

F1 CLUTCH

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1 CLUTCH SYSTEM

1-1 BASIC CHECK AND ADJUSTMENT

1-1-1 CHECK OF CLUTCH PEDAL HEIGHT

1. Check the height from the dash panel to the center of the pedal at the right side.

SPECIFIED VALUE: Height of clutch pedal
 149.9-154.9mm(RHD)
 149.1-154.1mm(LHD)

CAUTION

- There is no need of adjusting the pedal height.
- The height cannot be adjusted by means of the bolt at the section (A).

1-1-2 ADJUSTMENT OF CLUTCH PEDAR FREE TRAVEL

1. Move the clutch release lever by your left hand and stop it at a position where it comes in contact lightly with the diaphragm spring of the clutch cover.

(The arrow mark in the figure shows the direction in which the release lever is moved.)

2. Pull up the clutch outer cable by your right hand and hold it at a position where there is no slack of the inner cable. Then, release your left hand.

3. Screw in the adjusting screw by your left hand, until it comes in contact with the rotation stopper protrusion of the vibration preventive rubber.

At this time, if the rotation stopper protrusion is not aligned with the groove position of the adjusting screw, perform the alignment by backing off the adjusting screw.

4. Release your hand under a condition where the groove position of the adjusting screw is aligned with the rotation stopper protrusion.

5. Ensure that the free travel of the clutch pedal conforms to the specified value.

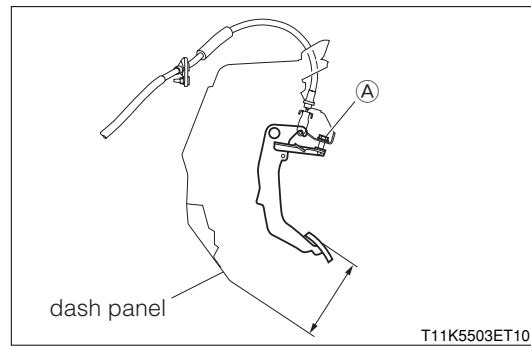
(When carrying out the operations above, the operations to be performed by your right hand can be performed by your left hand and vice versa.)

SPECIFIED VALUE: Free travel of clutch pedal
 10 to 25 mm
 (Upper surface of pedal pad)

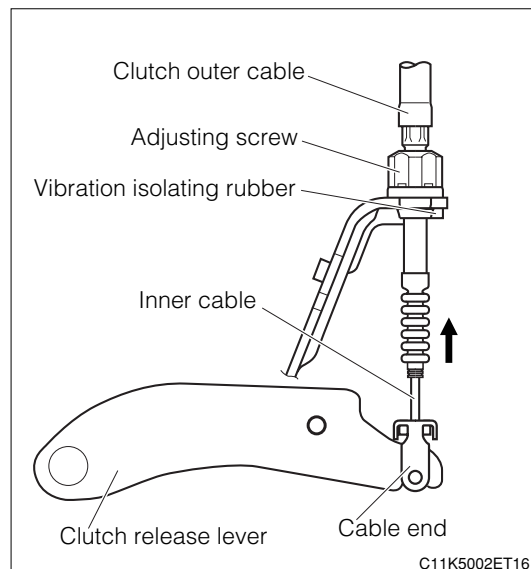
1-1-3 CHECK OF DISTANCE TO THE FLOOR WHEN THE CLUTCH IS DISENGAGED

1. Check and adjust the clutch pedal height.
2. Check and adjust the free travel of the clutch pedal.
3. With the engine idling, pull the parking brake lever fully. Then, move the shift lever to the 1st gear position and slowly release the pedal. Check the distance between the pedal at a moment immediately before the clutch is engaged and the position when the clutch pedal is depressed fully to the floor.

SPECIFIED VALUE: 20 mm or more (Reserve travel)



T11K5503ET10



C11K5002ET16

2 CLUTCH PEDAL

2-1 REMOVAL AND INSTALLATION(RHD VEHICLES)

2-1-1 ARTICLES TO BE PREPARED

Instrument

Torque wrench

Lubricant,adhesive,others

MP grease

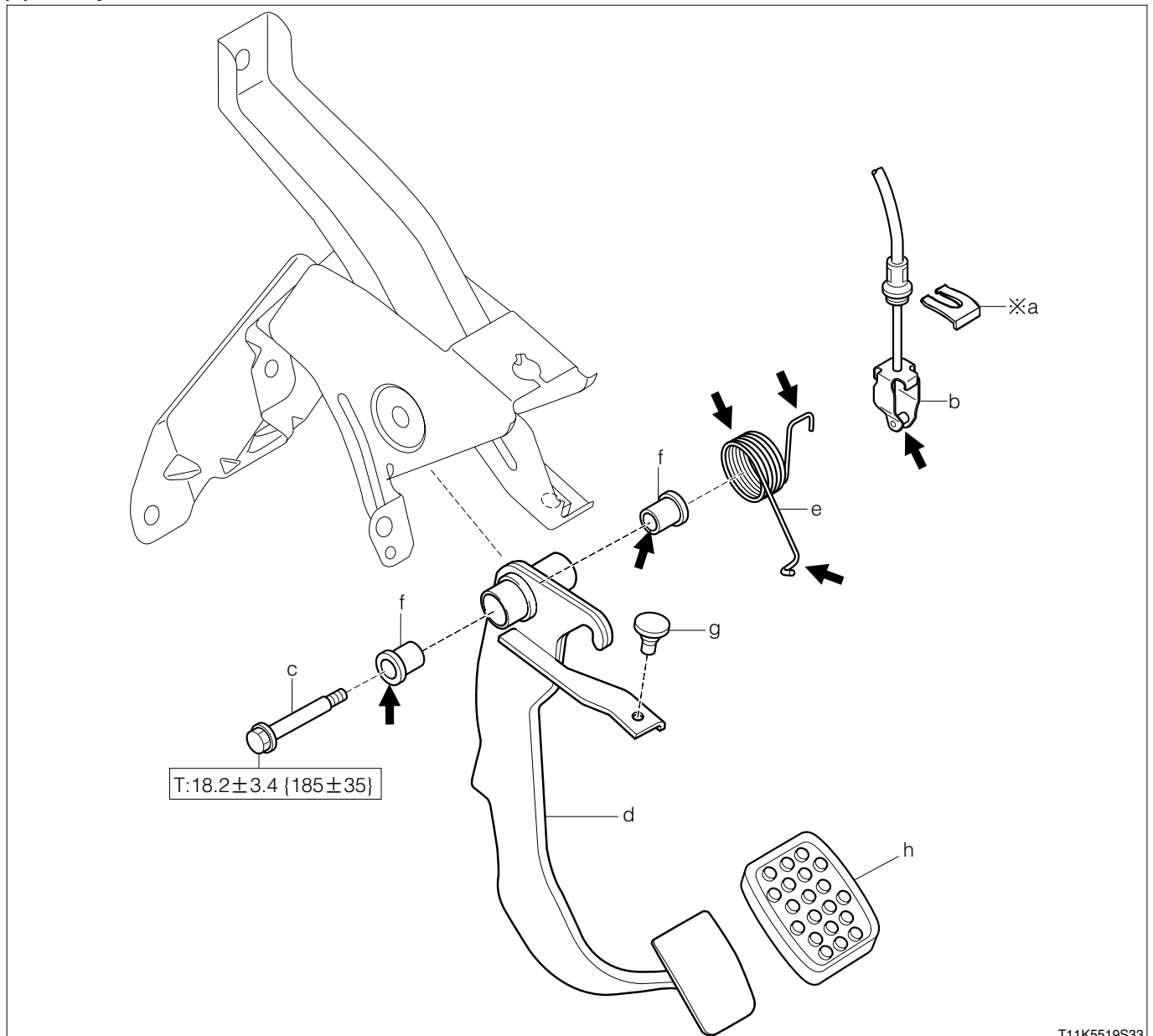
2-1-2 OPERATION BEFORE REMOVAL

1.Remove the instrument panel finish lower panel.

Refer to Page I2-23.

2-1-3 REMOVAL AND INSTALLATION PROCEDURES

(1) Components



T11K5519S33

➔: MP grease

※:Non - reusable parts

Unit: N·m{kgf·cm}

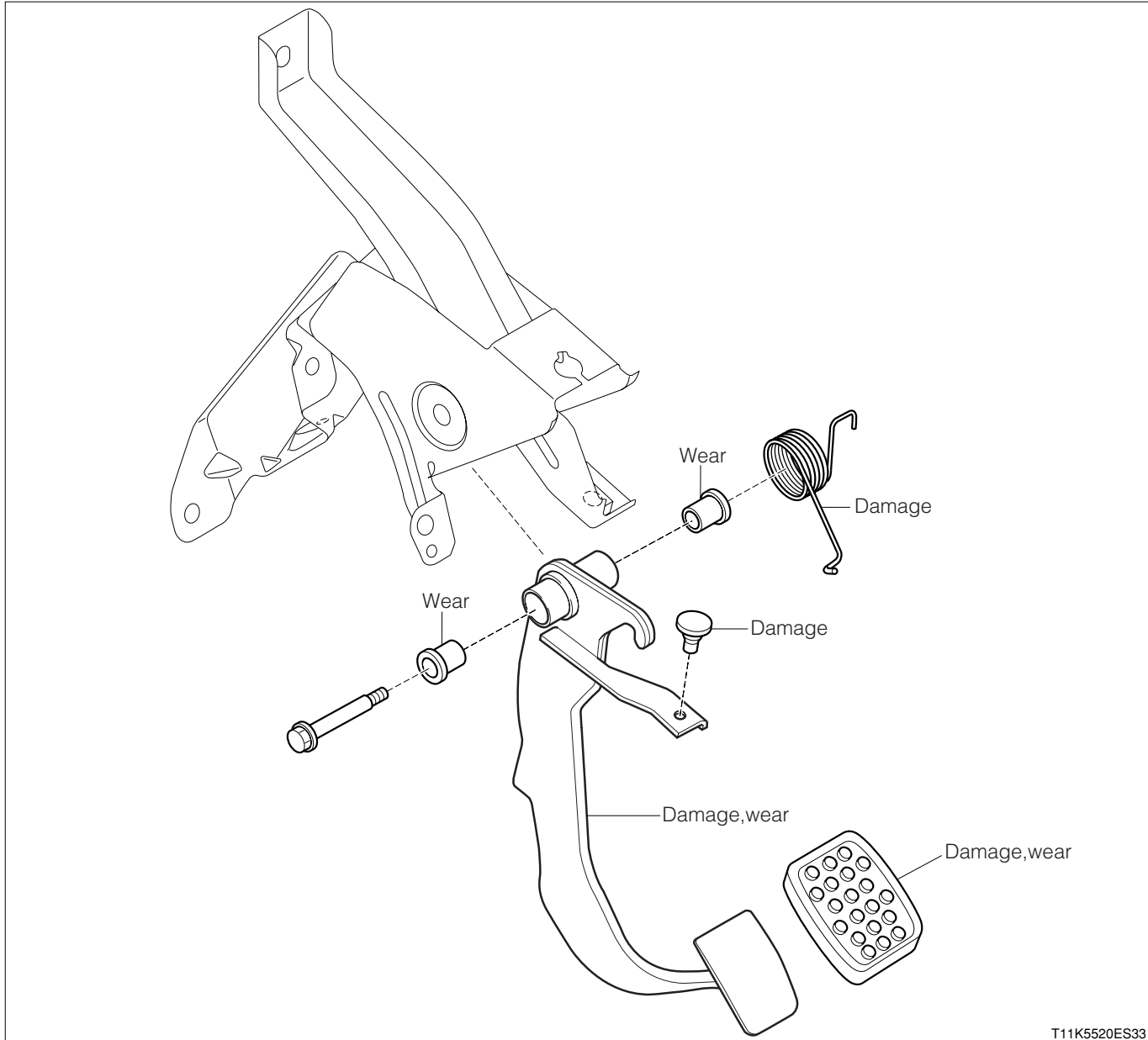
F1-3

(2) Removal and installation procedures

- | | | | | | |
|---|---|--------------------------|---|---|---------------------|
| 1 | a | Clip | 6 | f | Bush |
| 2 | b | Cable Ay, clutch release | ▲ | 7 | g Cushion |
| 3 | c | Shaft, pedal | | 8 | h Pad, clutch pedal |
| 4 | d | Pedal S/A, clutch | | | |
| 5 | e | Spring, torsion | | | |

2-1-4 INSPECTION

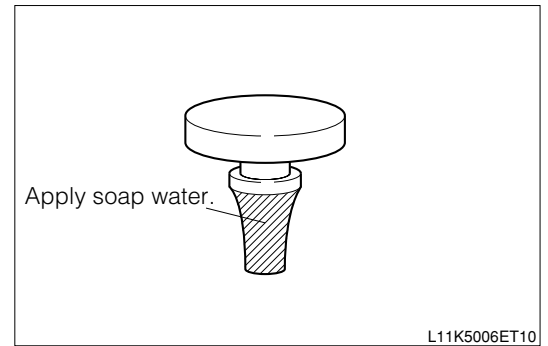
Check each of the following parts. Replace any faulty part.



T11K5520ES33

2-1-5 POINTS OF INSTALLATION**(1) Cushion**

1. Apply soap water to the tip end of the cushion. Then, install it to the clutch pedal subassembly.

**2-1-6 OPERATION AFTER INSTALLATION**

1. Check the clutch pedal height and adjust the free play.
Refer to Page F1-1.
2. Install the instrument panel finish lower panel.
Refer to Page I2-23.

F1-5

2-2 REMOVAL AND INSTALLATION

2-2-1 ARTICLES TO BE PREPARED

Instrument

Torque wrench

Lubricant, adhesive, others

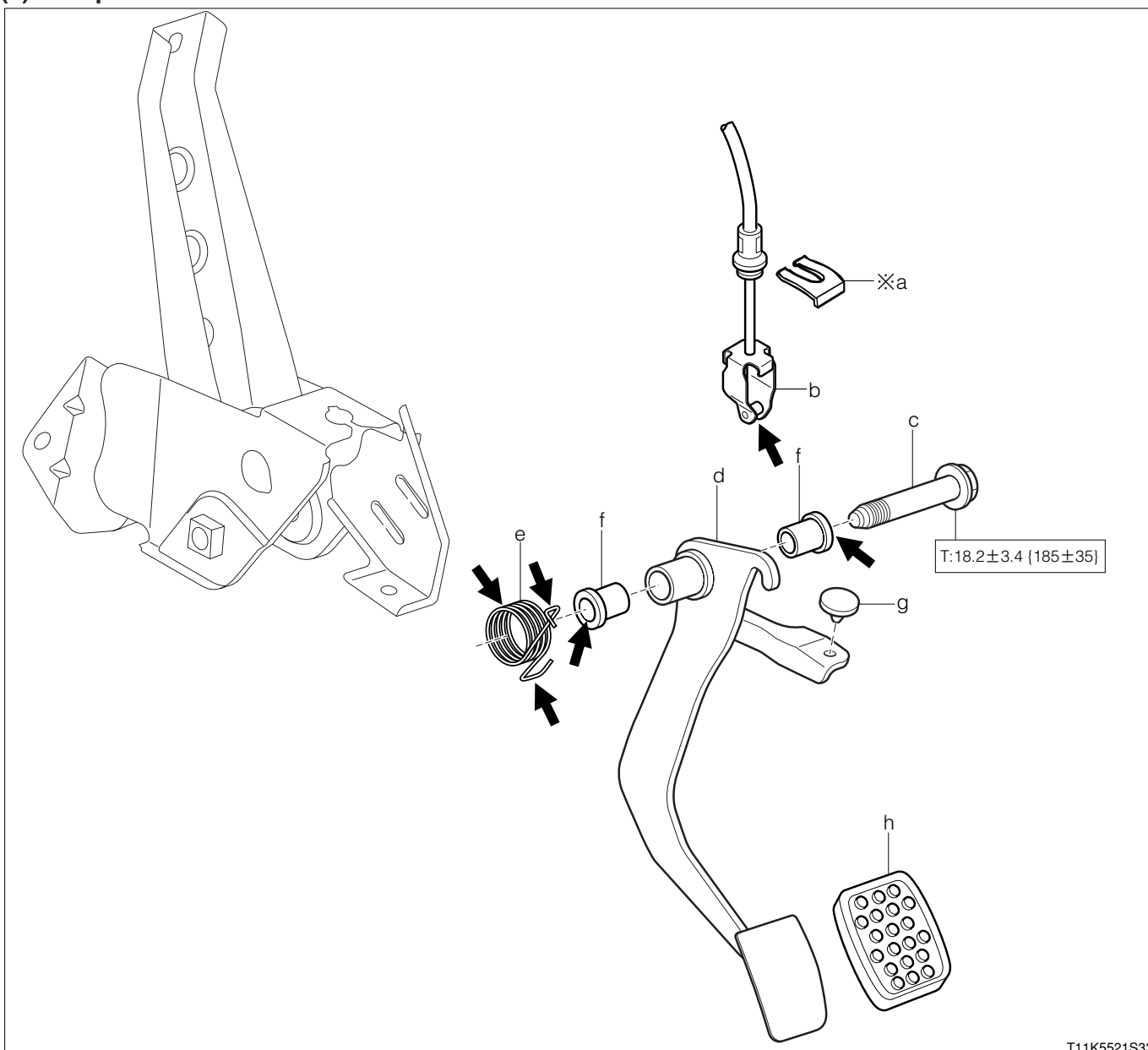
MP grease

2-2-2 OPERATION BEFORE REMOVAL

1. Remove the instrument panel finish lower panel.
Refer to Page I2-23.

2-2-3 REMOVAL AND INSTALLATION PROCEDURES

(1) Components



T11K5521S33

➔: MP grease

※: Non - reusable parts

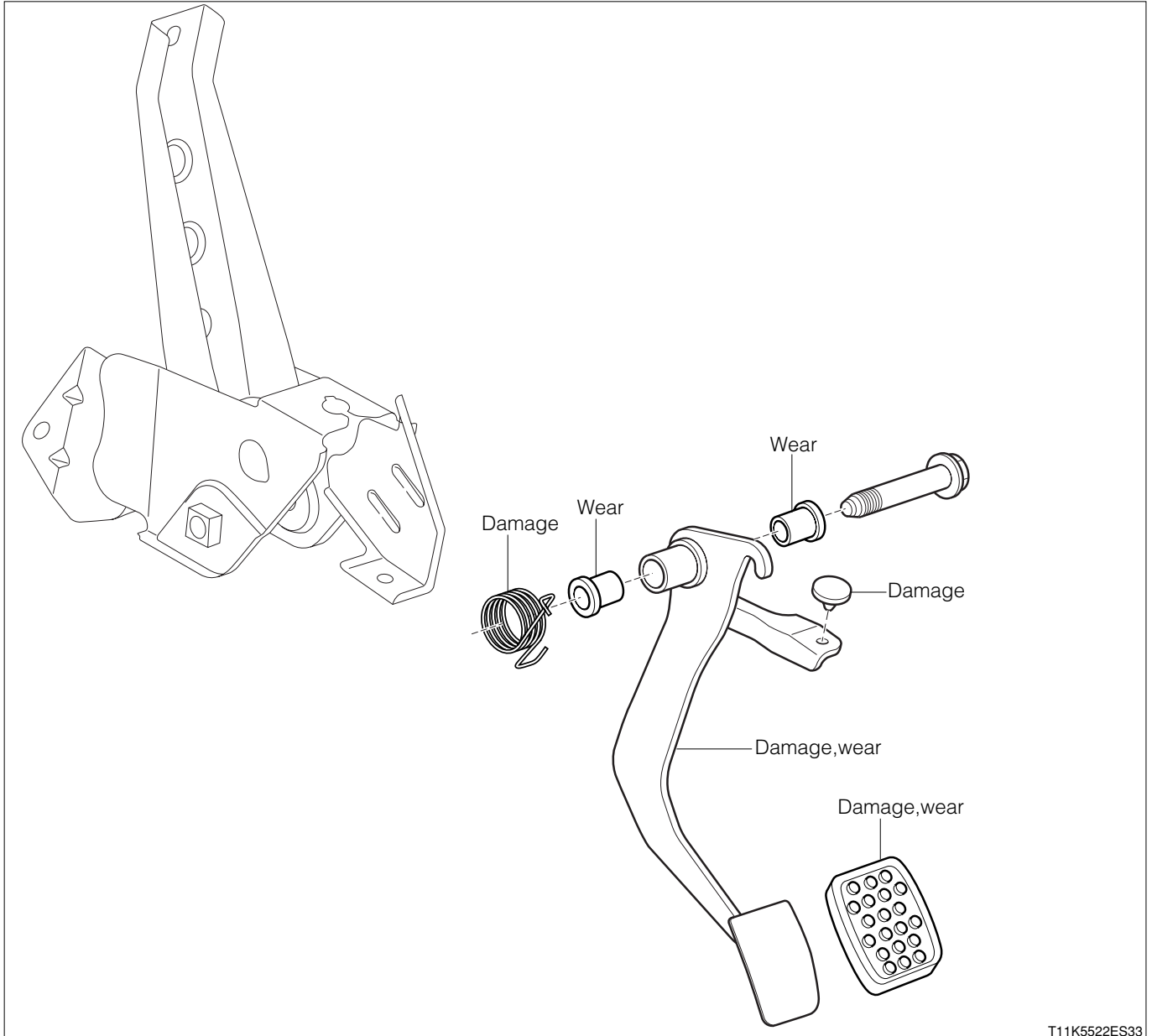
Unit: N·m{kgf·cm}

(2) Removal and installation procedures

- | | | | | | |
|---|---|--------------------------|---|---|-------------------|
| 1 | a | Clip | 6 | f | Bush |
| 2 | b | Cable Ay, clutch release | ▲ | 7 | g Cushion |
| 3 | c | Shaft, pedal | 8 | h | Pad, clutch pedal |
| 4 | d | Pedal S/A, clutch | | | |
| 5 | e | Spring, torsion | | | |

2-2-4 INSPECTION

Check each of the following parts. Replace any faulty part.

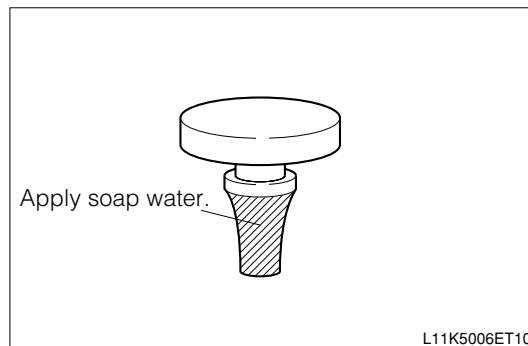


F1-7

2-2-5 POINTS OF INSTALLATION

(1) Cushion

1. Apply soap water to the tip end of the cushion. Then, install it to the clutch pedal subassembly.



2-2-6 OPERATION AFTER INSTALLATION

1. Check the clutch pedal height and adjust the free play.
Refer to Page F1-1.
2. Install the instrument panel finish lower panel.
Refer to Page I2-23.

3 CLUTCH CABLE

3-1 REMOVAL AND INSTALLATION

3-1-1 ARTICLES TO BE PREPARED

Instrument

Torque wrench

Lubricant, adhesive, others

MP grease, Rope

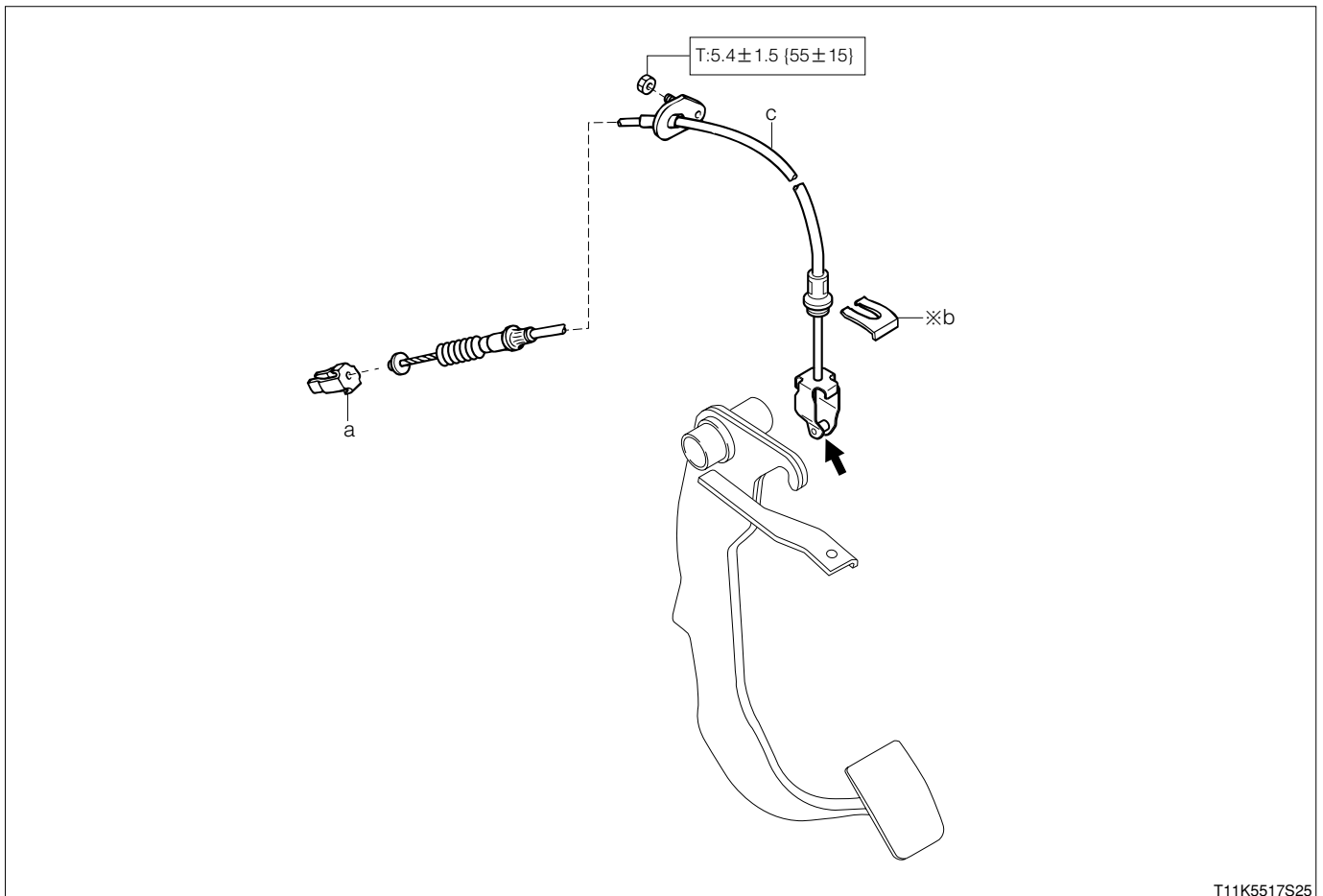
3-1-2 OPERATION BEFORE REMOVAL

1. Remove the instrument panel finish lower panel S/A.

Refer to Page I2-23.

3-1-3 REMOVAL AND INSTALLATION PROCEDURES

(1) Components



T11K5517S25

➔: MP grease

※: Non - reusable parts

Unit: N·m{kgf·cm}

(2) Removal and installation procedures

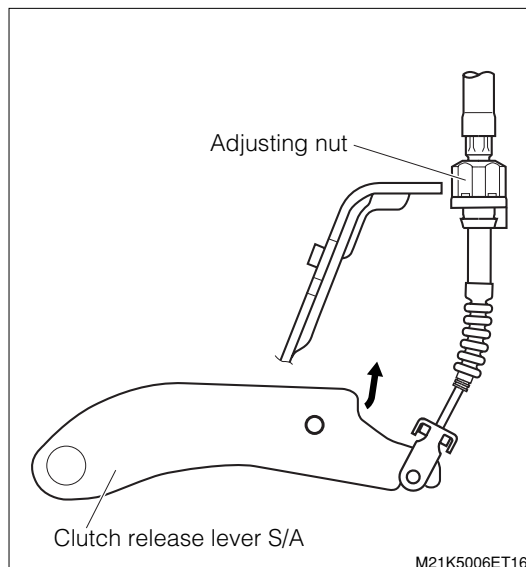
- ▼ ▲ 1 a Bracket, clutch release cable No.1
- 2 b Clip
- ▼ ▲ 3 c Cable Ay, clutch release

3-1-4 POINTS OF REMOVAL

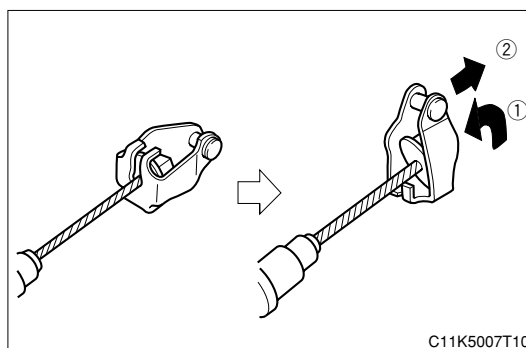
(1) Bracket, clutch cable, No.1

1.Remove the bracket.

- (1) Loosen the adjusting nut of the clutch release cable assembly.
- (2) While pulling up the clutch release lever subassembly by your hand, take out the clutch release cable bracket No.1 from the clutch release lever sub-assembly.



- (3) Route the cable at the cutout section of the clutch release cable bracket No.1. Then, remove the clutch release cable bracket No.1 by raising it 90 degrees.

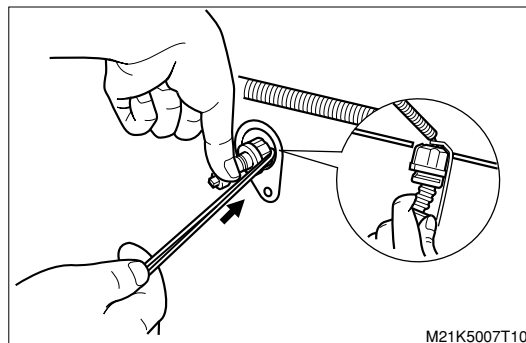


(2) Cable Ay, clutch release

1.Loosen the play adjusting nut of the clutch release cable assembly fully to the position indicated in the figure on the right. Then, while pulling the clutch release cable assembly by the cord, push it into the vehicle interior.

CAUTION

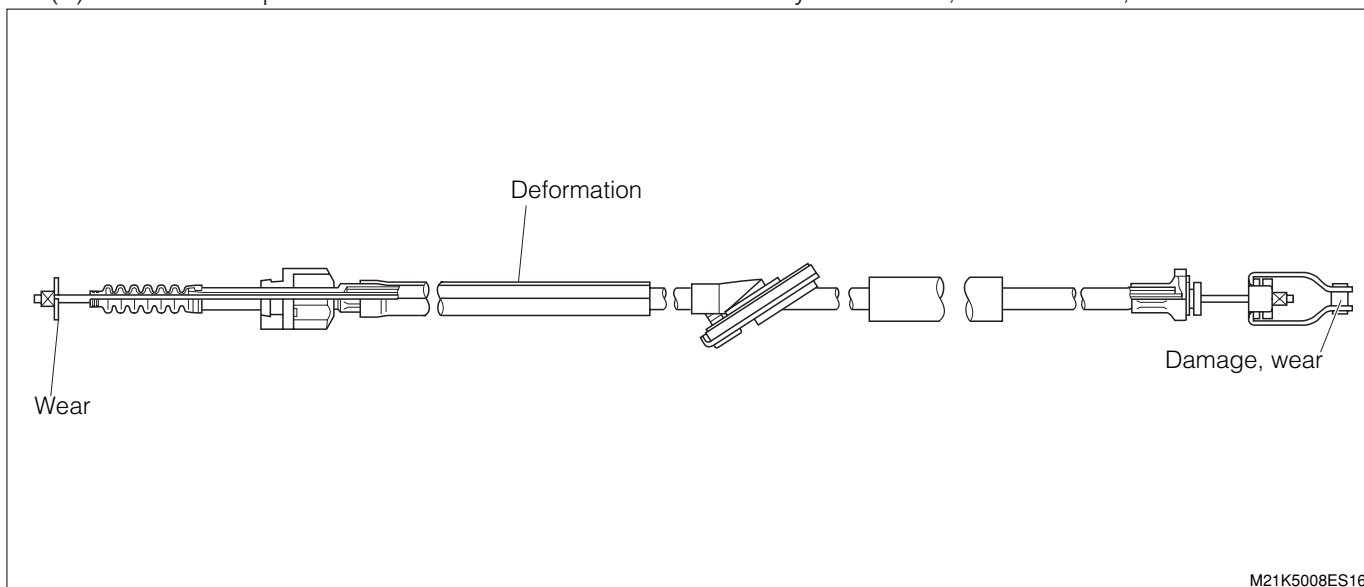
- This cord will be used when the clutch release cable assembly is installed. Hence, leave this cord routed from the engine compartment side to the vehicle interior side.
- Be sure to use a cord of about 2 m in length.



3-1-5 INSPECTION

1. Check the following items. Replace any faulty part.

- (1) Push and pull the inner cable of the clutch release cable assembly. At this time, ensure that there is no abnormal resistance and binding.
- (2) Check each part of the clutch release cable assembly for scores, deformation, wear and cracks.



M21K5008ES16

- (3) Clutch release cable bracket No.1 for damage and wear.



L11K5013ET10

F1-11

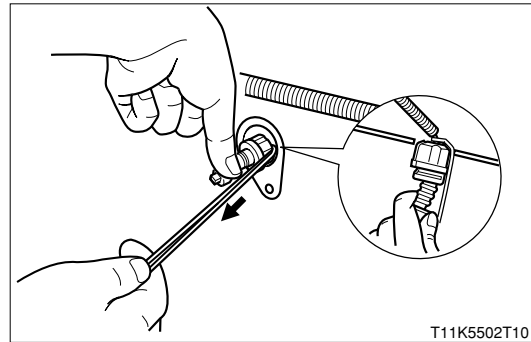
3-1-6 POINTS OF INSTALLATION

(1) Cable Ay, clutch release

1. Install the cable Ay.

CAUTION

- Utmost care must be exercised so that the inner cable may not be bent.
- (1) Fully loosen the play adjusting nut of the clutch release cable assembly.
 - (2) Apply the cord, that was used at the time of the removal, to the play adjusting nut.
 - (3) Pull the cord from the engine compartment side. Also, push the clutch release cable from the vehicle interior side at the same time, thus pulling out the tip end to the engine compartment side.

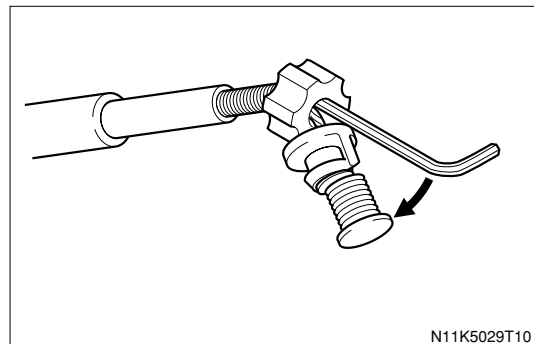


CAUTION

- There is the possibility that the inner cable is bent if the cord is pulled strongly. Be very careful not to pull the cord strongly.
- (4) Set the play adjusting nut of the clutch release cable assembly to the position indicated in the figure on the right. While pulling by means of the cord, pull the play adjusting nut to the engine compartment side.

NOTE

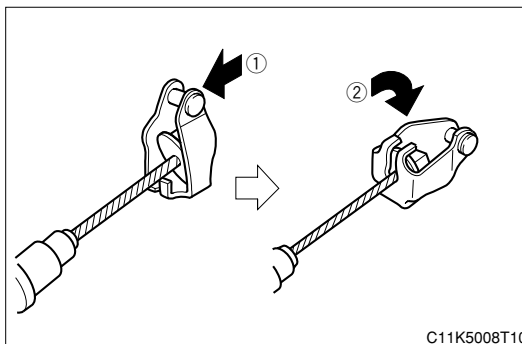
- If any difficulty is encountered in passing the adjusting nut through the dash panel, adjust the angle of the nut by inserting a fine rod into the nut, as indicated in the figure on the right.



(2) Bracket, clutch cable, No.1

1. Install the bracket.

- (1) Connect the cable by routing it at the cutout section of the clutch release cable bracket No.1. Then, tilt the cable 90 degrees.



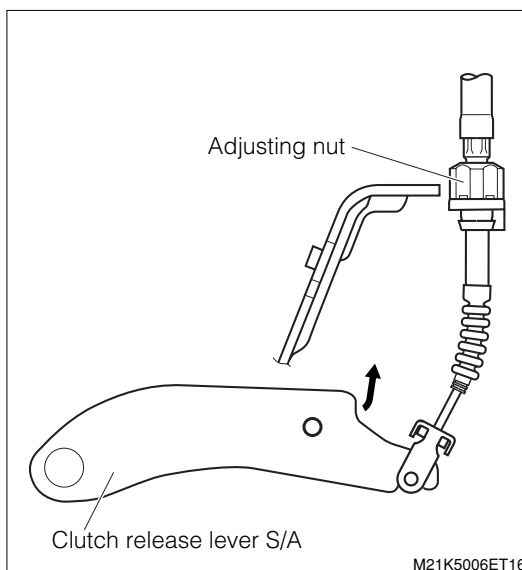
- (2) Lightly pull the clutch release lever S/A by hand, until it is brought into contact with the clutch cover. Then, apply the bracket to the clutch release lever S/A.

- (3) Tighten the adjusting nut to adjust the play.

Refer to Page F1-1.

CAUTION

- Be very careful not to damage the grommet section.

**3-1-7 OPERATION AFTER INSTALLATION**

1. Install the instrument panel finish lower panel S/A.

Refer to Page I2-23.

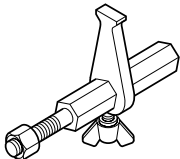
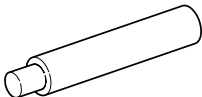
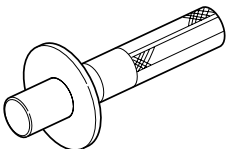
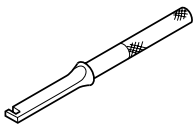
F1-13

4 CLUTCH

4-1 REMOVAL AND INSTALLATION

4-1-1 ARTICLES TO BE PREPARED

SST

| Shape | Part No. | Part name |
|---|--------------------------------------|--|
|  | 09210-87701-000 | Holder, fly wheel |
|  | 09301-87703-000 | Tool, clutch guide |
|  | 09302-87701-000 | Gauge, clutch diaphragm spring height No.4 |
|  | 09333-00013-000 (09301-00012-000) | Aligner, clutch diaphragm spring |

Instrument

Dial gauge, Vernier calipers, Thickness gauge, Torque wrench

Lubricant, adhesive, others

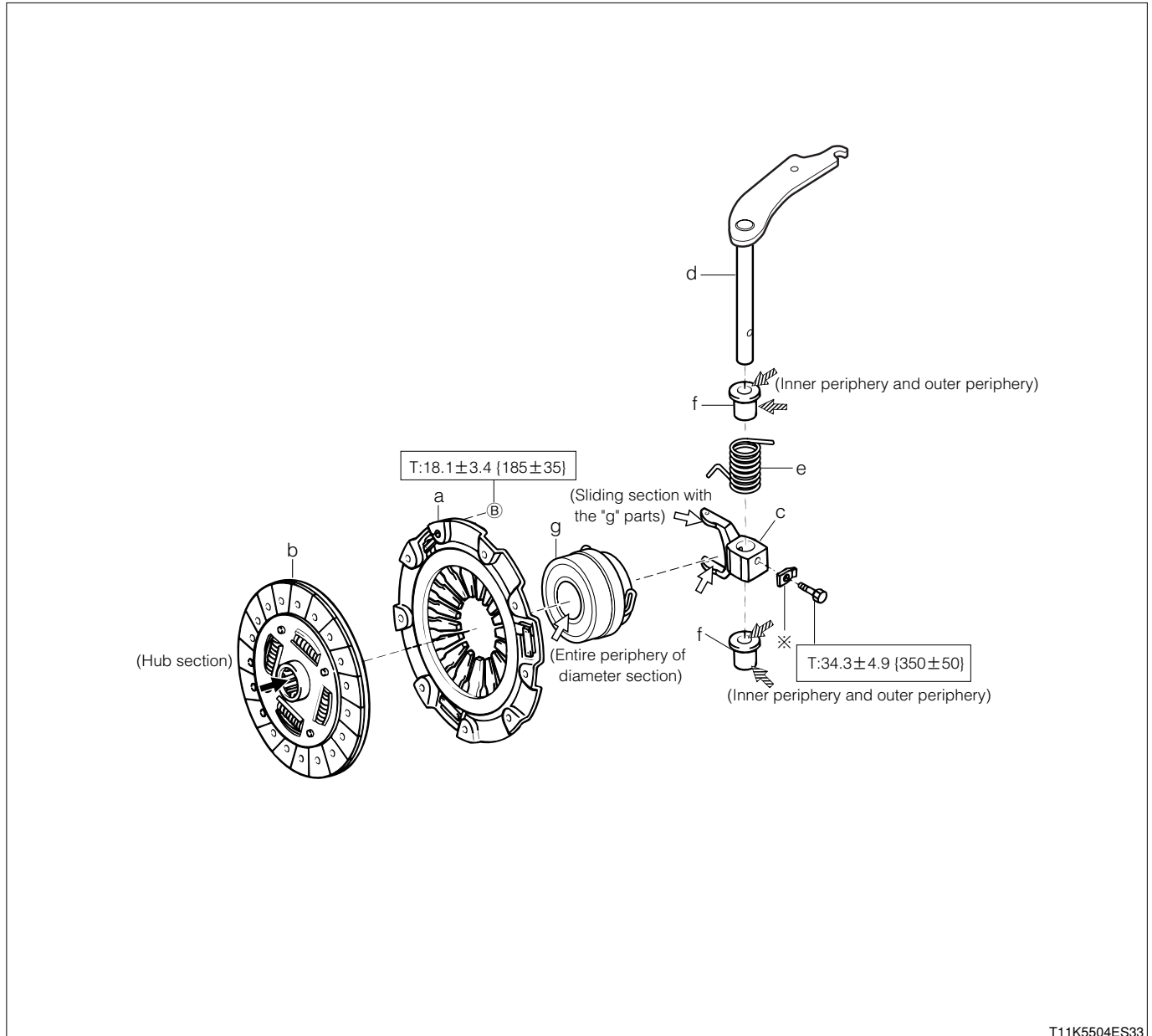
MP grease, EP grease, Clutch grease

4-1-2 OPERATION BEFORE REMOVAL

1. Remove the manual transaxle assembly from the vehicle.
Refer to Page F2-2.

4-1-3 REMOVAL AND INSTALLATION PROCEDURES

(1) Components



T11K5504ES33

- \Rightarrow :MP grease
- \Rightarrow :EP grease
- \Rightarrow :Clutch grease
- \times :Non - reusable parts
- Unit:N·m{kgf·cm}

(2) Removal and installation procedures

- ▼ ▲ 1 a Cover Ay, clutch
- ▲ 2 b Disc Ay, clutch
- 3 c Yoke, clutch release lever
- 4 d Lever S/A, clutch release
- 5 e Spring, torsion
- 6 f Bush
- 7 g Hub Ay, clutch release bearing

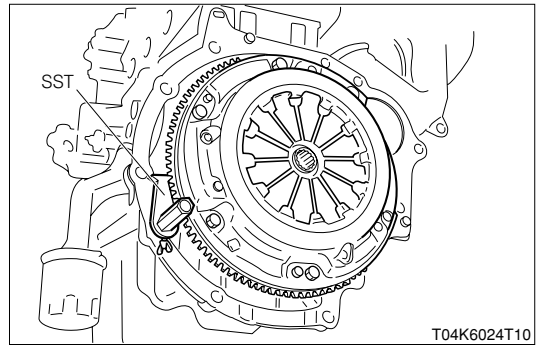
F1-15

4-1-4 POINTS OF REMOVAL

(1) Cover Ay, clutch, and disk Ay, clutch

1. Prevent the ring gear from turning, using the SST. Under this condition, remove the clutch cover assembly and clutch disc assembly.

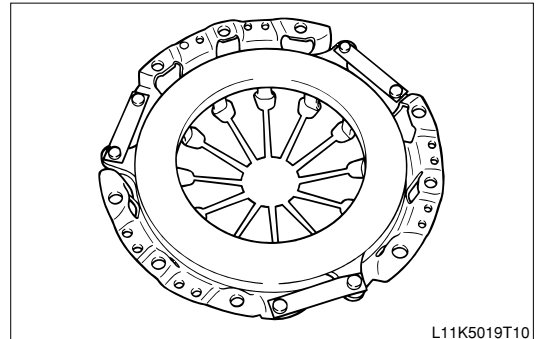
SST: 09210-87701-000



4-1-5 INSPECTION

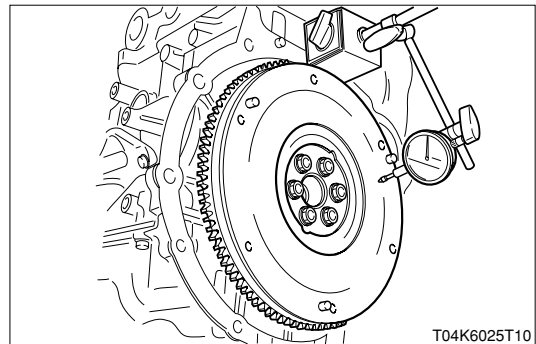
1. Check the following items. Replace any faulty part.

- (1) Flywheel and pressure plate surface of clutch cover assembly for streak, cracks and discoloration.

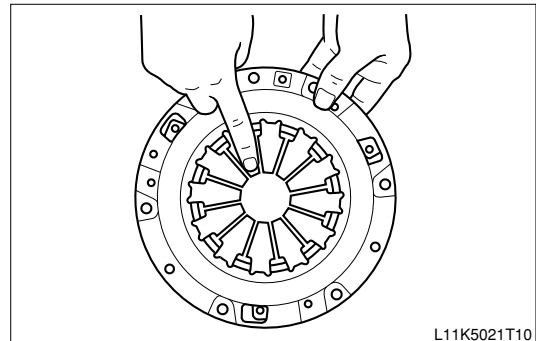


- (2) Clean the flywheel surface. Then, check the runout.

ALLOWABLE LIMIT: 0.10mm



- (3) Pressure plate (Diaphragm spring finger section) of clutch cover assembly for wear, rust formation and breakage



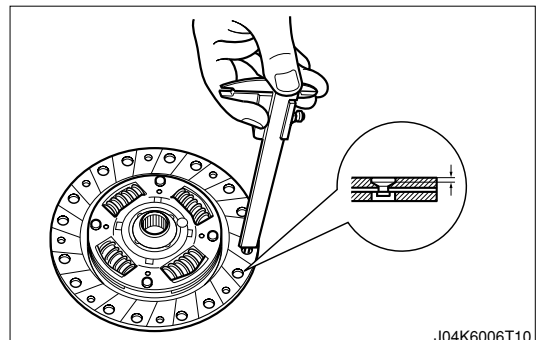
- (4) Clutch disc assembly for wear and runout

ALLOWABLE LIMIT: Wear limit

0.3mm(Sagging of rivet)

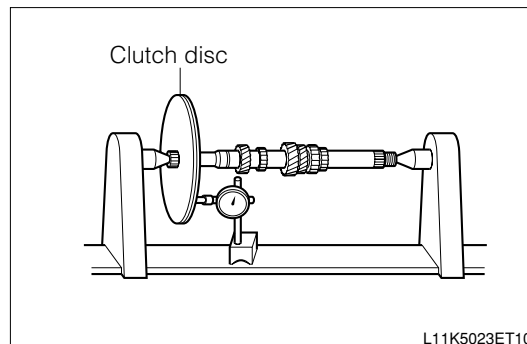
Lateral runout limit

1.0mm

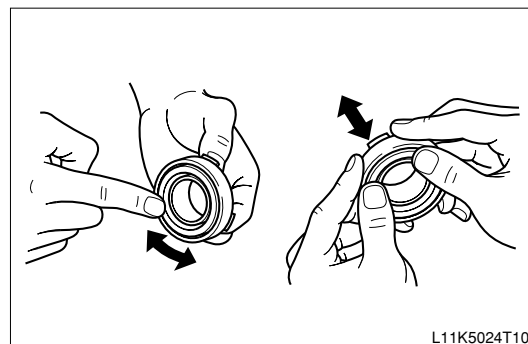


CAUTION

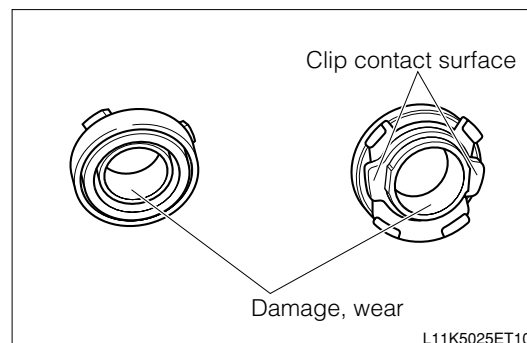
- The measurement of the lateral runout should be carried out under a condition where the clutch disc assembly is assembled with a new input shaft.



- (5) When the sliding section (the contact surface with the clutch cover) of the clutch release bearing hub sub-assembly is turned, and when pressure is applied to push the sliding section in the turning direction, ensure that there is no abnormal resistance nor binding.



- (6) Check the clutch release bearing hub subassembly for damage and wear. Also, check the clip contact surface and sliding section of the housing for damage and wear.



4-1-6 POINTS OF INSTALLATION

(1) Disc Ay, clutch

1. Install the clutch disc Ay.

- (1) Thinly apply clutch grease to the hub inside (the spline section) of the clutch disc assembly.

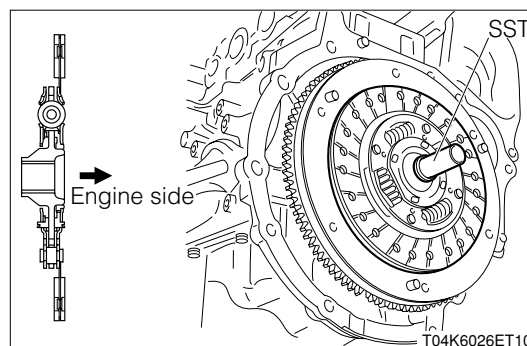
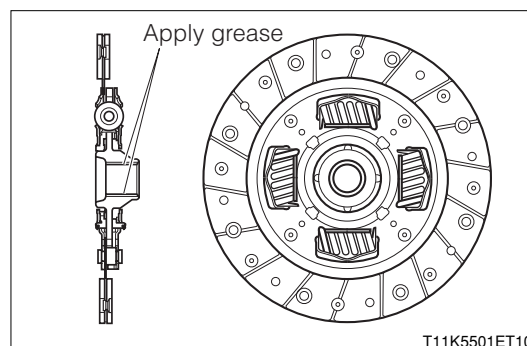
CAUTION

- As regards the grease applying direction, grease should be applied from the clutch cover side. Be sure to apply grease as thinly as possible so that the excessive grease may not ooze out to the flywheel side.

LUBRICANT: Clutch grease

- (2) Install the clutch disc assembly to the flywheel by centering it, using the SST.

SST: 09301-87703-000



F1-17

(2) Cover Ay, clutch

1. Install the cover Ay while aligning it with the knock pin of the flywheel S/A.

2. Using the SST, prevent the flywheel S/A from turning.

SST: 09210-87701-000

3. Temporarily tighten the bolts in the sequence of ① and ⑤.

4. Temporarily tighten the bolts in the sequence of ③, ①, ⑤, ②, ⑥ and ④.

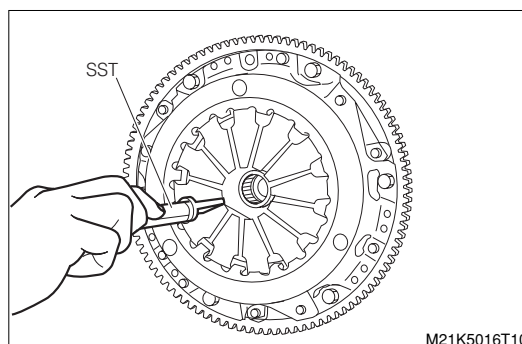
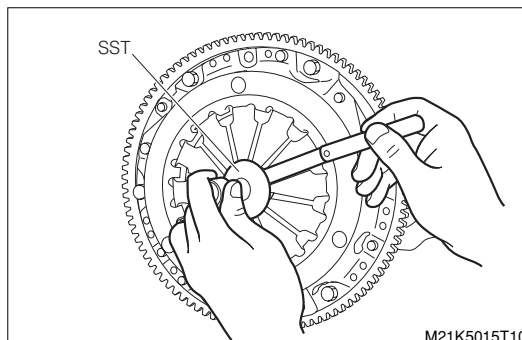
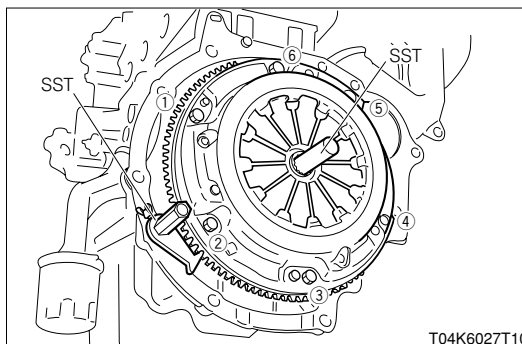
5. Check the diaphragm spring section for unevenness in height, using the SST.

SST: 09302-87701-000

ALLOWABLE LIMIT: 0.6mm

6. If the above check has revealed that the unevenness exceeds the limit, correct the unevenness in height, using the SST.

SST: 09333-00013-000



4-1-7 OPERATION AFTER INSTALLATION

1. Install the manual transaxle Ay.

Refer to Page F2-2.