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Fig. 2: Identifying Water Inlet Pipes (Stealth SOHC)  
Courtesy of Mitsubishi Motor Sales of America.

3) Remove clutch tube bracket and disconnect clutch release cylinder (including clutch damper assembly on FWD models) and wire

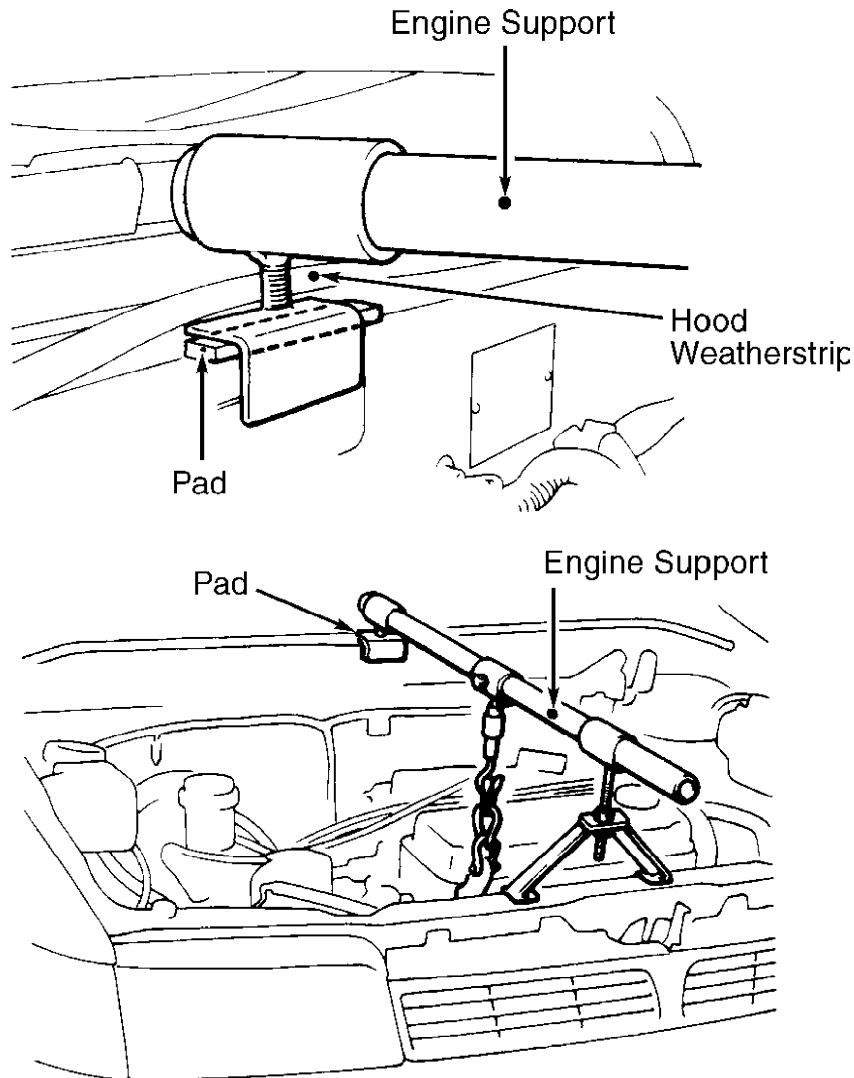
aside. Support transaxle assembly with jack and disconnect transaxle mount. Remove mount, bracket, plug and stoppers.

4) Remove transaxle assembly upper coupling bolts. Disconnect tie rod ends and lower arm ball joints. Remove right support member, starter cover (if equipped) and starter.

5) Remove left side bearing bracket mounting bolts and pry left axle shaft from transaxle. Wire left axle shaft and inner shaft assembly aside. Pry right axle shaft from transaxle and wire aside.

6) Remove front bank side and rear bank side transaxle stays. Support transaxle assembly with a transmission jack. Remove transaxle assembly lower coupling bolts and lower transaxle from vehicle.

7) Insert a clutch pilot to prevent pressure plate and clutch disc from falling. Loosen pressure plate bolts diagonally to avoid warping pressure plate flange. Remove pressure plate and clutch disc. See Fig. 4.



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Fig. 3: Supporting Engine For Clutch Removal  
Courtesy of Mitsubishi Motor Sales of America.

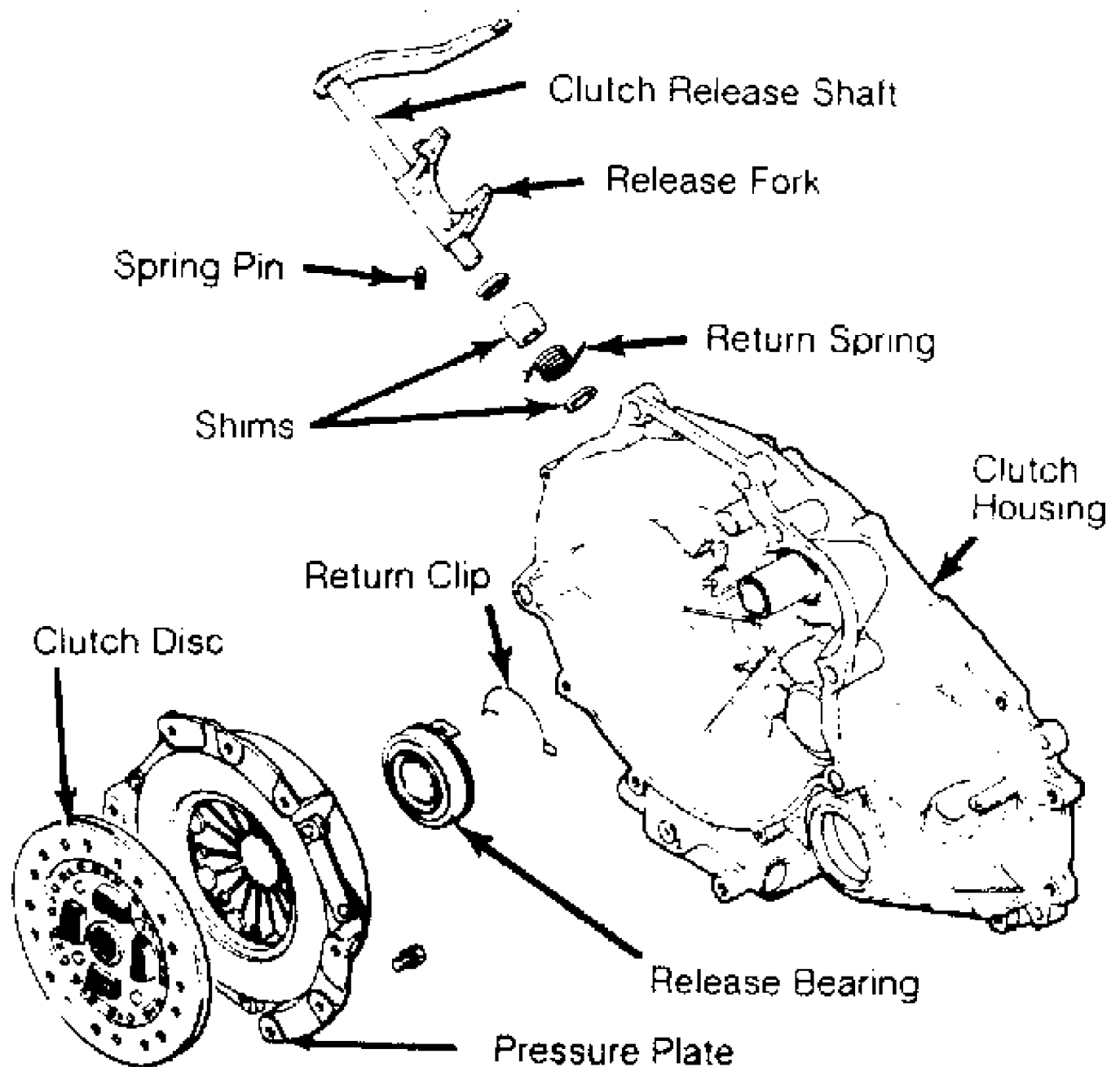


Fig. 4: Exploded View Of Clutch Assembly (Typical)  
 Courtesy of Mitsubishi Motor Sales of America.

#### Inspection

1) Check release bearing and release fork for damage or wear. DO NOT clean bearing assembly in solvent. Inspect hydraulic system components for fluid leakage. Inspect cylinder dust boot for cracks or deterioration.

2) Inspect pressure plate surface for wear, cracks, and/or discoloration. Check clutch disc rivets and replace assembly if loose. Measure diaphragm spring ends for wear and uneven height. Replace assembly if height difference between fingers exceeds .02" (.5 mm).

3) Check facing of clutch disc for loose rivets, uneven

contact, deterioration, seizure or oil saturation. Measure distance from clutch disc surface to head of rivet. Replace clutch disc if distance is less than .012" (.30 mm). Replace worn or defective components as necessary.

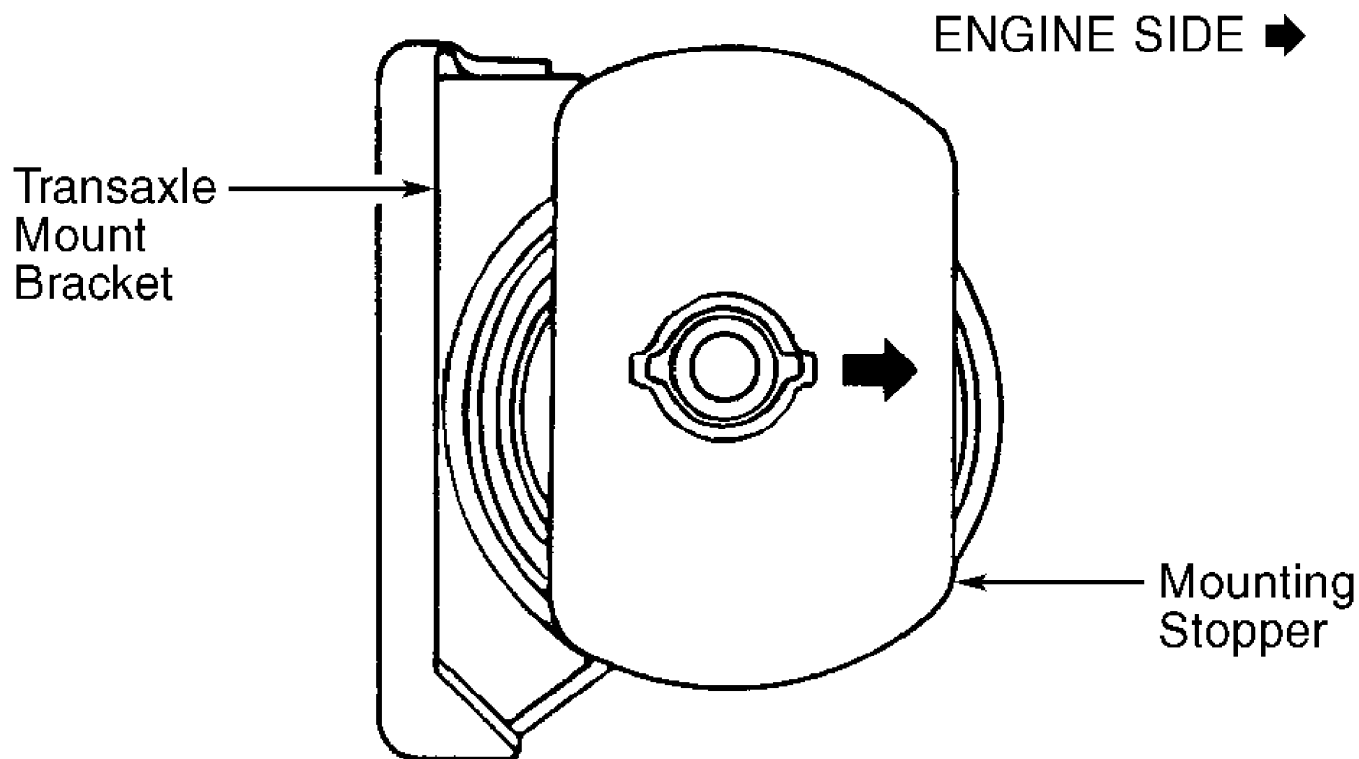
**CAUTION:** Install clutch disc with manufacturer's stamp mark (located near hub of clutch disc) toward pressure plate.

#### Installation

1) Using clutch pilot, install pressure plate and clutch disc. Tighten bolts evenly in a crisscross pattern to specification. See TORQUE SPECIFICATIONS table at the end of this article.

2) Clean release bearing sliding surface. Apply multipurpose grease to release bearing sliding surface. Apply a light amount of grease to input shaft splines. DO NOT allow grease or dirt on clutch disc or pressure plate surfaces.

3) To install remaining components, reverse removal procedure. Install mounting stoppers as shown in Fig. 5.



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Fig. 5: Installing Transaxle Assembly Mounting Stopper  
Courtesy of Mitsubishi Motor Sales of America.

4) When reconnecting water inlet pipe on Stealth SOHC, apply water to outer circumference of "O" ring and connect pipe "B" to pipe "A". See Fig. 2. DO NOT allow engine oil to contaminate "O" ring.

5) Reverse removal procedure for remaining components. Refill all fluids to proper levels. Adjust all control cables, clutch pedal height and free play. See CLUTCH PEDAL HEIGHT & FREE PLAY under ADJUSTMENTS & INSPECTION.

#### CLUTCH BOOSTER

**CAUTION:** Wait at least 60 seconds after disconnecting negative

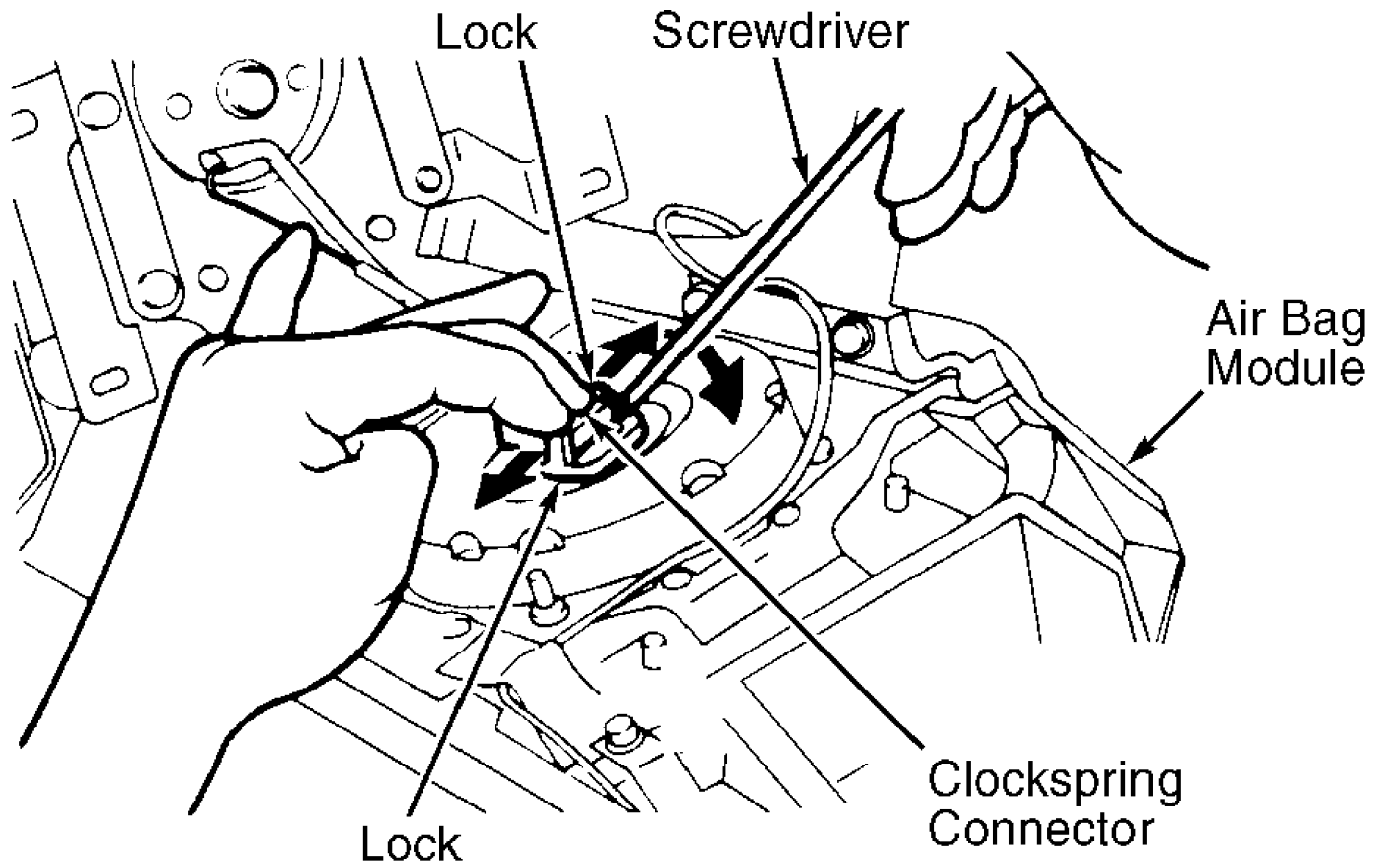
battery cable before removing air bag module mounting nuts. Supplemental Restraint System (SRS) retains enough voltage for a short period after power disruption to deploy air bag.

#### Removal (AWD)

1) After setting steering wheel and front wheels to straight-ahead position, remove ignition key. Disconnect negative battery cable. Wait at least 60 seconds and then remove air bag module mounting nut from back of steering wheel. Pull air bag module forward.

CAUTION: When disconnecting air bag module-clock spring connector, take care not to apply excessive force.

2) When disconnecting clock spring connector from air bag module, press air bag's lock toward outer side to spread it open. Using a screwdriver, pry gently to remove connector. See Fig. 6. Remove air bag module. Store air bag module, with pad cover face up, in a clean, dry place.



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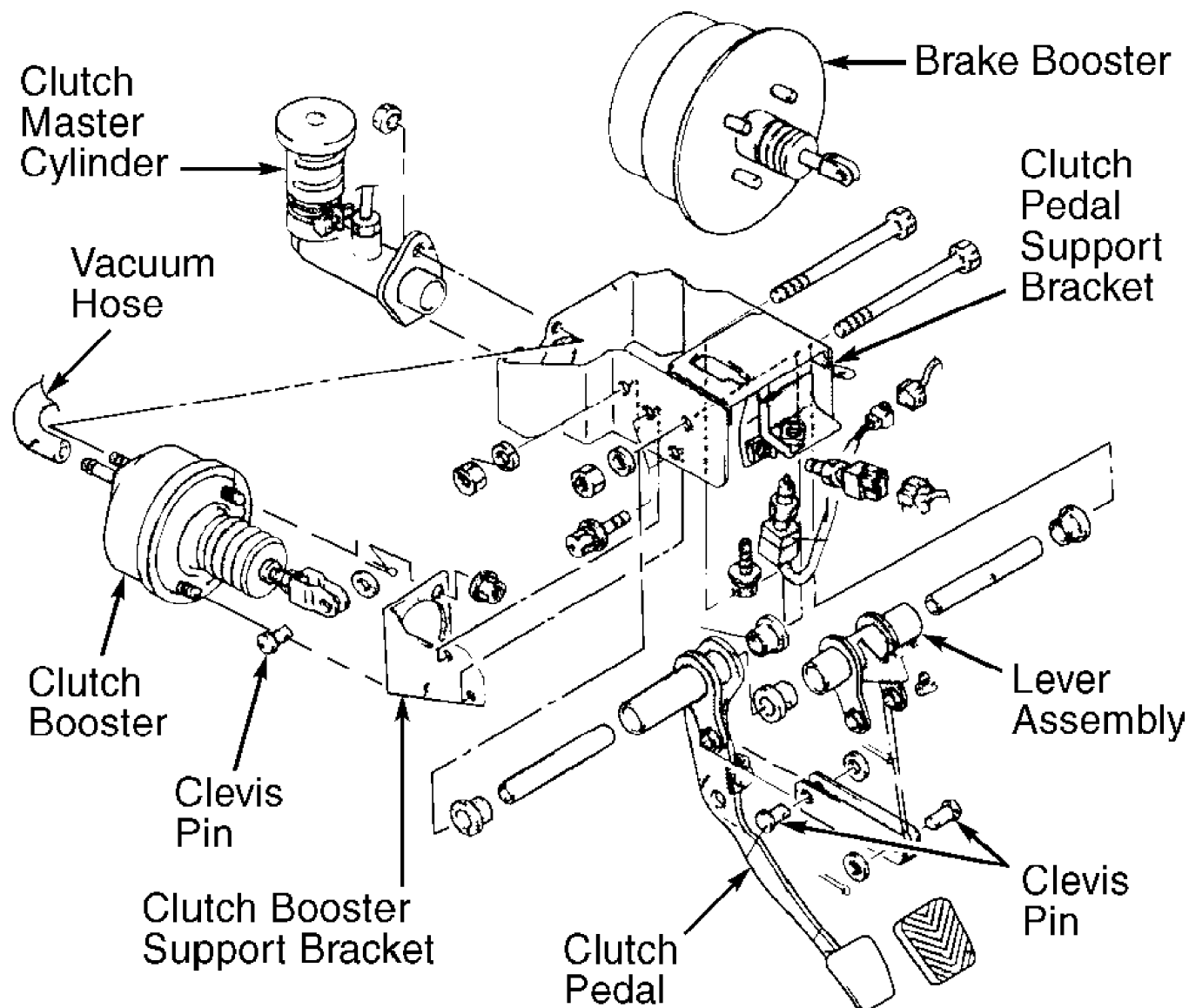
Fig. 6: Disconnecting Clockspring Connector (Stealth & 3000GT)  
Courtesy of Mitsubishi Motor Sales of America.

3) Using puller, remove steering wheel. DO NOT hammer on steering wheel to remove it. Remove column covers and knee protector. Remove lap cooler duct and foot shower duct.

4) Remove column switch assembly, key interlock cable and slide lever. Remove steering column assembly. Remove brake master cylinder and brake booster.

5) Disconnect clutch master cylinder from clutch pedal

support bracket. See Fig. 7. Remove all clevis pins and yoke. Remove clutch pedal shaft and clutch pedal. Remove bushing, spacer and lever assembly. Remove clutch booster support bracket and clutch booster.



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Fig. 7: Exploded View Of Clutch Pedal & Booster (AWD)  
Courtesy of Mitsubishi Motor Sales of America.

#### Installation (AWD)

1) To install, reverse removal procedure. Before installing clutch booster, adjust clutch booster push rod. See CLUTCH BOOSTER PUSH ROD under ADJUSTMENTS & INSPECTION.

2) Before installing brake booster, adjust brake booster push rod in similar fashion as clutch booster push rod. See Fig. 1. Dimension "A" for brake booster push rod is .026-.033" (.66-.84 mm). Bleed brake system.

3) Reverse removal procedure for remaining components. Before installing steering wheel, line up NEUTRAL mark on clockspring with mating mark on outer housing. Reconnect negative battery cable after



installation is complete. Adjust clutch pedal height and free play. See CLUTCH PEDAL HEIGHT & FREE PLAY under ADJUSTMENTS & INSPECTION.

4) Turn ignition on from passenger's seat. SRS warning light in instrument cluster should illuminate for approximately 7 seconds and then go out. If SRS warning light fails to come on, remains on, or flashes, a problem exists in SRS. SRS should be serviced as soon as possible.

## CLUTCH MASTER CYLINDER

### Removal & Installation

1) Drain master cylinder. Disconnect external reservoir (if equipped). Remove cotter pin, washer and clevis pin. Disconnect push rod from clutch pedal. Remove hydraulic line at clutch master cylinder and plug.

2) Remove retaining nuts and clutch master cylinder. To install, reverse removal procedure. Apply grease to clevis pin before installation. Bleed clutch system.

## CLUTCH RELEASE CYLINDER

### Removal & Installation

1) Remove and plug hydraulic line at release cylinder. Remove clip and clevis pin attaching push rod to clutch release arm (if equipped). Remove cylinder-to-transaxle bolts and remove clutch release cylinder.

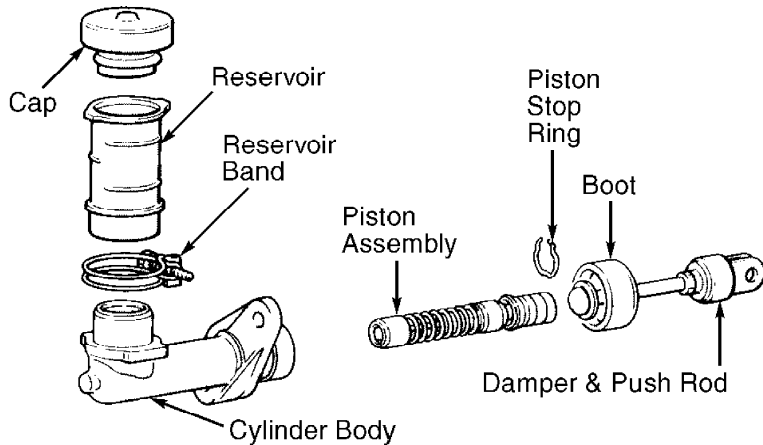
2) To install, reverse removal procedure. Apply grease to clevis pin or push rod-to-release shaft contact area. Bleed clutch system.

## OVERHAUL

### CLUTCH MASTER CYLINDER

#### Disassembly

Remove piston stop ring, damper and push rod assembly. Remove piston assembly. Note position of reservoir band for reassembly reference and remove reservoir. See Fig. 8.



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Fig. 8: Exploded View Of Clutch Master Cylinder (Typical)  
Courtesy of Mitsubishi Motor Sales of America.

#### Inspection & Reassembly

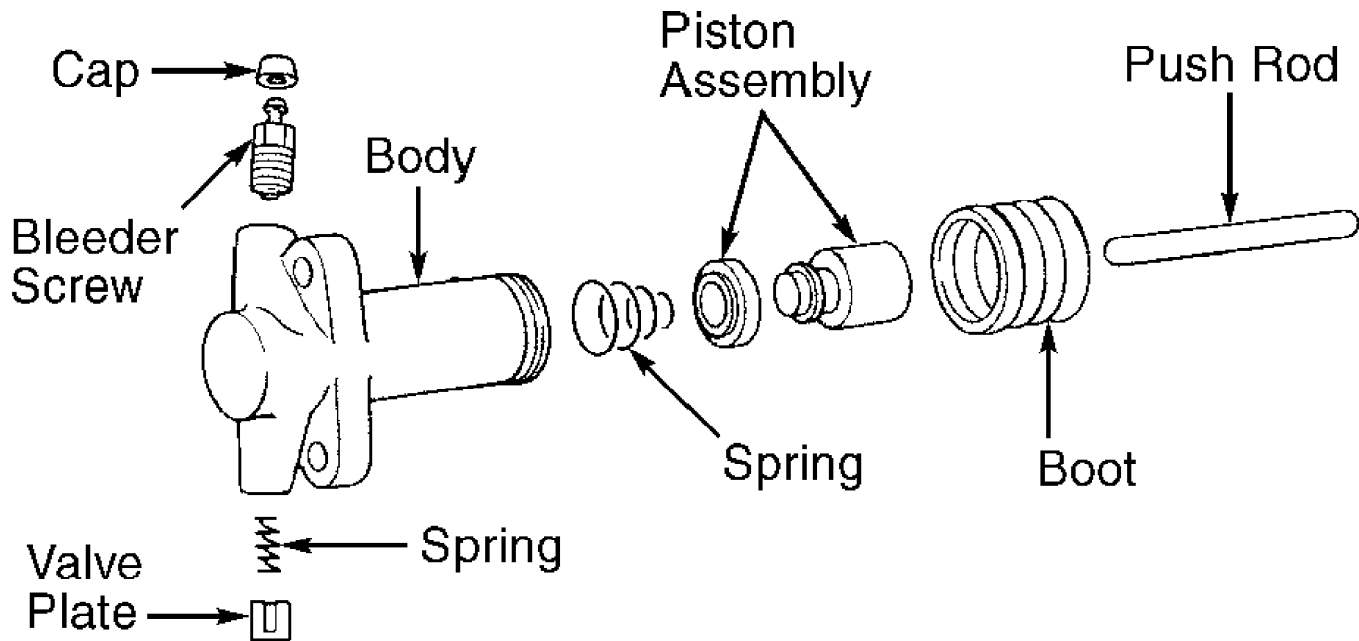
Inspect components for rust, scoring or damage. Replace

damaged component(s). Apply DOT 3 brake fluid to components during reassembly. To reassemble, reverse disassembly procedure. Ensure piston moves freely in bore.

## CLUTCH RELEASE CYLINDER

### Disassembly

Remove valve plate and spring. See Fig. 9. Remove push rod and boot. Cover piston assembly opening with a rag. Slowly apply air pressure to hydraulic line opening to force piston from body.



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Fig. 9: Exploded View Of Clutch Release Cylinder (Typical)  
 Courtesy of Mitsubishi Motor Sales of America.

### Inspection & Reassembly

Inspect components for rust, scoring or damage. Replace damaged component(s). Apply DOT 3 brake fluid to components during reassembly. To reassemble, reverse disassembly procedure. Ensure piston moves freely in bore.

## TORQUE SPECIFICATIONS

### TORQUE SPECIFICATIONS TABLE

Application	Ft. Lbs. (N.m)
Clutch Booster Mounting Nuts AWD	(1)
Engine Mount-To-Transaxle	
Upper Mounting Bolt	54 (73)
Lower Mounting Bolt	65 (88)
Flywheel-To-Crankshaft Bolt	55 (75)
Fulcrum Bolt	25-30 (34-41)
Pressure Plate-To-Flywheel Bolt	11-15 (15-20)
Transfer Case-To-Transaxle Bolt	64 (87)
Wheel Lug Nut	89-103 (120-140)

(1) - Tighten to 84-108 INCH lbs. (9.5-12.2 N.m) .

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