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# CLUTCH

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# CLUTCH

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2110900039

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## GENERAL INFORMATION

21100010031

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

## SERVICE SPECIFICATIONS

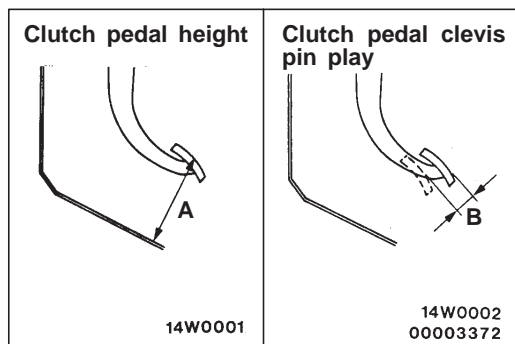
21100030198

Items	Standard value
Clutch pedal height mm	163.5–166.5 <L.H. drive vehicles> 162.5–165.5 <R.H. drive vehicles>
Clutch pedal free play mm	6–13
Clutch pedal clevis pin play mm	1–3
Distance between the clutch pedal and the toeboard when the clutch is disengaged mm	50 <L.H. drive vehicles> 75 <R.H. drive vehicles>

## LUBRICANTS

21100040023

Items	Specified lubricants	Quantity
Clutch fluid	Brake fluid DOT 3 or DOT 4	As required
Push rod assembly	Rubber grease	
Boot		
Release cylinder push rod	MITSUBISHI genuine grease Part No. 0101011	



## ON-VEHICLE SERVICE

21100090189

### CLUTCH PEDAL INSPECTION AND ADJUSTMENT

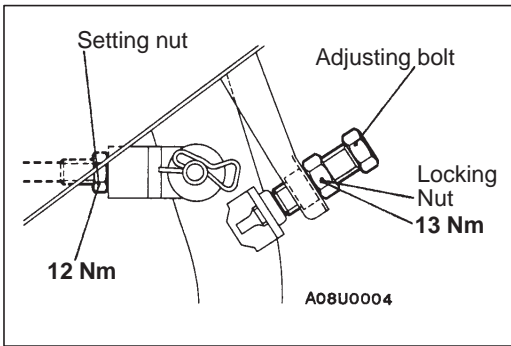
1. Turn up carpet, etc. under the clutch pedal.
2. Measure the clutch pedal height and the clutch pedal clevis pin play.

**Standard value (A):**

**163.5–166.5 <L.H. drive vehicles>**

**162.5–165.5 <R.H. drive vehicles>**

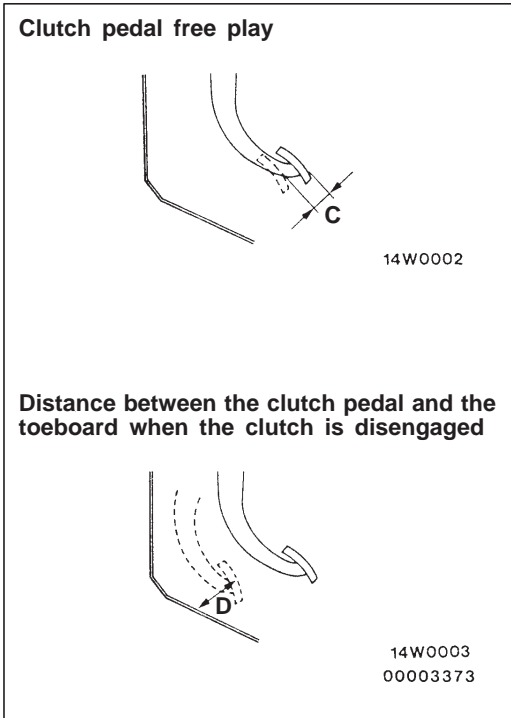
**Standard value (B): 1–3 mm**



2. If the height of the clutch pedal is outside the standard value, loosen the lock nut and adjust the pedal height to the standard value using the adjusting bolt or push rod.
3. If the clutch pedal play is not within the standard value, loosen the locking nut and move the push rod to adjust.

**Caution**

**Do not push in the master cylinder push rod at this time, otherwise the clutch will not operate properly.**



4. 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.

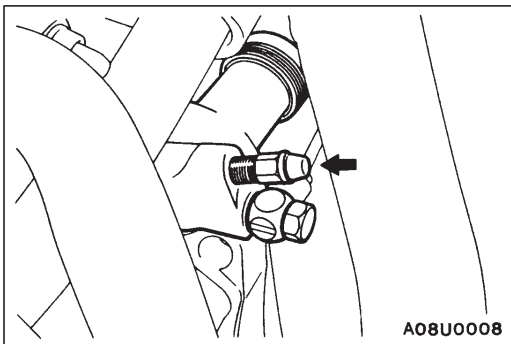
**Standard value (C): 6–13 mm**

**Standard value (D):**

**50 mm <L.H. drive vehicles>**

**75 mm <R.H. drive vehicles>**

5. If the measured values 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.
6. Turn back the carpet, etc.



**BLEEDING**

21100140174

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

**Caution**

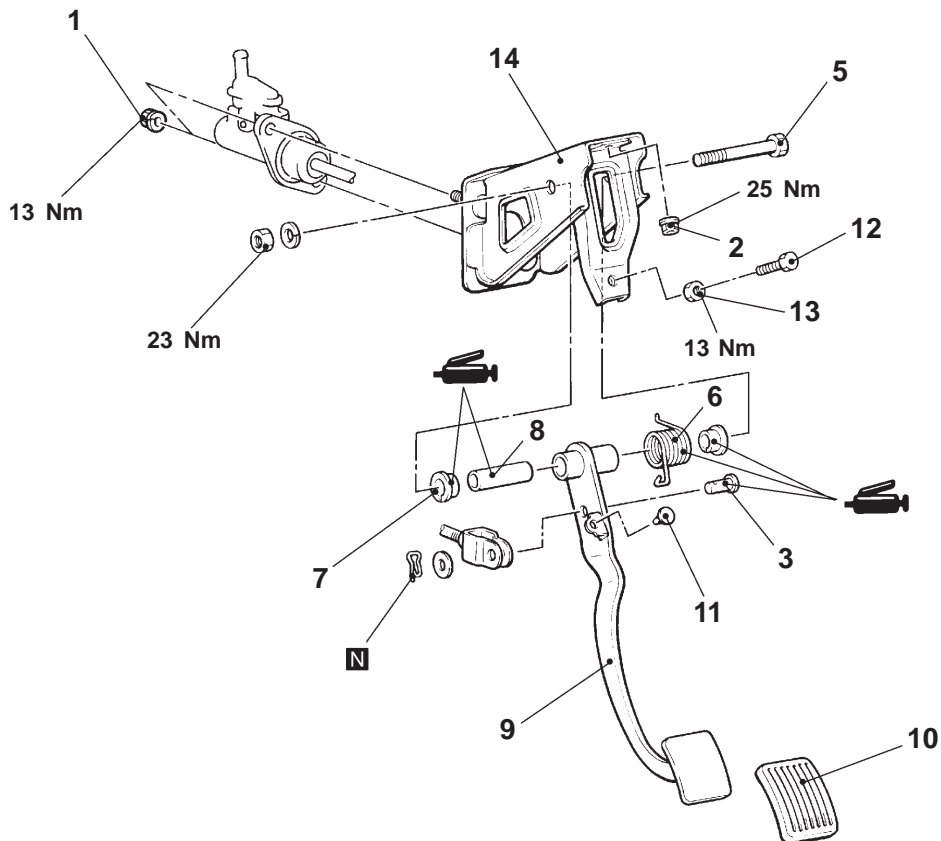
**Avoid using a mixture of the specified fluid and other fluid, otherwise the clutch fluid will deteriorate resulting clutch fault.**

# CLUTCH PEDAL

## REMOVAL AND INSTALLATION

### Pre-removal and Post-installation Operation

- Relay Box Removal and Installation  
<L.H.Drive Vehicles>
- Canister Removal and Installation  
<L.H.Drive Vehicles>
- Clutch Pedal Adjustment (Refer to P.21-2.)



AV0120AJ

### Removal steps

- |   |                                     |
|---|-------------------------------------|
| 1. Clutch master cylinder installation nut        | 7. Clutch pedal bushing             |
| 2. Master cylinder member installation nut        | 8. Pipe                             |
| 3. Clevis pin                                     | 9. Clutch pedal                     |
| 4. Pedal support member and clutch pedal assembly | 10. Pedal pad                       |
| 5. Bolt   | 11. Stopper                         |
| 6. Clutch pedal return spring                     | 12. Adjusting Bolt                  |
|   | 13. Lock nut                        |
|   | 14. Master cylinder member assembly |

# CLUTCH CONTROL

21100190254

## REMOVAL AND INSTALLATION

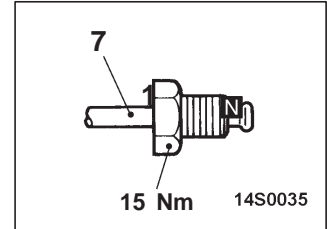
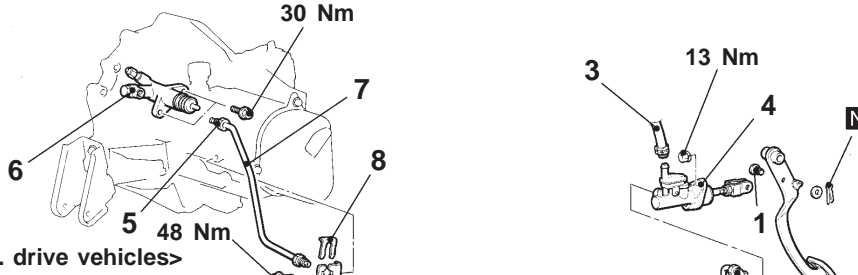
### Pre-removal Operation

Clutch Pedal Adjustment (Refer to P.21-2.)

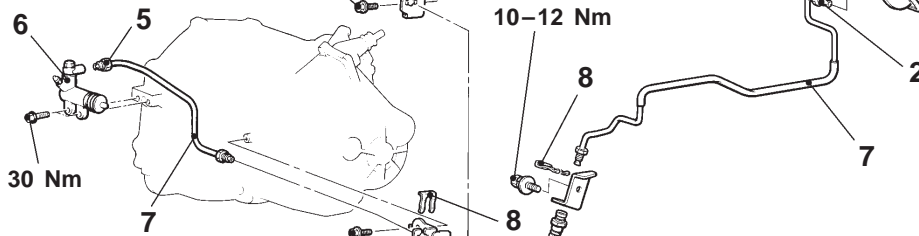
### Post-installation Operation

- Clutch Fluid Supplying
- Clutch Line Bleeding (Refer to P.21-3.)
- Clutch Pedal Adjustment (Refer to P.21-2.)

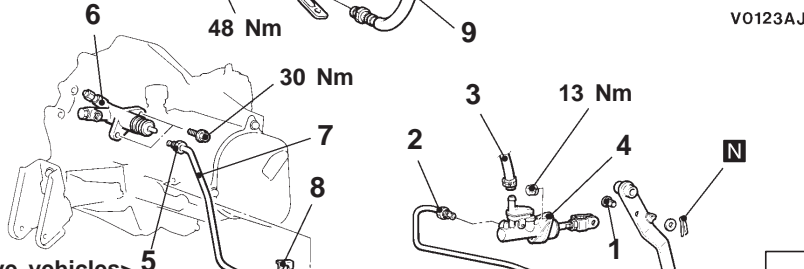
<1300-L.H. drive vehicles>



<1800-L.H. drive vehicles>

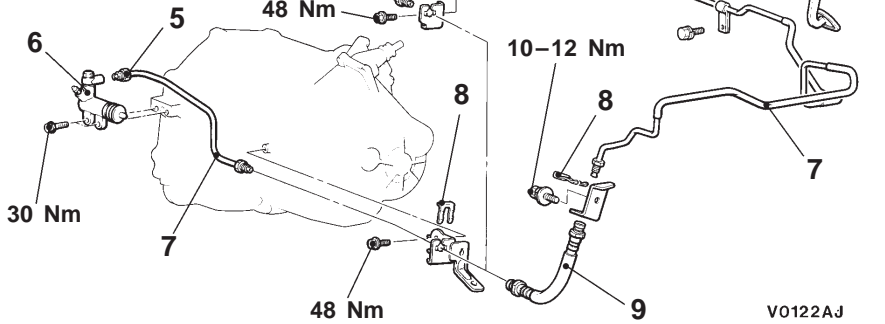


<1300-R.H. drive vehicles>

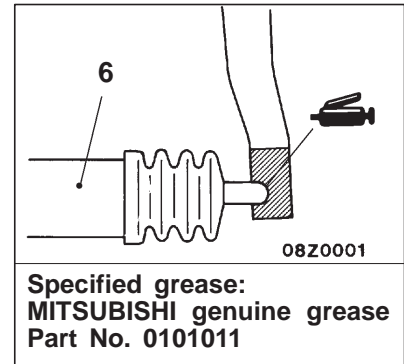


V0123AJ

<1800-R.H. drive vehicles>



V0122AJ  
00008022



### Clutch master cylinder removal steps

- Relay Box <L.H. drive Vehicles>
  - Canister <L.H. drive Vehicles>
1. Clevis pin
  2. Clutch pipe connection
  3. Reservoir hose connection
  4. Clutch master cylinder

### Clutch release cylinder removal steps

5. Clutch pipe connection
6. Clutch release cylinder

### Clutch line removal steps

7. Clutch pipe
8. Hose clip
9. Clutch hose

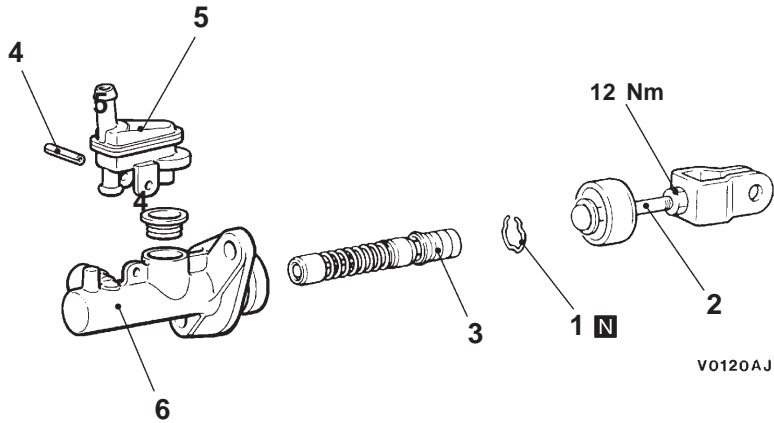
DISASSEMBLY AND REASSEMBLY

21100210219

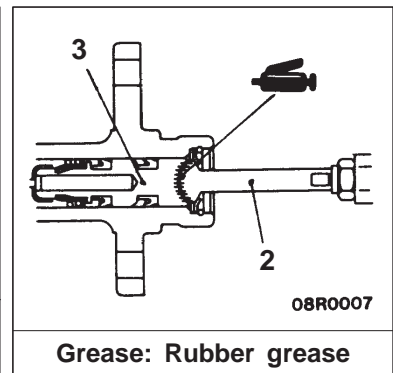
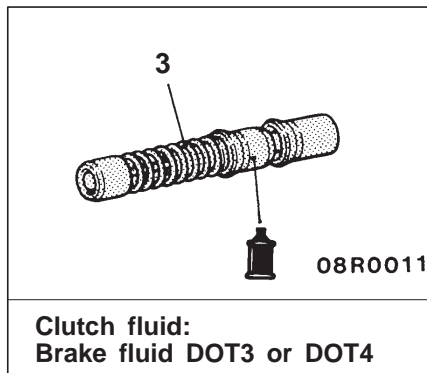
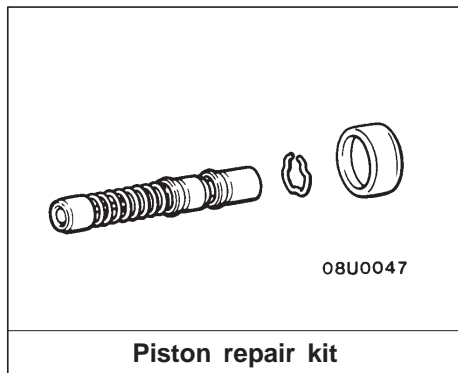
CLUTCH MASTER CYLINDER

Caution

Do not disassemble piston assembly. The piston assembly can not be reassembled.



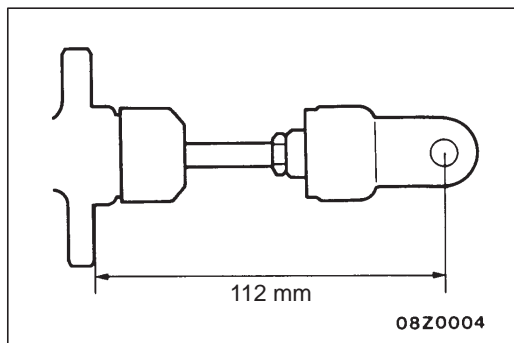
00008023



Disassembly steps

- ▶A◀ 1. Piston stopper ring
- ▶A◀ 2. Push rod assembly
- ▶A◀ 3. Piston assembly

- 4. Spring pin
- 5. Nipple
- 6. Clutch master cylinder body



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 clutch pedal easier.

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# CLUTCH

## CONTENTS

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Clutch Pedal Inspection and Adjustment <4G93, F9Q1> .....	2	Clutch Master Cylinder .....	6

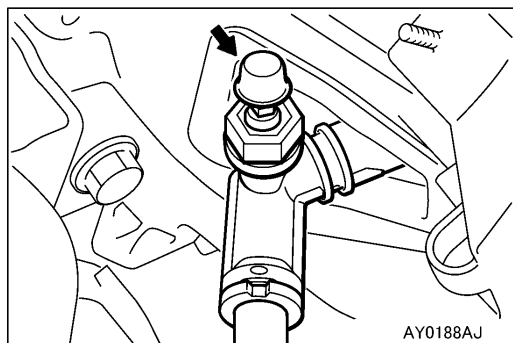
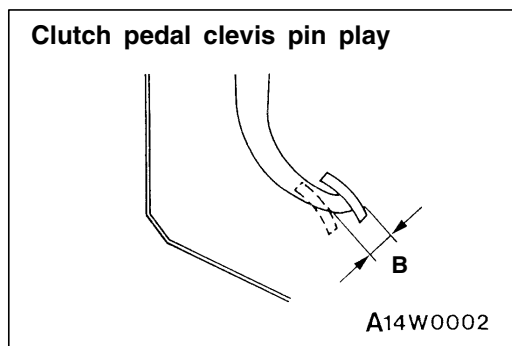
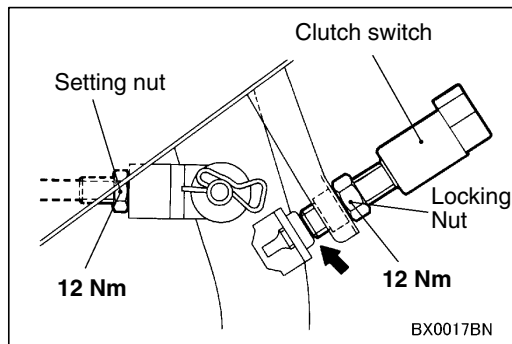
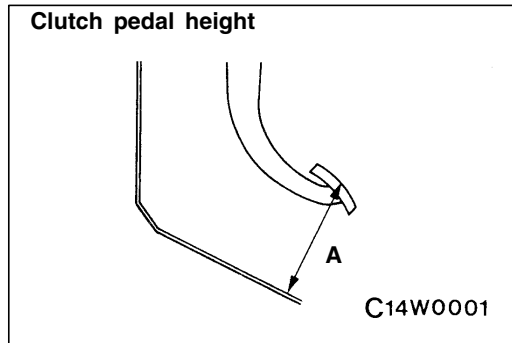
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## GENERAL

### OUTLINE OF CHANGES

- The service procedures for the clutch pedal have been changed due to the addition of the clutch switch to control the engine <4G93, F9Q1>.
- The clutch control have been changed due to the adoption of the F5MV1 transmission <F9Q1>.



## ON-VEHICLE SERVICE

### CLUTCH PEDAL INSPECTION AND ADJUSTMENT <4G93, F9Q1>

1. Turn up carpet, etc. under the clutch pedal.
2. Measure the clutch pedal height.  
**Standard value (A):**  
173.3 – 176.3 mm <L.H. drive vehicles – 4G93>  
171.7 – 174.7 mm <L.H. drive vehicles – F9Q1>  
172.8 – 175.8 mm <R.H. drive vehicles>
3. If the height of the clutch pedal is outside the standard value, loosen the lock nut and adjust the pedal height to the standard value using the push rod.
4. Check the marked area for secure contact after adjustment.

5. Measure the play at the clutch pedal clevis pin.  
**Standard value (B): 1 – 3 mm**
6. If the clutch pedal pin play is not within the standard value, loosen the locking nut and move the push rod to adjust.

#### Caution

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

7. Turn back the carpet, etc.

### BLEEDING <F9Q1>

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

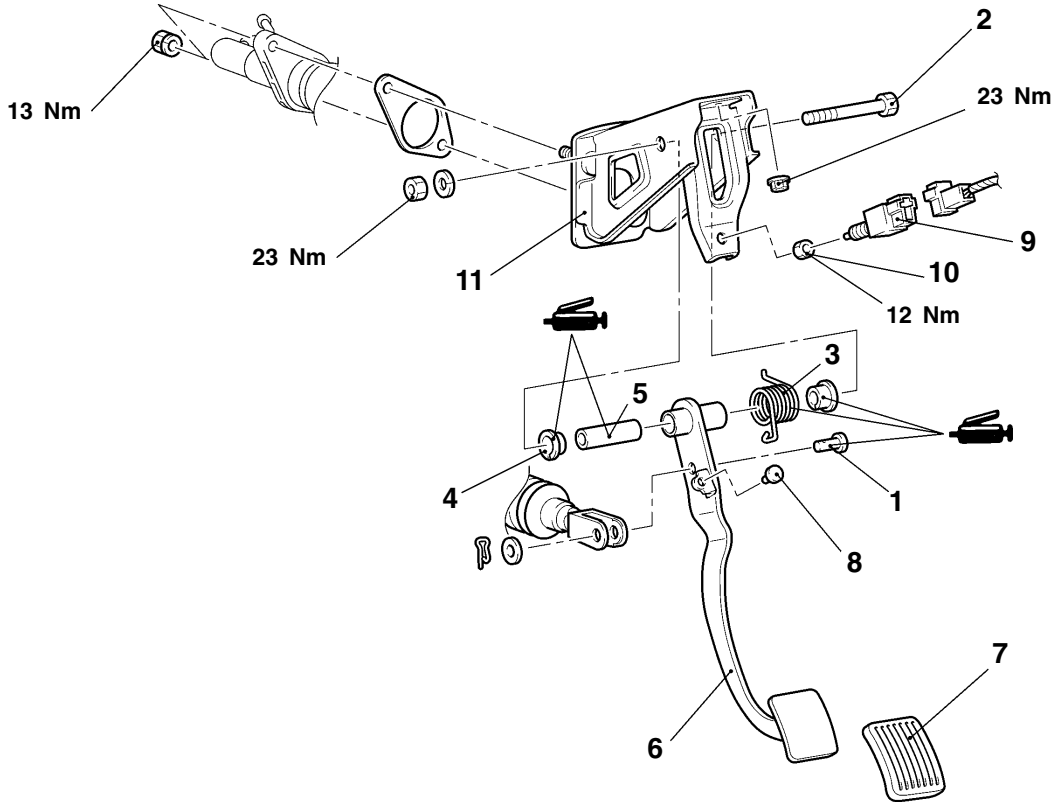
#### Caution

**Avoid using a mixture of the specified fluid and other fluid, otherwise the clutch fluid will deteriorate resulting clutch fault.**

# CLUTCH PEDAL <4G93, F9Q1>

## REMOVAL AND INSTALLATION

**Post-installation Operation**  
Clutch Pedal Adjustment (Refer to P.21-2.)



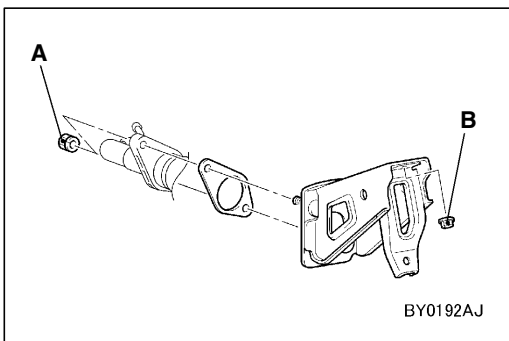
AY0192AJ

### Removal steps

1. Clevis pin
2. Bolt
3. Clutch pedal return spring
4. Clutch pedal bushing
5. Pipe
6. Clutch pedal

7. Pedal pad
8. Stopper
9. Clutch switch
10. Lock nut

▶◀ 11. Master cylinder member assembly



BY0192AJ

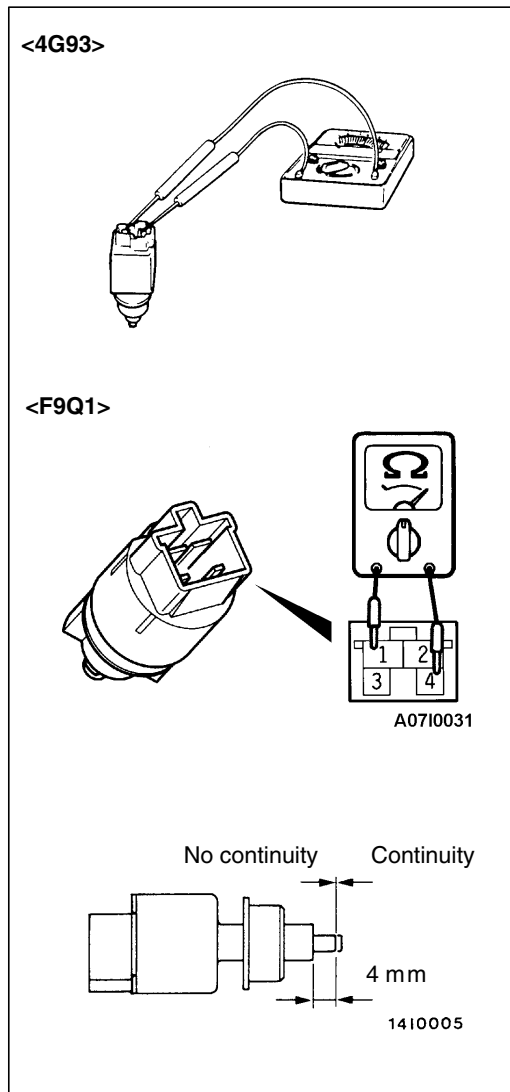
### INSTALLATION SERVICE POINT

#### ▶◀ MASTER CYLINDER MEMBER ASSEMBLY

Tighten the clutch master cylinder mounting nuts (A), and then the master cylinder member assembly mounting bolts (B).

#### NOTE

The master cylinder member assembly can not be positioned correctly if the pedal mounting bolts (B) are tightened first as the their holes are oblong holes.



## INSPECTION

### CLUTCH SWITCH CHECK

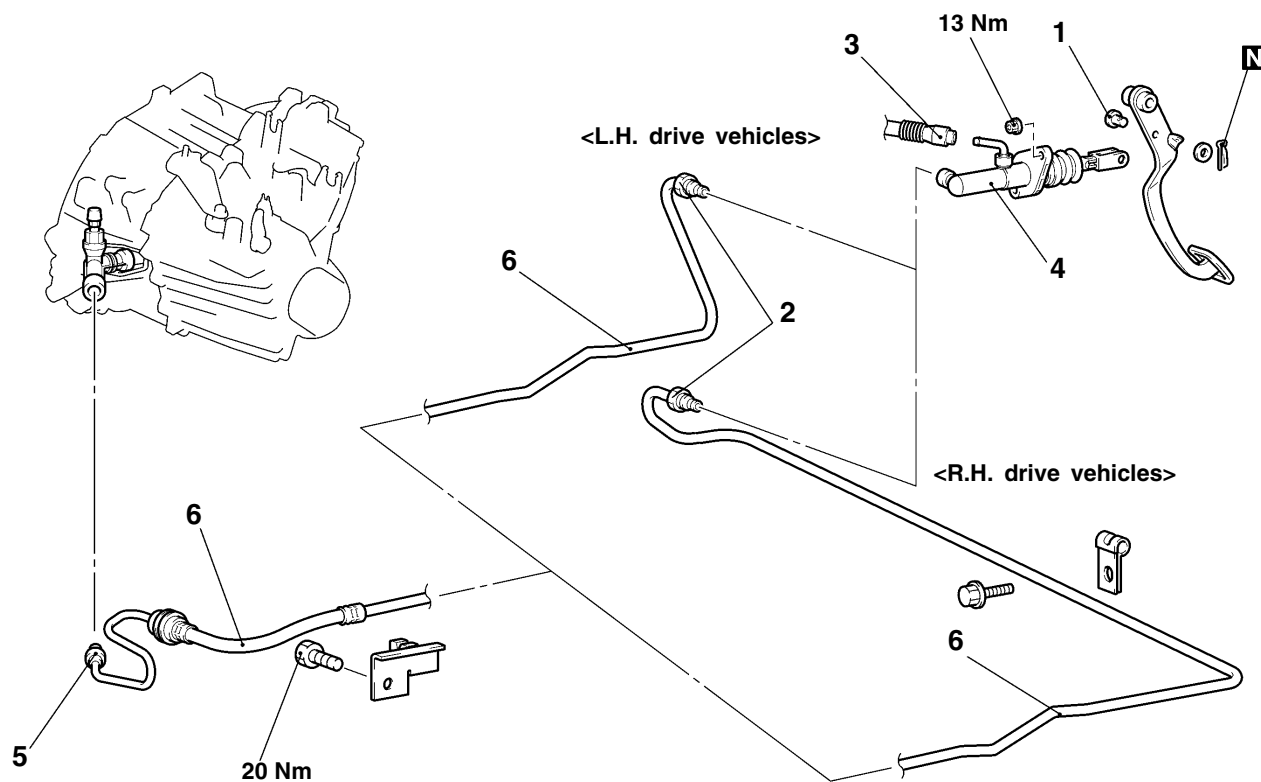
1. Connect the circuit tester ( $\Omega$ range) to the connector of the clutch switch.
2. If there is no continuity when the plunger is pushed into the outer case so as to be stuck from the surface of the outer case for less than 4mm and if there is continuity when the plunger is released, the switch is in good condition.

**CLUTCH CONTROL <F9Q1>****REMOVAL AND INSTALLATION****Pre-removal Operation**

Clutch Fluid Draining (Refer to P.21-2)

**Post-installation Operation**

- Clutch Fluid Supplying
- Clutch Line Bleeding (Refer to P.21-3)
- Clutch Pedal Adjustment (Refer to P. 21-2)



AY0194AJ

**Clutch master cylinder removal steps**

- Battery, battery tray
  - Intercooler pipe (Refer to GROUP 15 – Intercooler)
  - Air cleaner
  - Transmission mount, transmission mount bracket (Refer to GROUP 22 – Manual Transmission)
  - Fuel filter
1. Clevis pin

2. Clutch tube connection (Master cylinder side)
3. Reservoir hose connection
4. Clutch master cylinder

**Clutch line removal steps**

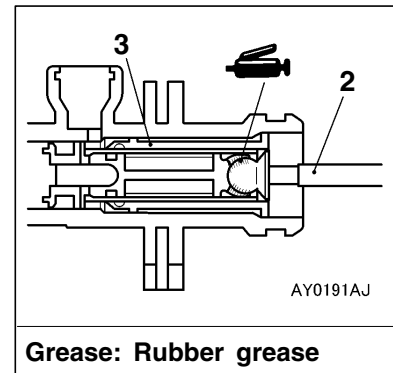
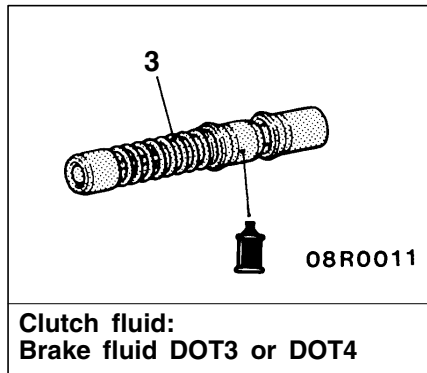
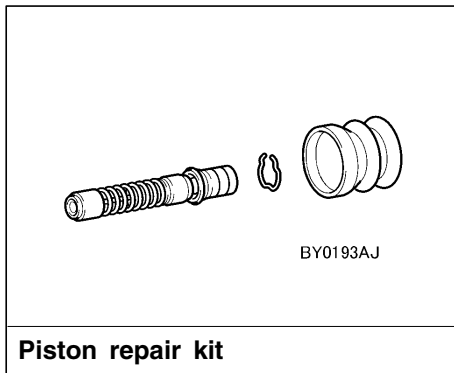
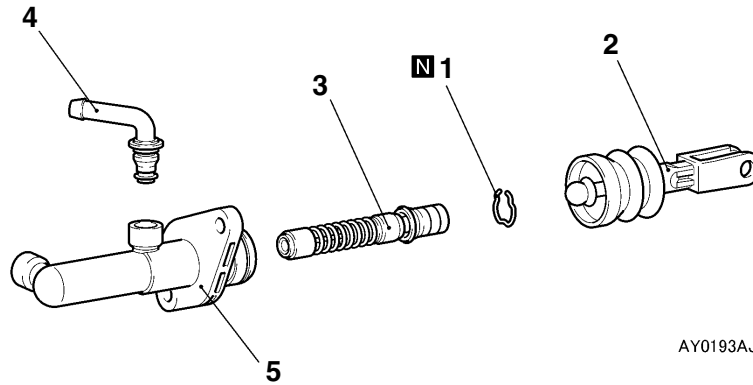
5. Clutch tube connection (Transmission side)
6. Clutch tube assembly

**DISASSEMBLY AND REASSEMBLY**

**CLUTCH MASTER CYLINDER**

**Caution:**

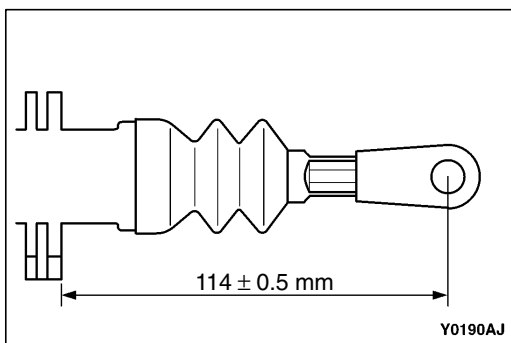
Do not disassemble piston assembly. The piston assembly can not be reassembled.



**Disassembly steps**

- ▶◀ 1. Piston stopper ring
- ▶◀ 2. Push rod assembly
- ▶◀ 3. Piston assembly

- 4. Connector
- 5. Clutch master cylinder body



**INSTALLATION SERVICE POINT**

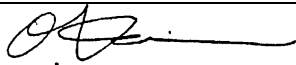
**◀▶ PUSH ROD ASSEMBLY INSTALLATION**

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



# SERVICE BULLETIN

PUBLICATION GROUP, AFTER SALES SERVICE DEP.  
MITSUBISHI MOTOR SALES EUROPE BV

<b>SERVICE BULLETIN</b>		No.: ESB-99E21-501	
		Date: 1999-12-15	<Model> <M/Y>
<b>Subject:</b> CORRECTION TO CLUTCH PEDAL HEIGHT		(EC) CARISMA	96-10
<b>Group:</b> CLUTCH		(EC) SPACE STAR	
		(DG1A, DG5A)	
<b>CORRECTION</b>		 O. Kai - E.V.P. & G.M. After Sales Service Dept.	
<b>1. Description:</b>			
The incorrectness of the clutch pedal height has been rectified.			
<b>2. Applicable Manuals:</b>			
<b>Manual</b>	<b>Pub. No.</b>	<b>Language</b>	<b>Page(s)</b>
'96 CARISMA Workshop Manual chassis	PWDE9502	(English)	21-2
	PWDS9503	(Spanish)	
	PWDF9504	(French)	
	PWDG9505	(German)	
	PWDD9506	(Dutch)	
	PWDW9507	(Swedish)	
	PWDI96E1	(Italian)	
'99 SPACE STAR Workshop Manual chassis	CMXE99E1	(English)	21-2
	CMXS99E1	(Spanish)	
	CMXF99E1	(French)	
	CMXG99E1	(German)	
	CMXD99E1	(Dutch)	
	CMXW99E1	(Swedish)	
	CMXI99E1	(Italian)	
<b>3. Details:</b>			
'96 CARISMA Workshop Manual chassis, page 2			
'99 SPACE STAR Workshop Manual chassis, page 3			

# CLUTCH

## GENERAL INFORMATION

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

<Correct>

171.2 - 174.2

2100030037

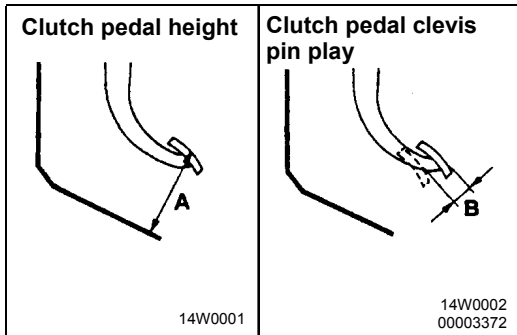
## SERVICE SPECIFICATIONS

Items	Standard value
Clutch pedal height mm	163.5 - 166.5 (L.H. drive vehicles) <del>162.5 - 165.5</del> (R.H. drive vehicles) <Incorrect>
Clutch pedal free play mm	6 - 13
Clutch pedal clevis pin play mm	1 - 3
Distance between the clutch pedal and the toeboard when the clutch is disengaged mm	85

## LUBRICANTS

21100040023

Items	Specified lubricants	Quantity
Clutch fluid	Brake fluid DOT 3 or DOT 4	As required
Push rod assembly	Rubber grease	
Boot		
Release cylinder push rod	mitsubishi genuine grease Part No. 0101011	



## ON-VEHICLE SERVICE

21100090035

### CLUTCH PEDAL INSPECTION AND ADJUSTMENT

1. Measure the clutch pedal height and the clutch pedal clevis pin relay.

Standard value (A): 163.5 - 166.5 mm

<L.H. drive vehicles>

171.2 - 174.2

~~162.5 - 165.5~~ mm <Incorrect>

<R.H. drive vehicles>

<Correct>

**GENERAL INFORMATION**

21100010031

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

<Correct>

173.3 - 176.3  
172.8 - 175.8

21100030198

**SERVICE SPECIFICATIONS**

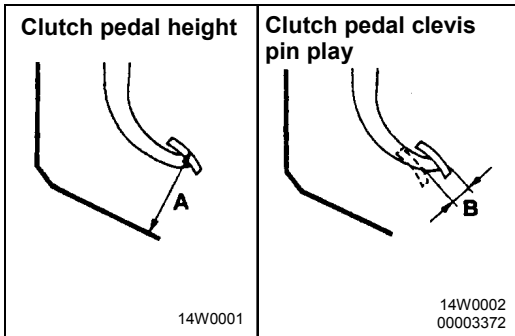
Items	Standard value
Clutch pedal height mm	<del>163.5 - 166.5</del> (L.H. drive vehicles)
	<del>162.5 - 165.5</del> (R.H. drive vehicles)
Clutch pedal free play mm	6 - 13
Clutch pedal clevis pin play mm	1 - 3
Distance between the clutch pedal and the toeboard when the clutch is disengaged mm	50 <L.H. drive vehicles>
	75 <R.H. drive vehicles>

<Incorrect>

**LUBRICANTS**

21100040023

Items	Specified lubricants	Quantity
Clutch fluid	Brake fluid DOT 3 or DOT 4	As required
Push rod assembly	Rubber grease	
Boot		
Release cylinder push rod	MITSUBISHI genuine grease Part No. 0101011	



**ON-VEHICLE SERVICE**

2100090189

**CLUTCH PEDAL INSPECTION AND ADJUSTMENT**

1. Turn up carpet, etc. under the clutch pedal
2. Measure the clutch pedal height and the clutch pedal clevis pin relay.

Standard value (A):

<Incorrect> ~~163.5 - 166.5~~ mm <L.H. drive vehicles>  
 → ~~162.5 - 165.5~~ mm <R.H. drive vehicles>

Standard value (B): 1-3 mm

173.3 - 176.3  
172.8 - 175.8

<Correct>