

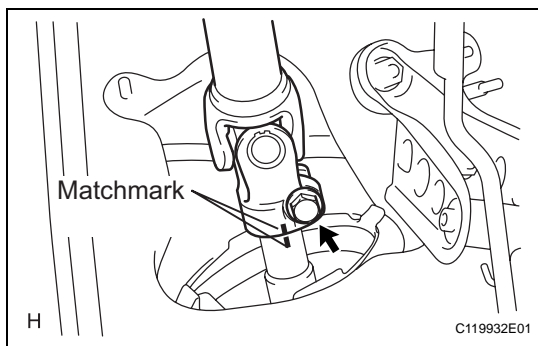
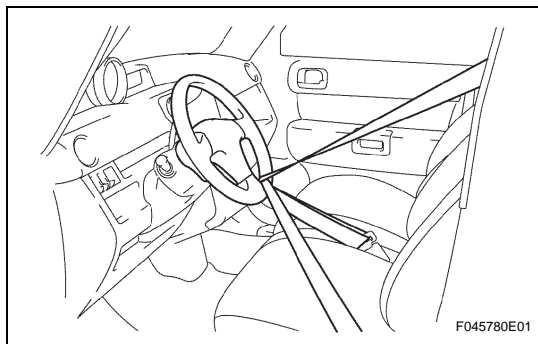
REMOVAL

1. REMOVE FRONT WIPER ARM AND BLADE ASSEMBLY RH
2. REMOVE FRONT WIPER ARM AND BLADE ASSEMBLY LH
3. REMOVE HOOD TO COWL TOP SEAL (See page [WW-8](#))
4. REMOVE COWL TOP VENTILATOR LOUVER RH (See page [WW-8](#))
5. REMOVE COWL TOP VENTILATOR LOUVER LH (See page [WW-8](#))
6. REMOVE WINDSHIELD WIPER MOTOR AND LINK ASSEMBLY (See page [WW-9](#))
7. REMOVE COWL PANEL SUB-ASSEMBLY
8. INSPECT CENTER FRONT WHEEL
9. REMOVE STEERING COLUMN HOLE COVER PLATE (See page [SR-8](#))
10. REMOVE STEERING SLIDING YOKE SUB-ASSEMBLY

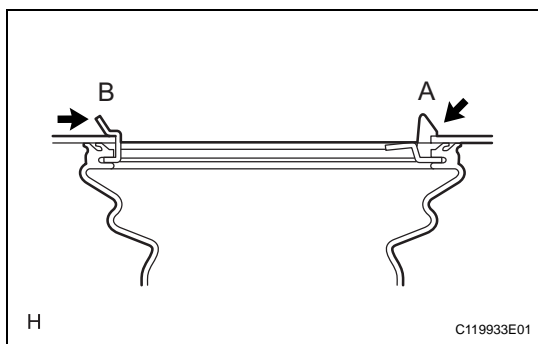
- (a) Fix the steering wheel with the seat belt in order to prevent rotation.

HINT:

This operation is also useful to prevent damaging the spiral cable.



- (b) Put matchmarks on the sliding yoke and intermediate shaft.
- (c) Loosen the bolt, and then disconnect the sliding yoke from the intermediate shaft.



11. DISCONNECT NO. 1 STEERING COLUMN HOLE COVER SUB-ASSEMBLY

- (a) Detach clip A and disconnect the hole cover.

NOTICE:

Be careful not to damage clip B.

12. REMOVE HOOD SUB-ASSEMBLY
13. DRAIN POWER STEERING FLUID
14. REMOVE FRONT WHEELS

15. DISCONNECT TIE ROD END SUB-ASSEMBLY LH
(See page [PS-23](#))

16. DISCONNECT TIE ROD END SUB-ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

17. REMOVE ENGINE UNDER COVER LH

18. REMOVE ENGINE UNDER COVER RH

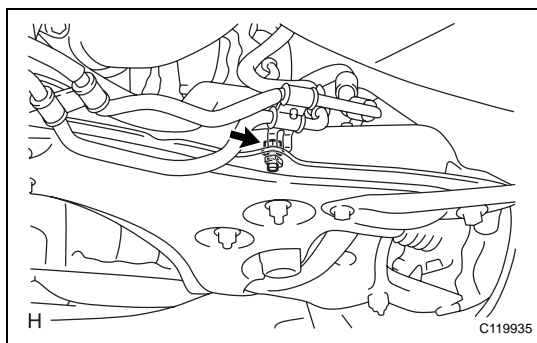
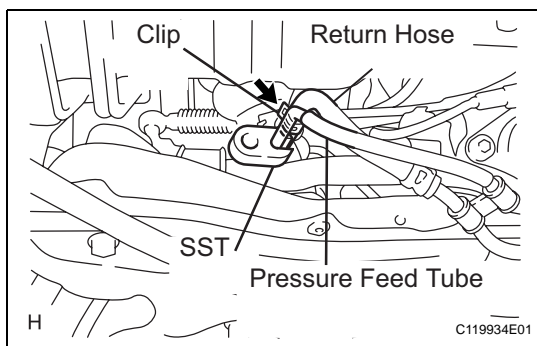
19. DISCONNECT PRESSURE FEED TUBE ASSEMBLY

- (a) Slide the clip and disconnect the return hose.
- (b) Using SST, disconnect the pressure feed tube.

SST 09023-12701

- (c) Using SST, remove the return tube.

SST 09023-12701



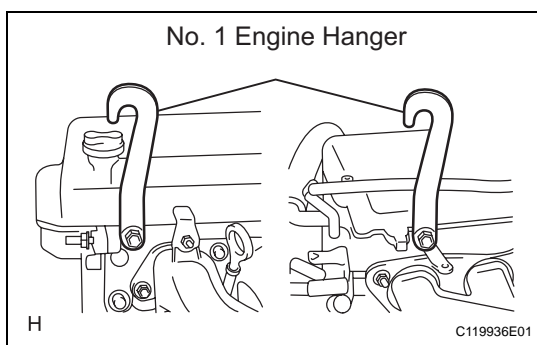
- (d) Remove the bolt and disconnect the tube clamp.

20. DISCONNECT NO. 1 FRONT SUSPENSION ARM SUB-ASSEMBLY LOWER LH (See page [AH-7](#))

21. DISCONNECT NO. 1 FRONT SUSPENSION ARM SUB-ASSEMBLY LOWER RH

HINT:

Use the same procedures described for the LH side.



22. SUSPEND ENGINE ASSEMBLY

- (a) Install the 2 No. 1 engine hangers with the bolts in the correct direction.

Parts No.:

No. 1 engine hanger:

12281-21010

Bolt:

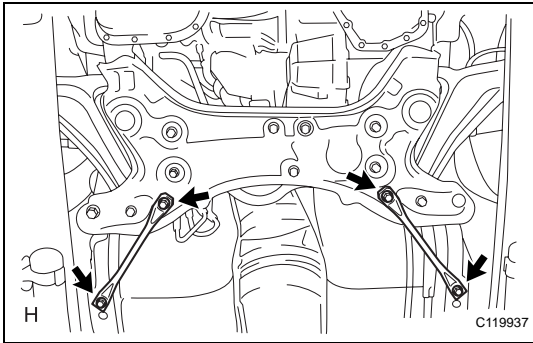
91642-81025

Torque: 40 N*m (408 kgf*cm, 30 ft.*lbf)

- (b) Hold the engine with the sliding device and chain hoist.

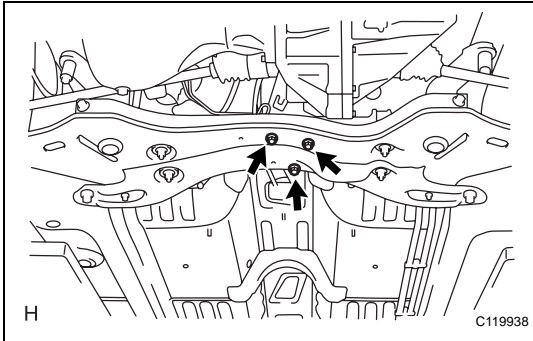
NOTICE:

Do not hang the engine by hooking the chain to any other parts.



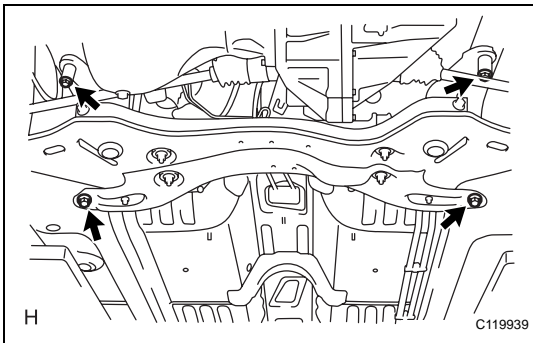
23. REMOVE FRONT SUSPENSION CROSSMEMBER SUB-ASSEMBLY

(a) Remove the 4 bolts and 2 reinforcements.



(b) Remove the bolt and 2 nuts, and disconnect the engine mounting insulator rear.

(c) Using a transmission jack, support the crossmember.

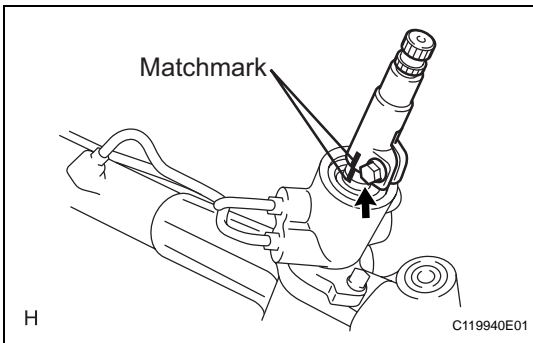


(d) Remove the 4 bolts and crossmember.

24. REMOVE POWER STEERING RACK HOUSING HEAT INSULATOR

(a) Remove the 2 bolts and heat insulator.

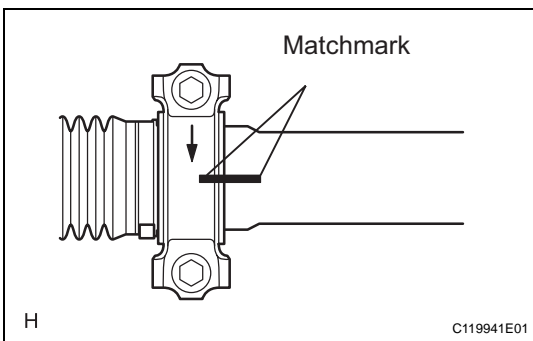
25. REMOVE NO. 1 STEERING COLUMN HOLE COVER SUB-ASSEMBLY



26. REMOVE STEERING INTERMEDIATE SHAFT

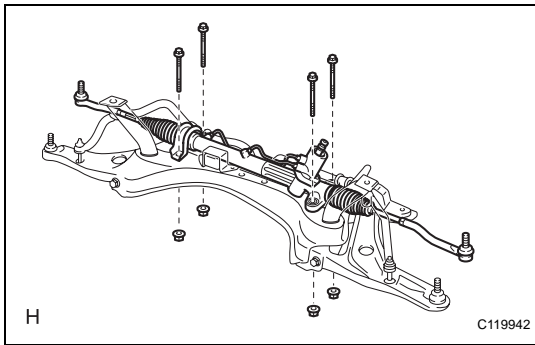
(a) Put matchmarks on the steering link and intermediate shaft.

(b) Remove the bolt and intermediate shaft.



27. REMOVE POWER STEERING LINK ASSEMBLY

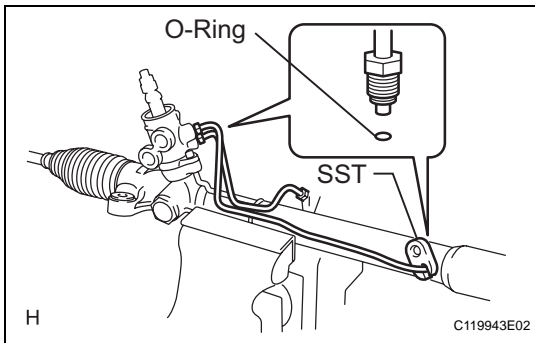
(a) Put matchmarks on the steering link and No. 2 bracket.



- (b) Remove the 4 bolts, nuts, No. 2 bracket, No. 2 grommet and steering link.

NOTICE:

- Torque the bolt with the nut fixed as the nut has its own stopper.
- Do not turn the nut.

**28. REMOVE STEERING TURN PRESSURE TUBE RH**

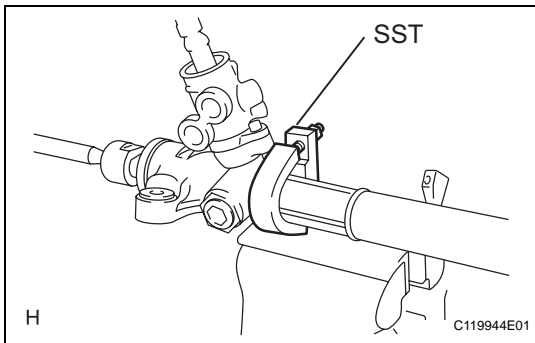
- (a) Using SST, remove the turn pressure tube.

SST 09023-38201

- (b) Remove the 2 O-rings from the right turn pressure tube.

29. REMOVE STEERING TURN PRESSURE TUBE LH**HINT:**

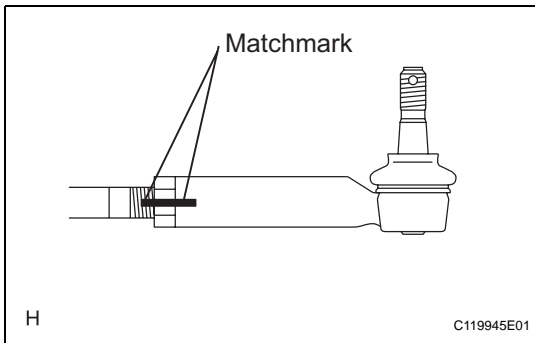
Use the same procedures described for the RH side.

**DISASSEMBLY****1. FIX POWER STEERING LINK ASSEMBLY**

- (a) Using SST, secure the steering link.

SST 09612-00012**HINT:**

Wrap the SST with vinyl tape before use.

**2. REMOVE TIE ROD END SUB-ASSEMBLY LH**

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

3. REMOVE TIE ROD END SUB-ASSEMBLY RH**HINT:**

Use the same procedures described for the LH side.

4. REMOVE STEERING RACK BOOT CLIP

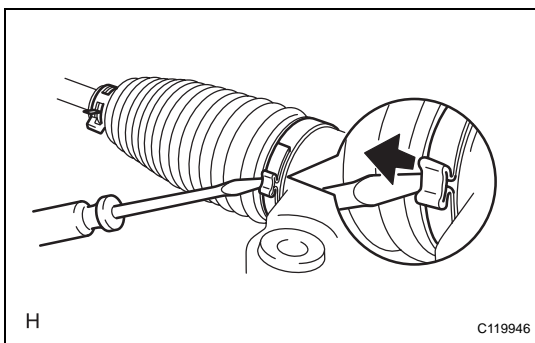
- (a) Remove the 2 boot clips.

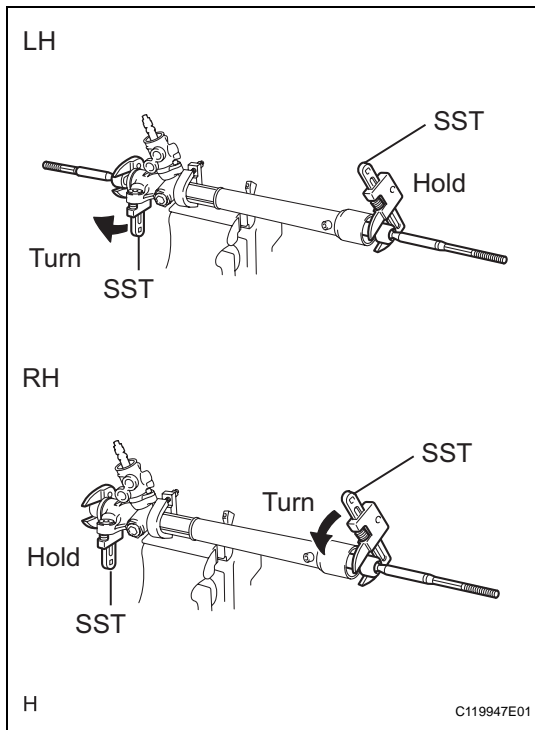
5. REMOVE NO. 2 STEERING RACK BOOT CLAMP

- (a) Using a screwdriver, remove the rack boot clamp.

NOTICE:**Be careful not to damage the boot.****6. REMOVE NO. 1 STEERING RACK BOOT CLAMP****HINT:**

Use the same procedures described for the No. 2 side.

7. REMOVE NO. 2 STEERING RACK BOOT**8. REMOVE NO. 1 STEERING RACK BOOT**



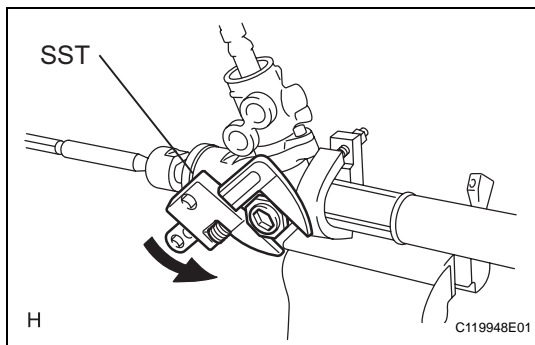
9. REMOVE STEERING RACK END SUB-ASSEMBLY

- (a) Using SST, remove the 2 rack ends.

SST 09922-10010

NOTICE:

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



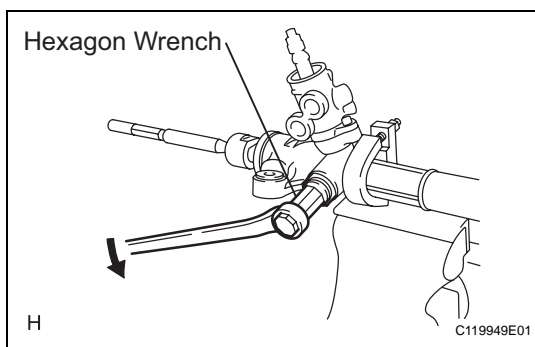
10. REMOVE RACK GUIDE

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

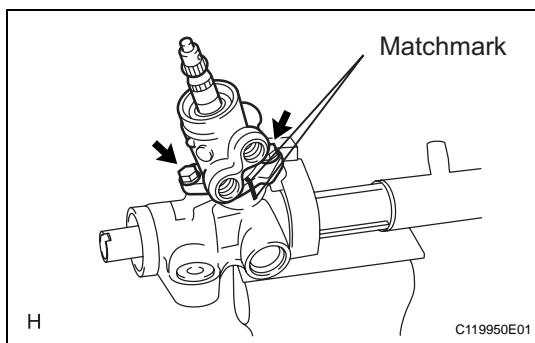
SST 09922-10010

NOTICE:

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



- (b) Using a 19 mm hexagon wrench, remove the rack guide spring cap.
- (c) Remove the rack guide spring, rack guide spring spacer and rack guide.

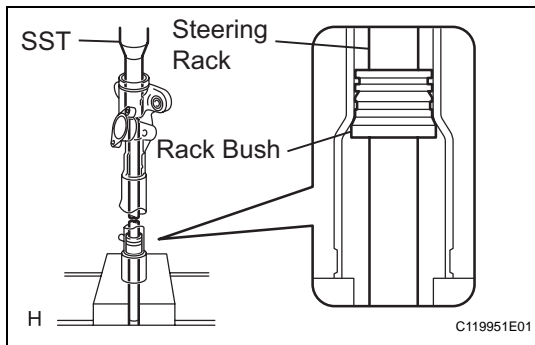


11. REMOVE POWER STEERING CONTROL VALVE

- (a) Put matchmarks on the control valve and rack housing.
- (b) Remove the 2 bolts and control valve.
- (c) Remove the gasket.

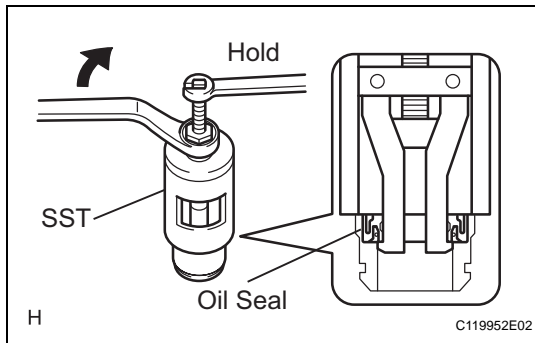
12. REMOVE CYLINDER END STOPPER

- (a) Using needle nose pliers, remove the hole snap ring.
- (b) Pull out the cylinder end stopper.

**13. REMOVE POWER STEERING RACK**

- (a) Using SST and a press, press out the steering rack with rack bush.

SST 09950-70010 (09951-07200)

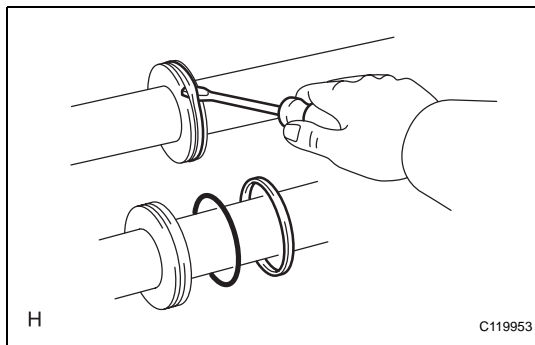
**14. REMOVE POWER STEERING RACK BUSH**

- (a) Remove the rack bush from the steering rack.

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

SST 09612-24014 (09613-22011)

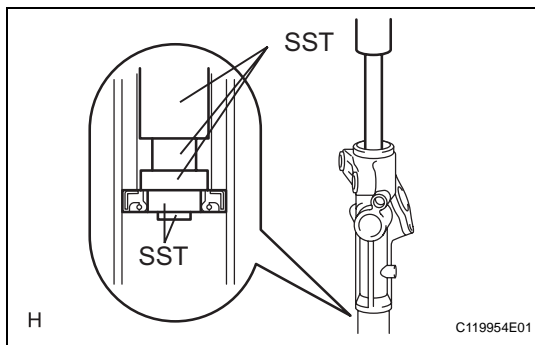
- (c) Using a screwdriver, remove the O-ring from the rack bush.

**15. REMOVE RACK STEERING PISTON RING**

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

NOTICE:

Be careful not to damage the grooves for the piston ring and O-ring.

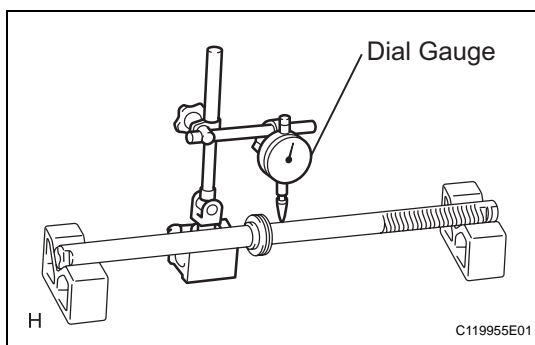
**16. REMOVE POWER STEERING RACK HOUSING OIL SEAL**

- (a) Using SST and a press, press out the housing oil seal.

SST 09950-60010 (09951-00200, 09951-00240, 09952-06010), 09950-70010 (09951-07360)

NOTICE:

Be careful not to damage the rack housing.

**INSPECTION****1. INSPECT POWER STEERING RACK**

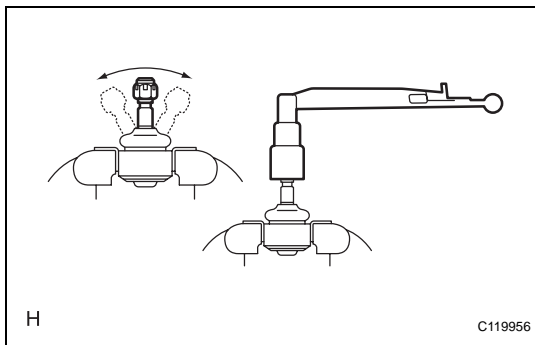
- (a) Using a dial gauge, check the steering rack for runout, teeth wear and damage.

Maximum runout:

0.1 mm (0.004 in.)

If the runout is greater than the maximum, replace the power steering rack.

- (b) Check the rack surface of the steering rack for wear and damage.



2. INSPECT TIE ROD END SUB-ASSEMBLY

- Secure the tie rod end in a vise.
- Install the nut to the stud bolt.
- Flip the ball joint stud back and forth 5 times.
- Using a torque wrench, turn the nut continuously at a rate of 2 to 4 seconds per turn and take the torque reading on the 5th turn.

Standard turning torque:

0.8 to 3.4 N*m (8.2 to 34.7 kgf*cm, 7.1 to 30.1 in.*lbf)

REASSEMBLY

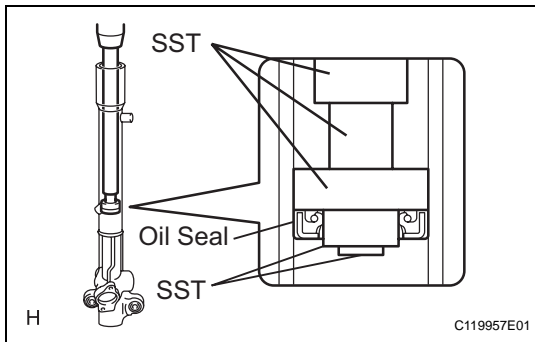
1. INSTALL POWER STEERING RACK HOUSING OIL SEAL

- Coat the lip of a new oil seal with power steering fluid.
- Using SST and a press, press in the housing oil seal.

SST 09950-60010 (09951-00210, 09951-00370, 09952-06010), 09950-70010 (09951-07360)

NOTICE:

Make sure that the oil seal is installed correctly.



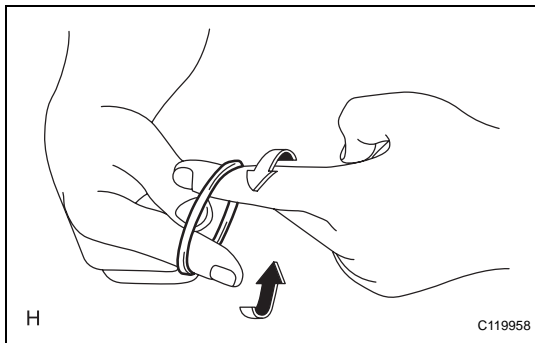
2. INSTALL RACK STEERING PISTON RING

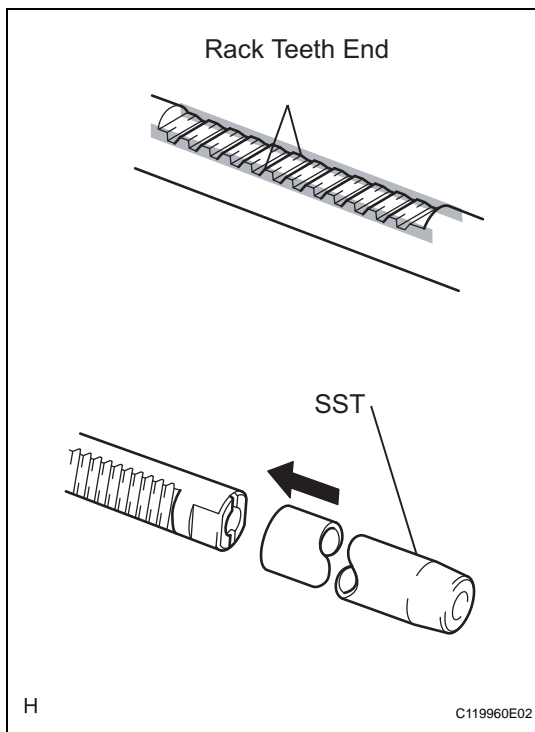
- Apply power steering fluid to a new O-ring and install it to the steering rack.
- Expand a new piston ring with your fingers.

NOTICE:

Be careful not to overly expand the piston ring.

- Apply power steering fluid to the piston ring.
- Install the piston ring to the steering rack, and adjust it with your fingers.





3. INSTALL POWER STEERING RACK

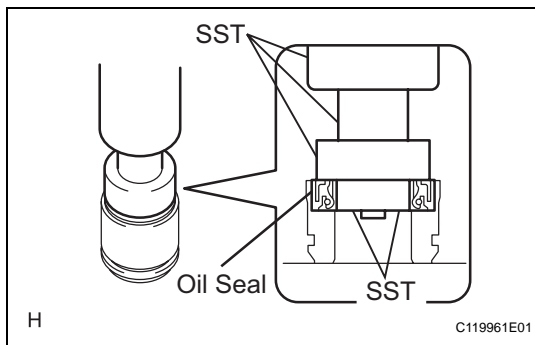
- (a) Install SST to the steering rack.

SST 09631-10041

HINT:

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

- (b) Apply power steering fluid to the SST.
 (c) Install the steering rack to the rack housing.
 (d) Remove SST.



4. INSTALL POWER STEERING RACK BUSH

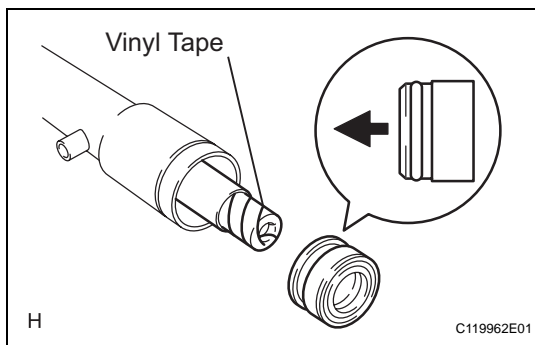
- (a) Using SST and a press, press in the rack bush oil seal to the rack bush.

SST 09950-60010 (09951-00210, 09951-00340, 09952-06010), 09950-70010 (09951-07100)

NOTICE:

Make sure that the oil seal is installed correctly.

- (b) Apply power steering fluid to a new O-ring and install it to the rack bush.



- (c) Wrap vinyl tape around the steering rack end to prevent damaging the lip of the rack bush oil seal, and apply power steering fluid to the rack bush oil seal.

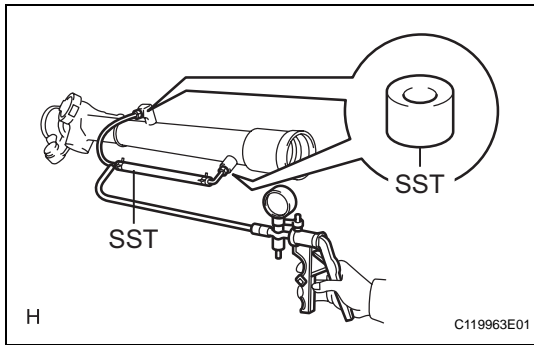
- (d) Install the rack bush into the rack housing.

NOTICE:

- **Make sure that the rack bush is installed correctly.**
- **Be careful not to damage the lip of the oil seal.**

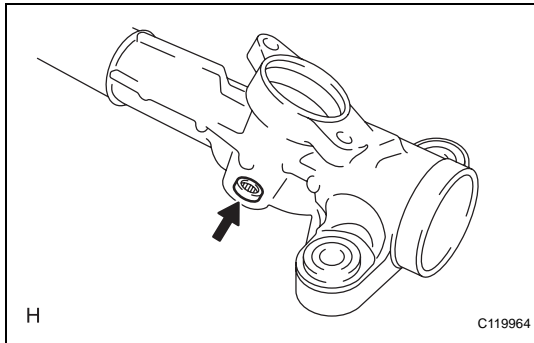
5. INSTALL CYLINDER END STOPPER

- (a) Push in the cylinder end stopper.
 (b) Using needle nose pliers, install the hole snap ring.



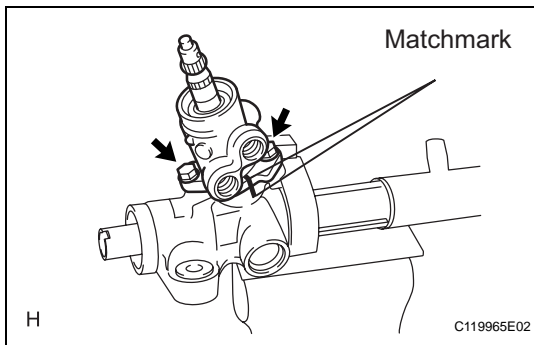
6. CHECK AIR TIGHTNESS

- Install SST onto the rack housing.
SST 09631-12071 (09633-00010)
- Apply a vacuum of 53 kPa (400 mmHg, 15.75 in.Hg) for approximately 30 seconds.
- Check that there is no change in the vacuum.
If there is a change in the vacuum pressure, check the installation of the oil seals.



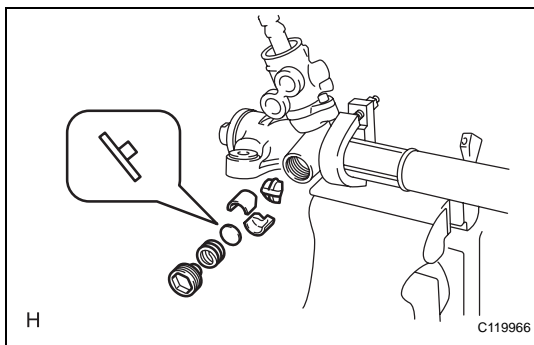
7. INSTALL POWER STEERING CONTROL VALVE

- Apply grease to the needle roller bearing.
- Install a new gasket to the control valve.



- Align the matchmarks and install the control valve to the rack housing with the 2 bolts.

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



8. INSTALL RACK GUIDE

- Install the rack guide, rack guide spring spacer and rack guide spring.

NOTICE:

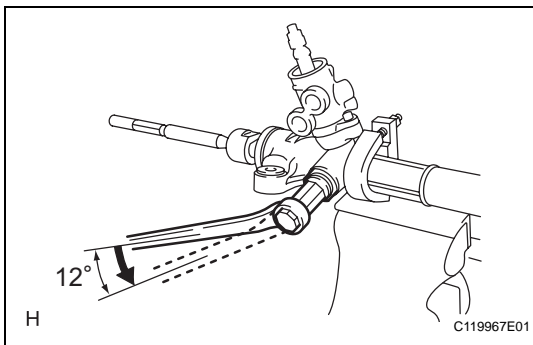
Make sure that the rack guide spring spacer is installed correctly

- 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.

- Temporarily install the rack guide spring cap.



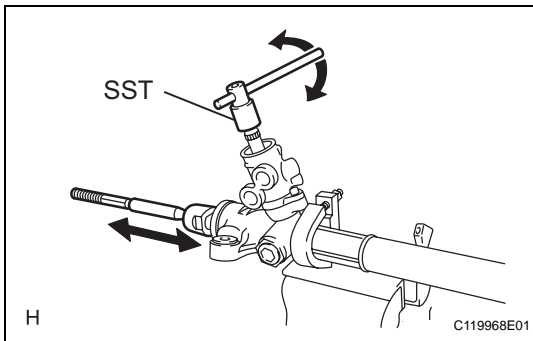
9. ADJUST TOTAL PRELOAD

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

- (b) Using a 19 mm hexagon wrench, torque the rack guide spring cap.

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

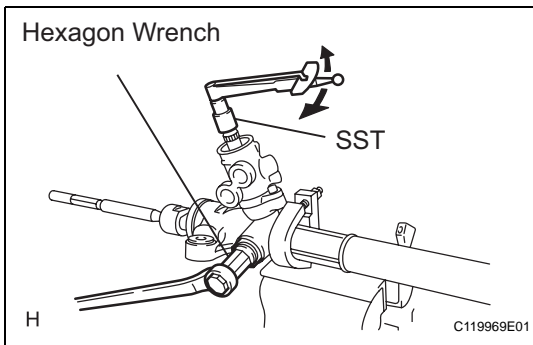
- (c) Using a 19 mm hexagon wrench, return the rack guide spring cap approximately 12°.



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

SST 09616-00011

- (e) Using a 19 mm hexagon wrench, loosen the rack guide spring cap until the rack guide spring stops functioning.



- (f) Using SST, a torque wrench and 19 mm hexagon wrench, tighten the rack guide spring cap until the preload is within the specification.

SST 09616-00011

Standard preload (turning):

1.2 to 1.5 N*m (12 to 15 kgf*cm, 10.6 to 13.3 in.*lbf)

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

Sealant:

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

- (h) Temporarily install the spring cap lock nut.

- (i) Hold the rack guide spring cap with a 19 mm hexagon wrench, and using SST, torque the spring cap lock nut.

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

NOTICE:

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

HINT:

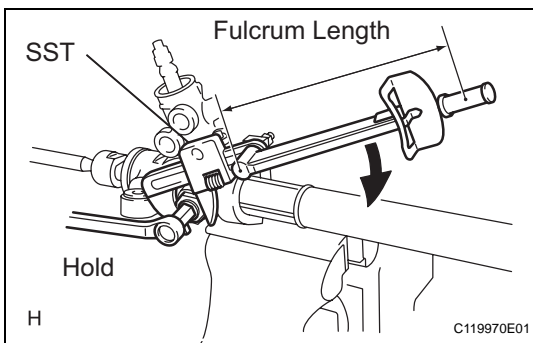
Use a torque wrench with a fulcrum length of 345 mm (13.58 in.).

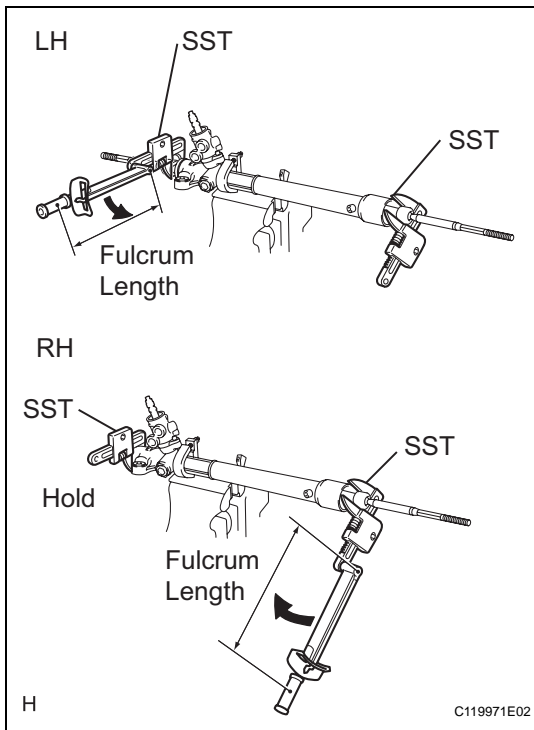
- (j) Recheck the total preload.

Standard total preload (turning):

1.2 to 1.5 N*m (12 to 15 kgf*cm, 10.6 to 13.3 in.*lbf)

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





10. INSTALL STEERING RACK END SUB-ASSEMBLY

- Temporarily install the 2 rack ends.
- Using SST, torque the 2 rack ends.

SST 09922-10010

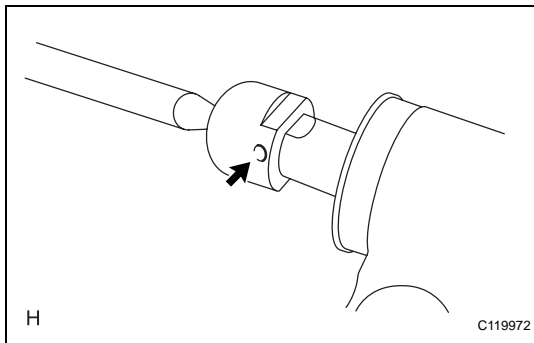
Torque: 60 N*m (614 kgf*cm, 44 ft.*lbf)

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.).
- Using SST, hold the rack and install the rack end.

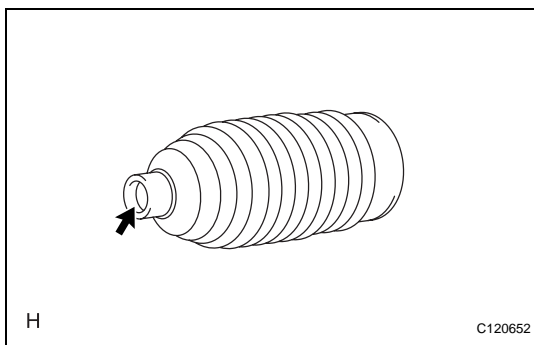


11. INSPECT STEERING RACK END HOLE

- Ensure that the hole of the rack end 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.



12. INSTALL NO. 2 STEERING RACK BOOT

- Apply silicon grease to the inside small caliber of the No. 2 rack boot.
- Install the No. 2 rack boot onto the groove on the rack housing.

NOTICE:

Be careful not to damage or twist the boot.

13. INSTALL NO. 1 STEERING RACK BOOT

HINT:

Use the same procedures described for the No. 2 side.

14. INSTALL NO. 2 STEERING RACK BOOT CLAMP

- Using SST, tighten the No. 2 rack boot clamp, as shown in the illustration.

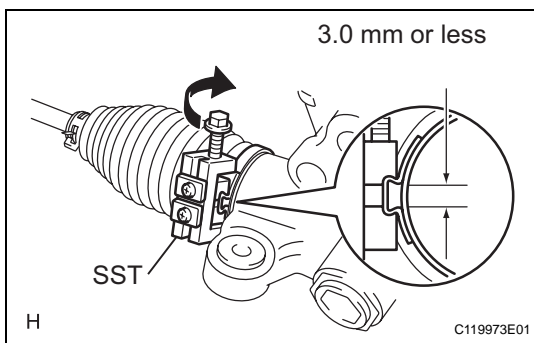
SST 09240-00020, 09521-24010

Standard clearance:

3.0 mm (0.118 in.) or less

NOTICE:

Be careful not to damage the boot.



15. INSTALL NO. 1 STEERING RACK BOOT CLAMP

HINT:

Use the same procedures described for the No. 2 side.

16. INSTALL STEERING RACK BOOT CLIP

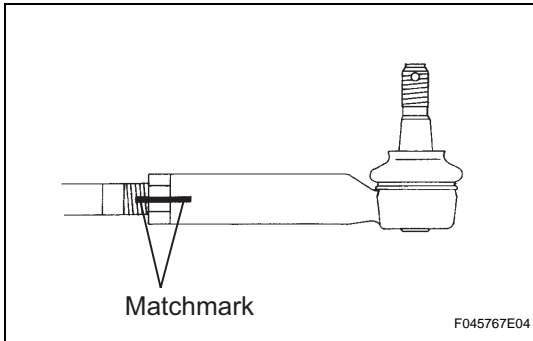
- (a) Using pliers, install the 2 rack boot clips.

17. INSTALL TIE ROD END SUB-ASSEMBLY LH

- (a) Screw the lock nut and tie rod end on the rack end until the matchmarks are aligned.

Torque: 74 N*m (750 kgf*cm, 54 ft.*lbf)

HINT:

After adjusting toe-in, torque the lock nut (see page [PS-26](#)).**18. INSTALL TIE ROD END SUB-ASSEMBLY RH**

HINT:

Use the same procedures described for the LH side.

19. INSTALL STEERING TURN PRESSURE TUBE RH

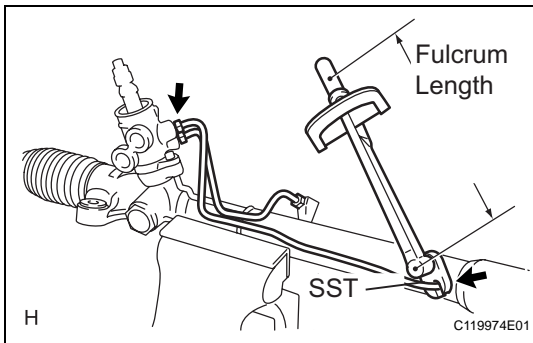
- (a) Apply power steering fluid to 2 new O-rings and install them to the turn pressure tube.

- (b) Using SST, install the turn pressure tube to the steering link.

SST 09023-38201**Torque: 12 N*m (118 kgf*cm, 9 ft.*lbf)**

HINT:

- Use a torque wrench with a fulcrum length of 250 mm (9.84 in.).
- This torque value is effective when SST is parallel to a torque wrench.

**20. INSTALL STEERING TURN PRESSURE TUBE LH**

HINT:

Use the same procedures described for the RH side.