
CLUTCH

CONTENTS

E21AA--

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SPECIFICATIONS

GENERAL SPECIFICATIONS

E21CA--

Items		2400, 2500D	3000	3500, 2800D
Clutch operating method		Hydraulic type		
Clutch disc O.D. × I.D.	mm (in.)	225 × 150 (8.9 × 5.9)	240 × 160 (9.4 × 6.3)	250 × 160 (9.8 × 6.3)
Clutch release cylinder I.D.	mm (in.)	19.05 (3/4)		23.81 (15/16)
Clutch master cylinder I.D.	mm (in.)	15.87 (5/8)		19.05 (3/4)

SERVICE SPECIFICATIONS

E21CB--

Items		Specifications
Standard value		
Clutch pedal height	mm (in.)	185.5–190.5 (7.30–7.50)
Clutch pedal clevis pin play	mm (in.)	1–3 (0.04–0.12)
Clutch pedal free play	mm (in.)	6–13 (0.24–0.51)
Distance between the clutch pedal and the toeboard when the clutch is disengaged	mm (in.)	35 (1.4 in.) or more

LUBRICANTS

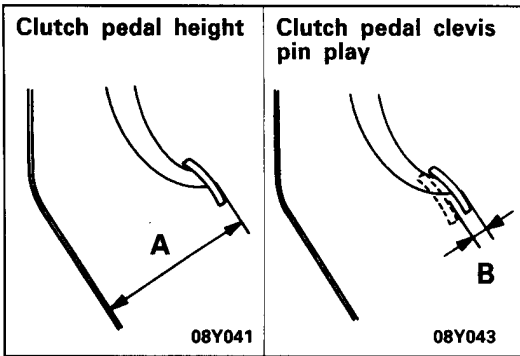
E21CD--

Items	Specified lubricants	Quantity
Clutch fluid	Brake fluid DOT3 or DOT4	As required
Inner surface of clutch master cylinder and outer circumference of piston assembly		
End of clutch release cylinder push rod	MITSUBISHI genuine grease Part No. 0101011	

SERVICE ADJUSTMENT PROCEDURES

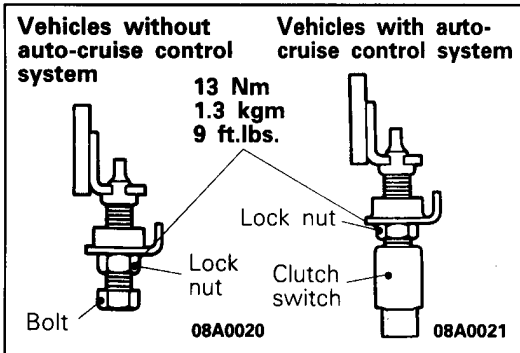
CLUTCH PEDAL INSPECTION AND ADJUSTMENT

E21FAAL



1. Measure the clutch pedal height (A) from the toeboard and the clutch pedal clevis pin play (B) at the face of the pedal pad.

Standard value (A): 185.5–190.5 mm (7.30–7.50 in.)
Standard value (B): 1–3 mm (0.04–0.12 in.)



2. If either the clutch pedal height or the clutch pedal clevis pin play are not within the standard value range, adjust as follows:

- (1) For vehicles without auto-cruise control system, turn and adjust the bolt so that the pedal height is the standard value, and then secure by tightening the lock nut. For vehicles with auto-cruise control system, disconnect the clutch switch connector and turn the switch for standard clutch pedal height. Then lock with the lock nut.

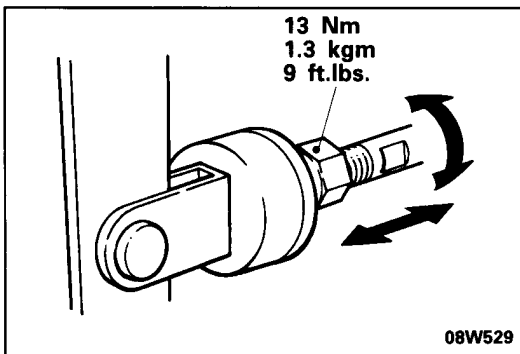
NOTE

When the pedal height is lower than the standard value, loosen the bolt, and then turn the push rod to make the adjustment. After the adjustment, tighten the bolt until it reaches the pedal stopper, and then lock with the lock nut.

- (2) Turn the push rod to adjust the clutch pedal clevis pin play to agree with the standard value and then secure the push rod with the lock nut.

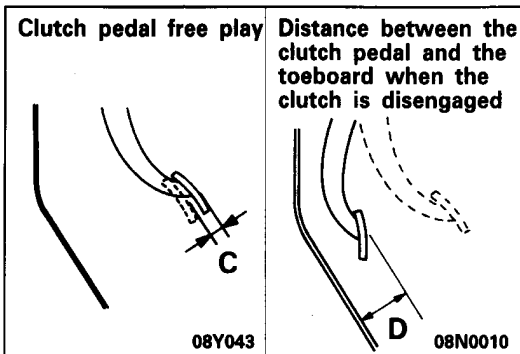
Caution

When adjusting the clutch pedal clevis pin play, be careful not to push the push rod toward the master cylinder.

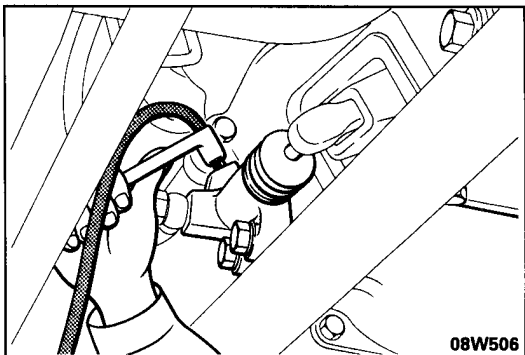


- (3) After completing the adjustments, confirm that the clutch pedal free play (measured at the face of the pedal pad) and the distance between the clutch pedal (the face of the pedal pad) and the toeboard when the clutch is disengaged are within the standard value ranges.

Standard value (C): 6–13 mm (0.24–0.51 in.)
Standard value (D): 35 mm (1.4 in.) or more



4. If the clutch pedal free play (C) and the distance (D) between the clutch pedal and the toeboard 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.

**BLEEDING**

E21FEAD

Whenever the clutch pipe, the clutch hose, and/or the clutch master cylinder have been removed, or if air is suspected in the clutch lines, bleed the system.

Specified fluid: DOT3 or DOT4

Caution

Use the specified fluid. Avoid using a mixture of the specified fluid and other fluid.

CLUTCH PEDAL

REMOVAL AND INSTALLATION

E21PA-

L.H. drive vehicles

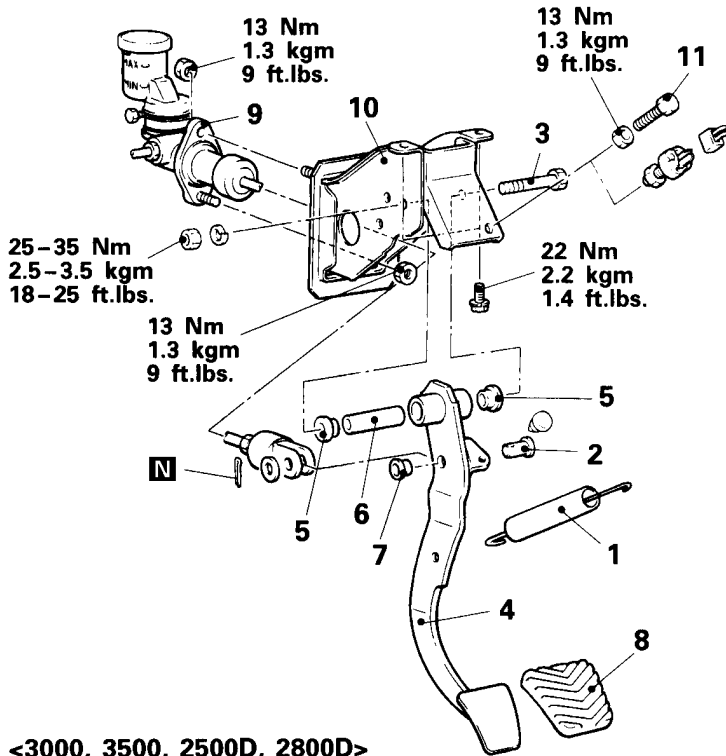
<2400>

Pre-removal Operation

- Removal of the Foot Shower Duct (LH) and the Lap Cooler Duct A (Refer to GROUP 55 – Ventilators.)

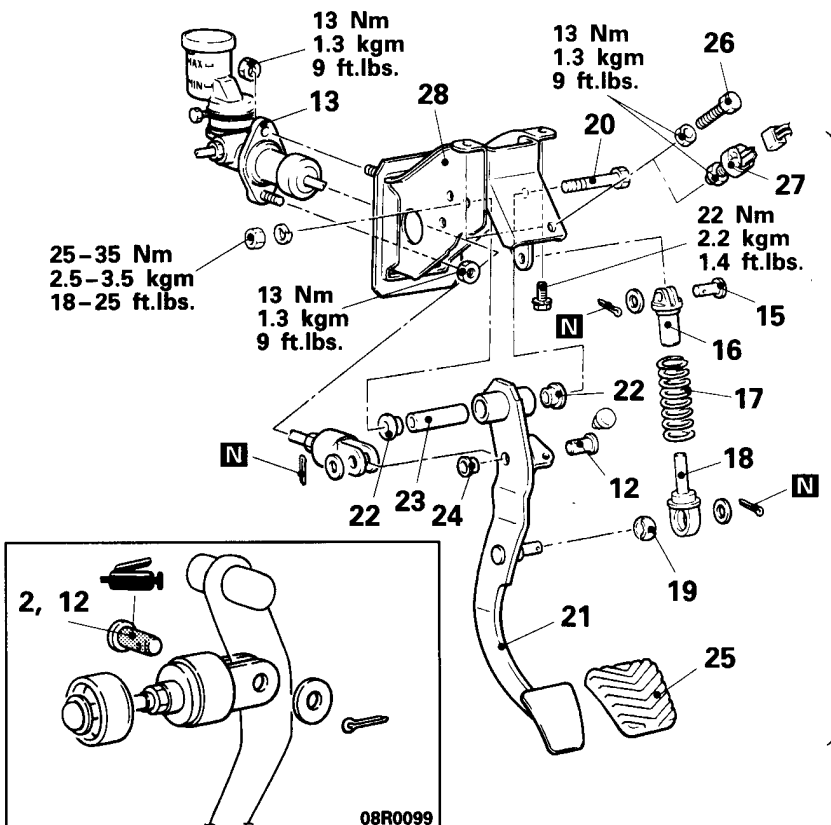
Post-installation Operation

- Installation of the Foot Shower Duct (L.H.) and the Lap Cooler Duct A (Refer to GROUP 55 – Ventilators.)
- Adjustment of Clutch Pedal (Refer to P.21-3.)



08E0021

<3000, 3500, 2500D, 2800D>



08E0020

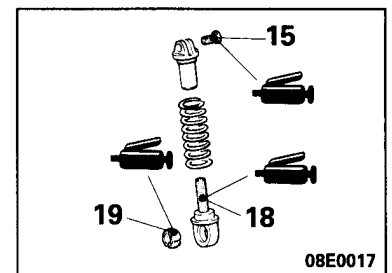
Removal steps <2400>

1. Return spring
2. Clevis pin
3. Pedal shaft
4. Clutch pedal
5. Bushings
6. Spacer
7. Bushing
8. Pedal pad
9. Connection for clutch master cylinder
10. Stopper bolt
11. Clutch pedal bracket

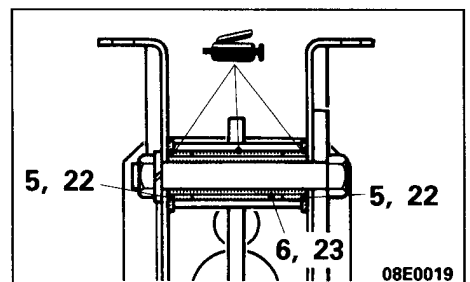
Removal steps

<3000, 3500, 2500D, 2800D>

12. Clevis pin
13. Connection for clutch master cylinder
14. Clutch pedal assembly
15. Clevis pin
16. Rod A
17. Turnover spring
18. Rod B
19. Bushing
20. Pedal shaft
21. Clutch pedal
22. Bushings
23. Spacer
24. Bushing
25. Pedal pad
26. Stopper bolt <Vehicles without auto-cruise control system>
27. Clutch switch <Vehicles with auto-cruise control system>
28. Clutch pedal bracket

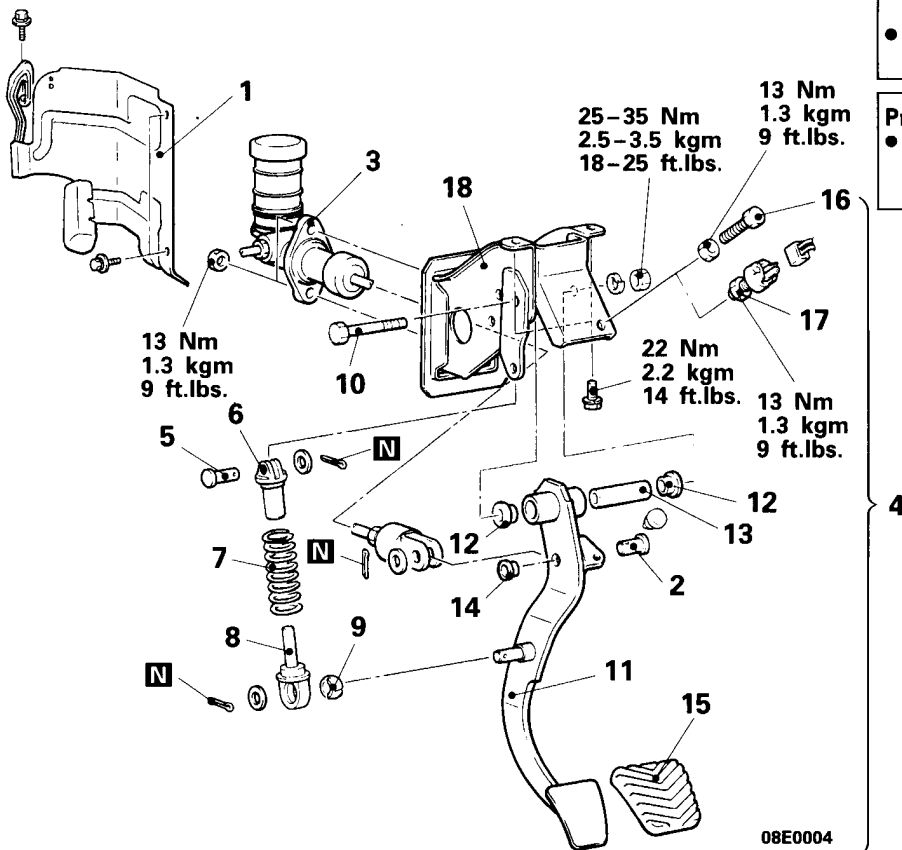


08E0017



08E0019

R.H. drive vehicles



Removal steps

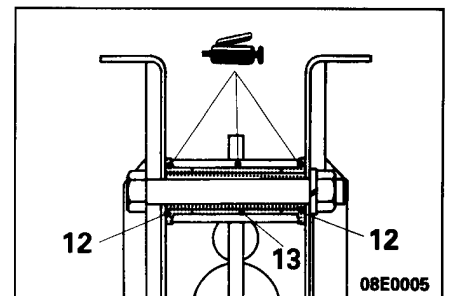
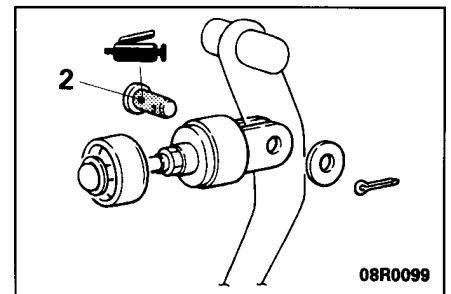
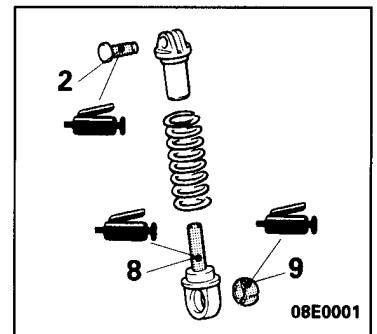
1. Heat protector <2500D, 2800D>
2. Clevis pin
3. Connection for clutch master cylinder
4. Clutch pedal assembly
5. Clevis pin
6. Rod A
7. Turnover spring
8. Rod B
9. Bushing
10. Pedal shaft
11. Clutch pedal
12. Bushings
13. Spacer
14. Bushing
15. Pedal pad
16. Stopper bolt <vehicles without auto-cruise control system>
17. Clutch switch <vehicles with auto-cruise control system>
18. Clutch pedal bracket

Post-installation Operation

- Installation of Foot Shower Duct (R.H.) and Lap Cooler Duct A (Refer to GROUP 55 - Ventilators)
- Adjustment of Clutch Pedal (Refer to P.21-3.)

Pre-removal Operation

- Removal of Foot Shower Duct (R.H.) and Lap Cooler Duct A (Refer to GROUP 55 - Ventilators)



INSPECTION

E21FCAF

- Check the pedal shaft and bushing for wear.
- Check the clutch pedal for bend or torsion.
- Check the return spring for damage or deterioration. <2400>
- Check the turnover spring for damage or deterioration. <3000, 3500, 2500D, 2800D>
- Check the pedal pad for damage or wear.

CLUTCH CONTROL
REMOVAL AND INSTALLATION

E21JA--

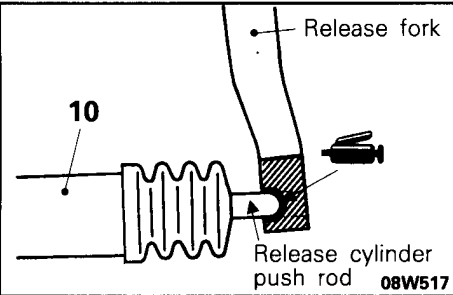
L.H. drive vehicles <2400, 3000, 2500D>

Pre-removal Operation

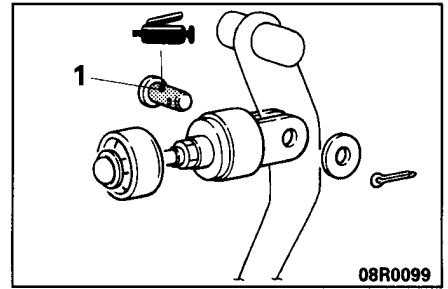
- Draining of Clutch Fluid

Post-installation Operation

- Supplying Clutch Fluid
- Bleeding (Refer to P.21-4.)

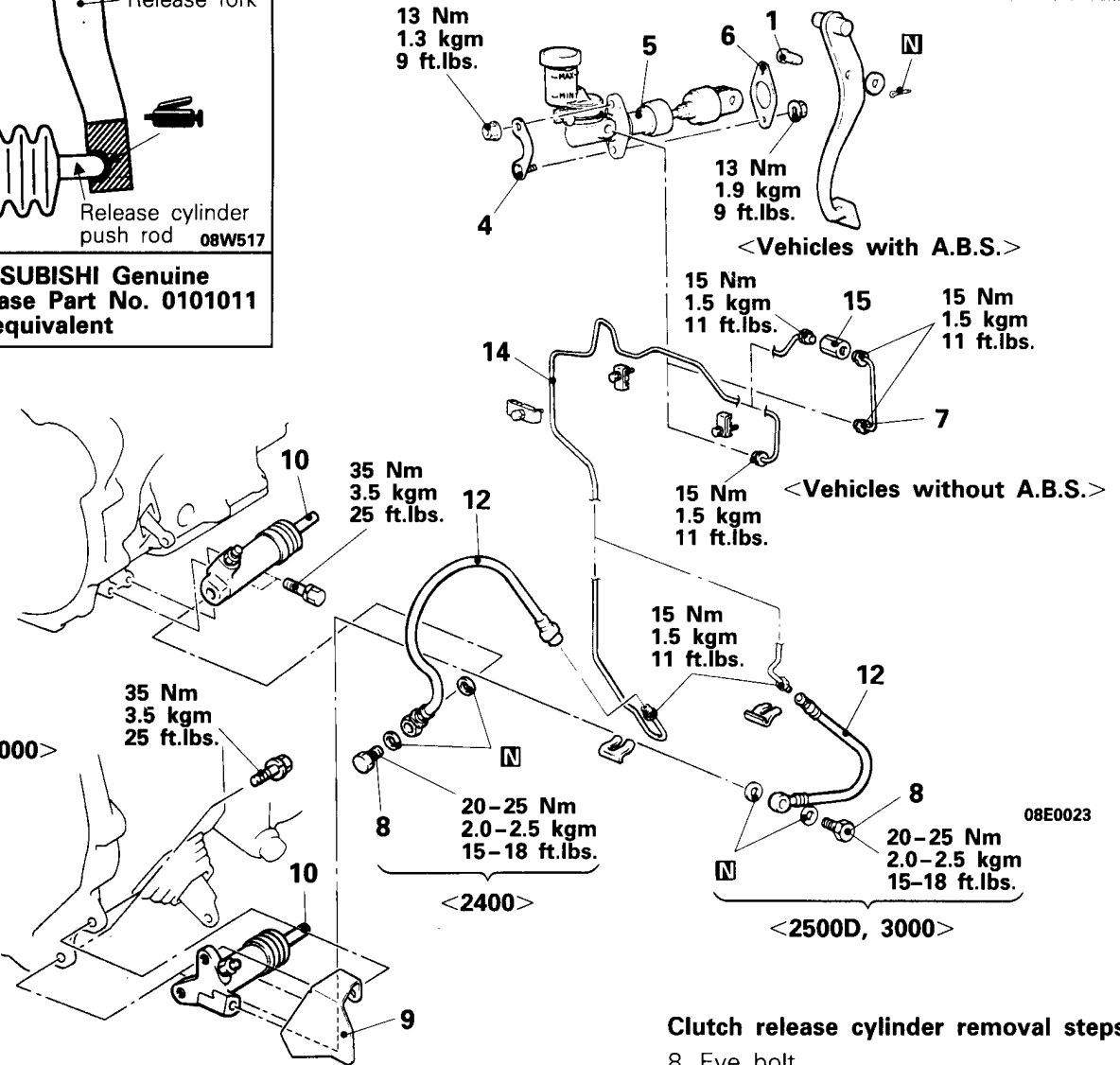


Grease: MITSUBISHI Genuine Grease Part No. 0101011 or equivalent



<2400>

<2500D, 3000>



Clutch master cylinder removal steps

- Adjustment of Clutch Pedal (Refer to P.21-3.)
- 1. Clevis pin
- 4. Plate
- 5. Clutch master cylinder
- 6. Sealer
- 7. Clutch pipe A <Vehicles with A.B.S.>

Clutch release cylinder removal steps

- 8. Eye bolt
- 9. Heat protector <3000>
- 10. Clutch release cylinder

Clutch pipe B and connector removal steps

- 14. Clutch pipe B
- 15. Connector <Vehicles with A.B.S.>

Clutch hose removal steps

- 8. Eye bolt
- 12. Clutch hose

NOTE

A.B.S.: Anti-skid Brake System

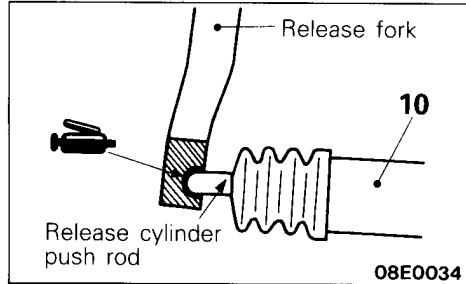
L.H. drive vehicles <3500, 2800D>

Pre-removal Operation

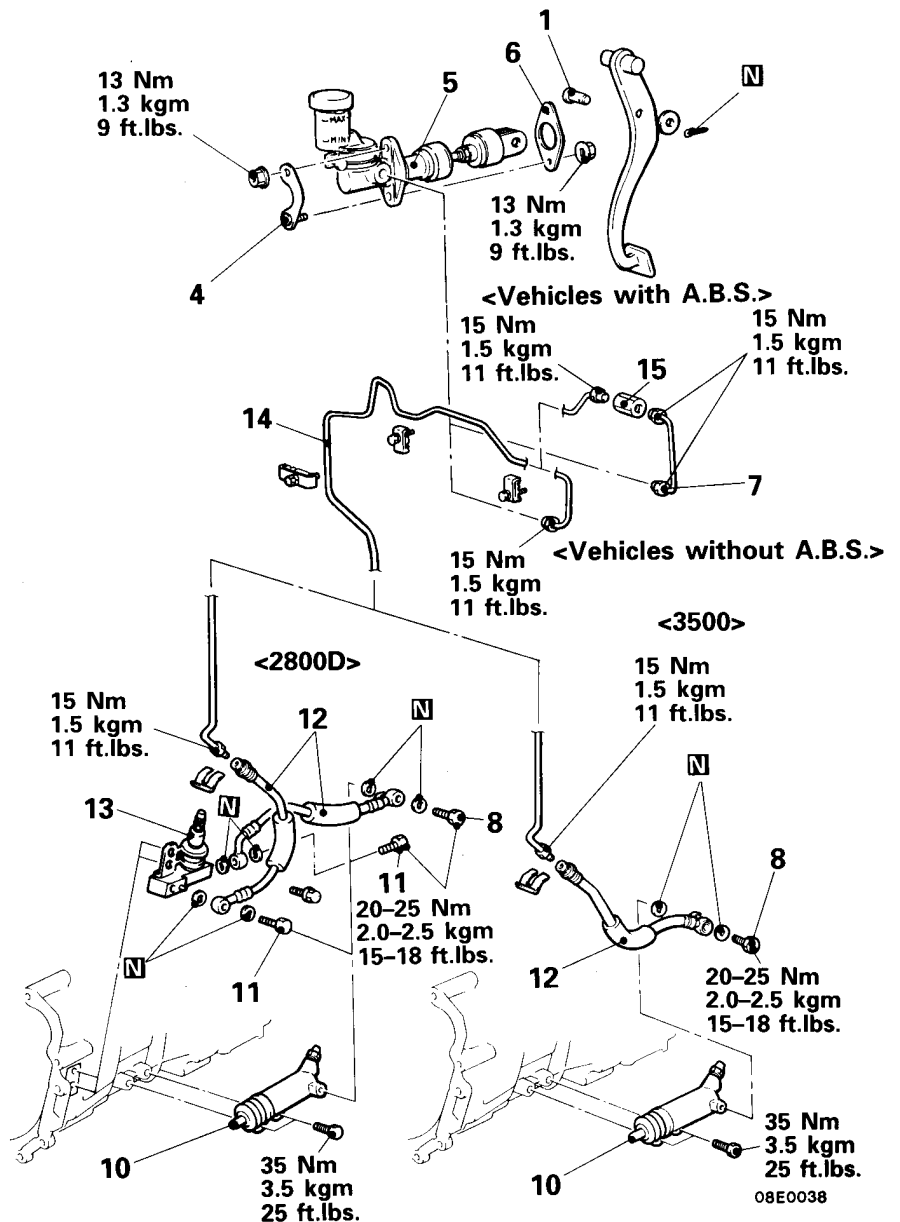
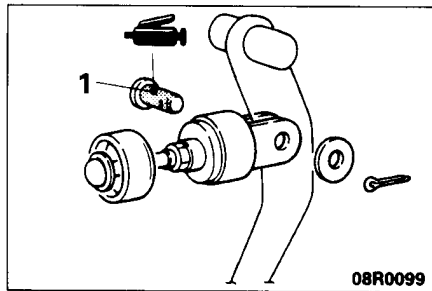
- Draining of Clutch Fluid

Post-installation Operation

- Supplying Clutch Fluid
- Bleeding (Refer to P.21-4.)



Grease: MITSUBISHI Genuine Grease Part No. 0101011 or equivalent



Clutch master cylinder removal steps

- Adjustment of Clutch Pedal (Refer to P.21-3.)

1. Clevis pin
4. Plate
5. Clutch master cylinder
6. Sealer
7. Clutch pipe A <Vehicles with A.B.S.>

Clutch release cylinder removal steps

8. Eye bolt
10. Clutch release cylinder

NOTE:
A.B.S.: Anti-skid Brake System

Clutch pipe B and connector removal steps

14. Clutch pipe B
15. Connector <Vehicles with A.B.S.>

Clutch hose removal steps

8. Eye bolt
11. Eye bolt
12. Clutch hose

Clutch fluid chamber removal steps

11. Eye bolt
13. Clutch fluid chamber

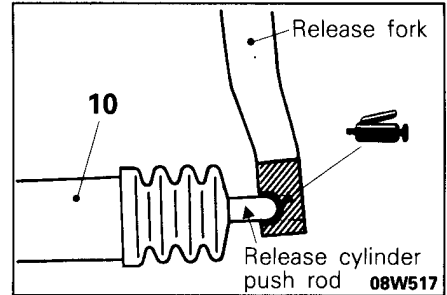
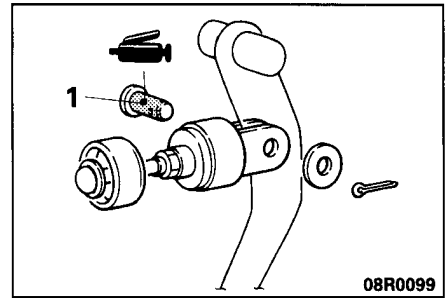
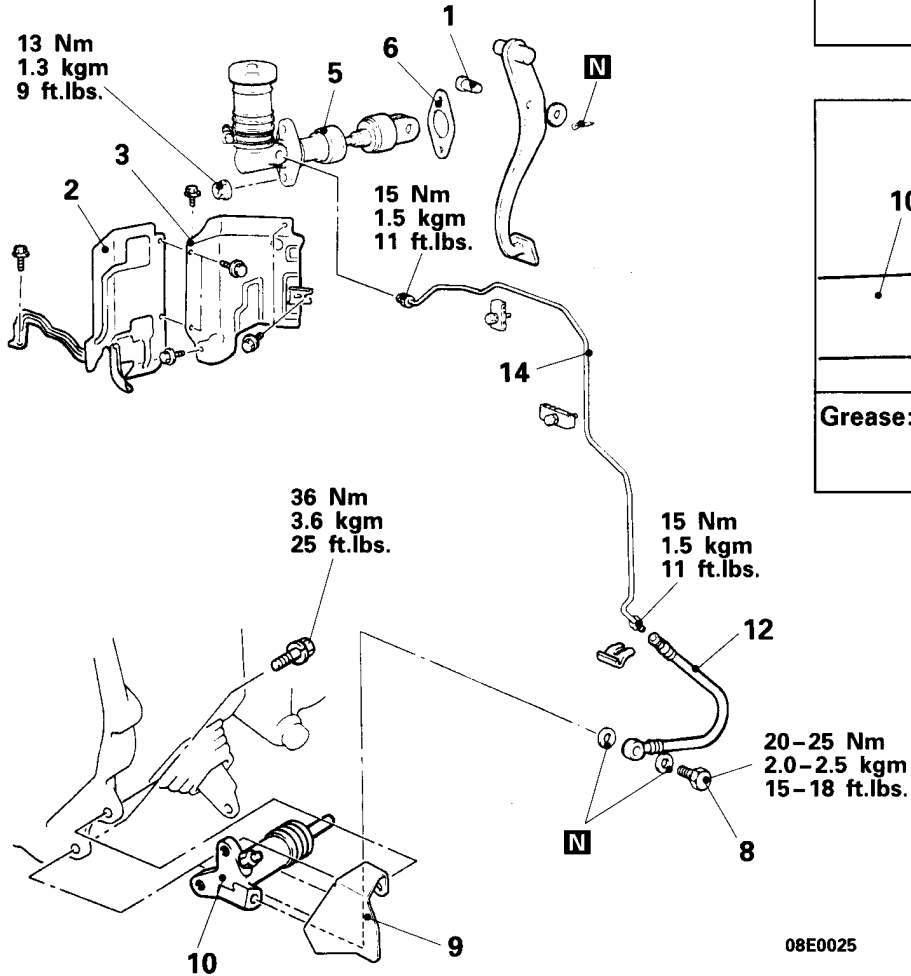
R.H. drive vehicles <3000, 2500D>

Pre-removal Operation

- Draining of Clutch Fluid

Post-installation Operation

- Supplying Clutch Fluid
- Bleeding (Refer to P.21-4.)



Grease: MITSUBISHI Genuine Grease Part No. 0101011 or equivalent

08E0025

Clutch master cylinder removal steps

- Adjustment of Clutch Pedal (Refer to P.21-3.)

1. Clevis pin
2. Heat protector <2500D>
3. Dash panel heat protector <2500D>
4. Clutch master cylinder
5. Clutch master cylinder
6. Sealer



Clutch release cylinder removal steps

8. Eye bolt
9. Heat protector <3000>
10. Clutch release cylinder

Clutch pipe B removal steps

2. Heat protector <2500D>
3. Dash panel heat protector <2500D>
14. Clutch pipe B



Clutch hose removal steps

8. Eye bolt
12. Clutch hose



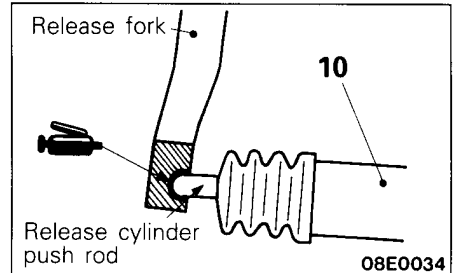
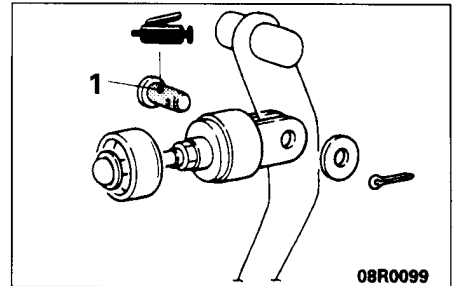
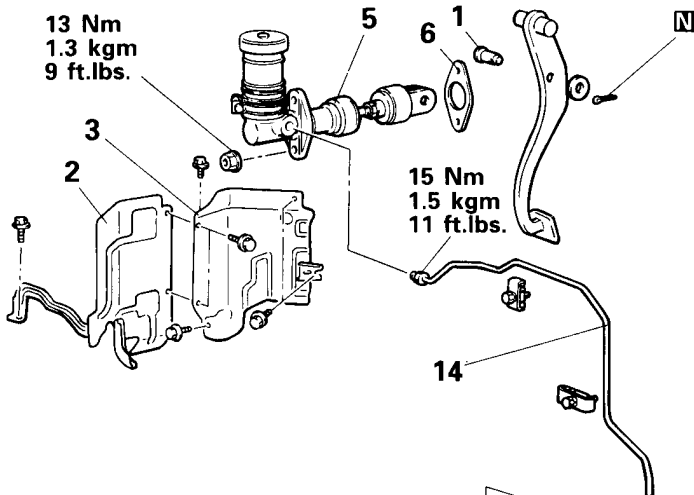
R.H. drive vehicles <3500, 2800D>

Pre-removal Operation

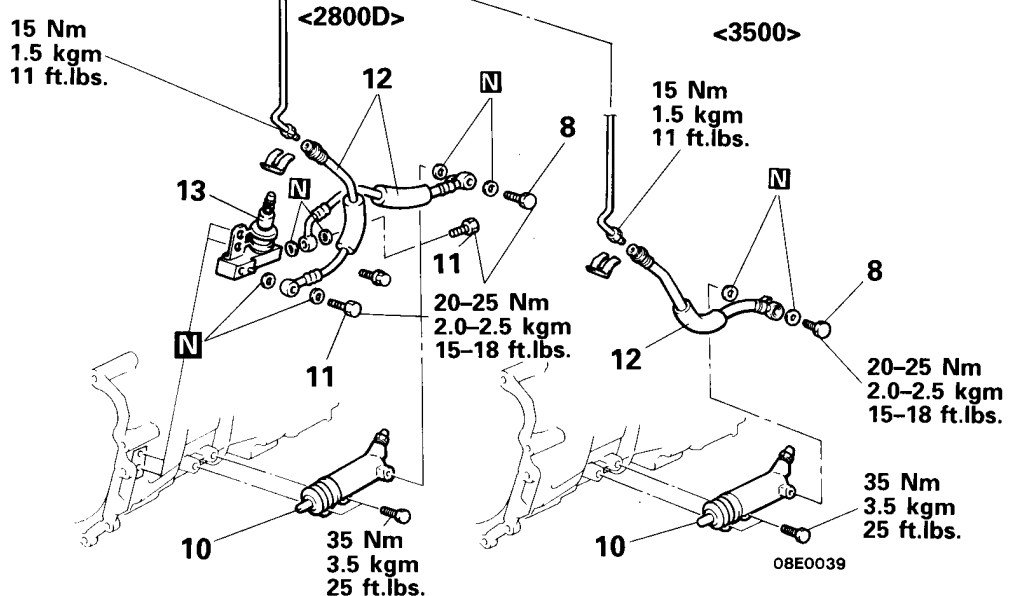
- Draining of Clutch Fluid

Post-installation Operation

- Supplying Clutch Fluid
- Bleeding (Refer to P.21-4.)



Grease: MITSUBISHI Genuine Grease Part No. 0101011 or equivalent



Clutch master cylinder removal steps

• **Adjustment of Clutch Pedal (Refer to P.21-3.)**

1. Clevis pin
2. Heat protector <2800D>
3. Dash panel heat protector <2800D>
5. Clutch master cylinder
6. Sealer

Clutch release cylinder removal steps

8. Eye bolt
10. Clutch release cylinder

Clutch pipe B removal steps

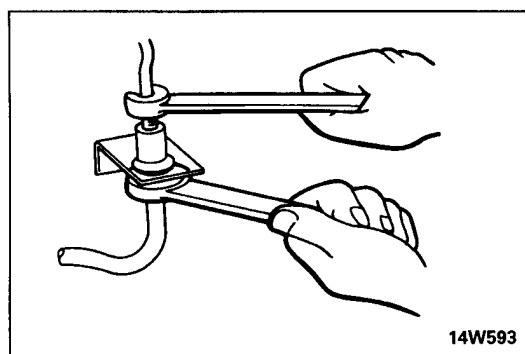
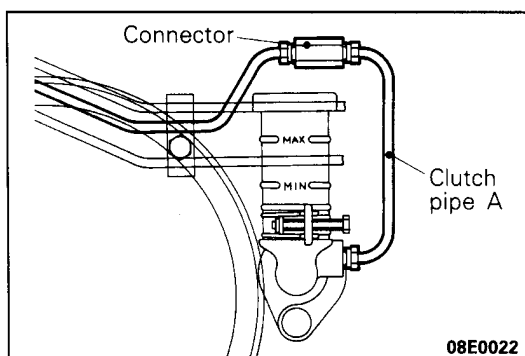
2. Heat protector <2800D>
3. Dash panel heat protector <2800D>
14. Clutch pipe B

Clutch hose removal steps

8. Eye bolt
11. Eye bolt
12. Clutch hose

Clutch fluid chamber removal steps

11. Eye bolt
13. Clutch fluid chamber

**SERVICE POINTS OF REMOVAL**

E21JBBE

**5. REMOVAL OF CLUTCH MASTER CYLINDER
<L.H. drive Vehicles>**

For vehicles with A.B.S., remove the connector and the clutch pipe A assembly, and remove the clutch master cylinder from the vehicle with the clutch pipe still attached.

12. REMOVAL OF CLUTCH HOSE

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

14. REMOVAL OF CLUTCH PIPE B

- (1) For L.H. drive vehicles, remove the brake booster, intercooler <2500D, 2800D> and link assembly <vehicles with cruise control>, and for RH drive vehicles, remove the intercooler <2500D, 2800D> and link assembly <vehicles with cruise control>. (Refer to GROUP 35 – Brake Booster, GROUP 15 – Intercooler, and GROUP 13 – Cruise Control.)
- (2) Holding the nut at the clutch hose side, loosen the flare nut of the clutch pipe.

INSPECTION

E21JCBB

- 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**

E21SE--

Piston repair kit

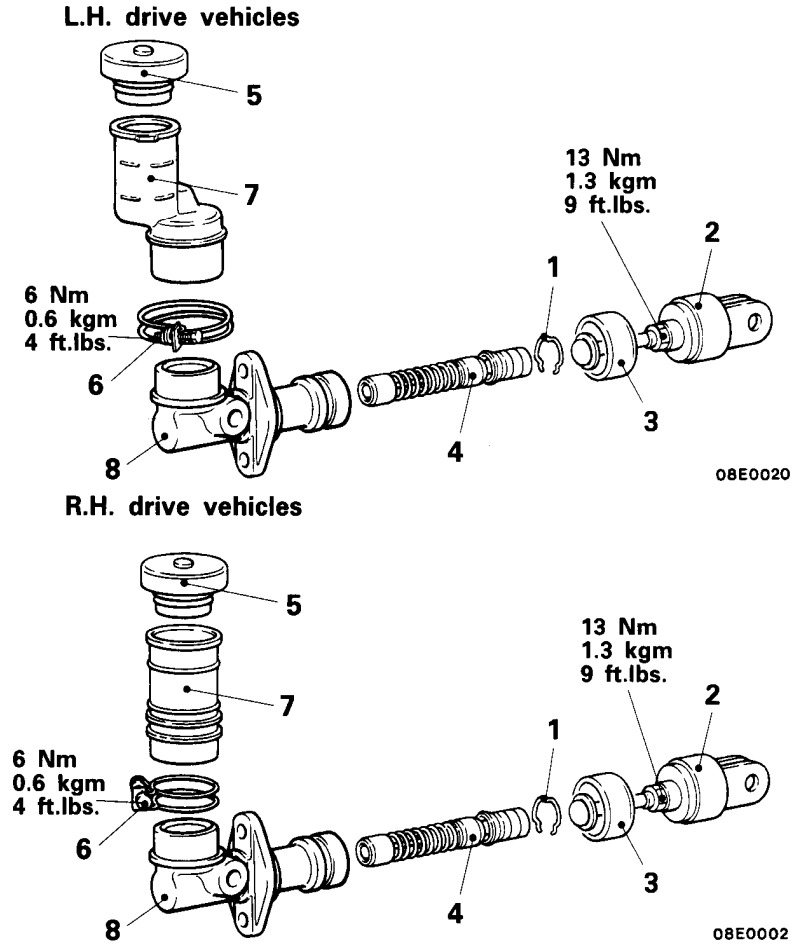
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08E0006

**Clutch fluid: Brake fluid
DOT3 or DOT4**

Disassembly steps

1. Piston stop ring
2. Damper and push rod
3. Boot
4. Piston assembly
5. Reservoir cap
6. Reservoir band
7. Reservoir
8. Master cylinder body



SERVICE POINTS OF DISASSEMBLY

E21SFAE

4. REMOVAL OF PISTON ASSEMBLY

Caution

1. Do not damage the master cylinder body and piston assembly.
2. Do not disassemble piston assembly.

INSPECTION

E21SGAC

- 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 tube connection part for clogging.