

POWER STEERING SYSTEM

PRECAUTION

1. HANDLING PRECAUTIONS FOR STEERING SYSTEM

- (a) Care must be taken when replacing parts. Incorrect replacement could affect the performance of the steering system and result in driving hazards.

2. HANDLING PRECAUTIONS FOR SRS AIRBAG SYSTEM

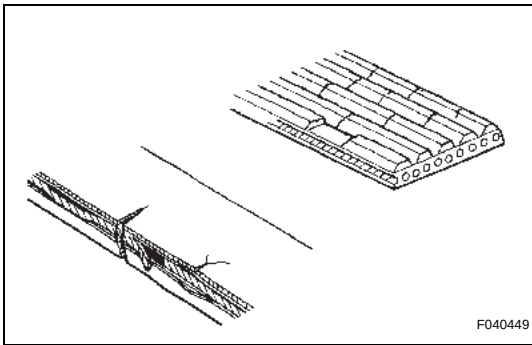
- (a) The vehicle is equipped with SRS (Supplemental Restraint System), such as airbags. If service operation is not carried out properly in the correct sequence, the airbag may suddenly deploy and this may result in serious injury. Before servicing (including inspection, replacement, removal and inspection of parts), be sure to read the precautionary notices for the supplemental restraint system (See page [RS-1](#)).

PROBLEM SYMPTOMS TABLE

HINT:

Use the table below to help you find the cause of the problems. The numbers indicate the ranked order of probability of each of the possible causes. Check each part in the order suggested. If necessary, replace these applicable parts.

Symptom	Suspected area	See page
Hard steering	1. Tires (Improperly inflated)	TW-1
	2. Power steering fluid level (Low)	PS-3
	3. Drive belt (Loose) (2TR-FE)	EM-5
	4. Drive belt (Loose) (1GR-FE)	EM-5
	5. Front wheel alignment (Incorrect) (2WD)	SP-2
	6. Front wheel alignment (Incorrect) (4WD and Pre-Runner)	SP-7
	7. Steering system joints (Worn)	-
	8. Suspension arm ball joints (Worn) (2WD)	SP-36
	9. Suspension arm ball joints (Worn) (4WD and Pre-Runner)	SP-43
	10. Steering column (Binding)	-
	11. Vane pump (2TR-FE)	PS-21
	12. Vane pump (1GR-FE)	PS-11
	13. Power steering link (2WD)	PS-35
	14. Power steering link (4WD and Pre-Runner)	PS-60
Poor return	1. Tires (Improperly inflated)	TW-1
	2. Front wheel alignment (Incorrect) (2WD)	SP-2
	3. Front wheel alignment (Incorrect) (4WD and Pre-Runner)	SP-7
	4. Steering column (Binding)	-
	5. Power steering link (2WD)	PS-35
	6. Power steering link (4WD and Pre-Runner)	PS-60
Excessive play	1. Steering system joints (Worn)	-
	2. Suspension arm ball joints (Worn) (2WD)	SP-36
	3. Suspension arm ball joints (Worn) (4WD and Pre-Runner)	SP-43
	4. Intermediate shaft, Sliding yoke (Worn)	-
	5. Front wheel bearing (Worn)	AH-1
	6. Power steering link (2WD)	PS-35
	7. Power steering link (4WD and Pre-Runner)	PS-60
Abnormal noise	1. Power steering fluid level (Low)	PS-3
	2. Steering system joints (Worn)	-
	3. Vane pump (2TR-FE)	PS-21
	4. Vane pump (1GR-FE)	PS-11
	5. Power steering link (2WD)	PS-35
	6. Power steering link (4WD and Pre-Runner)	PS-60



ON-VEHICLE INSPECTION

1. INSPECT DRIVE BELT

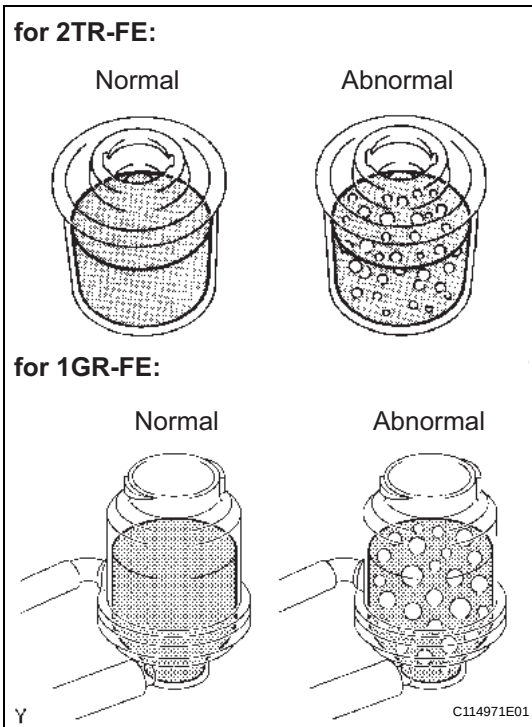
- (a) Visually check the belt for defects, such as excessive wear and frayed cords.
If any defects are found, replace the drive belt.

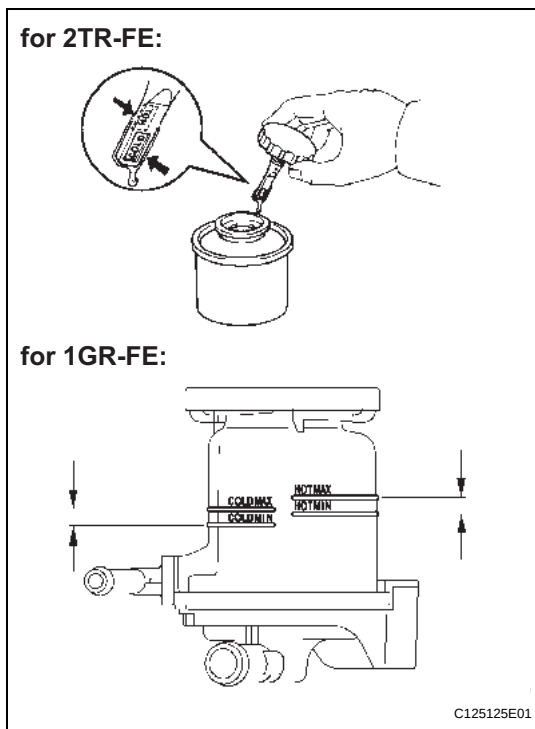
HINT:

Cracks on the rib side of a belt are considered acceptable. Replace the belt if there are any missing ribs.

2. BLEED POWER STEERING SYSTEM

- (a) Check the fluid level.
(b) Jack up the front of the vehicle and support it with stands.
(c) Turn the steering wheel.
(1) With the engine stopped, turn the wheel slowly from lock to lock several times.
(d) Lower the vehicle.
(e) Start the engine.
(1) Run the engine at idle for a few minutes.
(f) Turn the steering wheel.
(1) With the engine idling, turn the wheel to the left or right full lock position and keep it there for 2 to 3 seconds. Then turn the wheel to the opposite full lock position and keep it there for 2 to 3 seconds (step A).
(2) Repeat step A several times.
(g) Stop the engine.
(h) Check for foaming or emulsification.
Especially, if the system has to be bled twice because of foaming or emulsification, check for fluid leakage in the system.
(i) Check the fluid level.





3. INSPECT FLUID LEVEL

- Keep the vehicle level.
- With the engine stopped, check the fluid level in the oil reservoir.
If necessary, add fluid.

Fluid:

ATF "DEXRON" II or III

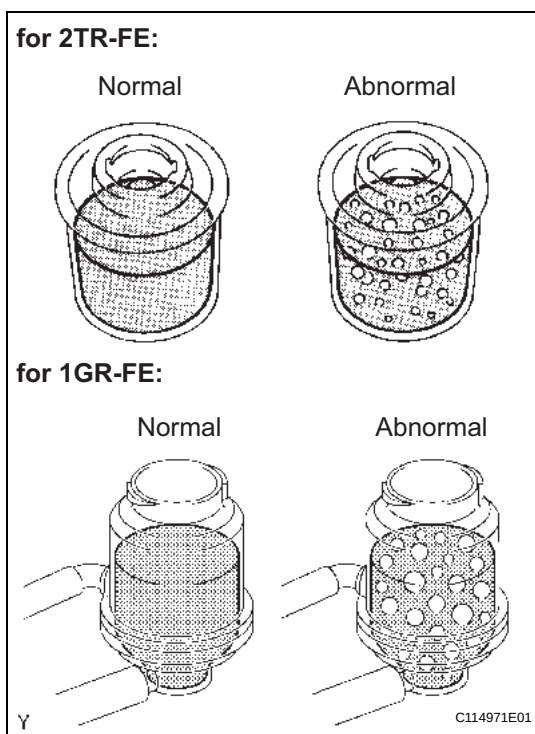
HINT:

Check that the fluid level is within the HOT level range in the reservoir tank. If the fluid is cold, check that it is within the COLD level range.

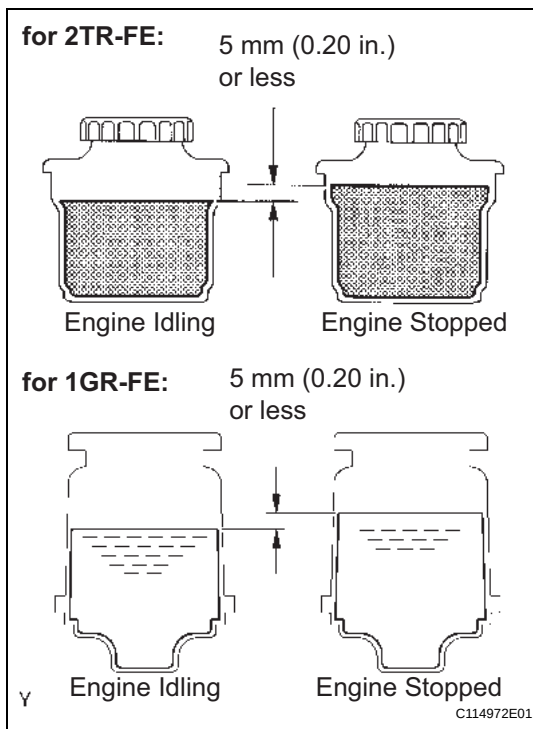
- Start the engine and let it idle.
- Turn the steering wheel from lock to lock several times to raise fluid temperature.

Fluid temperature:

75 to 80°C (167 to 176°F)



- Check for foaming or emulsification.
If any foaming or emulsification is identified, bleed the power steering system.



- (f) With the engine idling, measure the fluid level in the oil reservoir.
- (g) Stop the engine.
- (h) Wait a few minutes and measure the fluid level in the oil reservoir again.

Maximum fluid level rise:

5 mm (0.20 in.)

If any problems are found, bleed the power steering system.

- (i) Check the fluid level.

4. INSPECT STEERING FLUID PRESSURE

- (a) for 2TR-FE:
 - (1) Disconnect the pressure feed tube from the vane pump (See page PS-19).
- (b) for 1GR-FE:
 - (1) Disconnect the pressure feed tube from the vane pump (See page PS-9).
- (c) Connect SST as shown in the illustration.

SST 09640-10010 (09641-01010, 09641-01030, 09641-01060)

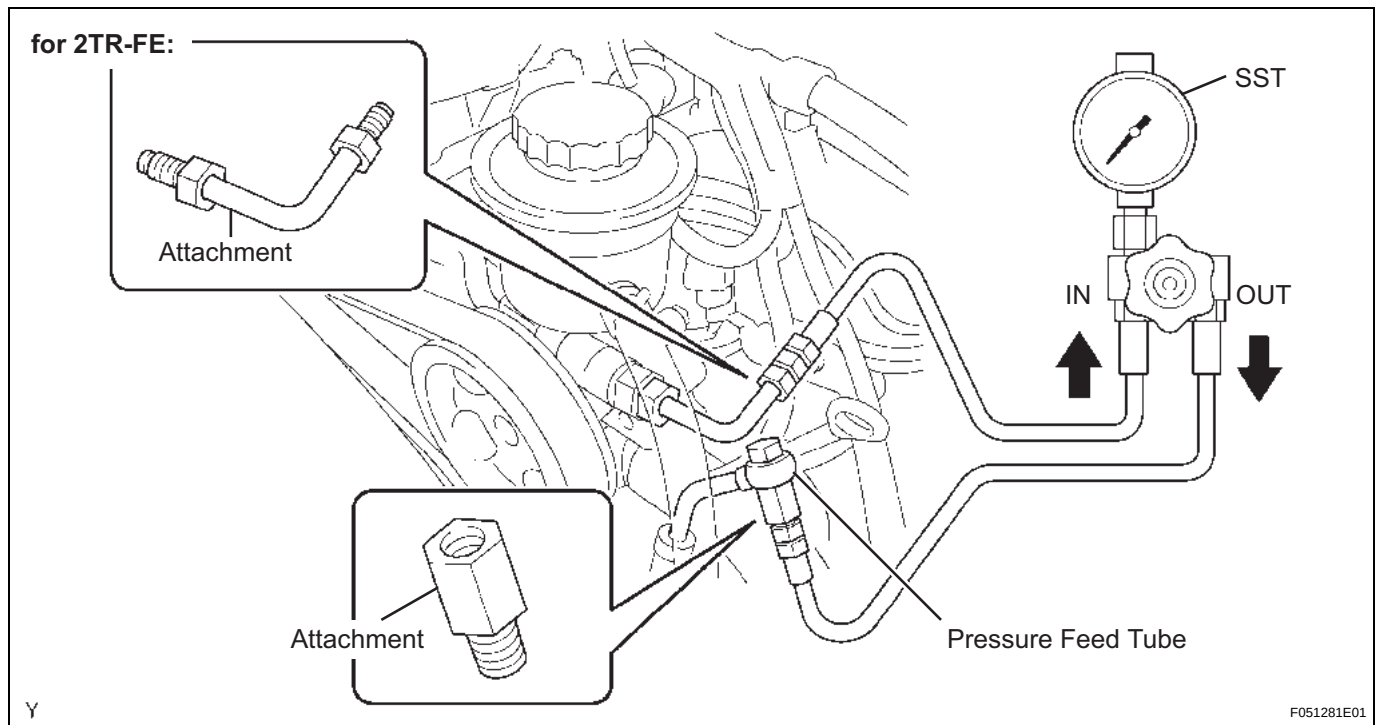
NOTICE:

Check that the valve of SST is in the open position.

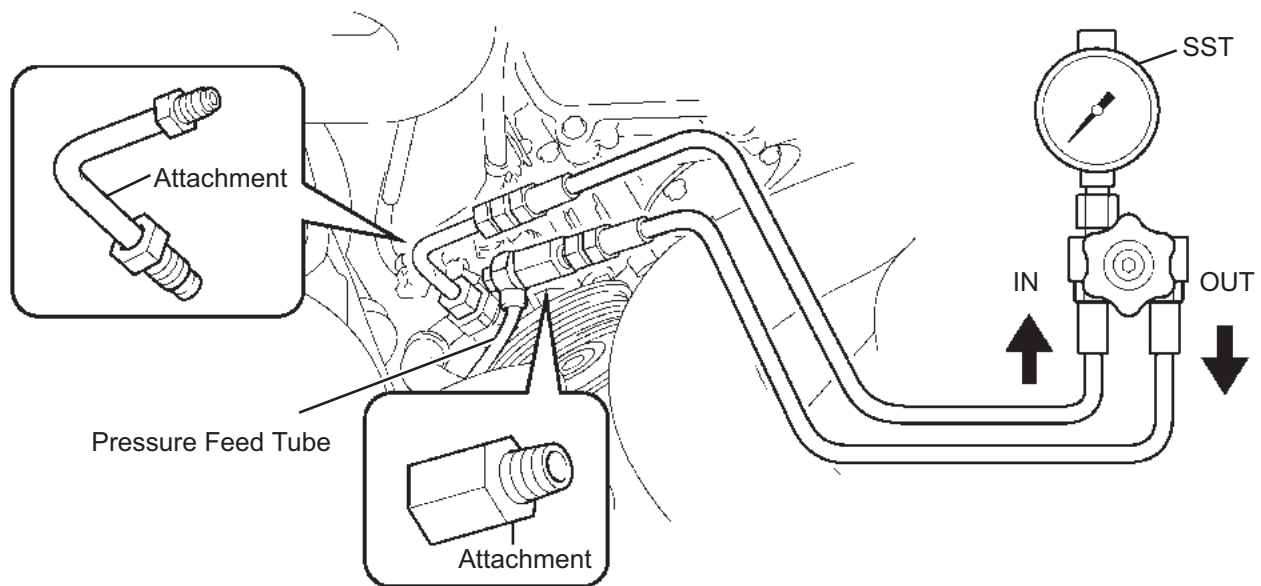
- (d) Bleed the power steering system.
- (e) Start the engine and let it idle.
- (f) Turn the steering wheel from lock to lock several times to raise the fluid temperature.

Fluid temperature:

75 to 80 °C (167 to 176 °F)

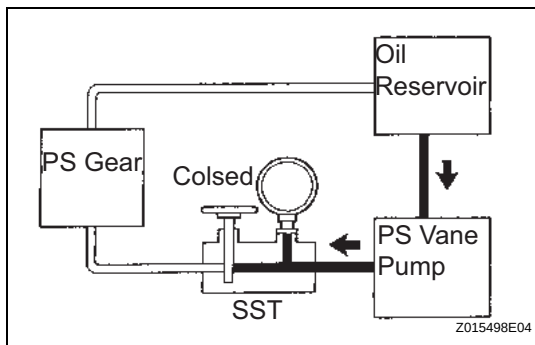


for 1GR-FE:



N

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Z015498E04

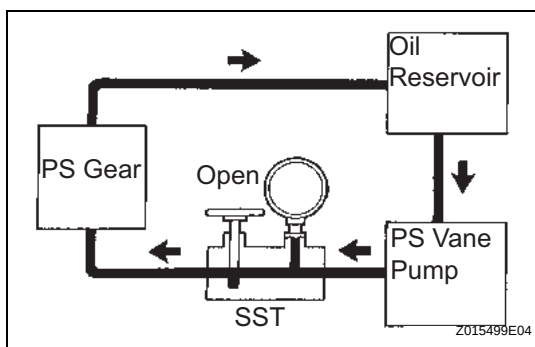
- (g) With the engine idling, close the valve of SST and check the reading on SST.

Fluid pressure:

8,300 to 8,800 kPa (85 to 90 kgf/cm², 1,209 to 1,280 psi)

NOTICE:

- Do not keep the valve closed for more than 10 seconds.
- Do not let the fluid temperature become too high.



Z015499E04

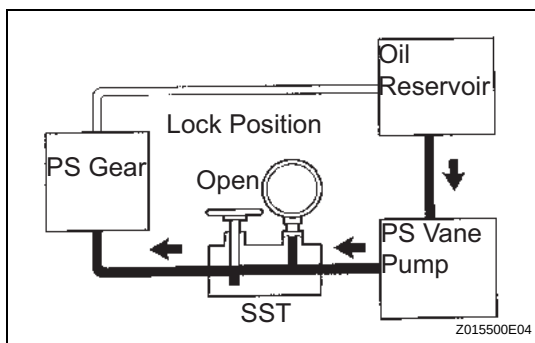
- (h) With the engine idling, fully open the valve.
(i) Measure the fluid pressure at the engine speeds of 1,000 rpm and 3,000 rpm.

Fluid pressure difference:

490 kPa (5 kgf/cm², 71 psi) or less

NOTICE:

Do not turn the steering wheel.



Z015500E04

- (j) With the engine idling and valve fully open, turn the steering wheel to the full lock position.

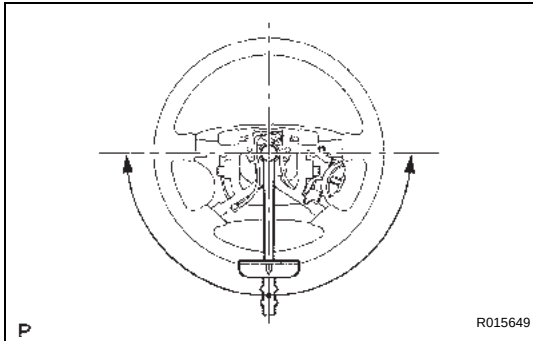
Fluid pressure:

8,300 to 8,800 kPa (85 to 90 kgf/cm², 1,209 to 1,280 psi)

NOTICE:

- Do not keep the steering wheel in the full lock position for more than 10 seconds.
- Do not let the fluid temperature become too high.

- (k) Disconnect SST.
- (l) for 2TR-FE:
 - (1) Connect the pressure feed tube to the vane pump (See page [PS-25](#)).
- (m) for 1GR-FE:
 - (1) Connect the pressure feed tube to the vane pump (See page [PS-15](#)).
- (n) Bleed the power steering system.



5. INSPECT STEERING EFFORT

- (a) Center the steering wheel assembly.
- (b) Remove the horn button assembly (See page [RS-558](#)).
- (c) Start the engine and let it idle.
- (d) Measure the steering effort in both directions.

Steering effort (Reference):

6.0 N*m (60 kgf*cm, 53 in.*lbf) or less

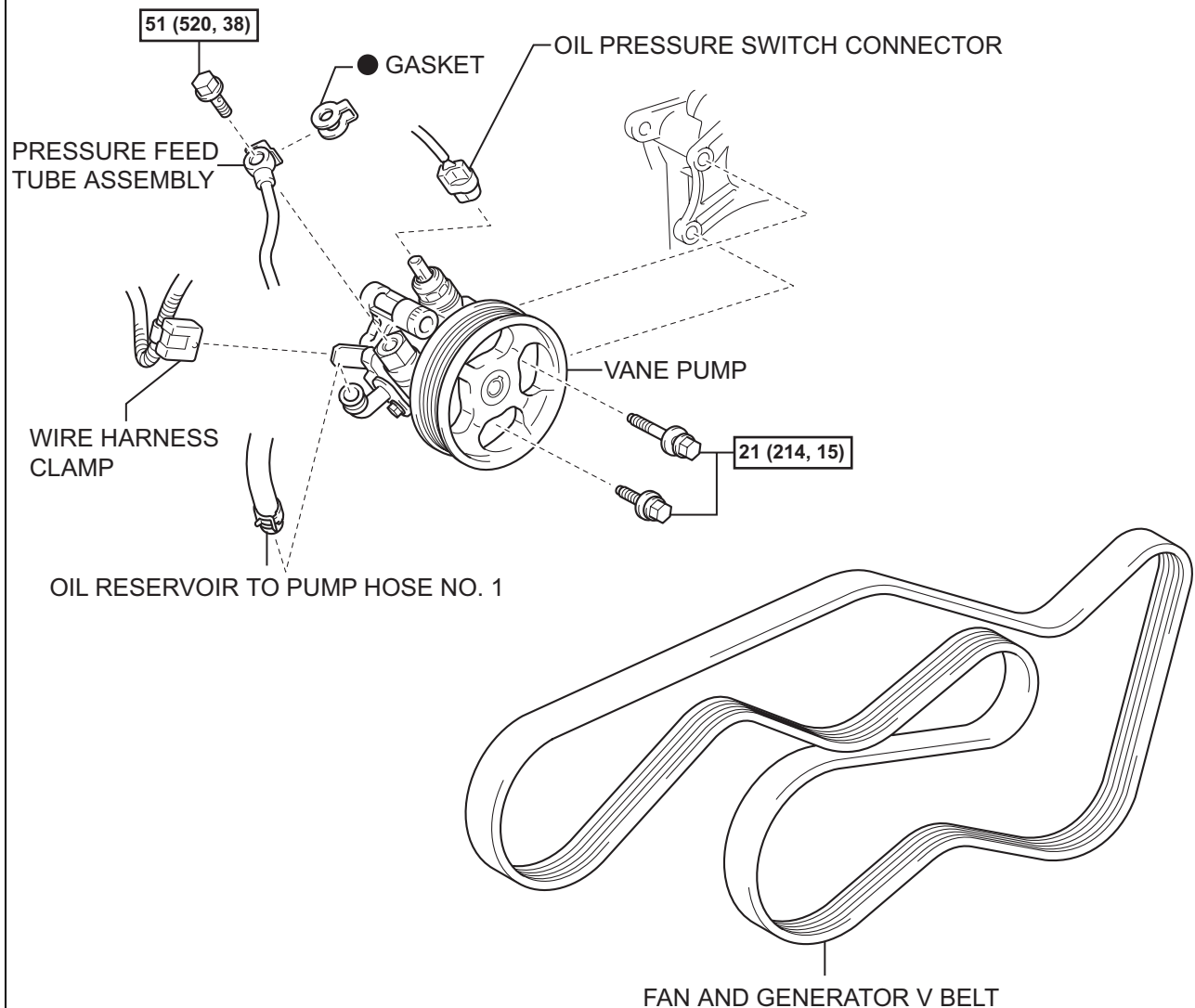
HINT:

Check the tire type, pressure and contact surfaces before making a diagnosis.

- (e) Install the steering wheel assembly set nut.
Torque: 50 N*m (510 kgf*cm, 37 ft.*lbf)
- (f) Install the horn button assembly (See page [RS-558](#)).

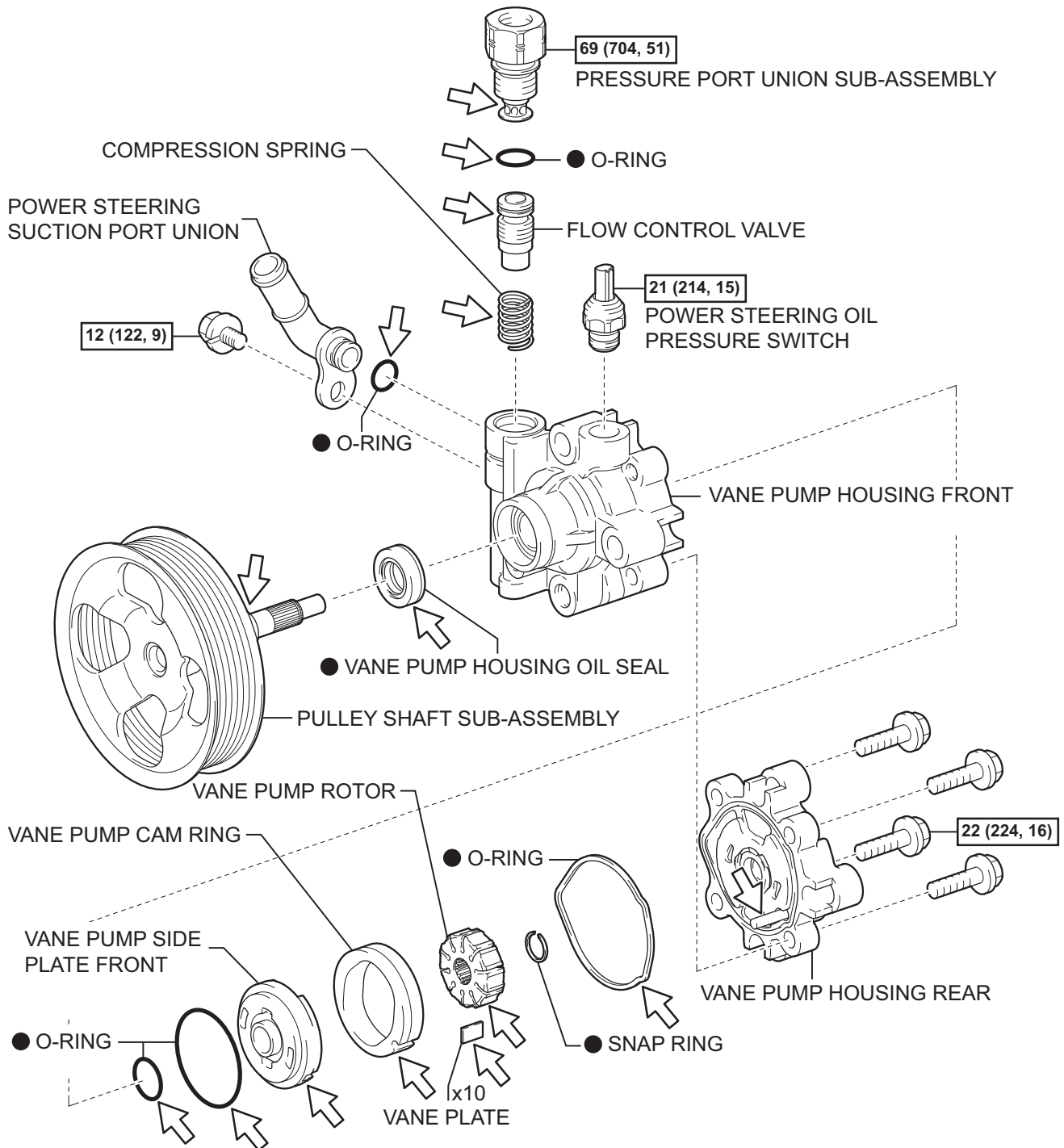
VANE PUMP (for 1GR-FE)

COMPONENTS



N*m (kgf*cm, ft*lbf) : Specified torque

● Non-reusable part

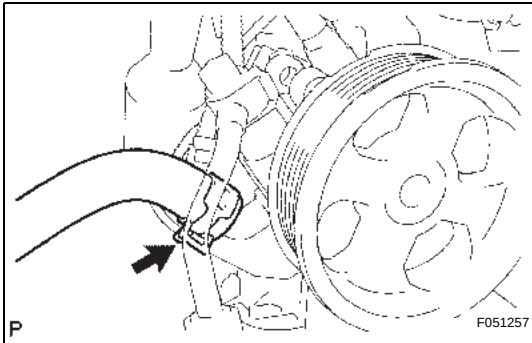


N*m (kgf*cm, ft*lb) : Specified torque

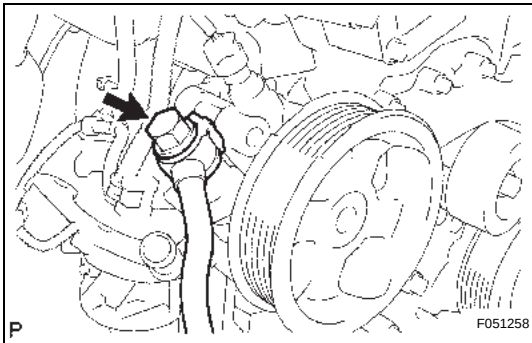
● Non-reusable part ⇐ Power steering fluid

REMOVAL

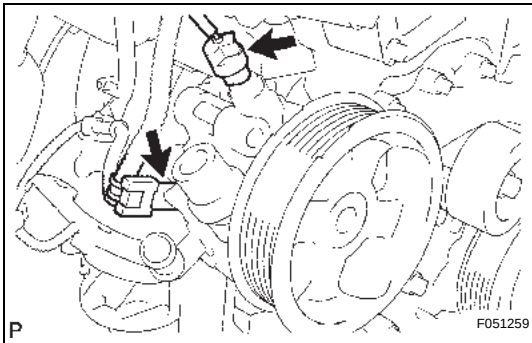
1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
2. **REMOVE ENGINE UNDER COVER SUB-ASSEMBLY NO. 1 (for 4WD and Pre-Runner)**
3. **REMOVE FAN AND GENERATOR V BELT (See page [EM-5](#))**
4. **DRAIN POWER STEERING FLUID**
5. **DISCONNECT OIL RESERVOIR TO PUMP HOSE NO. 1**
 - (a) Disengage the clip and disconnect the oil reservoir to pump hose No. 1.



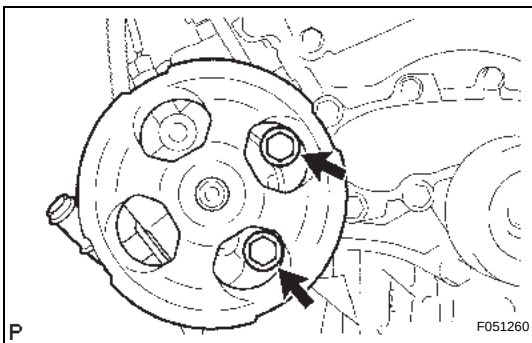
6. **DISCONNECT PRESSURE FEED TUBE ASSEMBLY**
 - (a) Remove the union bolt, then disconnect the pressure feed tube.
 - (b) Remove the gasket from the pressure feed tube.

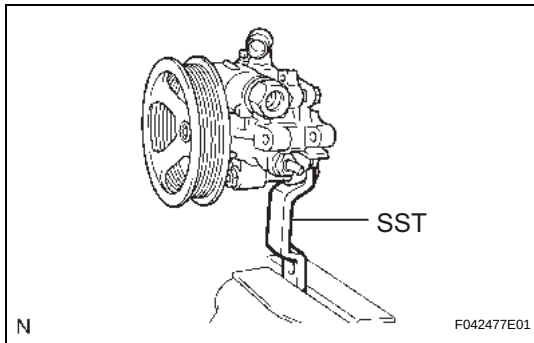


7. **REMOVE VANE PUMP**
 - (a) Disconnect the oil pressure switch connector.
 - (b) Remove the bolt and wire harness clamp bracket.



- (c) Remove the 2 bolts and vane pump assembly.





DISASSEMBLY

1. FIX VANE PUMP

- (a) Using SST, fix the vane pump assembly in a vise.
SST 09630-00014 (09631-00132)

NOTICE:

When using a vise, do not over tighten it.

2. REMOVE POWER STEERING SUCTION PORT UNION

- (a) Remove the bolt and suction port union.
(b) Remove the O-ring from the suction port union.

3. REMOVE FLOW CONTROL VALVE

- (a) Remove the pressure port union.
(b) Remove the O-ring from the pressure port union.
(c) Remove the flow control valve and compression spring.

4. REMOVE POWER STEERING OIL PRESSURE SWITCH

NOTICE:

Be careful not to drop or badly damage the oil pressure switch. If damaged, replace it with a new one.

5. REMOVE VANE PUMP HOUSING REAR

- (a) Remove the 4 bolts and vane pump housing rear from the vane pump housing front.
(b) Remove the O-ring from the vane pump housing front.

6. REMOVE PULLEY SHAFT SUB-ASSEMBLY

NOTICE:

Be careful not to drop or badly damage the pulley shaft. If damaged, replace it with a new one.

- (a) Using a screwdriver, remove the snap ring from the pulley shaft.
(b) Remove the pulley shaft.

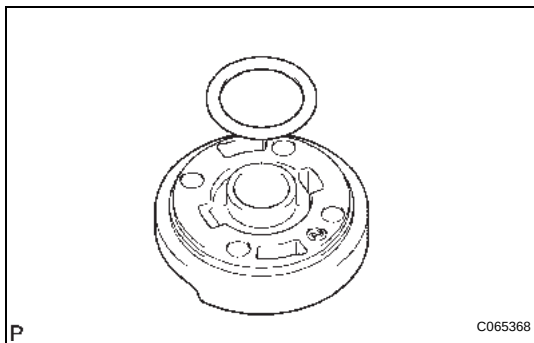
7. REMOVE VANE PUMP ROTOR

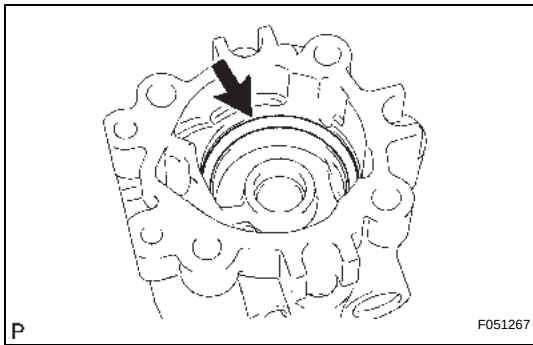
- (a) Remove the 10 vane plates.
(b) Remove the vane pump rotor.

8. REMOVE VANE PUMP CAM RING

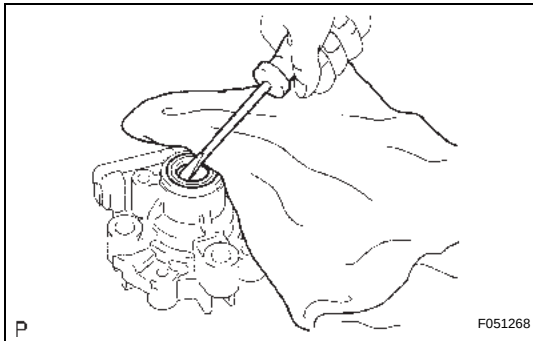
9. REMOVE VANE PUMP SIDE PLATE FRONT

- (a) Remove the side plate from the vane pump housing front.
(b) Remove the O-ring from the side plate.





- (c) Remove the O-ring from the vane pump housing front.

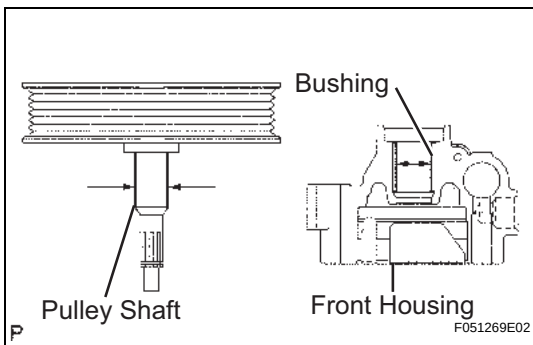


10. REMOVE VANE PUMP HOUSING OIL SEAL

- (a) Using screwdriver, remove the oil seal.

NOTICE:

Be careful not to damage the vane pump housing front.



INSPECTION

1. INSPECT OIL CLEARANCE

- (a) Using a micrometer and caliper gauge, measure the oil seal clearance.

Standard clearance:

0.021 to 0.043 mm (0.0008 to 0.0017 in.)

Maximum clearance:

0.07 mm (0.0028 in.)

If it is greater than the maximum, replace the vane pump assembly.

2. INSPECT VANE PUMP ROTOR AND VANE PUMP PLATE

- (a) Using a micrometer, measure the height, thickness and length of the vane plates.

Minimum height:

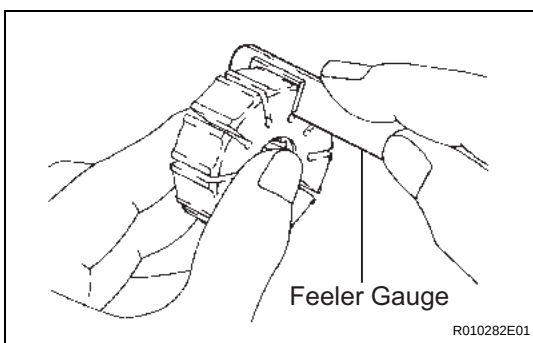
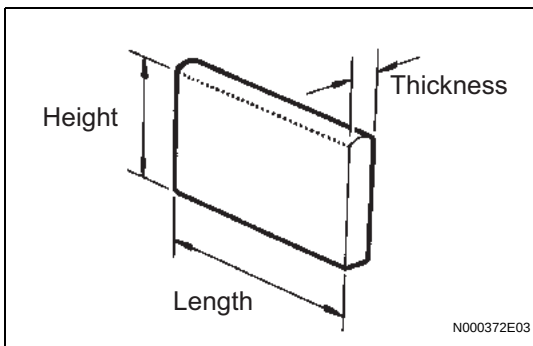
7.7 mm (0.303 in.)

Minimum thickness:

1.408 mm (0.0554 in.)

Minimum length:

11.993 mm (0.4722 in.)

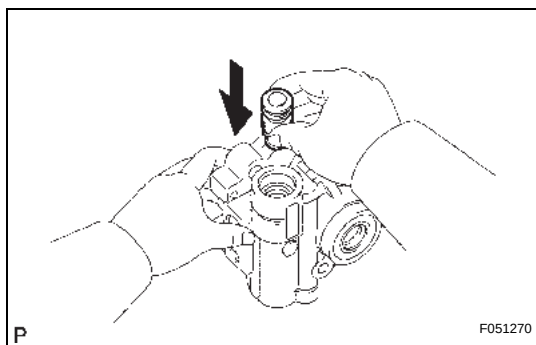


- (b) Using a feeler gauge, measure the clearance between a side face of the vane pump rotor groove and vane plate.

Maximum clearance:

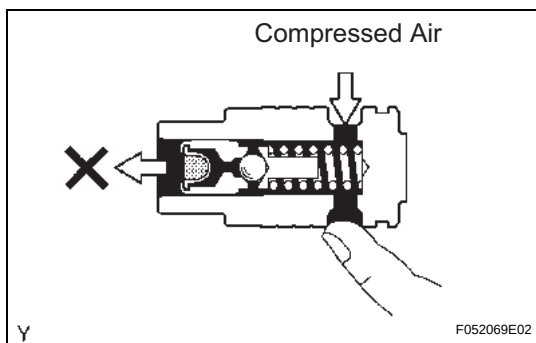
0.025 mm (0.0012 in.)

If it is greater than the maximum, replace the vane pump assembly.

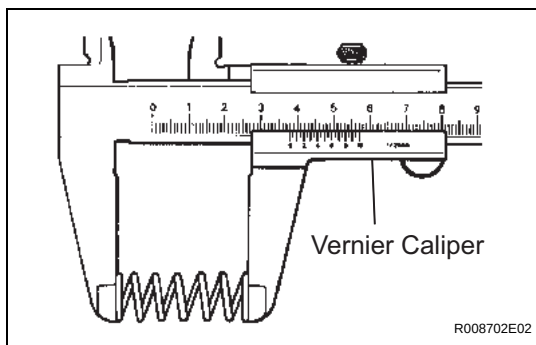


3. INSPECT FLOW CONTROL VALVE

- (a) Coat the flow control valve with power steering fluid and check that it falls smoothly into the flow control valve hole under its own weight.



- (b) Check the flow control valve for leakage. Close one of the holes and apply compressed air of 392 to 490 kPa (4 to 5 kgf/cm², 57 to 71 psi) to the hole on the opposite side. Confirm that the air does not flow out of the end holes. If necessary, replace the vane pump assembly.



4. INSPECT COMPRESSION SPRING

- (a) Using vernier calipers, measure the free length of the spring.

Minimum free length:

36.9 mm (1.453 in.)

If it is not within the specification, replace the vane pump assembly.

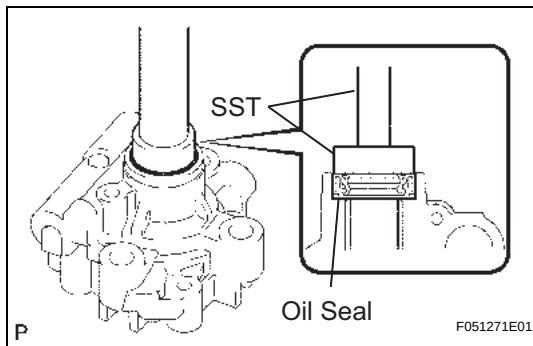
5. INSPECT PRESSURE PORT UNION SUB-ASSEMBLY

- (a) If the union seat in the pressure port union is badly damaged, it could cause fluid leakage, so replace the vane pump assembly.

REASSEMBLY

NOTICE:

When installing, coat the parts indicated by the arrows with power steering fluid (See page PS-3).

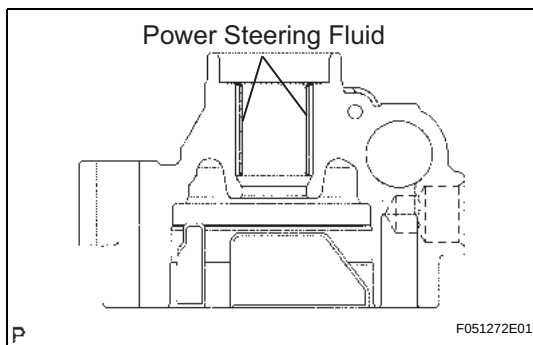


1. INSTALL VANE PUMP HOUSING OIL SEAL

- Coat a new vane pump housing oil seal lip with power steering fluid.
- Using SST and a press, install a new oil seal.
SST 09950-60010 (09951-00280), 09950-70010 (09951-07100)

NOTICE:

Make sure that the oil seal is installed facing in the correct direction.

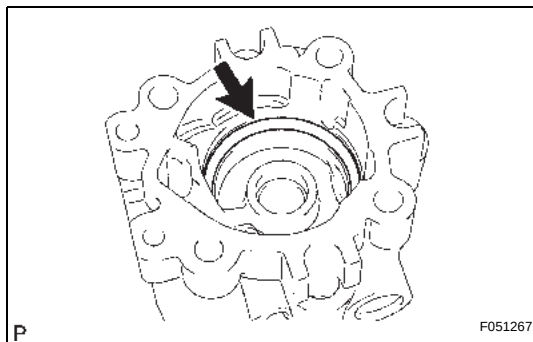


2. INSTALL PULLEY SHAFT SUB-ASSEMBLY

- Coat the bushing inner surface of the vane pump housing front with power steering fluid.
- Gradually insert the vane pump shaft.

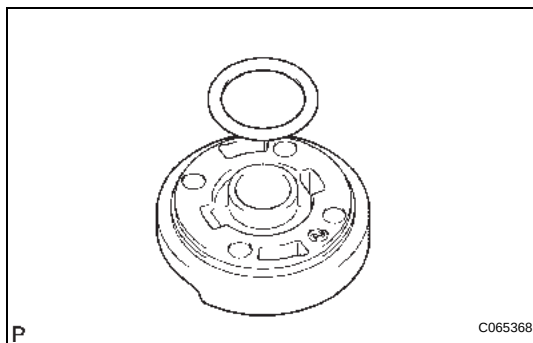
NOTICE:

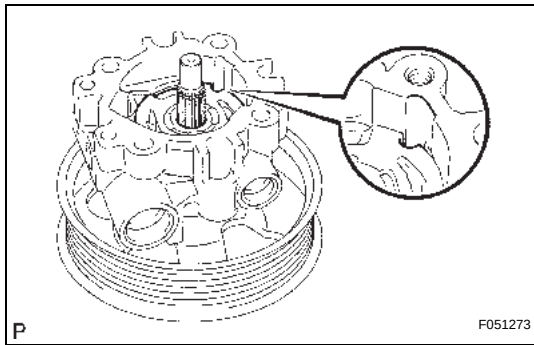
Do not damage the vane pump housing oil seal lip in the vane pump housing front.



3. INSTALL VANE PUMP SIDE PLATE FRONT

- Coat a new O-ring with power steering fluid and install it onto the vane pump housing front.

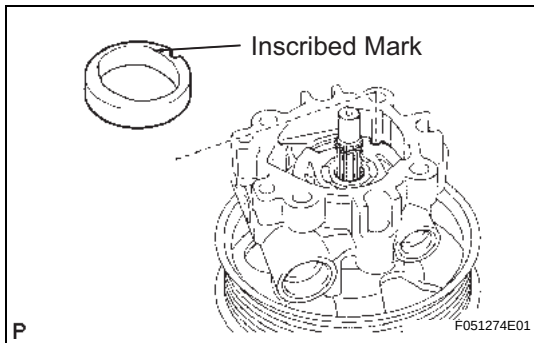




- (c) Align the dent of the side plate with that of the vane pump housing front and install the side plate.

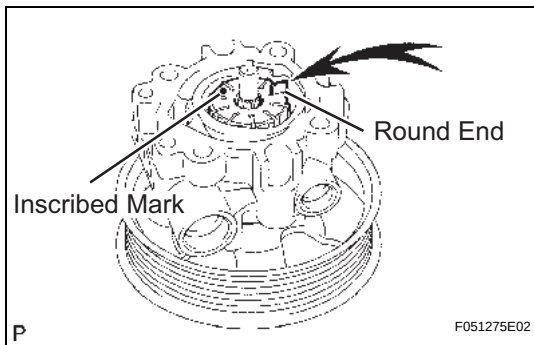
NOTICE:

Make sure that the side plate is installed facing the correct direction.



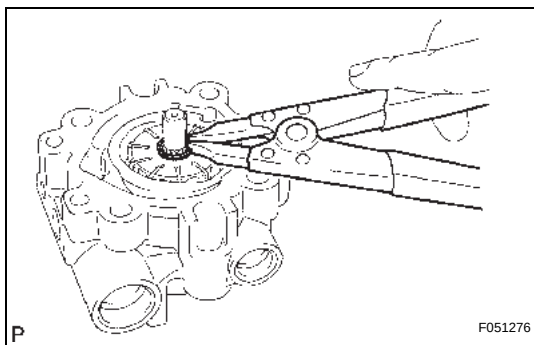
4. INSTALL VANE PUMP CAM RING

- (a) Align the dent of the cam ring with that of the side plate and install the cam ring with the inscribed mark facing outward.



5. INSTALL VANE PUMP ROTOR

- (a) Install the vane pump rotor with the inscribed mark facing outward.
- (b) Coat the 10 vane plates with power steering fluid.
- (c) Install the vane plates with the round ends facing outward.

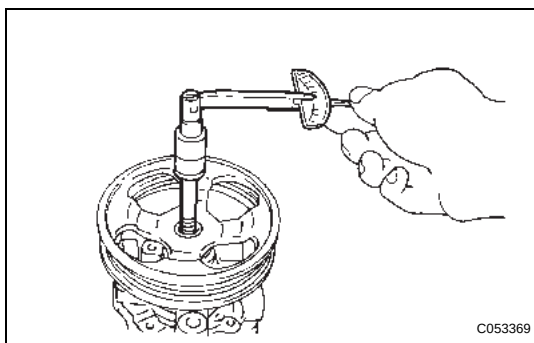


- (d) Using a snap ring expander, install a new snap ring onto the pulley shaft.

6. INSTALL VANE PUMP HOUSING REAR

- (a) Coat a new O-ring with power steering fluid and install it onto the vane pump housing rear.
- (b) Align the straight pin of the vane pump housing rear with the dents of the cam ring, side plate and vane pump housing front, and install the vane pump housing rear with the 4 bolts.

Torque: 22 N*m (224 kgf*cm, 16 ft.*lbf)



7. INSPECT PRELOAD

- (a) Check that the pump rotates smoothly without making any abnormal noises.
- (b) Provisionally install the service bolt.

Recommended service bolt:

Thread diameter:

10 mm (0.3937 in.)

Thread pitch:

1.25 mm (0.0492 in.)

Bolt length:

50 mm (1.9685 in.)

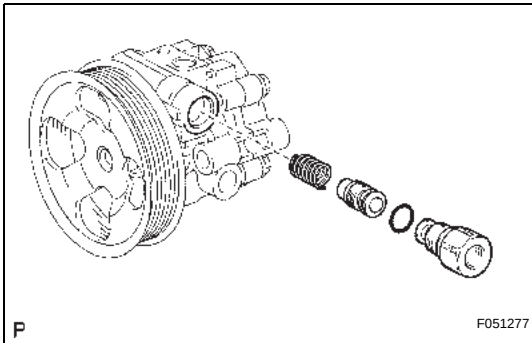
- (c) Using a torque wrench, check the pump rotating torque.

Torque: 0.27 N*m (2.8 kgf*cm, 2.4 in.*lbf)

8. INSTALL POWER STEERING OIL PRESSURE SWITCH

- (a) Coat the O-ring with power steering fluid and install it onto the power steering oil pressure switch.
- (b) Install the power steering oil pressure switch onto the vane pump.

Torque: 21 N*m (214 kgf*cm, 15 ft.*lbf)



9. INSTALL FLOW CONTROL VALVE

- (a) Coat the compression spring and flow control valve with power steering fluid.
- (b) Install the compression spring and flow control valve.
- (c) Coat a new O-ring with power steering fluid and install it onto the pressure port union.
- (d) Install the pressure port union.

Torque: 69 N*m (704 kgf*cm, 51 ft.*lbf)

10. INSTALL POWER STEERING SUCTION PORT UNION

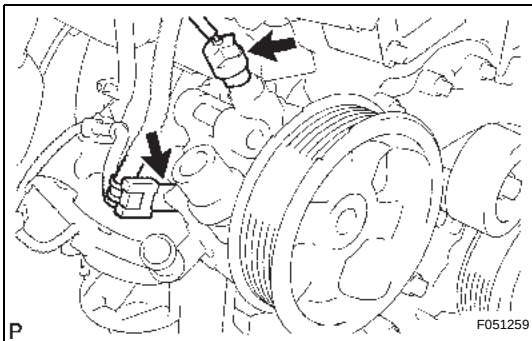
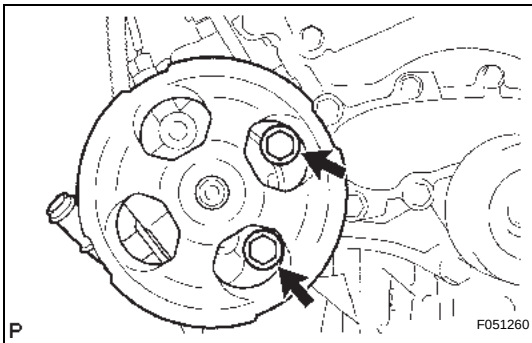
- (a) Coat a new O-ring with power steering fluid, and install it onto the suction port union.
- (b) Install the suction port union with the bolt.

Torque: 12 N*m (122 kgf*cm, 9 ft.*lbf)

INSTALLATION

1. INSTALL VANE PUMP

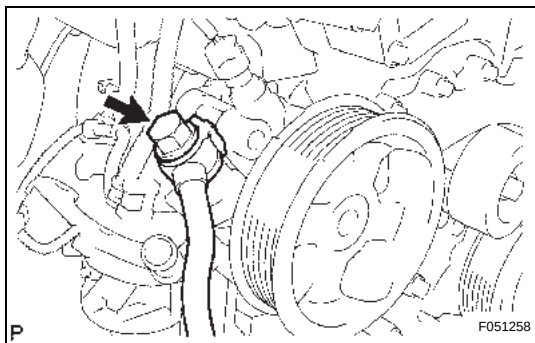
- (a) Install the vane pump assembly with the 2 bolts.
- Torque: 21 N*m (214 kgf*cm, 15 ft.*lbf)**



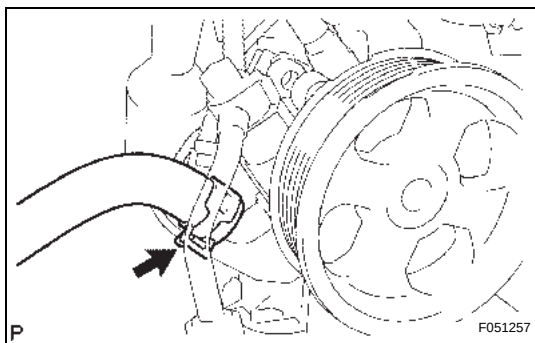
- (b) Install the wire harness clamp bracket with the bolt.
- (c) Connect the oil pressure switch connector.

NOTICE:

Make sure that no oil adheres to the connector.



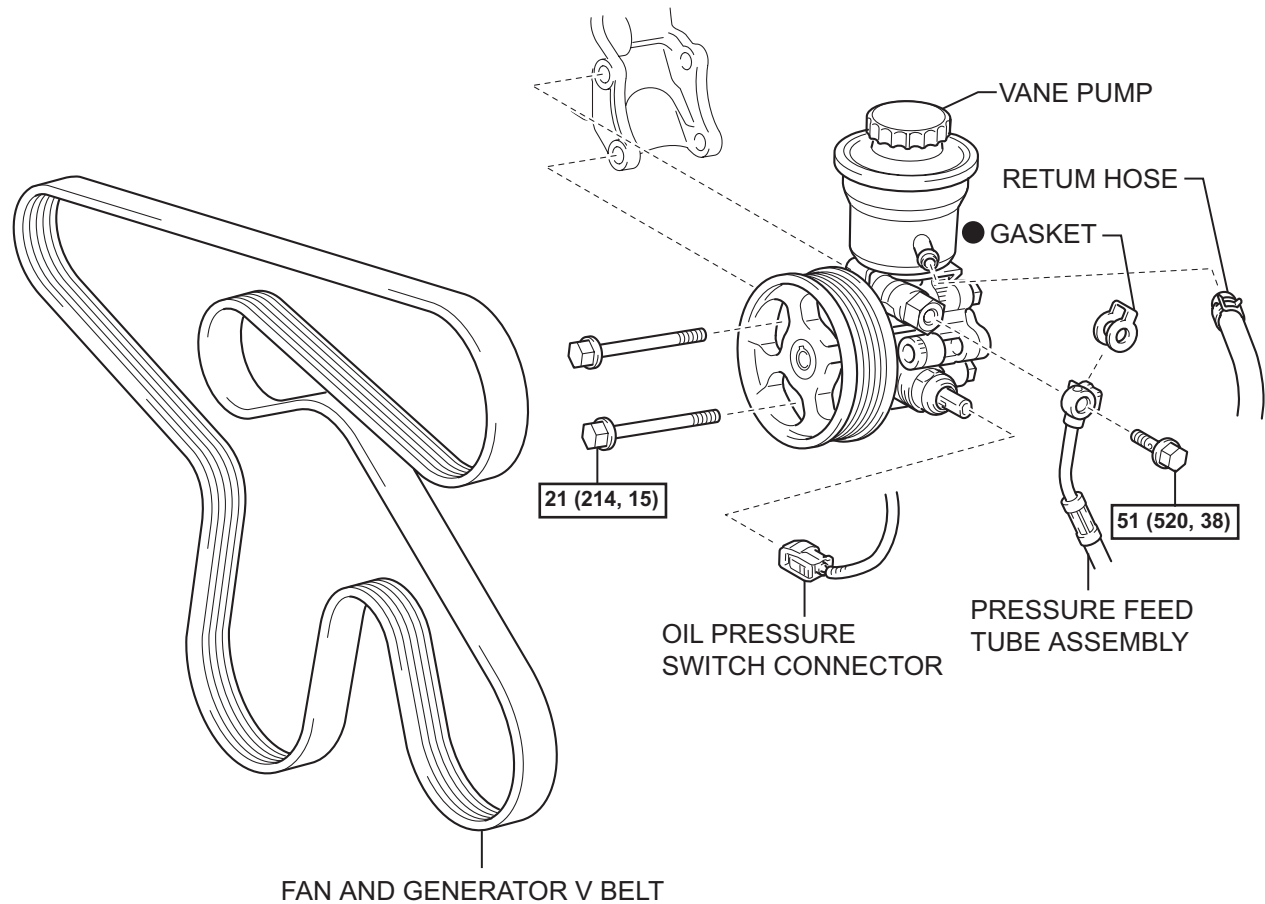
2. **CONNECT PRESSURE FEED TUBE ASSEMBLY**
 - (a) Install a new gasket onto the pressure feed tube.
 - (b) Install the pressure feed tube with the union bolt.**Torque: 51 N*m (520 kgf*cm, 38 ft.*lbf)**



3. **CONNECT OIL RESERVOIR TO PUMP HOSE NO. 1**
 - (a) Connect the oil reservoir to pump hose No. 1 with the clip.
4. **INSTALL FAN AND GENERATOR V BELT** (See page [EM-5](#))
5. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**
Torque: 3.9 N*m (40 kgf*cm, 35 in.*lbf)
(See page [IN-5](#))
6. **ADD POWER STEERING FLUID**
7. **BLEED POWER STEERING FLUID** (See page [PS-2](#))
8. **CHECK FOR POWER STEERING FLUID LEAKAGE**
9. **INSTALL ENGINE UNDER COVER SUB-ASSEMBLY NO. 1** (for 4WD and Pre-Runner)
Torque: 30 N*m (306 kgf*cm, 22 ft.*lbf)

VANE PUMP (for 2TR-FE)

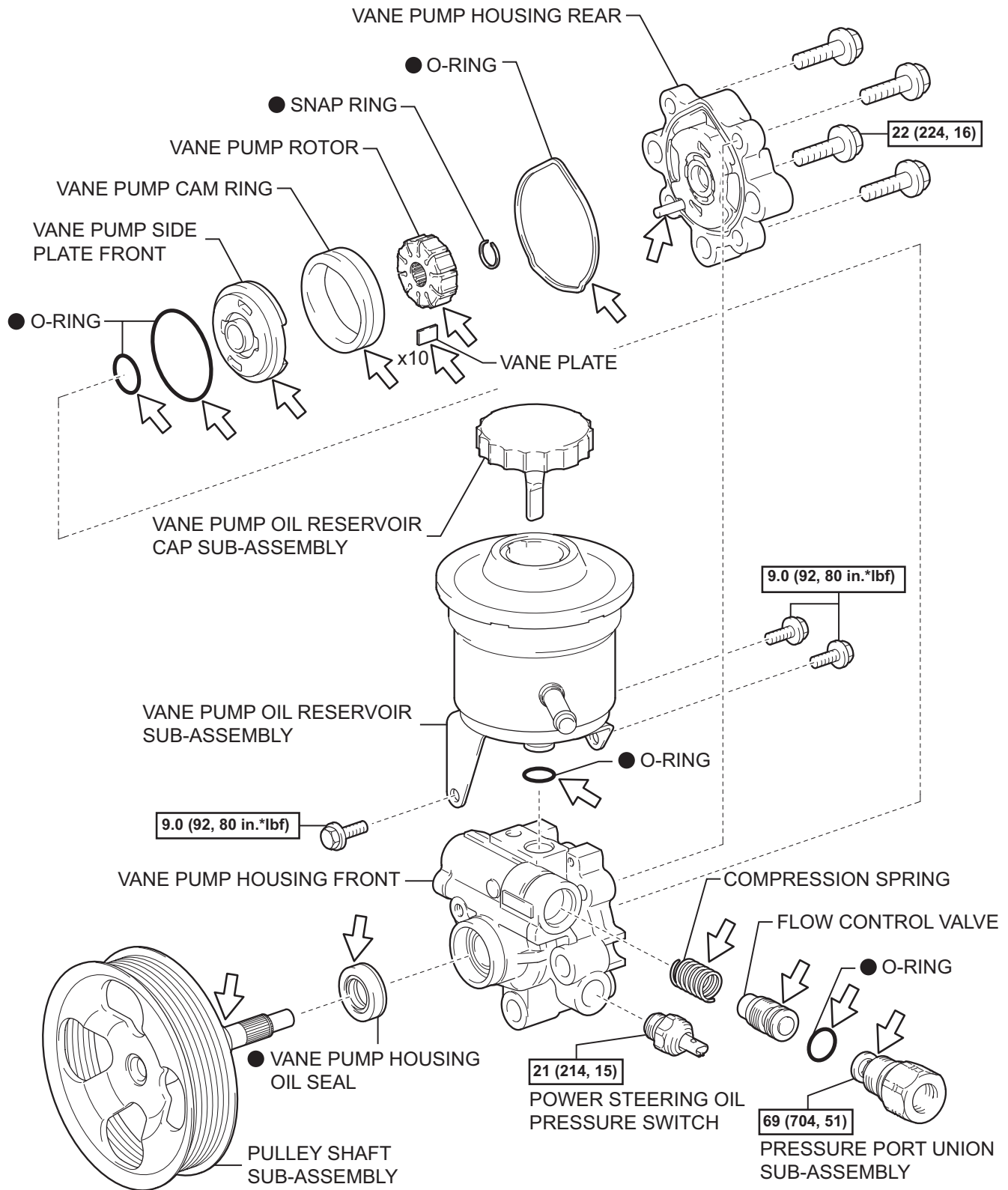
COMPONENTS



$\boxed{\text{N}\cdot\text{m (kgf}\cdot\text{cm, ft}\cdot\text{lbf)}}$: Specified torque

● Non-reusable part

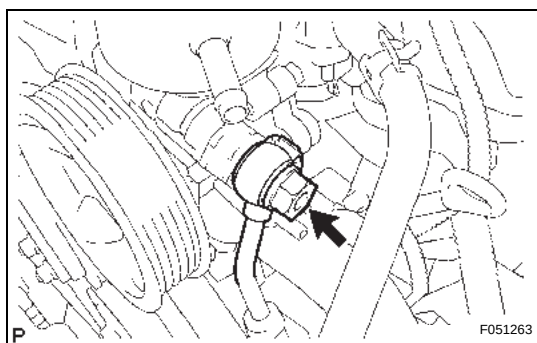
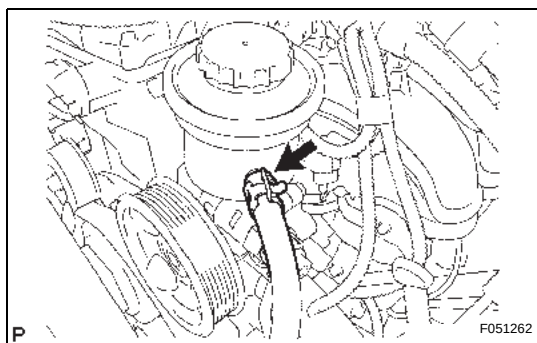
PS



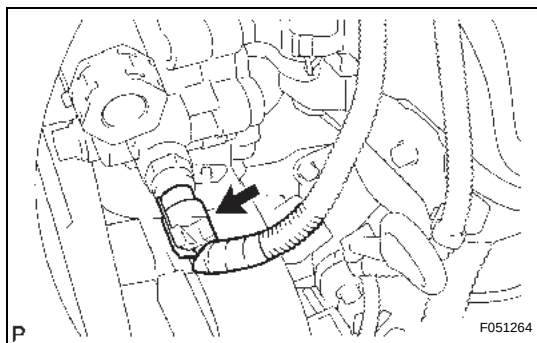
N*m (kgf*cm, ft*lbf) : Specified torque ● Non-reusable part → Power steering fluid

REMOVAL

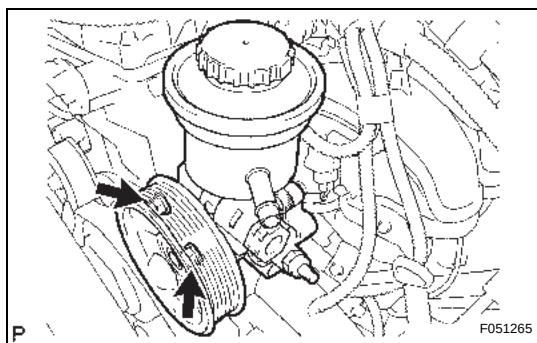
1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL
2. REMOVE ENGINE UNDER COVER SUB-ASSEMBLY NO. 1 (for 4WD and Pre-Runner)
3. REMOVE FAN AND GENERATOR V BELT (See page [EM-5](#))
4. DRAIN POWER STEERING FLUID
5. DISCONNECT PRESSURE FEED TUBE ASSEMBLY
 - (a) Disengage the clip and disconnect the return hose.



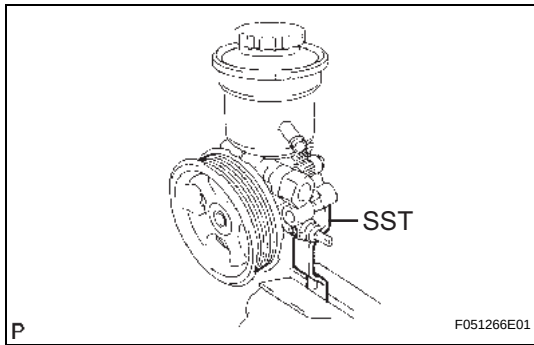
- (b) Remove the union bolt, then disconnect the pressure feed tube.
- (c) Remove the gasket from the pressure feed tube.



6. REMOVE VANE PUMP
 - (a) Disconnect the oil pressure switch connector.



- (b) Remove the 2 bolts and vane pump assembly.



DISASSEMBLY

1. FIX VANE PUMP

- (a) Using SST, fix the vane pump assembly in a vise.
SST 09630-00014 (09631-00132)

NOTICE:

When using a vise, do not over tighten it.

2. REMOVE VANE PUMP OIL RESERVOIR SUB-ASSEMBLY

- (a) Remove the 3 bolts and vane pump oil reservoir.
(b) Remove the O-ring from the vane pump oil reservoir.

3. REMOVE FLOW CONTROL VALVE

- (a) Remove the pressure port union.
(b) Remove the O-ring from the pressure port union.
(c) Remove the flow control valve and compression spring.

4. REMOVE POWER STEERING OIL PRESSURE SWITCH

NOTICE:

Be careful not to drop or badly damage the oil pressure switch. If damaged, replace it with a new one.

5. REMOVE VANE PUMP HOUSING REAR

- (a) Remove the 4 bolts and vane pump housing rear from the vane pump housing front.
(b) Remove the O-ring from the vane pump housing front.

6. REMOVE PULLEY SHAFT SUB-ASSEMBLY

NOTICE:

Be careful not to drop or badly damage the pulley shaft. If damaged, replace it with a new one.

- (a) Using a screwdriver, remove the snap ring from the pulley shaft.
(b) Remove the pulley shaft.

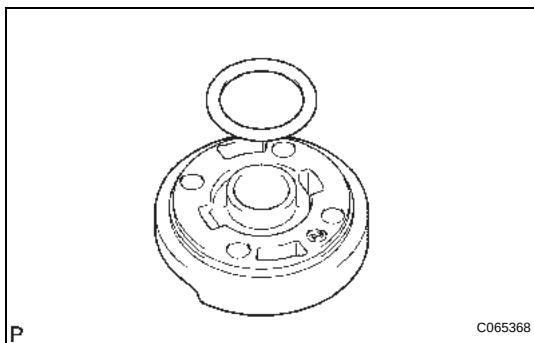
7. REMOVE VANE PUMP ROTOR

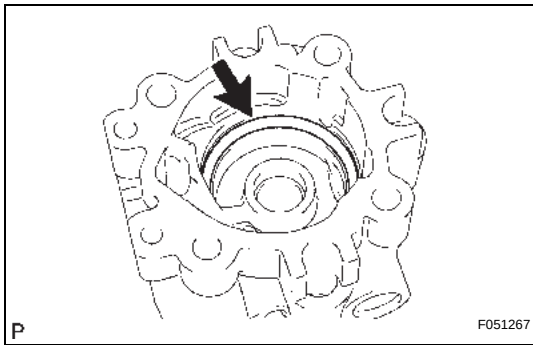
- (a) Remove the 10 vane plates.
(b) Remove the vane pump rotor.

8. REMOVE VANE PUMP CAM RING

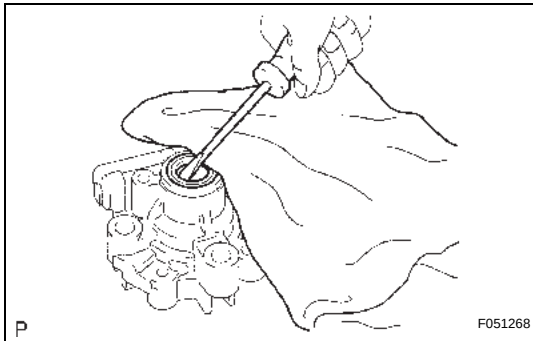
9. REMOVE VANE PUMP SIDE PLATE FRONT

- (a) Remove the side plate from the vane pump housing front.
(b) Remove the O-ring from the side plate.





- (c) Remove the O-ring from the vane pump housing front.

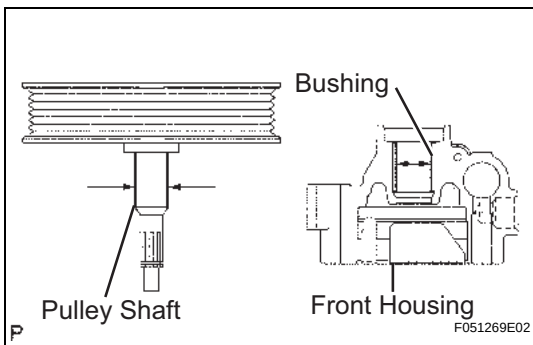


10. REMOVE VANE PUMP HOUSING OIL SEAL

- (a) Using screwdriver, remove the oil seal.

NOTICE:

Be careful not to damage the vane pump housing front.



INSPECTION

1. INSPECT OIL CLEARANCE

- (a) Using a micrometer and caliper gauge, measure the oil seal clearance.

Standard clearance:

0.021 to 0.043 mm (0.0008 to 0.0017 in.)

Maximum clearance:

0.07 mm (0.0028 in.)

If it is greater than the maximum, replace the vane pump assembly.

2. INSPECT VANE PUMP ROTOR AND VANE PUMP PLATE

- (a) Using a micrometer, measure the height, thickness and length of the vane plates.

Minimum height:

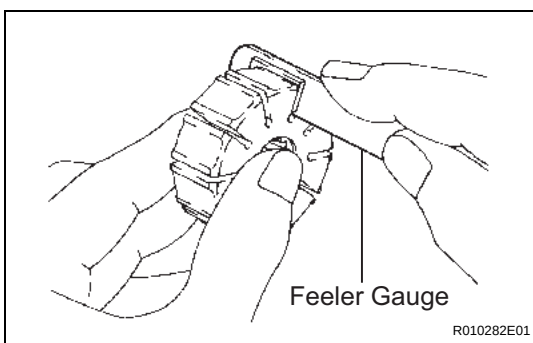
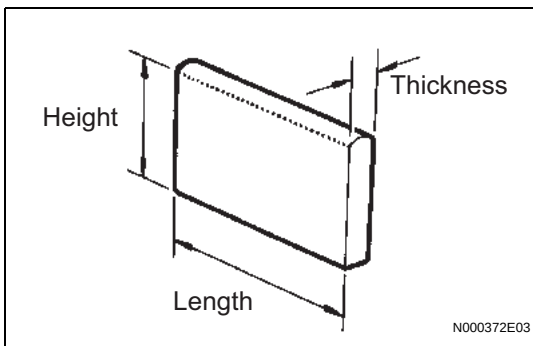
7.7 mm (0.303 in.)

Minimum thickness:

1.408 mm (0.0554 in.)

Minimum length:

11.993 mm (0.4722 in.)

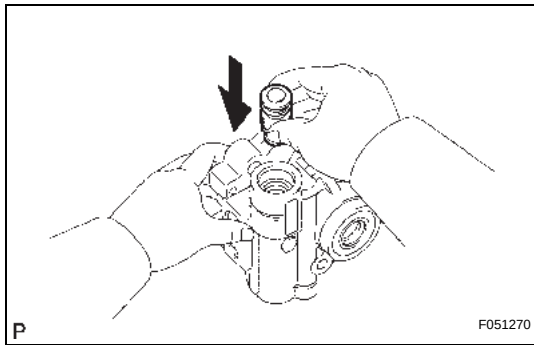


- (b) Using a feeler gauge, measure the clearance between a side face of the vane pump rotor groove and vane plate.

Maximum clearance:

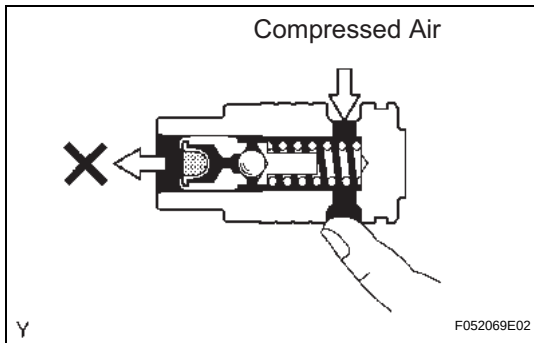
0.025 mm (0.0012 in.)

If it is greater than the maximum, replace the vane pump assembly.

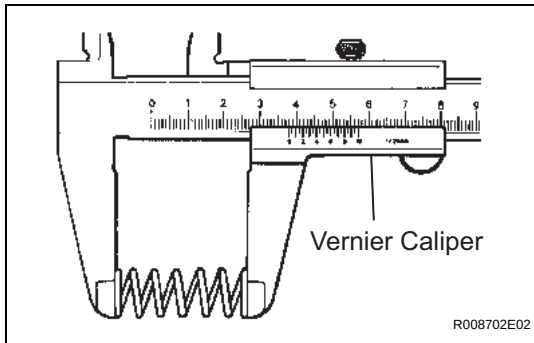


3. INSPECT FLOW CONTROL VALVE

- (a) Coat the flow control valve with power steering fluid and check that it falls smoothly into the flow control valve hole under its own weight.



- (b) Check the flow control valve for leakage. Close one of the holes and apply compressed air of 392 to 490 kPa (4 to 5 kgf/cm², 57 to 71 psi) to the hole on the opposite side. Confirm that the air does not flow out of the end hole. If necessary, replace the vane pump assembly.



4. INSPECT COMPRESSION SPRING

- (a) Using vernier calipers, measure the free length of the spring.

Minimum free length:

36.9 mm (1.453 in.)

If it is not within the specification, replace the vane pump assembly.

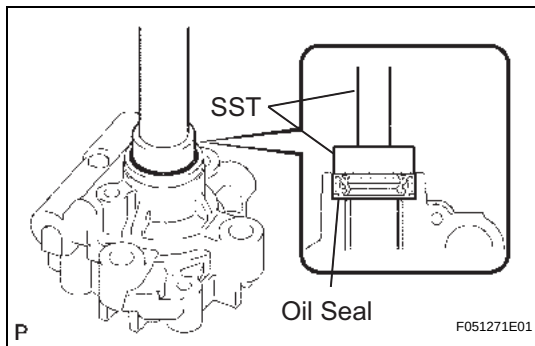
5. INSPECT PRESSURE PORT UNION SUB-ASSEMBLY

- (a) If the union seat in the pressure port union is badly damaged, it could cause fluid leakage, so replace the vane pump assembly.

REASSEMBLY

NOTICE:

When installing, coat the parts indicated by the arrows with power steering fluid (See page PS-3).

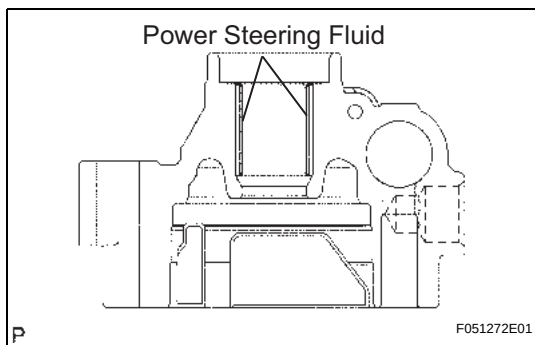


1. INSTALL VANE PUMP HOUSING OIL SEAL

- Coat a new vane pump housing oil seal lip with power steering fluid.
- Using SST and a press, install a new oil seal.
SST 09950-60010 (09951-00280), 09950-70010 (09951-07100)

NOTICE:

Make sure that the oil seal is installed facing in the correct direction.

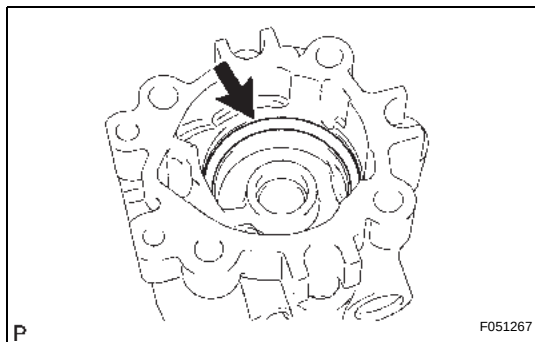


2. INSTALL PULLEY SHAFT SUB-ASSEMBLY

- Coat the bushing inner surface of the vane pump housing front with power steering fluid.
- Gradually insert the vane pump shaft.

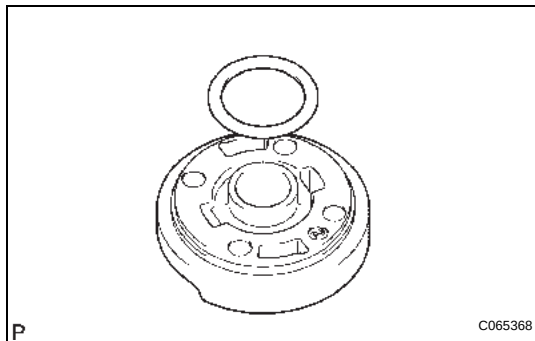
NOTICE:

Do not damage the vane pump housing oil seal lip in the vane pump housing front.

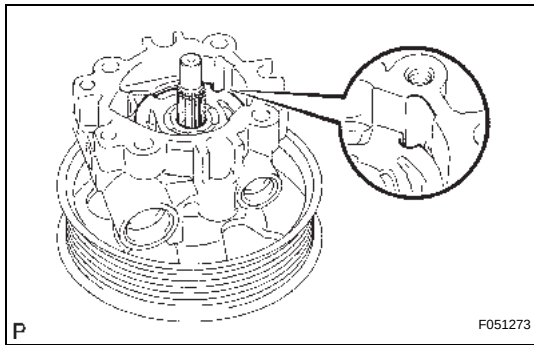


3. INSTALL VANE PUMP SIDE PLATE FRONT

- Coat a new O-ring with power steering fluid and install it onto the vane pump housing front.



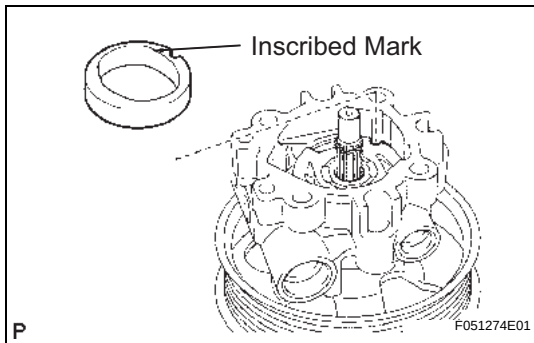
- Coat a new O-ring with power steering fluid and install it onto the side plate.



- (c) Align the dent of the side plate with that of the vane pump housing front and install the side plate.

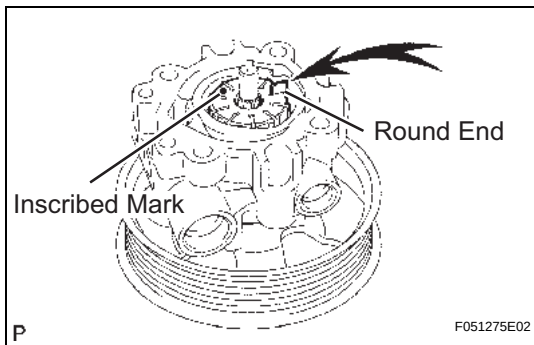
NOTICE:

Make sure that the side plate is installed facing the correct direction.



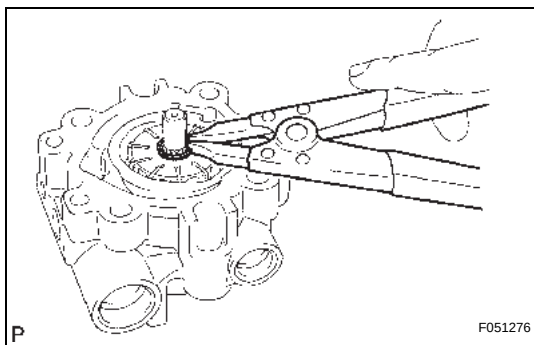
4. INSTALL VANE PUMP CAM RING

- (a) Align the dent of the cam ring with that of the side plate and install the cam ring with the inscribed mark facing outward.



5. INSTALL VANE PUMP ROTOR

- (a) Install the vane pump rotor with the inscribed mark facing outward.
- (b) Coat the 10 vane plates with power steering fluid.
- (c) Install the vane plates with the round ends facing outward.

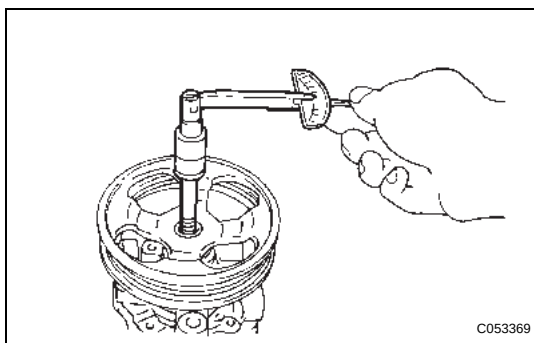


- (d) Using a snap ring expander, install a new snap ring onto the pulley shaft.

6. INSTALL VANE PUMP HOUSING REAR

- (a) Coat a new O-ring with power steering fluid and install it onto the vane pump housing rear.
- (b) Align the straight pin of the vane pump housing rear with the dents of the cam ring, side plate and vane pump housing front, and install the vane pump housing rear with the 4 bolts.

Torque: 22 N*m (224 kgf*cm, 16 ft.*lbf)



7. INSPECT PRELOAD

- (a) Check that the pump rotates smoothly without making any abnormal noises.
- (b) Provisionally install the service bolt.

Recommended service bolt:

Thread diameter:

10 mm (0.3937 in.)

Thread pitch:

1.25 mm (0.0492 in.)

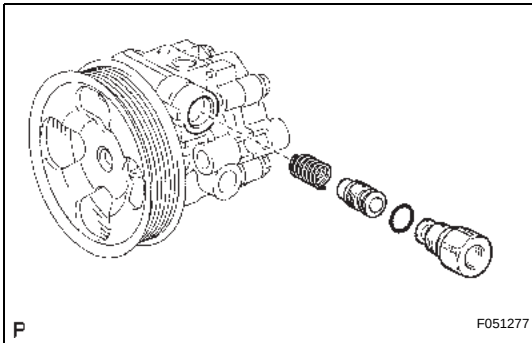
Bolt length:

50 mm (1.9685 in.)

- (c) Using a torque wrench, check the pump rotating torque.
Torque: 0.27 N*m (2.8 kgf*cm, 2.4 in.*lbf) or less

8. INSTALL POWER STEERING OIL PRESSURE SWITCH

- (a) Coat the O-ring with power steering fluid and install it onto the power steering oil pressure switch.
- (b) Install the power steering oil pressure switch onto the vane pump assembly.
Torque: 21 N*m (214 kgf*cm, 15 ft.*lbf)



9. INSTALL FLOW CONTROL VALVE

- (a) Coat the compression spring and flow control valve with power steering fluid.
- (b) Install the compression spring and flow control valve.
- (c) Coat a new O-ring with power steering fluid and install it onto the pressure port union.
- (d) Install the pressure port union.
Torque: 69 N*m (704 kgf*cm, 51 ft.*lbf)

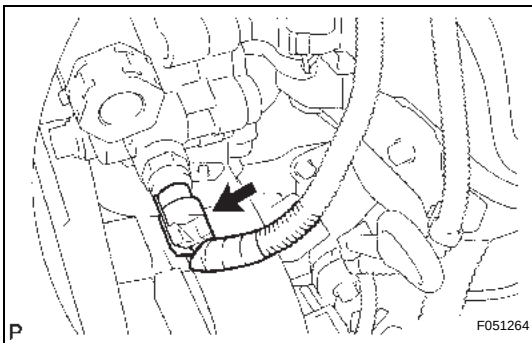
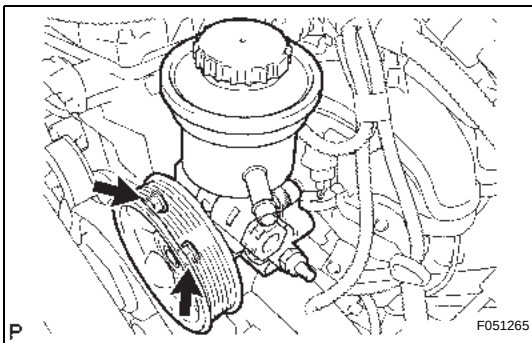
10. INSTALL VANE PUMP OIL RESERVOIR SUB-ASSEMBLY

- (a) Coat a new O-ring with power steering fluid, and install it onto the vane pump oil reservoir.
- (b) Install the vane pump oil reservoir with the 3 bolts.
Torque: 9.0 N*m (92 kgf*cm, 80 in.*lbf)

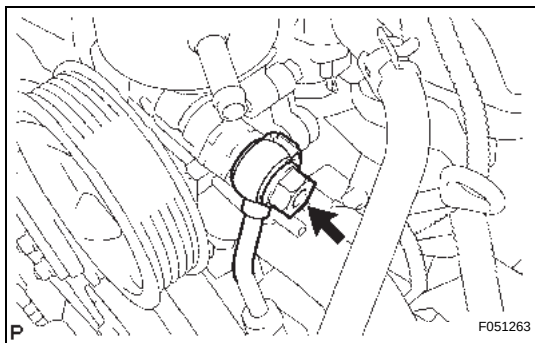
INSTALLATION

1. INSTALL VANE PUMP

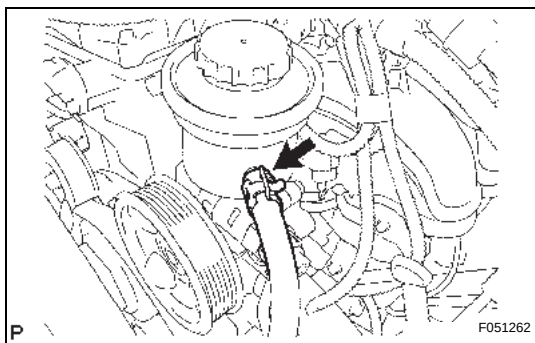
- (a) Install the vane pump assembly with the 2 bolts.
Torque: 21 N*m (214 kgf*cm, 15 ft.*lbf)



- (b) Connect the oil pressure switch connector.
NOTICE:
Make sure that no oil adheres to the connector.



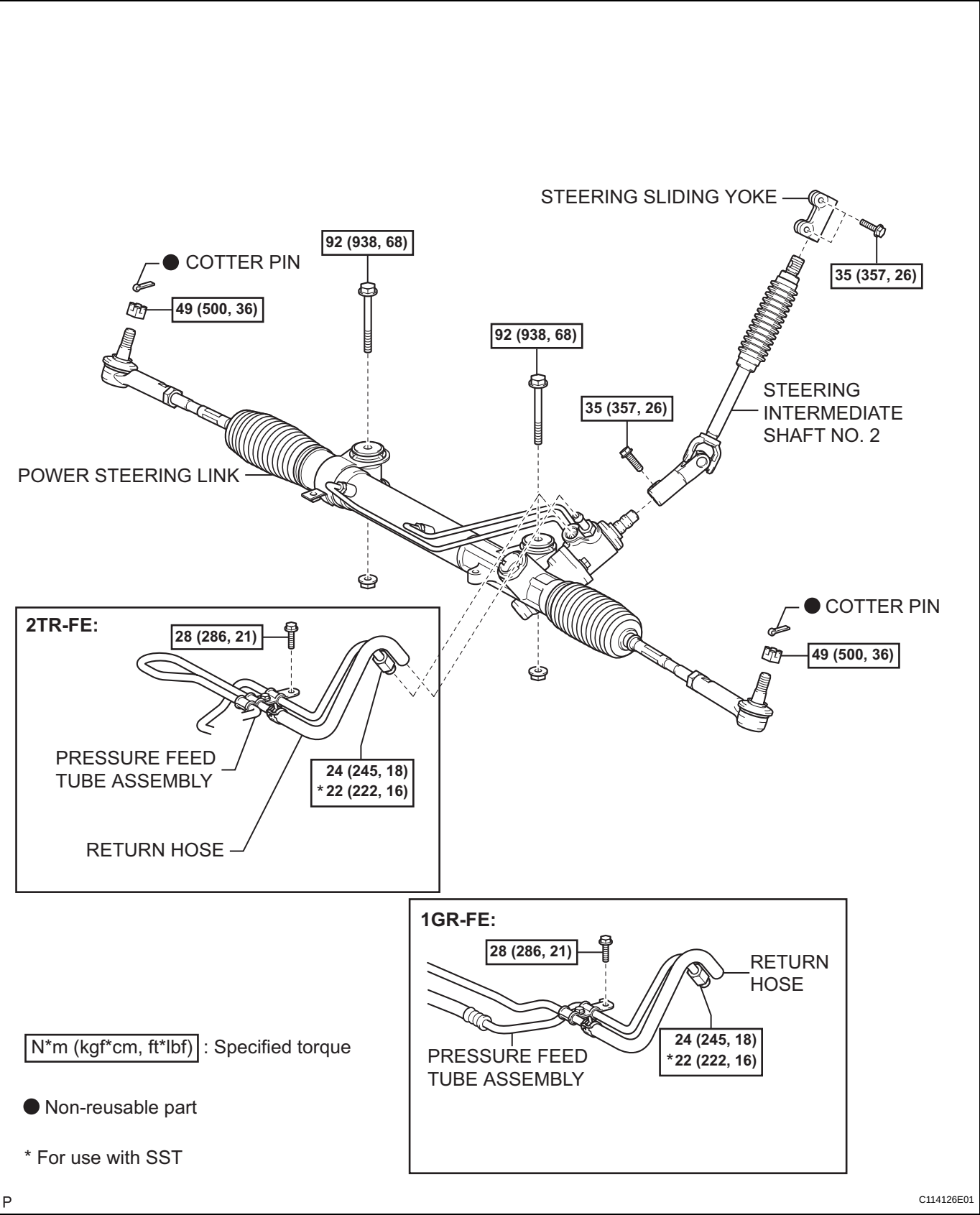
2. **CONNECT PRESSURE FEED TUBE ASSEMBLY**
 - (a) Install a new gasket onto the pressure feed tube.
 - (b) Install the pressure feed tube with the union bolt.
Torque: 51 N*m (520 kgf*cm, 38 ft.*lbf)

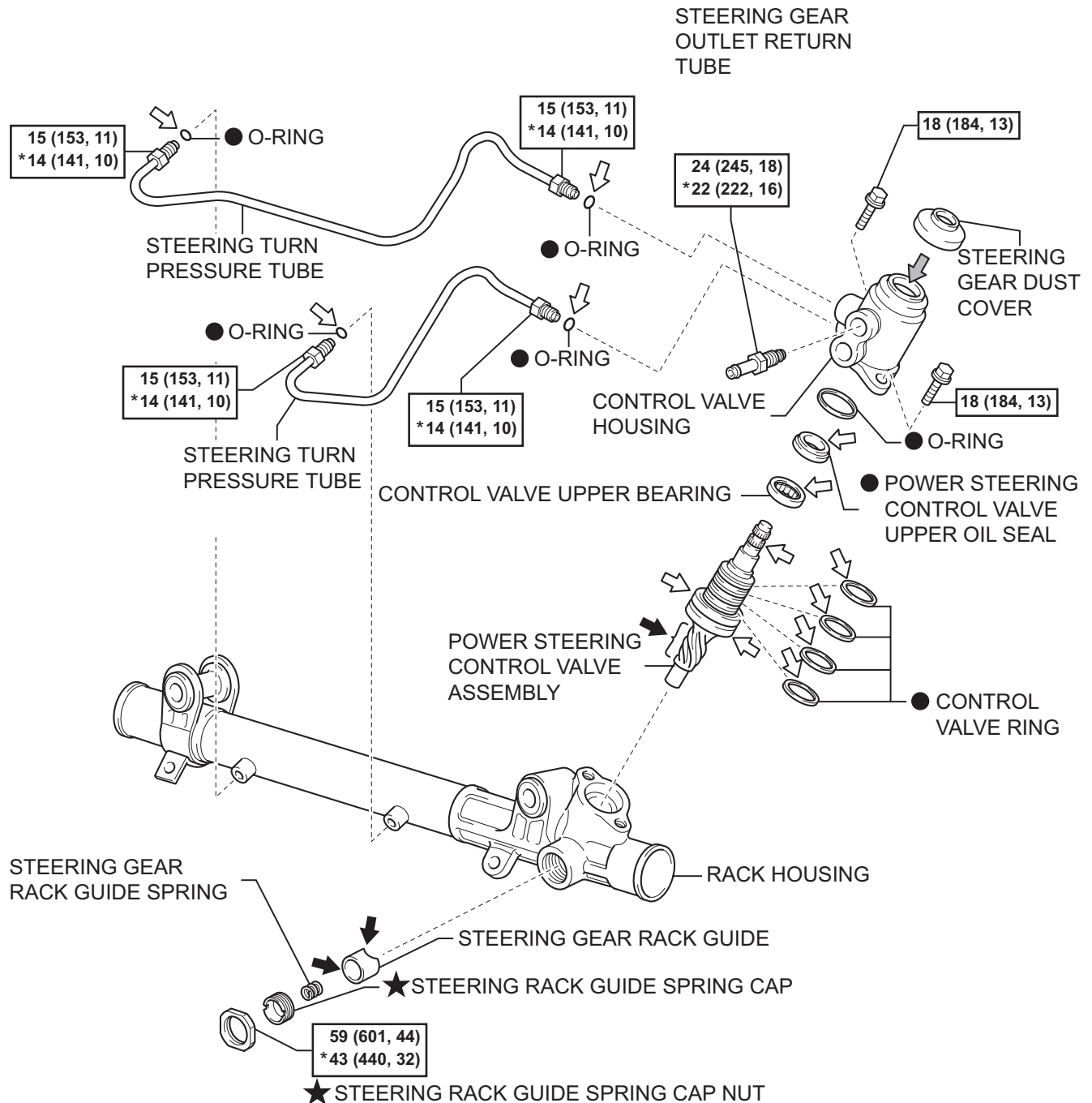


- (c) Connect the return hose with the clip.
3. **INSTALL FAN AND GENERATOR V BELT** (See page [EM-6](#))
4. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**
Torque: 3.9 N*m (40 kgf*cm, 35 in.*lbf)
(See page [IN-5](#))
5. **ADD POWER STEERING FLUID**
6. **BLEED POWER STEERING FLUID** (See page [PS-2](#))
7. **CHECK POWER STEERING FLUID LEAKAGE**
8. **INSTALL ENGINE UNDER COVER SUB-ASSEMBLY NO. 1** (for 4WD and Pre-Runner)
Torque: 30 N*m (306 kgf*cm, 22 ft.*lbf)

POWER STEERING LINK (for 2WD)

COMPONENTS





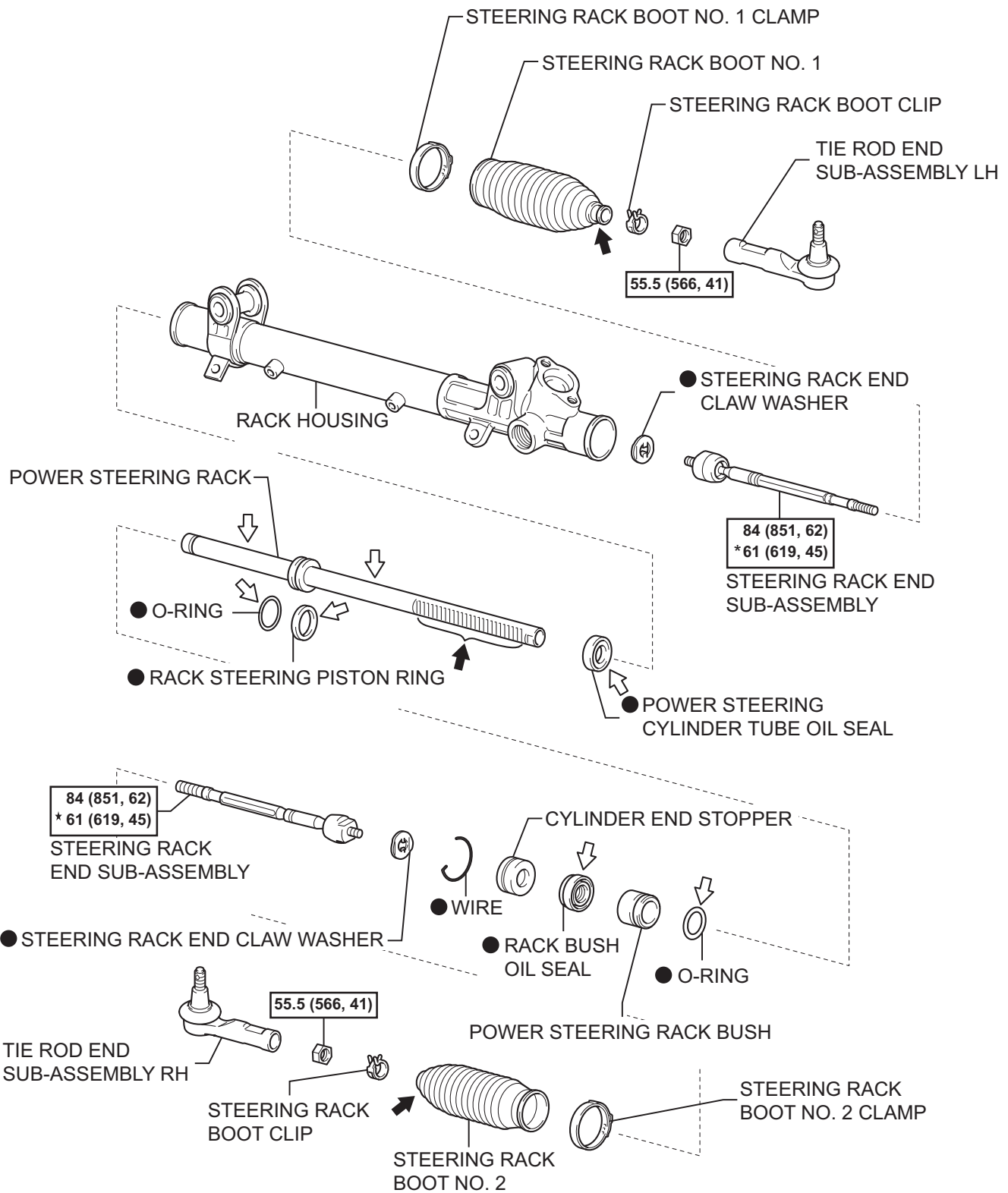
N*m (kgf*cm, ft*lbf) : Specified torque Molybdenum disulfide lithium base grease Precoated part

● Non-reusable part

MP grease

* For use with SST

Power steering fluid



N*m (kgf*cm, ft*lb) : Specified torque ← Molybdenum disulfide lithium base grease * For use with SST

● Non-reusable part

↩ Power steering fluid

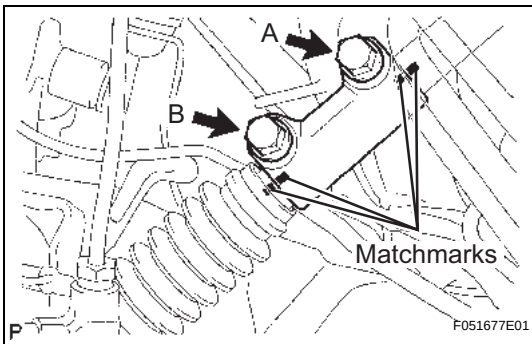
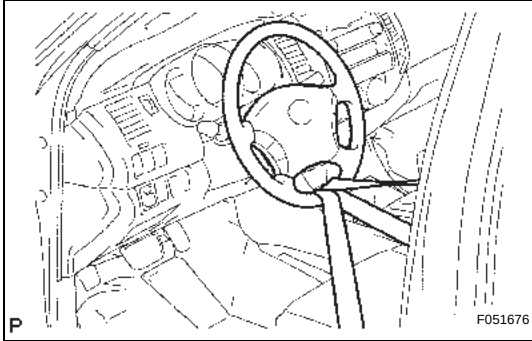
REMOVAL

1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
2. **PLACE FRONT WHEELS FACING STRAIGHT AHEAD**
3. **REMOVE FRONT WHEELS**
4. **REMOVE STEERING INTERMEDIATE SHAFT NO. 2**

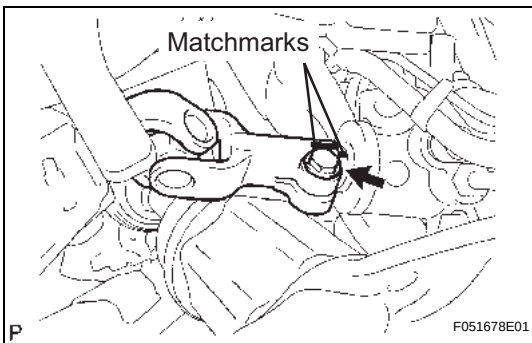
- (a) Fix the steering wheel with the seat belt in order to prevent it from rotating.

HINT:

The operation is effective for preventing any damage to the spiral cable.



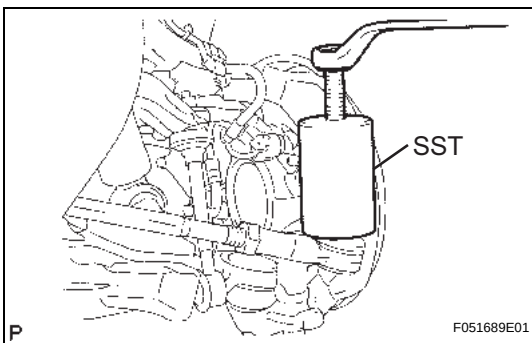
- (b) Place matchmarks on the steering sliding yoke, steering intermediate shaft No. 2 and steering intermediate shaft.
- (c) Remove bolts A and B from the steering sliding yoke.
- (d) Slide the steering sliding yoke up and separate it from the steering intermediate shaft No. 2.
- (e) Pull down the steering sliding yoke from the steering intermediate shaft to remove it.



- (f) Place matchmarks on the steering intermediate shaft No. 2 and power steering link.
- (g) Remove bolt C from the steering intermediate shaft No. 2.
- (h) Slide the steering intermediate shaft No. 2 up and remove it from the power steering link.

5. SEPARATE TIE ROD END SUB-ASSEMBLY LH

- (a) Remove the cotter pin and nut.



- (b) Using SST, separate the tie rod end from the steering knuckle arm.

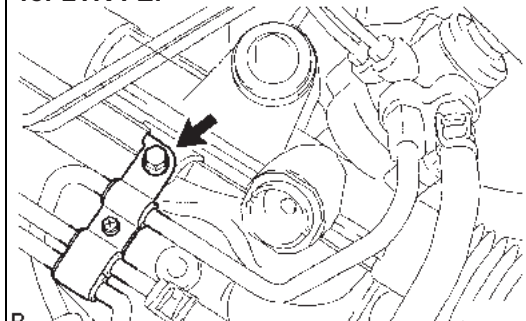
SST 09610-20012

6. SEPARATE TIE ROD END SUB-ASSEMBLY RH

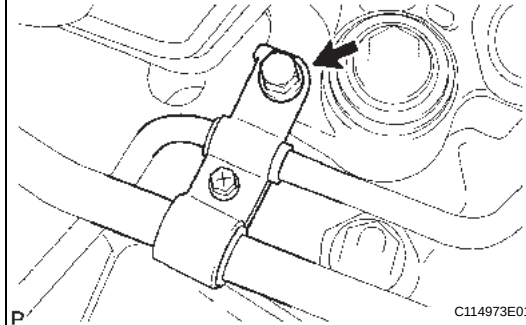
HINT:

The removal procedure for the RH side is the same as that for the LH side.

for 2TR-FE:



for 1GR-FE:



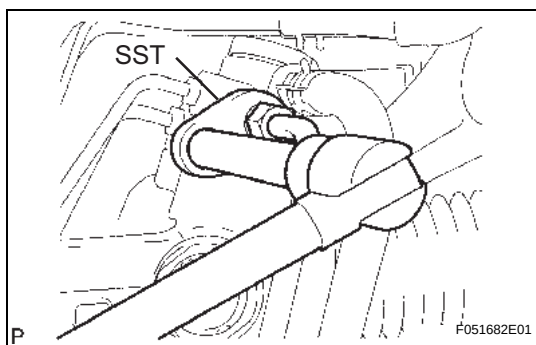
C114973E01

7. SEPARATE PRESSURE FEED TUBE ASSEMBLY

- (a) Remove the bolt and separate the tube support bracket.

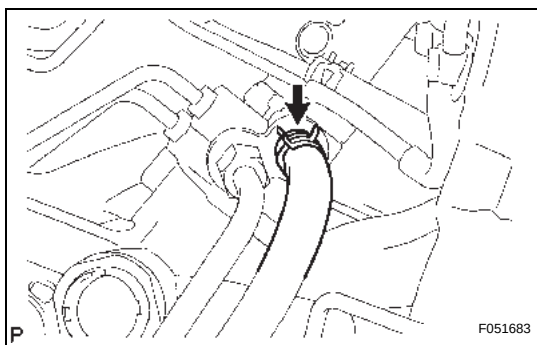
- (b) Using SST, loosen the flare nut and separate the pressure feed tube.

SST 09023-12701



F051682E01

- (c) Disengage the clip and disconnect the return hose.



F051683

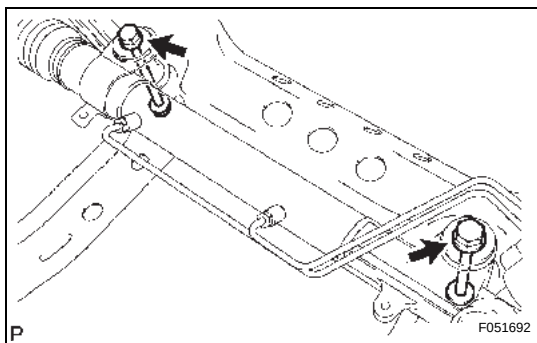
PS

8. REMOVE POWER STEERING LINK

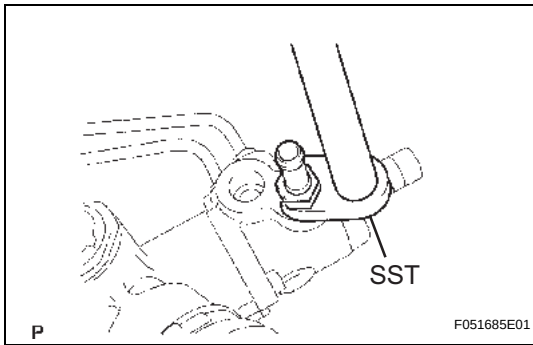
- (a) Remove the 2 bolts, 2 nuts and power steering link.

NOTICE:

The nut has a detent, so never turn the nut. Be sure to turn only the bolt.



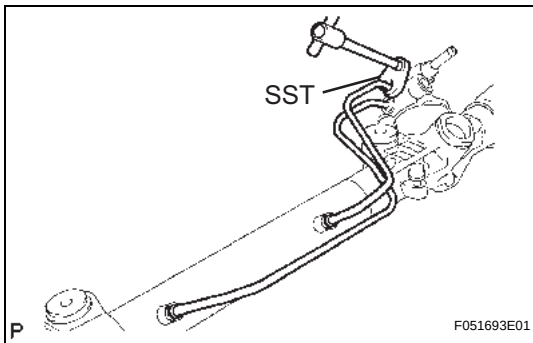
F051692



DISASSEMBLY

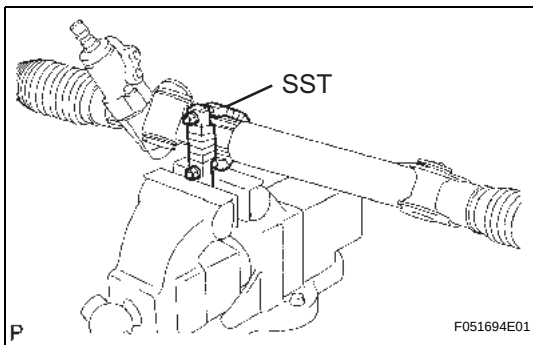
1. REMOVE STEERING GEAR OUTLET RETURN TUBE

- (a) Using SST, remove the return tube.
SST 09023-12701



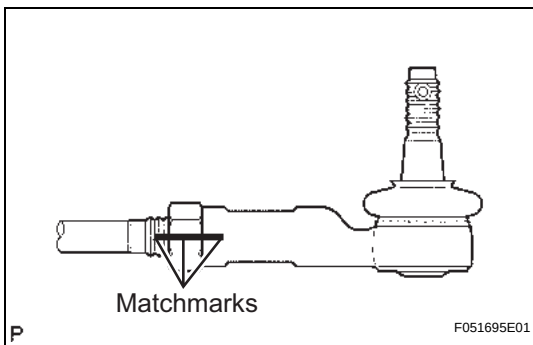
2. REMOVE STEERING TURN PRESSURE TUBE

- (a) Using SST, remove the 2 pressure tubes.
SST 09023-38401
- (b) Remove the 4 O-rings from the pressure tubes.



3. FIX POWER STEERING LINK

- (a) Using SST, fix the power steering link between aluminium plates in a vise, as shown in the illustration.
SST 09612-00012
NOTICE:
When using a vise, do not over tighten it.



4. REMOVE TIE ROD END SUB-ASSEMBLY LH

- (a) Place matchmarks on the tie rod end, lock nut and rack end.
- (b) Loosen the lock nut and remove the tie rod end and lock nut.

5. REMOVE TIE ROD END SUB-ASSEMBLY RH

- HINT:**
The removal procedure for the RH side is the same as that for the LH side.

6. REMOVE STEERING RACK BOOT CLIP

- (a) Remove the 2 rack boot clips.

7. REMOVE STEERING RACK BOOT NO. 1 CLAMP

- (a) Using pliers, remove the rack boot No. 1 clamp.
NOTICE:
Be careful not to damage the steering rack boot No. 1.

8. REMOVE STEERING RACK BOOT NO. 2 CLAMP

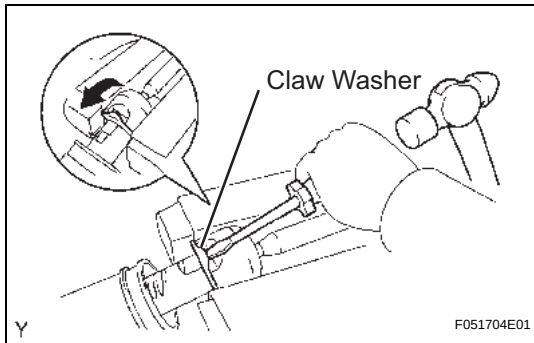
- HINT:**
The removal procedure for the No. 2 side is the same as that for the No. 1 side.

9. REMOVE STEERING RACK BOOT NO. 1**10. REMOVE STEERING RACK BOOT NO. 2****11. REMOVE STEERING RACK END SUB-ASSEMBLY**

- (a) Using a screwdriver and hammer, unstake the claw washer.

NOTICE:

Avoid any impact to the power steering rack.

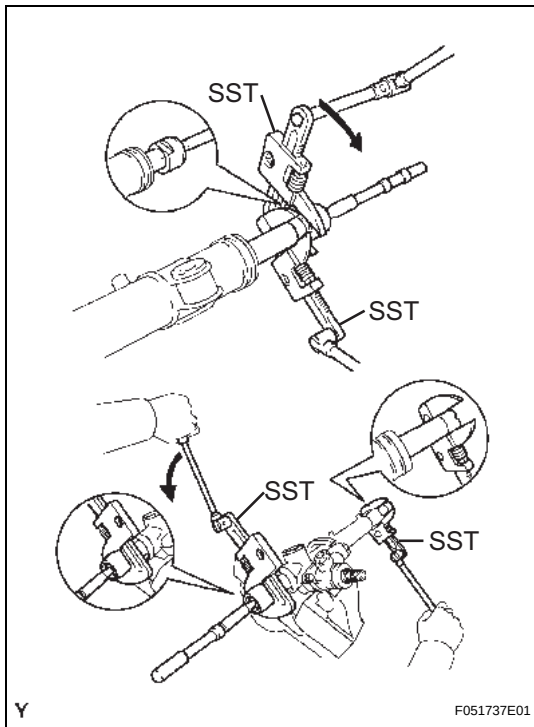


- (b) Using 2 SSTs, remove the 2 steering rack ends and 2 claw washers.

SST 09922-10010

NOTICE:

- Turn SST 09922-10010 in the direction shown in the illustration.
- Securely hold the steering rack end with SST.



PS

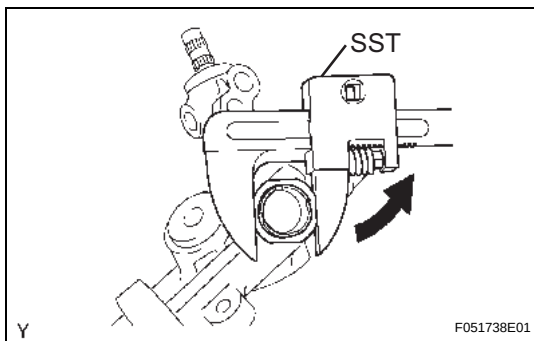
12. REMOVE STEERING GEAR RACK GUIDE

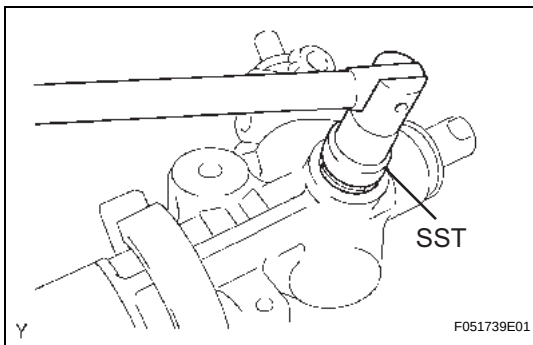
- (a) Using SST, remove the rack guide spring cap nut.

SST 09922-10010

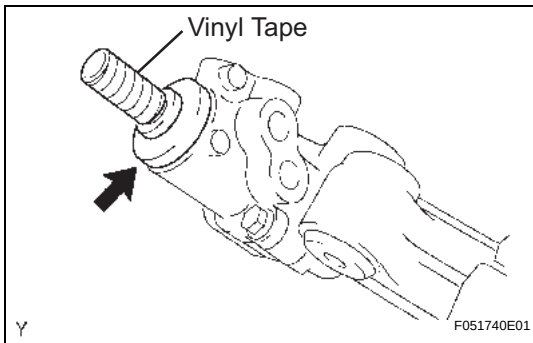
NOTICE:

Turn SST 09922-10010 in the direction shown in the illustration.



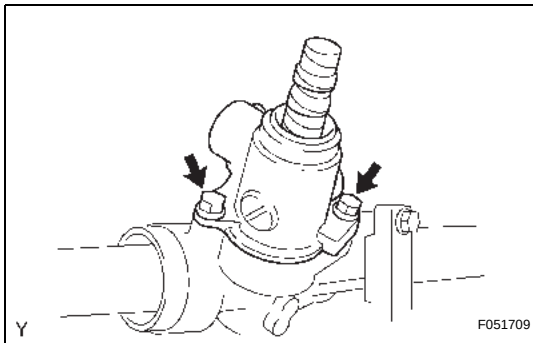


- (b) Using SST, remove the rack guide spring cap.
SST 09631-10021
- (c) Remove the rack guide spring and rack guide.

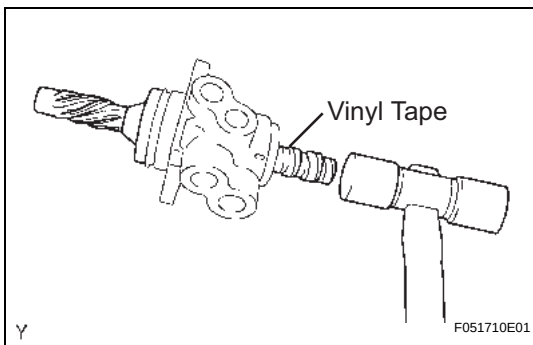


13. REMOVE POWER STEERING CONTROL VALVE ASSEMBLY

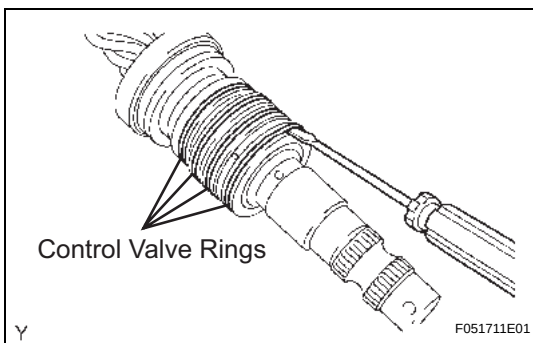
- (a) Wind vinyl tape around the serrated portion of the control valve.
- (b) Remove the dust cover from the control valve housing.



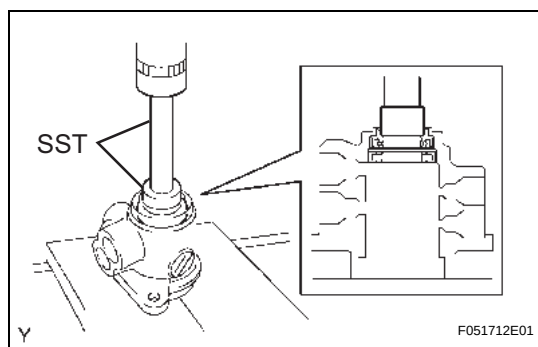
- (c) Remove the 2 bolts and control valve w/ control valve housing.
- (d) Remove the O-ring from the control valve housing.



- (e) To prevent the oil seal lip from getting damaged, wind vinyl tape around the serrated portion of the control valve.
- (f) Using a plastic hammer, remove the control valve from the control valve housing.



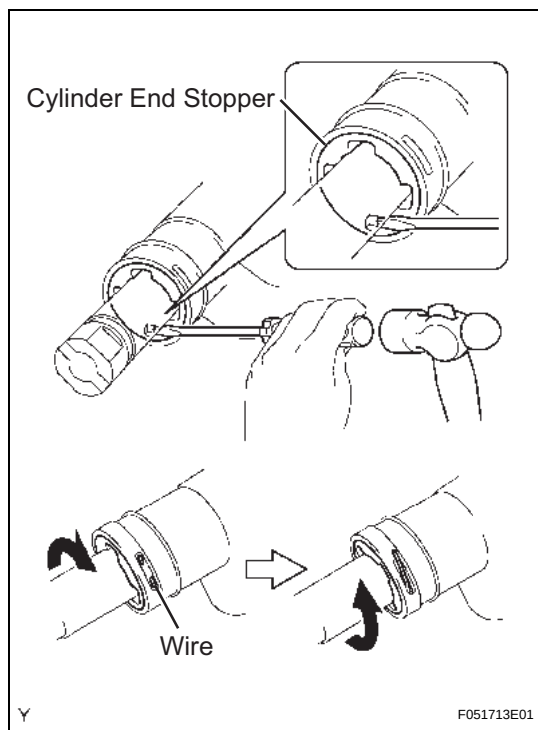
- (g) Using a screwdriver, remove the 4 control valve rings.
NOTICE:
Be careful not to damage the grooves for the control valve rings.



14. REMOVE POWER STEERING CONTROL VALVE UPPER OIL SEAL

- (a) Using SST and a press, remove the control valve upper bearing and control valve upper oil seal from the control valve housing.

SST 09950-60010 (09951-00250), 09950-70010 (09951-07150)



15. REMOVE CYLINDER END STOPPER

- (a) Using a screwdriver and hammer, turn the cylinder end stopper clockwise until the wire end can be seen through the service hole.
- (b) Using a screwdriver and hammer, turn the cylinder end stopper counterclockwise, and remove the wire and cylinder end stopper.

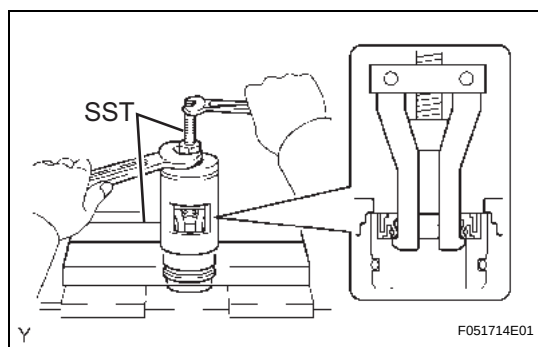
16. REMOVE POWER STEERING RACK

17. REMOVE POWER STEERING RACK BUSH

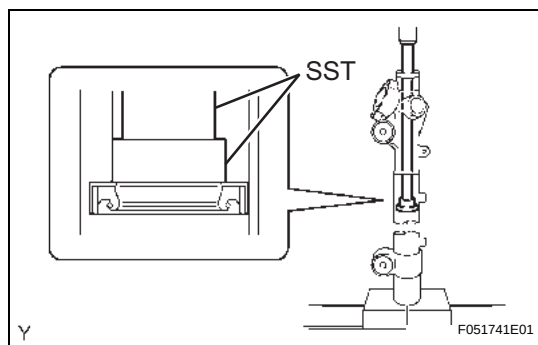
- (a) Remove the rack bush from the power steering rack.
- (b) Using a screwdriver, remove the O-ring from the rack bush.

- (c) Using SST, remove the rack bush oil seal.

SST 09527-21011, 09612-24014 (09613-22011)



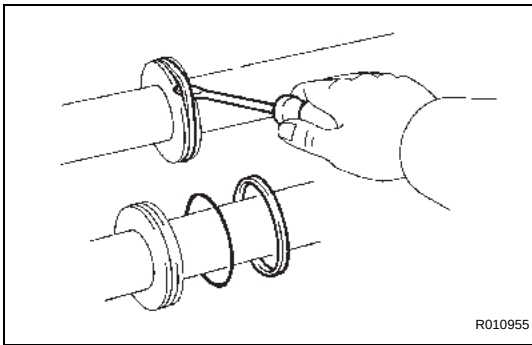
PS



18. REMOVE POWER STEERING CYLINDER TUBE OIL SEAL

- (a) Using SST and a press, remove the cylinder tube oil seal.

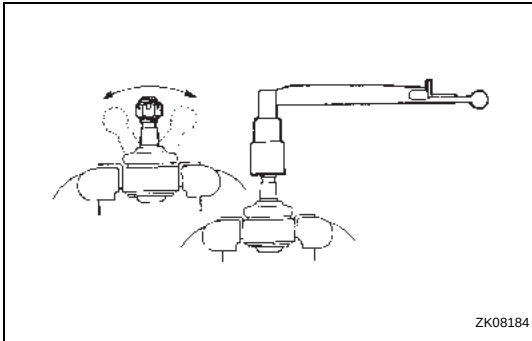
SST 09950-60010 (09951-00290), 09950-70010 (09951-07360)

**19. REMOVE RACK STEERING PISTON RING**

- (a) Using a screwdriver, remove the piston ring and O-ring.

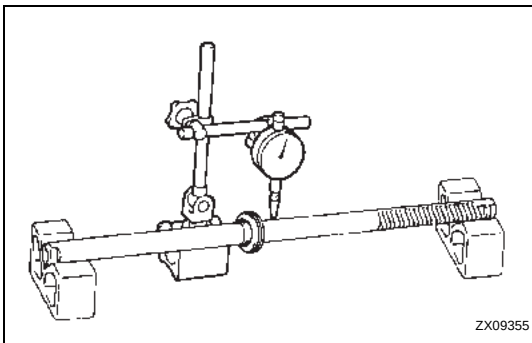
NOTICE:

Be careful not to damage the groove for the piston ring.

**INSPECTION****1. INSPECT TIE ROD END SUB-ASSEMBLY**

- (a) Flip the ball joint stud back and forth 5 times as shown in the illustration before installing the nut.
- (b) Using a torque wrench, turn the nut continuously at a rate of 2 to 4 seconds per turn and check the torque reading on the 5th turn.

Torque: 0.83 to 3.43 N*m (8.5 to 35.0 kgf*cm, 7.35 to 30.36 in.*lbf)

**2. INSPECT POWER STEERING RACK**

- (a) Using a dial indicator, check the power steering rack for runout, teeth wear and damage.

Maximum runout:

0.3 mm (0.012 in.)

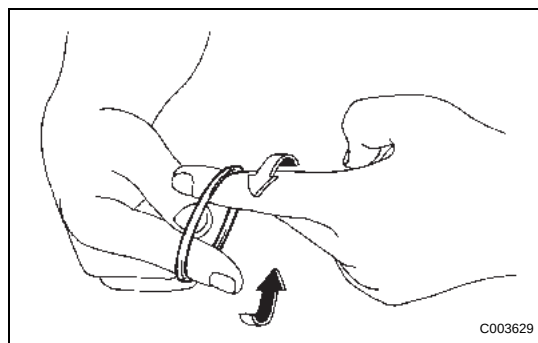
If necessary, replace the power steering link assembly.

- (b) Check the back surface for wear and damage. If necessary, replace the power steering link assembly.

REASSEMBLY

NOTICE:

When installing, coat the parts indicated by the arrows with power steering fluid (See page PS-3).



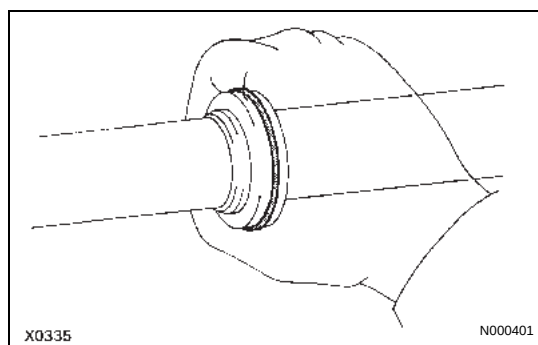
1. INSTALL RACK STEERING PISTON RING

- (a) Coat a new O-ring with power steering fluid and install it onto the power steering rack.
- (b) Expand a new piston ring with your fingers.

NOTICE:

Be careful not to over expand the rack steering piston ring.

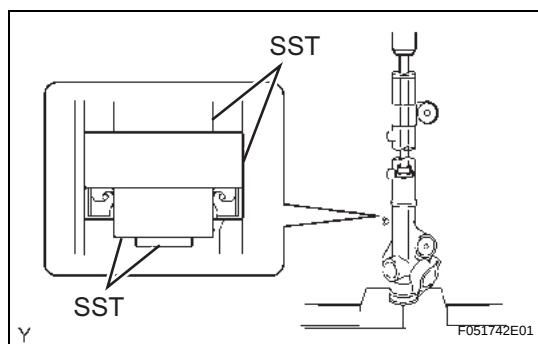
- (c) Coat a new piston ring with power steering fluid.



- (d) Install the piston ring onto the power steering rack, and position it with your fingers.

2. INSTALL POWER STEERING CYLINDER TUBE OIL SEAL

- (a) Coat a new cylinder tube oil seal lip with power steering fluid.

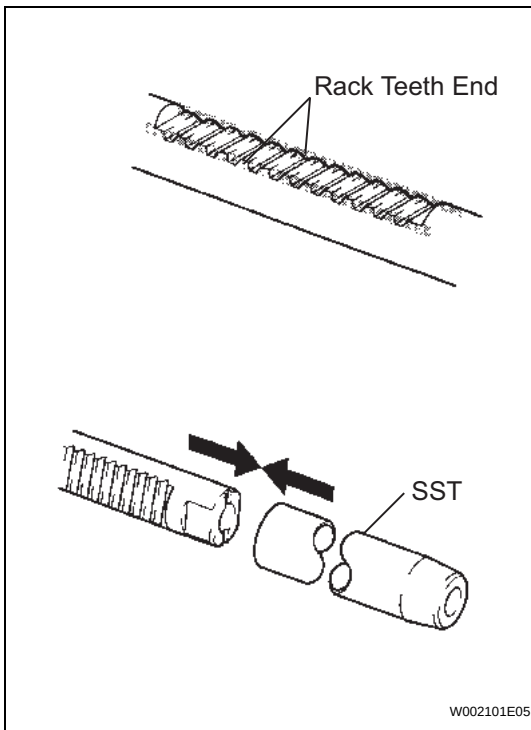


- (b) Using SST and a press, install the cylinder tube oil seal.

SST 09950-60010 (09951-00250, 09951-00440, 09952-06010), 09950-70010 (09951-07360)

NOTICE:

- Make sure that the cylinder tube oil seal is installed facing in the correct direction.
- Take care not to reverse the cylinder tube oil seal direction when installing.



3. INSTALL POWER STEERING RACK

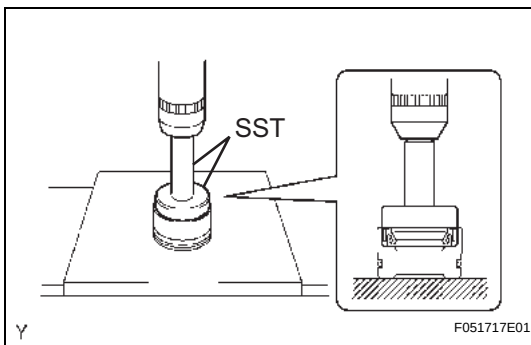
- (a) Install SST onto the power steering rack.

SST 09631-33010

HINT:

If necessary, scrape the burrs off the power steering rack teeth end and burnish.

- (b) Coat SST with power steering fluid.
 (c) Install the power steering rack into the rack housing.
 (d) Remove SST.



4. INSTALL POWER STEERING RACK BUSH

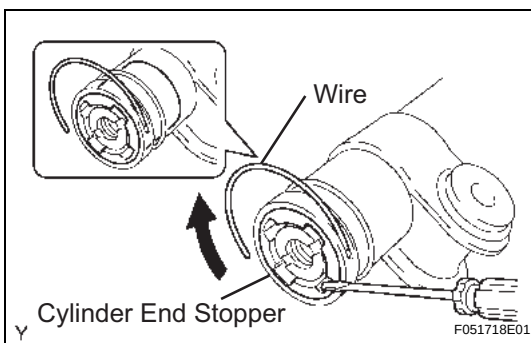
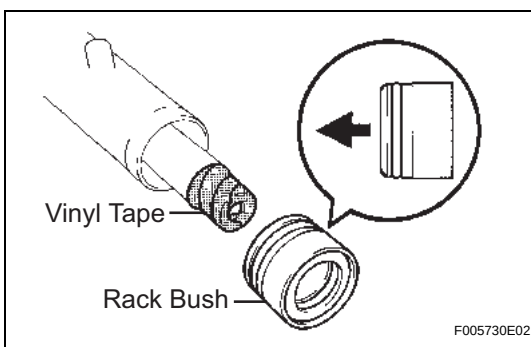
- (a) Using SST and a press, install a new rack bush oil seal onto the rack bush.

SST 09950-60010 (09951-00400), 09950-70010 (09951-07100)

NOTICE:

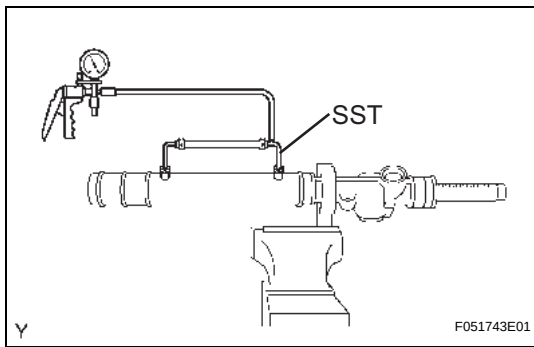
Make sure that the rack bush oil seal is installed facing the correct direction.

- (b) Coat a new O-ring with power steering fluid and install it onto the rack bush.
 (c) To prevent the rack bush oil seal lip from being damaged, wind vinyl tape around the rack end and apply power steering fluid.
 (d) Install the rack bush onto the power steering rack.



5. INSTALL CYLINDER END STOPPER

- (a) Align the installation hole for the wire of the cylinder end stopper with the slot of the rack housing.
 (b) Install a new wire into the cylinder end stopper.
 (c) Using a screwdriver, turn the cylinder end stopper clockwise by 400 to 500°.



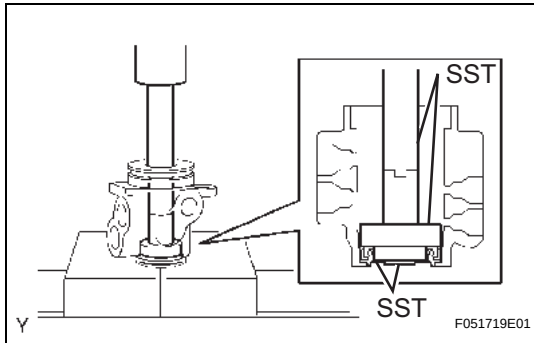
6. AIR TIGHTNESS TEST

- Install SST onto the rack housing.
- Apply a vacuum of 53 kPa (400 mmHg, 15.75 in.Hg) for about 30 seconds.
- Check that there is no change in the vacuum. If there is any change in the vacuum, check whether the oil seals are installed correctly.

7. INSTALL POWER STEERING CONTROL VALVE UPPER OIL SEAL

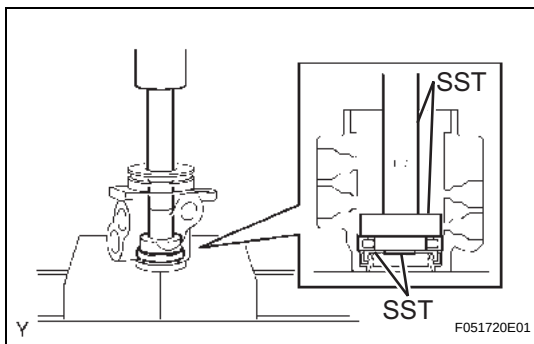
- Coat the control valve upper bearing and a new control valve upper oil seal with power steering fluid.
- Using SST and a press, install the control valve upper oil seal.

SST 09950-60010 (09951-00180, 09951-00320, 09952-06010), 09950-70010 (09951-07150)



- Using SST and a press, install the control valve upper bearing.

SST 09950-60010 (09951-00180, 09951-00340, 09952-06010), 09950-70010 (09951-07150)



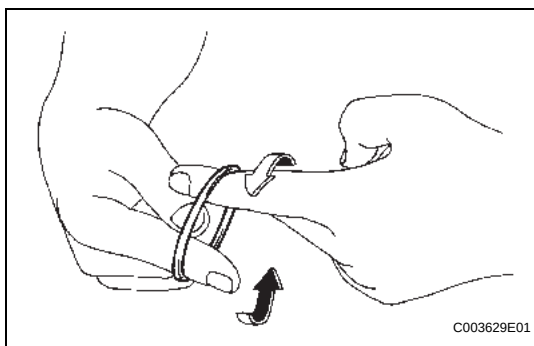
8. INSTALL POWER STEERING CONTROL VALVE ASSEMBLY

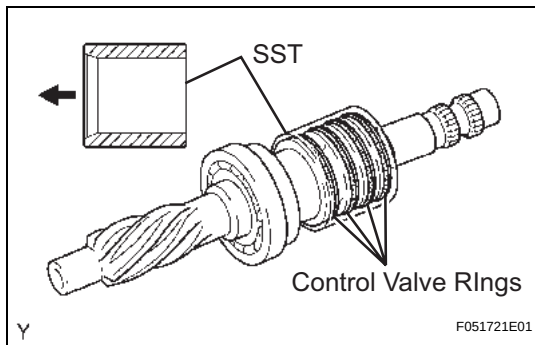
- Expand 4 new control valve rings with your fingers.

NOTICE:

Be careful not to over expand the control valve rings.

- Coat the 4 control valve rings with power steering fluid.
- Install the 4 control valve rings onto the control valve, and position them with your fingers.



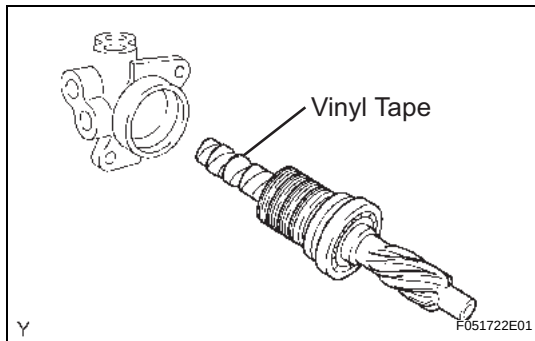


- (d) Carefully slide the tapered end of SST over the control valve rings until they fit to the control valve.

SST 09631-20081

NOTICE:

Be careful not to damage the control valve rings.



- (e) To prevent the control valve upper oil seal lip from getting damaged, wind vinyl tape around the serrated portion of the control valve.
- (f) Coat the control valve upper oil seal lip with power steering fluid.
- (g) Install the control valve onto the control valve housing.

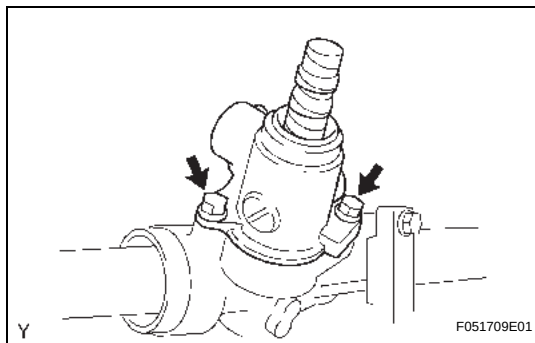
NOTICE:

Be careful not to damage the control valve ring and control valve upper oil seal lip.

- (h) Apply grease to the needle roller bearing.
- (i) Install a new O-ring onto the control valve housing.
- (j) Wind vinyl tape around the serrated portion of the control valve.

- (k) Install the control valve w/ control valve housing onto the rack housing with the 2 bolts.

Torque: 18 N*m (184 kgf*cm, 13 ft.*lbf)



9. INSTALL STEERING GEAR RACK GUIDE

- (a) Install the rack guide.
- (b) Install the rack guide spring.
- (c) Apply sealant to 2 or 3 threads of the rack guide spring cap.

Sealant:

Part No. 08833-00080, THREE BOND 1344, LOCTITE 242 or equivalent

- (d) Provisionally install the rack guide spring cap.

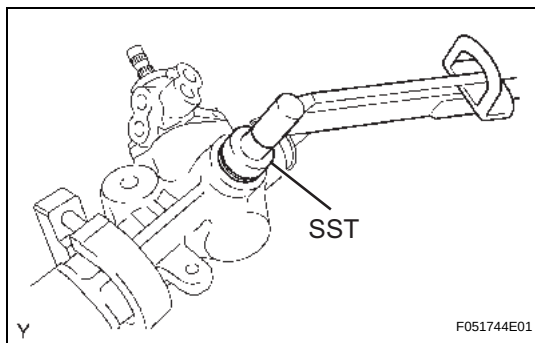
10. ADJUST TOTAL PRELOAD

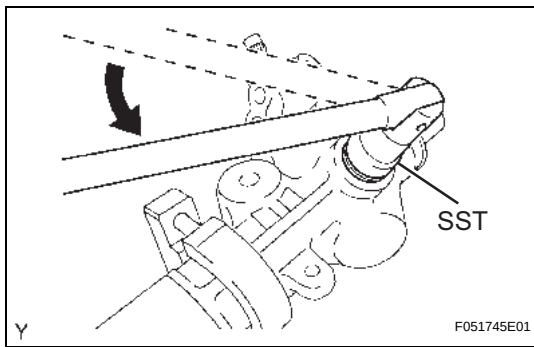
- (a) To prevent the steering rack teeth from damaging the oil seal lip, provisionally install the RH and LH steering rack end.

- (b) Using SST, torque the rack guide spring cap.

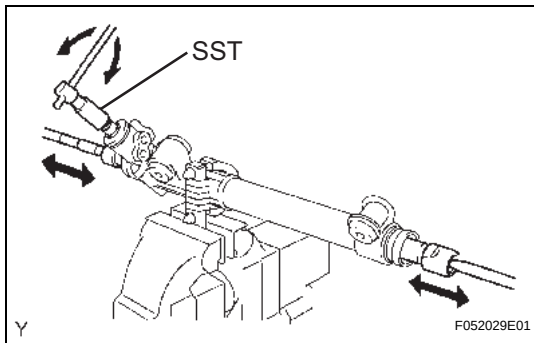
SST 09631-10021

Torque: 25 N*m (254 kgf*cm, 18 ft.*lbf)





- (c) Using SST, loosen the rack guide spring cap.
SST 09631-10021

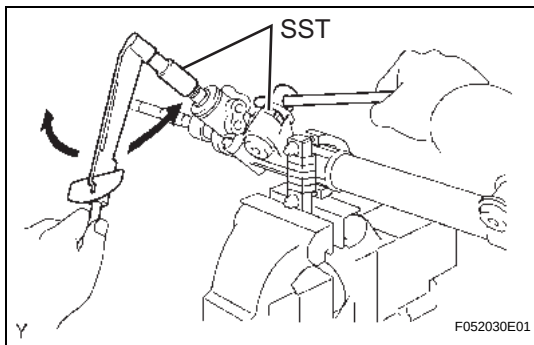


- (d) Using SST, turn the control valve to the right and left once or twice.

SST 09616-00011

- (e) Using SST, loosen the rack guide spring cap until the rack guide spring ceases to function.

SST 09631-10021



- (f) Using SST and a torque wrench, tighten the rack guide spring cap until the preload is within the specification.

SST 09631-10021, 09616-00011

Preload (turning):

0.8 to 1.1 N*m (8.2 to 11.2 kgf*cm, 7.1 to 9.7 in.*lbf)

- (g) Apply sealant to 2 or 3 threads of the rack guide spring cap nut.

Sealant:

Part No. 08833-00080, THREE BOND 1344, LOCTITE 242 or equivalent

- (h) Provisionally install the rack guide spring cap nut.

- (i) Using SST, hold the rack guide spring cap and using another SST, torque the rack guide spring cap nut.

SST 09631-10021, 09922-10010

Torque: for use without SST

59 N*m (601 kgf*cm, 44 ft.*lbf)

for use with SST

43 N*m (440 kgf*cm, 32 ft.*lbf)

NOTICE:

Turn SST 09922-10010 in the direction shown in the illustration.

HINT:

Use a torque wrench with a fulcrum length of 345 mm (13.58 in.).

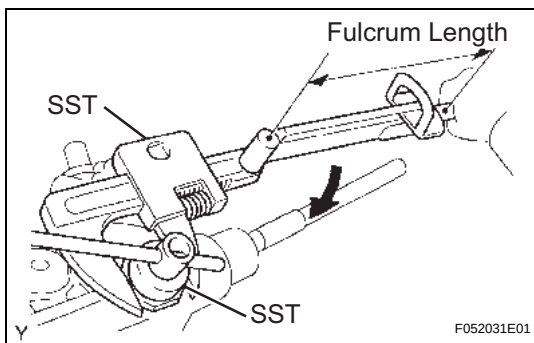
- (j) Recheck the total preload.

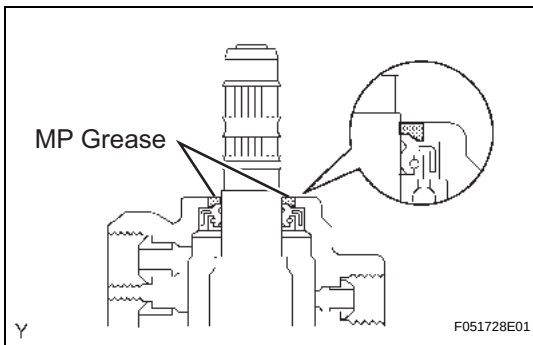
Preload (turning):

0.8 to 1.1 N*m (8.2 to 11.2 kgf*cm, 7.1 to 9.7 in.*lbf)

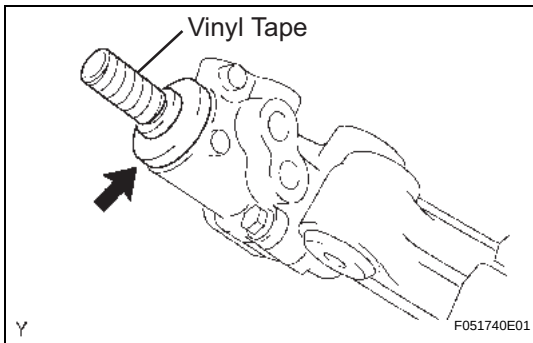
- (k) Remove the RH and LH steering rack ends

PS

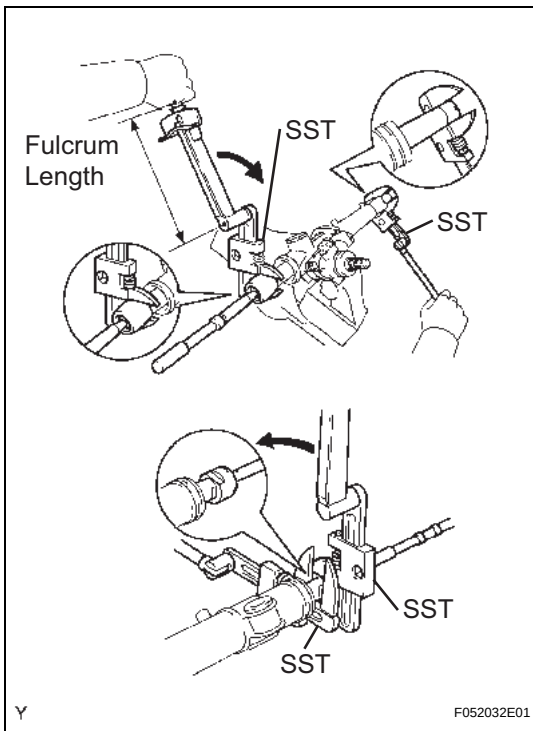




- (l) Apply MP grease to the control valve as shown in the illustration.



- (m) Wind vinyl tape around the serrated portion of the control valve.
- (n) Install the dust cover onto the control valve housing.



11. INSTALL STEERING RACK END SUB-ASSEMBLY

- (a) Install 2 new claw washers, and provisionally install the 2 steering rack ends.

HINT:

Align the claws of the claw washers with the power steering rack grooves.

- (b) Using 2 SSTs, install the 2 steering rack ends.

SST 09922-10010

Torque: for use without SST

84 N*m (851 kgf*cm, 62 ft.*lbf)

for use with SST

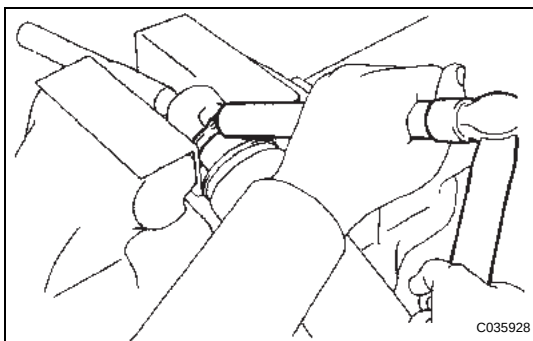
61 N*m (619 kgf*cm, 45 ft.*lbf)

NOTICE:

Turn SST 09922-10010 in the direction shown in the illustration.

HINT:

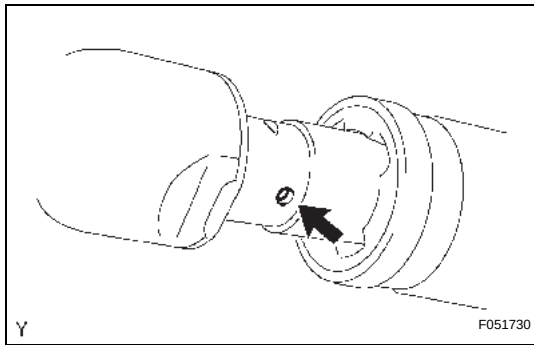
- Using SST, hold the power steering rack and install the rack end sub-assembly.
- Use a torque wrench with a fulcrum length of 345 mm (13.58 in.).



- (c) Using a brass bar and hammer, stake the 2 claw washers.

NOTICE:

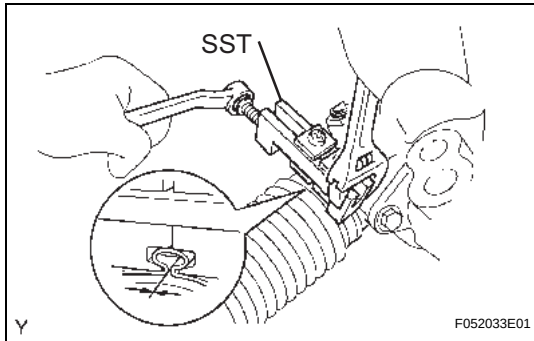
Avoid any impact to the power steering rack.

**12. INSPECT STEERING RACK END SUB-ASSEMBLY**

- (a) Ensure that the steering rack end hole is not clogged with grease.

HINT:

If the hole is clogged, the pressure inside the boot will change after it has been assembled, when the steering wheel is turned.

13. INSTALL STEERING RACK BOOT NO. 1**14. INSTALL STEERING RACK BOOT NO. 2****15. INSTALL STEERING RACK BOOT NO. 1 CLAMP**

- (a) Using SST, tighten the rack boot No. 1 clamp as shown in the illustration.

SST 09521-24010

Clearance:

3.0 mm (0.118 in.) or less

NOTICE:

Be careful not to damage the rack boot No. 1.

16. INSTALL STEERING RACK BOOT NO. 2 CLAMP

HINT:

The installation procedure for the No. 2 side is the same as that for the No. 1 side.

SST 09521-24010

17. INSTALL STEERING RACK BOOT CLIP

- (a) Using pliers, install the 2 rack boot clips.

18. INSTALL TIE ROD END SUB-ASSEMBLY LH

- (a) Screw the lock nut and tie rod end onto the rack end until the matchmarks are aligned.
- (b) After adjusting toe-in, torque the nut.

Torque: 55.5 N*m (566 kgf*cm, 41 ft.*lbf)

19. INSTALL TIE ROD END SUB-ASSEMBLY RH

HINT:

The installation procedure for the RH side is the same as that for the LH side.

20. INSTALL STEERING TURN PRESSURE TUBE

- (a) Coat 4 new O-rings with power steering fluid and install them onto the pressure tubes.

- (b) Using SST, install the 2 pressure tubes.

SST 09023-38401

Torque: for use without SST

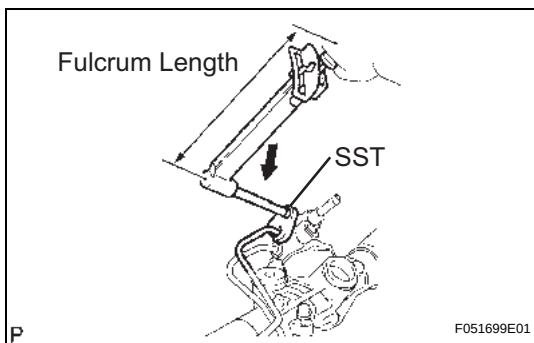
15 N*m (153 kgf*cm, 11 ft.*lbf)

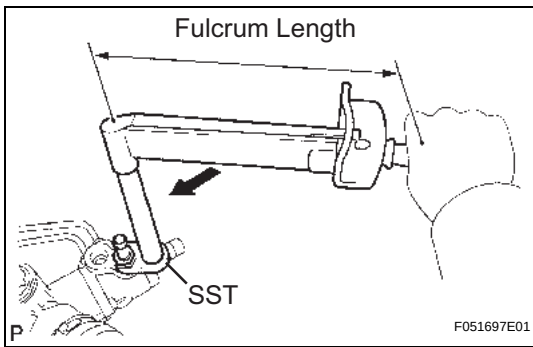
for use with SST

14 N*m (141 kgf*cm, 10 ft.*lbf)

HINT:

- Use a torque wrench with a fulcrum length of 345 mm (13.58 in.).
- This torque value is effective when SST is parallel to a torque wrench.



**21. REMOVE STEERING GEAR OUTLET RETURN TUBE**

- (a) Using SST, install the return tube.

SST 09023-12701

Torque: for use without SST

24 N*m (245 kgf*cm, 18 ft.*lbf)

for use with SST

22 N*m (222 kgf*cm, 16 ft.*lbf)

HINT:

- Use a torque wrench with a fulcrum length of 300 mm (11.81 in.).
- This torque value is effective when SST is parallel to a torque wrench.

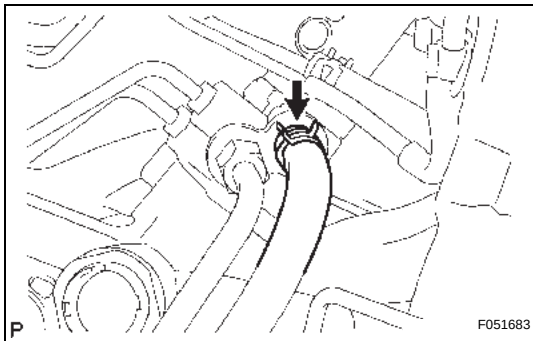
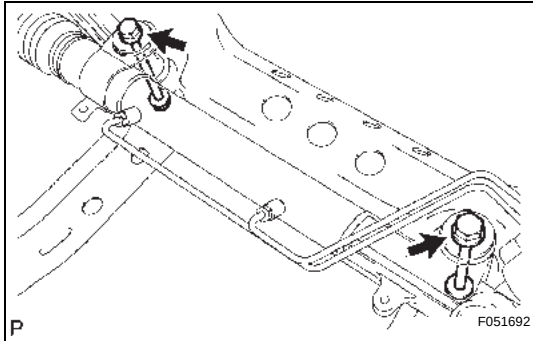
INSTALLATION**1. INSTALL POWER STEERING LINK**

- (a) Install the power steering link with the 2 bolts and 2 nuts.

Torque: 92 N*m (938 kgf*cm, 68 ft.*lbf)

NOTICE:

Never turn the nut since it has a detent. Be sure to turn only the bolt.

**2. INSTALL PRESSURE FEED TUBE ASSEMBLY**

- (a) Connect the return hose with the clip.

- (b) Using SST, tighten the flare nut and connect the pressure feed tube.

SST 09023-12701

Torque: for use without SST

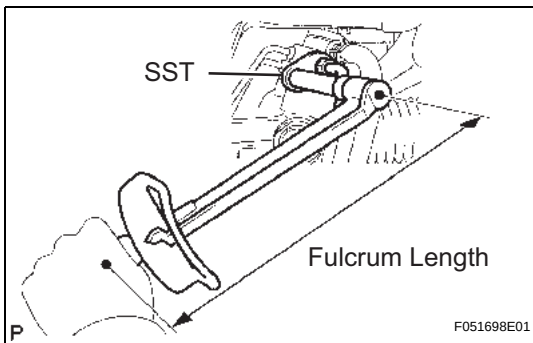
24 N*m (245 kgf*cm, 18 ft.*lbf)

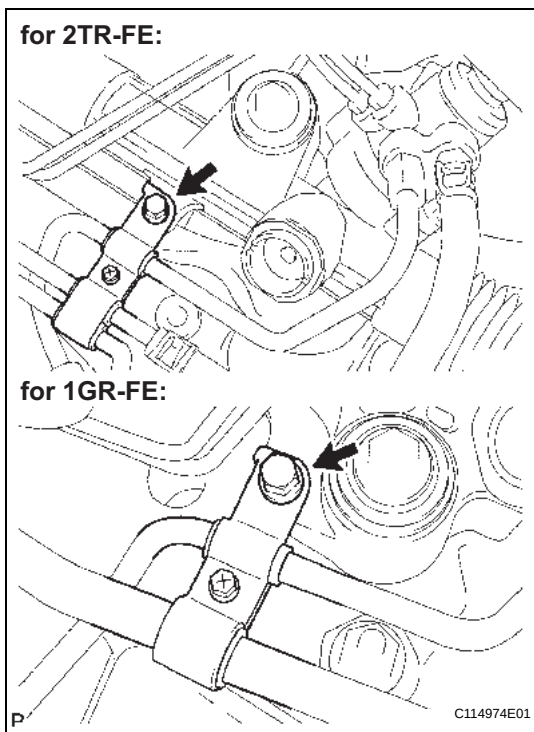
for use with SST

22 N*m (222 kgf*cm, 16 ft.*lbf)

HINT:

- Use a torque wrench with a fulcrum length of 300 mm (11.81 in.).
- This torque value is effective when SST is parallel to a torque wrench.





- (c) Install the tube support bracket with the bolt.
Torque: 28 N*m (286 kgf*cm, 21 ft.*lbf)

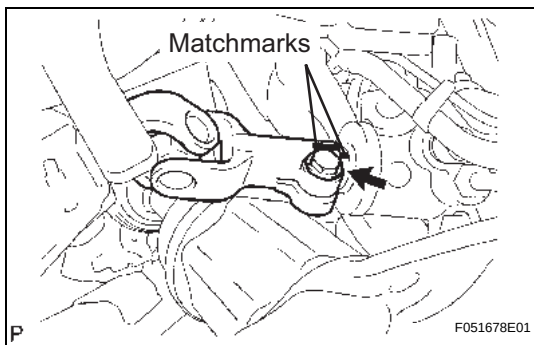
3. INSTALL TIE ROD END SUB-ASSEMBLY LH

- (a) Install the tie rod end onto the steering knuckle arm.
 (b) Install the nut.
Torque: 49 N*m (500 kgf*cm, 36 ft.*lbf)
 (c) Install a new cotter pin.

4. INSTALL TIE ROD END SUB-ASSEMBLY RH

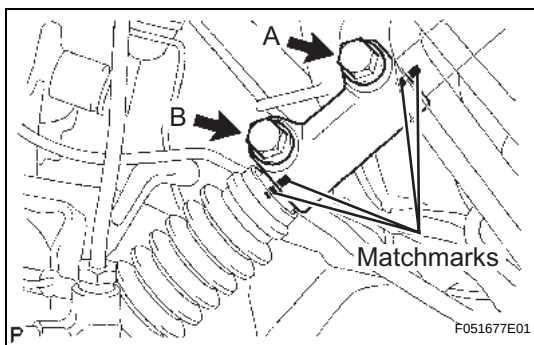
HINT:

The installation procedure for the RH side is the same as that for the LH side.



5. INSTALL STEERING INTERMEDIATE SHAFT NO. 2

- (a) Align the matchmarks on the steering intermediate shaft No. 2 and power steering link.
 (b) Install the steering intermediate shaft No. 2 onto the power steering link with bolt C.
Torque: 35 N*m (357 kgf*cm, 26 ft.*lbf)



- (c) Align the matchmarks on the steering intermediate shaft and steering sliding yoke.
 (d) Install the steering sliding yoke onto the steering intermediate shaft and slide it upward.
 (e) Align the matchmarks on the steering sliding yoke and steering intermediate shaft No. 2.
 (f) Install the steering sliding yoke with bolts A and B.
Torque: 35 N*m (357 kgf*cm, 26 ft.*lbf)

6. INSTALL FRONT WHEELS

Torque: 113 N*m (1,152 kgf*cm, 83 ft.*lbf)

7. PLACE FRONT WHEELS FACING STRAIGHT AHEAD

8. INSPECT STEERING WHEEL CENTER POINT

9. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

Torque: 3.9 N*m (40 kgf*cm, 35 in.*lbf)
 (See page [IN-5](#))

10. ADD POWER STEERING FLUID

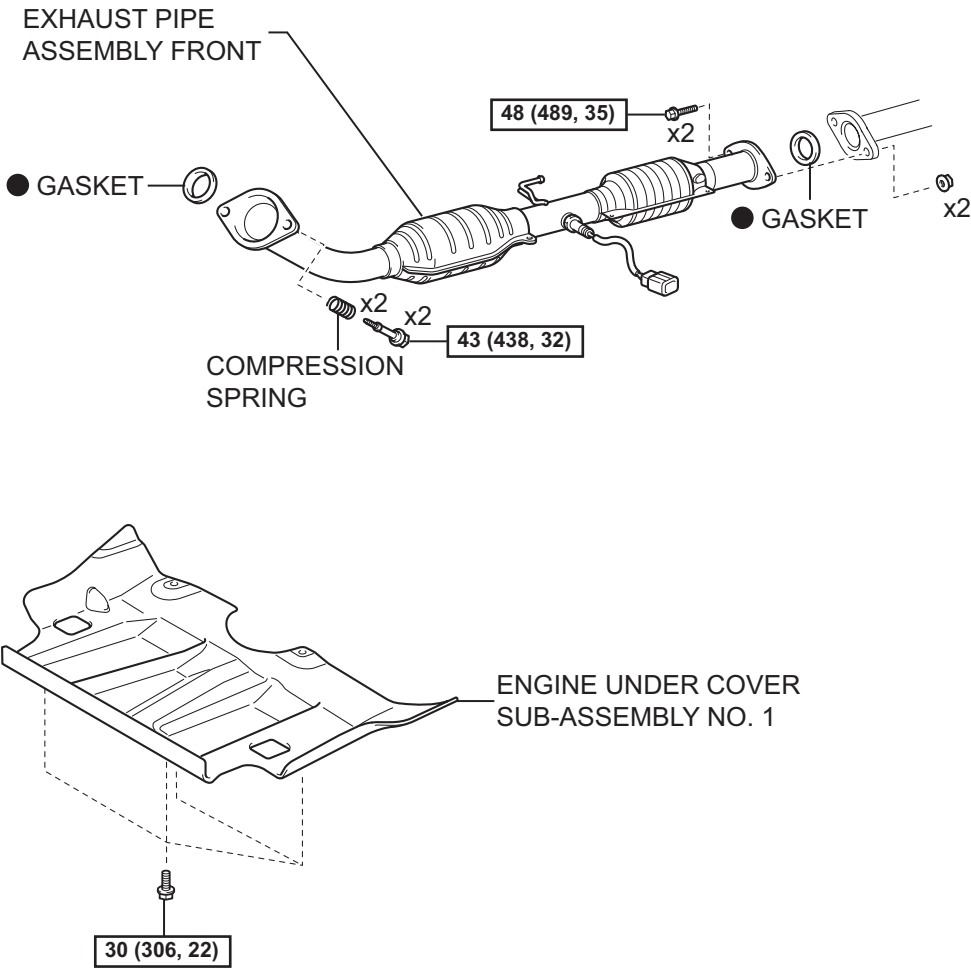
11. BLEED POWER STEERING FLUID (See page [PS-2](#))

12. CHECK FOR POWER STEERING FLUID LEAKAGE
13. INSPECT AND ADJUST FRONT WHEEL ALIGNMENT
(See page [SP-2](#))

POWER STEERING LINK (for 4WD and Pre-Runner)

COMPONENTS

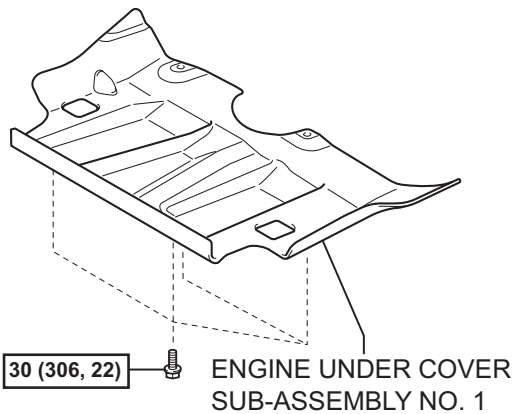
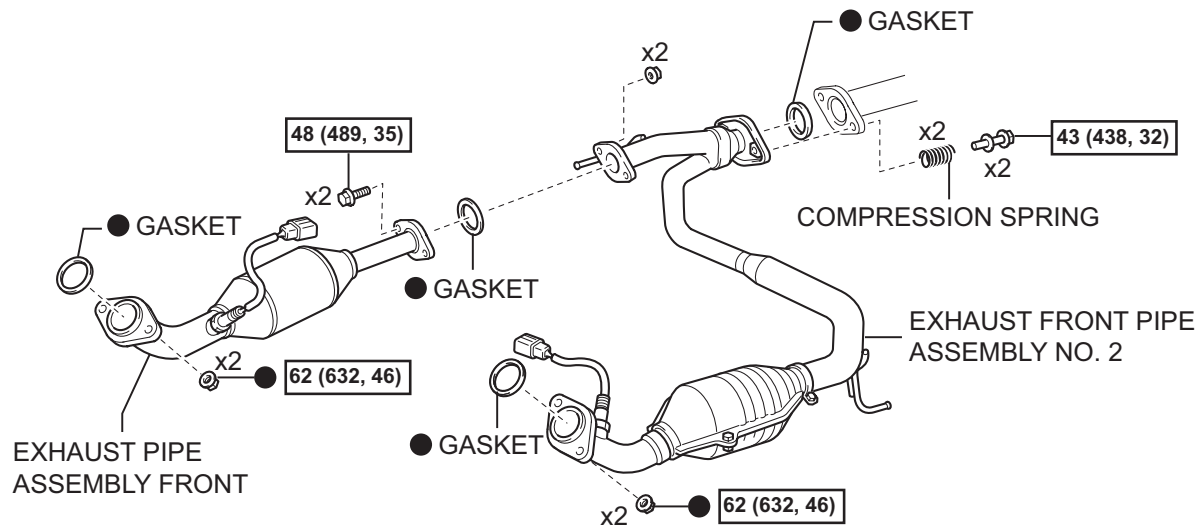
for 2TR-FE:



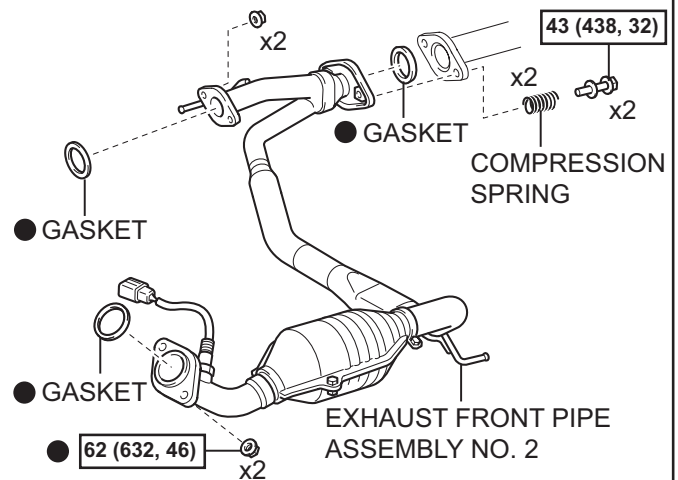
N*m (kgf*cm, ft*lb) : Specified torque

● Non-reusable part

for 1GR-FE:



for 4WD:

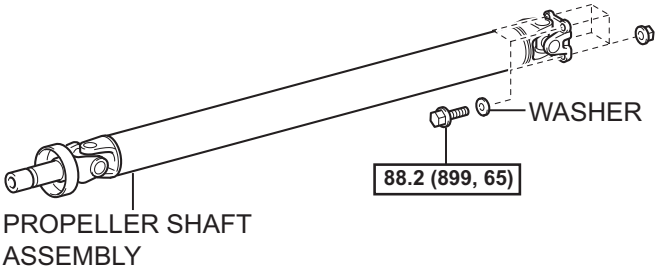


N*m (kgf*cm, ft*lb) : Specified torque

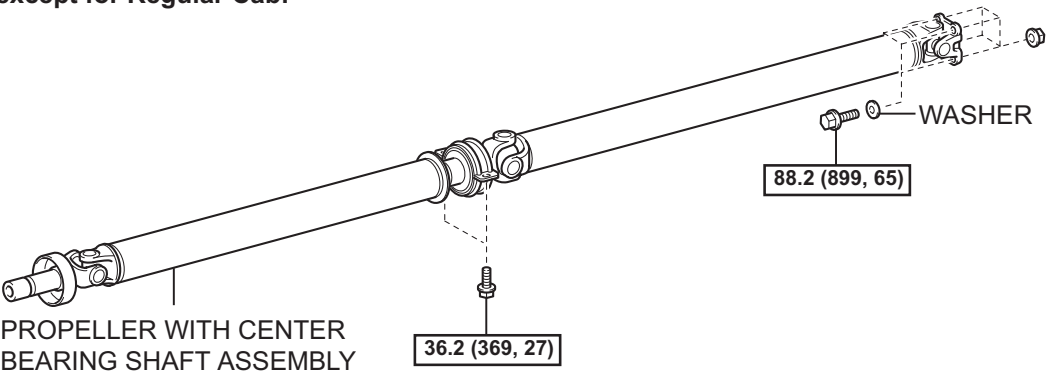
● Non-reusable part

for Pre-Runner:

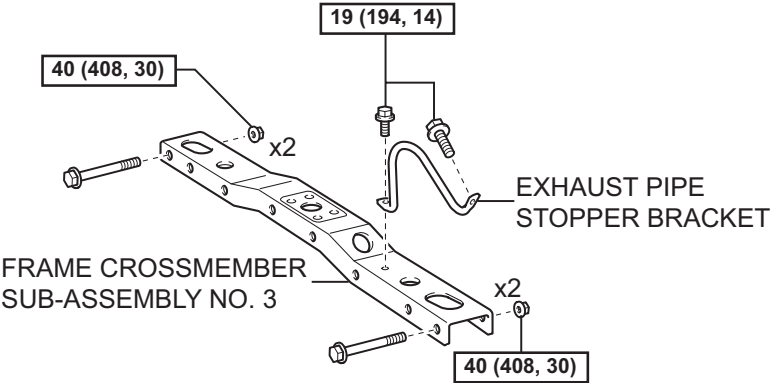
for Regular Cab:



except for Regular Cab:

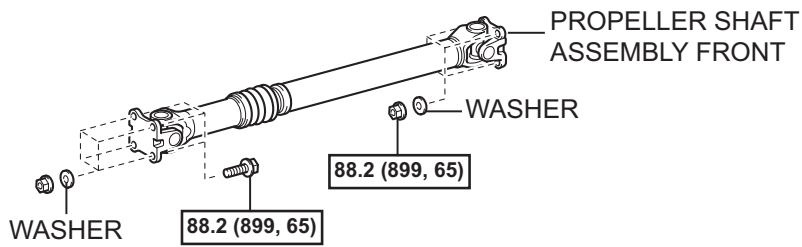


PS

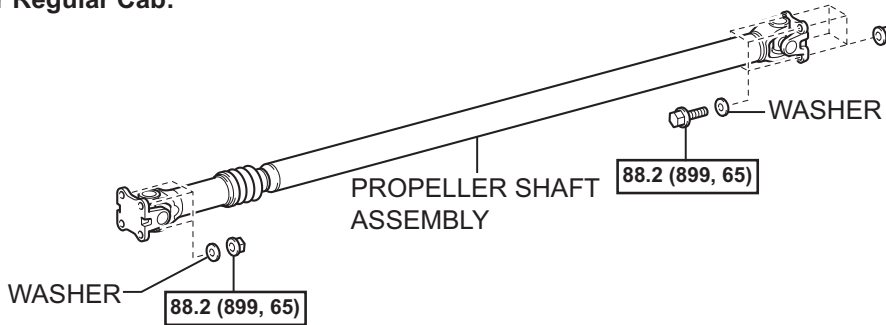


N*m (kgf*cm, ft*lb) : Specified torque

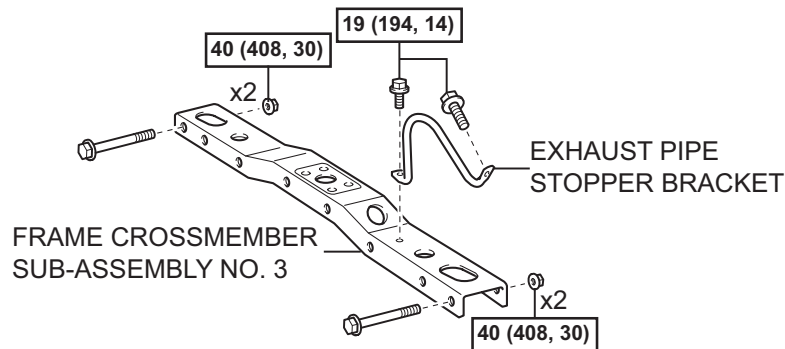
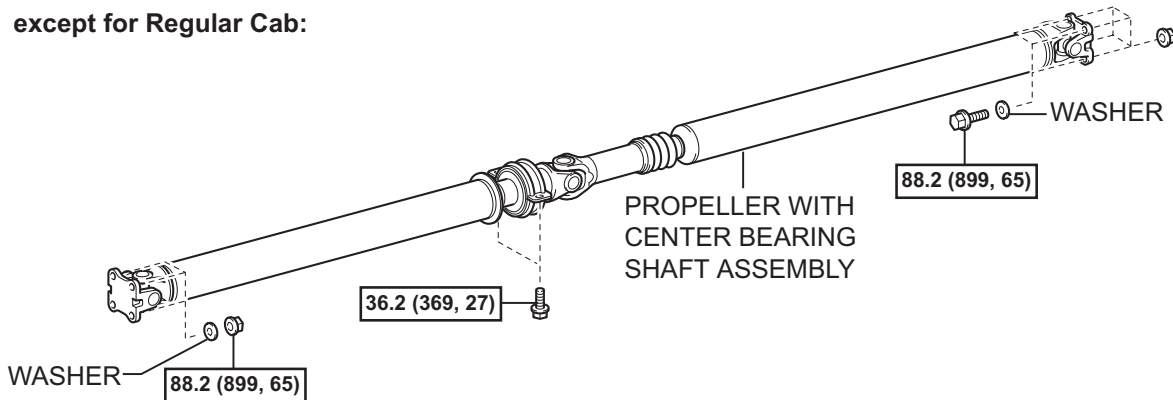
for 4WD:



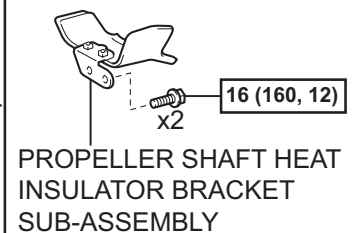
for Regular Cab:



except for Regular Cab:

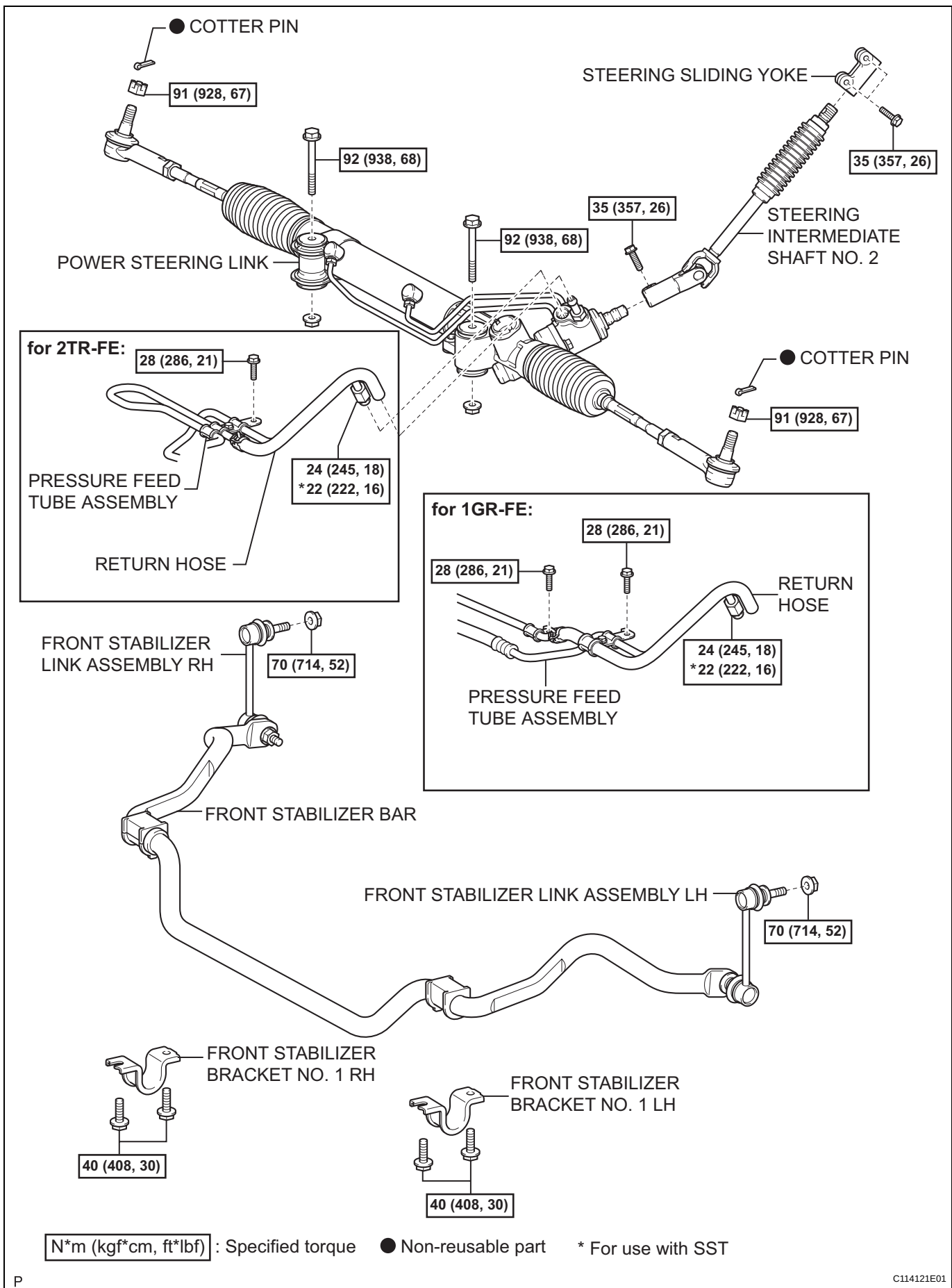


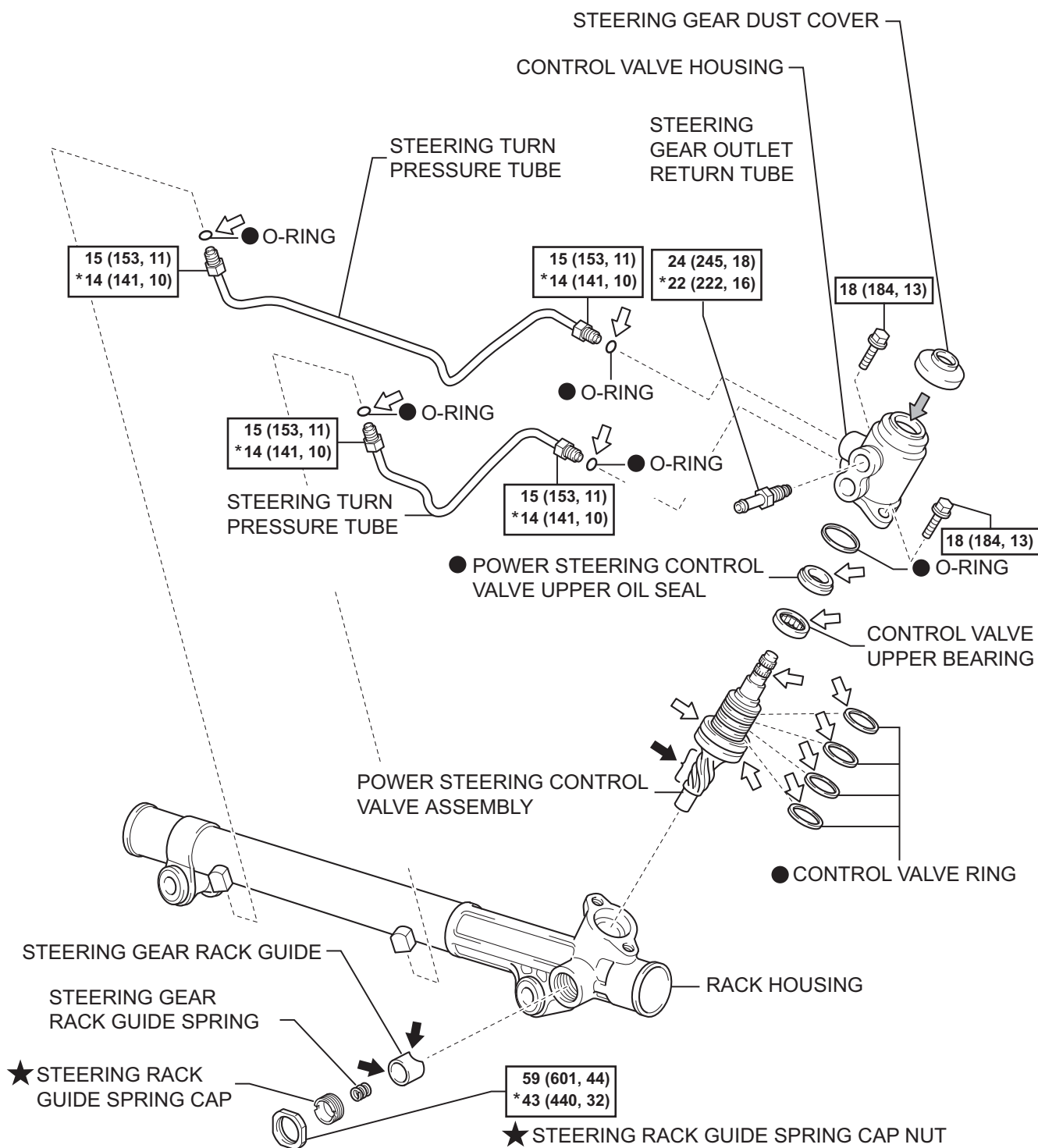
for 1GR-FE:



N*m (kgf*cm, ft*lbf) : Specified torque

PS





[N*m (kgf*cm, ft*lb)] : Specified torque

← Molybdenum disulfide lithium base grease * For use with SST

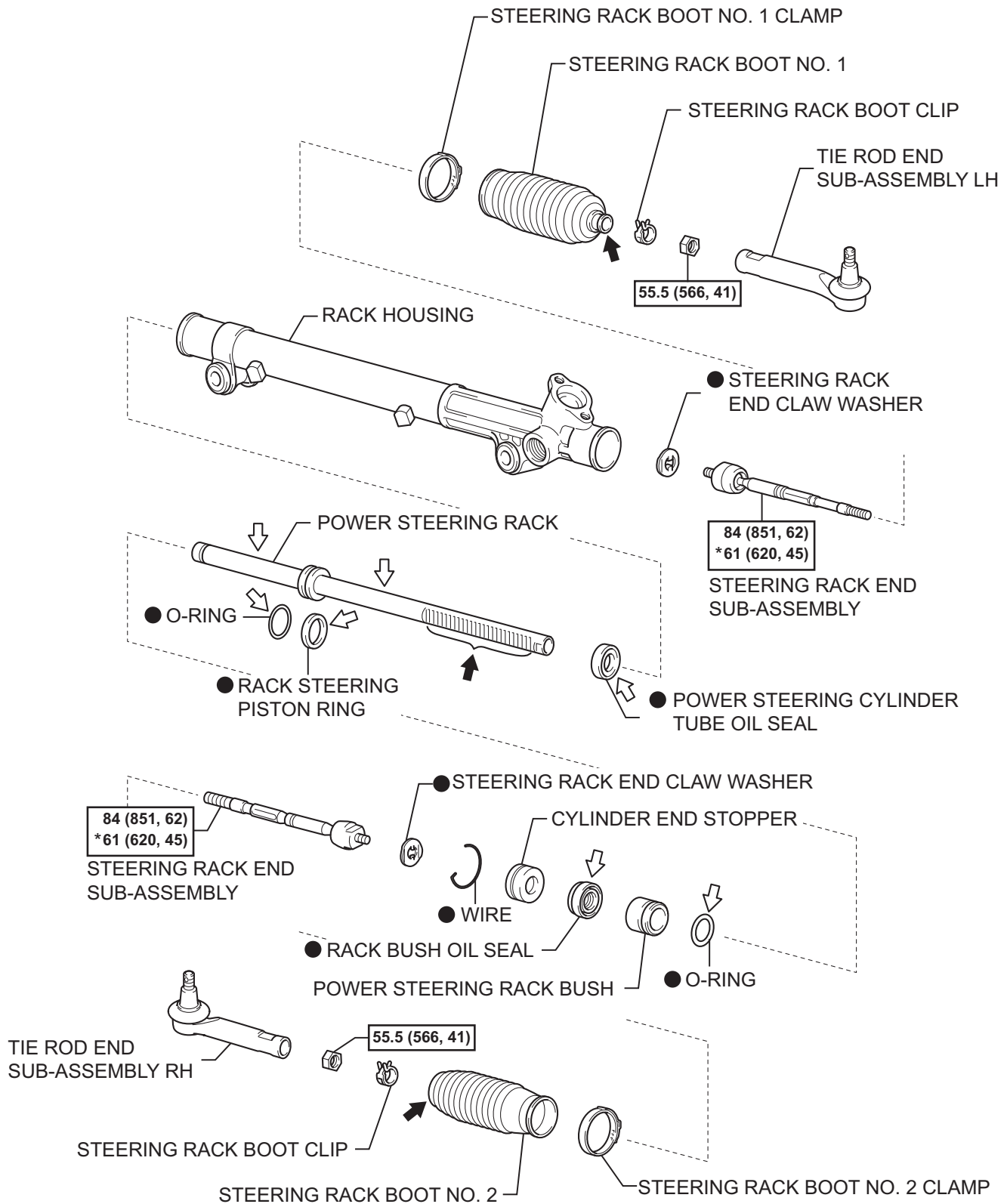
● Non-reusable part

← Power steering fluid

★ Precoated part

← MP grease

PS



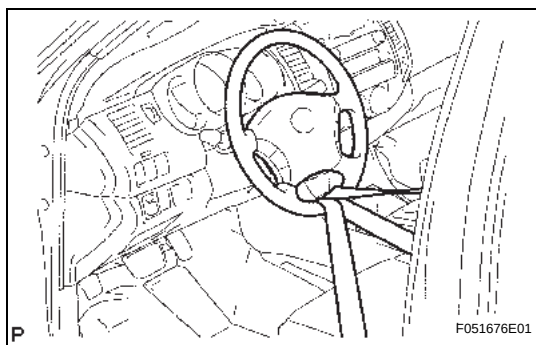
N*m (kgf*cm, ft*lb) : Specified torque ← Molbdenum disulfide lithium base grease * For use with SST

● Non-reusable part

⇐ Power steering fluid

REMOVAL

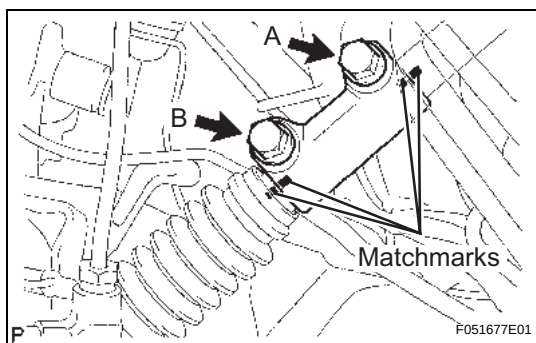
1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL
2. PLACE FRONT WHEELS FACING STRAIGHT AHEAD
3. REMOVE FRONT WHEELS
4. REMOVE ENGINE UNDER COVER SUB-ASSEMBLY NO. 1
5. REMOVE EXHAUST PIPE ASSEMBLY FRONT (for 2TR-FE) (See page [EX-2](#))
6. REMOVE EXHAUST FRONT PIPE ASSEMBLY NO. 2 (for 1GR-FE) (See page [EX-3](#))
7. REMOVE EXHAUST PIPE ASSEMBLY FRONT (for 1GR-FE) (See page [EX-3](#))
8. REMOVE PROPELLER SHAFT ASSEMBLY FRONT (for 4WD) (See page [PR-16](#))
9. REMOVE PROPELLER SHAFT ASSEMBLY (for Regular Cab Pre-Runner) (See page [PR-3](#))
10. REMOVE PROPELLER WITH CENTER BEARING SHAFT ASSEMBLY (for Except Regular Cab Pre-Runner) (See page [PR-8](#))
11. REMOVE PROPELLER SHAFT ASSEMBLY (for Regular Cab 4WD) (See page [PR-22](#))
12. REMOVE PROPELLER WITH CENTER BEARING SHAFT ASSEMBLY (for Except Regular Cab 4WD) (See page [PR-27](#))
13. REMOVE FRAME CROSSMEMBER SUB-ASSEMBLY NO. 3 (See page [MT-10](#))
14. SEPARATE FRONT STABILIZER LINK ASSEMBLY LH (See page [SP-21](#))
15. SEPARATE FRONT STABILIZER LINK ASSEMBLY RH
HINT:
The removal procedure for the RH side is the same as that for the LH side.
16. REMOVE FRONT STABILIZER BRACKET NO. 1 LH (See page [SP-50](#))
17. REMOVE FRONT STABILIZER BRACKET NO. 1 RH
HINT:
The removal procedure for the RH side is the same as that for the LH side.
18. REMOVE FRONT STABILIZER BAR

**19. REMOVE STEERING INTERMEDIATE SHAFT NO. 2**

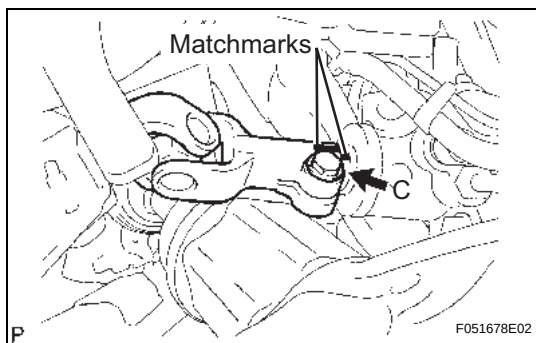
- (a) Fix the steering wheel with the seat belt in order to prevent it from rotating.

HINT:

The operation is effective for preventing any damage to the spiral cable.



- (b) Place matchmarks on the steering sliding yoke, steering intermediate shaft No. 2 and steering intermediate shaft.
- (c) Remove bolts A and B from the steering sliding yoke.
- (d) Slide the steering sliding yoke up and separate it from the steering intermediate shaft No. 2.
- (e) Pull down the steering sliding yoke from the steering intermediate shaft to remove it.



- (f) Place matchmarks on the steering intermediate shaft No. 2 and power steering link.
- (g) Remove bolt C from the steering intermediate shaft No. 2.
- (h) Slide the steering intermediate shaft No. 2 up and remove it from the power steering link.

20. SEPARATE TIE ROD END SUB-ASSEMBLY LH

- (a) Remove the cotter pin and nut.

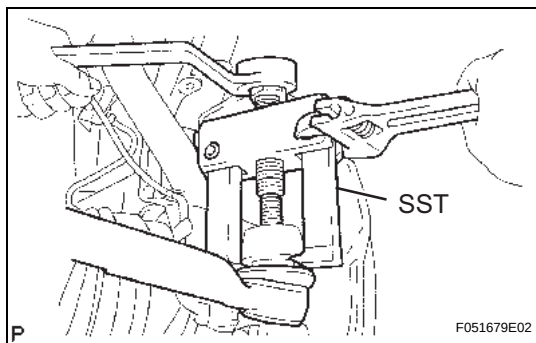
- (b) Using SST, separate the tie rod end from the steering knuckle arm.

SST 09628-62011

21. SEPARATE TIE ROD END SUB-ASSEMBLY RH

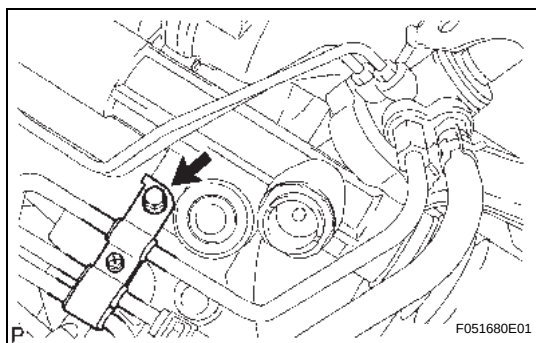
HINT:

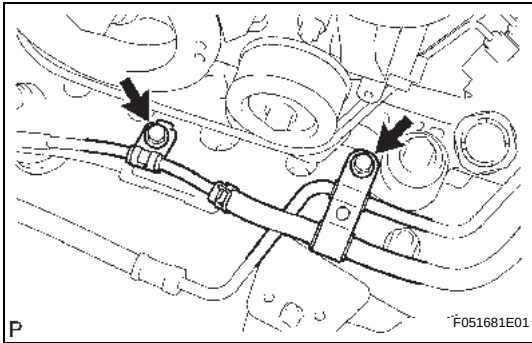
The removal procedure for the RH side is the same as that for the LH side.

**22. SEPARATE PRESSURE FEED TUBE ASSEMBLY**

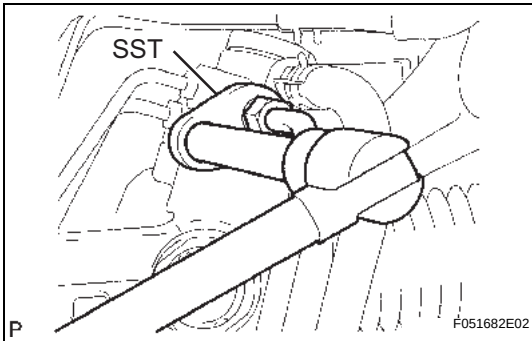
- (a) for 2TR-FE:

- (1) Remove the bolt and separate the tube support bracket.

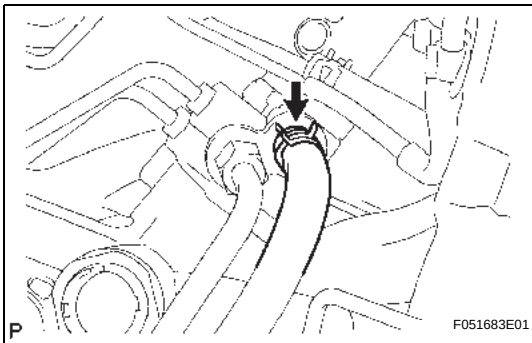




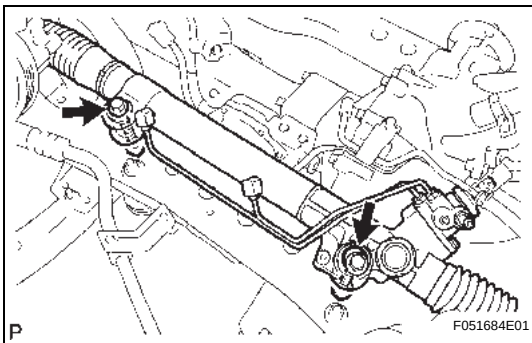
- (b) for 1GR-FE:
 (1) Remove the 2 bolts and separate the tube support brackets.



- (c) Using SST, loosen the flare nut and separate the pressure feed tube.
SST 09023-12701



- (d) Disengage the clip and disconnect the return hose.



23. REMOVE POWER STEERING LINK

- (a) Remove the 2 bolts and 2 nuts.

NOTICE:

The nut has a detent, so never turn the nut. Be sure to turn only the bolt.

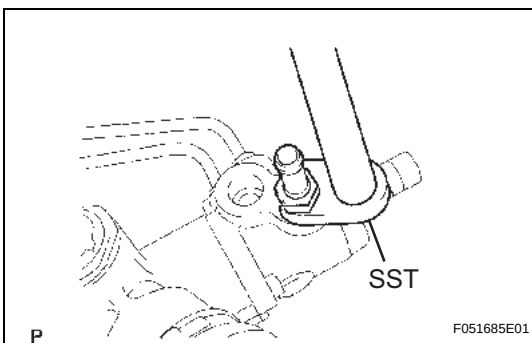
- (b) Tilt the transmission and remove the power steering link.

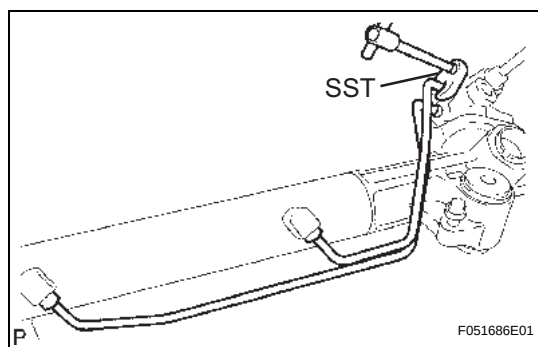
PS

DISASSEMBLY

1. REMOVE STEERING GEAR OUTLET RETURN TUBE

- (a) Using SST, remove the return tube.
SST 09023-12701



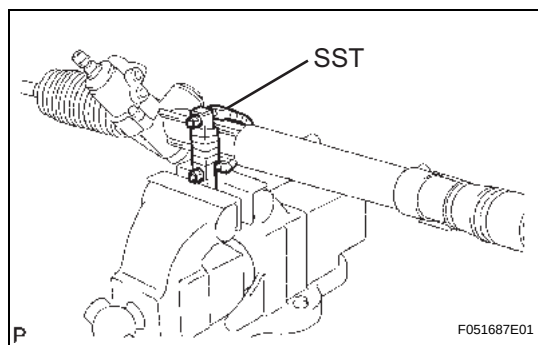


2. REMOVE STEERING TURN PRESSURE TUBE

- (a) Using SST, remove the 2 pressure tubes.

SST 09023-38401

- (b) Remove the 4 O-rings from the pressure tubes.



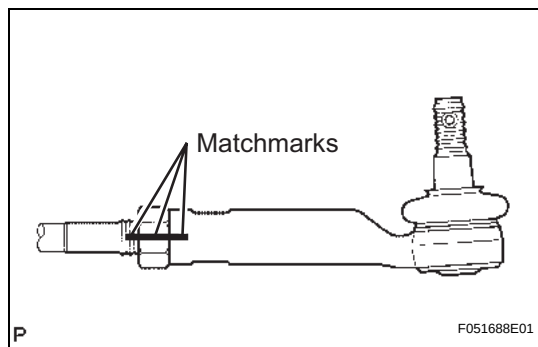
3. FIX POWER STEERING LINK

- (a) Using SST, fix the power steering link between aluminium plates in a vise, as shown in the illustration.

SST 09612-00012

NOTICE:

When using a vise, do not over tighten it.



4. REMOVE TIE ROD END SUB-ASSEMBLY LH

- (a) Place matchmarks on the tie rod end, lock nut and rack end.
(b) Loosen the lock nut and remove the tie rod end and lock nut.

5. REMOVE TIE ROD END SUB-ASSEMBLY RH

HINT:

The removal procedure for the RH side is the same as that for the LH side.

6. REMOVE STEERING RACK BOOT CLIP

- (a) Remove the 2 rack boot clips.

7. REMOVE STEERING RACK BOOT NO. 1 CLAMP

- (a) Using pliers, remove the rack boot No. 1 clamp.

NOTICE:

Be careful not to damage the steering rack boot No. 1.

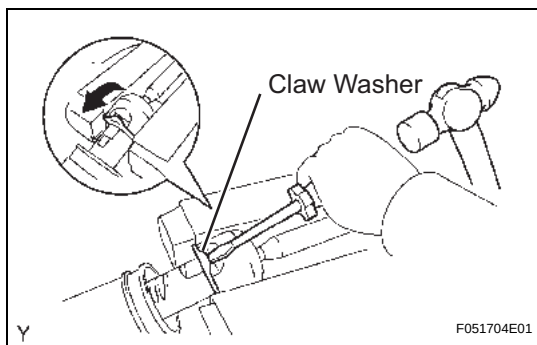
8. REMOVE STEERING RACK BOOT NO. 2 CLAMP

HINT:

The removal procedure for the No. 2 side is the same as that for the No. 1 side.

9. REMOVE STEERING RACK BOOT NO. 1

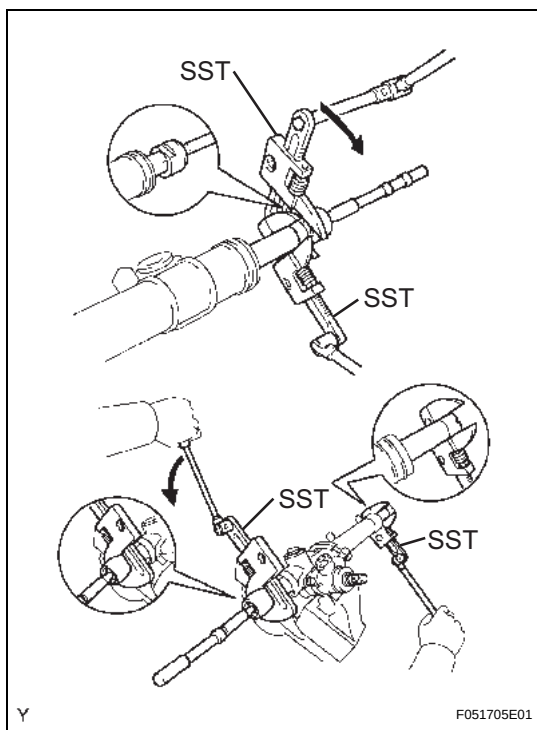
10. REMOVE STEERING RACK BOOT NO. 2

**11. REMOVE STEERING RACK END SUB-ASSEMBLY**

- (a) Using a screwdriver and hammer, unstake the claw washer.

NOTICE:

Avoid any impact to the power steering rack.

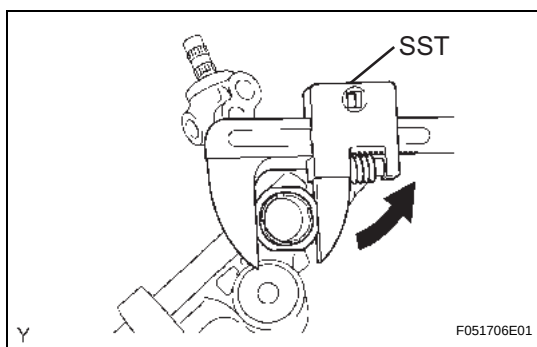


- (b) Using 2 SSTs, remove the 2 steering rack ends and 2 claw washers.

SST 09922-10010

NOTICE:

- Turn SST 09922-10010 in the direction shown in the illustration.
- Securely hold the steering rack end with SST.

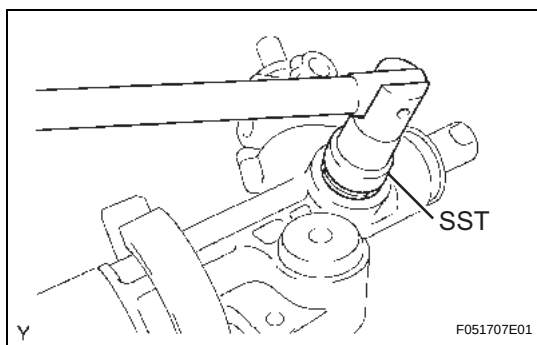
**12. REMOVE STEERING GEAR RACK GUIDE**

- (a) Using SST, remove the rack guide spring cap nut.

SST 09922-10010

NOTICE:

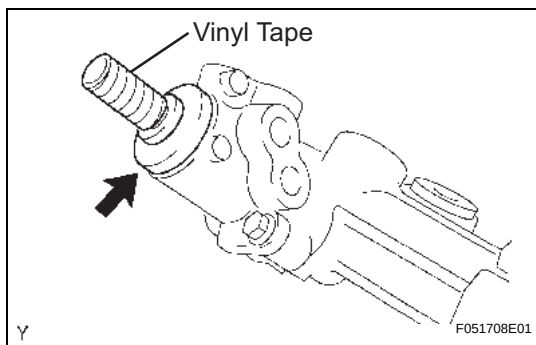
Turn SST 09922-10010 in the direction shown in the illustration.



- (b) Using SST, remove the rack guide spring cap.

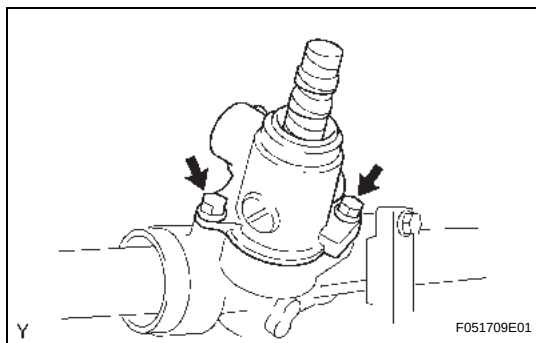
SST 09631-10021

- (c) Remove the rack guide spring and rack guide.

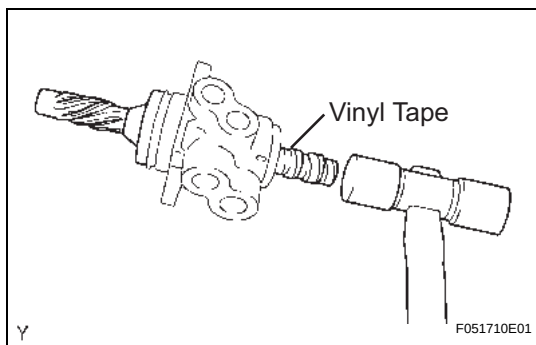


13. REMOVE POWER STEERING CONTROL VALVE ASSEMBLY

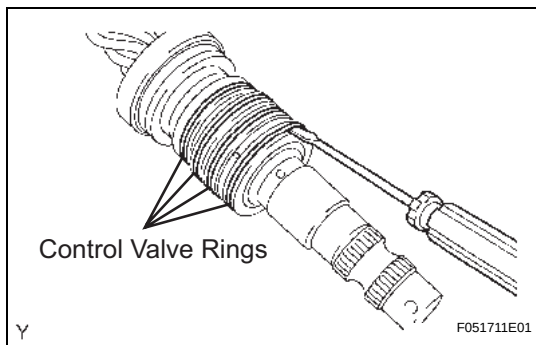
- (a) Wind vinyl tape around the serrated portion of the control valve.
- (b) Remove the dust cover from the control valve housing.



- (c) Remove the 2 bolts and the control valve w/ control valve housing.
- (d) Remove the O-ring from the control valve housing.



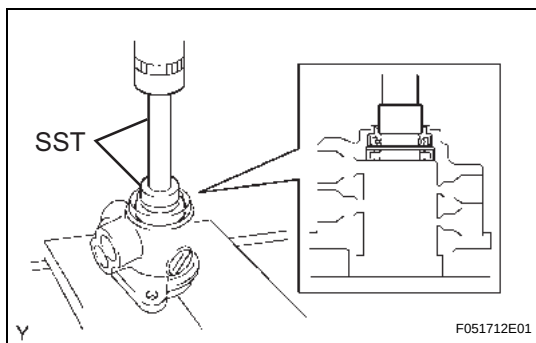
- (e) To prevent the oil seal lip from getting damaged, wind vinyl tape around the serrated portion of the control valve.
- (f) Using a plastic hammer, remove the control valve from the control valve housing.



- (g) Using a screwdriver, remove the 4 control valve rings.

NOTICE:

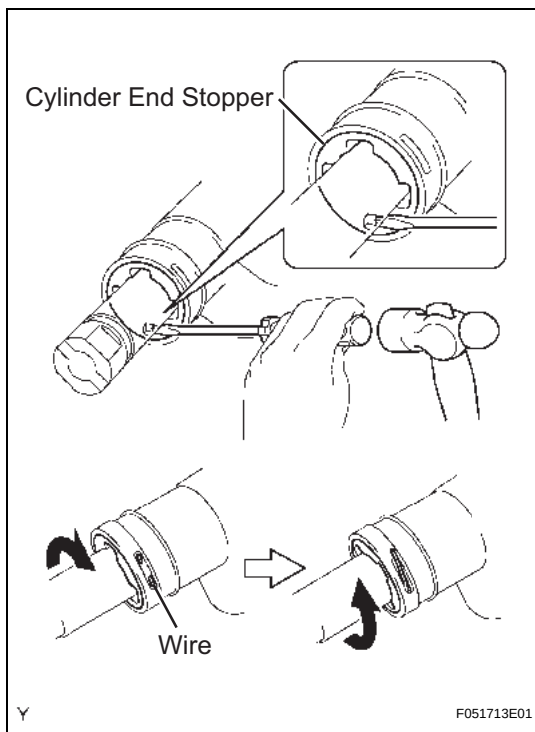
Be careful not to damage the grooves for the control valve rings.



14. REMOVE POWER STEERING CONTROL VALVE UPPER OIL SEAL

- (a) Using SST and a press, remove the control valve upper bearing and control valve upper oil seal from the control valve housing.

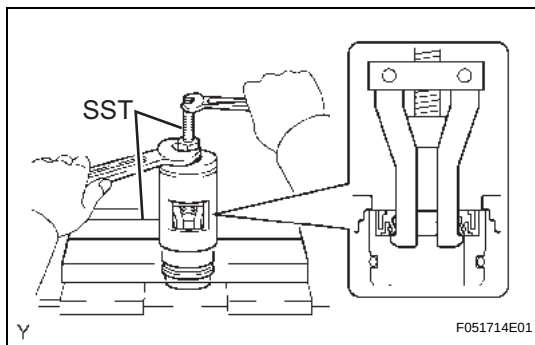
SST 09950-60010 (09951-00250), 09950-70010 (09951-07150)

**15. REMOVE CYLINDER END STOPPER**

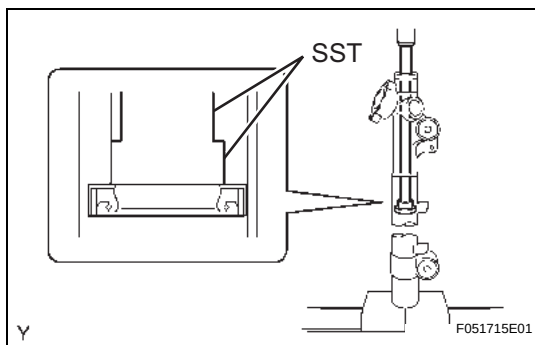
- (a) Using a screwdriver and hammer, turn the cylinder end stopper clockwise until the wire end can be seen through the service hole.
- (b) Using a screwdriver and hammer, turn the cylinder end stopper counterclockwise, and remove the wire and cylinder end stopper.

16. REMOVE POWER STEERING RACK**17. REMOVE POWER STEERING RACK BUSH**

- (a) Remove the rack bush from the power steering rack.
- (b) Using a screwdriver, remove the O-ring from the rack bush.

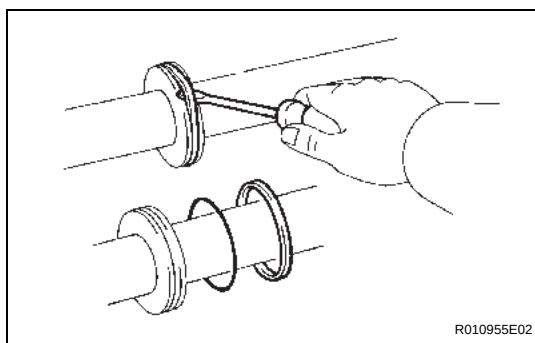


- (c) Using SST, remove the rack bush oil seal.
SST 09527-21011, 09612-24014 (09613-22011)

**18. REMOVE POWER STEERING CYLINDER TUBE OIL SEAL**

- (a) Using SST and a press, remove the cylinder tube oil seal.

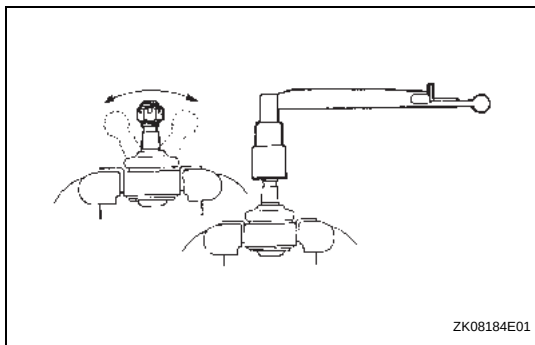
SST 09950-60010 (09951-00320), 09950-70010 (09951-07360)

PS**19. REMOVE RACK STEERING PISTON RING**

- (a) Using a screwdriver, remove the piston ring and O-ring.

NOTICE:

Be careful not to damage the groove for the piston ring.

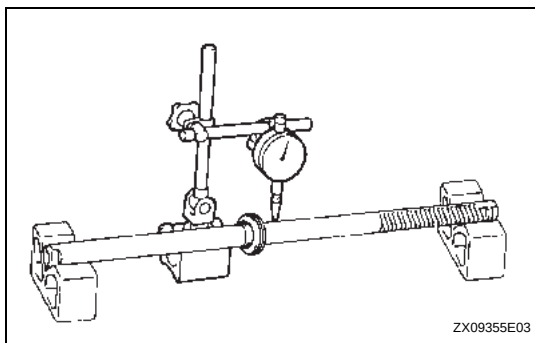


INSPECTION

1. INSPECT TIE ROD END SUB-ASSEMBLY

- Flip the ball joint stud back and forth 5 times as shown in the illustration before installing the nut.
- Using a torque wrench, turn the nut continuously at a rate of 2 to 4 seconds per turn and check the torque reading on the 5th turn.

Torque: 0.49 to 3.43 N*m (5.0 to 35.0 kgf*cm, 4.34 to 30.36 in.*lbf)



2. INSPECT POWER STEERING RACK

- Using a dial indicator, check the power steering rack for runout, teeth wear and damage.

Maximum runout:

0.3 mm (0.012 in.)

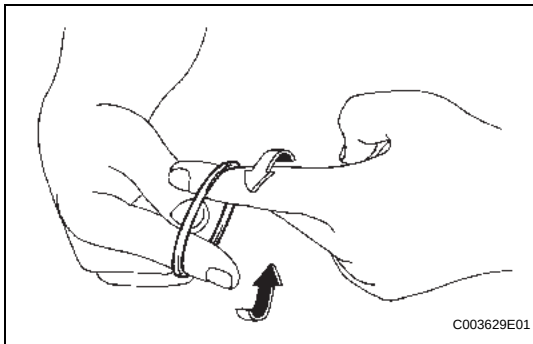
If necessary, replace the power steering link assembly.

- Check the back surface for wear and damage. If necessary, replace the power steering link assembly.

REASSEMBLY

NOTICE:

When installing, coat the parts indicated by the arrows with power steering fluid (See page PS-3).

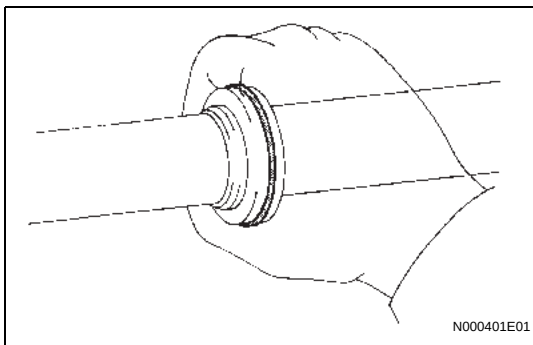
**1. INSTALL RACK STEERING PISTON RING**

- (a) Coat a new O-ring with power steering fluid and install it onto the power steering rack.
- (b) Expand a new piston ring with your fingers.

NOTICE:

Be careful not to over expand the rack steering piston ring.

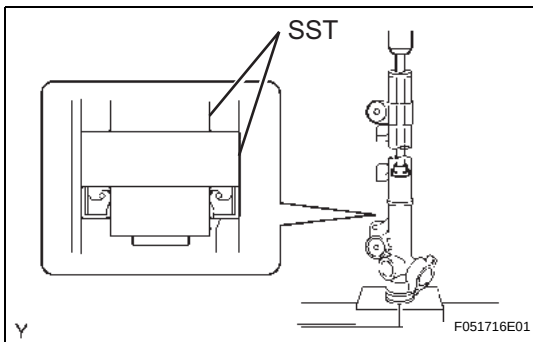
- (c) Coat a new piston ring with power steering fluid.



- (d) Install the piston ring onto the power steering rack, and position it with your fingers.

2. INSTALL POWER STEERING CYLINDER TUBE OIL SEAL

- (a) Coat a new cylinder tube oil seal lip with power steering fluid.

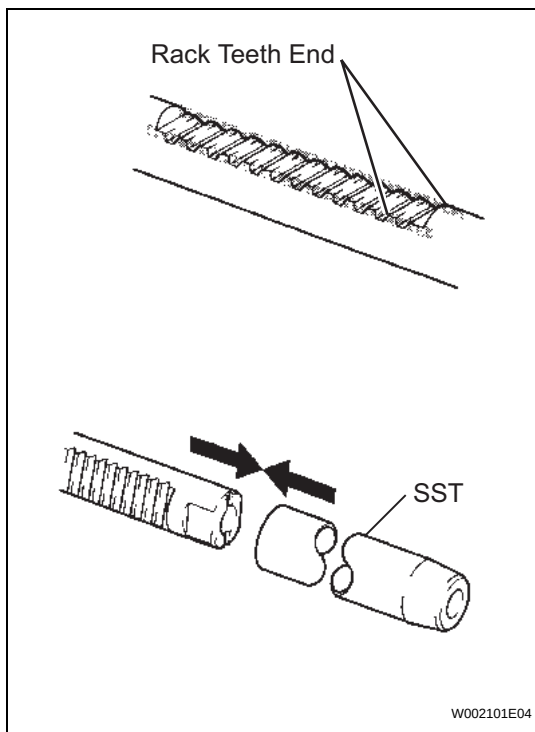


- (b) Using SST and a press, install the cylinder tube oil seal.

SST 09950-60010 (09951-00280, 09951-00480, 09952-06010), 09950-70010 (09951-07360)

NOTICE:

- Make sure that the cylinder tube oil seal is installed facing in the correct direction.
- Take care not to reverse the cylinder tube oil seal direction when installing.



3. INSTALL POWER STEERING RACK

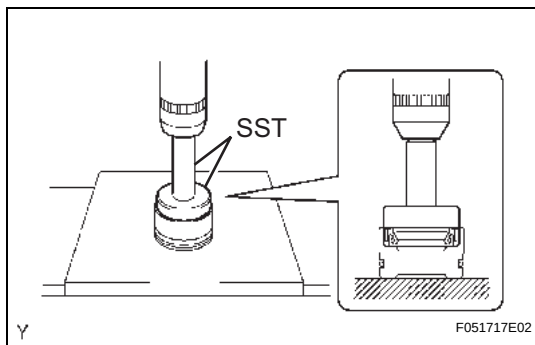
- (a) Install SST onto the power steering rack.

SST 09631-20111

HINT:

If necessary, scrape the burrs off the power steering rack teeth end and burnish.

- (b) Coat SST with power steering fluid.
 (c) Install the power steering rack into the rack housing.
 (d) Remove SST.



4. INSTALL POWER STEERING RACK BUSH

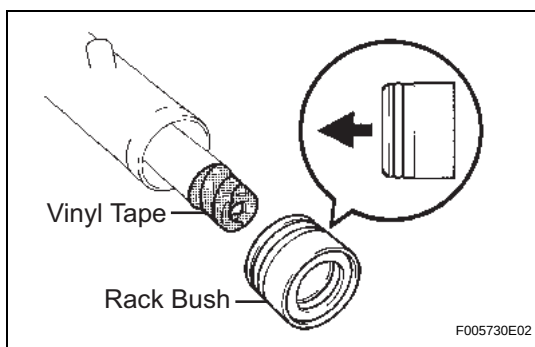
- (a) Using SST and a press, install a new rack bush oil seal onto the rack bush.

SST 09950-60010 (09951-00440), 09950-70010 (09951-07100)

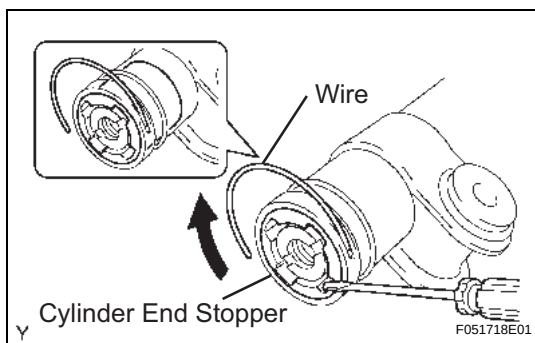
NOTICE:

Make sure that the rack bush oil seal is installed facing the correct direction.

- (b) Coat a new O-ring with power steering fluid and install it onto the rack bush.
 (c) To prevent the rack bush oil seal lip from being damaged, wind vinyl tape around the rack end and apply power steering fluid.
 (d) Install the rack bush onto the power steering rack.

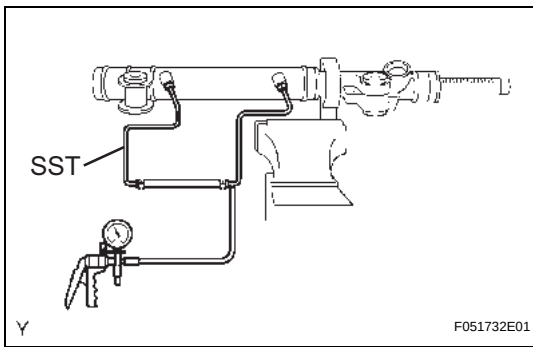


PS



5. INSTALL CYLINDER END STOPPER

- (a) Align the installation hole for the wire of the cylinder end stopper with the slot of the rack housing.
 (b) Install a new wire into the cylinder end stopper.
 (c) Using a screwdriver, turn the cylinder end stopper clockwise by 400 to 500°.



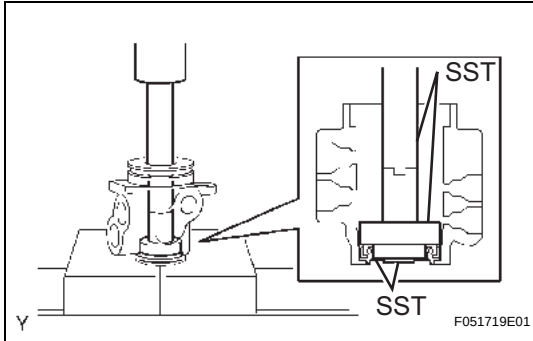
6. AIR TIGHT TEST

- Install SST onto the rack housing.
- Apply a vacuum of 53 kPa (400 mmHg, 15.75 in.Hg) for about 30 seconds.
- Check that there is no change in the vacuum. If there is any change in the vacuum, check whether the oil seals are installed correctly.

7. INSTALL POWER STEERING CONTROL VALVE UPPER OIL SEAL

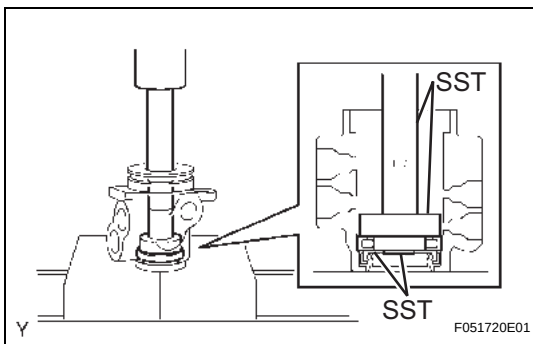
- Coat the control valve upper bearing and a new control valve upper oil seal with power steering fluid.
- Using SST and a press, install the control valve upper oil seal.

SST 09950-60010 (09951-00180, 09951-00320, 09952-06010), 09950-70010 (09951-07150)



- Using SST and a press, install the control valve upper bearing.

SST 09950-60010 (09951-00180, 09951-00340, 09952-06010), 09950-70010 (09951-07150)



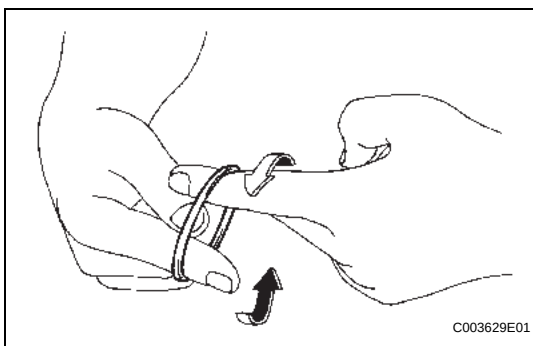
8. INSTALL POWER STEERING CONTROL VALVE ASSEMBLY

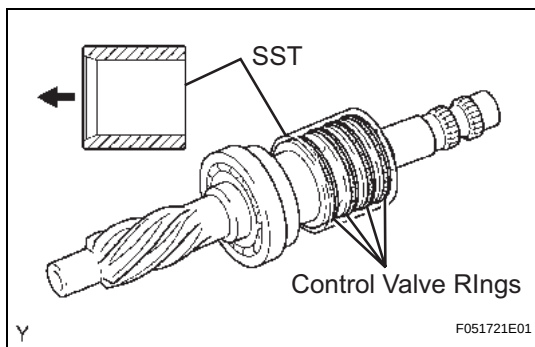
- Expand 4 new control valve rings with your fingers.

NOTICE:

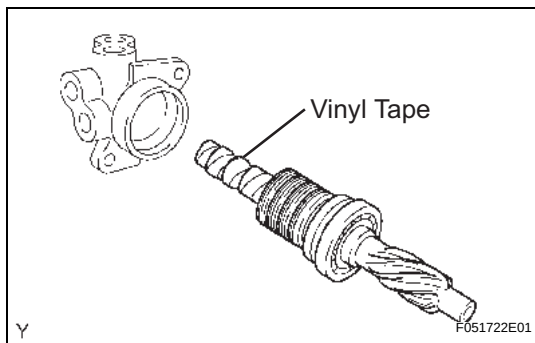
Be careful not to over expand the control valve rings.

- Coat the 4 control valve rings with power steering fluid.
- Install the 4 control valve rings onto the control valve, and position them with your fingers.

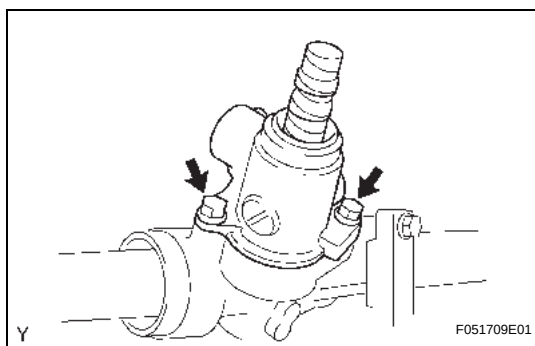




- (d) Carefully slide the tapered end of SST over the control valve rings until they fit to the control valve.
SST 09631-20081
NOTICE:
Be careful not to damage the control valve rings.



- (e) To prevent the control valve upper oil seal lip from getting damaged, wind vinyl tape around the serrated portion of the control valve.
 (f) Coat the control valve upper oil seal lip with power steering fluid.
 (g) Install the control valve onto the control valve housing.
NOTICE:
Be careful not to damage the control valve ring and control valve upper oil seal lip.
 (h) Apply grease to the needle roller bearing.
 (i) Install a new O-ring onto the control valve housing.
 (j) Wind vinyl tape around the serrated portion of the control valve.



- (k) Install the control valve w/ control valve housing onto the rack housing with the 2 bolts.
Torque: 18 N*m (184 kgf*cm, 13 ft.*lbf)

9. INSTALL STEERING GEAR RACK GUIDE

- (a) Install the rack guide.
 (b) Install the rack guide spring.
 (c) Apply sealant to 2 or 3 threads of the rack guide spring cap.

Sealant:

Part No. 08833-00080, THREE BOND 1344, LOCTITE 242 or equivalent

- (d) Provisionally install the rack guide spring cap.

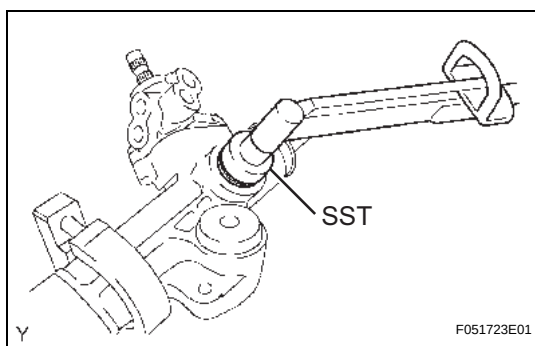
10. ADJUST TOTAL PRELOAD

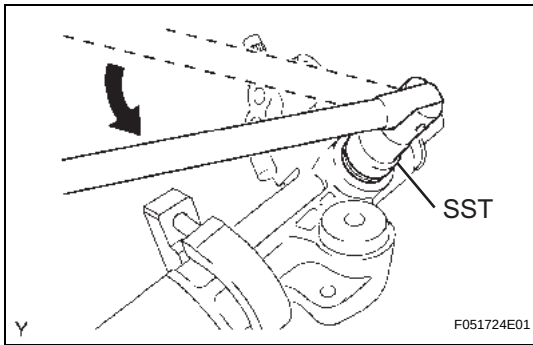
- (a) To prevent the steering rack teeth from damaging the oil seal lip, provisionally install the RH and LH steering rack end.

- (b) Using SST, torque the rack guide spring cap.

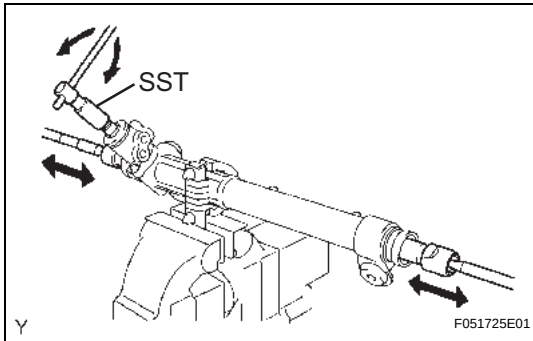
SST 09631-10021

Torque: 25 N*m (254 kgf*cm, 18 ft.*lbf)





- (c) Using SST, loosen the rack guide spring cap.
SST 09631-10021

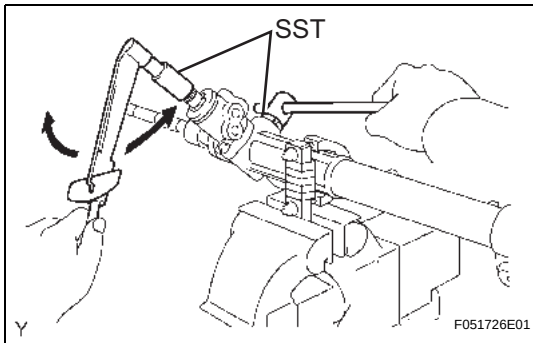


- (d) Using SST, turn the control valve to the right and left once or twice.

SST 09616-00011

- (e) Using SST, loosen the rack guide spring cap until the rack guide spring ceases to function.

SST 09631-10021



- (f) Using SST and a torque wrench, tighten the rack guide spring cap until the preload is within the specification.

SST 09631-10021, 09616-00011

Preload (turning):

0.9 to 1.5 N*m (9.2 to 15.3 kgf*cm, 8.0 to 13.3 in.*lbf)

- (g) Apply sealant to 2 or 3 threads of the rack guide spring cap nut.

Sealant:

Part No. 08833-00080, THREE BOND 1344, LOCTITE 242 or equivalent

- (h) Provisionally install the rack guide spring cap nut.

- (i) Using SST, hold the rack guide spring cap and using another SST, torque the rack guide spring cap nut.

SST 09631-10021, 09922-10010

Torque: for use without SST

59 N*m (601 kgf*cm, 44 ft.*lbf)

for use with SST

43 N*m (440 kgf*cm, 32 ft.*lbf)

NOTICE:

Turn SST 09922-10010 in the direction shown in the illustration.

HINT:

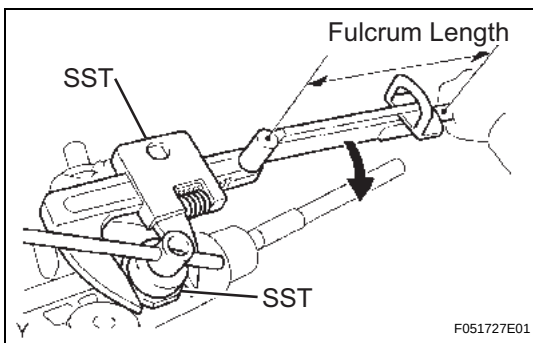
Use a torque wrench with a fulcrum length of 345 mm (13.58 in.).

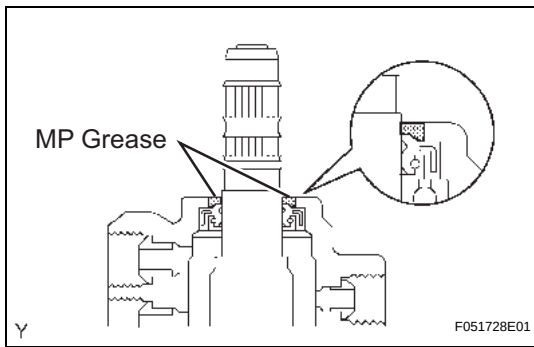
- (j) Recheck the total preload.

Preload (turning):

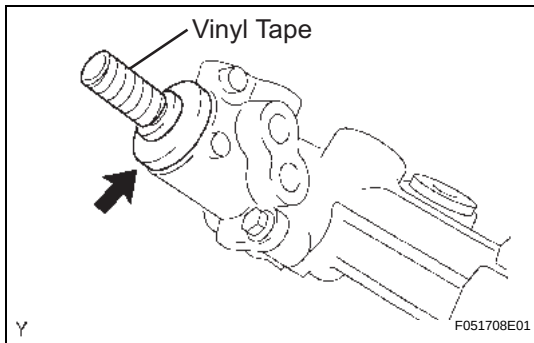
0.9 to 1.5 N*m (9.2 to 15.3 kgf*cm, 8.0 to 13.3 in.*lbf)

- (k) Remove the RH and LH steering rack ends.

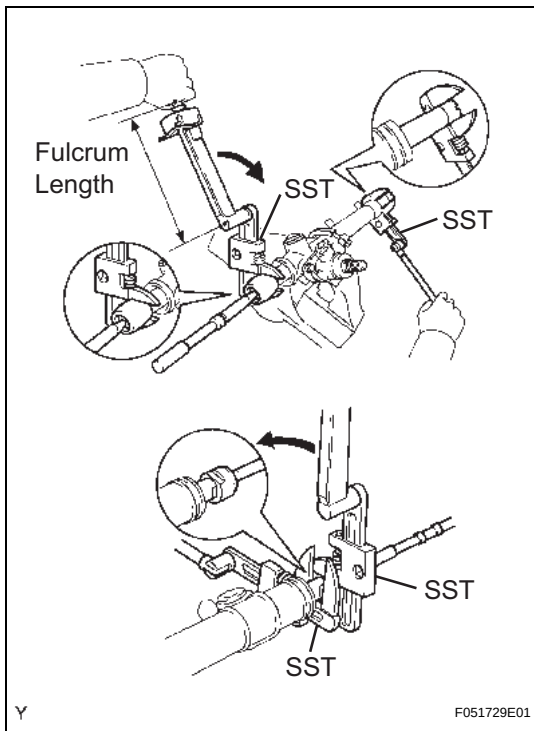




- (l) Apply MP grease to the control valve as shown in the illustration.



- (m) Wind vinyl tape around the serrated portion of the control valve.
- (n) Install the dust cover onto the control valve housing.



11. INSTALL STEERING RACK END SUB-ASSEMBLY

- (a) Install 2 new claw washers, and provisionally install the 2 steering rack ends.

HINT:

Align the claws of the claw washers with the power steering rack grooves.

- (b) Using 2 SSTs, install the 2 steering rack ends.

SST 09922-10010

Torque: for use without SST

84 N*m (851 kgf*cm, 62 ft.*lbf)

for use with SST

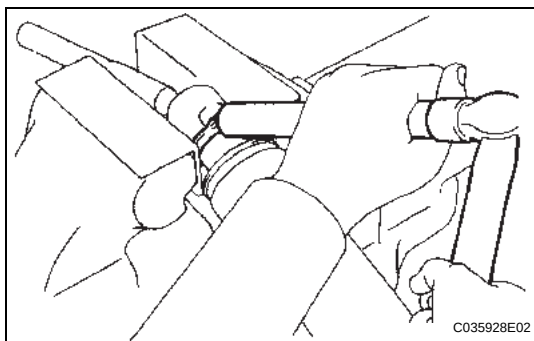
61 N*m (620 kgf*cm, 45 ft.*lbf)

NOTICE:

Turn SST 09922-10010 in the direction shown in the illustration.

HINT:

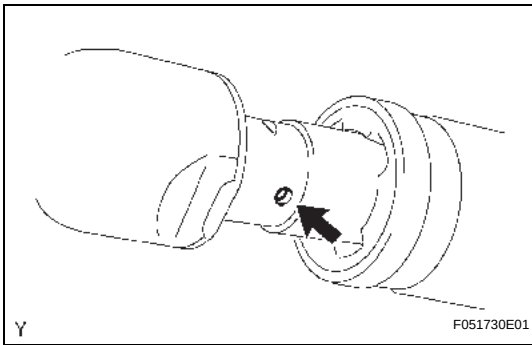
- Using SST, hold the power steering rack and install the rack end sub-assembly.
- Use a torque wrench with a fulcrum length of 345 mm (13.58 in.).



- (c) Using a brass bar and hammer, stake the 2 claw washers.

NOTICE:

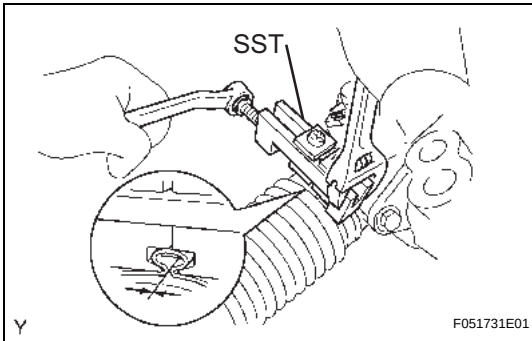
Avoid any impact to the power steering rack.

**12. INSPECT STEERING RACK END SUB-ASSEMBLY**

- (a) Ensure that the steering rack end hole is not clogged with grease.

HINT:

If the hole is clogged, the pressure inside the boot will change after it has been assembled, when the steering wheel is turned.

13. INSTALL STEERING RACK BOOT NO. 1**14. INSTALL STEERING RACK BOOT NO. 2****15. INSTALL STEERING RACK BOOT NO. 1 CLAMP**

- (a) Using SST, tighten the rack boot No. 1 clamp as shown in the illustration.

SST 09521-24010

Clearance:

3.0 mm (0.118 in.) or less

NOTICE:

Be careful not to damage the rack boot No. 1.

16. INSTALL STEERING RACK BOOT NO. 2 CLAMP**HINT:**

The installation procedure for the No. 2 side is the same as that for the No. 1 side.

17. INSTALL STEERING RACK BOOT CLIP

- (a) Using pliers, install the 2 rack boot clips.

18. INSTALL TIE ROD END SUB-ASSEMBLY LH

- (a) Screw the lock nut and tie rod end onto the rack end until the matchmarks are aligned.
(b) After adjusting toe-in, torque the nut.

Torque: 55.5 N*m (566 kgf*cm, 41 ft.*lbf)

19. INSTALL TIE ROD END SUB-ASSEMBLY RH**HINT:**

The installation procedure for the RH side is the same as that for the LH side.

20. INSTALL STEERING TURN PRESSURE TUBE

- (a) Coat 4 new O-rings with power steering fluid and install them onto the pressure tubes.

- (b) Using SST, install the 2 pressure tubes.

SST 09023-38401

Torque: for use without SST

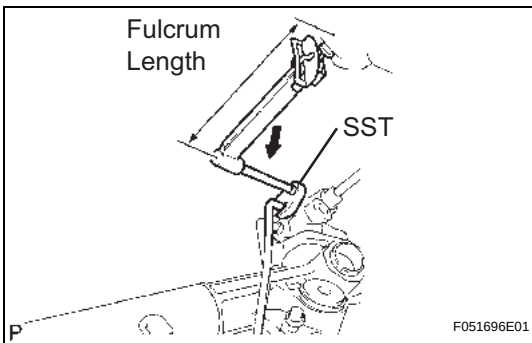
15 N*m (153 kgf*cm, 11 ft.*lbf)

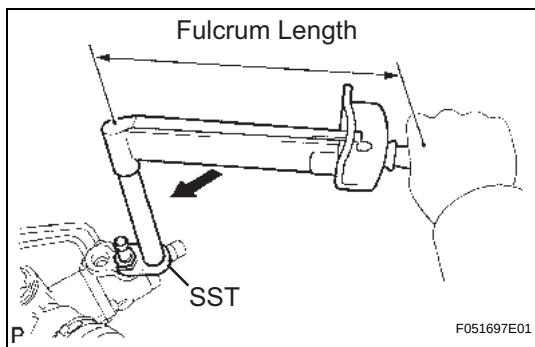
for use with SST

14 N*m (141 kgf*cm, 10 ft.*lbf)

HINT:

- Use a torque wrench with a fulcrum length of 345 mm (13.58 in.).
- This torque value is effective when SST is parallel to a torque wrench.





21. INSTALL STEERING GEAR OUTLET RETURN TUBE

- (a) Using SST, install the return tube.

SST 09023-12701

Torque: for use without SST

24 N*m (245 kgf*cm, 18 ft.*lbf)

for use with SST

22 N*m (222 kgf*cm, 16 ft.*lbf)

HINT:

- Use a torque wrench with a fulcrum length of 300 mm (11.81 in.).
- This torque value is effective when SST is parallel to a torque wrench.

INSTALLATION

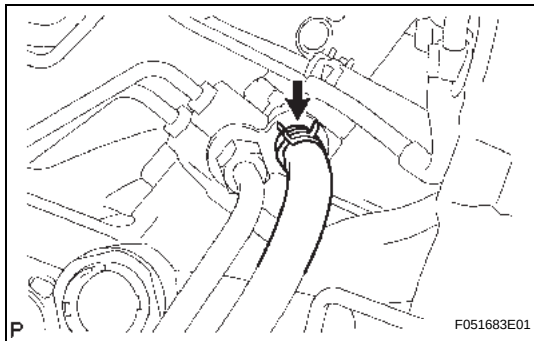
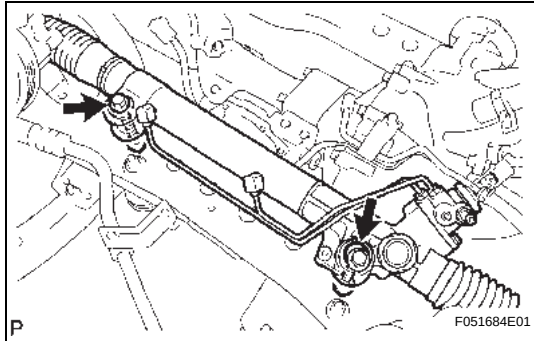
1. INSTALL POWER STEERING LINK

- (a) Install the power steering link with the 2 bolts and 2 nuts.

Torque: 92 N*m (938 kgf*cm, 68 ft.*lbf)

NOTICE:

Never turn the nut since it has a detent. Be sure to turn only the bolt.



2. INSTALL PRESSURE FEED TUBE ASSEMBLY

- (a) Connect the return hose with the clip.

- (b) Using SST, tighten the flare nut and connect the pressure feed tube.

SST 09023-12701

Torque: for use without SST

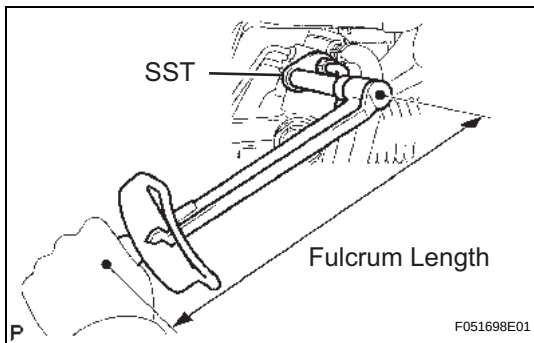
24 N*m (245 kgf*cm, 18 ft.*lbf)

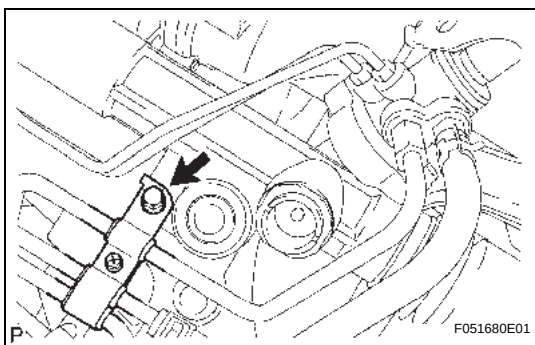
for use with SST

22 N*m (222 kgf*cm, 16 ft.*lbf)

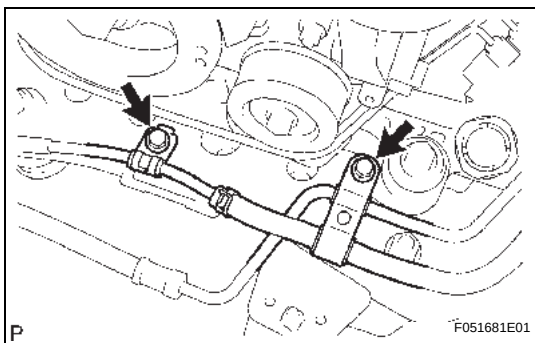
HINT:

- Use a torque wrench with a fulcrum length of 300 mm (11.81 in.).
- This torque value is effective when SST is parallel to a torque wrench.





- (c) for 2TR-FE:
 (1) Install the tube support bracket with the bolt.
Torque: 28 N*m (286 kgf*cm, 21 ft.*lbf)



- (d) for 1GR-FE:
 (1) Install the tube support brackets with the 2 bolts.
Torque: 28 N*m (286 kgf*cm, 21 ft.*lbf)

3. INSTALL TIE ROD END SUB-ASSEMBLY LH

- (a) Install the tie rod end onto the steering knuckle arm.
 (b) Install the nut.
Torque: 91 N*m (928 kgf*cm, 67 ft.*lbf)
 (c) Install a new cotter pin.

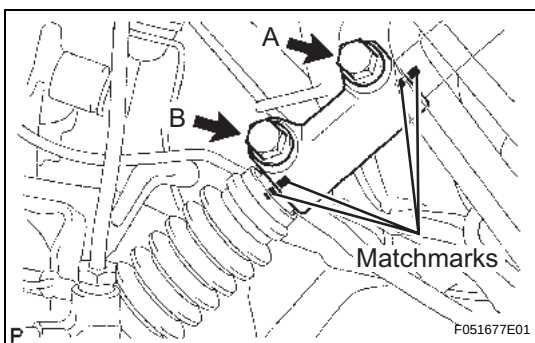
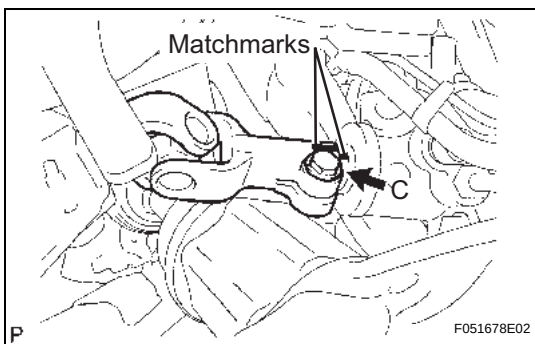
4. INSTALL TIE ROD END SUB-ASSEMBLY RH

HINT:

The installation procedure for the RH side is the same as that for the LH side.

5. INSTALL STEERING INTERMEDIATE SHAFT NO. 2

- (a) Align the matchmarks on the steering intermediate shaft No. 2 and power steering link.
 (b) Install the steering intermediate shaft No. 2 onto the power steering link with bolt C.
Torque: 35 N*m (357 kgf*cm, 26 ft.*lbf)



- (c) Align the matchmarks on the steering intermediate shaft and steering sliding yoke.
 (d) Install the steering sliding yoke onto the steering intermediate shaft and slide it upward.
 (e) Align the matchmarks on the steering sliding yoke and steering intermediate shaft No. 2.
 (f) Install the steering sliding yoke with bolts A and B.
Torque: 35 N*m (357 kgf*cm, 26 ft.*lbf)

6. INSTALL FRONT STABILIZER BAR

7. INSTALL FRONT STABILIZER BRACKET NO. 1 LH (See page [SP-51](#))

8. INSTALL FRONT STABILIZER BRACKET NO. 1 RH

HINT:

The installation procedure for the RH is the same as that for the LH side.

9. **INSTALL FRONT STABILIZER LINK ASSEMBLY LH**
(See page [SP-24](#))
10. **INSTALL FRONT STABILIZER LINK ASSEMBLY RH**
HINT:
The installation procedure for the RH is the same as that for the LH side.
11. **INSTALL FRAME CROSSMEMBER SUB-ASSEMBLY NO. 3** (See page [MT-12](#))
12. **INSTALL PROPELLER SHAFT ASSEMBLY** (for Regular Cab Pre-Runner) (See page [PR-6](#))
13. **INSTALL PROPELLER WITH CENTER BEARING SHAFT ASSEMBLY** (for Except Regular Cab Pre-Runner) (See page [PR-13](#))
14. **INSTALL PROPELLER SHAFT ASSEMBLY** (for Regular Cab 4WD) (See page [PR-25](#))
15. **INSTALL PROPELLER WITH CENTER BEARING SHAFT ASSEMBLY** (for Except Regular Cab 4WD) (See page [PR-32](#))
16. **INSTALL PROPELLER SHAFT ASSEMBLY FRONT** (for 4WD) (See page [PR-19](#))
17. **INSTALL EXHAUST PIPE ASSEMBLY FRONT** (for 2TR-FE) (See page [EX-2](#))
18. **INSTALL EXHAUST PIPE ASSEMBLY FRONT** (for 1GR-FE) (See page [EX-3](#))
19. **INSTALL EXHAUST FRONT PIPE ASSEMBLY NO. 2** (for 1GR-FE) (See page [EX-3](#))
20. **INSTALL FRONT WHEELS**
Torque: 113 N*m (1,152 kgf*cm, 83 ft.*lbf)
21. **PLACE FRONT WHEELS FACING STRAIGHT AHEAD**
22. **INSPECT STEERING WHEEL CENTER POINT**
23. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**
Torque: 3.9 N*m (40 kgf*cm, 35 in.*lbf)
(See page [IN-5](#))
24. **ADD POWER STEERING FLUID**
25. **BLEED POWER STEERING FLUID** (See page [PS-2](#))
26. **CHECK FOR POWER STEERING FLUID LEAKAGE**
27. **CHECK FOR EXHAUST GAS LEAKAGE**
28. **INSPECT AND ADJUST FRONT WHEEL ALIGNMENT**
(See page [SP-7](#))
29. **INSTALL ENGINE UNDER COVER SUB-ASSEMBLY NO. 1**
Torque: 30 N*m (306 kgf*cm, 22 ft.*lbf)