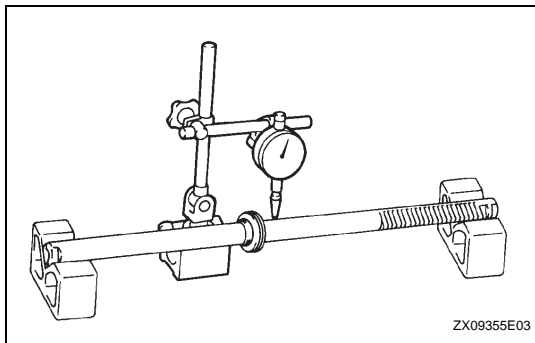


INSPECTION

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



2. INSPECT POWER STEERING RACK

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

Maximum runout:

0.3 mm (0.012 in.)

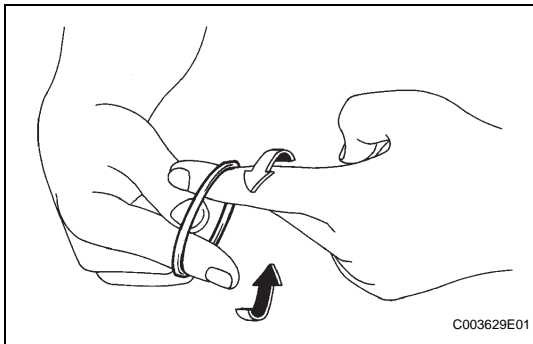
If necessary, replace the power steering link assembly.

- (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).



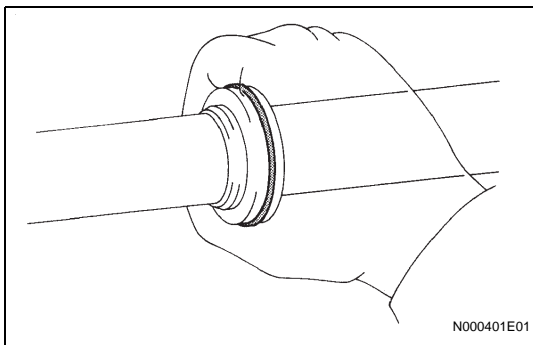
1. INSTALL RACK STEERING PISTON RING

- (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.

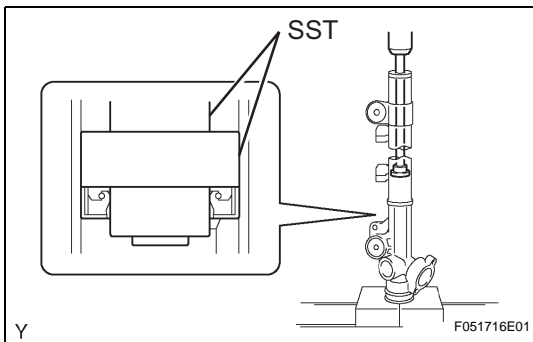
- (c) Coat a new piston ring with power steering fluid.



- (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.

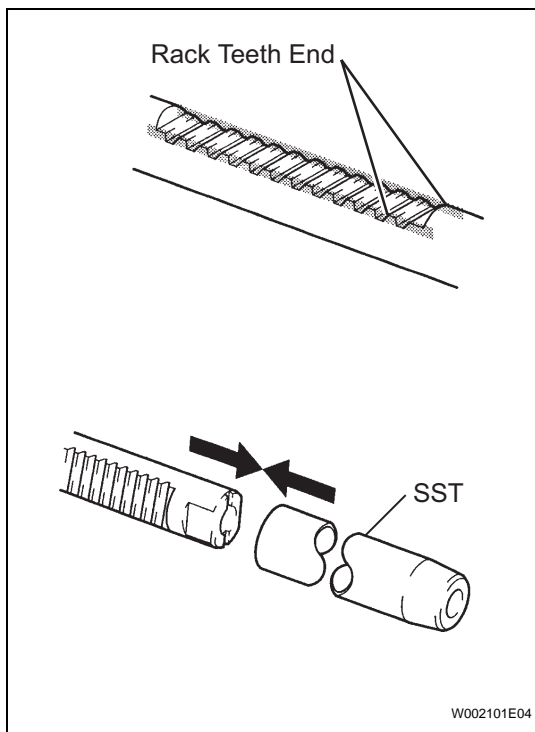


- (b) Using SST and a press, install the cylinder tube oil seal.

SST 09950-60010 (09951-00280, 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

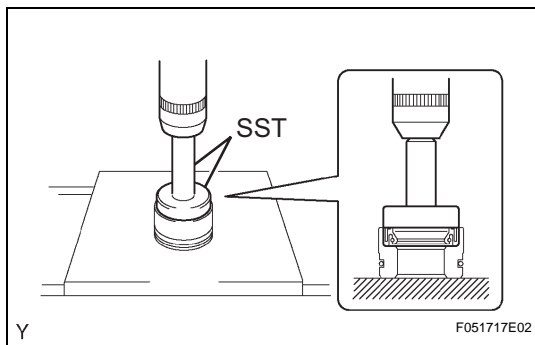
- (a) Install SST onto the power steering rack.

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

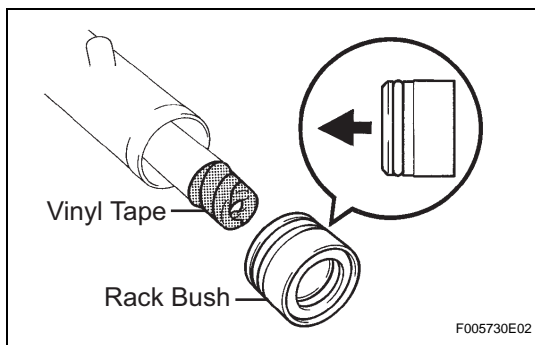
- (a) Using SST and a press, install a new rack bush oil seal onto the rack bush.

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

NOTICE:

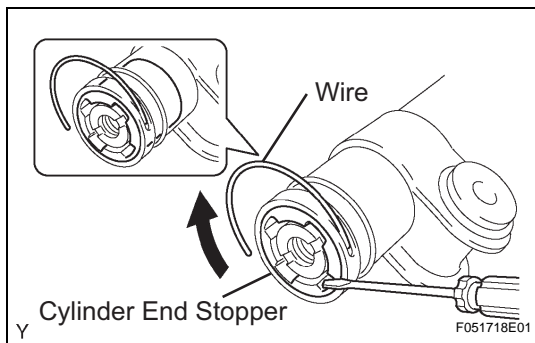
Make sure that the rack bush oil seal is installed facing the correct direction.

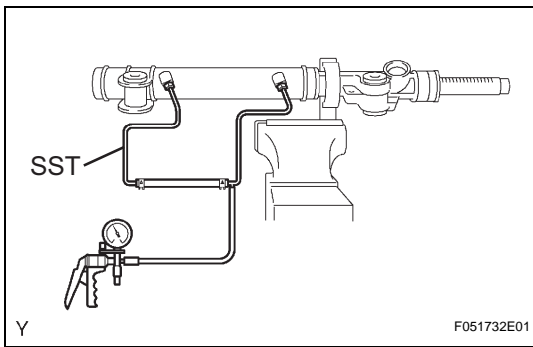
- (b) Coat a new O-ring with power steering fluid and install it onto the rack bush.
 (c) To prevent the rack bush oil seal lip from being damaged, wind vinyl tape around the rack end and apply power steering fluid.
 (d) Install the rack bush onto the power steering rack.



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°.



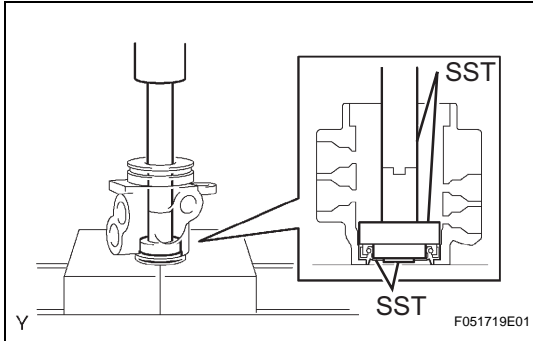
**6. AIR TIGHT TEST**

- (a) Install SST onto the rack housing.
- (b) Apply a vacuum of 53 kPa (400 mmHg, 15.75 in.Hg) for about 30 seconds.
- (c) 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

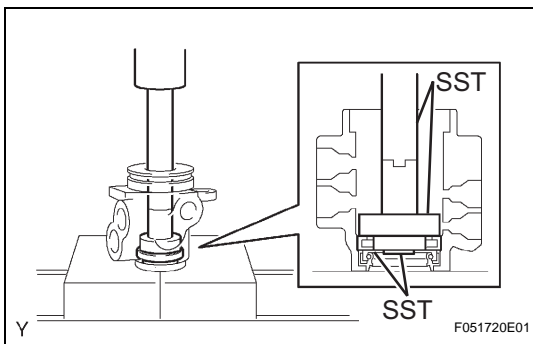
- (a) Coat the control valve upper bearing and a new control valve upper oil seal with power steering fluid.
- (b) Using SST and a press, install the control valve upper oil seal.

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



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

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

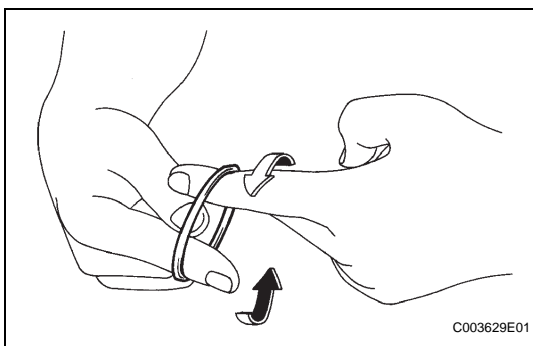
**8. INSTALL POWER STEERING CONTROL VALVE ASSEMBLY**

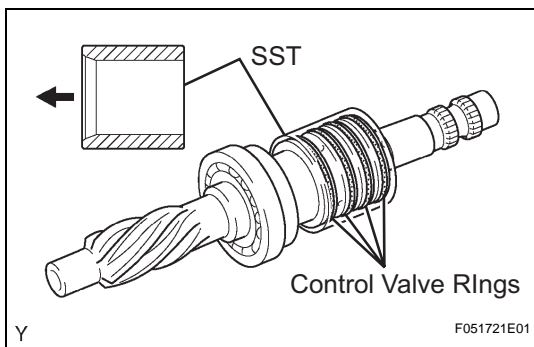
- (a) Expand 4 new control valve rings with your fingers.

NOTICE:

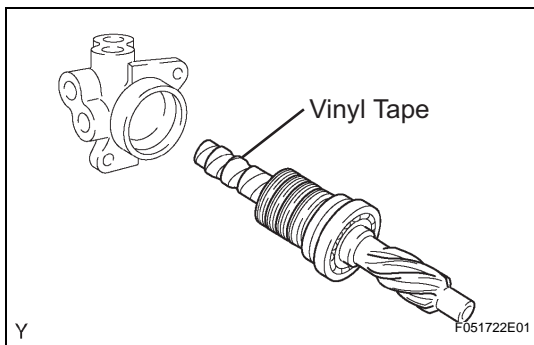
Be careful not to over expand the control valve rings.

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

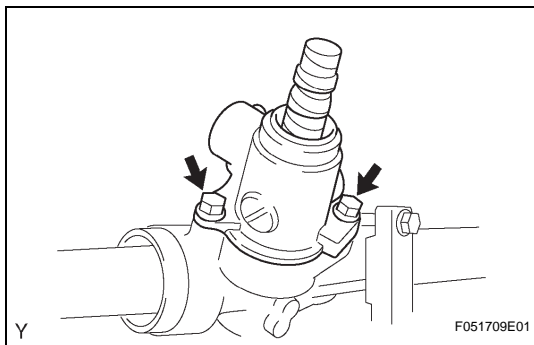




- (d) Carefully slide the tapered end of SST over the control valve rings until they fit to the control valve.
SST 09631-20081
NOTICE:
Be careful not to damage the control valve rings.



- (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.

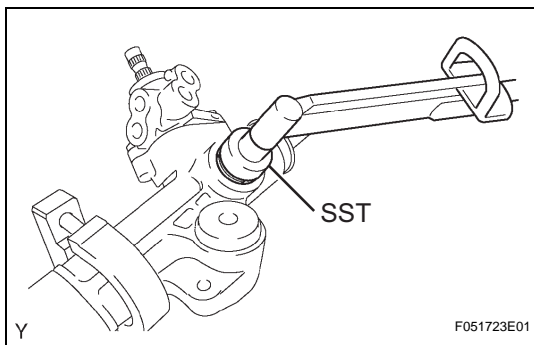
10. ADJUST TOTAL PRELOAD

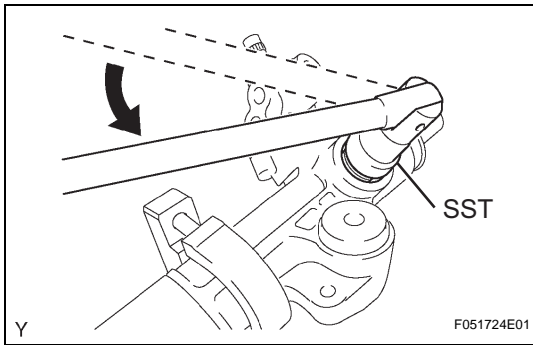
- (a) To prevent the steering rack teeth from damaging the oil seal lip, provisionally install the RH and LH steering rack end.

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

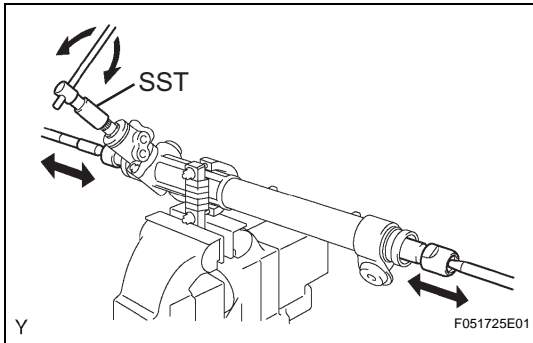
SST 09631-10021

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





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

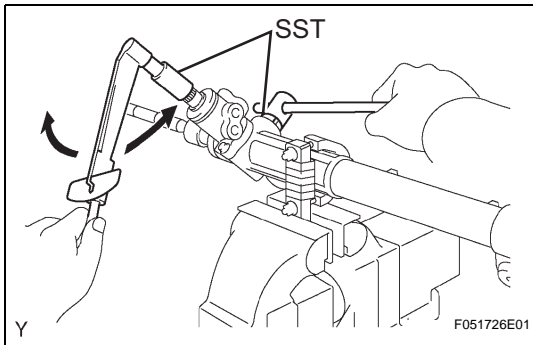


- (d) Using SST, turn the control valve to the right and left once or twice.

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:

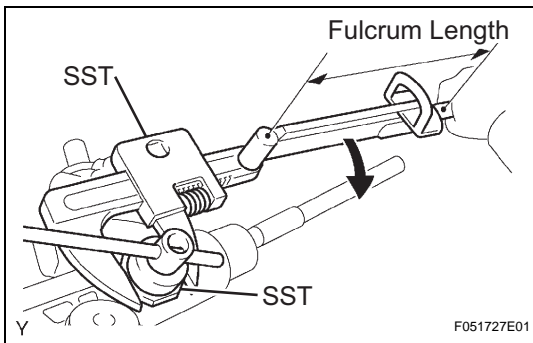
Use a torque wrench with a fulcrum length of 345 mm (13.58 in.).

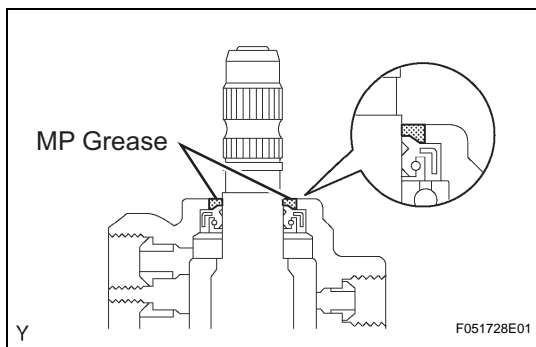
- (j) Recheck the total preload.

Preload (turning):

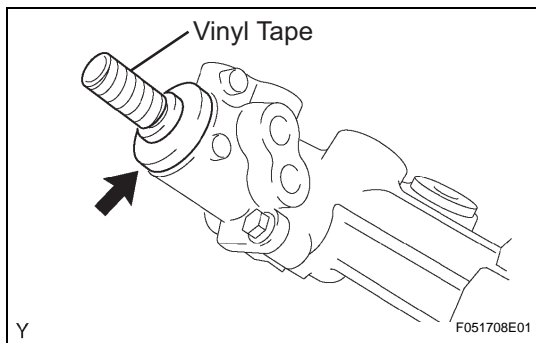
0.9 to 1.5 N*m (9.2 to 15.3 kgf*cm, 8.0 to 13.3 in.*lbf)

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

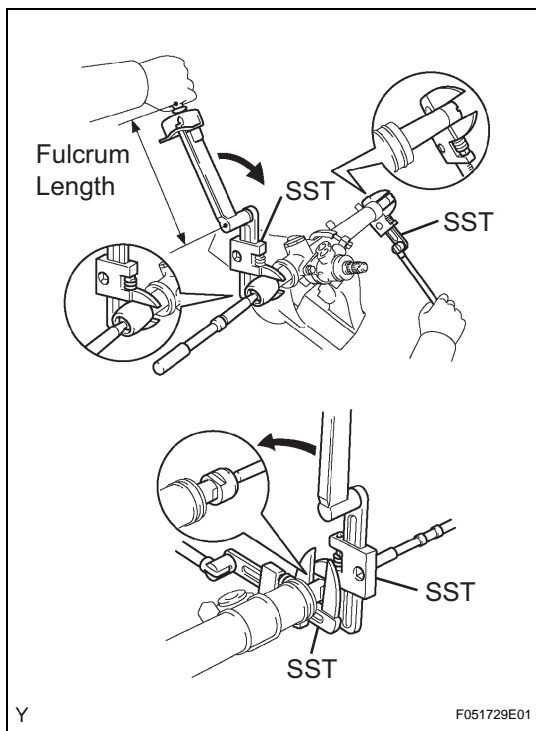




- (l) Apply MP grease to the control valve as shown in the illustration.



- (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

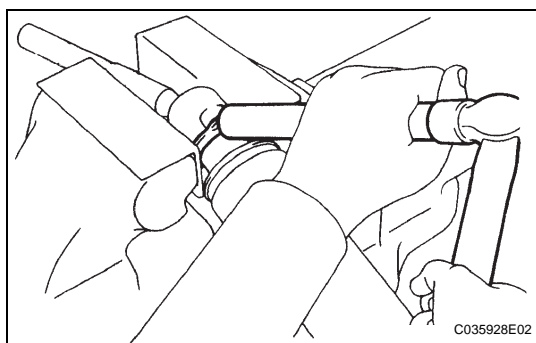
61 N*m (620 kgf*cm, 45 ft.*lbf)

NOTICE:

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

HINT:

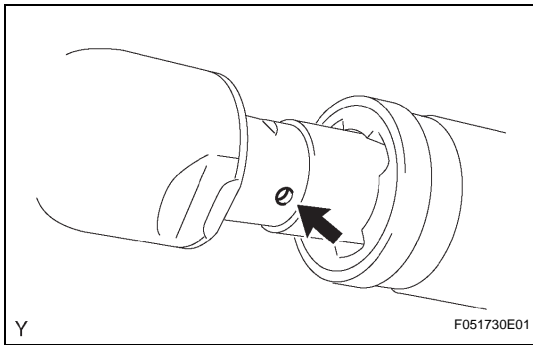
- Using SST, hold the power steering rack and install the rack end sub-assembly.
- Use a torque wrench with a fulcrum length of 345 mm (13.58 in.).



- (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.

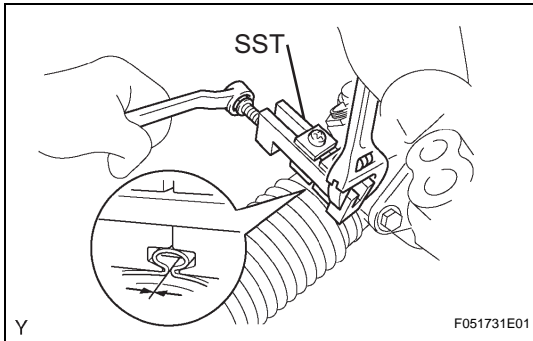
SST 09521-24010

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)

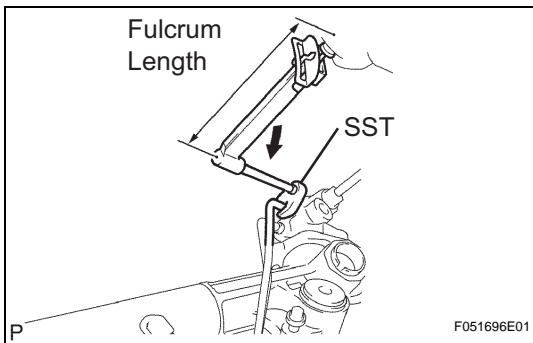
for use with SST

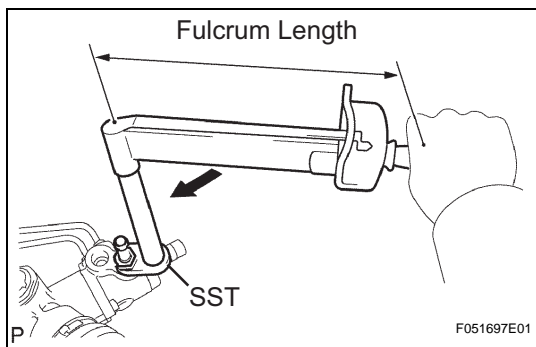
14 N*m (141 kgf*cm, 10 ft.*lbf)

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

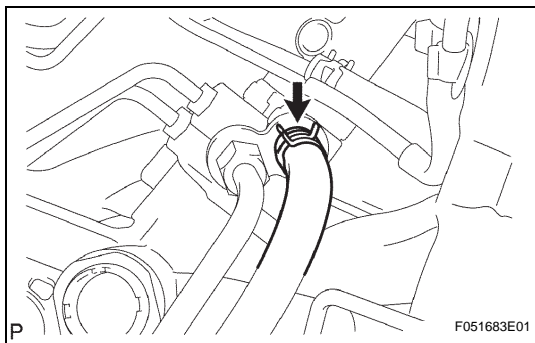
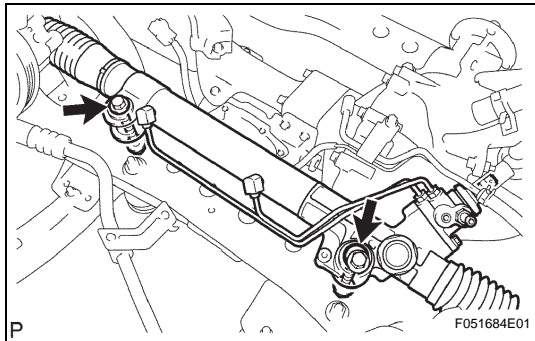
1. INSTALL POWER STEERING LINK

- (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

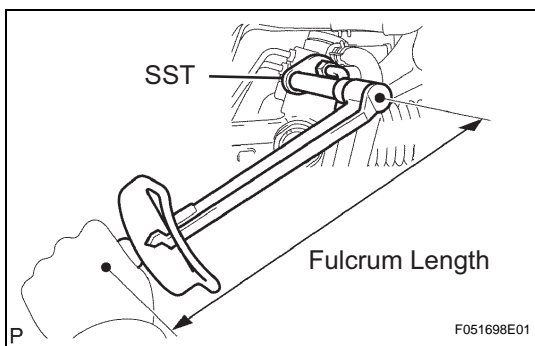
24 N*m (245 kgf*cm, 18 ft.*lbf)

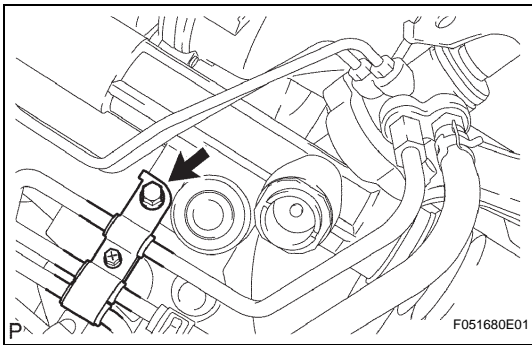
for use with SST

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

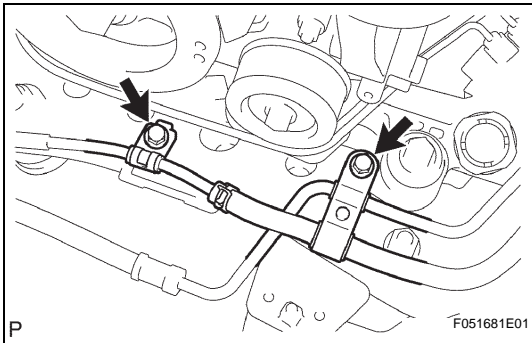
HINT:

- 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

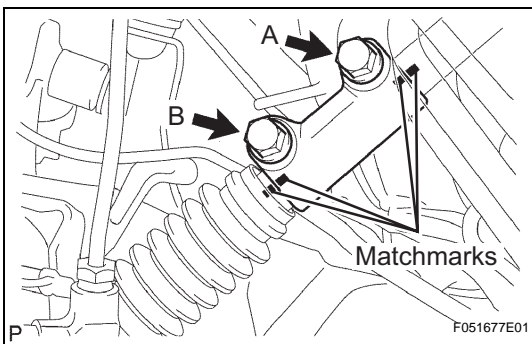
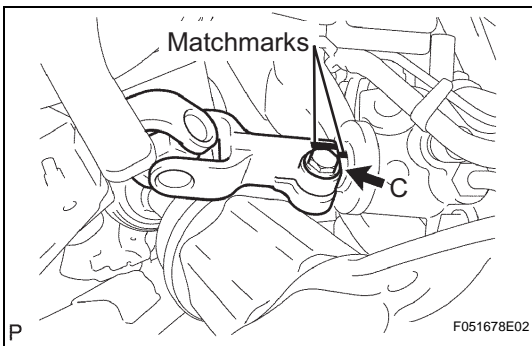
- (a) Install the tie rod end onto the steering knuckle arm.
- (b) Install the nut.
Torque: 91 N*m (928 kgf*cm, 67 ft.*lbf)
- (c) Install a new cotter pin.

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)