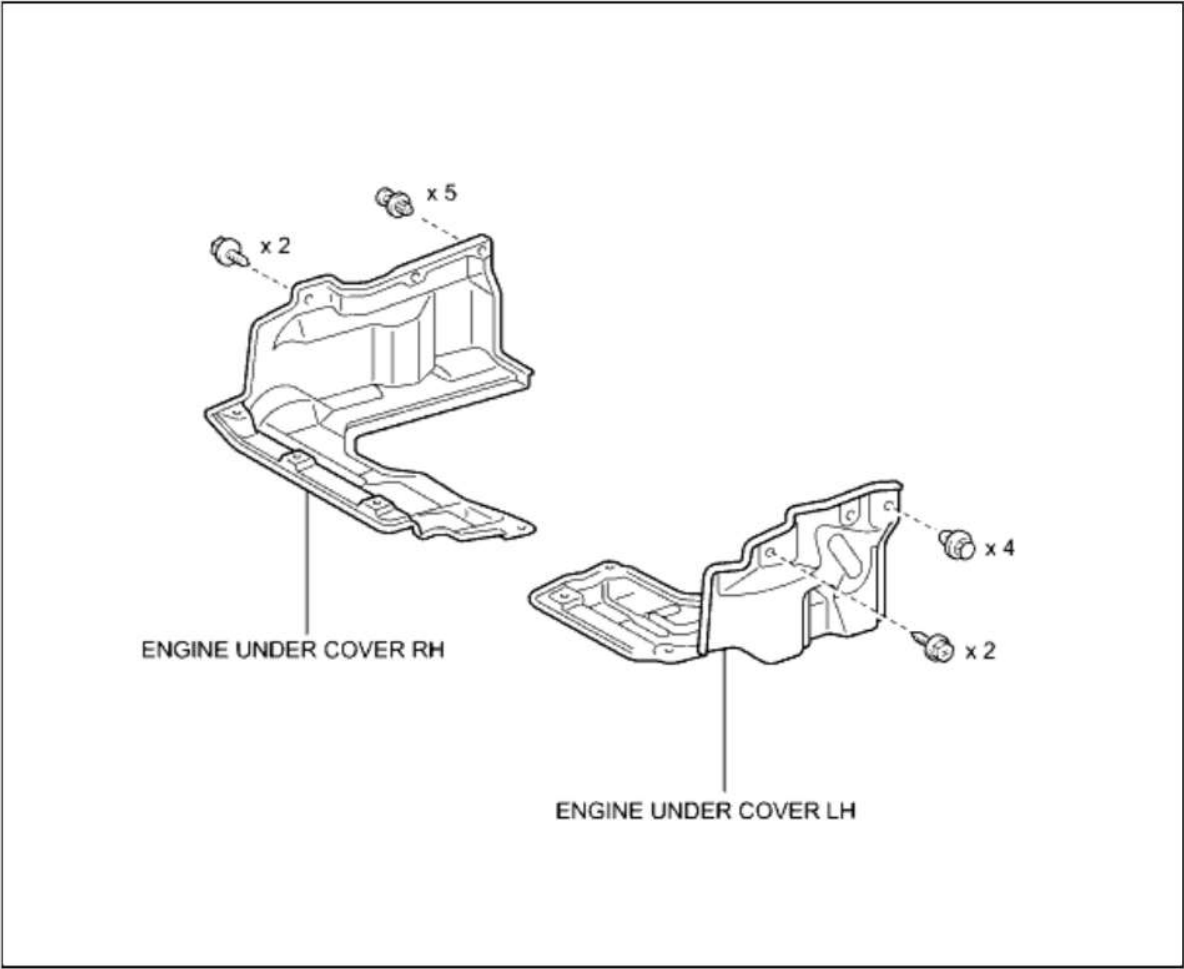


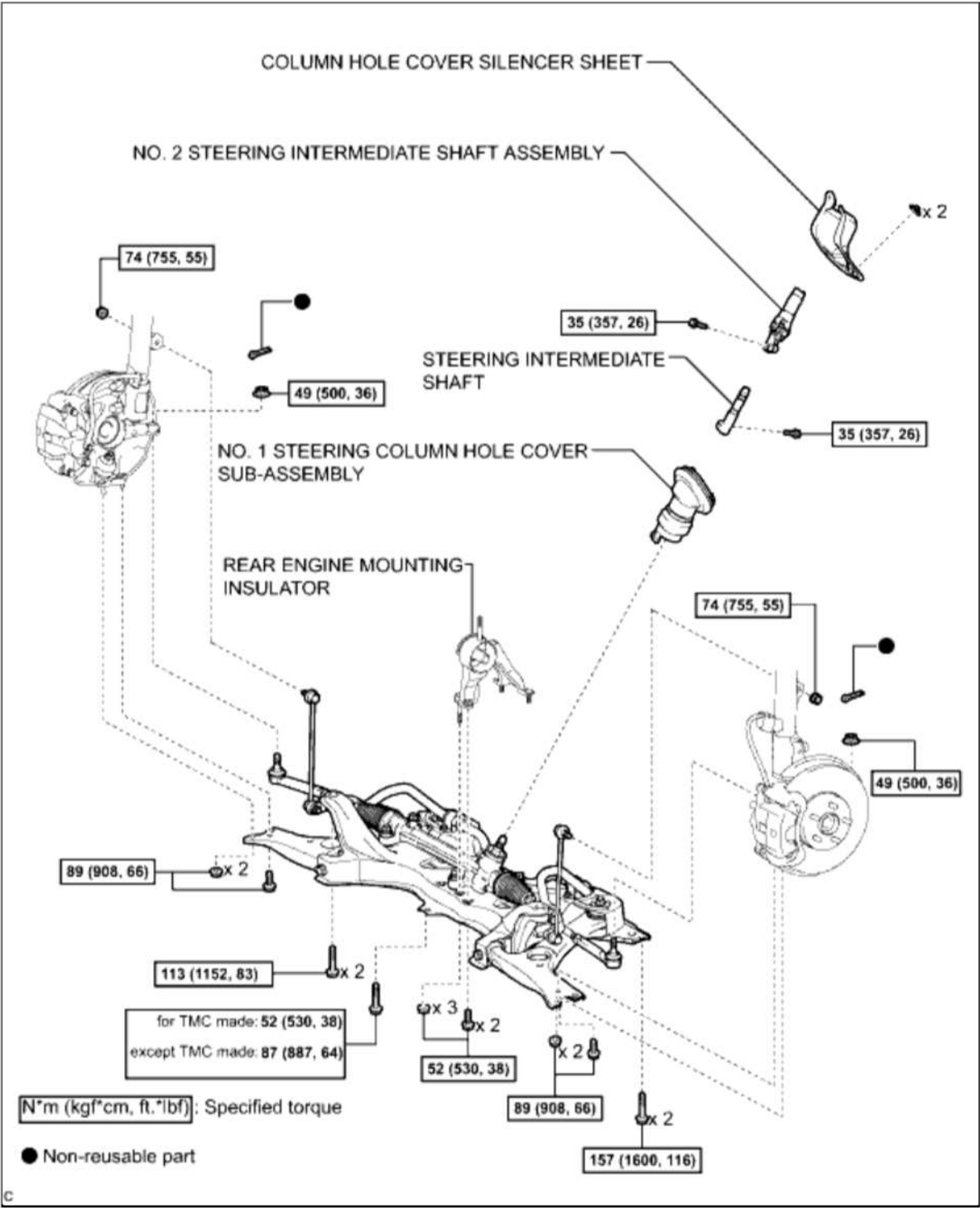
Last Modified: 3-10-2010	6.4 K	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM0000029T600TX
Title: STEERING GEAR / LINKAGE: STEERING GEAR: COMPONENTS (2010 Corolla)		

COMPONENTS

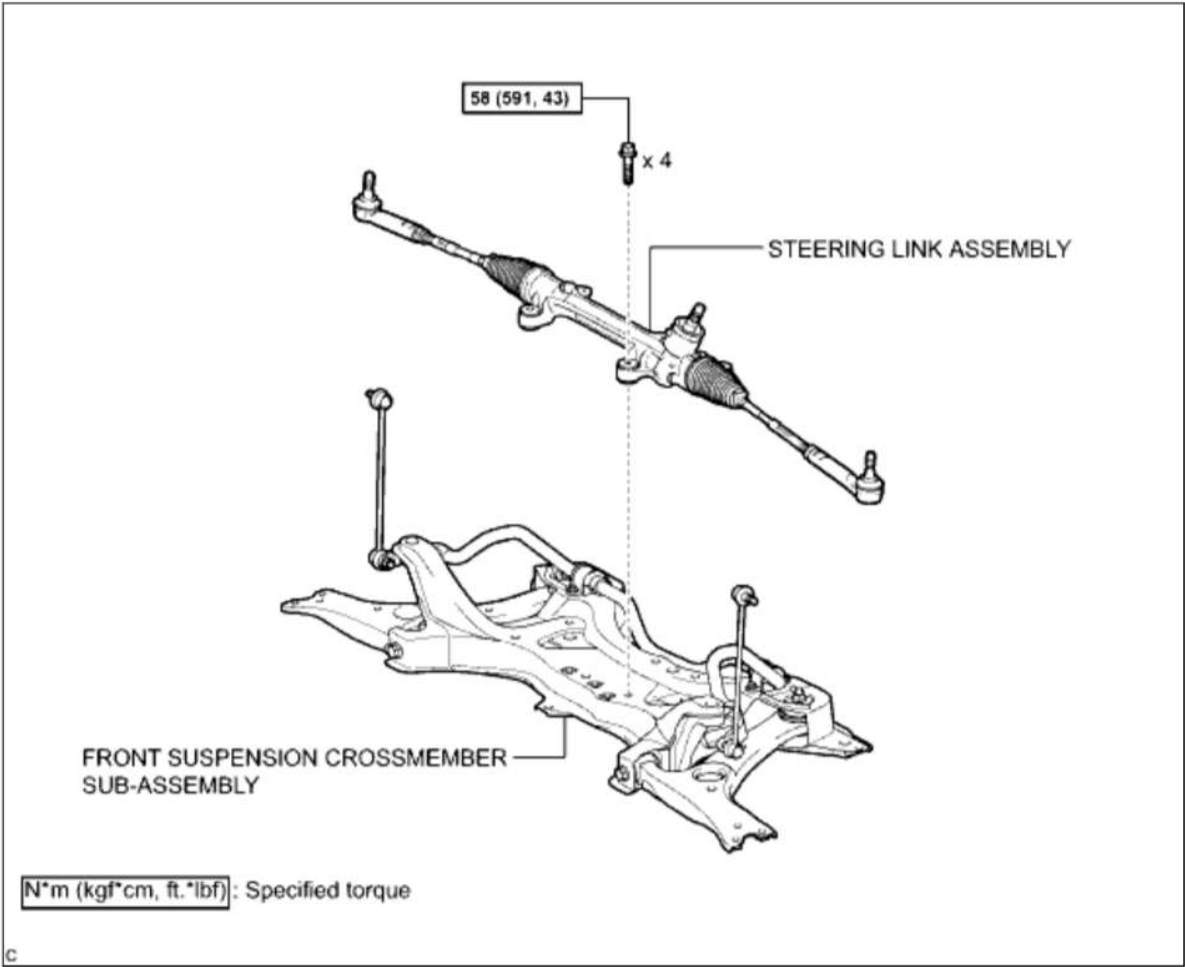
ILLUSTRATION



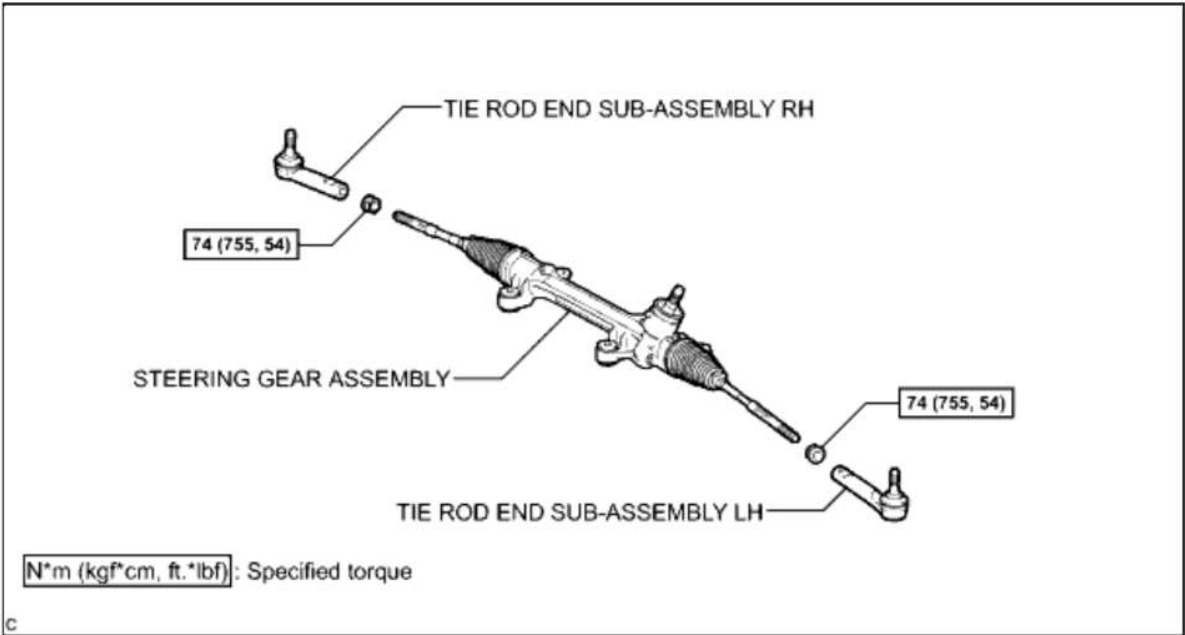
ILLUSTRATION



ILLUSTRATION



ILLUSTRATION

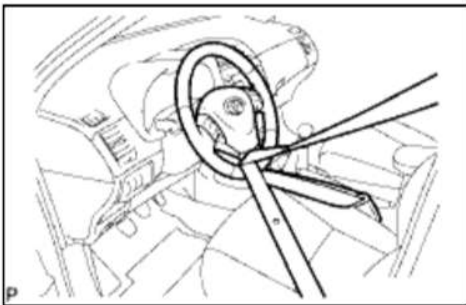


Last Modified: 3-10-2010	6.4 A	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM0000029T701VX
Title: STEERING GEAR / LINKAGE: STEERING GEAR: REMOVAL (2010 Corolla)		

REMOVAL

1. PLACE FRONT WHEELS FACING STRAIGHT AHEAD

2. SECURE STEERING WHEEL



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

HINT:

This operation is useful to prevent damage to the spiral cable.

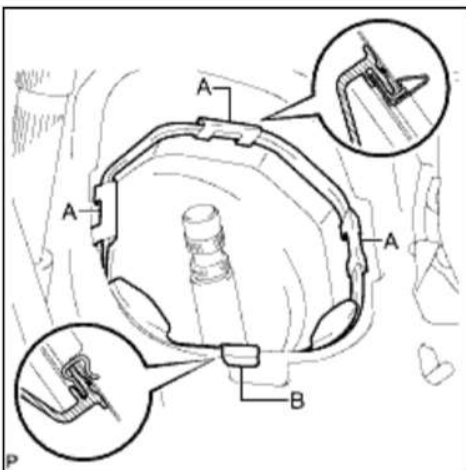
3. REMOVE COLUMN HOLE COVER SILENCER SHEET



4. SEPARATE NO. 2 STEERING INTERMEDIATE SHAFT ASSEMBLY



5. SEPARATE NO. 1 STEERING COLUMN HOLE COVER SUB-ASSEMBLY



(a) Remove clips A and the No. 1 steering column hole cover sub-assembly and disengage clip B from the body.

NOTICE:

Do not damage clips A and B.

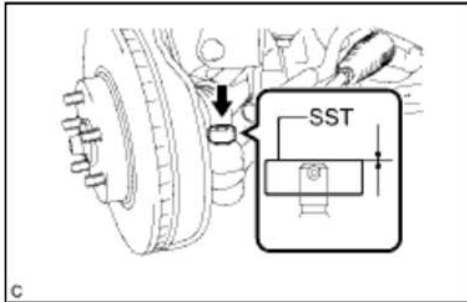
6. REMOVE FRONT WHEELS

7. REMOVE ENGINE UNDER COVER LH

8. REMOVE ENGINE UNDER COVER RH

9. SEPARATE TIE ROD END SUB-ASSEMBLY LH

(a) Remove the cotter pin and the nut.



(b) Install SST to the tie rod end.

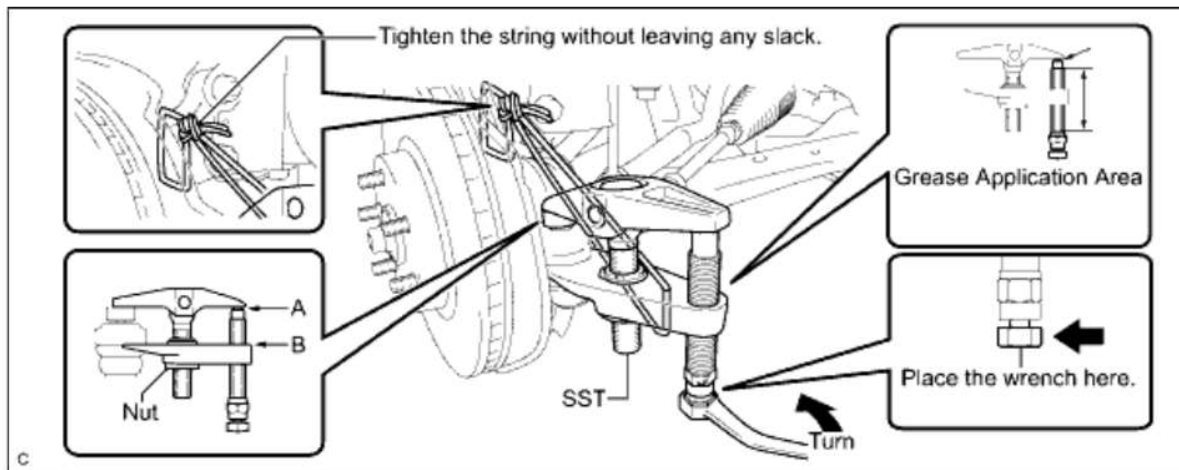
SST: 09960-20010

09961-02060

NOTICE:

Make sure that the upper ends of the tie rod end and SST are aligned.

(c) Using SST, separate the tie rod end from the steering knuckle.



SST: 09960-20010

09961-02010

CAUTION:

Apply grease to the threads of the bolt and the tip of SST.

NOTICE:

- Be sure to tighten the string firmly to secure SST to the steering knuckle to prevent SST from falling off.
- Install SST with the center nut so that A and B are parallel. Otherwise, the dust cover may be damaged.
- Be sure to place the wrench on the part indicated in the illustration.
- Do not damage the front disc brake dust cover.
- Do not damage the ball joint dust cover.
- Do not damage the steering knuckle.

10. SEPARATE TIE ROD END SUB-ASSEMBLY RH

HINT:

Perform the same procedure as for the LH side.

11. SEPARATE FRONT STABILIZER LINK ASSEMBLY LH INFO

12. SEPARATE FRONT STABILIZER LINK ASSEMBLY RH

HINT:

Perform the same procedure as for the LH side.

13. SEPARATE FRONT LOWER SUSPENSION ARM LH



14. SEPARATE FRONT LOWER SUSPENSION ARM RH

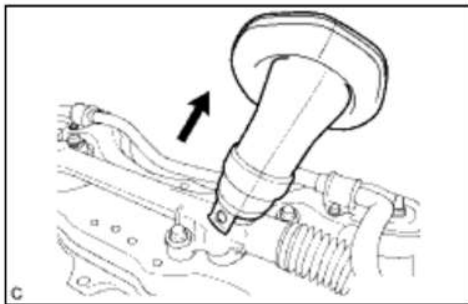
HINT:

Perform the same procedure as for the LH side.

15. REMOVE FRONT SUSPENSION CROSSMEMBER SUB-ASSEMBLY

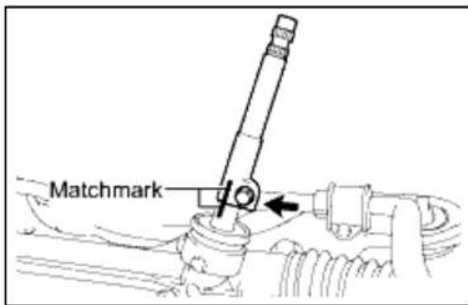


16. REMOVE NO. 1 STEERING COLUMN HOLE COVER SUB-ASSEMBLY



- (a) Remove the No. 1 steering column hole cover sub-assembly from the steering link assembly.

17. REMOVE STEERING INTERMEDIATE SHAFT

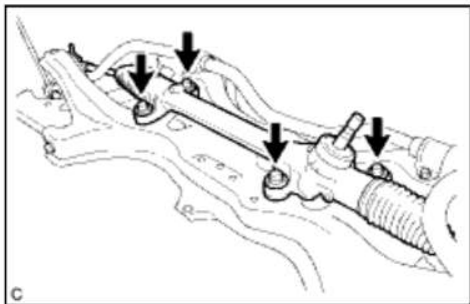


- (a) Put matchmarks on the steering intermediate shaft and the steering link assembly.

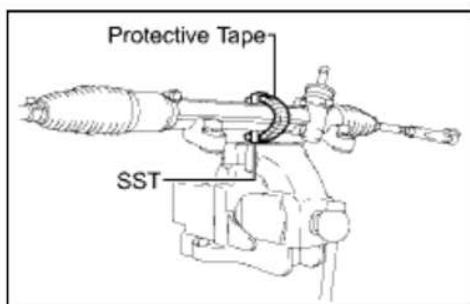
- (b) Remove the bolt and the steering intermediate shaft from the steering link assembly.

18. REMOVE STEERING LINK ASSEMBLY

- (a) Remove the 4 bolts and steering link assembly from the front suspension crossmember sub-assembly.



19. SECURE STEERING LINK ASSEMBLY

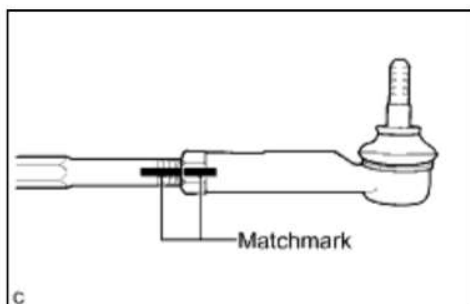


(a) Using SST, secure the steering link assembly in a vise.

SST: 09612-00012

HINT:

Tape SST before use.



20. REMOVE TIE ROD END SUB-ASSEMBLY LH

(a) Put matchmarks on the tie rod end sub-assembly LH and steering gear assembly.

(b) Remove the tie rod end sub-assembly LH and lock nut.

21. REMOVE TIE ROD END SUB-ASSEMBLY RH

HINT:

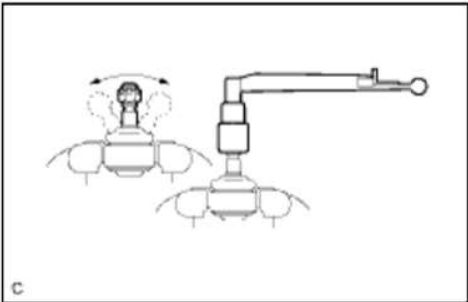
Perform the same procedure as for the LH side.



Last Modified: 3-10-2010	6.4 G	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM0000029T5012X
Title: STEERING GEAR / LINKAGE: STEERING GEAR: INSPECTION (2010 Corolla)		

INSPECTION

1. INSPECT TIE ROD END SUB-ASSEMBLY LH



(a) Secure the tie rod end sub-assembly LH in a vise.

NOTICE:
Do not overtighten the vise.

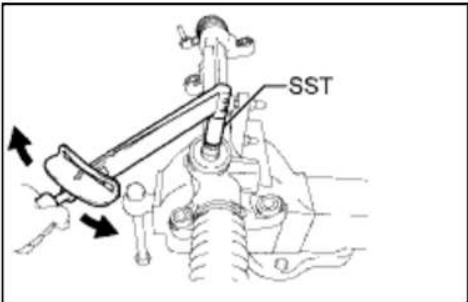
- (b) Install the nut to the stud bolt.
 - (c) Flip the ball joint back and forth 5 times.
 - (d) Set a torque wrench to the nut, turn the ball joint continuously at a rate of 2 to 4 seconds per turn, and check the turning torque on the 5th turn.
- Standard turning torque:
0.3 to 2.0 N*m (3 to 20 kgf*cm, 3 to 17 in.*lbf)

HINT:
If the turning torque is not within the specified range, replace the tie rod end sub-assembly LH with a new one.

2. INSPECT TIE ROD END SUB-ASSEMBLY RH

HINT:
Perform the same procedure as for the LH side.

3. INSPECT TOTAL PRELOAD



(a) Using SST and a torque wrench, inspect the total preload.
SST: 09616-00011

Standard Preload

for 2AZ-FE	0.7 to 1.1 N*m (8 to 11 kgf*cm, 7 to 9 in.*lbf)
for 2ZR-FE	0.5 to 0.9 N*m (6 to 9 kgf*cm, 5 to 7 in.*lbf)

NOTICE:

Inspect the total preload around the steering rack center position.

HINT:

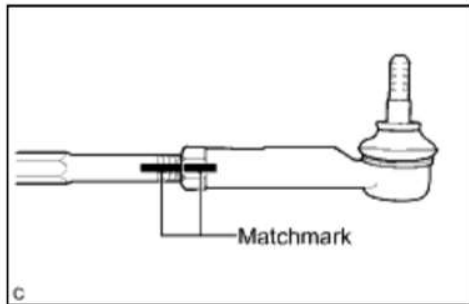
If the total preload is not within the specified range, replace the steering gear assembly with a new one.



Last Modified: 3-10-2010	6.4 A	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM0000029T401VX
Title: STEERING GEAR / LINKAGE: STEERING GEAR: INSTALLATION (2010 Corolla)		

INSTALLATION

1. INSTALL TIE ROD END SUB-ASSEMBLY LH



- (a) Install the lock nut and the tie rod end sub-assembly LH to the steering gear assembly until the matchmarks are aligned.

HINT:

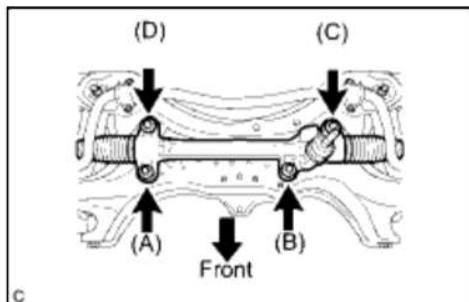
After adjusting the toe-in, tighten the lock nut.

2. INSTALL TIE ROD END SUB-ASSEMBLY RH

HINT:

Perform the same procedure as for the LH side.

3. INSTALL STEERING LINK ASSEMBLY

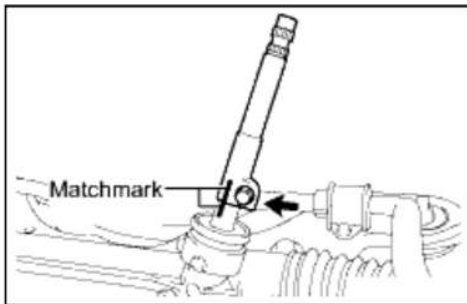


- (a) Install the steering link assembly to the front suspension crossmember sub-assembly with the 4 bolts.
- (1) Temporarily tighten the bolts in order of (A), (B), (C), and then (D).
- (2) Tighten the bolts in order of (A), (B), (C), and then (D).

Torque: 58 N·m (591 kgf·cm, 43ft·lbf)

4. INSTALL STEERING INTERMEDIATE SHAFT

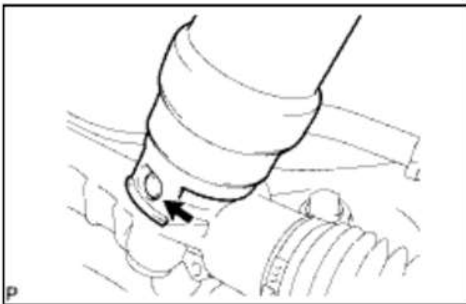
- (a) Align the matchmarks and install the steering intermediate shaft to the steering link assembly.



(b) Install the bolt.

Torque: 35 N·m (357 kgf·cm, 26ft·lbf)

5. INSTALL NO. 1 STEERING COLUMN HOLE COVER SUB-ASSEMBLY



(a) Align the round hole in the No. 1 steering column hole cover sub-assembly with the protrusion of the steering link assembly to install the cover.

6. INSTALL FRONT SUSPENSION CROSSMEMBER SUB-ASSEMBLY (for TMC Made) INFO

7. INSTALL FRONT SUSPENSION CROSSMEMBER SUB-ASSEMBLY (except TMC Made) INFO

8. CONNECT FRONT LOWER SUSPENSION ARM LH INFO

9. CONNECT FRONT LOWER SUSPENSION ARM RH

HINT:

Perform the same procedure as for the LH side.

10. CONNECT FRONT STABILIZER LINK ASSEMBLY LH INFO

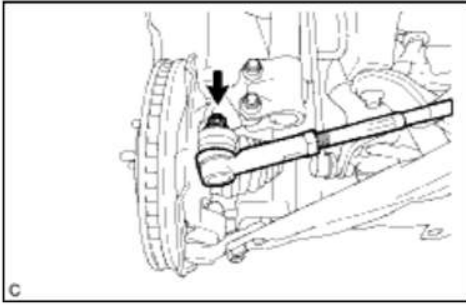
11. CONNECT FRONT STABILIZER LINK ASSEMBLY RH

HINT:

Perform the same procedure as for the LH side.

12. CONNECT TIE ROD END SUB-ASSEMBLY LH

(a) Connect the tie rod end sub-assembly LH to the steering knuckle with the nut.



Torque: 49 N·m (500 kgf·cm, 36ft·lbf)

NOTICE:

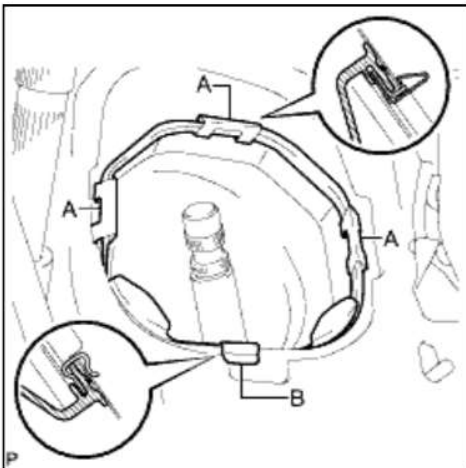
Further tighten the nut up to 60° if the holes for the cotter pin are not aligned.

(b) Install a new cotter pin.

13. CONNECT TIE ROD END SUB-ASSEMBLY RH

HINT:

Perform the same procedure as for the LH side.



14. CONNECT NO. 1 STEERING COLUMN HOLE COVER SUB-ASSEMBLY

(a) Engage clip B onto the body and install the No. 1 steering column hole cover sub-assembly onto the body with clips A.

NOTICE:

Make sure that the lip of the No. 1 steering column hole cover sub-assembly is not damaged.

15. CONNECT NO. 2 STEERING INTERMEDIATE SHAFT ASSEMBLY

INFO

16. PLACE FRONT WHEELS FACING STRAIGHT AHEAD

17. INSTALL COLUMN HOLE COVER SILENCER SHEET

INFO

18. INSTALL ENGINE UNDER COVER LH

19. INSTALL ENGINE UNDER COVER RH

20. INSTALL FRONT WHEELS

Torque: 103 N·m (1050 kgf·cm, 75ft·lbf)

21. STABILIZE SUSPENSION

INFO

22. ADJUST FRONT WHEEL ALIGNMENT

HINT:

INFO



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