

F2 MANUAL TRANSMISSION/MANUAL TRANSAXLE

MANUAL TRANSAXLE -----	F2 - 1
BASIC CHECK AND ADJUSTMENT---	F2 - 1
TRANSMISSION GEAR OIL -----	F2 - 1
REPLACEMENT-----	F2 - 1
MANUAL TRANSAXLE AY -----	F2 - 2
REMOVAL AND INSTALLATION-----	F2 - 2
DIFFERENTIAL SIDE OIL SEAL-----	F2 - 8
REMOVAL AND INSTALLATION-----	F2 - 8
SPEEDOMETER DRIVEN GEAR-----	F2 - 10
REMOVAL AND INSTALLATION(VEHICLES EQUIPPED WITH VEHICLES SPEED SEN- SOR) -----	F2 - 10
BACK UP LAMP SWITCH -----	F2 - 13
REMOVAL AND INSTALLATION -----	F2 - 13
SHIFT LEVER -----	F2 - 15
REMOVAL AND INSTALLATION -----	F2 - 15
DISASSEMBLING AND ASSEMBLING -----	F2 - 18

1 MANUAL TRANSAXLE

1-1 BASIC CHECK AND ADJUSTMENT

1-1-1 CHECK OF TRANSMISSION OIL LEVEL

1. Remove the filler plug. With the vehicle placed in a horizontal state, ensure that the oil level is at the specified level.

SPECIFIED VALUE: 5 mm or less below lower edge of filler plug hole

TIGHTENING TORQUE: $39.2 \pm 9.8 \text{ N} \cdot \text{m}$ { $400 \pm 100 \text{ kgf} \cdot \text{cm}$ }

CAUTION

- If the oil level is low, check for oil leakage.
Never reuse the gasket.

2 TRANSMISSION GEAR OIL

2-1 REPLACEMENT

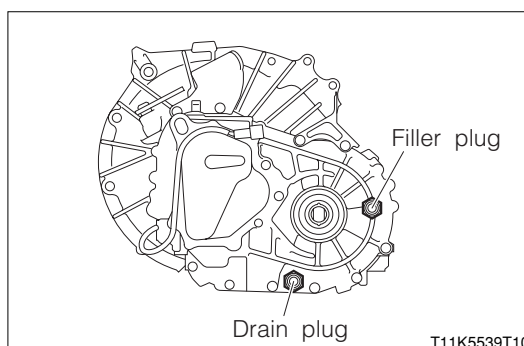
LUBRICANT: Transmission gear oil SAE75W-90 or
SAE75W-85 or SAE75W-80 (API
Classification GL3 or GL4)

SPECIFIED VALUE: 5 mm or less below lower edge of
filler plug hole

TIGHTENING TORQUE: $39.2 \pm 9.8 \text{ N} \cdot \text{m}$ { $400 \pm 100 \text{ kgf} \cdot \text{cm}$ }

CAUTION

- Never reuse the removed gasket.

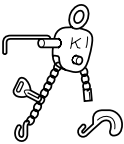


3 MANUAL TRANSAXLE AY

3-1 REMOVAL AND INSTALLATION

3-1-1 ARTICLES TO BE PREPARED

SST

Shape	Part No.	Part name
	09090-04020-000 (09090-04010-000)	Device,engine sling

Tool

Low transmission jack

Instrument

Torque wrench

Lubricant,adhesive,others

Transmission gear oil SAE75W-90 or SAE75W-85 or SAE75W-80 (API Classification GL3 or GL4),Engine hanger No.1 (Replacement parts),Engine hanger No.2 (Replacement parts)

3-1-2 OPERATION BEFORE REMOVAL

- 1.Remove the battery and battery carrier.
Refer to Page J5-3.

- 2.Drain the transaxle oil.
- 3.Remove the exhaust pipe.
Refer to Page B4-3.

- 4.Remove the RH/LH front drive shaft assemblies.
Refer to Page D2-8.

- 5.Remove the starter assembly.
Refer to Page B11-2.

- 6.Remove the transmission floor shift assembly.
Refer to Page F2-15.

3-1-4 POINTS OF REMOVAL

(1) Bracket, engine mounting, rear

1. Install the engine hanger at a position shown in the figure.

(1) Type 1KR-FE engine-mounted vehicles

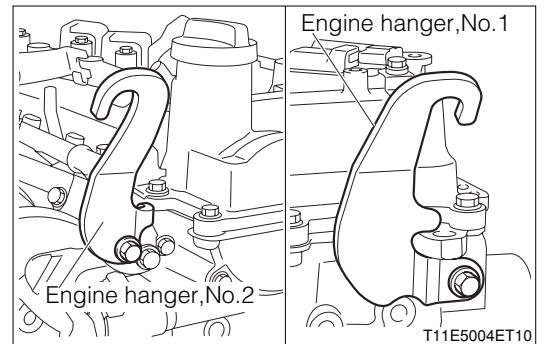
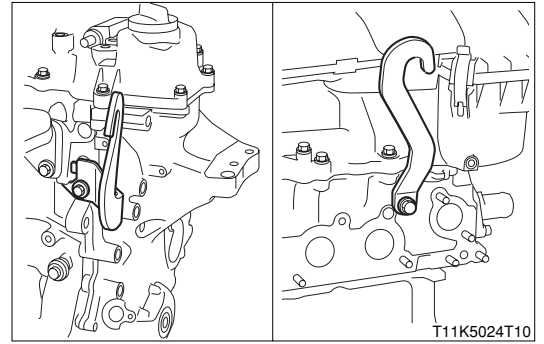
NOTE

- Part number of engine hanger No.1:12282-40030-000
- Part number of engine hanger No.2:12282-40010-000

(2) Type K3-VE engine-mounted vehicles

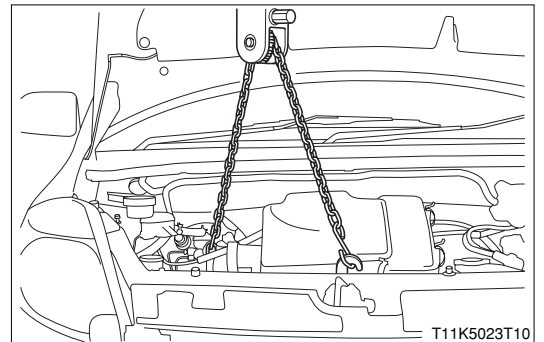
NOTE

- Part number of engine hanger No.1:12281-97401-000
- Part number of engine hanger No.2:12281-97403-000



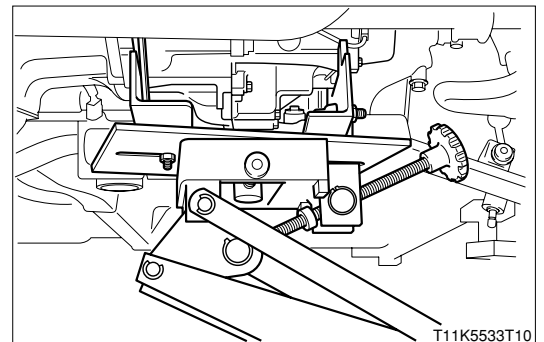
2. Hang the engine Ay, using a chain block and engine sling device

SST: 09090-04020-000



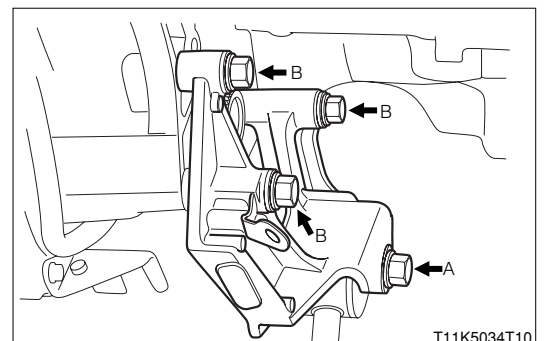
3. Support the manual transaxle Ay, using a low transmission jack.

TOOL: Low transmission jack



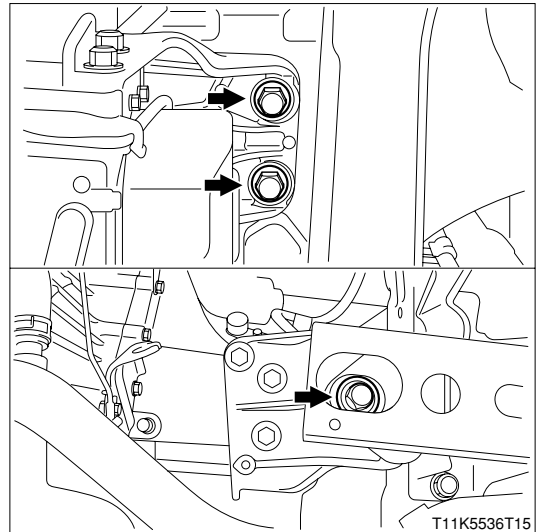
4. Remove the connecting bolt (A) between the bracket and engine mounting control rod S/A.

5. Remove the installing bolt (B) of the bracket.

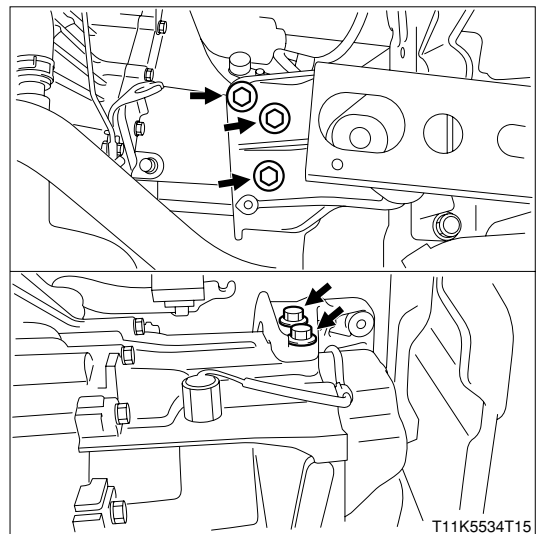


(2) Bracket, engine mounting, LH

1. Remove the connecting bolts of the bracket and engine mounting insulator LH.

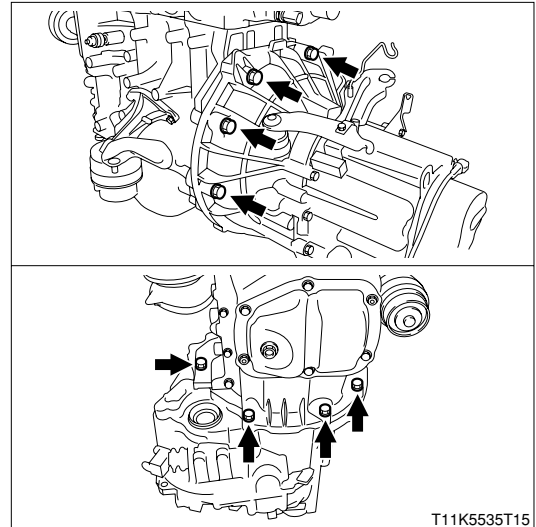


2. Remove the installing bolt of the bracket.



(3) Transaxle Ay, manual

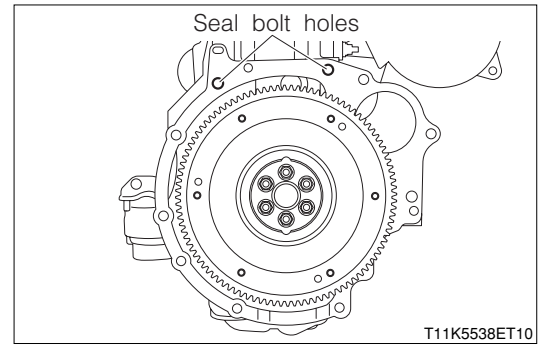
1. Remove the connecting bolt between the transaxle Ay and engine Ay. Separate the transaxle Ay from the engine Ay.



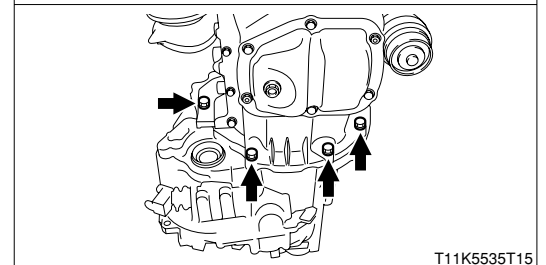
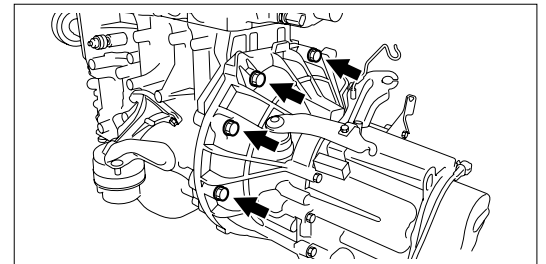
3-1-5 POINTS OF INSTALLATION

(1) Transaxle Ay, manual

1. Clean the seal bolt holes of the engine block.

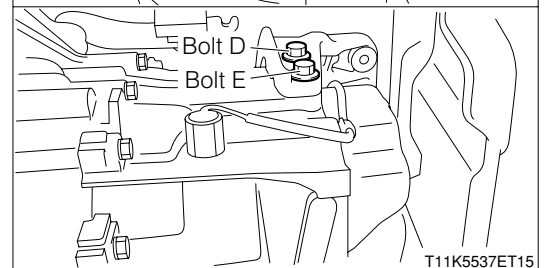
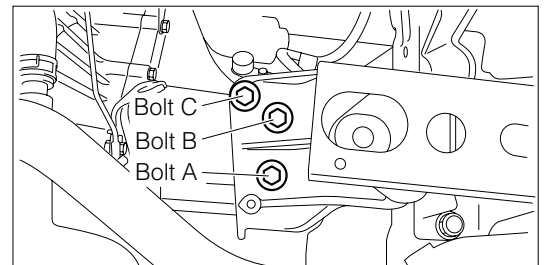


- 2. Install the transaxle Ay to the engine Ay.
- 3. Tighten the connecting bolt between the transaxle Ay and engine Ay.



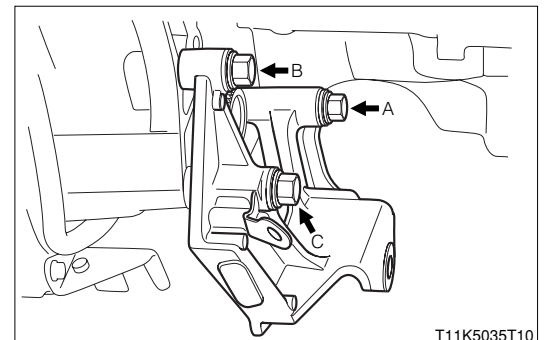
(2) Bracket, engine mounting, LH

- 1. Temporarily tighten the bracket by using the bolt (A) in the right figure.
- 2. Fully tighten the bolts (D), (E), (B), (C) and (A) shown in the right figure in this order.



(3) Bracket, engine mounting, rear

- 1. Temporarily tighten the bolt (A) in the right figure.
- 2. Fully tighten the bolts (B), (C) and (A) shown in the right figure in this order.
- 3. Install the connecting bolt between the bracket and engine mounting control rod S/A.



3-1-6 OPERATION AFTER INSTALLATION

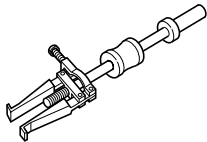
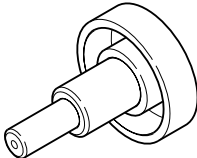
1. Install the transmission floor shift assembly.
Refer to Page F2-15.
2. Install the starter assembly.
Refer to Page B11-2.
3. Install the RH/LH front drive shaft assemblies.
Refer to Page D2-8.
4. Install the exhaust pipe Ay.
Refer to Page B4-3.
5. Install the battery and battery carrier.
Refer to Page J5-3.
6. Fill transaxle fluid.
Refer to Page F2-1.

4 DIFFERENTIAL SIDE OIL SEAL

4-1 REMOVAL AND INSTALLATION

4-1-1 ARTICLES TO BE PREPARED

SST

Shape	Part No.	Part name
	09308-00010-000	Puller,oil seal
	09518-87709-000	Replacer,oil seal No.8

Lubricant,adhesive,others

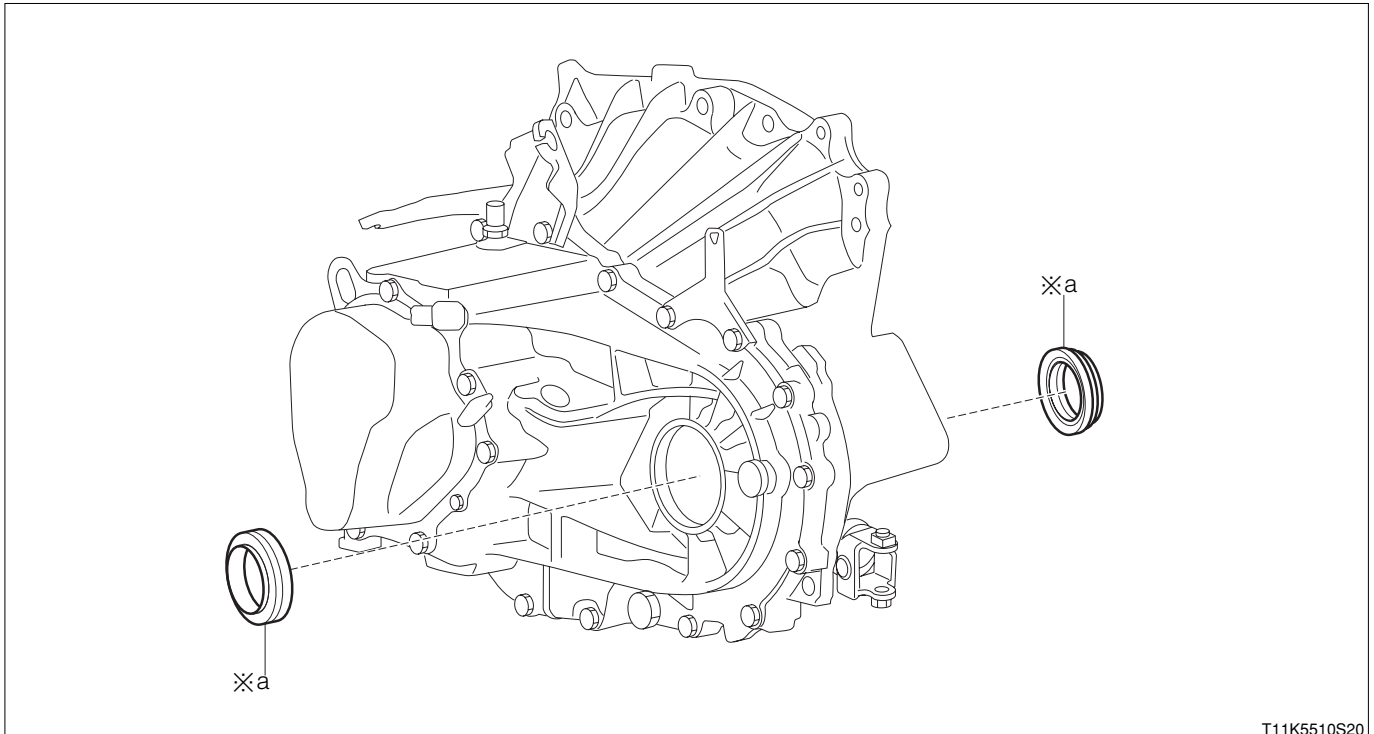
Transmission gear oil SAE75W-90 or SAE75W-85 or SAE75W-80 (API Classification GL3 or GL4)

4-1-2 OPERATION BEFORE REMOVAL

- 1.Remove the drive shaft.
Refer to Page D2-8.

4-1-3 REMOVAL AND INSTALLATION PROCEDURES

(1) Components



T11K5510S20

※:Non - reusable parts

(2) Removal and installation procedures

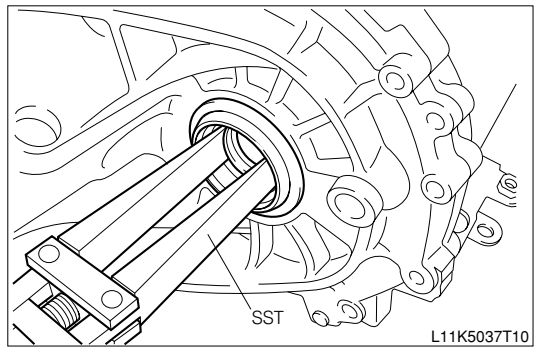
- ▼ ▲ 1 a Seal, type T oil

F2-9

4-1-4 POINTS OF REMOVAL

(1) Seal, type T oil

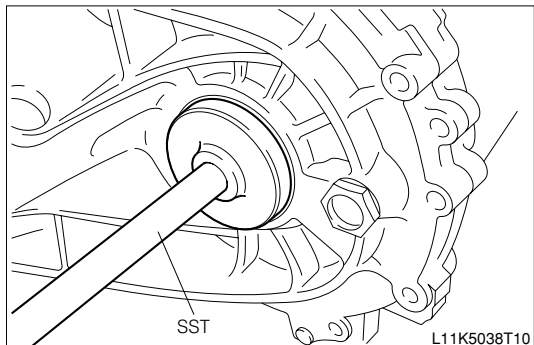
1. Remove the type T oil seal, using the SST.
SST: 09308-00010-000



4-1-5 POINTS OF INSTALLATION

(1) Seal, type T oil

1. Drive the type T oil seal in place, using the SST.
SST: 09518-87709-000



4-1-6 OPERATION AFTER INSTALLATION

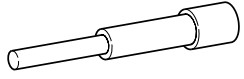
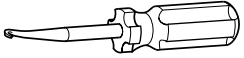
1. Install the drive shaft.
Refer to Page D2-8.

5 SPEEDOMETER DRIVEN GEAR

5-1 REMOVAL AND INSTALLATION(VEHICLES EQUIPPED WITH VEHICLE SPEED SENSOR)

5-1-1 ARTICLES TO BE PREPARED

SST

Shape	Part No.	Part name
	09201-01080-000 (09201-60011-000)	Remover & replacer, valve guide bush
	09921-00010-000	Tool, spring tension

Instrument

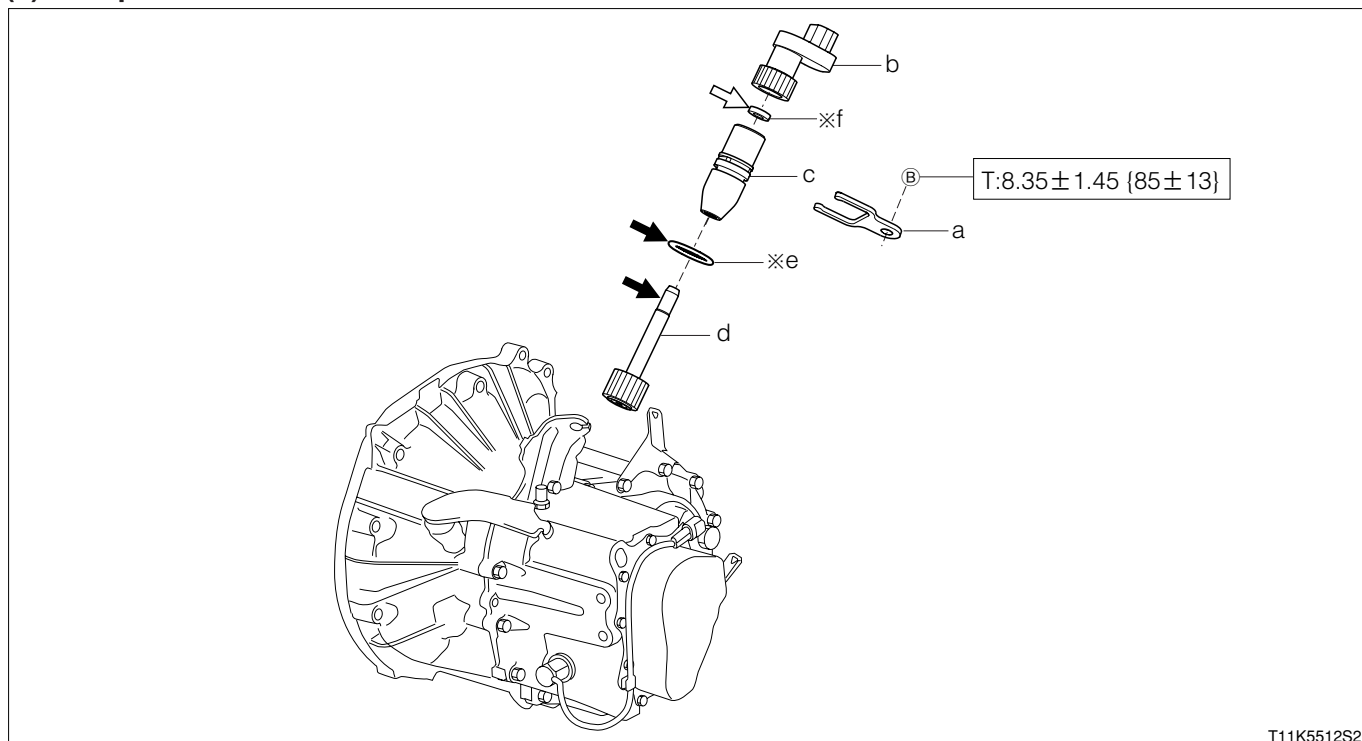
Torque wrench

Lubricant, adhesive, others

MP grease, Transmission gear oil SAE75W-90 or SAE75W-85 or SAE75W-80 (API Classification GL3 or GL4)
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5-1-2 REMOVAL AND INSTALLATION PROCEDURES

(1) Components



T11K5512S20

➔: Transmission gear oil

⇨: MP grease

※: Non - reusable parts

Unit: N·m {kgf·cm}

(2) Removal and installation procedures

- 1 a Plate, speedometer sleeve lock
- 2 b Sensor, speedometer
- 3 c Sleeve Ay, speedometer shaft
- ▲ 4 d Gear, speedometer driven
- ▲ 5 e Ring, O
- ▼ ▲ 6 f Seal, type K oil

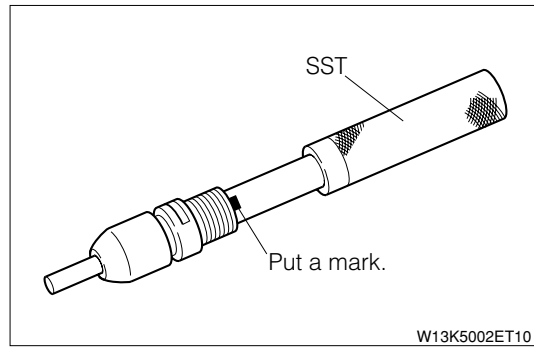
F2-11

5-1-3 POINTS OF REMOVAL

(1) Seal, type K oil

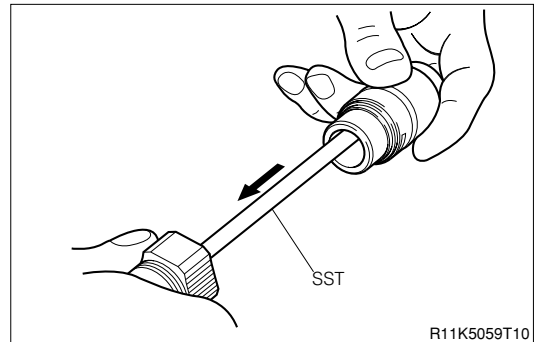
1. Before removing the type K oil seal, insert the SST into the speedometer shaft sleeve subassembly. Then, put a mark for the reference at the time of the installation operation.

SST: 09201-01080-000



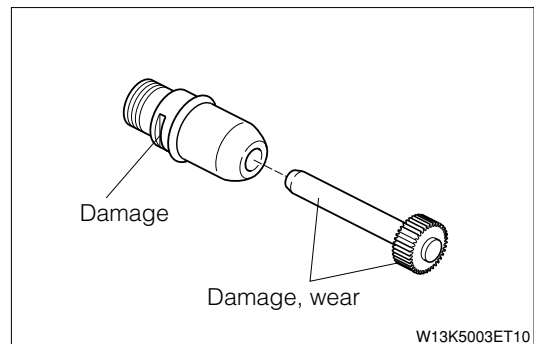
2. Remove the type K oil seal from the speedometer shaft sleeve subassembly, using the SST.

SST: 09921-00010-000



5-1-4 INSPECTION

1. Check the following items. Replace any faulty part.
 - (1) Check the shaft section and gear section of the speedometer driven gear for wear and damage.
 - (2) Check the speedometer shaft sleeve subassembly for damage.



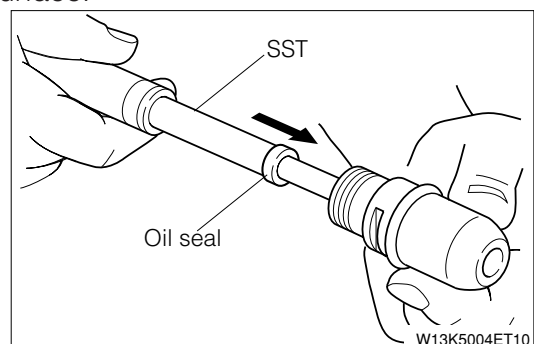
5-1-5 POINTS OF INSTALLATION

(1) Seal, type K oil

1. Install the seal.
 - (1) Apply MP grease to the entire periphery of the seal lip surface.
 - (2) Using the SST, install the seal to the speedometer shaft sleeve, while referring to the mark put during the removal.

LUBRICANT: MP grease

SST: 09201-01080-000



(2) Ring, O

1. Apply the transmission gear oil ring and install it to the speedometer shaft sleeve.

LUBRICANT: Transmission gear oil SAE75W-90 or SAE75W-85 or SAE75W-80 (API Classification GL3 or GL4)

(3) Gear S/A, speedometer driven

1. Apply Transmission gear oil to the entire periphery of the speedometer driven gear shaft. Then, install the speedometer driven gear shaft to the speedometer shaft sleeve subassembly.

LUBRICANT: Transmission gear oil SAE75W-90 or SAE75W-85 or SAE75W-80 (API Classification GL3 or GL4)

F2-13

6 BACK UP LAMP SWITCH

6-1 REMOVAL AND INSTALLATION

6-1-1 ARTICLES TO BE PREPARED

Instrument

Torque wrench, Electrical Tester

Lubricant, adhesive, others

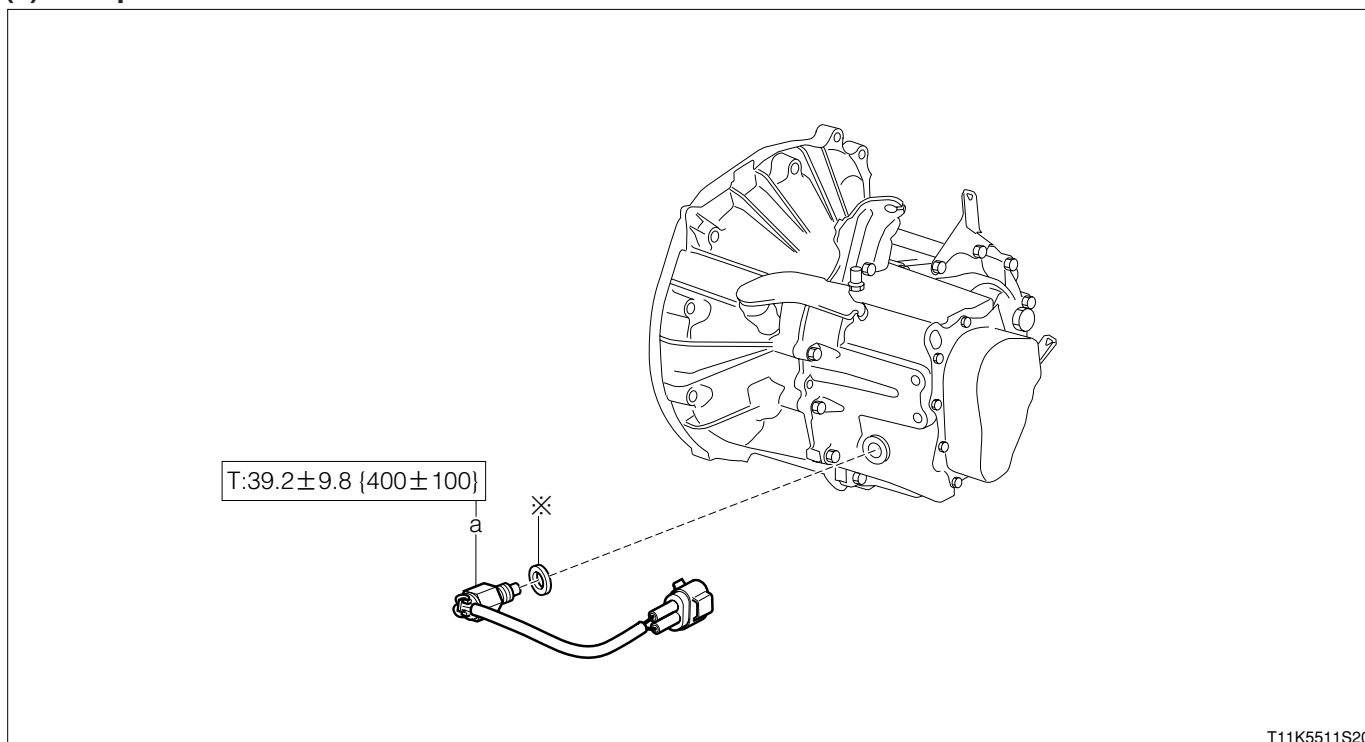
Transmission gear oil SAE75W-90 or SAE75W-85 or SAE75W-80 (API Classification GL3 or GL4)

6-1-2 OPERATION BEFORE REMOVAL

1. Drain the transaxle oil.

6-1-3 REMOVAL AND INSTALLATION PROCEDURES

(1) Components



T11K5511S20

※:Non - reusable parts

Unit:N·m(kgf·cm)

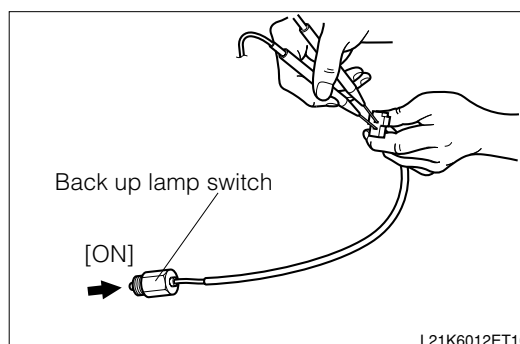
(2) Removal and installation procedures

- 1 a Switch Ay, back up lamp

6-1-4 INSPECTION

Check the following items. Replace any faulty part.

1. Ensure that continuity exists when the switch of the back-up lamp switch assembly is pushed (ON). Conversely, ensure that no continuity exists when the switch is not pushed (OFF).



L21K6012ET10

6-1-5 OPERATION AFTER INSTALLATION

1.Fill transaxle oil.

Refer to Page F2-1.

F2-15

7 SHIFT LEVER

7-1 REMOVAL AND INSTALLATION

WARNING

- Never perform the operation when the exhaust pipe is still hot, for there is a hazard potential of getting burned.

7-1-1 ARTICLES TO BE PREPARED

Tool

Snap ring pliers

Instrument

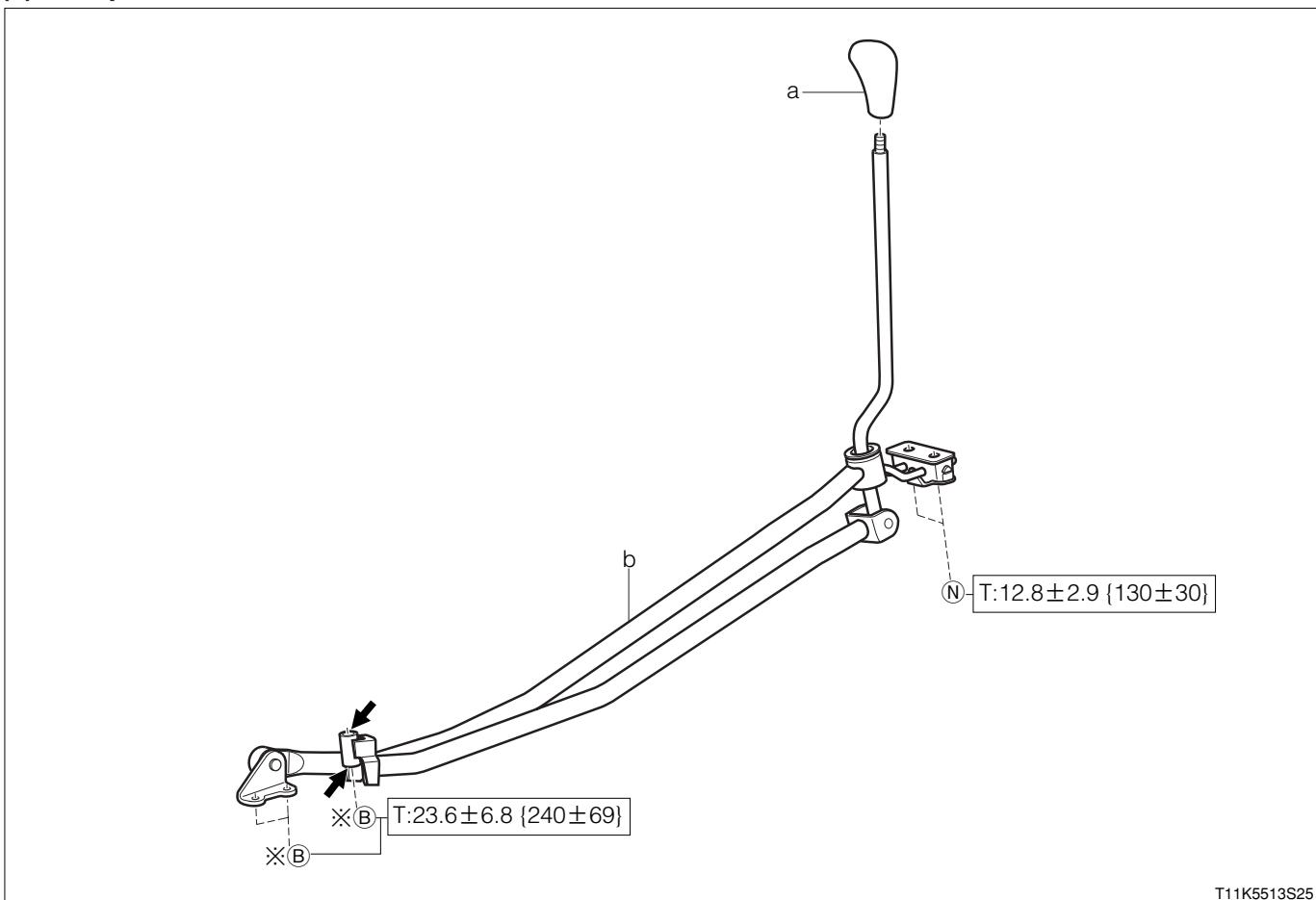
Torque wrench

Lubricant, adhesive, others

MP grease

7-1-2 REMOVAL AND INSTALLATION PROCEDURES

(1) Components



T11K5513S25

➔: MP grease

※: Non - reusable parts

Unit: N·m{kgf·cm}

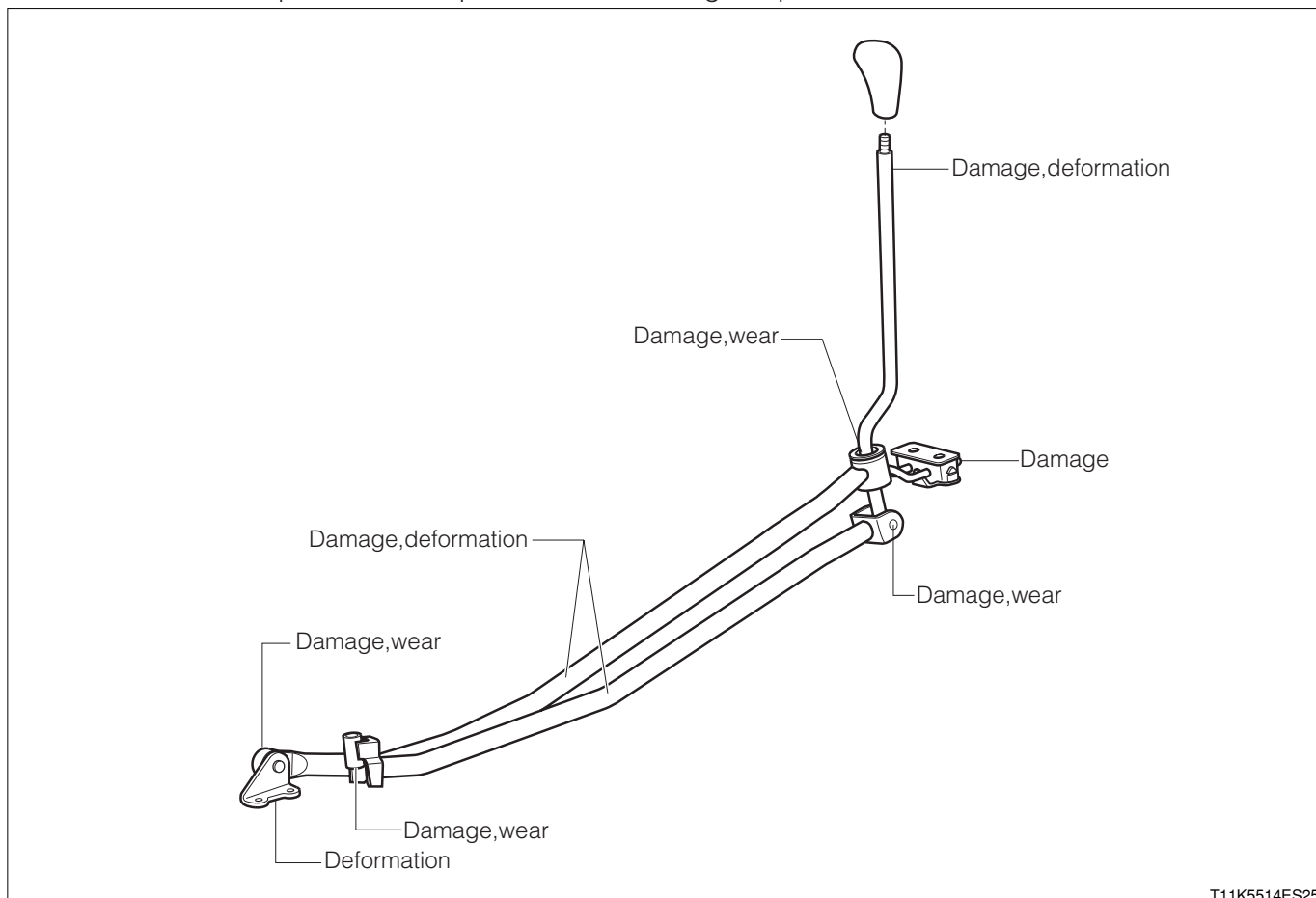
(2) Removal and installation procedures

- ▲ 1 a Knob, shift lever
- ▲ 2 b Floor shift Ay, transmission

7-1-3 INSPECTION

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

- (1) Check that each joint section of the assembly turns smoothly without any binding. If any malfunction is found, perform the replacement, following the procedure under



T11K5514ES25

7-1-4 POINTS OF INSTALLATION

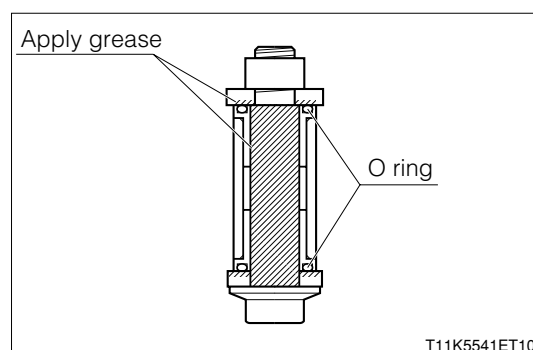
(1) Floor shift Ay, transmission

1. Install the control shaft subassembly (the lower shaft of the transmission floor shift assembly) to the transaxle.

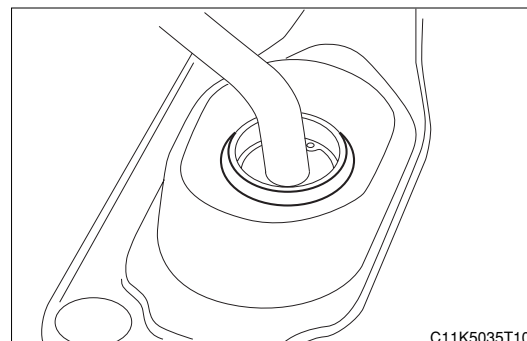
- (1) Ensure that the O-ring has been installed securely to the bush.
- (2) Apply MP grease to the control shaft S/A at the transmission side (the entire periphery indicated by the hatched section in the right figure).

LUBRICANT: MP grease

2. Secure the shift lever housing rod S/A (upper rod of the floor shift Ay) to the manual transaxle Ay.
3. Securely fit the shift lever retainer dust boot into the groove of the shift lever housing rod subassembly.



T11K5541ET10



C11K5035T10

F2-17

(2) Knob, shift lever

1. Install the shift lever hole cover.

2. Install the shift lever knob.

(1) Screw in the shift lever knob, until it comes in contact lightly with the shift lever . Then, retighten the shift lever knob further 1.5 turns. Finally, adjust the direction of the shift pattern by turning the shift lever knob in the retightening direction.

7-2 DISASSEMBLING AND ASSEMBLING

7-2-1 ARTICLES TO BE PREPARED

Tool

Hand grinder

Snap ring pliers

Instrument

Torque wrench

Lubricant, adhesive, others

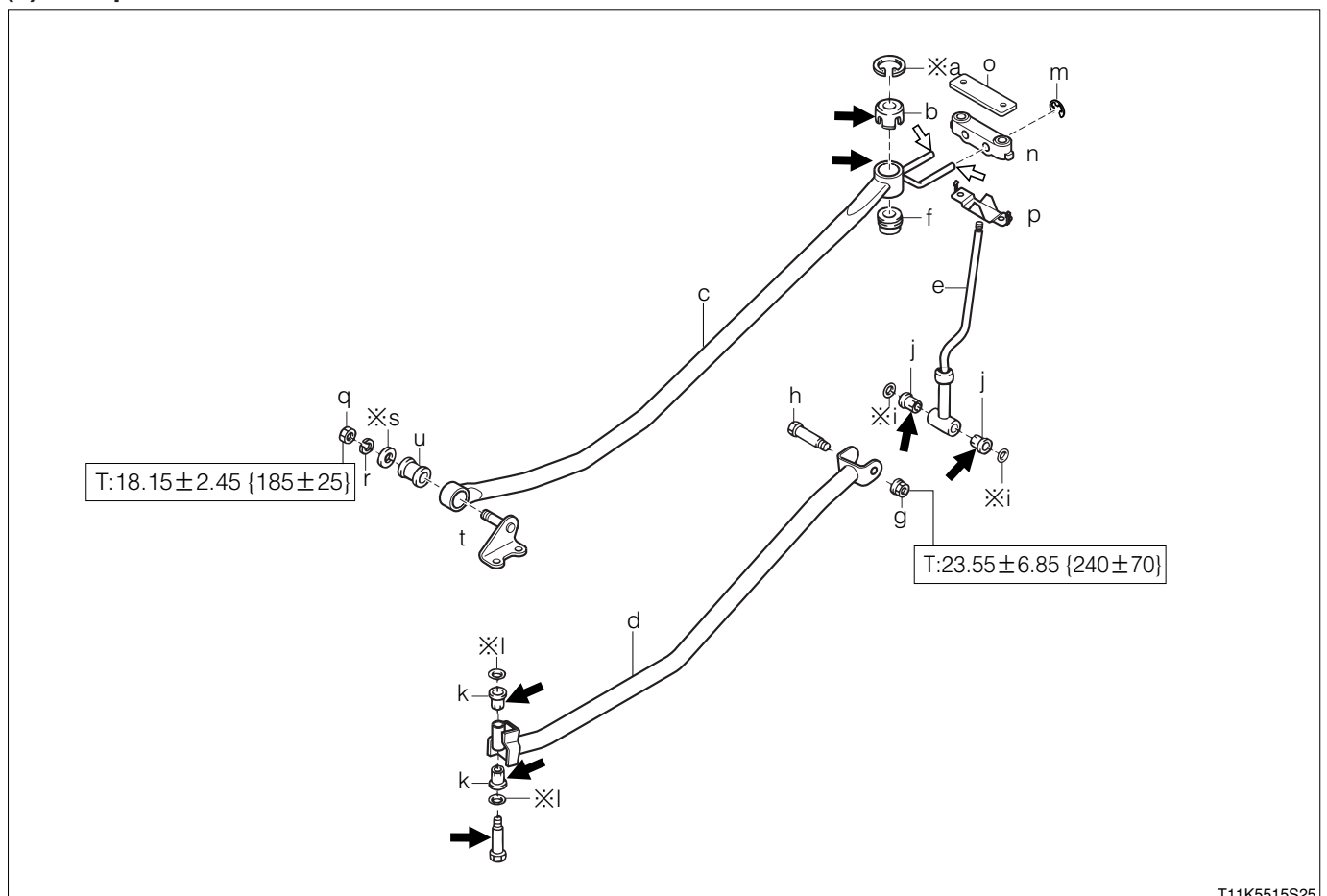
MP grease, Silicon grease

7-2-2 OPERATION BEFORE DISASSEMBLY

1. Remove the floor shift assembly from the vehicle.
Refer to Page F2-15.

7-2-3 DISASSEMBLY AND ASSEMBLY PROCEDURES

(1) Components



T11K5515S25

- ➔: MP grease
- ⇨: Silicone grease
- ※: Non - reusable parts
- Unit: N·m{kgf·cm}

(2) Disassembling and assembling procedure

- | | | | | | |
|-----|----|-----------------------------------|----|---|---|
| 1 | a | Ring, snap | 12 | l | Ring, O |
| 2 | b | Seat, shift lever | 13 | m | Ring, E (No replacement part) |
| ▼ ▲ | 3 | c Rod S/A, shift lever housing | 14 | n | Support Ay, control rod No.2 |
| ▼ ▲ | 4 | d Shaft S/A, control | 15 | o | Washer, plate |
| | 5 | e Lever, shift | 16 | p | Retainer S/A, control shift lever |
| | 6 | f Boot, shift lever retainer dust | 17 | q | Nut (Replacement parts) |
| | 7 | g Nut (Replacement parts) | 18 | r | Washer (Replacement parts) |
| | 8 | h Bolt (Replacement parts) | 19 | s | Collar (Replacement parts) |
| | 9 | i Ring, O | 20 | t | Support Ay, control rod (Replacement parts) |
| | 10 | j Bush | 21 | u | Bush |
| | 11 | k Bush | | | |

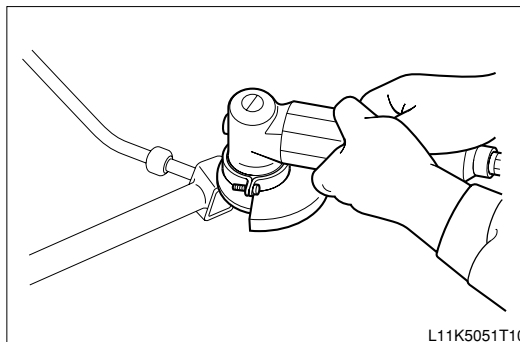
7-2-4 POINTS OF DISASSEMBLY

(1) Shaft S/A, control

1. Remove the staked state, using a grinder. Then, disassemble the control shaft subassembly and shift lever.

CAUTION

- Never reuse the pin whose staked section has been cut off.



(2) Rod S/A, shift lever housing

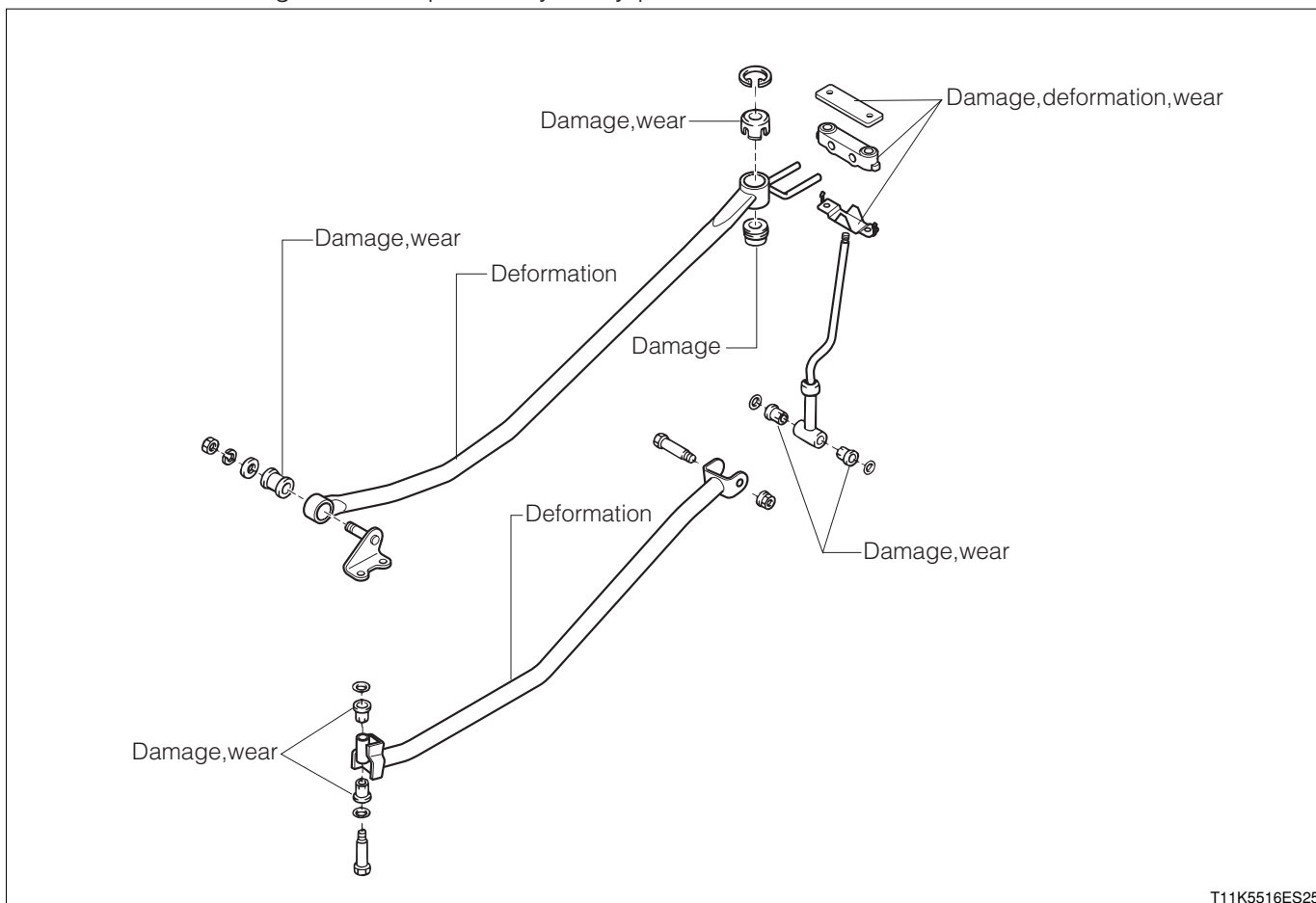
1. Remove the staked state, using a grinder. Then, disassemble the rod S/A and control rod support Ay.

CAUTION

- Never reuse the control rod support whose staked section has been cut off.

7-2-5 INSPECTION

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



7-2-6 POINTS OF ASSEMBLY

(1) Rod S/A, shift lever housing

1. Assemble the rod S/A and control rod support Ay.

CAUTION

- In the case of replacement parts, the connecting method is of a nut securing type. Utmost care must be exercised so that no wrong installation method is employed.

2. Apply silicone grease to the rod S/A and assemble it to the No.2 control rod support Ay.

NOTE

- There is no need of assembling the E-ring. (No replacement part)

LUBRICANT: Silicon grease

(2) Shaft S/A, control

1. Assemble the shift lever and control shaft subassembly.

CAUTION

- In the case of replacement parts, the connecting method is of a bolt securing type. Utmost care must be exercised so that no wrong installation method is employed.

7-2-7 OPERATION AFTER ASSEMBLY

1. Install the floor shift assembly to the vehicle.

Refer to Page F2-15.