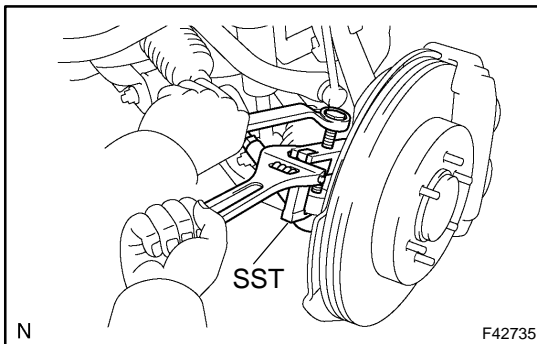


## OVERHAUL

1. **PRECAUTION** (See page 60-1 )
2. **DISCONNECT BATTERY NEGATIVE TERMINAL**
3. **PLACE FRONT WHEELS FACING STRAIGHT AHEAD** (See page 50-8 )
4. **REMOVE HORN BUTTON ASSY** (See page 50-8 )
5. **REMOVE STEERING WHEEL ASSY** (See page 50-8 )  
SST 09950-50013 (09951-05010, 09952-05010, 09953-05020, 09954-05021)
6. **REMOVE STEERING COLUMN COVER LWR** (See page 50-8 )
7. **REMOVE TURN SIGNAL SWITCH ASSY** (See page 50-8 )
8. **REMOVE SPIRAL CABLE SUB-ASSY** (See page 50-8 )
9. **REMOVE FRONT WHEEL**
10. **REMOVE ENGINE UNDER COVER ASSY REAR**  
(a) Remove the 6 bolts and engine under cover assy rear.
11. **REMOVE ENGINE UNDER COVER SUB-ASSY NO.1**  
(a) Remove the 4 bolts and engine under cover sub-assy No.1.
12. **REMOVE STABILIZER BAR FRONT** (See page 26-27 )



### 13. SEPARATE TIE ROD END SUB-ASSY LH

- (a) Remove the cotter pin and nut.
- (b) Using SST, separate the tie rod end from the steering knuckle arm.  
SST 09628-6201 1

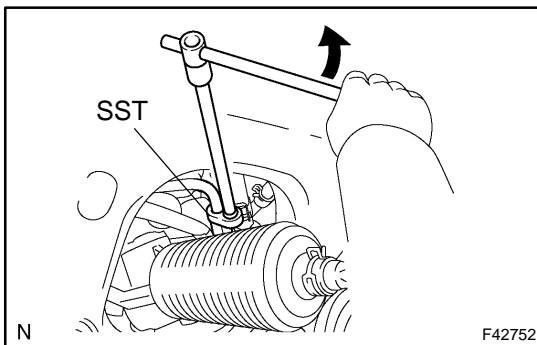
### 14. SEPARATE TIE ROD END SUB-ASSY RH

HINT:

Separate the RH side by the same procedures with the LH side.

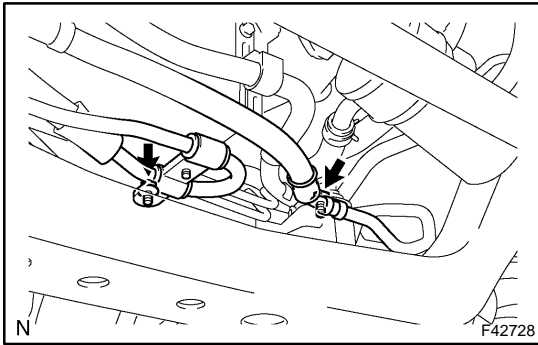
SST 09628-6201 1

### 15. REMOVE STEERING INTERMEDIATE SHAFT SUB-ASSY NO.2 (See page 50-8 )

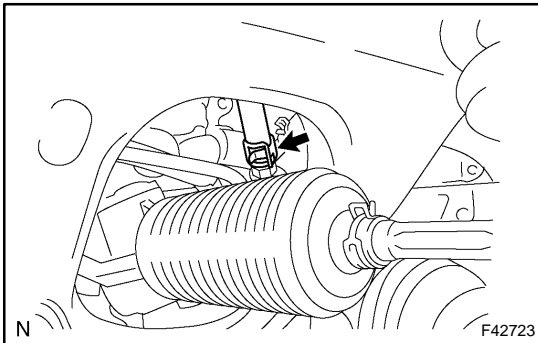


### 16. DISCONNECT PRESSURE FEED TUBE ASSY

- (a) Using SST, Loosen the flare nut and disconnect the pressure feed tube.  
SST 09023-12700

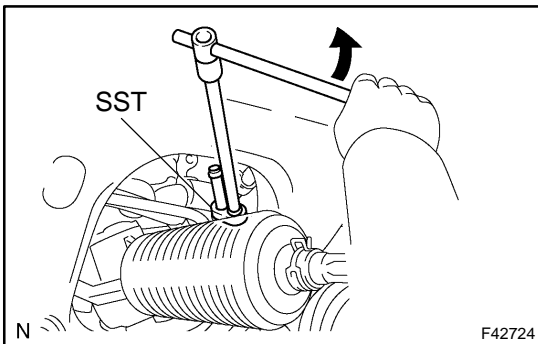


- (b) Remove the 2 bolts and separate the pressure feed tube assy from frame sub-assy.

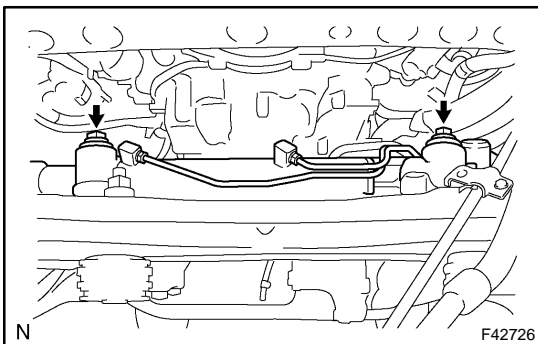


#### 17. DISCONNECT STEERING GEAR OUTLET RETURN TUBE

- (a) Remove the clip and disconnect the return hose.



- (b) Using SST, remove the outlet return tube.  
SST 09023-12700



#### 18. REMOVE POWER STEERING LINK ASSY

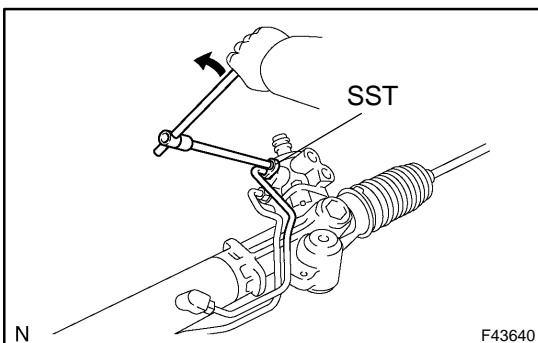
- (a) Remove the 2 bolts, 2 nuts and power steering link assy.

##### NOTICE:

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

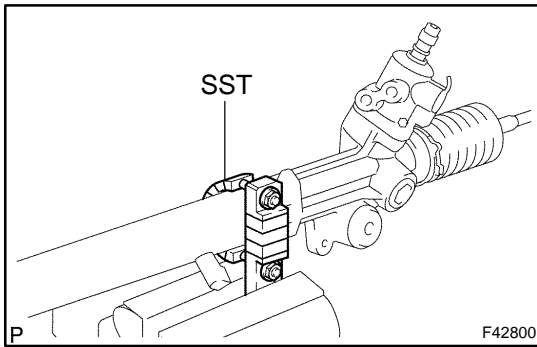
##### HINT:

After the 2 bolts, raise the bolt from the frame, and slide the gear assy and the bolt as a unit to the position where the bolt can be pulled out, and then remove the bolt.

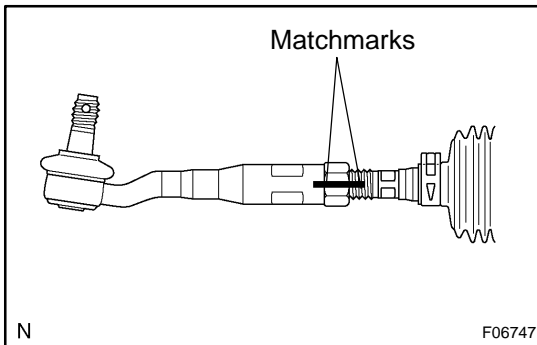


#### 19. FIX POWER STEERING LINK ASSY

- (a) Using SST, remove the 2 turn pressure tubes.  
SST 09023-38200



- (b) Using the SST, fix the gear assembly, between aluminum plates in a vise, as shown in the illustration.  
SST 09612-00012



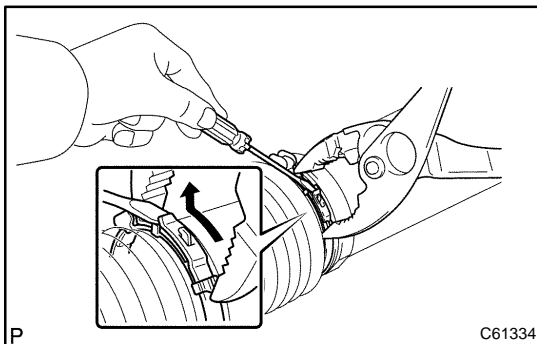
## 20. REMOVE TIE ROD END SUB-ASSY LH

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

## 21. REMOVE TIE ROD END SUB-ASSY RH

HINT:

Remove the RH side by the same procedures with the LH side.



## 22. REMOVE STEERING RACK BOOT CLAMP LH

- (a) Using pliers and a screwdriver, loosen the clamp.

**NOTICE:**

**Be careful not to damage the boot.**

HINT:

Mark the RH and LH boots.

## 23. REMOVE STEERING RACK BOOT CLAMP RH

HINT:

Remove the RH side by the same procedures with the LH side.

## 24. REMOVE STEERING RACK BOOT CLIP LH

- (a) Using pliers, remove the clip.

**NOTICE:**

**Be careful not to damage the boot.**

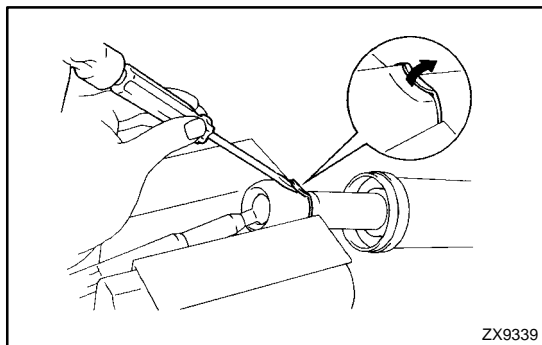
## 25. REMOVE STEERING RACK BOOT CLIP RH

HINT:

Remove the RH side by the same procedures with the LH side.

## 26. REMOVE STEERING RACK BOOT LH

## 27. REMOVE STEERING RACK BOOT RH

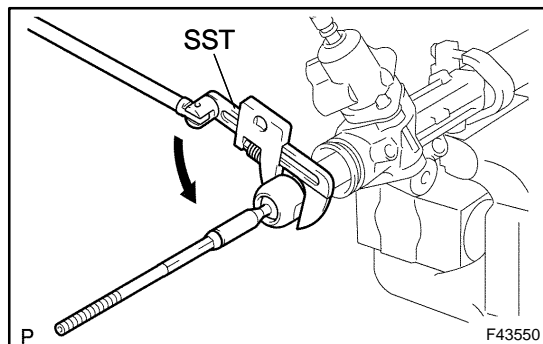


## 28. REMOVE STEERING RACK END SUB-ASSY

- (a) Using a screwdriver and a hammer, stake back the washer.

### NOTICE:

Avoid any impact to the steering rack.



- (b) Using a spanner to hold the steering rack steady, and using SST, remove the rack end.

SST 09922-10010

- (c) Remove the crawl washer.

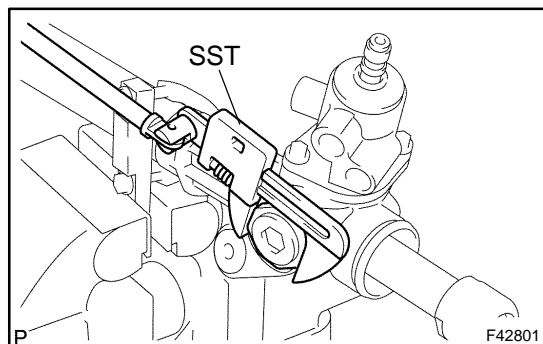
### NOTICE:

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

- (d) Employ the same manner described above to the other side.

### HINT:

Mark the RH and LH rack ends.



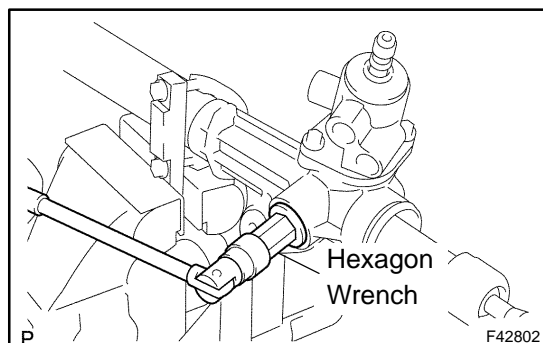
## 29. REMOVE RACK GUIDE

- (a) Using SST, remove the lock nut.

SST 09922-10010

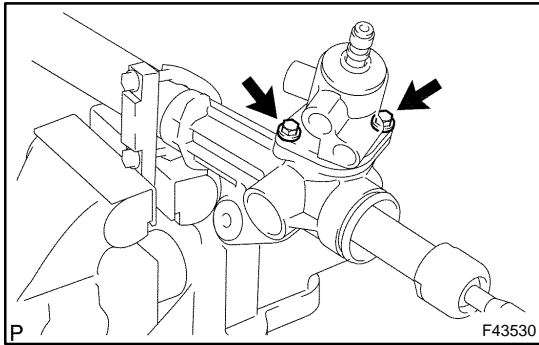
### NOTICE:

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

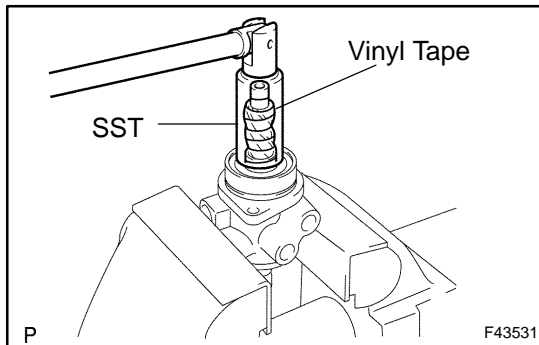


- (b) Using a hexagon wrench (24 mm), remove the rack guide spring cap.

- (c) Remove the spring and rack guide.

**30. REMOVE POWER STEERING CONTROL VALVE**

- (a) Remove the 2 bolts.
- (b) Pull out the control valve assembly with the control valve housing.
- (c) Remove the O-ring.
- (d) Carefully mount the control valve assembly in a soft jaw vise.

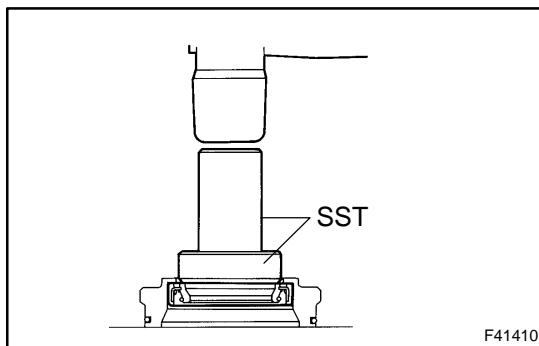


- (e) Using SST, remove the bearing guide nut.  
SST 09631-20060

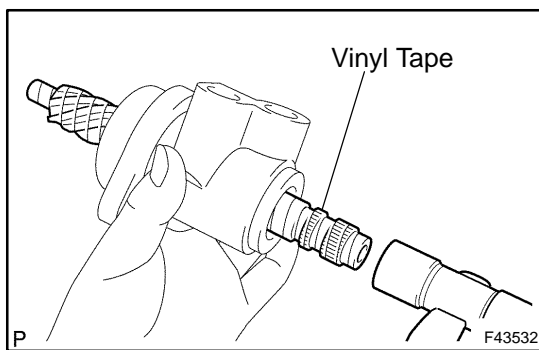
**NOTICE:**

**Be careful not to damage the oil seal lip.**

- (f) Remove the O-ring.
- (g) Remove the dust cover.



- (h) Using SST and a hammer, drive out the oil seal from the bearing guide nut.  
SST 09950-60010 (09951-00300), 09950-70010 (09951-07100)
- (i) Wind vinyl tape to the control valve shaft.



- (j) Using a plastic hammer, tap out the valve assembly with the bearing guide nut from the control valve housing.

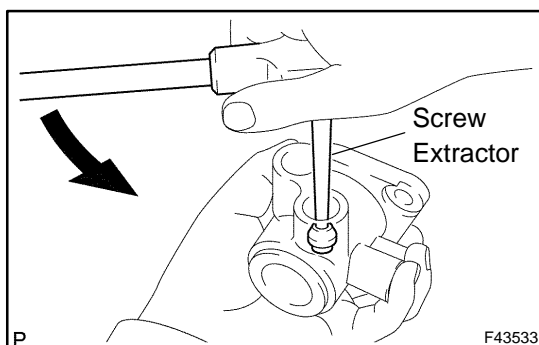
**NOTICE:**

**Be careful not to damage the oil seal lip.**

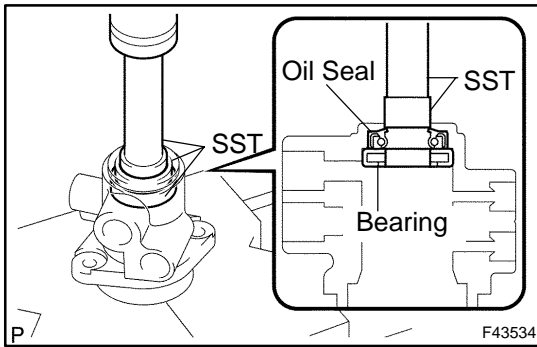
- (k) Using a screwdriver, remove the 4 teflon rings from the control valve assembly.

**NOTICE:**

**Be careful not to damage the grooves for the ring.**

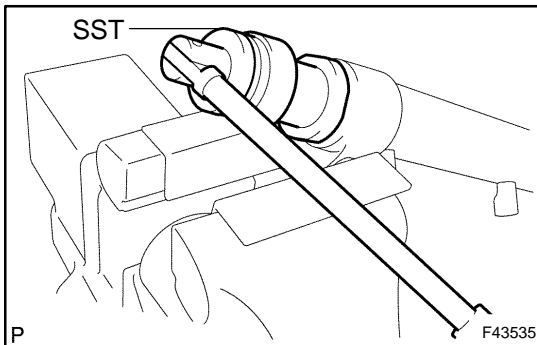


- (l) Using a screw extractor, remove the union seat from the control valve housing.



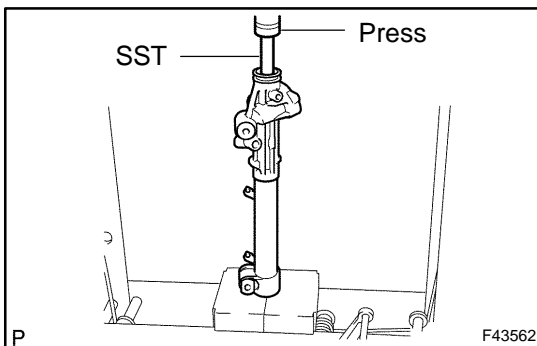
### 31. REMOVE POWER STEERING CONTROL VALVE UPPER OIL SEAL

- (a) Using SST, press out the bearing and oil seal from the control valve housing.  
SST 09950-70010 (09951-07150), 09950-60010 (09951-00250)



### 32. REMOVE CYLINDER END STOPPER

- (a) Using SST, remove the stopper.  
SST 09631-20120  
(b) Remove the O-ring from the stopper.



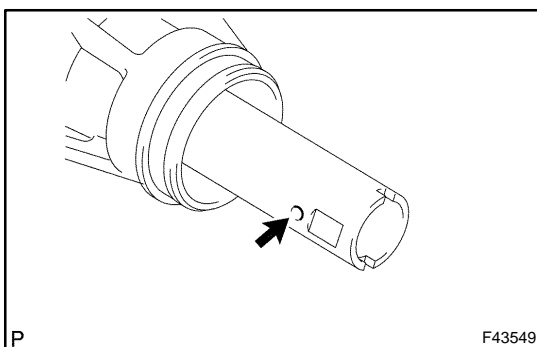
### 33. REMOVE STEERING RACK AND OIL SEAL

- (a) Using SST, press out the steering rack and oil seal.  
SST 09950-70010 (09951-07200)

#### NOTICE:

**Take care not to drop the steering rack.**

- (b) Remove the oil seal from the steering rack.

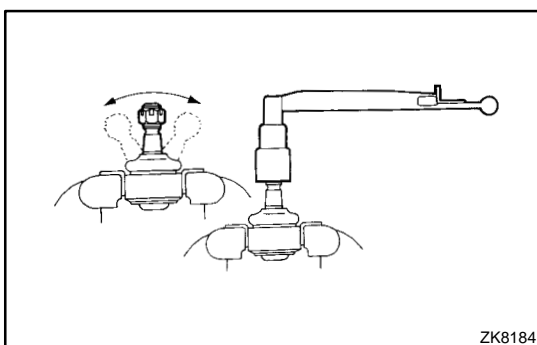


### 34. INSPECT POWER STEERING RACK

- (a) Insert a wire into the vent hole of the steering rack by 30 mm (1.18 in.), and ensure that the vent hole is not clogged with grease.

#### HINT:

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



### 35. INSPECT TIE ROD END SUB-ASSY LH

- (a) Flip the ball joint stud back and forth 5 times as shown in the figure, before installing the nut.  
(b) Using a torque wrench, turn the nut continuously at a rate of 2 - 4 seconds per 1 turn and take the torque reading on the 5th turn.

#### Torque(Turning):

**0.29 - 1.96 N·m (2.9 - 20.0 kgf·cm, 2.57 - 17.35 in·lbf)**

**36. INSPECT TIE ROD END SUB-ASSY RH****HINT:**

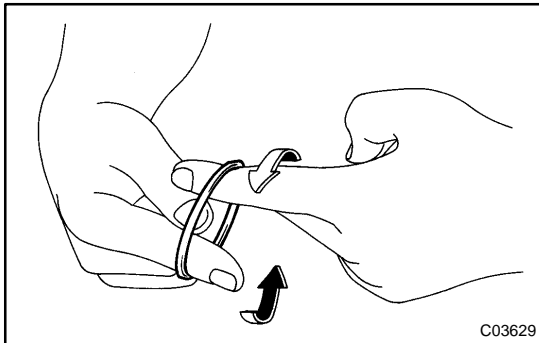
Inspect the RH side by the same procedures with LH side.

**37. REMOVE STEERING RACK PISTON RING**

- (a) Using a screwdriver, remove the teflon ring and O-ring from the steering rack.

**NOTICE:**

Be careful not to damage the groove for the ring.

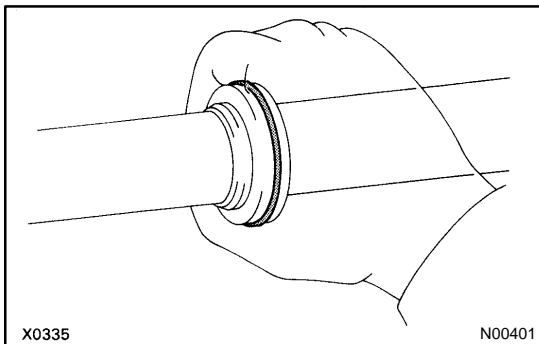
**38. INSTALL STEERING RACK PISTON RING**

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

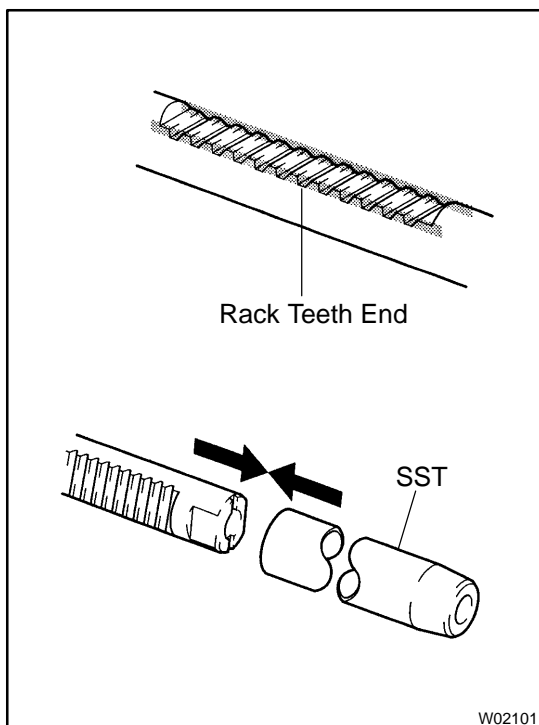
**NOTICE:**

Be careful no to overexpand the teflon ring.

- (c) Coat the teflon ring with power steering fluid.



- (d) Install the teflon ring to the steering rack, and settle it down with your fingers.

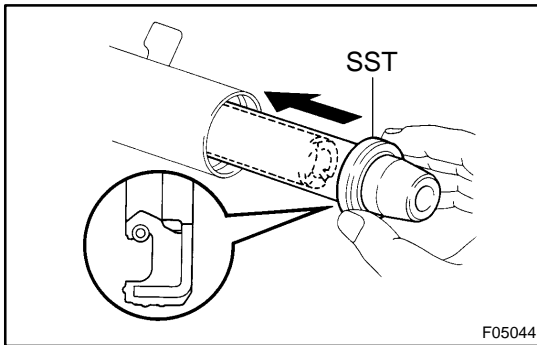
**39. INSTALL POWER STEERING RACK**

- (a) Coat SST with power steering fluid.  
 (b) Install SST to the rack.  
 SST 09631-00350

**HINT:**

Is necessary, scrape the burrs off the rack teeth end and bur-nish.

- (c) Install the rack into the rack housing.

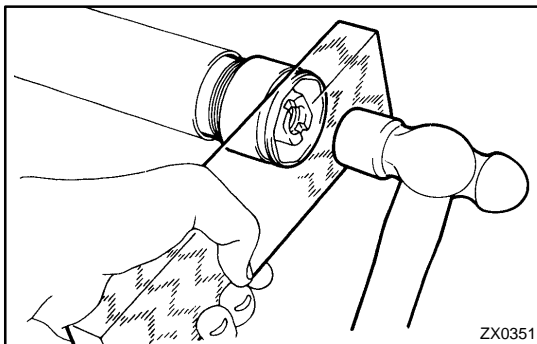


- (d) Coat SST with power steering fluid.  
SST 09631-00350
- (e) Install SST to the steering rack opposite end.
- (f) Coat a new oil seal lip with power steering fluid, and install the oil seal by pushing it without tilting.

**NOTICE:**

- Make sure to install the oil seal facing in the correct direction.
- Be careful not to damage the oil seal lip.

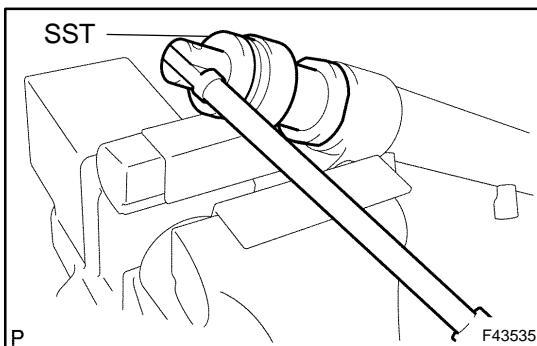
- (g) Remove the SST.  
SST 09631-00350

**40. INSTALL CYLINDER END STOPPER**

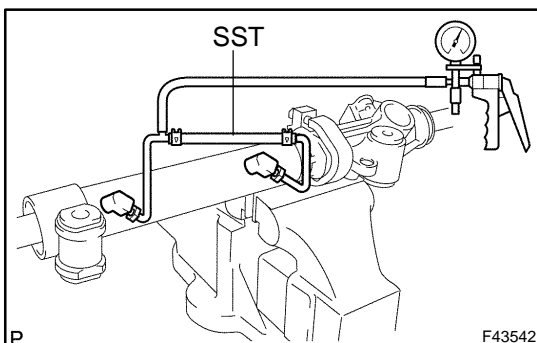
- (a) Coat a new O-ring with power steering fluid, and install it to the stopper.
- (b) Using a wooden block and a hammer, drive in the stopper until it is tightly installed.

**NOTICE:**

**Be careful no to damage the O-ring.**

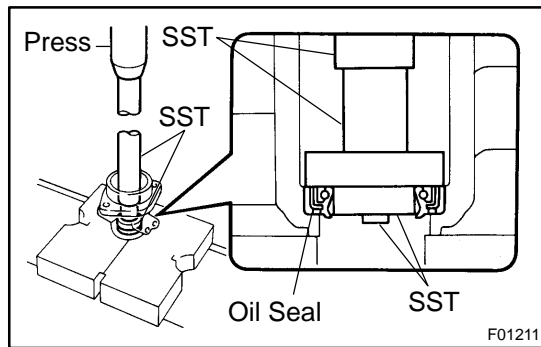


- (c) Using SST, torque the stopper.  
SST 09631-20120  
**Torque: 145 N·m (1,479 kgf·cm, 107 ft·lbf)**

**41. AIR TIGHTNESS TEST**

- (a) Install SST to the unions of the rack housing.  
SST 09631-12071 (09633-00010)
  - (b) Apply 53.33 kPa (400 mmHg, 15.75 in Hg) of vacuum for about 30 seconds.
  - (c) Check that there is no change in the vacuum.
- If there is change in the vacuum, check the installation of the oil seals.



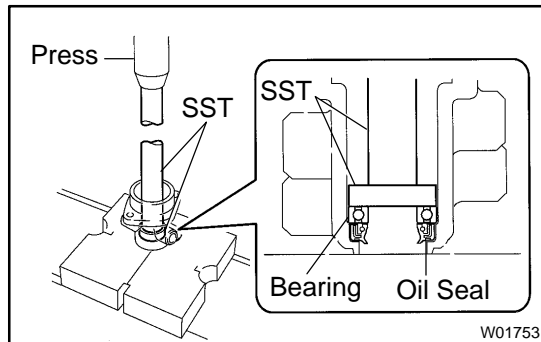


#### 42. INSTALL POWER STEERING CONTROL VALVE UPPER OIL SEAL

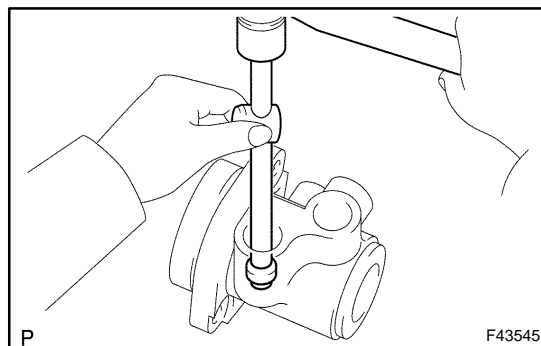
- (a) Coat a new oil seal lip with power steering fluid.
- (b) Using SST, press in the oil seal.  
SST 09950-60010 (09951-00180, 09951-00320, 09952-06010), 09950-70010 (09951-07150)

#### NOTICE:

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



- (c) Coat a new bearing with molybdenum disulfide lithium base grease.
- (d) Using SST, press in the bearing.  
SST 09950-60010 (09951-00180, 09951-00340, 09952-06010), 09950-70010 (09951-07150)

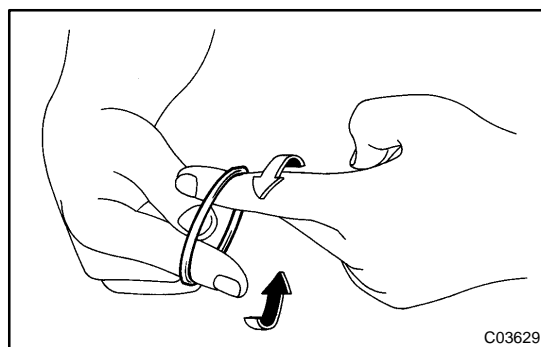


#### 43. INSTALL POWER STEERING CONTROL VALVE

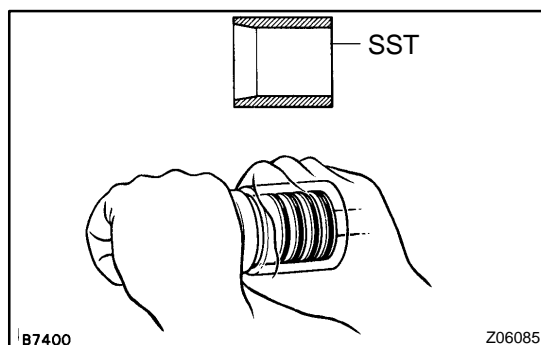
- (a) Using a plastic hammer and a sliding handle, lightly tap in a new union seat.

#### NOTICE:

**Before installing the union seat, remove dust sticking to the control valve housing.**



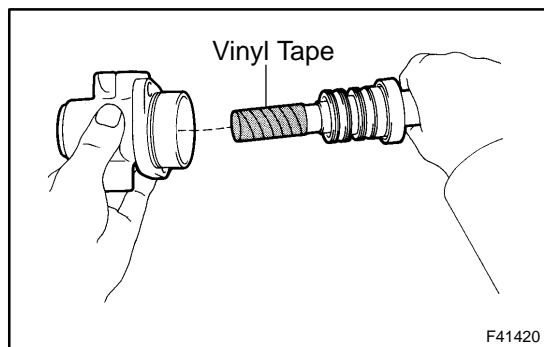
- (b) Coat the rings with power steering fluid.
- (c) Expand 4 new rings with your fingers.



- (d) Install the rings to the control valve assembly, and settle them down with your fingers.
- (e) Carefully slide the tapered end of SST over the rings until the ring fits to the steering rack.  
SST 09631-20081

#### NOTICE:

**Be careful not to overexpand the ring.**

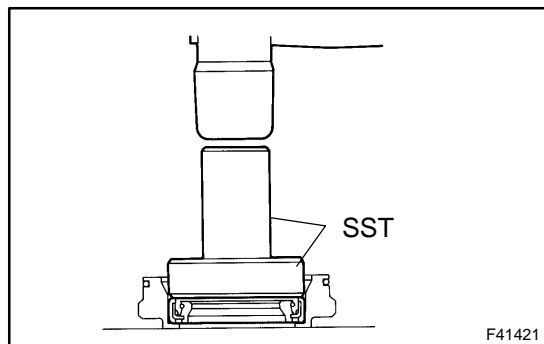


- (f) Coat the teflon rings with power steering fluid.
- (g) To prevent oil seal lip damage, wind vinyl tape on the serrated port of the control valve shaft.
- (h) Push the valve assembly into the control valve housing.

**NOTICE:**

**Be careful not to damage the teflon rings and oil seal lip.**

- (i) Coat a new O-ring with power steering fluid, and install it to the bearing guide nut.
- (j) Coat a new oil seal lip with power steering fluid.



- (k) Using SST and a hammer, drive in the oil seal.  
SST 09950-60010 (09951-00390), 09950-70010 (09951-07100)

**NOTICE:**

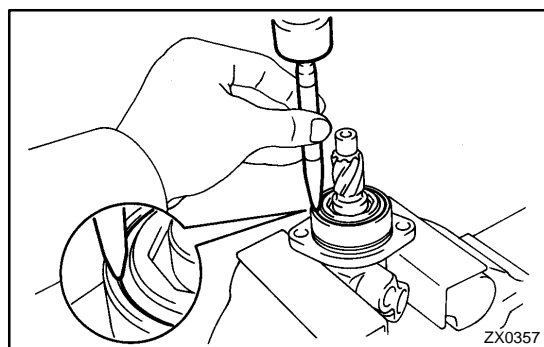
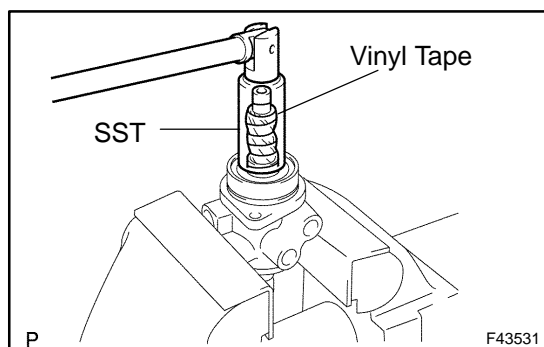
**Make sure to install the oil seal facing in the correct direction.**

- (l) Lightly mount the control valve assembly between aluminum plates in a vise.
- (m) To prevent oil seal lip damage, wind vinyl tape on the pinion part of the control valve shaft.
- (n) Using SST, torque the guide nut.  
SST 09631-20060

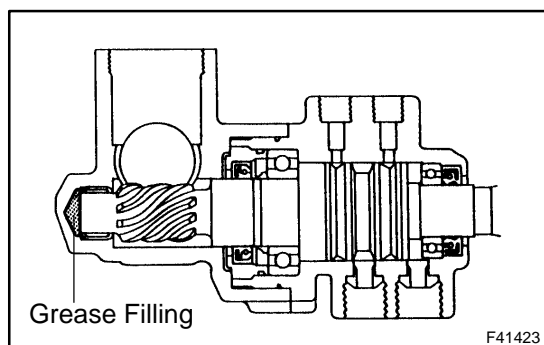
**Torque: 25 N·m (250 kgf·cm, 18 ft·lbf)**

**NOTICE:**

**Be careful not to damage the oil seal lip.**



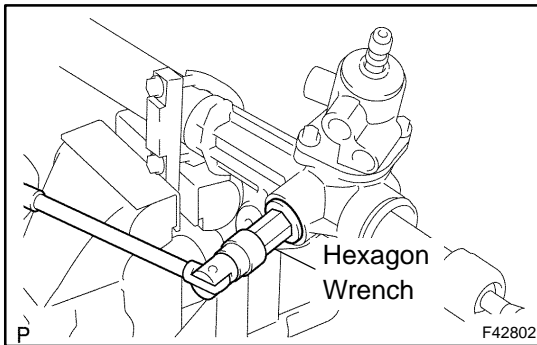
- (o) Using a punch and a hammer, stake the nut.
- (p) Coat a new O-ring with power steering fluid, and install it to the valve housing.



- (q) Apply molybdenum disulfide base grease for the needle roller bearing inside the rack housing in the illustrated portion.

**Volume of grease applied: Approximately 2 g (0.07 oz)**

- (r) Install the control valve assembly with the 2 bolts.  
**Torque: 18 N·m (184 kgf·cm, 13 ft·lbf)**

**44. INSTALL RACK GUIDE**

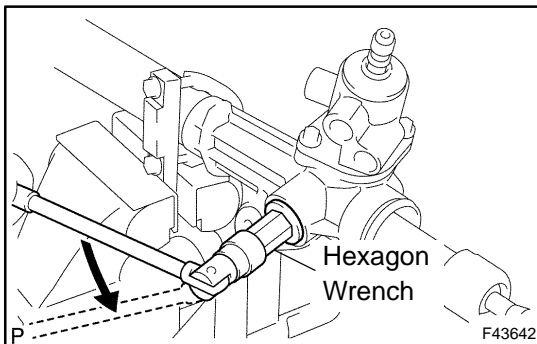
- (a) Install the rack guide and spring.
- (b) Apply sealant to 2 or 3 threads of the rack guide spring cap.

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

- (c) Using a hexagon wrench (24 mm), temporarily install the spring cap.

**45. ADJUST TOTAL PRELOAD**

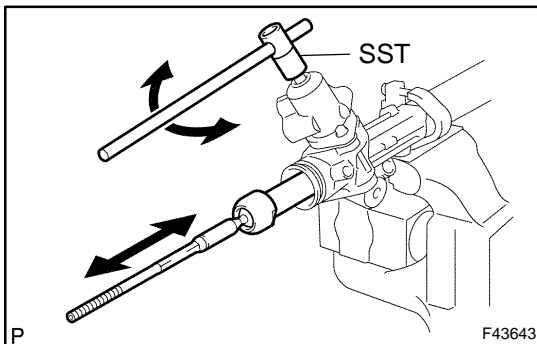
- (a) To prevent the steering rack teeth from damaging the oil seal lip, temporarily install the RH and LH rack ends.



- (b) Using a hexagon wrench (24 mm), tighten the rack guide spring cap.

**Torque: 25 N·m (250 kgf·cm, 18 ft·lbf)**

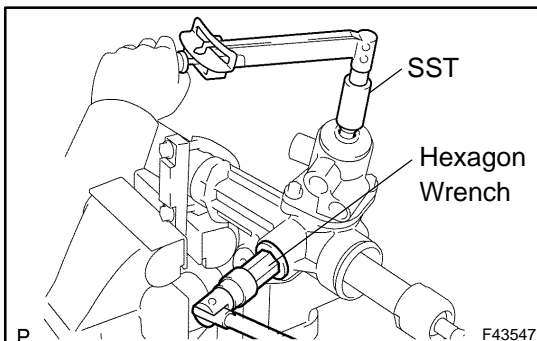
- (c) Return the cap 30°.



- (d) Using SST, turn the control valve shaft right and left 1 or 2 times.

**SST 09616-0001 1**

- (e) Using a hexagon wrench (24 mm), loosen the cap until the rack guide spring is not functioning.



- (f) Using SST, a torque wrench and a hexagon wrench (24 mm), tighten the cap until the preload is within specification.

**SST 09616-0001 1**

**Preload (turning):**

**0.7 - 1.5 N·m (7.1 - 15.1 kgf·cm, 6.2 - 13.3 in·lbf)**

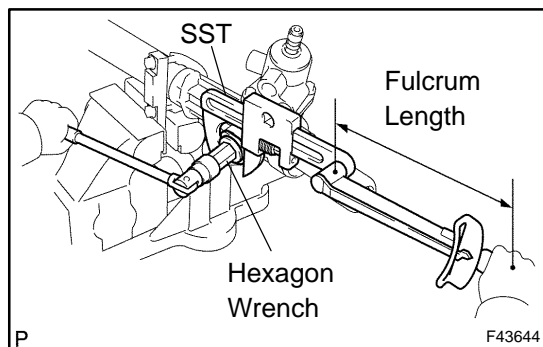
**NOTICE:**

**Adjustment should be done in the tightening direction of the spring cap.**

- (g) Apply sealant to 2 or 3 threads of the lock nut.

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

- (h) Temporarily install the lock nut.



- (i) Using a hexagon wrench (24 mm), holding the rack guide spring cap rotating, and using SST, torque the nut.

SST 09922-10010

**Torque: 65 N·m (660 kgf·cm, 48 ft·lbf) for use with SST**

**NOTICE:**

**Use SST 09922-10010 in the direction shown in the illustration.**

**HINT:**

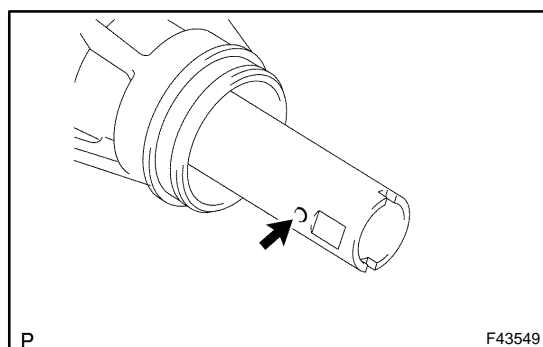
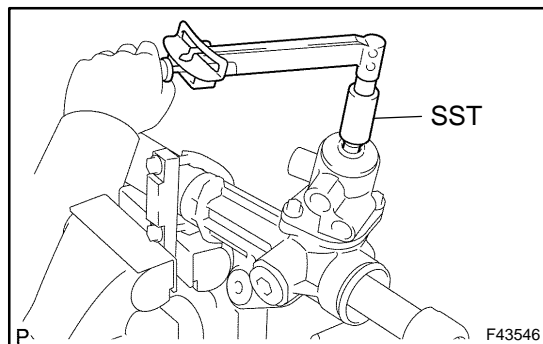
Use a torque wrench with a fulcrum length of 345 mm (13.58 in.).

- (j) Recheck the total preload.

**Preload (turning):**

**0.7 - 1.5 N·m (7.1 - 15.1 kgf·cm, 6.2 - 13.3 in·lbf)**

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



**46. INSPECT POWER STEERING RACK**

- (a) Insert a wire into the vent hole of the steering rack by 30 mm (1.18 in.), and ensure that the vent hole is not clogged with grease.

**HINT:**

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

**47. INSTALL STEERING RACK END SUB-ASSY**

- (a) Install a new claw washer, and temporarily tighten the rack end.

**HINT:**

Align the claws of the washer with the steering rack grooves.

- (b) Using SST to hold the steering rack steady, and using another SST, torque the rack end LH.

SST 09922-10010

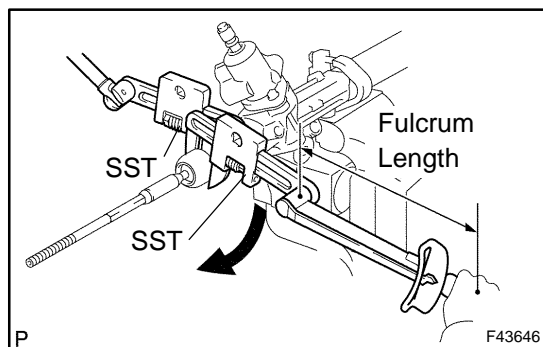
**Torque: 98 N·m (1,000 kgf·cm, 72 ft·lbf) for use with SST**

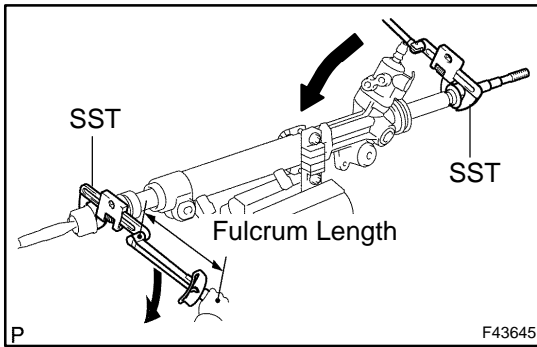
**NOTICE:**

**Use SST 09922-10010 in the direction shown in the illustration.**

**HINT:**

Use a torque wrench with a fulcrum length of 380 mm (14.9 in.).





- (c) Using SST to hold the rack end LH steady, and using another SST, torque the rack end RH.  
 SST 09922-10010  
**Torque: 98 N·m (1,000 kgf·cm, 72 ft·lbf) for use with SST**

**NOTICE:**

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

**HINT:**

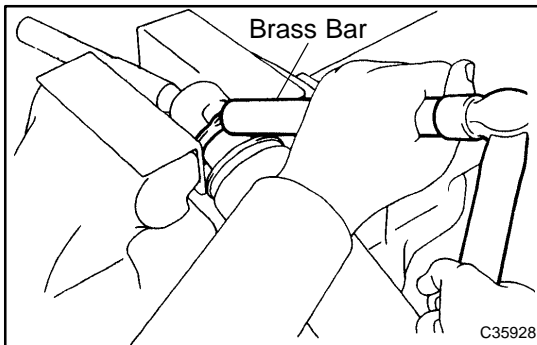
Use a torque wrench with a fulcrum length of 380 mm (14.9 in.).

- (d) Using a brass bar and a hammer, stake the washer.

**NOTICE:**

**Avoid any impact to the rack.**

- (e) Employ the same manner described above to the other side.

**48. INSTALL STEERING RACK BOOT LH**

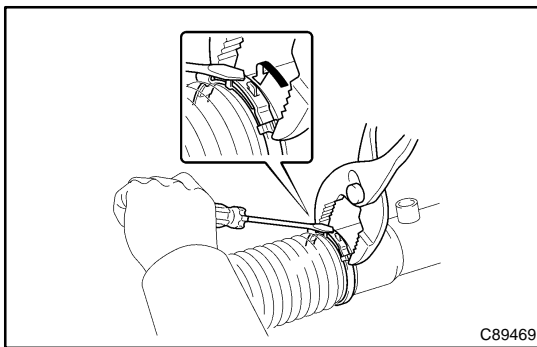
- (a) Install the boot.

**NOTICE:**

**Be careful not to damage or twist the boot.**

**49. INSTALL STEERING RACK BOOT RH****HINT:**

Install the RH side by the same procedures with the LH side.

**50. INSTALL STEERING RACK BOOT CLAMP LH**

- (a) Using pliers and a screwdriver, install the clamp.

**51. INSTALL STEERING RACK BOOT CLAMP RH****HINT:**

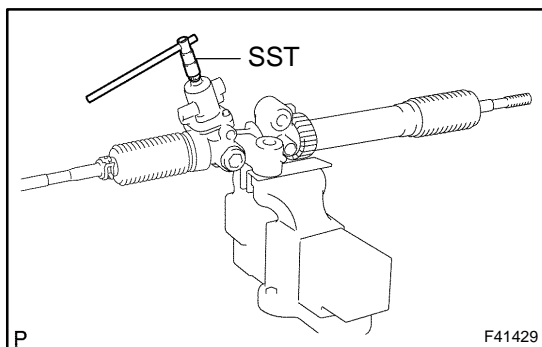
Install the RH side by the same procedures with the LH side.

**52. INSTALL STEERING RACK BOOT CLIP LH**

- (a) Using pliers, install the clip.

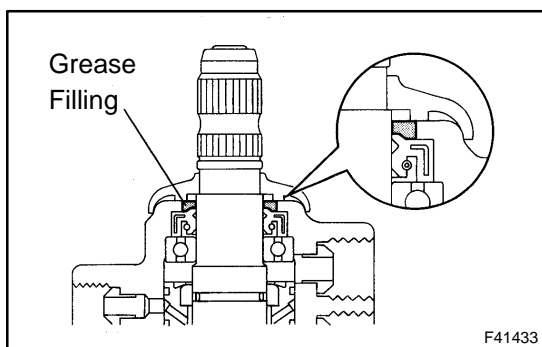
**53. INSTALL STEERING RACK BOOT CLIP RH****HINT:**

Install the RH side by the same procedures with the LH side.

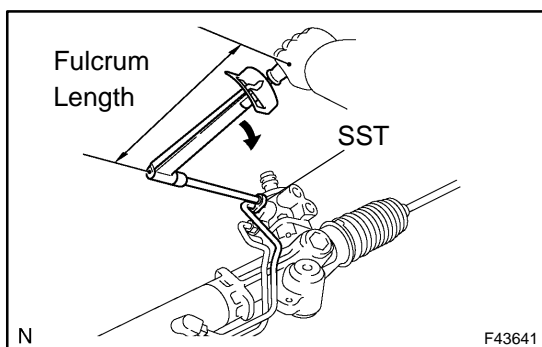
**54. INSPECT POWER STEERING GEAR ASSY**

- (a) Using SST, check that the rack boot stretches smoothly when the control valve shaft is being rotated.

SST 09616-0001 1



- (b) Apply MP grease in the illustrated portion.  
(c) Install the dust cover.

**55. INSTALL STEERING TURN PRESSURE TUBE**

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

SST 09023-38200

**Torque: 23 N·m (230 kgf·cm, 17 ft·lbf) for use with SST**

**HINT:**

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

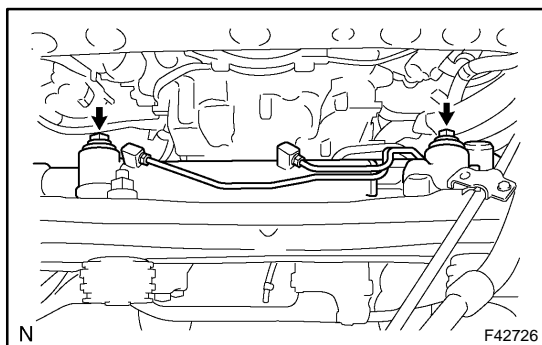
**56. INSTALL TIE ROD END SUB-ASSY LH**

- (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: 88 N·m (897 kgf·cm, 65 ft·lbf)**

**57. INSTALL TIE ROD END SUB-ASSY RH****HINT:**

Install the RH side by the same procedures with the LH side.

**58. INSTALL POWER STEERING LINK ASSY**

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

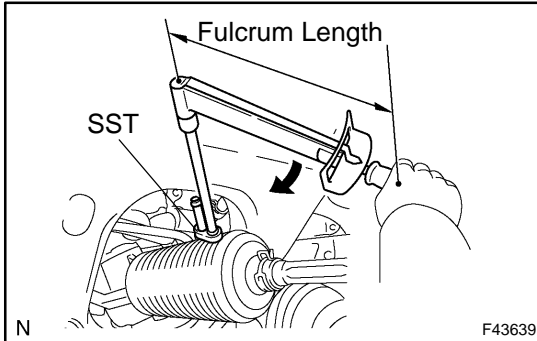
**Torque: 100 N·m (1,020 kgf·cm, 74 ft·lbf)**

**NOTICE:**

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

**HINT:**

Insert the bolt and slide it with the gear assy as a unit and then install the bolt on the frame.

**59. INSTALL STABILIZER BAR FRONT (See page 26-27 )****60. STABILIZE SUSPENSION (See page 26-27 )****61. CONNECT STEERING GEAR OUTLET RETURN TUBE**

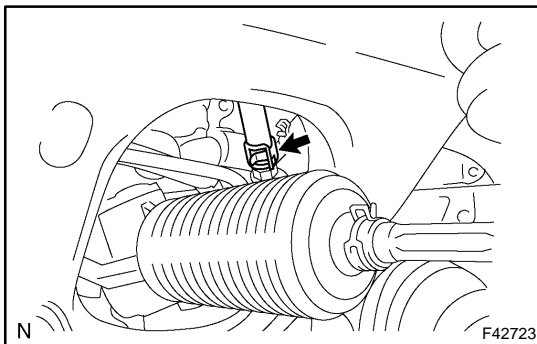
- (a) Using SST, connect the outlet return tube.

SST 09023-12700

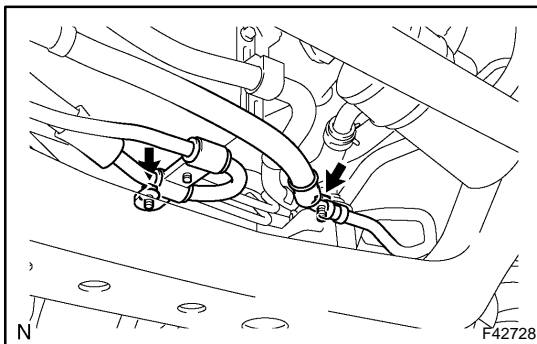
**Torque: 40 N·m (410 kgf·cm, 30 ft·lbf) for use with SST**

**HINT:**

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

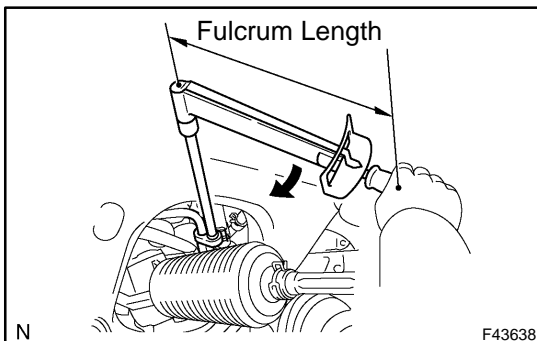


- (b) Install the hose with the clip.

**62. CONNECT PRESSURE FEED TUBE ASSY**

- (a) Install the pressure feed tube assy to the frame sub-assy with the 2 bolts.

**Torque: 28 N·m (286 kgf·cm, 21 ft·lbf)**



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

SST 09023-12700

**Torque: 40 N·m (410 kgf·cm, 30 ft·lbf) for use with SST**

**HINT:**

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

**63. FULLY TIGHTEN STEERING INTERMEDIATE SHAFT SUB-ASSY NO.2 (See page 50-8 )****64. CONNECT TIE ROD END SUB-ASSY LH**

- (a) Connect the tie rod end to the steering knuckle arm.
- (b) Install the nut and cotter pin.

**Torque: 91 N·m (928 kgf·cm, 67 ft·lbf)**

**65. CONNECT TIE ROD END SUB-ASSY RH**

HINT:

Install the RH side by the same procedures with the LH side.

**66. INSTALL ENGINE UNDER COVER SUB-ASSY NO.1**

- (a) Install the engine under cover sub-assy No.1 with the 4 bolts.

**67. INSTALL ENGINE UNDER COVER ASSY REAR**

- (a) Install the engine under cover assy rear with the 6 bolts.

**68. INSTALL FRONT WHEEL**

**Torque: 110 N·m (1,122 kgf·cm, 81 ft·lbf)**

**69. PLACE FRONT WHEELS FACING STRAIGHT AHEAD (See page 50-8 )****70. INSTALL TURN SIGNAL SWITCH ASSY (See page 50-8 )****71. INSTALL SPIRAL CABLE SUB-ASSY (See page 50-8 )****72. INSTALL STEERING COLUMN COVER LWR (See page 50-8 )****73. CENTER SPIRAL CABLE (See page 50-8 )****74. INSTALL STEERING WHEEL ASSY (See page 50-8 )****75. INSPECT STEERING WHEEL CENTER POINT (See page 50-8 )****76. INSTALL HORN BUTTON ASSY (See page 50-8 )****77. INSPECT HORN BUTTON ASSY (See page 50-8 )****78. INSPECT SRS WARNING LIGHT (See page 05-614 )****79. ADD POWER STEERING FLUID (See page 51-3 )****80. BLEED POWER STEERING FLUID (See page 51-3 )****81. CHECK POWER STEERING FLUID LEAKAGE (See page 51-3 )****82. INSPECT AND ADJUST FRONT WHEEL ALIGNMENT (See page 26-7 )**