# CLUTCH

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21109000060

# CLUTCH

## CONTENTS

21109000022

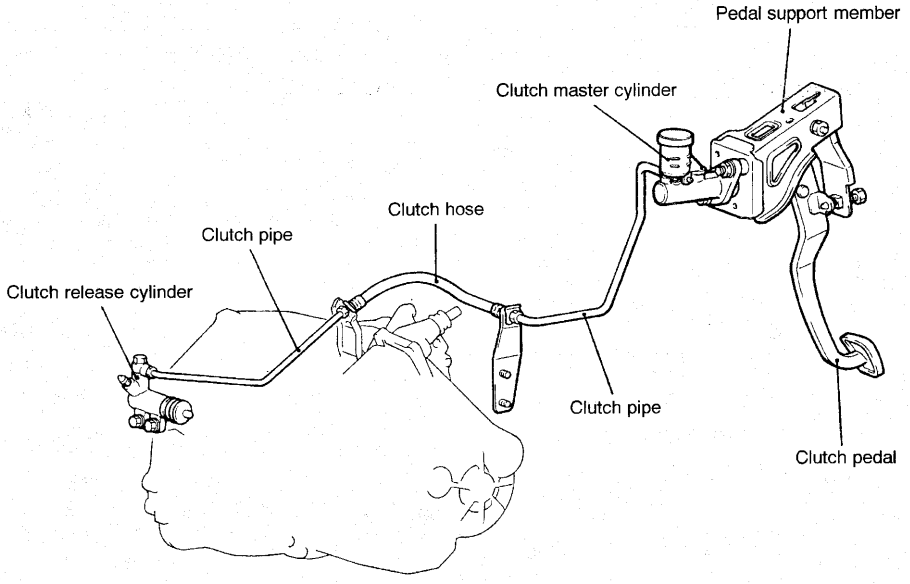
# GENERAL INFORMATION

21100010109

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

| Items | | Specifications |
|---|---|---|
| Clutch operating method | | Hydraulic type |
| Clutch disc type | | Single dry disc type |
| Clutch disc facing diameter O.D.×I.D. mm (in.) | 1.5L Engine | 200×130 (7.8×5.1) |
| | 1.8L Engine | 215×140 (8.4×5.5) |
| Clutch cover type | | Diaphragm spring strap drive type |
| Clutch cover setting load N (lbs.) | | 4,600 (1,014) |
| Clutch release cylinder I.D. mm (in.) | | 20.64 (13/16) |
| Clutch master cylinder I.D. mm (in.) | | 15.87 (10/16) |

## CONSTRUCTION DIAGRAM



## SERVICE SPECIFICATIONS

21100030105

| Items | Standard value |
|---|---|
| Clutch pedal height mm (in.) | 163.5 - 166.5 (6.43 - 6.55) |
| 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 (2.7) or more |

## LUBRICANTS

21100040016

| Items | Specified lubricants | Quantity |
|---|---|---|
| Clutch fluid | Brake fluid DOT3 or DOT4 | As required |
| Push rod assembly | Rubber grease | As required |
| Boot | | |
| Release cylinder push rod | MITSUBISHI genuine grease Part No. 0101011 | As required |

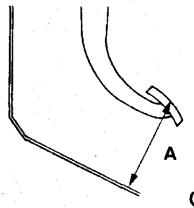
## TROUBLESHOOTING

21100070015

| 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 |

| Symptom | Probable cause | Remedy |
|---|---|---|
| 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 "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 |

**Clutch pedal height**

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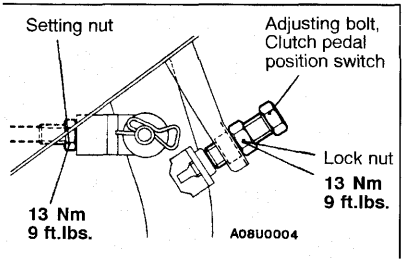
# ON-VEHICLE SERVICE

21100090110

## CLUTCH PEDAL CHECK AND ADJUSTMENT

1. Turn back the carpet, etc. under the clutch pedal.
2. Measure the clutch pedal height.

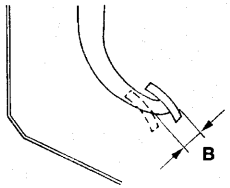
**Standard value (A):**
**163.5 - 166.5 mm (6.43 - 6.55 in.)**




3. If the height of the clutch pedal 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 system) or clutch pedal position switch (Vehicles with auto-cruise control system) or push rod.

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

Clutch pedal clevis pin play

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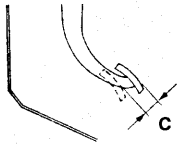
4. Measure the clutch pedal play.
   **Standard value (B): 1 - 3 mm (.04 - .12 in.)**
5. If the clutch pedal play is not within the standard value, loosen the setting nut and move the push rod to adjust.
   **Caution**
   **Do not push in the master cylinder push rod at this time.**

Clutch pedal free play

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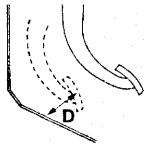
Distance between the clutch pedal and the firewall when the clutch is disengaged

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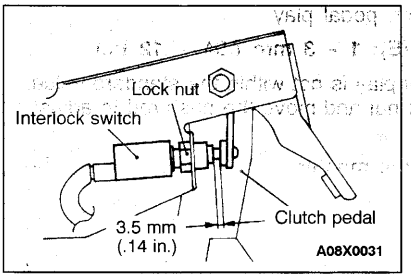
6. After completing the adjustments, confirm that the clutch pedal free play (measured at the face of the pedal pad) and the distance between the clutch pedal (the face of the pedal pad) and the firewall when the clutch is disengaged are within the standard value ranges.
   **Standard value (C; including the clevis pin play): 6-13 mm (.24 - .51 in.)**
   **Standard value (D): 70 mm (2.7 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, release cylinder or clutch. Bleed the air, or disassemble and inspect the master cylinder, release cylinder or clutch.
8. Put back the carpet, etc.

## INTERLOCK SWITCH OPERATING CHECK

21100100011

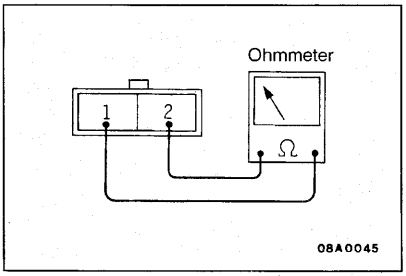
1. Lock the front wheels, apply the parking brake and put the shift lever in the 5th gear.
2. After normally adjusting the clutch pedal, check the interlock switch operation as follows:
   (1) The engine should not start even if the ignition switch is turned to "START" position unless the clutch pedal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




## INTERLOCK SWITCH CHECK AND ADJUSTMENT

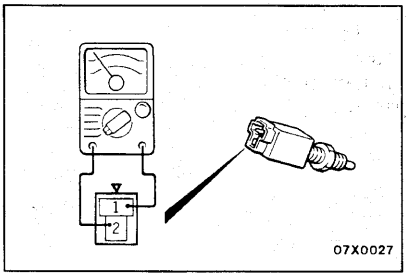
21100110052

1. Adjust the clutch pedal. (Refer to P.21A-5.)
2. Check to be sure that the interlock switch is as shown in the illustration when the clutch pedal is depressed at its full stroke [143 mm (5.6 in.)]. If necessary, loosen the lock nut and adjust.




3. 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 | ○ | ○ |

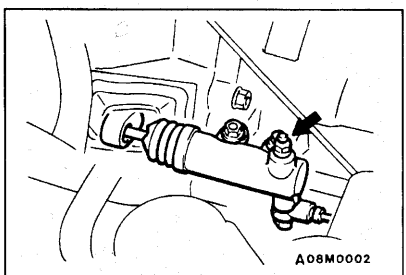



## CLUTCH PEDAL POSITION SWITCH CONTINUITY CHECK

21100310018

1. Adjust the clutch pedal. (Refer to P.21A-5.)
2. Operate the clutch pedal, and check continuity between the terminals.

| Measurement conditions | Terminal No. | |
|---|---|---|
| | 1 | 2 |
| When clutch pedal depressed | ○ | ○ |
| When clutch pedal not depressed | | |




## BLEEDING

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**Specified fluid: Brake fluid DOT 3 or DOT 4**

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

# CLUTCH PEDAL

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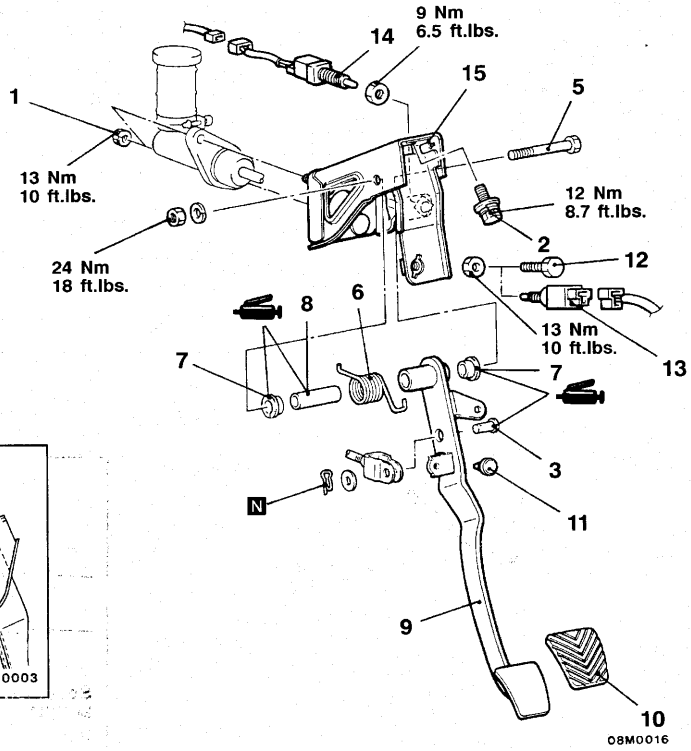
## REMOVAL AND INSTALLATION

**Post-installation Operation**
Clutch Pedal Adjustment (Refer to P.21A-5.)

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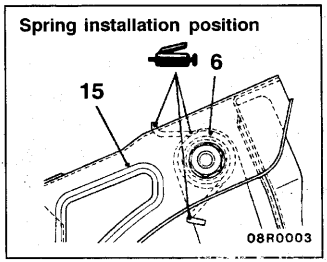



**Removal steps**

1. Clutch master cylinder installation nut
2. Master cylinder member bracket installation nut
3. Clevis pin
4. Pedal support member and clutch pedal assembly
5. Bolt
6. Return spring
7. Bushing
8. Pipe
9. Clutch pedal
10. Pedal pad
11. Stopper
12. Adjusting bolt
13. Clutch switch <Vehicles with auto-cruise control system>
14. Interlock switch
15. Pedal support member

## INSPECTION

21100170074

- Check the pedal shaft and bushing for wear.
- Check the clutch pedal for bend or torsion.
- Check the return spring for damage or deterioration.
- Check the pedal pad for damage or wear.

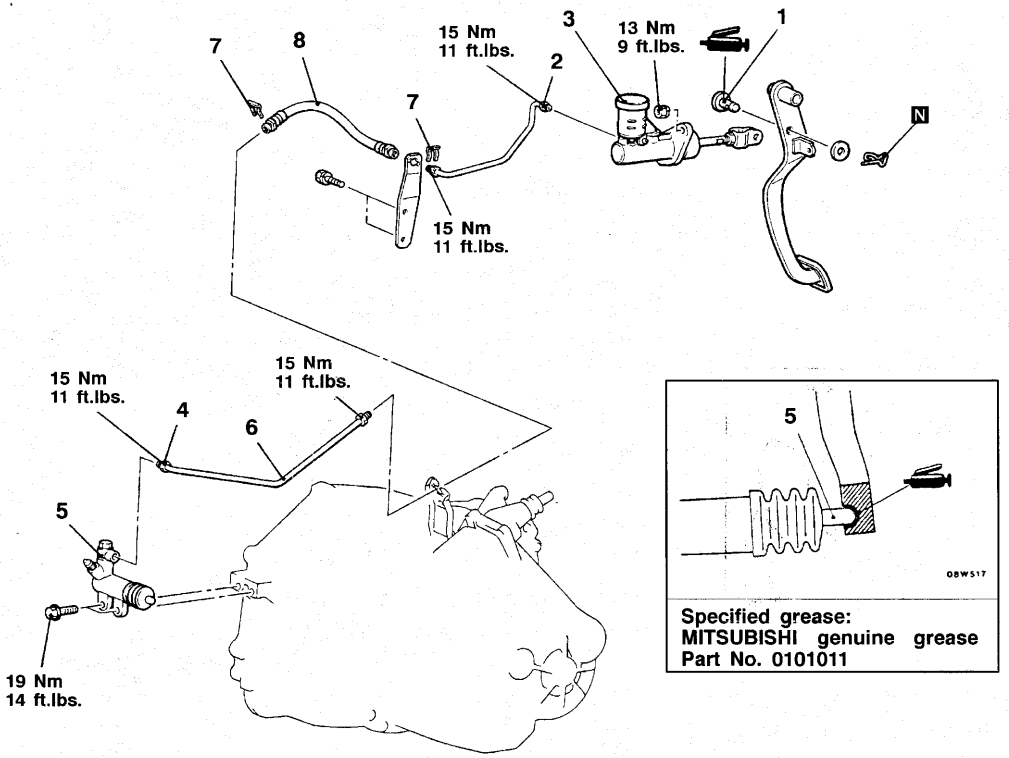
# CLUTCH CONTROL

21100190148

## REMOVAL AND INSTALLATION

**Pre-removal Operation**
- Clutch Fluid Draining
- Air Cleaner Removal

**Post-installation Operation**
- Air Cleaner Installation
- Clutch Fluid Supplying
- Clutch Line Bleeding (Refer to P.21A-7.)
- Clutch Pedal Adjustment (Refer to P.21A-5.)







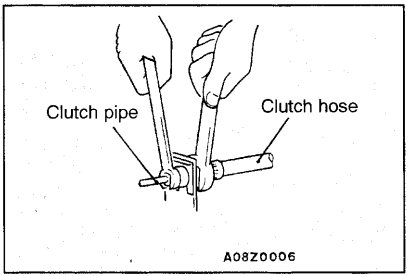
**Specified grease:**
**MITSUBISHI genuine grease**
**Part No. 0101011**

08M0016 00004774

**Clutch master cylinder removal steps**
1. Clevis pin
2. Clutch pipe connection
3. Clutch master cylinder

**Clutch release cylinder removal steps**
4. Clutch pipe connection
5. Clutch release cylinder

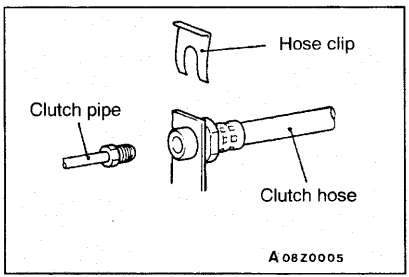
**Clutch line removal steps**
◀A▶ ▶A◀ 6. Clutch pipe
7. Hose clip
◀A▶ ▶A◀ 8. Clutch hose



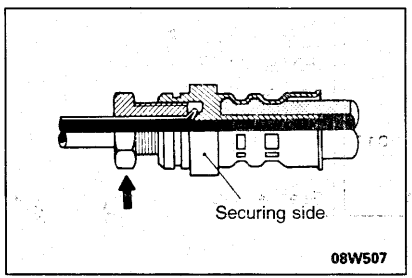

## REMOVAL SERVICE POINTS

### ◀A▶ CLUTCH PIPE/CLUTCH HOSE DISCONNECTION

1. Secure the nut on the clutch hose and loosen the flare nut on the clutch pipe.




2. Remove the hose clip from the clutch hose to remove clutch hose from bracket.




## 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 and eye bolt, check to be sure there is no leakage of the clutch fluid.

## INSPECTION

21100200049

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

## CLUTCH MASTER CYLINDER

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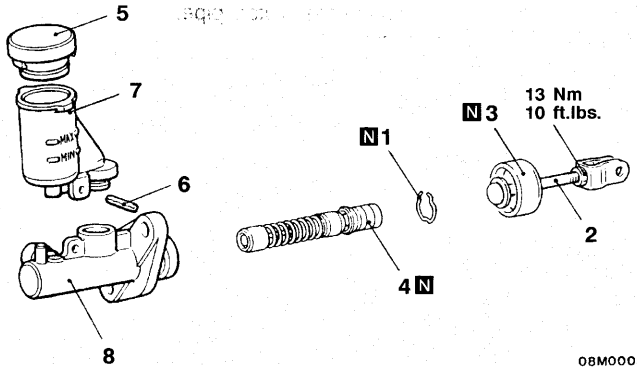
### DISASSEMBLY AND REASSEMBLY

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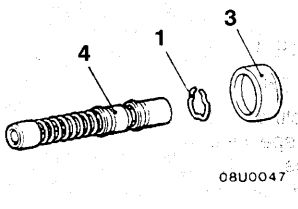
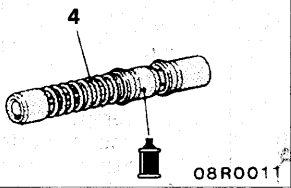
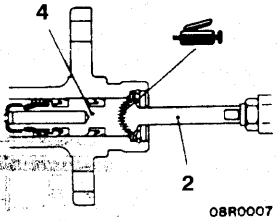



Piston repair kit




Clutch fluid:
Brake fluid DOT3 or DOT4

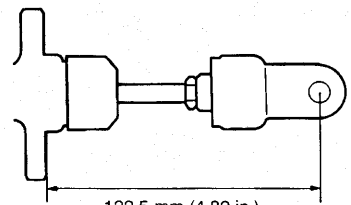



Grease: Rubber grease

**Disassembly steps**

1. Piston stopper ring
▶A◀ 2. Push rod assembly
3. Boot
4. Piston assembly
5. Reservoir cap
6. Spring pin
7. Reservoir tank
8. Clutch master cylinder body

**Caution**
**Do not disassemble the piston assembly.**




## INSTALLATION SERVICE POINT

### ◀A▶ PUSH ROD ASSEMBLY INSTALLATION

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

## INSPECTION

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- 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.