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# CLUTCH

## F5M41, F5M42, W5M42

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NOTES

# 1. SPECIFICATIONS

## GENERAL SPECIFICATIONS

Items	F5M41-4G13, 4G15	F5M41-4G92	F5M42-4G92
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 size O.D. x I.D. mm	184 x 127	200 x 130	215 x 140
Clutch cover type	Diaphragm spring type	Diaphragm spring type	Diaphragm spring type
Clutch cover setting load N	3256	4193	4539
Clutch release cylinder I.D. mm	20.64	20.64	20.64

Items	F5M42-4G93, 4G94, 4G63	F5M42-4G63, 4G64, 6A12, 4D68	F5M42-6A13
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 size O.D. x I.D. mm	215 x 140	225 x 150	225 x 150
Clutch cover type	Diaphragm spring type	Diaphragm spring type	Diaphragm spring type
Clutch cover setting load N	4511	4511	5198
Clutch release cylinder I.D. mm	20.64	20.64	20.64

Items	F5M51	F5M42-4G64-GDI, W5M42	F5M42-4G94
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 size O.D. x I.D. mm	225 x 150	230 x 155	215 x 140
Clutch cover type	Diaphragm spring type	Diaphragm spring type	Diaphragm spring type
Clutch cover setting load N	5864	5200	4510
Clutch release cylinder I.D. mm	20.64	20.64	—

## SERVICE SPECIFICATIONS

Items	Specifications (limit)
Clutch disc facing rivet sink mm	0.3
Diaphragm spring end height difference mm <F5M41, F5M42, W5M42>	0.5
Release cylinder I.D. to piston O.D. clearance mm	0.15

**TORQUE SPECIFICATIONS**

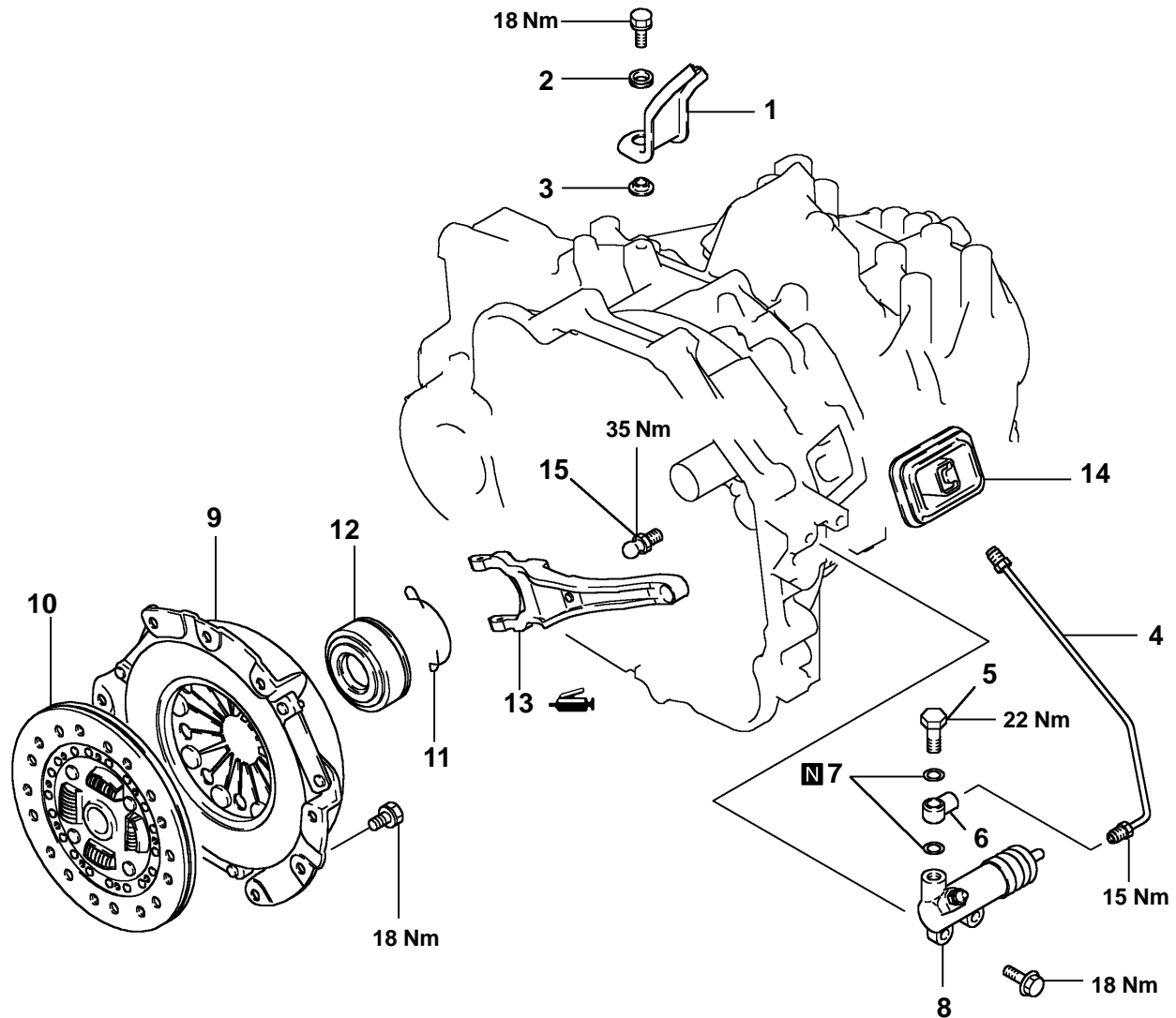
Items	Specified torque
Clutch damper mounting bolt Nm <F5M41, F5M42, W5M42>	18
Clutch fluid line bracket Nm	18
Clutch release cylinder air bleeder Nm <Except clutch release concentric cylinder>	17
Clutch release cylinder air bleeder Nm <Clutch release concentric cylinder>	11
Clutch release cylinder mounting bolt Nm <F5M41, F5M42, W5M42>	18
Clutch release cylinder union bolt Nm	22
Clutch tube flare nut Nm	15
Clutch release cylinder and clutch damper mounting bolt Nm <F5M51>	18
Fulcrum Nm <F5M41, F5M42, W5M42>	35
Release fork shaft mounting bolt Nm <F5M51>	9.8

**LUBRICANTS**

Items	Specified lubricants
Release fork and fulcrum contact surface <F5M41, F5M42, W5M42>	MITSUBISHI genuine grease Part No. 0101011 or equivalent
Release fork and release bearing contact surface	
Release fork and release cylinder push rod contact surface	
Release fork and release fork shaft contact surface <F5M51>	
Piston and piston cup outer surface	
Release cylinder inner surface	Brake fluid SAE J1703 (DOT3)

## 2. CLUTCH

### REMOVAL AND INSTALLATION <F5M41>



TFM1060

#### Removal steps

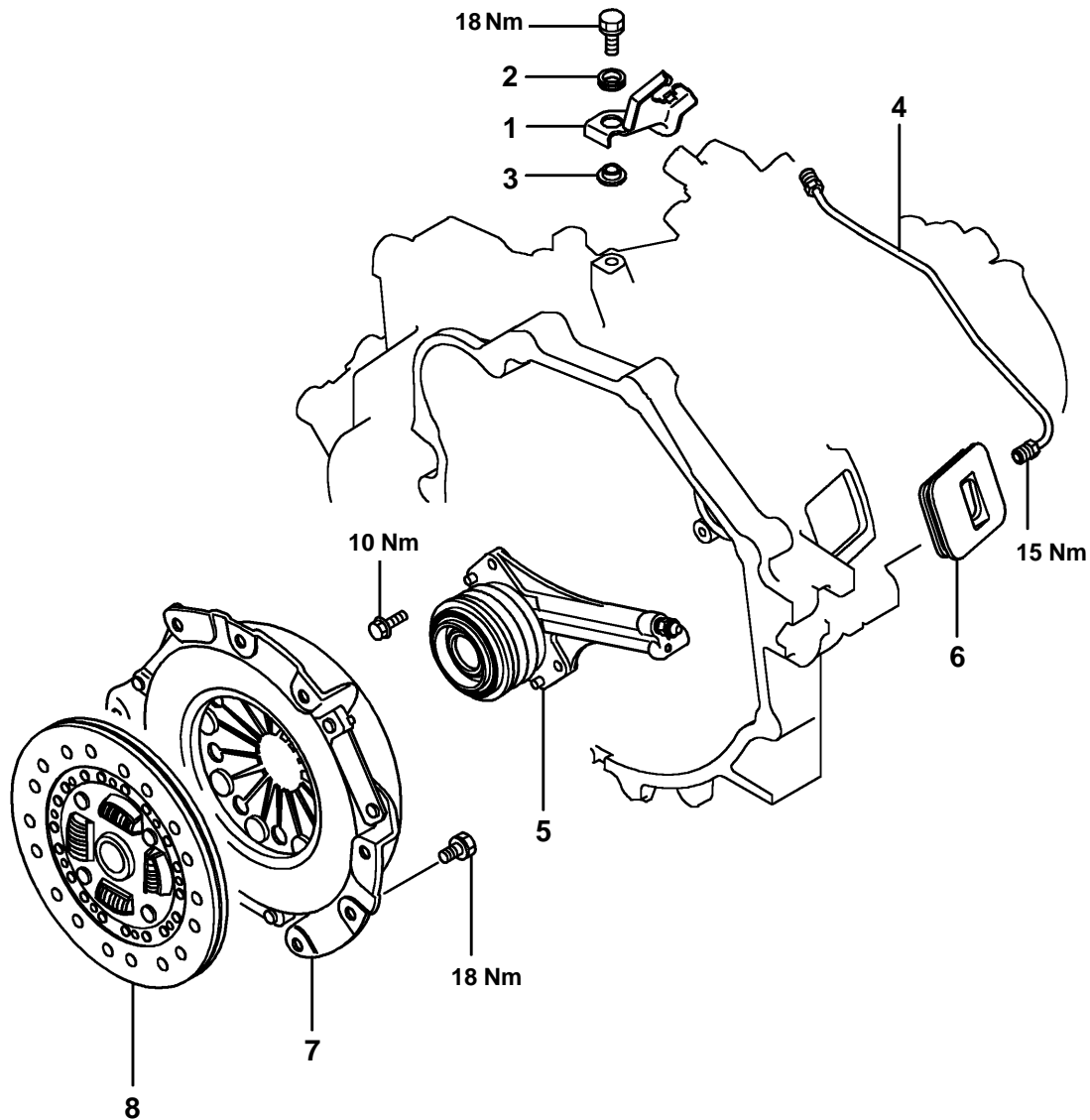
1. Clutch fluid line bracket
2. Insulator
3. Washer
4. Clutch tube
5. Union bolt
6. Union
7. Gasket
8. Clutch release cylinder

9. Clutch cover
10. Clutch disc
11. Return clip
12. Clutch release bearing
13. Release fork
14. Release fork boot
15. Fulcrum



# REMOVAL AND INSTALLATION

<F5M41-4G18, F5M42-4G94>



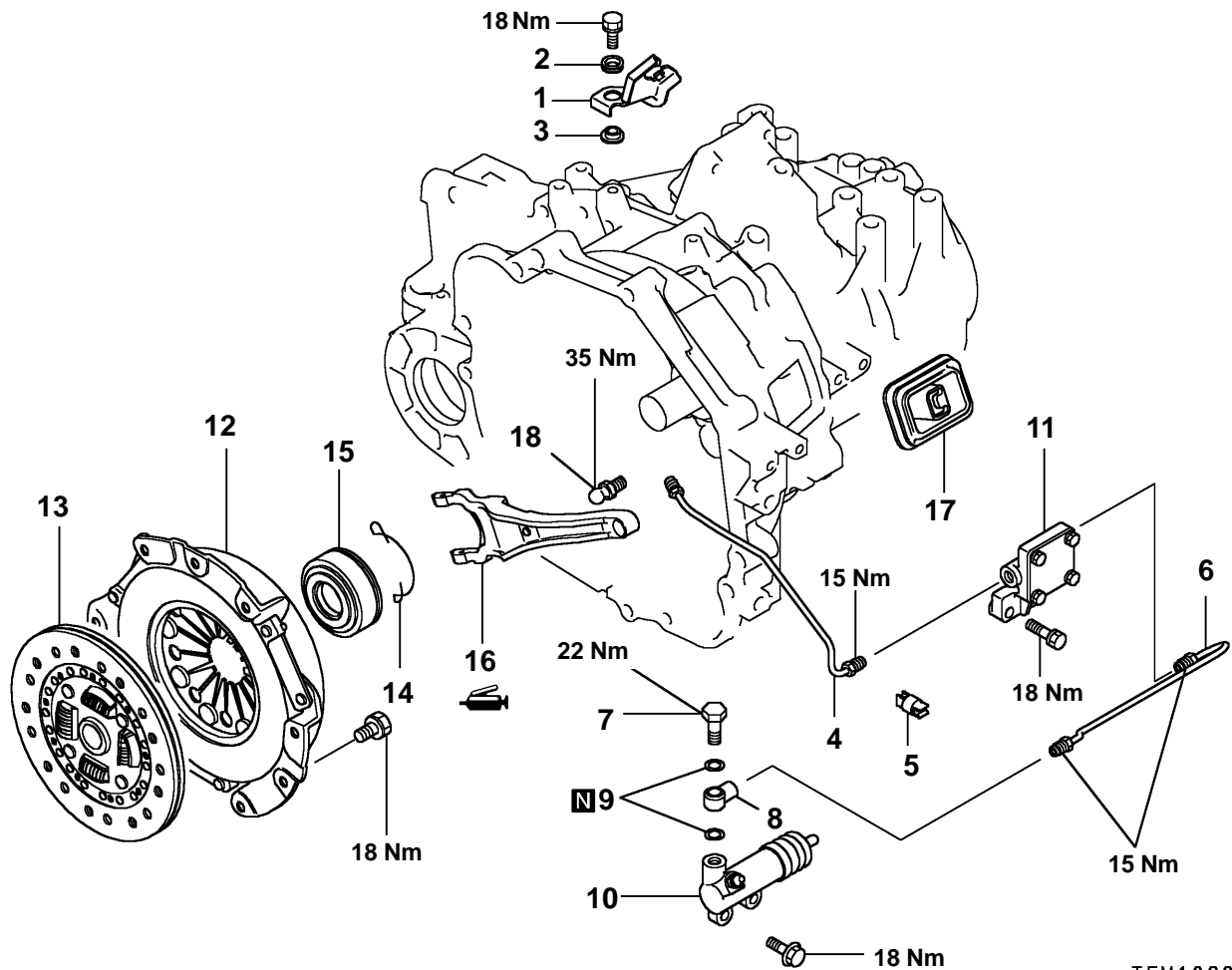
TFM1061

## Removal steps

1. Clutch fluid line bracket
2. Insulator
3. Washer
4. Clutch tube
5. Clutch release concentric cylinder assembly
6. Clutch release fork boot
7. Clutch cover
8. Clutch disc

## REMOVAL AND INSTALLATION

&lt;F5M42-4G92-MIVEC, 4G64-GDI, 6A12-MIVEC, 6A13, W5M42&gt;



TFM1062

## Removal steps

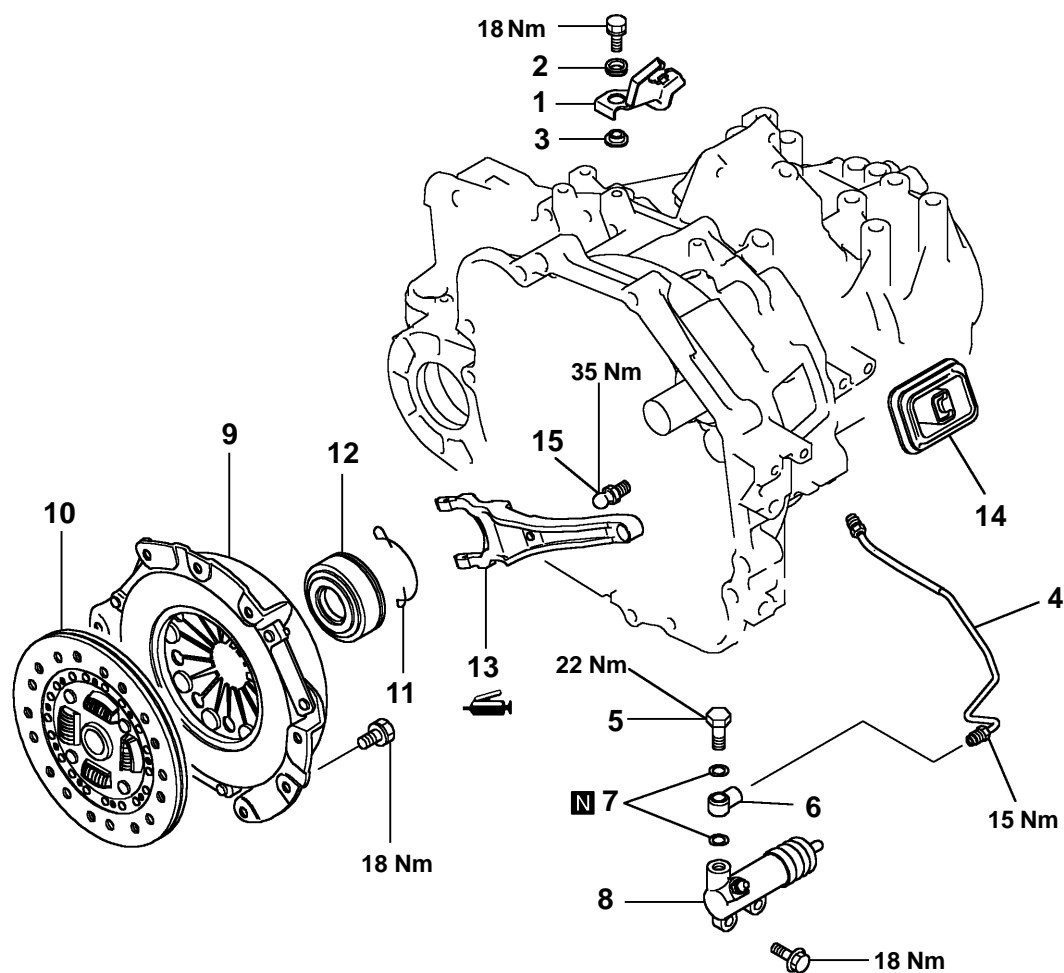
- |                              |                             |
|------------------------------|-----------------------------|
| 1. Clutch fluid line bracket | 10. Clutch release cylinder |
| 2. Insulator                 | 11. Clutch damper           |
| 3. Washer                    | 12. Clutch cover            |
| 4. Clutch tube (A)           | 13. Clutch disc             |
| 5. Tube clip                 | 14. Return clip             |
| 6. Clutch tube               | 15. Clutch release bearing  |
| 7. Union bolt                | 16. Release fork            |
| 8. Union                     | 17. Release fork boot       |
| 9. Gasket                    | 18. Fulcrum                 |

◀A▶ ▶A◀

## REMOVAL AND INSTALLATION

### REMOVAL AND INSTALLATION

**<F5M42-4G93, 4G93-GDI (For SPACE RUNNER), 4G63, 4G64, 4D68>**



TFM1063

## Removal steps

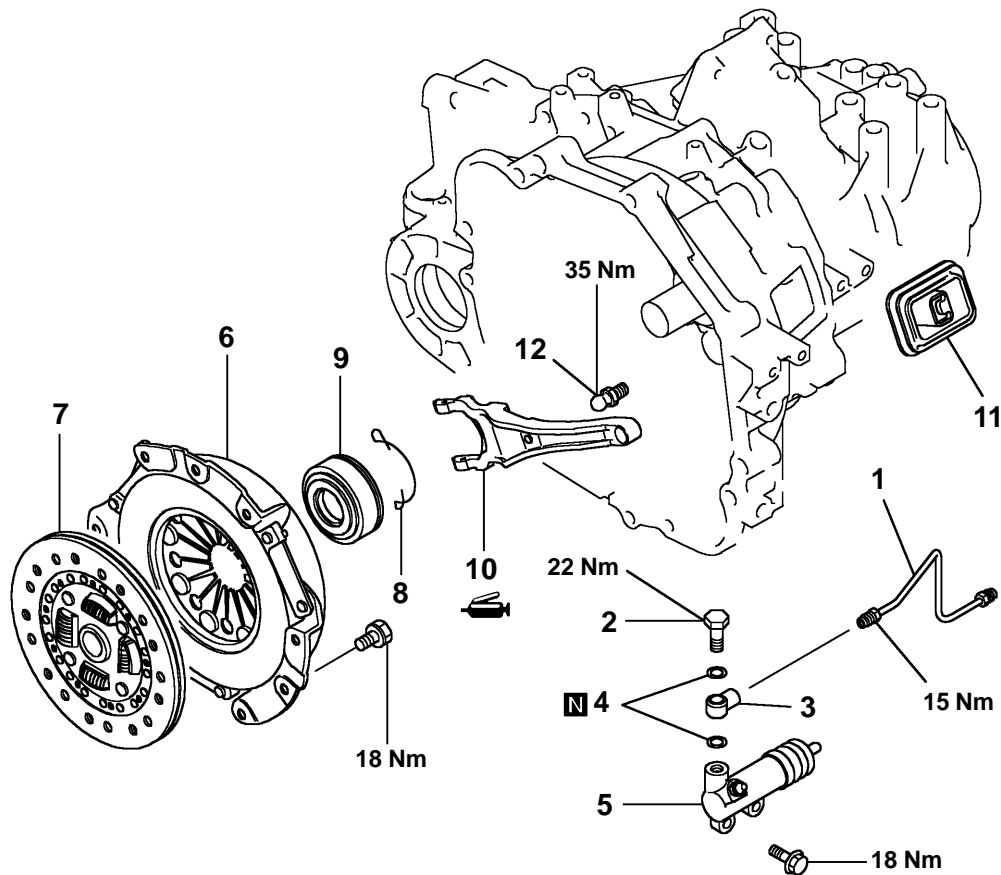
1. Clutch fluid line bracket
2. Insulator
3. Washer
4. Clutch tube
5. Union bolt
6. Union
7. Gasket
8. Clutch release cylinder

9. Clutch cover
10. Clutch disc
11. Return clip
12. Clutch release bearing
13. Release fork
14. Release fork boot
15. Fulcrum





## REMOVAL AND INSTALLATION &lt;F5M42-4G93-GDI (For CARISMA)&gt;



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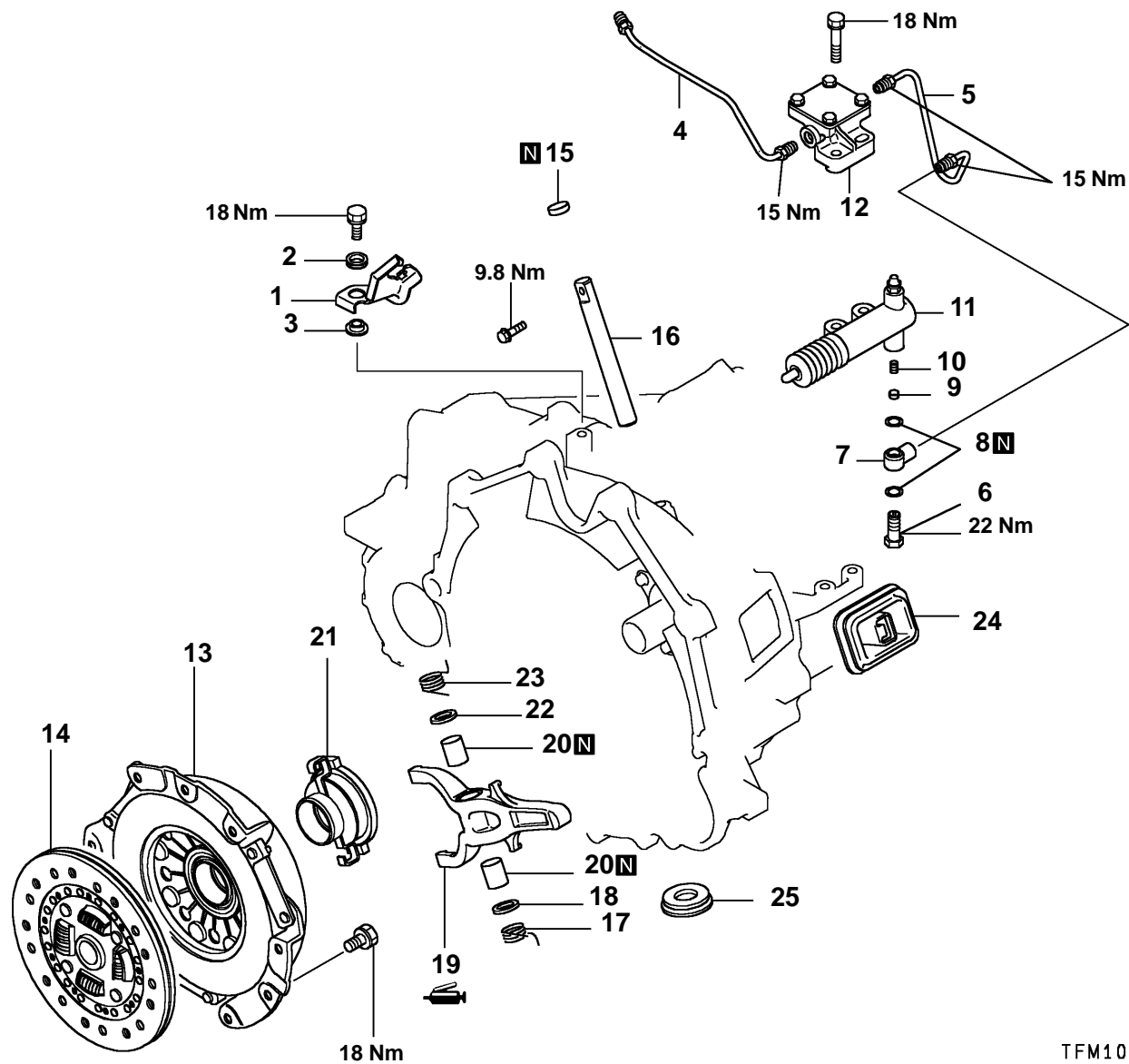
**Removal steps**

1. Clutch tube
2. Union bolt
3. Union
4. Gasket
5. Clutch release cylinder
6. Clutch cover

7. Clutch disc
8. Return clip
9. Clutch release bearing
10. Release fork
11. Release fork boot
12. Fulcrum



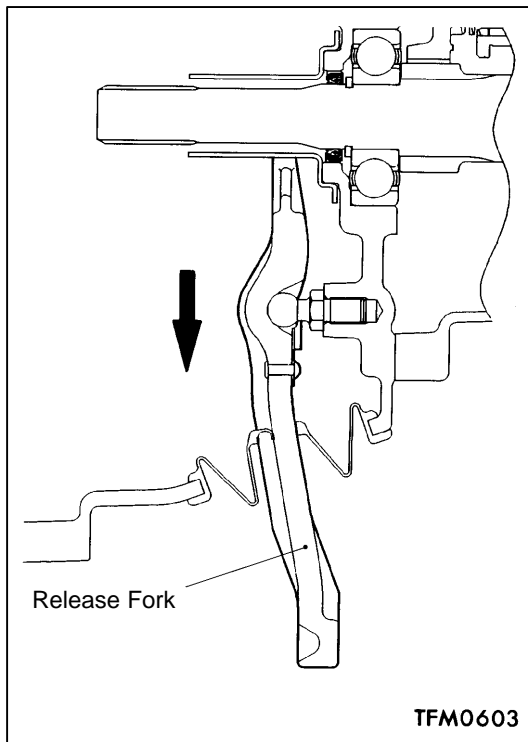
## REMOVAL AND INSTALLATION <F5M51>



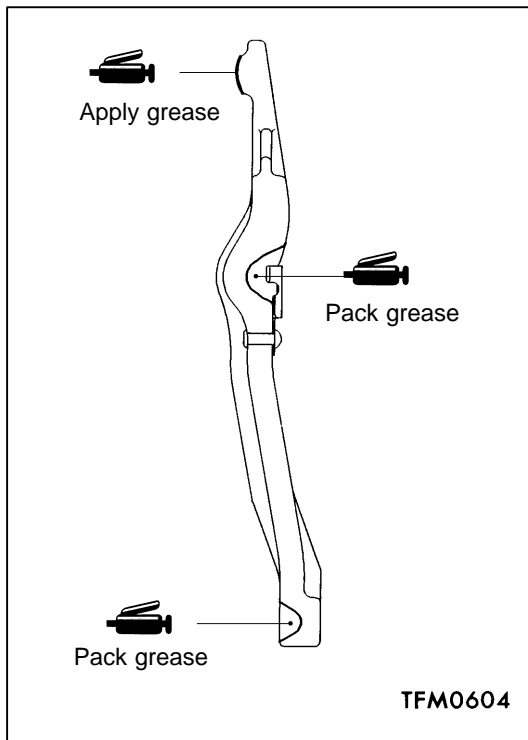
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## Removal steps

- |                              |     |                            |
|------------------------------|-----|----------------------------|
| 1. Clutch fluid line bracket |     | 13. Clutch cover           |
| 2. Insulator                 |     | 14. Clutch disc            |
| 3. Washer                    | ▶D◀ | 15. Sealing cap            |
| 4. Clutch tube (A)           |     | 16. Release fork shaft     |
| 5. Clutch tube               |     | 17. Support spring (L)     |
| 6. Union bolt                |     | 18. Packing                |
| 7. Union                     | ▶C◀ | 19. Release fork           |
| 8. Gasket                    | ▶B◀ | 20. Bushing                |
| 9. Valve                     |     | 21. Clutch release bearing |
| 10. Valve spring             |     | 22. Packing                |
| 11. Clutch release cylinder  |     | 23. Support spring (R)     |
| 12. Clutch damper            |     | 24. Release fork boot      |
|                              |     | 25. Maintenance hole cover |

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

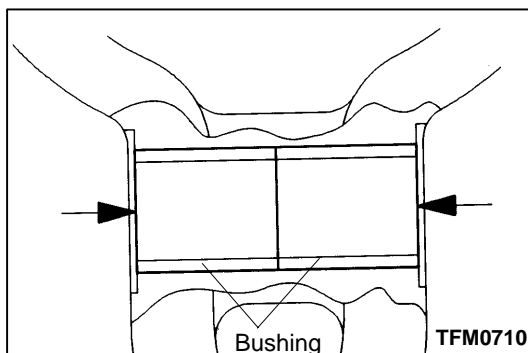
Move the release fork in the direction shown to remove the clip from the fulcrum.

**INSTALLATION SERVICE POINTS****▶A◀ RELEASE FORK INSTALLATION**

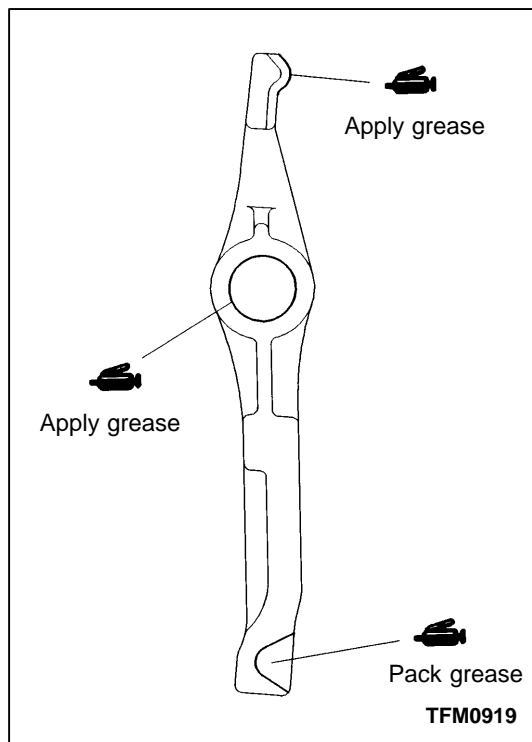
Apply/pack grease to the illustrated positions of the release fork.

**Specified grease:**

**mitsubishi genuine grease part No. 0101011 or equivalent**

**▶B◀ BUSHING INSTALLATION**

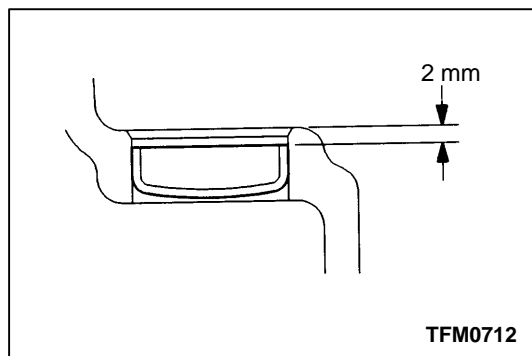
Press in the bushing into the release fork to the position shown in the illustration.

**►C◄ RELEASE FORK INSTALLATION**

Apply/pack grease to the illustrated positions of the release fork.

**Specified grease:**

**mitsubishi genuine grease Part No. 0101011 or equivalent**

**►D◄ SEALING CAP INSTALLATION**

Press in the sealing cap to the position shown in the illustration. Be sure that it is not installed aslant.

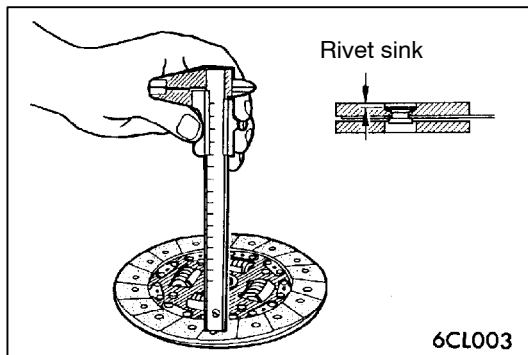
**INSPECTION****CLUTCH COVER**

Check the diaphragm spring end for wear and uneven height. Replace if wear is evident or height difference exceeds the limit. <F5M41, F5M42, W5M42>

**Limit: 0.5 mm**

Check the pressure plate surface for wear, cracks and discoloration.

Check the rivets of the strap plate for looseness. If loose, replace the clutch cover.

**CLUTCH DISC****Caution**

**Don't clean the clutch disc in a cleaning fluid.**

Check the facing for loose rivets, uneven contact, evidence of seizure, or deposited oils and greases. If defective, replace the clutch disc.

Measure the rivet sink and replace the clutch disc if it is out of specification.

**Limit: 0.3 mm**

Check the torsion spring for looseness and damage. If defective, replace the clutch disc.

Combine the clutch disc with the input shaft and check for sliding condition and play in the rotating direction. If poor sliding condition is evident, clean, reassemble, and recheck. If excessive looseness is evident, replace the clutch disc and/or input shaft.

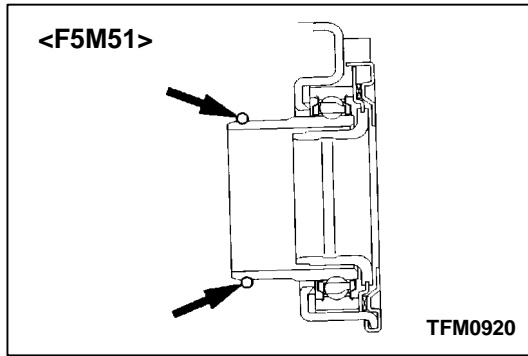
**CLUTCH RELEASE BEARING****Caution**

**Release bearing is packed with grease. Therefore, do not wash it in a cleaning fluid and the like.**

Check for seizure, damage, noise or improper rotation.

Check for wear on the surface which contacts with the diaphragm spring. <F5M41, F5M42, W5M42>

Check for wear on the surface which contacts with release fork. If abnormally worn, replace.



Check the pull ring for wear and replace the clutch release bearing if necessary. <F5M51>

### RELEASE FORK

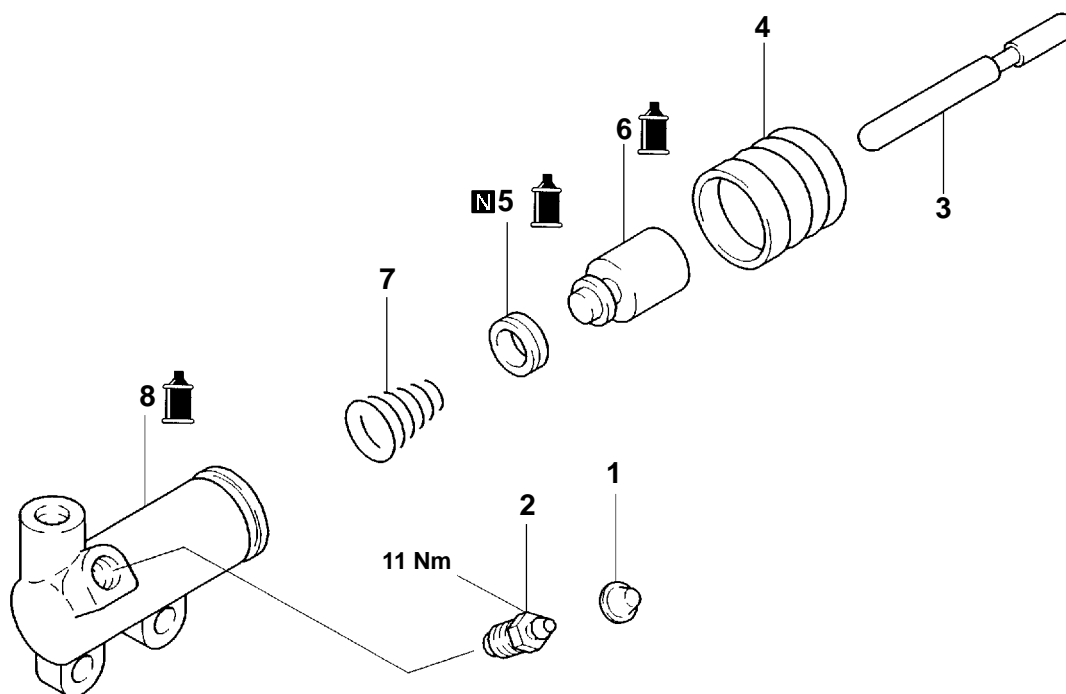
If the surface which contacts with the bearing is abnormally worn, replace.

### RELEASE FORK SHAFT <F5M51>

Check the release fork shaft for bend and wear, and replace if necessary.

### 3. CLUTCH RELEASE CYLINDER

#### DISASSEMBLY AND REASSEMBLY <F5M41, F5M42, W5M42>



TFM0594

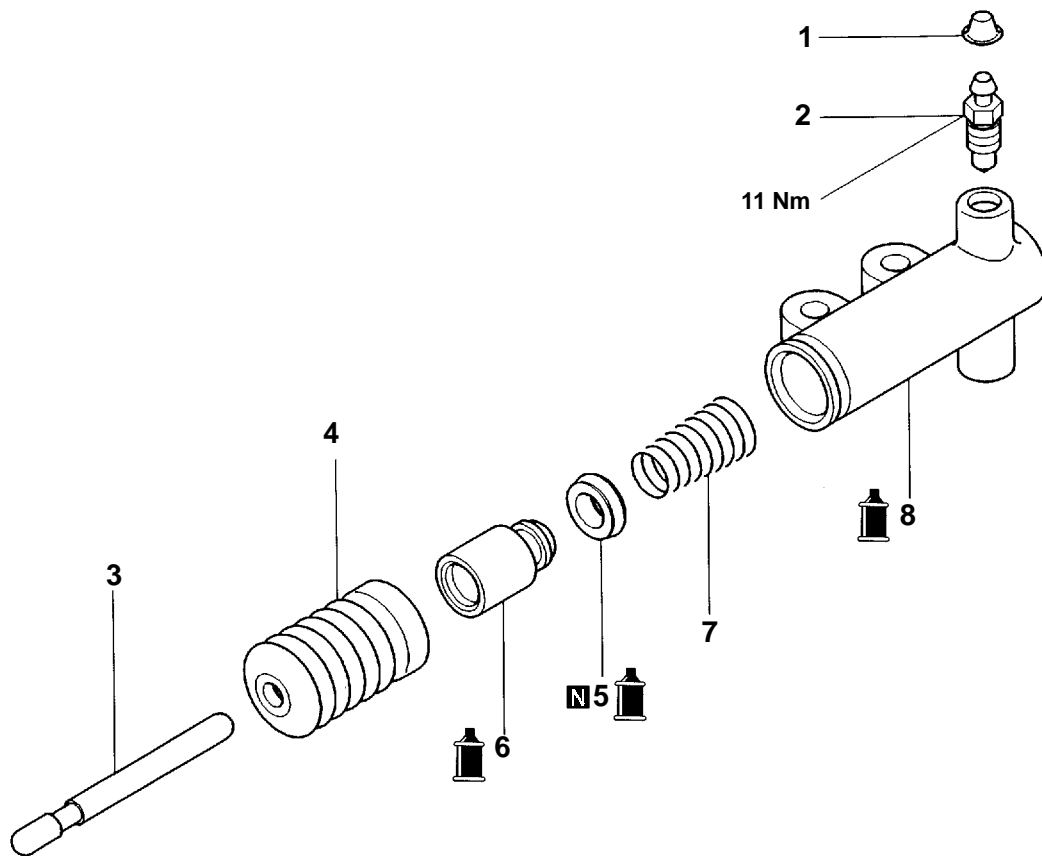
#### Disassembly steps

1. Cap
2. Air bleeder
3. Push rod
4. Boot



5. Piston cup
6. Piston
7. Conical spring
8. Release cylinder

## DISASSEMBLY AND REASSEMBLY &lt;F5M51&gt;



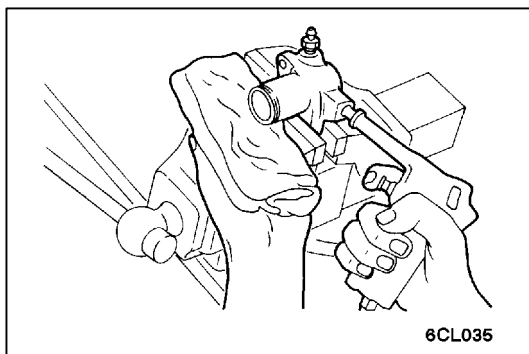
TFM0709

**Disassembly steps**

1. Cap
2. Air bleeder
3. Push rod
4. Boot



5. Piston cup
6. Piston
7. Conical spring
8. Release cylinder

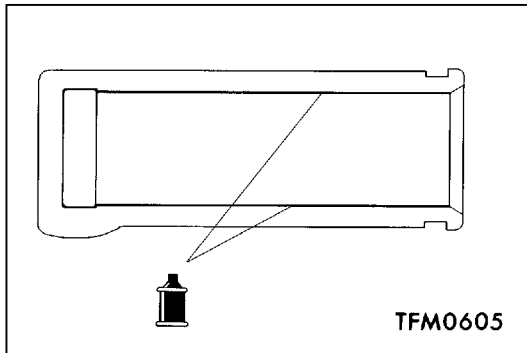
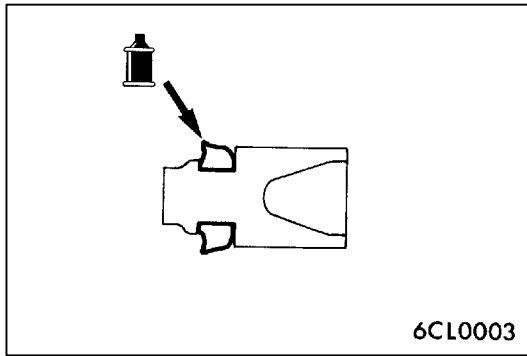
**DISASSEMBLY SERVICE POINT****◀A▶ PISTON CUP / PISTON REMOVAL**

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.



**REASSEMBLY SERVICE POINT****►A◄ PISTON / PISTON CUP INSTALLATION**

After applying brake fluid to the inside wall surface of the release cylinder and all the circumferential surfaces of the piston and piston cup, insert the piston and piston cup into the cylinder.

**Specified brake fluid:**

**Brake fluid SAE J1703 (DOT3)**

**INSPECTION****RELEASE CYLINDER**

Check the inside wall surface of the release cylinder for rust and damage.

Using a cylinder gauge, measure the inside diameter of the release cylinder at about three positions (the deepest, middle and brim positions). If the clearance from the outside diameter of the piston exceeds the limit, replace the release cylinder as an assembly.

**Limit: 0.15 mm**

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## NOTES