

CLUTCH

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CLUTCH

CONTENTS

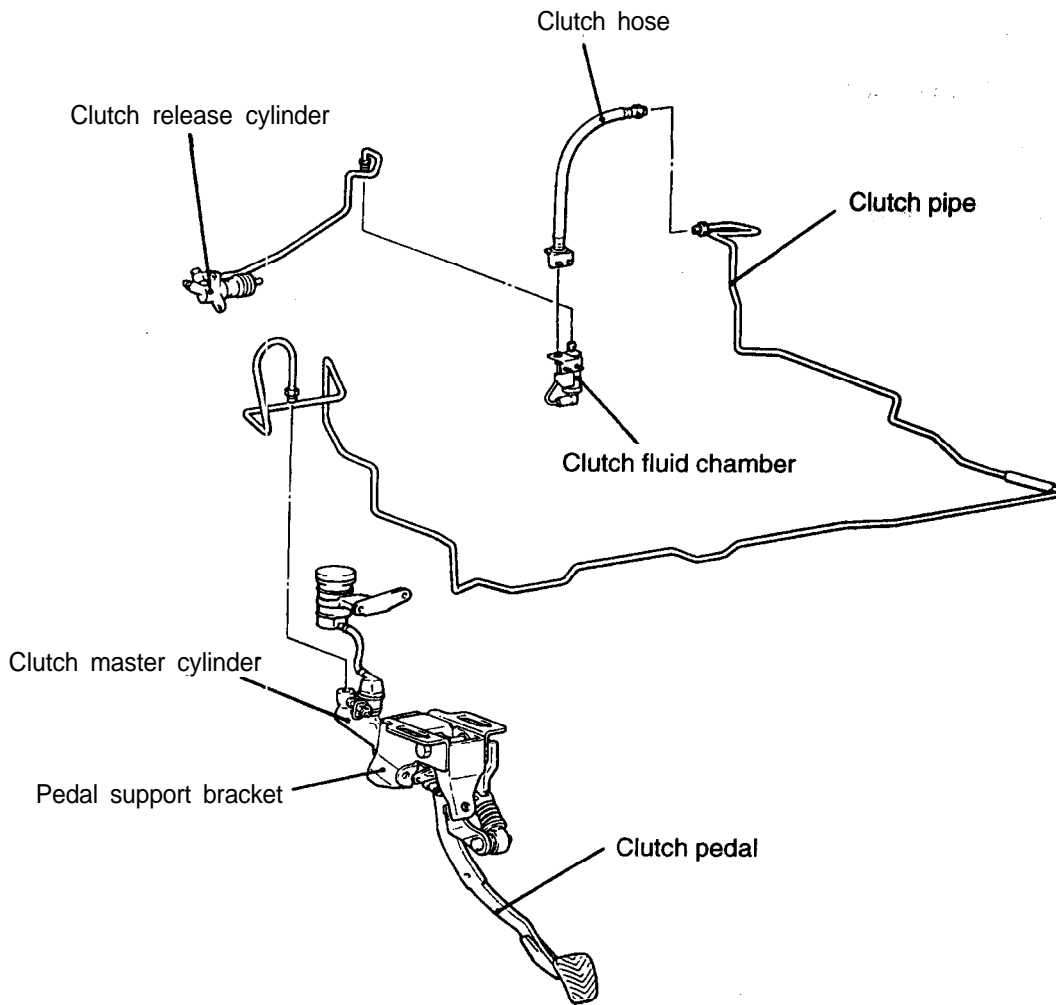
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GENERAL INFORMATION

21100010062

The clutch is a dry single-disc, diaphragm type; hydraulic pressure is used for the clutch control.

Items	2.0L Engine (Non-turbo)	2.0L Engine (Turbo)	2.4L Engine
Clutch operating method	Hydraulic type	Hydraulic type	Hydraulic type
Clutch disc type	Single dry disc type	Single dry disc type	Single dry disc type
Clutch disc facing diameter O.D. x I.D. mm (in.)	228 x 150 (9.0 x 5.9)	225 x 150 (8.9 x 5.9)	225 x 150 (8.9 x 5.9)
Clutch cover type	Diaphragm spring strap drive type	Diaphragm spring strap drive type	Diaphragm spring strap drive type
Clutch cover setting load N (lbs.)	4,400 (989)	6,174 (1,388)	4,600 (1,014)
Clutch release cylinder I.D. mm (in.)	22.23 (7/8)	20.64 (13/16)	20.64 (13/16)



B08X0037

NOTE
This figure shows 2.0L Engine (Turbo).

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SERVICE SPECIFICATIONS

21100030068

Items	Standard value
Clutch pedal height mm (in.)	175–180 (7.0–7.1)
Clutch pedal clevis pin play mm (in.)	1–3 (.04–.12)
Clutch pedal free play mm (in.)	6-13 (.24–.51)
Distance between the clutch pedal and the firewall when the clutch is disengaged mm (in.)	70 (2.76) or more

LUBRICANTS

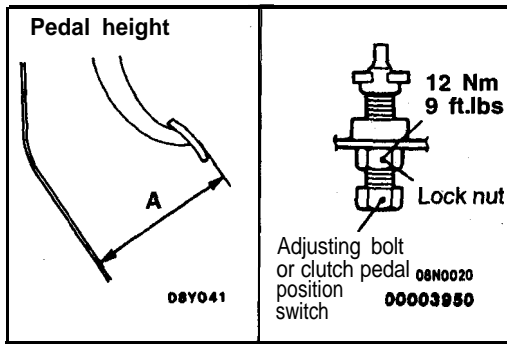
21100040054

Items	Specified lubricants	Quantity
Clutch fluid	Brake Fluid DOT 3 or DOT 4	As required
Push rod assembly	Rubber grease	As required
Boot		
Release cylinder push rod	MITSUBISHI genuine grease Part No. 0101011 or equivalent	As required
Clutch pedal shaft, bushings and end of the pedal	Brake grease SAE J310, NLGI No. 1	As required
Clutch master cylinder push rod, clevis pin and washer		
Clutch release cylinder clevis pin		

TROUBLESHOOTING

21199979939

Symptom	Probable cause	Remedy
Clutch slips	Insufficient clutch pedal play	Adjust
	Excessive wear of clutch disc facing	Replace
	Hardening of clutch disc facing, or adhesion of oil	Replace
	Clutch release fork catching	Repair or replace parts
	Weak or damaged diaphragm spring	Replace
	Clogging of hydraulic system	Repair or replace parts
Gear shift malfunction	Excessive clutch pedal play	Adjust
	Distorted clutch disc, excessive oscillation	Replace
	Clutch cover assembly worn	Replace
	Clutch disc spline worn or corroded	Replace
	Clutch disc facing peeling	Replace
	Clutch release bearing worn	Replace
	Damaged pressure plate or flywheel	Replace
	Leakage, air mix or clogging of hydraulic system	Repair or replace parts
Clutch noise	Insufficient clutch pedal play	Adjust
	Improper installation of clutch cover assembly	Repair or replace parts
	Excessive wear of clutch disc facing	Replace
	Clutch release fork catching	Repair or replace parts
	Clutch release bearing worn	Replace
	Weak or damaged torsion spring	Replace
	Damaged pilot bushing	Replace
	Insufficient lubrication of bearing sleeve sliding surface	Repair
Clutch pedal feels insufficient "heavy"	Insufficient lubrication of clutch pedal	Repair
	Insufficient lubrication of clutch disc spline	Repair
	Clutch release fork catching	Repair or replace parts
	Insufficient lubrication of bearing sleeve sliding surface	Repair
Worn or damaged Clutch disc facing	Worn or damaged clutch disc facing	Replace
	Oil adhered to clutch disc facing	Replace
	Uneven height of diaphragm spring	Repair or replace parts
	Weak or damaged torsion spring	Replace
	Damaged pressure plate or flywheel	Replace
	Loose or damaged mounting	Replace or tighten mounting



ON-VEHICLE SERVICE

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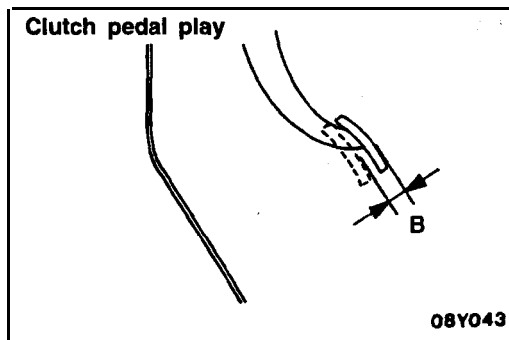
CLUTCH PEDAL CHECK AND ADJUSTMENT

1. Turn up the carpet, etc. under the clutch pedal.
2. Measure the clutch pedal height as shown in the figure.

Clutch pedal height

Standard value (A): 175–180 mm (7.0–7.1 in.)

3. If the pedal height is not within the standard value, loosen the lock nut and adjust the pedal height to the standard value using the adjusting bolt (vehicles without auto-cruise control), or using the clutch pedal position switch or push rod (vehicles with auto-cruise control).



4. Measure the clutch pedal play.

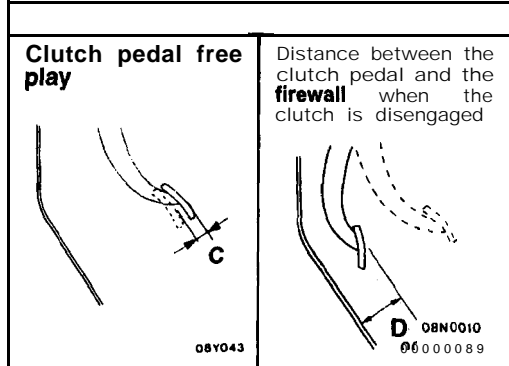
Clutch pedal play (play at the clevis pin)

Standard value (B): 1–3 mm (.04–.12 in.)

5. If the clutch pedal play is outside the standard value, adjust with the push rod.

Caution

Do not push in the master cylinder push rod at this time.



6. After completing the adjustments, confirm that the clutch pedal free play (measured at the face of the pedal pad) and the distance between the clutch pedal (the face of the pedal pad) and the firewall when the clutch is disengaged are within the standard value ranges...

Clutch pedal free play (including the clevis pin play)

Standard value (C): 6-13 mm (.24–.51 in.)

Distance between the clutch pedal and the firewall when the clutch is disengaged

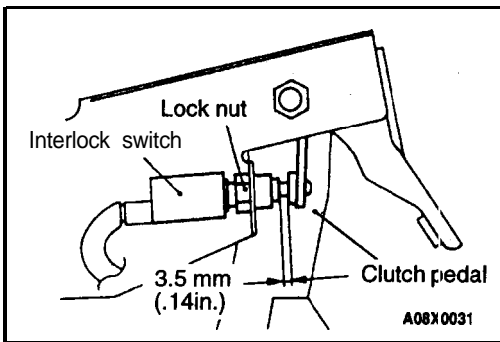
Standard value (D): 70 mm (2.76 in.) or more

7. If the clutch pedal free play and the distance between the clutch pedal and the firewall when the clutch is disengaged do not agree with the standard values, it is probably the result of either air in the hydraulic system or a faulty master cylinder or clutch. Bleed the air, or disassemble and inspect the master cylinder or clutch.
8. Turn back the carpet, etc.

INTERLOCK SWITCH OPERATING CHECK

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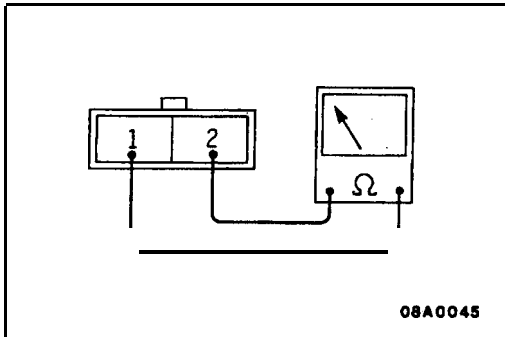
1. Lock the front wheels, apply the parking brake and put the shift lever in the 5th gear.
2. After normally adjusting the clutch pedal, check the interlock switch operation as follows:
 - (1) The engine should not start even if the ignition switch is turned to “START” position with the clutch pedal not depressed. If the engine should start, check the interlock switch **and the** harness.
 - (2) The engine should start after the clutch has been disconnected while the clutch pedal is depressed with the ignition switch turned to “START” position. If the engine should start before the clutch pedal is disconnected or the engine does not start even if the clutch pedal is depressed, adjust the interlock switch.



INTERLOCK SWITCH CHECK AND ADJUSTMENT

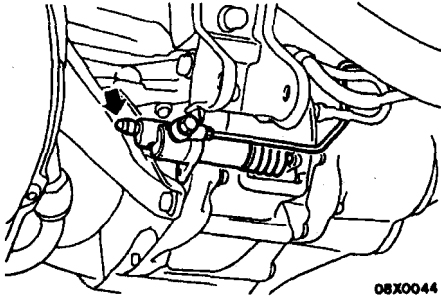
21100110045

1. Check to be sure that the interlock switch is as shown in the illustration when the clutch pedal is depressed at its full stroke [150 mm (5.9in.)]. If necessary, loosen the lock nut and adjust.
2. Connect an ohmmeter to the interlock switch connector, and then check for continuity when the clutch pedal -is fully depressed and when it is released outward.



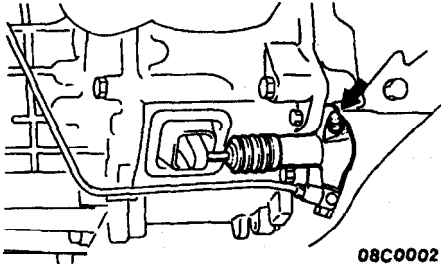
Pedal position	Terminal No.	
	1	2
fully depressed		
released	0	0

<2.0L Engine (Non-turbo)>



08X0044

<2.0L Engine (Turbo) and 2.4L Engine>



08C0002
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BLEEDING

21100140068

Whenever the clutch tube, the clutch hose, and/or the clutch master cylinder have been removed, or if the clutch pedal is spongy, bleed the system.

Specified brake fluid: DOT 3 or DOT 4

Caution

Use only the specified brake fluid. Do not mix with other fluid.

CLUTCH PEDAL

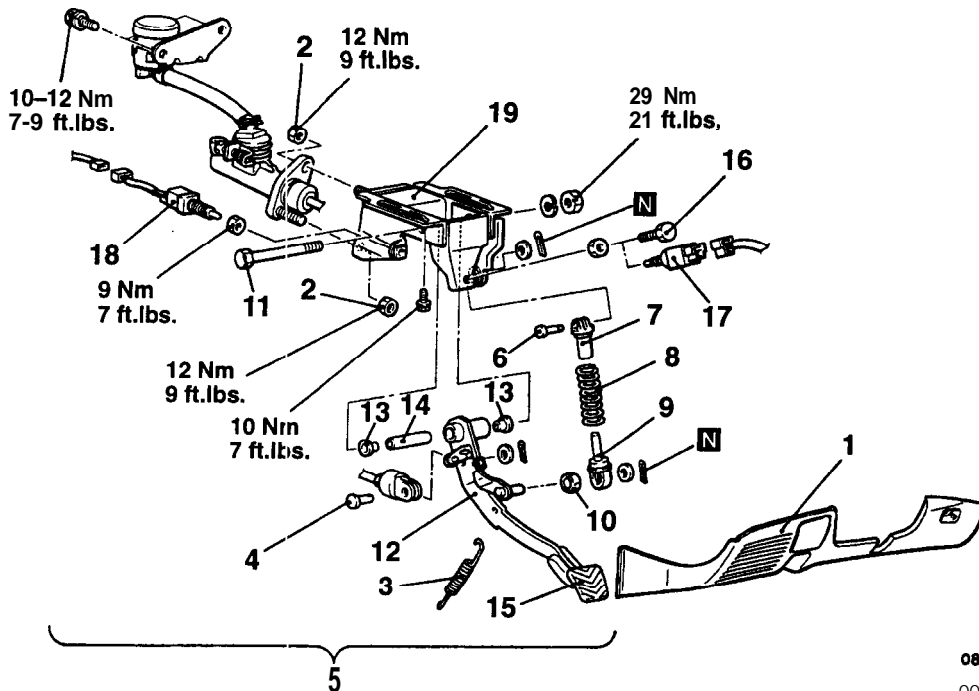
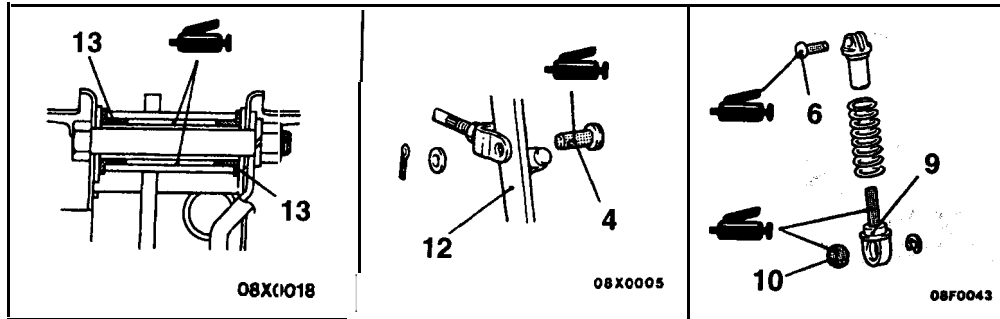
REMOVAL AND INSTALLATION

Pre-removal Operation

- Scuff Plate Removal (Refer to GROUP 52A – Trims.)
- Cowl Side Trim Removal (Refer to GROUP 52A – Trims.)
- Junction Block Installation Bolt: Removal

Post-installation Operation

- Clutch Pedal Adjustment (Refer to P.21A-5.)
- Junction Block Installation
- Cowl Side Trim Installation (Refer to GROUP 52A – Trims.)
- Scuff Plate Installation (Refer to GROUP 52A – Trims.)



08X0042

00003519

Removal steps

1. Instrument under cover (Refer to GROUP 52A – Instrument Panel.)
2. Master cylinder installation nuts
3. Clutch pedal return spring <2.0L Engine (Non-turbo) and 2.4L Engine>
4. Clevis pin
5. Clutch pedal assembly
6. Clevis pin <2.0L Engine (Turbo)>
7. Rod A <2.0L Engine (Turbo)>
8. Turnover spring <2.0L Engine (Turbo)>
9. Rod B <2.0L Engine (Turbo)>
10. Bushing <2.0L Engine (Turbo)>
11. Bolt
12. Clutch pedal
13. Bushing
14. Spacer
15. Pedal pad
16. Adjusting bolt <Vehicles without clutch pedal position switch>
17. Clutch pedal position switch <Vehicles with clutch pedal position switch>
18. Interlock switch
19. Clutch pedal bracket assembly

TSB Revision

INSPECTION

21100170067

- Check the pedal shaft and **bushing** for wear.
- Check the clutch **pedal** for **bending or twisting**.
- Check the return spring for **damage or deterioration**.
- Check the turnover spring for **damage or deterioration**.
- Check the pedal pad for damage or wear.

CLUTCH CONTROL

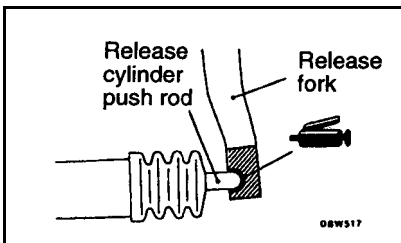
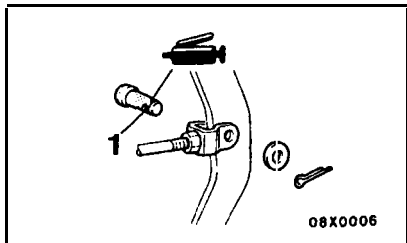
REMOVAL AND INSTALLATION

Pre-removal Operation

- Clutch Fluid Draining

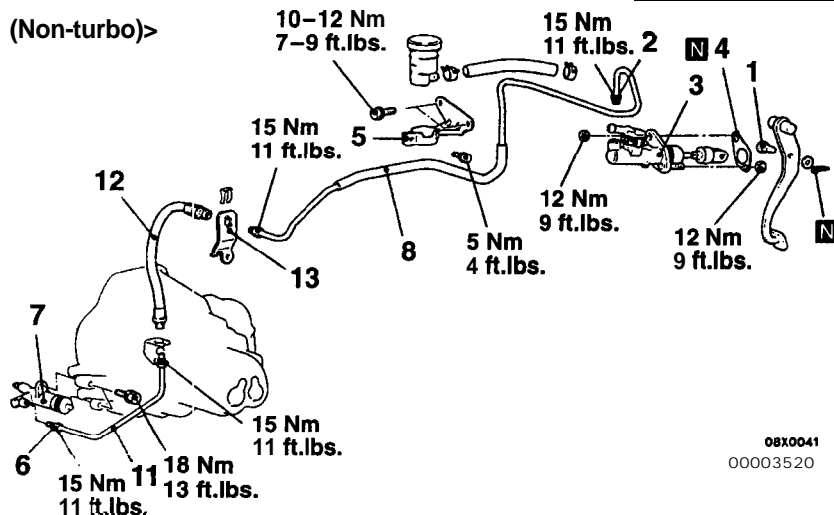
Post-installation Operation

- Clutch Fluid Supplying
- Clutch Line Bleeding (Refer to P.21A-7.)
- Clutch Pedal Adjustment (Refer to P.21A-5.)



Specified grease:
MITSUBISHI genuine grease
 Part No. 0101011 or equivalent

<2.0L Engine (Non-turbo)>



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Clutch master cylinder removal steps

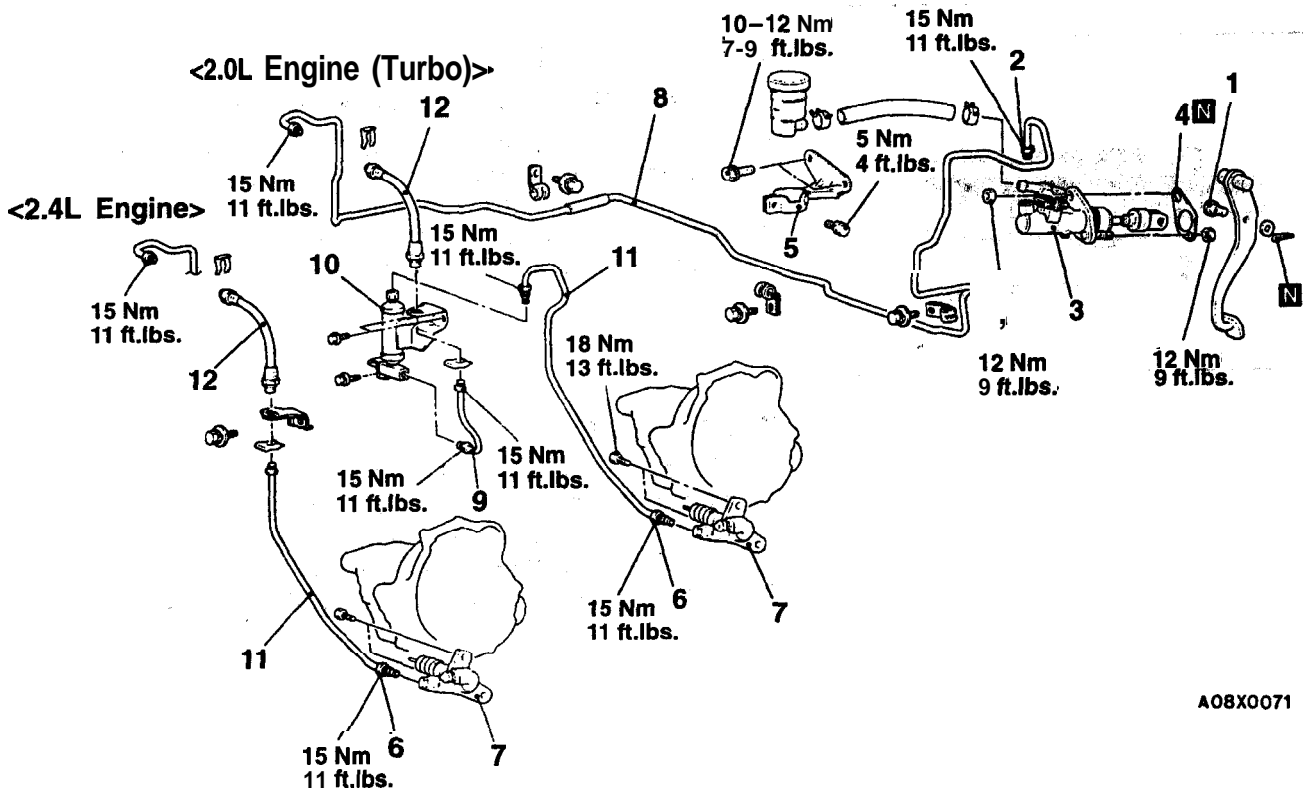
1. Clevis pin
2. Clutch pipe connection
3. Clutch master cylinder
4. Sealer
5. Reservoir bracket

Clutch release cylinder removal steps

6. Clutch pipe connection
7. Clutch release cylinder

Clutch line removal steps

8. Clutch pipe
11. Clutch pipe
12. Clutch hose
13. Clutch hose bracket



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Clutch master cylinder removal steps

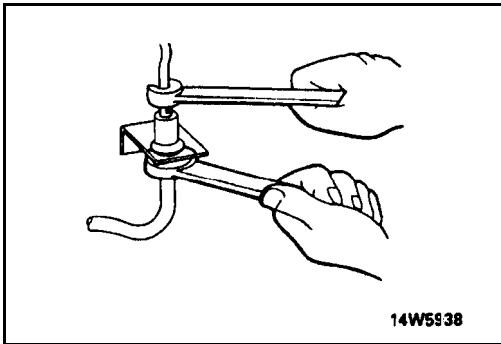
1. Clevis pin
2. Clutch pipe connection
3. Clutch master cylinder
4. Sealer
5. Reservoir bracket

Clutch release cylinder removal steps

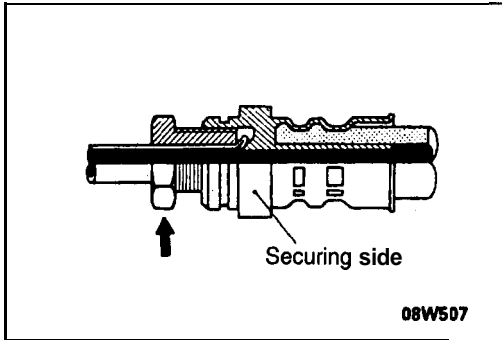
6. Clutch pipe connection
7. Clutch release cylinder

Clutch line removal steps

8. Clutch pipe
9. Clutch pipe
10. Clutch fluid chamber
11. Clutch pipe
12. Clutch hose

**REMOVAL SERVICE POINT****◀A▶ CLUTCH HOSE REMOVAL**

Holding the nut at the clutch hose side, loosen the flare nut on the clutch pipe.

**INSTALLATION SERVICE POINT****▶A◀ CLUTCH HOSE/CLUTCH PIPE INSTALLATION**

1. Temporarily tighten the clutch pipe flare nut by hand, and then tighten it to the specified **torque**, being careful that the clutch hose does not become twisted.
2. After tightening the clutch pipe flare nut, check to be sure there is no leakage of the clutch fluid.

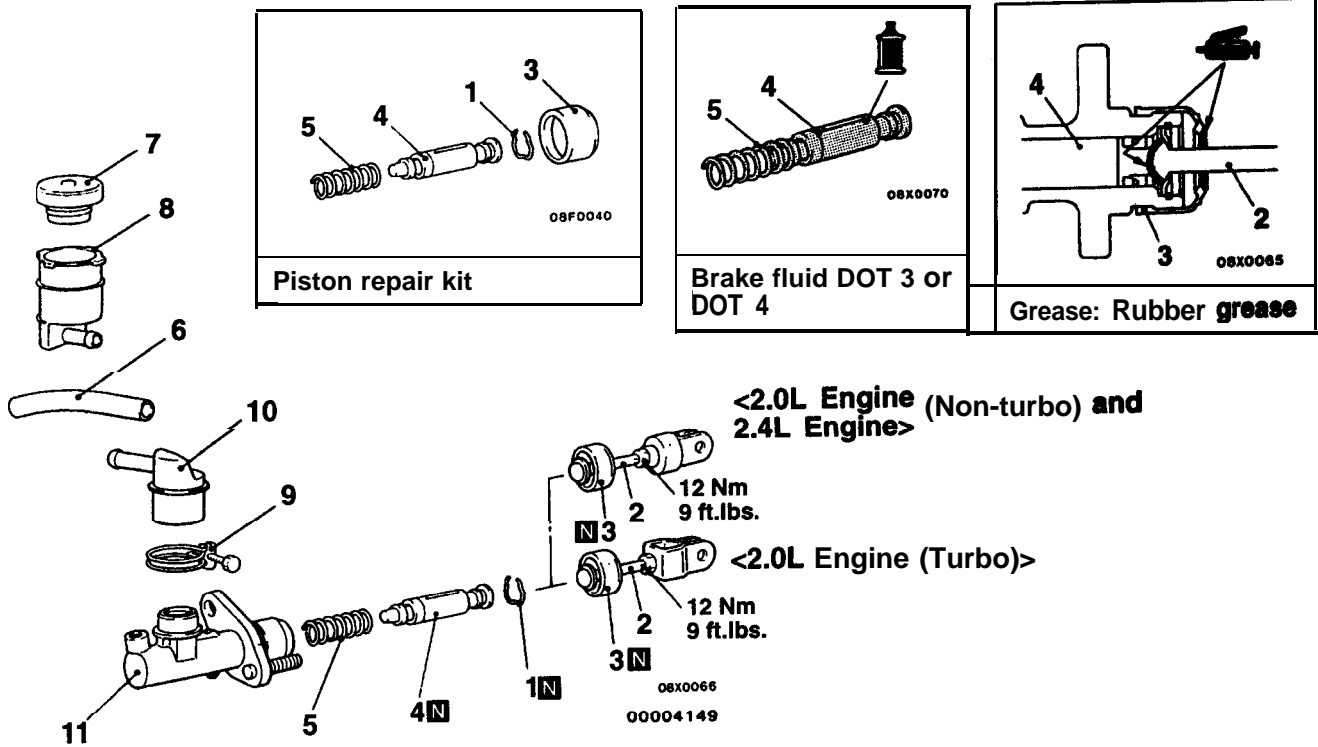
INSPECTION

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- Check the pedal shaft bushing for wear.
- Check the pedal arm for bend or torsion.
- Check the turnover spring for deterioration.
- Check the master cylinder or clutch hose for fluid leakage.
- Check the clutch hose or pipe for cracks or clogging.

CLUTCH MASTER CYLINDER

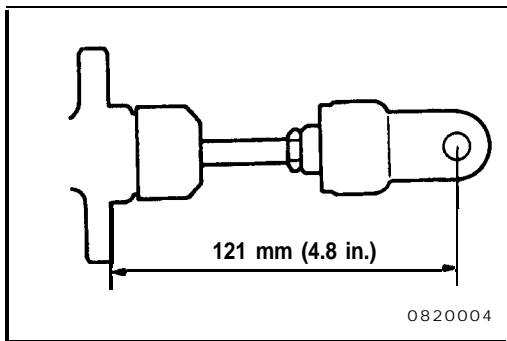
DISASSEMBLY AND REASSEMBLY



Disassembly steps

- ▶A◀ 1. Piston stopper ring
- ▶A◀ 2. Push rod assembly
- 3. Boot
- 4. Piston assembly
- 5. Return spring
- 6. Reservoir hose

- 7. Reservoir cap
- 8. Reservoir tank
- 9. Reservoir band
- 10. Nipple
- 11. Clutch master cylinder body



INSTALLATION SERVICE POINT

▶A◀ PUSH ROD ASSEMBLY INSTALLATION

NOTE

Set the length of the push rod assembly to the shown dimension to make the adjustment of the clutch pedal easier.

INSPECTION

21100220045

- Check the inside cylinder body for rust or scars.
- Check the piston cup for wear or deformation.
- Check the piston for rust or scars.
- Check the clutch pipe connection for clogging.

NOTES

10/10/10 10:00 AM 10/10/10 10:00 AM

CLUTCH OVERHAUL

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		Torque Specifications	2

21209000087

SPECIFICATIONS

21200030047

SERVICE SPECIFICATION <2.0L Engine (Turbo) and 2.4L Engine>

Items	Limit
Facing rivet sink mm (in.)	0.3 (.012)
Diaphragm spring end height difference mm (in.)	0.5 (.020)

TORQUE SPECIFICATIONS**<2.0L Engine (Turbo) and 2.4L Engine>**

Items	Nm	ft. lbs.
Clutch cover bolt	19	14
Release cylinder mounting bolt	19	14
Release cylinder union bolt	23	17
Release cylinder bleeder plug	11	8.0
Release fork fulcrum	36	24
Clutch chamber bracket mounting bolt	19	14
Clutch line tube flare nut	15	11

<2.0L Engine (Non-turbo)>

Item	Nm	ft. lbs.
Drive plate to clutch & flywheel bolt	75	55

LUBRICANTS

21200040040

<2.0L Engine (Turbo) and 2.4L Engine>

Items	Specified lubricants	Quantity
Clutch release cylinder inner surface	Brake Fluid DOT3 or DOT4	As required
Piston and cup of surface		
Release fork fulcrum	Mitsubishi genuine grease Part No. 0101011 or equivalent	As required
Clutch release fork to release cylinder contact surface		
Clutch release bearing inside		
Clutch disc spline		
Clutch release bearing to release fork contact surface		

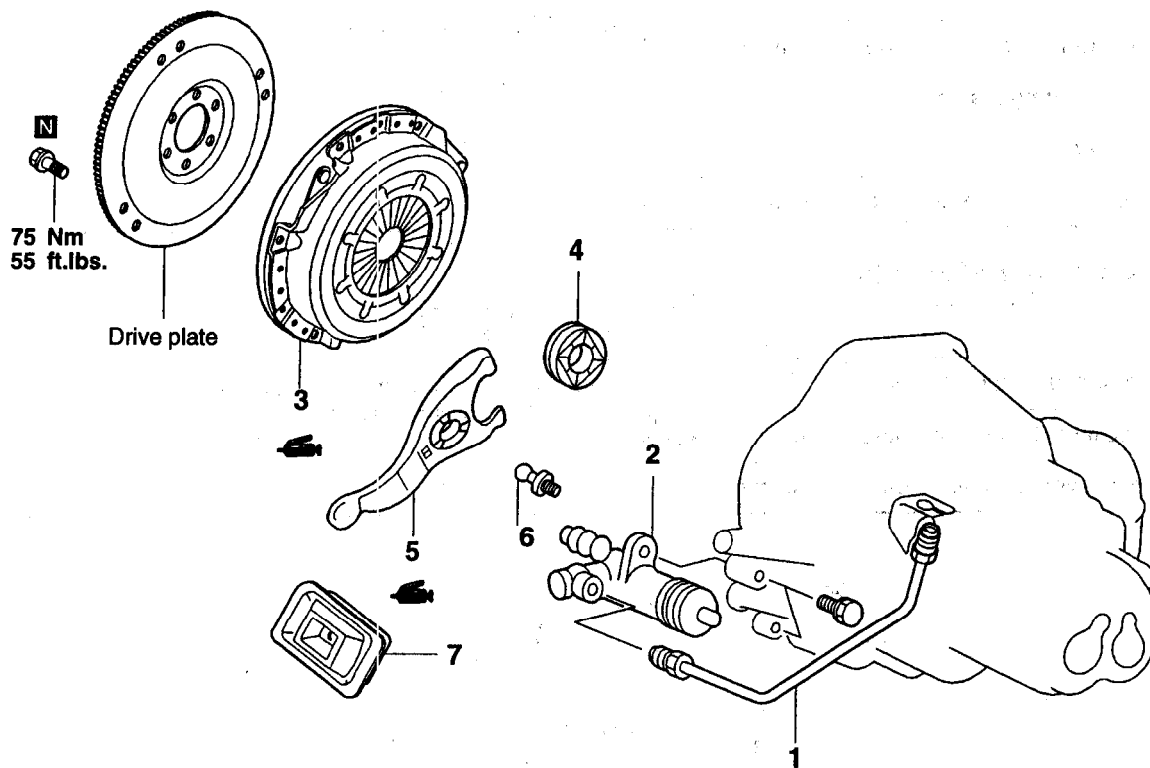
<2.0L Engine (Non-turbo)>

Items	Specified lubricants	Quantity
Clutch & flywheel assembly spline	Mitsubishi genuine grease Part No. 0101011 or equivalent	As required
Clutch release lever to release cylinder contact surface		
Clutch release lever to release bearing contact surface		

CLUTCH

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REMOVAL AND INSTALLATION <2.0L Engine (Non-turbo)>



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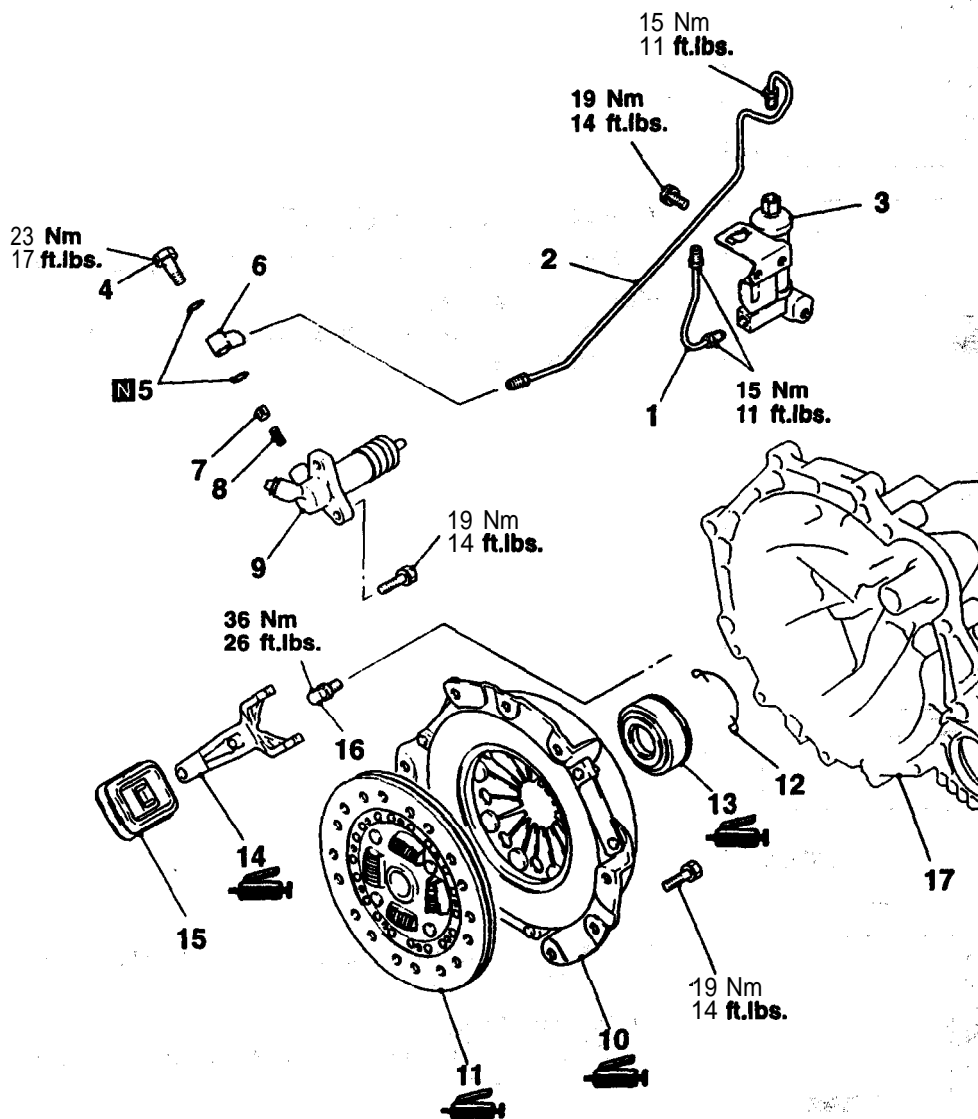
Removal steps

- 1. Oil tube
- 2. Clutch release cylinder
- ▶E◀ 3. Clutch & flywheel assembly
- 4. Clutch release bearing
- ▶D◀ 5. Clutch release lever
- 6. Clutch control equip stud
- 7. Boot

NOTE

The modular clutch assembly (Clutch & flywheel assembly) used in this vehicle consists of a single, dry-type clutch disc and a diaphragm style clutch cover. The clutch unit is serviced as an assembly. No disassembly is possible.

REMOVAL AND INSTALLATION <2.0L Engine (Turbo) and 2.4L Engine>

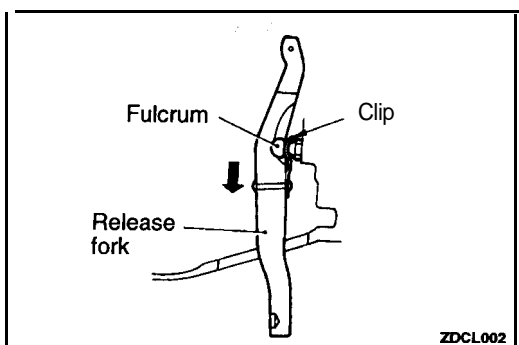


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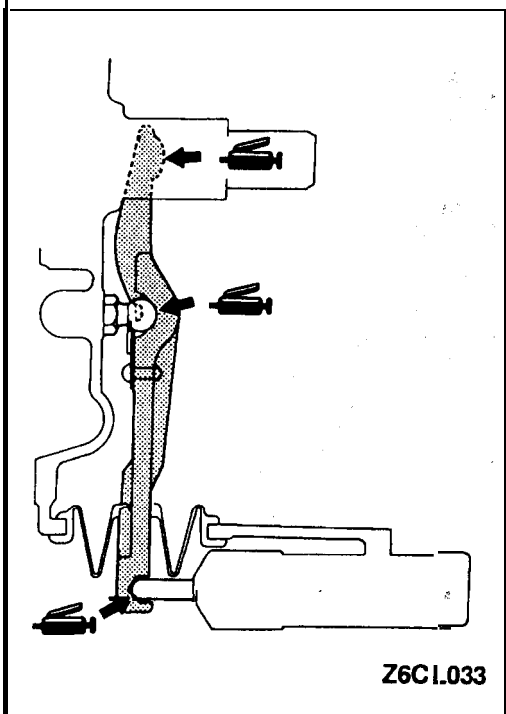
Removal steps

1. Clutch oil tube (A)
2. Clutch oil tube
3. Clutch oil fluid chamber
4. Union bolt
5. Gasket
6. Union
7. Valve plate
8. Valve plate spring
9. Clutch release cylinder

- | | |
|-----|----------------------------|
| ▶C◀ | 10. Clutch cover |
| ▶C◀ | 11. Clutch disc |
| | 12. Return clip |
| ▶B◀ | 13. Clutch release bearing |
| ▶A◀ | 14. Release fork |
| | 15. Release fork boot |
| | 16. Fulcrum |
| | 17. Transmission |

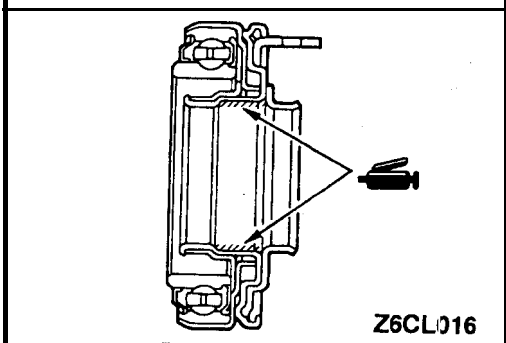
**REMOVAL SERVICE POINT****◀A▶ RELEASE FORK REMOVAL**

Slide release fork in direction of arrow and disengage fulcrum from clip to remove release fork. Be careful not to cause damage to clip by pushing release fork in the direction other than that of arrow and removing it with force.

**INSTALLATION SERVICE POINTS****▶A◀ GREASE APPLICATION TO RELEASE FORK**

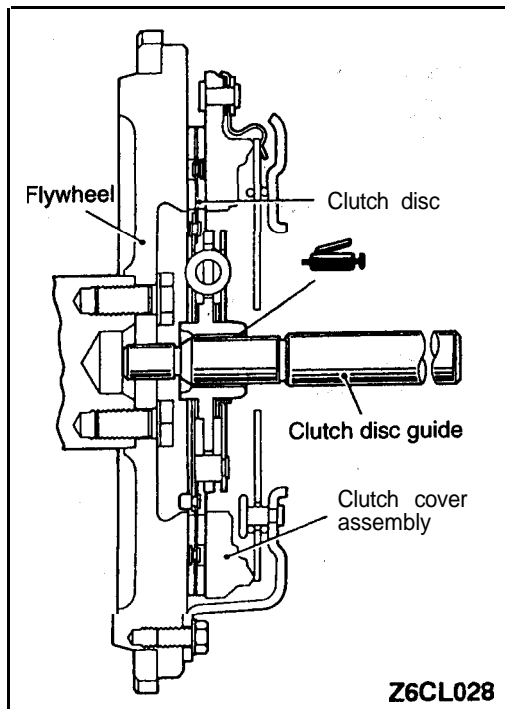
Specified grease:

MITSUBISHI genuine grease Part No. 0101011 or equivalent

**▶B◀ GREASE APPLICATION TO CLUTCH RELEASE BEARING**

Specified grease:

MITSUBISHI genuine grease Part No. 0101011 or equivalent



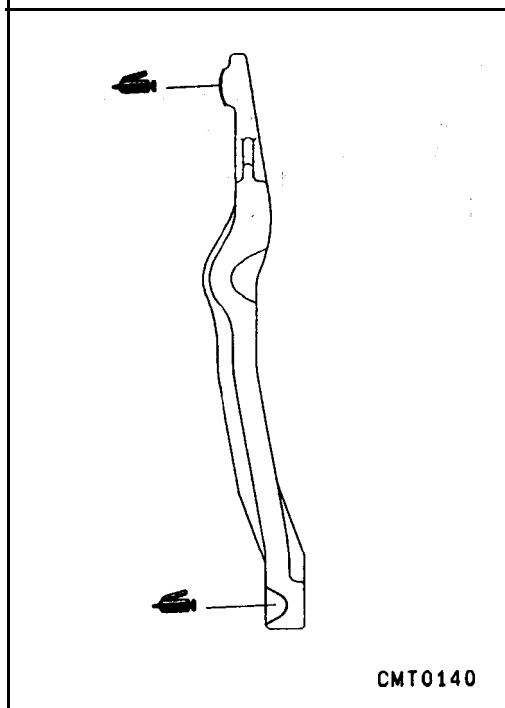
►C◄ CLUTCH DISC/CLUTCH COVER ASSEMBLY INSTALLATION

- (1) Apply specified grease to clutch disc splines and squeeze it in place with a brush.

Specified grease:

MITSUBISHI genuine grease Part No. 0101011 or equivalent

- (2) Using clutch disc guide to position clutch disc on flywheel.



►D◄ GREASE APPLICATION TO CLUTCH RELEASE LEVER

Specified grease:

MITSUBISHI genuine grease Part No. 0101011 or equivalent

►E◄ CLUTCH & FLYWHEEL ASSEMBLY INSTALLATION

- (1) Apply specified grease to clutch disc splines and squeeze it in place with a brush.

Specified grease:

MITSUBISHI genuine grease Part No. 0101011 or equivalent

INSPECTION

21200110043

<2.0L Engine (Turbo) and 2.4L Engine>**CLUTCH COVER ASSEMBLY**

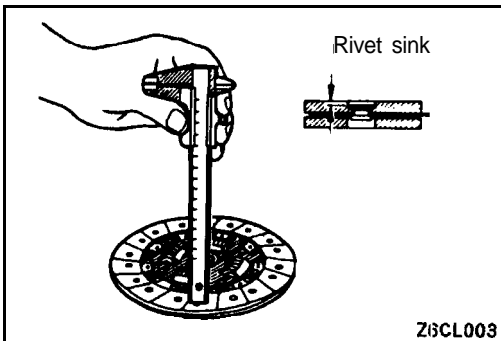
- Check the diaphragm spring end for wear and uneven height.
Replace if wear is evident or height difference exceeds the limit.

Limit: 0.5 mm (.020 in.)

- Check the pressure plate surface for wear, cracks and seizure.
- Check the strap plate rivets for looseness and replace the clutch cover assembly if loose.

CLUTCH DISC

- Check the facing for loose rivets, uneven contact, deterioration due to seizure, adhesion of oil or grease, and replace the clutch disc if defective.
- Measure the rivet sink and replace the clutch disc if it is out of specification.

Limit: 0.3 mm (.012 in.)

- Check for torsion spring play and damage and if defective, replace the clutch disc.
- Combine the clutch disc with the input shaft and check sliding condition and play in the rotating direction. If it does not slide smoothly or the play is excessive, check after cleaning and reassembling. If the play is excessive, replace the clutch disc and/or the input shaft.

CLUTCH**RELEASE****BEARING****Caution**

Release bearing is packed with grease. **Therefore do not wash it in cleaning solvent or the like.**

- Check bearing for seizure, damage, noise, or improper rotation. Check also diaphragm spring contact surface for wear.
- Replace bearing if its release fork contact surface is abnormally worn.

RELEASE FORK

- Replace release fork if its bearing contact surface is abnormally worn.

<2.0L Engine (Non-turbo)>**CLUTCH & FLYWHEEL ASSEMBLY**

- Check clutch assembly for contamination (dirt, oil). Replace clutch assembly, if required.
- Check to see if the clutch disc hub **splines** are damaged. Replace with new clutch assembly, if necessary.
- Check for uneven wear on clutch fingers.
- Check for broken clutch cover diaphragm spring fingers. Replace with new clutch assembly, if necessary.

CLUTCH RELEASE BEARING

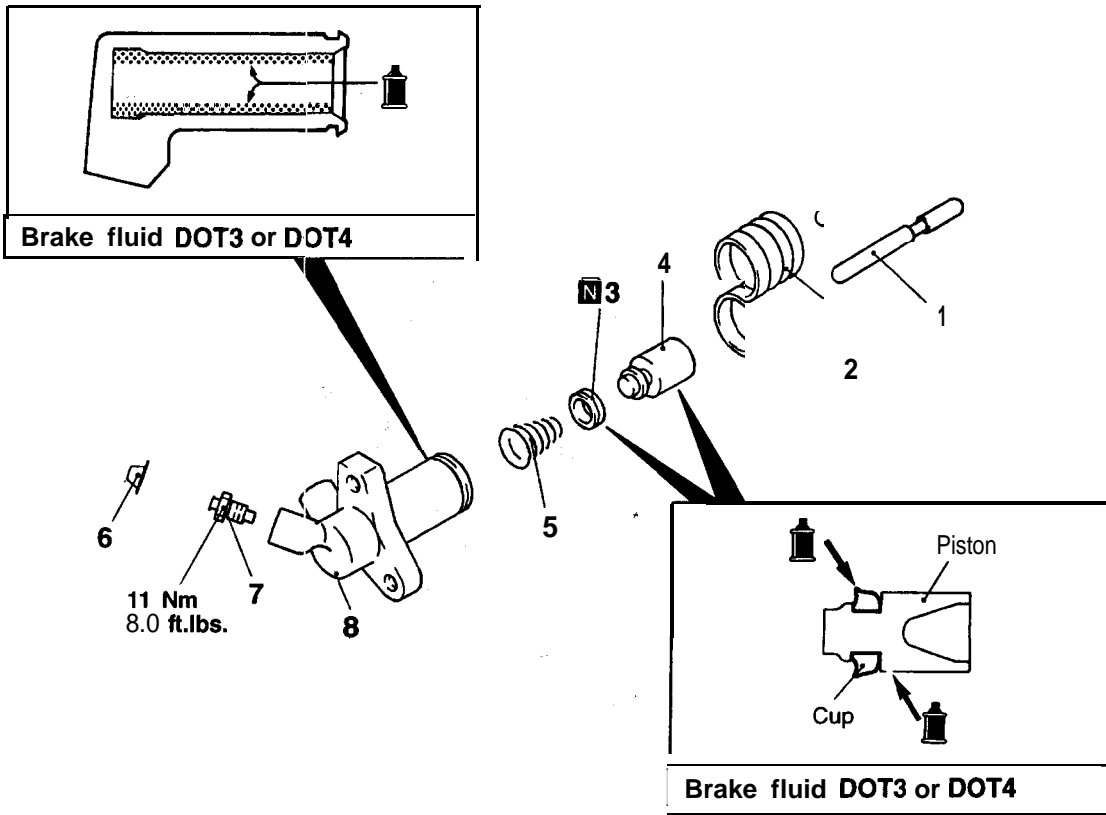
- Check to see if the release bearing is sticky or binding. Replace bearing, if needed.

CLUTCH RELEASE LEVER/CLUTCH CONTROL EQUIP STUD

- Check linkage for excessive wear on the pivot stud and fork fingers. Replace all worn parts.

CLUTCH RELEASE CYLINDER <2.0L Engine (Turbo) and 2.4L Engine>

DISASSEMBLY AND REASSEMBLY

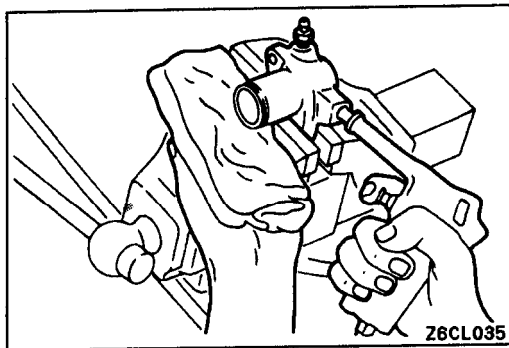


Disassembly steps

1. Push rod
2. Boot
3. Piston cup
4. Piston

5. Conical spring
6. Cap
7. Bleeder plug
8. Release cylinder





DISASSEMBLY SERVICE POINT

◀A▶ PISTON AND PISTON CAP REMOVAL

Remove the piston from the release cylinder using compressed air.

Caution

1. Cover with shop towel to prevent the piston from popping out.
2. Apply compressed air slowly to prevent brake fluid from splashing.

INSPECTION

21200160043

- Check the inner **surface** of the release cylinder for scratches or irregular wear.
- Check the piston cup for scratch or deformation, and the lip for wear.

NOTES

18. 1/24/78
19. 1/24/78
20. 1/24/78
21. 1/24/78
22. 1/24/78
23. 1/24/78
24. 1/24/78
25. 1/24/78
26. 1/24/78
27. 1/24/78
28. 1/24/78
29. 1/24/78
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