2009 Toyota Highlander Limited
2009 SUSPENSION Suspension - Highlander

2009 SUSPENSION

Suspension - Highlander

SUSPENSION SYSTEM

PROBLEM SYMPTOMS TABLE

HINT:

Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

SUSPENSION SYSTEM

PROBLEM SYMPTOMS

Symptom	Suspected Area	Refer to
Bottoming	Vehicle (Overloaded)	-
	Front spring (Weak)	FRONT WHEEL ALIGNMENT
	Rear spring (Weak)	FRONT WHEEL ALIGNMENT
	Front shock absorber (Worn)	INSPECTION
	Rear shock absorber (Worn)	INSPECTION
Sways/pitches	Tire (Worn or improperly inflated)	INSPECTION
	Front stabilizer bar (Bent or broken) (for 2GR-FE)	REMOVAL
	Front stabilizer bar (Bent or broken) (for 1AR-FE)	REMOVAL
	Rear stabilizer bar (Bent or broken) (for 2WD)	REMOVAL
	Rear stabilizer bar (Bent or broken) (for 4WD)	REMOVAL
	Front shock absorber (Worn)	INSPECTION
	Rear shock absorber (Worn)	INSPECTION
Front wheel shimmy	Tire (Worn or improperly inflated)	INSPECTION
	Wheel (Out of balance)	INSPECTION
	Shock absorber (Worn)	INSPECTION
	Wheel alignment (Incorrect)	FRONT WHEEL ALIGNMENT
	Lower ball joint (Worn)	INSPECTION
	Hub bearing (Worn)	ON-VEHICLE INSPECTION
	Steering gear (broken) (for 2GR-FE)	REMOVAL
	Steering gear (broken) (for 1AR-FE)	REMOVAL
	Tire (Worn or improperly inflated)	INSPECTION

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Rear wheel shimmy	Wheel (Out of balance)	INSPECTION
	Shock absorber (Worn)	INSPECTION
	Wheel alignment (Incorrect)	REAR WHEEL ALIGNMENT
	Hub bearing (Worn) for (2WD)	ON-VEHICLE INSPECTION
	Hub bearing (Worn) for (4WD)	ON-VEHICLE INSPECTION
Abnormal tire wear	Tire (Worn or improperly inflated)	INSPECTION
	Front wheel alignment (Incorrect)	FRONT WHEEL ALIGNMENT
	Rear wheel alignment (Incorrect)	REAR WHEEL ALIGNMENT
	Front shock absorber (Worn)	INSPECTION
	Rear shock absorber (Worn)	INSPECTION
	Suspension parts (Worn)	-

FRONT WHEEL ALIGNMENT

ADJUSTMENT

NOTE: **If the wheel alignment has been adjusted, and if suspension or underbody components have been removed/installed or replaced, be sure to perform the following initialization procedure in order for the system to function normally:**

1. **Disconnect the cable from the negative battery terminal for more than 2 seconds.**
2. **Reconnect the cable to the negative battery terminal.**
3. **Perform zero point calibration of the yaw rate and acceleration sensor and test mode inspection.**

HINT:

(See **CALIBRATION**)

1. **INSPECT TIRES**
   a. Inspect the tires (See **INSPECTION**).
2. **MEASURE VEHICLE HEIGHT**

NOTE:

- **Before inspecting the wheel alignment, adjust the vehicle height to the specified value.**
- **Be sure to perform measurement on a level surface.**
- **If it is necessary to go under the vehicle for measurement, confirm that the parking brake is applied and the vehicle is secured with chocks.**

a. Bounce the vehicle up and down at the corners to stabilize the suspension.
b. Measure the vehicle height.

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Measuring points:

A:

Ground clearance of front wheel center

B:

Ground clearance of No. 1 lower suspension arm bushing set bolt center

C:

Ground clearance of rear wheel center

D:

Ground clearance of strut rod set bolt center

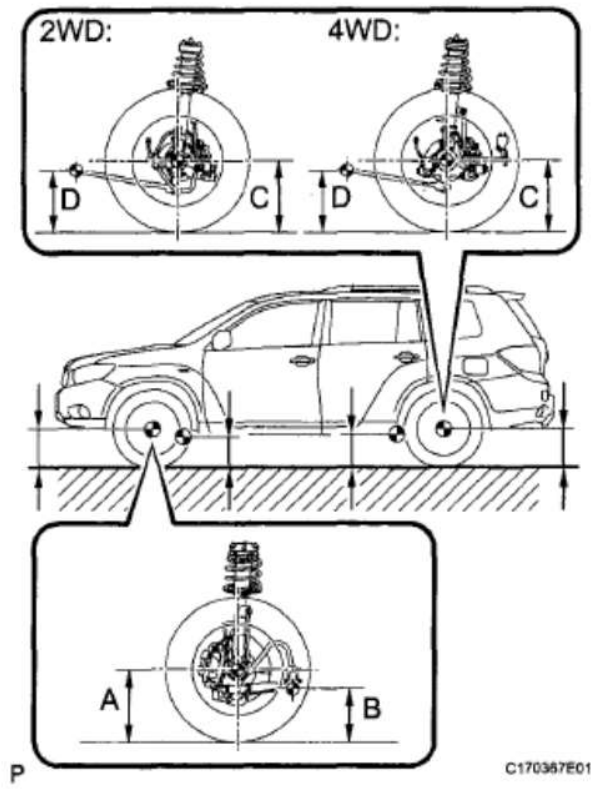


Fig. 1: Measuring Vehicle Height
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Vehicle height (Unloaded Vehicle)

VEHICLE HEIGHT SPECIFICATION

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Engine	Model	Front A - B	Rear C - D
1AR-FE	2WD	118.2 mm (4.65 in.)	34.0 mm (1.34 in.)
2GR-FE	2WD	118.2 mm (4.65 in.)	34.9 mm (1.37 in.)
	4WD	118.3 mm (4.66 in.)	33.8 mm (1.33 in.)

3. **INSPECT WHEEL ANGLE**
   a. Put tread center marks on the rearmost points of the turning radius gauge.
   b. Turn the steering wheel to the left and right full lock positions, and measure the turning angle.

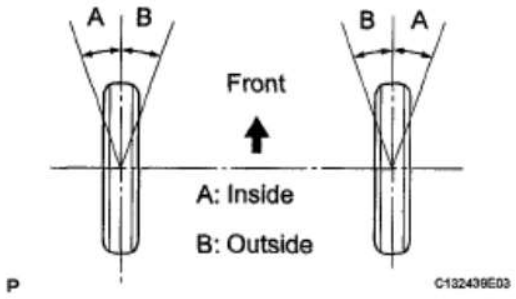


Fig. 2: Inspecting Wheel Angle
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Wheel turning angle (Unloaded Vehicle)

WHEEL TURNING ANGLE REFERENCE

Engine	Model	Inside wheel	Outside wheel Reference
1AR-FE	2WD	35°07' +/- 1°30' (35.12° +/- 1.5°)	31°20' (31.33°)
2GR-FE	2WD	35°07' +/- 1°30' (35.12° +/- 1.5°)	31 °20' (31.33°)
	4WD	35°07' +/- 1°30' (35.12° +/- 1.5°)	31 °20' (31.33°)

If the angles are not as specified, check and adjust the right and left rack end lengths.

4. **INSPECT CAMBER, CASTER AND STEERING AXIS INCLINATION**
   a. Install a camber-caster-kingpin gauge and place the front wheels on the center of a wheel alignment tester.
   b. Inspect the camber, caster and steering axis inclination.

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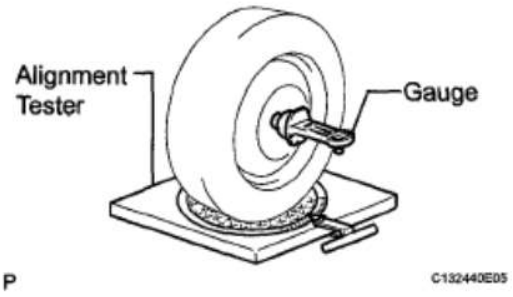


Fig. 3: Inspecting Camber, Caster And Steering Axis Inclination
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Camber (Unloaded Vehicle)

CAMBER ANGLE REFERENCE

Engine	Model	Camber Inclination	Right-left difference
1AR-FE	2WD	-0°38' +/- 45' (-0.63° +/- 0.75°)	45' (0.75°) or less
2GR-FE	2WD	-0°38' +/- 45' (-0.63° +/- 0.75°)	
	4WD	-0°38' +/- 45' (-0.63° +/- 0.75°)	

Caster (Unloaded Vehicle)

CAMBER ANGLE REFERENCE

Engine	Model	Caster Inclination	Right-left difference
1AR-FE	2WD	2°35' +/- 45' (2.58° +/- 0.75°)	45' (0.75°) or less
2GR-FE	2WD	2°37'+/- 45' (2.62° +/- 0.75°)	
	4WD	2°37' +/- 45' (2.62° +/- 0.75°)	

Steering Axis Inclination (Unloaded Vehicle)

STEERING AXIS INCLINATION REFERENCE

Engine	Model	Steering Axis Inclination	Right-left difference
1AR-FE	2WD	11°01' +/- 45' (11.02° +/- 0.75°)	45' (0.75°) or less
2GR-FE	2WD	11°01' +/- 45' (11.02° +/- 0.75°)	
	4WD	11°01' +/- 45' (11.02° +/- 0.75°)	

5. **ADJUST CAMBER**

NOTE: Inspect toe-in after the camber has been adjusted.

a. Remove the front wheel.
b. Remove the 2 nuts on the lower side of the front shock absorber.

NOTE: Keep the bolts inserted.

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c. Clean the installation surfaces of the front shock absorber and the steering knuckle.

d. Temporarily install the 2 nuts (Step A).

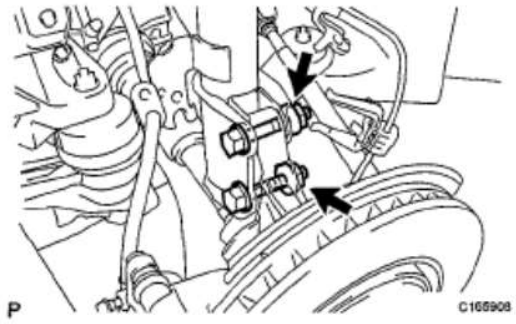


Fig. 4: Locating Front Shock Absorber Nuts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

e. Fully push or pull the front axle hub in the direction of the required adjustment (Step B).

f. Tighten the nuts.

Torque: 290 N*m (2956 kgf*cm, 214 ft.*lbf)

NOTE: Keep the bolts from rotating when tightening the nuts.

g. Install the front wheel.

Torque: 103 N*m (1050 kgf*cm, 76 ft.*lbf)

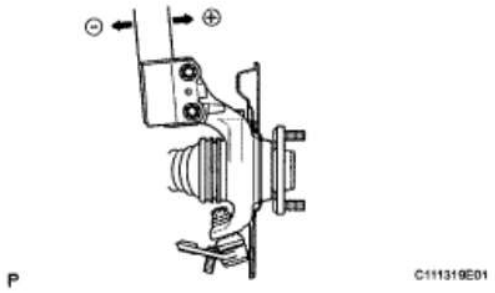


Fig. 5: Pulling Front Axle Hub
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

h. Check the camber.

If the measured value is not within the specification, calculate the required adjustment amount using the formula below.

Camber adjustment amount = center value of the specified range - measured value.

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Check the combination of installed bolts. Select appropriate bolts from the table below to adjust the camber to the specified values.

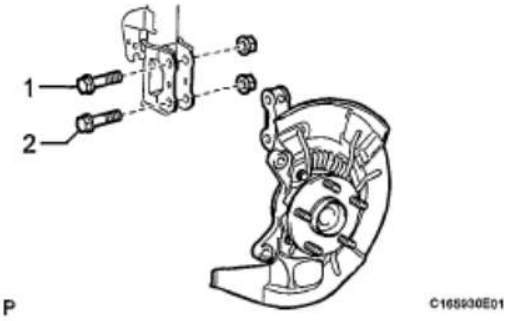


Fig. 6: Identifying Front Axle Assembly With Bolts Nuts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

HINT:

Try to adjust the camber to the center of the specified values.

CAMBER AND CENTER SPECIFICATION

Move the axle toward (+) in step (B)	Move the axle toward (-) in step (B)
Refer to table (1) (Move the axle toward positive side)	Refer to table (2) (Move the axle toward negative side)

The body and suspension may be damaged if the camber is not correctly adjusted according to the above table.

NOTE: Replace the nut with a new one when replacing the bolt.

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Table (1) (Move the axle toward the positive side)

Installed Bolt / Adjusting Value								
	1	90105-17012	90105-17012	90105-17012	90105-17012	90105-17013	90105-17014	90105-17015
	2	90105-17012	90105-17013	90105-17014	90105-17015	90105-17015	90105-17015	90105-17015
-1° 30' to -1° 15'								G
-1° 15' to -1° 00'							G	A
-1° 00' to -0° 45'						G	A	B
-0° 45' to -0° 30'					G	A	B	C
-0° 30' to -0° 15'				G	A	B	C	D
-0° 15' to 0°			G	A	B	C	D	E
0° to 0° 15'		A	B	C	D	E	F	
0° 15' to 0° 30'		B	C	D	E	F		
0° 30' to 0° 45'		C	D	E	F			
0° 45' to 1° 00'		D	E	F				
1° 00' to 1° 15'		E	F					
1° 15' to 1° 30'		F						

Selected Bolt Combination

	A	B	C	D	E	F	G
1	90105-17012	90105-17012	90105-17012	90105-17013	90105-17014	90105-17015	90105-17012
2	90105-17013	90105-17014	90105-17015	90105-17015	90105-17015	90105-17015	90105-17012

P

C111317E11

Fig. 7: Bolts Specification Chart (1 Of 2)
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Table (2) (Move the axle toward the negative side)

Installed Bolt / Adjusting Value								
	1	90105-17012	90105-17012	90105-17012	90105-17012	90105-17013	90105-17014	90105-17015
	2	90105-17012	90105-17013	90105-17014	90105-17015	90105-17015	90105-17015	90105-17015
-1° 30' to -1° 15'		F						
-1° 15' to -1° 00'		E	F					
-1° 00' to -0° 45'		D	E	F				
-0° 45' to -0° 30'		C	D	E	F			
-0° 30' to -0° 15'		B	C	D	E	F		
-0° 15' to 0°		A	B	C	D	E	F	
0° to 0°15'			G	A	B	C	D	E
0° 15' to 0° 30'				G	A	B	C	D
0° 30' to 0° 45'					G	A	B	C
0° 45' to 1° 00'						G	A	B
1° 00' to 1° 15'							G	A
1° 15' to 1° 30'								G

Selected Bolt Combination

	A	B	C	D	E	F	G
1	90105-17012	90105-17012	90105-17012	90105-17013	90105-17014	90105-17015	90105-17012
2	90105-17013	90105-17014	90105-17015	90105-17015	90105-17015	90105-17015	90105-17012

P

C111317E12

Fig. 8: Bolts Specification Chart (2 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

i. Repeat the steps mentioned above. In step (A), replace 1 or 2 selected bolts.

HINT:

Replace one bolt at a time when replacing 2 bolts.

6. **INSPECT TOE-IN**
   a. Bounce the vehicle up and down at the corners to stabilize the suspension.
   b. Release the parking brake and move the shift lever to the neutral position.

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c. Push the vehicle straight ahead approximately 5 m (16.4 ft.). (*1)

d. Put tread center marks on the rearmost points of the front wheels and measure the distance between the marks (dimension B).

e. Slowly push the vehicle straight ahead to cause the front wheels to rotate 180° using the front tire valve as a reference point.

HINT:

Do not allow the wheels to rotate more than 180°. If the wheels rotate more than 180°, perform the procedure from (*1) again.

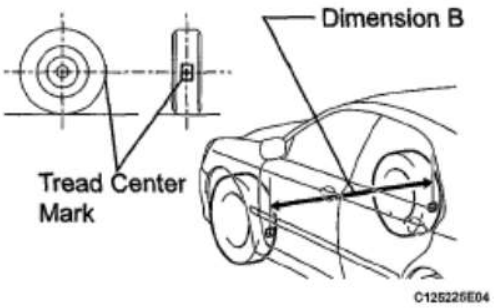


Fig. 9: Measuring Distance Between Marks (Dimension B)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

f. Measure the distance between the tread center marks on the front side of the wheels (dimension A).

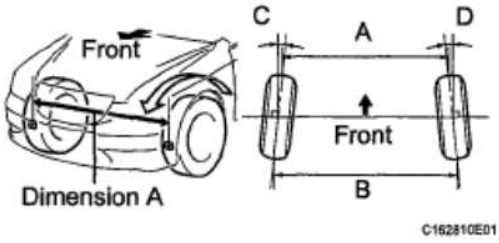


Fig. 10: Measuring Distance Between Tread Center Marks On Front Side Of Wheels (Dimension A)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Toe-in

TOE-IN REFERENCE

Item	Specified Condition
Toe-in (total)	C + D: 0°02' +/- 12' (0.04° +/- 0.2°) B - A: 0.9 +/- 2 mm (0.04 +/- 0.08 in.)

If toe-in is not within the specified range, adjust it at the rack ends.

HINT:

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Measure "B - A" only when "C + D" cannot be measured.

7. **ADJUST TOE-IN**
   a. Make sure that the lengths of the right and left rack ends are almost the same.

      Standard difference:

      1.5 mm (0.06 in.) or less

   b. Remove the rack boot set clips.

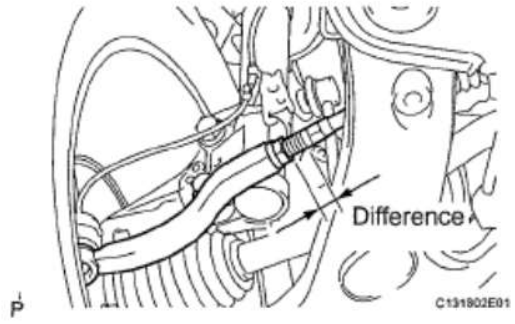


Fig. 11: Measuring Standard Difference
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   c. Loosen the tie rod end lock nuts.
   d. Adjust the rack ends if the difference in thread length between the right and left rack ends is not within the specified range.
      1. Extend the shorter rack end if the measured toe-in deviates toward the outer-side.
      2. Shorten the longer rack end if the measured toe-in deviates toward the inner-side.
   e. Turn the right and left rack ends by an equal amount to adjust the toe-in to the center value.

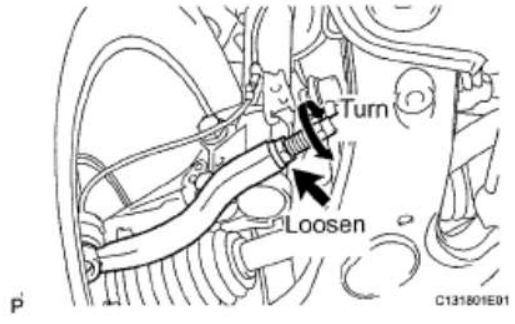


Fig. 12: Loosening Tie Rod End Lock Nuts
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   f. Make sure that the lengths of the right and left rack ends are the same.
   g. Tighten the tie rod end lock nuts.

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Torque: 88 N*m (897 kgf*cm, 65 ft.*lbf)

NOTE: Temporarily tighten the lock nut while holding the hexagonal part of the steering rack end so that the lock nut and the steering rack end do not turn together. Hold the width across flat of the tie rod end and tighten the lock nut.

h. Place the boots on the seats and install the clips.

HINT:

Make sure that the boots are not twisted.

8. **PLACE FRONT WHEELS FACING STRAIGHT AHEAD**
9. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

NOTE: Disconnect the cable from the negative battery terminal for more than 2 seconds.

10. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**

NOTE: When disconnecting the cable, some systems need to be initialized after the cable is reconnected (See INITIALIZATION).

11. **PERFORM YAW RATE SENSOR ZERO POINT CALIBRATION**

HINT:

Perform yaw rate sensor zero point calibration (See **CALIBRATION**).

12. **CHECK STEERING ANGLE SENSOR ZERO POINT CALIBRATION**

HINT:

Check steering angle sensor zero point calibration (See **DTC C1290 STEERING ANGLE SENSOR ZERO POINT MALFUNCTION**).

REAR WHEEL ALIGNMENT

ADJUSTMENT

NOTE: If the wheel alignment has been adjusted, and if suspension or underbody components have been removed/installed or replaced, be sure to perform the following initialization procedure in order for the system to function normally:

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1. **Disconnect the cable from the negative battery terminal for more than 2 seconds.**
2. **Reconnect the cable to the negative battery terminal.**
3. **Perform zero point calibration of the yaw rate and acceleration sensor and test mode inspection.**

HINT:

(See **CALIBRATION**)

1. **INSPECT TIRES**
   a. Inspect the tires (See **INSPECTION**).
2. **MEASURE VEHICLE HEIGHT** (See **FRONT WHEEL ALIGNMENT**)
3. **INSPECT TOE-IN**

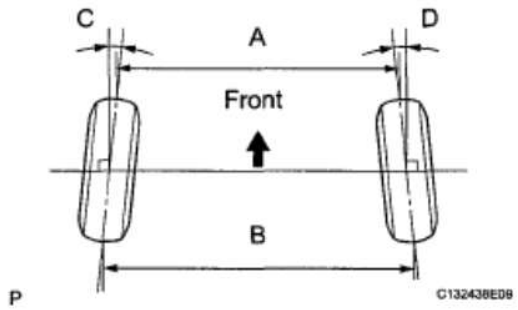


Fig. 13: Inspecting Toe-In
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Toe-in (Unloaded Vehicle)

TOE-IN REFERENCE

Item	Engine	Model	Specified Condition
Toe-in (total)	1AR-FE	2WD	C + D: 0°21' +/- 0°12' (0.35° +/- 0.2°) B - A: 4.4 +/- 2.0 mm (0.17 +/- 0.08 in.)
	2GR-FE	2WD	C + D: 0°20' +/- 0°12' (0.34° +/- 0.2°) B - A: 4.3 +/- 2.0 mm (0.17 +/- 0.08 in.)
		4WD	C + D: 0°17' +/- 0°12' (0.29° +/- 0.2°) B - A: 3.6 +/- 2.0 mm (0.14 +/- 0.08 in.)

If toe-in is not within the specified range, adjust it at the rear No. 2 suspension arms.

HINT:

Measure "B - A" only when "C + D" cannot be measured.

4. **ADJUST TOE-IN (for 2WD)**
   a. Measure the lengths of the right and left rear No. 2 suspension arms.

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Standard difference:

1.5 mm (0.06 in.) or less

If the left-right difference is larger than 1.5 mm (0.06 in.), adjust it by following the procedures below.

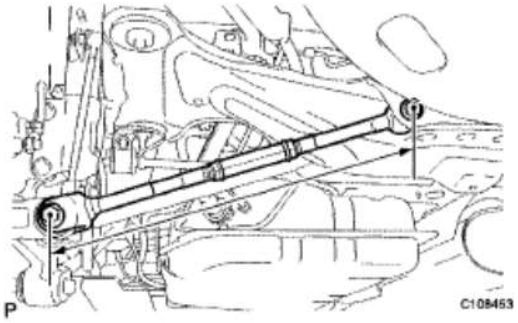


Fig. 14: Identifying Lengths Of Right And Left Rear Suspension Arms No.2
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Loosen the 2 lock nuts.
c. If the length difference between the left and right rear No. 2 suspension arm assemblies is not within the specified range, adjust it by following the procedures below.

HINT:

- Try to adjust toe-in to the center of the specified range.
- One turn of each adjusting tube will adjust toe-in by approximately 11.1 mm (0.44 in.).

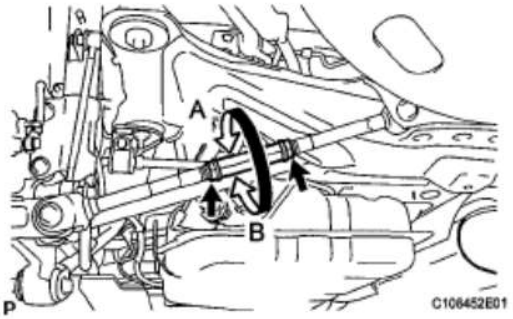


Fig. 15: Identifying Length Difference Between Left And Right Rear No. 2 Suspension Arm
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

1. If the toe-in measurement is greater than the specified range, extend the shorter rear No. 2 suspension arm assembly by rotating the adjusting tube in the direction of arrow B in the illustration.
2. If the toe-in measurement is less than the specified range, shorten the longer rear No. 2

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suspension arm assembly by rotating the adjusting tube in the direction of arrow A in the illustration.

3. Measure the toe-in.

d. Turn the right and left adjusting tubes by an equal amount to adjust toe-in.

e. Tighten the 2 lock nuts.

Torque: 56 N*m (571 kgf*cm, 41 ft.*lbf)

5. **ADJUST TOE-IN (for 4WD)**

a. Measure the distance between each wheel disc and the center of the toe-adjusting cam, and then confirm that left and right distances are the same.

Difference in the length of rear No. 2 suspension arms:

1.0 mm (0.04 in.) or less

If the left-right difference is larger than 1.0 mm (0.04 in.), adjust it by following the procedures below.

b. Loosen the toe-adjust cam set nuts.

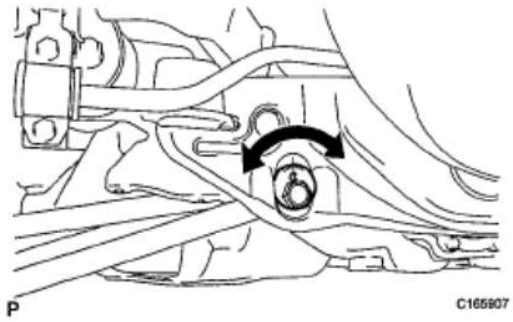


Fig. 16: Measuring Distance Between Each Wheel Disc And Center Of Toe-Adjusting Cam
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Turn the adjust cams by an equal amount to adjust toe-in.

HINT:

- Try to adjust toe-in to the center of the specified range.
- The toe-in will change by the following amount corresponding to each graduation of the cam. Approx. 3.3 mm (0.13 in.)

d. Tighten the toe-adjust cam set nuts.

Torque: 100 N*m (1019 kgf*cm, 74 ft.*lbf)

6. **INSPECT CAMBER**

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Camber (Unloaded Vehicle)

CAMBER REFERENCE

Engine	Model	Camber Inclination	Right-left difference
1AR-FE	2WD	-1°02' +/- 45' (-1.03° +/- 0.75°)	45' (0.75°) or less
2GR-FE	2WD	-1°00' +/- 45' (- 1.00° +/- 0.75°)	
	4WD	-0°36' +/- 45' (- 0.60° +/- 0.75°)	

HINT:

Camber is not adjustable. If the measurement is not within the specified range, inspect the suspension parts for damage and/or wear, and replace them if necessary.

7. **PLACE FRONT WHEELS FACING STRAIGHT AHEAD**
8. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

NOTE: Disconnect the cable from the negative battery terminal for more than 2 seconds.

9. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**

NOTE: When disconnecting the cable, some systems need to be initialized after the cable is reconnected (See INITIALIZATION).

10. **PERFORM YAW RATE SENSOR ZERO POINT CALIBRATION**

HINT:

Perform yaw rate sensor zero point calibration (See **CALIBRATION**).

11. **CHECK STEERING ANGLE SENSOR ZERO POINT CALIBRATION**

HINT:

Check steering angle sensor zero point calibration (See **DTC C1290 STEERING ANGLE SENSOR ZERO POINT MALFUNCTION**).

FRONT SHOCK ABSORBER

COMPONENTS

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for 1AR-FE:

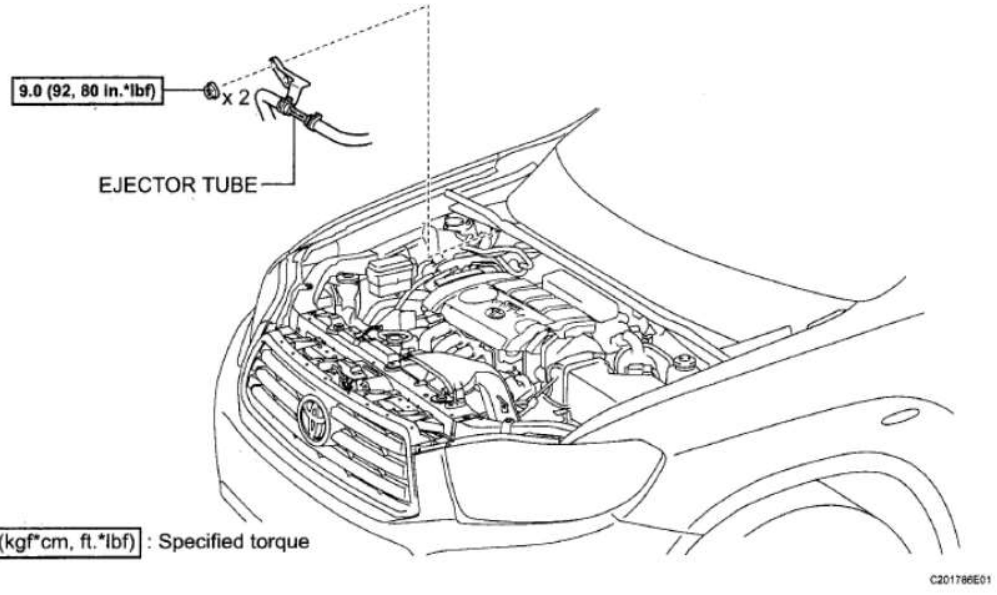


Fig. 17: Identifying Front Shock Absorber Components With Torque Specification (1 Of 4)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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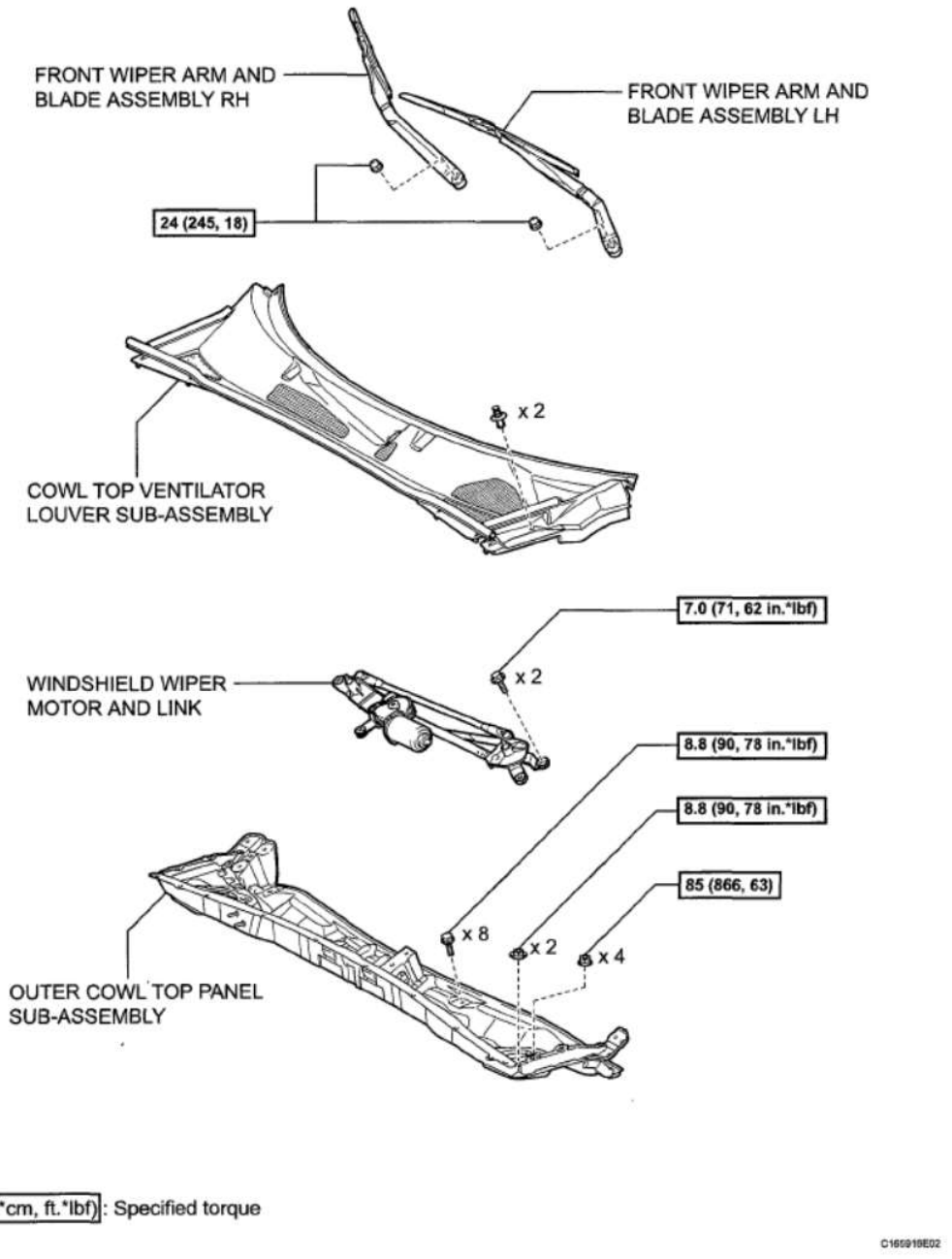


Fig. 18: Identifying Front Shock Absorber Components With Torque Specification (2 Of 4)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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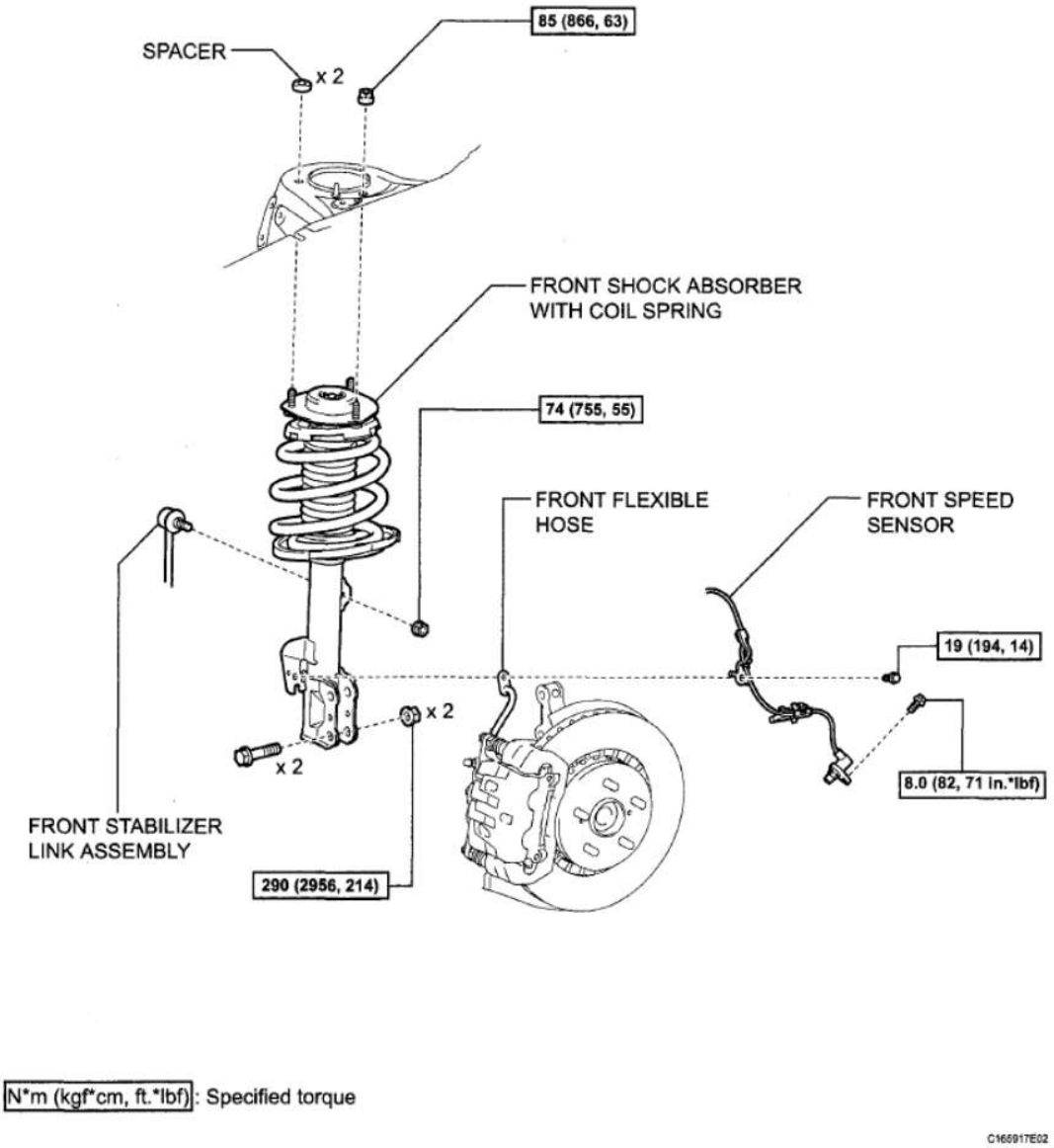


Fig. 19: Identifying Front Shock Absorber Components With Torque Specification (3 Of 4)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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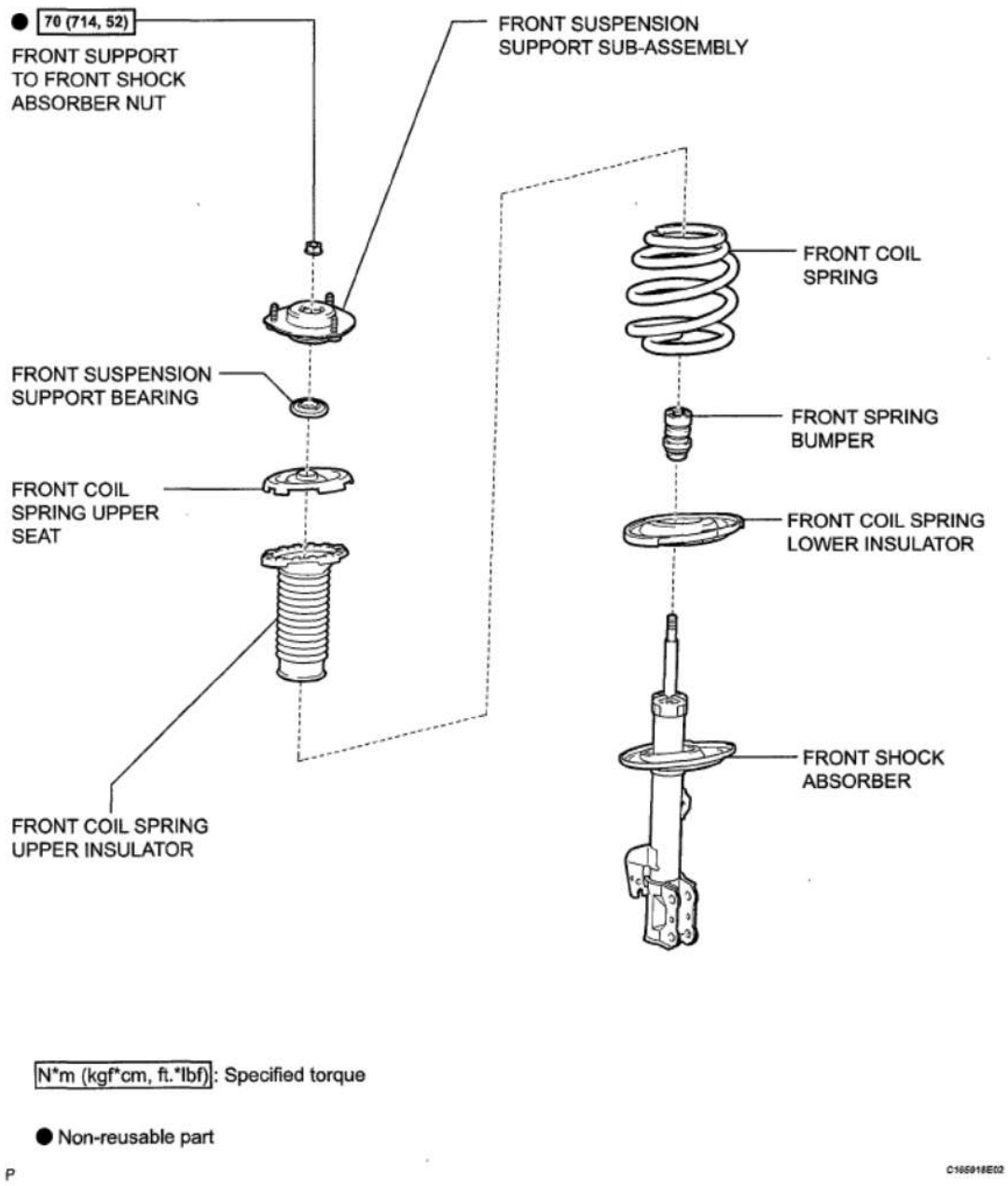


Fig. 20: Identifying Front Shock Absorber Components With Torque Specification (4 Of 4)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

HINT:

- Use the same procedure for the RH side and LH side.
- The procedure listed below is for the LH side.

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1. **REMOVE FRONT WHEEL**
2. **SEPARATE EJECTOR TUBE (for 1AR-FE)** (See **REMOVAL**)
3. **REMOVE FRONT WIPER ARM AND BLADE ASSEMBLY LH** (See **REMOVAL**)
4. **REMOVE FRONT WIPER ARM AND BLADE ASSEMBLY RH** (See **REMOVAL**)
5. **LOOSEN FRONT SUPPORT TO FRONT SHOCK ABSORBER NUT**
   a. Loosen the front support to front shock absorber nut of the front shock absorber.

NOTE:

- **Do not remove the front support to front shock absorber nut.**
- **Loosen the nut only when the front shock absorber with coil spring needs to be disassembled.**

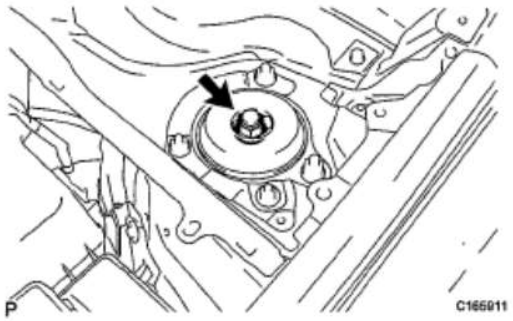


Fig. 21: Locating Front Shock Absorber Nut
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. **REMOVE COWL TOP VENTILATOR LOUVER SUB-ASSEMBLY** (See **REMOVAL**)
7. **REMOVE WINDSHIELD WIPER MOTOR AND LINK** (See **REMOVAL**)
8. **REMOVE OUTER COWL TOP PANEL SUB-ASSEMBLY**
   a. Disengage the 4 clamps and separate the wiper wire harness from the outer cowl top panel sub-assembly.

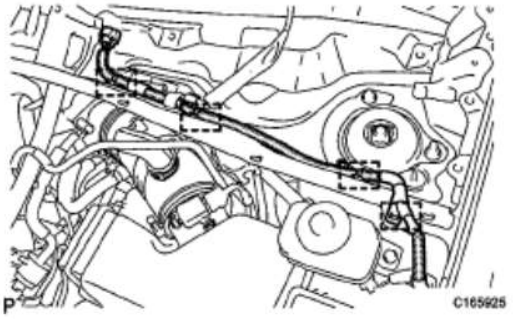


Fig. 22: Identifying Wiper Wire Harness Clamps
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   b. Remove the 8 bolts, 6 nuts, and the outer cowl top panel sub-assembly.

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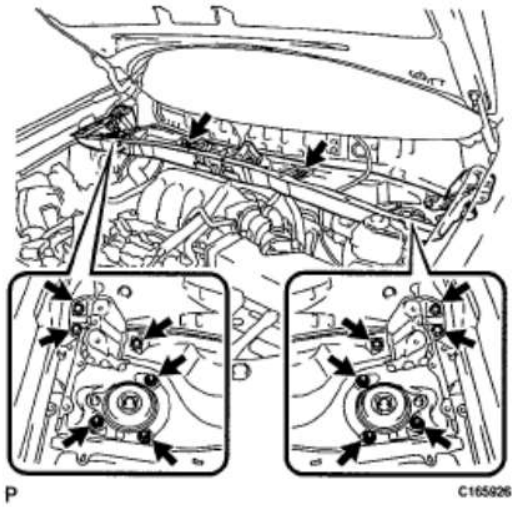


Fig. 23: Locating Bolts, Nuts, And Outer Cowl Top Panel Sub-Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

9. **SEPARATE FRONT SPEED SENSOR**
   a. Remove the bolt and clamp, and separate the front speed sensor and front flexible hose.

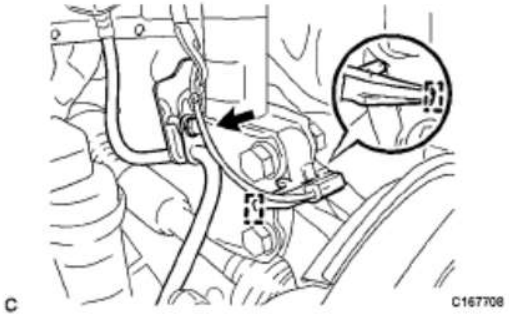


Fig. 24: Locating Front Speed Sensor And Front Flexible Hose
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

10. **SEPARATE FRONT STABILIZER LINK ASSEMBLY**
    a. Remove the nut and separate the front stabilizer link assembly from the front shock absorber.

    HINT:

    If the ball joint turns together with the nut, use a hexagon wrench (6 mm) to hold the stud.

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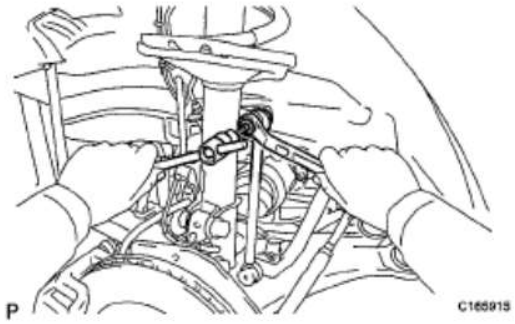


Fig. 25: Separating Front Stabilizer Link Assembly From Front Shock Absorber
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

11. **REMOVE FRONT SHOCK ABSORBER WITH COIL SPRING**
    a. Support the front axle using a jack and wooden block.

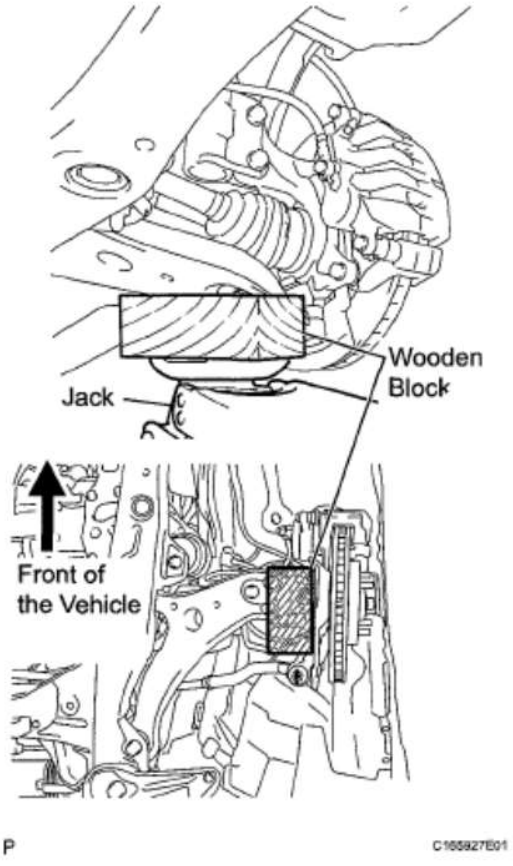


Fig. 26: Supporting Front Axle
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

    b. Remove the 2 bolts and 2 nuts, and separate the front shock absorber with coil spring (lower side) from the steering knuckle.

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NOTE: When removing the nuts, keep the bolts from rotating.

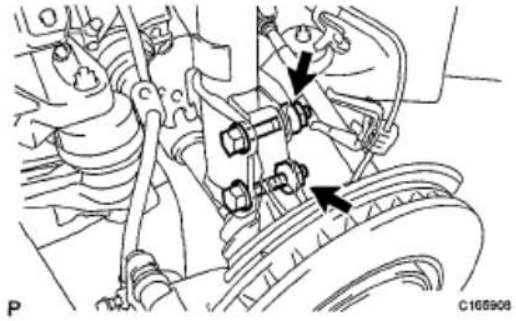


Fig. 27: Locating Front Shock Absorber Bolts And Nuts (Lower Side)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Remove the nut and 2 spacers on the upper side of the front shock absorber with coil spring.

NOTE: Make sure that the front speed sensor is completely separated from the front shock absorber with coil spring.

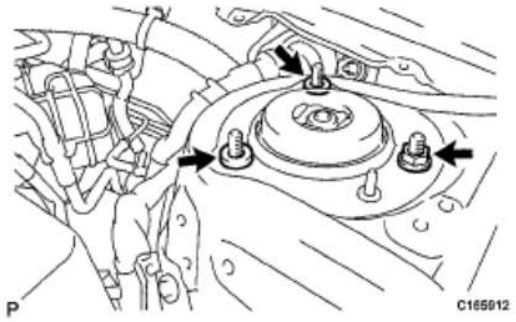


Fig. 28: Identifying Upper Side Of Front Shock Absorber With Coil Spring
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

12. **SECURE FRONT SHOCK ABSORBER WITH COIL SPRING**
    a. As shown in the illustration, secure the front shock absorber with coil spring in a vise using aluminum plates by clamping onto a double nutted bolt affixed to the bracket at the bottom of the absorber.

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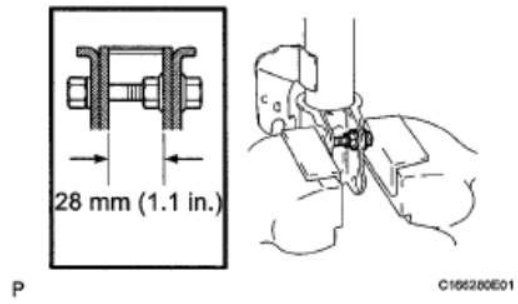


Fig. 29: Clamping Onto Double Nutted Bolt Affixed To Bracket Bottom Of Absorber
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

13. **REMOVE FRONT SUPPORT TO FRONT SHOCK ABSORBER NUT**
    a. Using SST, compress the front coil spring.

       SST 09727-30021 (09727-00010, 09727-00031), 09727-00050

       NOTE: Do not use an impact wrench. It will damage the SST.

       HINT:

       If the front coil spring is compressed at an angle, using 2 SST will make the work easier.

    b. Check that the front coil spring is fully compressed.

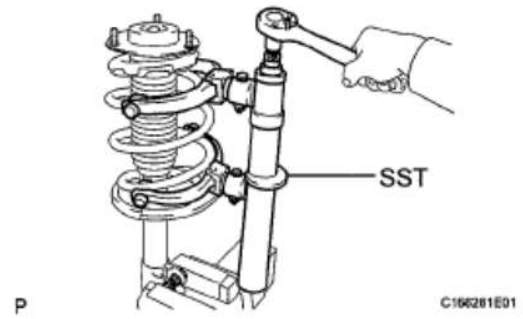


Fig. 30: Compressing Front Coil Spring
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

    c. Remove the front support to front shock absorber nut.
14. **REMOVE FRONT SUSPENSION SUPPORT SUB-ASSEMBLY**
15. **REMOVE FRONT SUSPENSION SUPPORT BEARING**
16. **REMOVE FRONT COIL SPRING UPPER SEAT**
17. **REMOVE FRONT COIL SPRING UPPER INSULATOR**
18. **REMOVE FRONT COIL SPRING**
19. **REMOVE FRONT SPRING BUMPER**

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20. **REMOVE FRONT COIL SPRING LOWER INSULATOR**

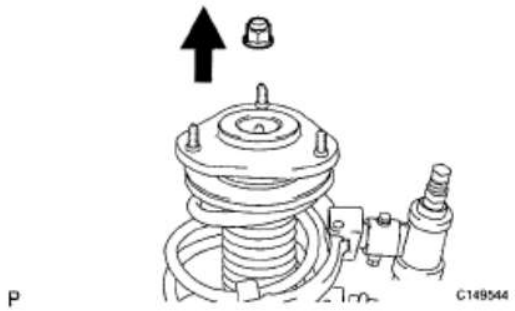


Fig. 31: Removing Front Support To Front Shock Absorber Nut
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. **INSPECT FRONT SHOCK ABSORBER**
   a. Compress and extend the shock absorber rod 4 or more times.

      Standard:

      There is no abnormal resistance or sound and operation resistance is normal.

      HINT:

      If there is any abnormality, replace the front shock absorber with a new one.

INSTALLATION

HINT:

- Use the same procedure for the RH side and LH side.
- The procedure listed below is for the LH side.

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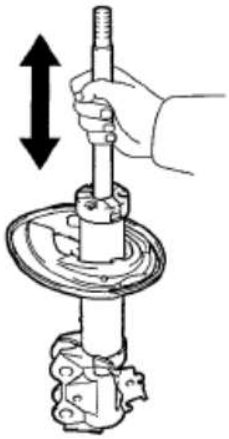


Fig. 32: Compressing And Extend Shock Absorber Rod
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

1. **SECURE FRONT SHOCK ABSORBER ASSEMBLY**
   a. As shown in the illustration, secure the front shock absorber with coil spring in a vise using aluminum plates by clamping onto a double nutted bolt affixed to the bracket at the bottom of the absorber.

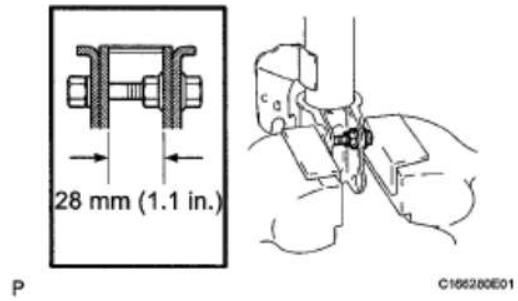


Fig. 33: Clamping Onto Double Nutted Bolt Affixed To Bracket Bottom Of Absorber
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL FRONT COIL SPRING LOWER INSULATOR**
   a. Install the front coil spring lower insulator to the front shock absorber.

NOTE: Make sure that the positioning pins on the front coil spring lower insulator are inserted into the holes in the front shock absorber.

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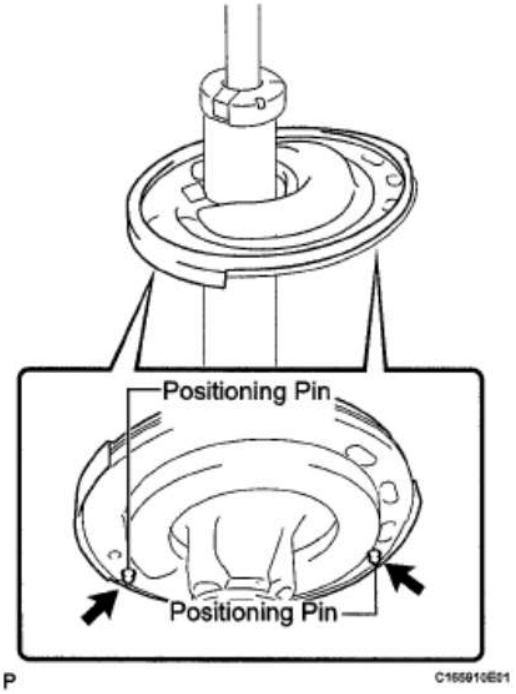


Fig. 34: Locating Front Coil Spring Lower Insulator
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. **INSTALL FRONT SPRING BUMPER**
   a. Install the front spring bumper to the front shock absorber.



Fig. 35: Identifying Front Spring Bumper To Front Shock Absorber
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. **INSTALL FRONT COIL SPRING**
   a. Using SST, compress the front coil spring.

SST 09727-30021 (09727-00010, 09727-00031), 09727-00050

NOTE: Do not use an impact wrench. It will damage the SST.

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HINT:

If the front coil spring is compressed at an angle, using 2 SST will make the work easier.

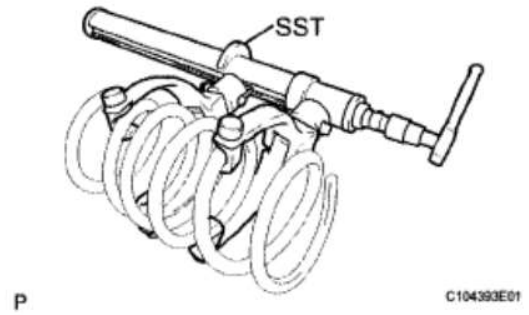


Fig. 36: Compressing Front Coil Spring
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Install the front coil spring to the front shock absorber.

NOTE: Make sure that the end of the front coil spring is positioned in the depression of the lower spring seat.

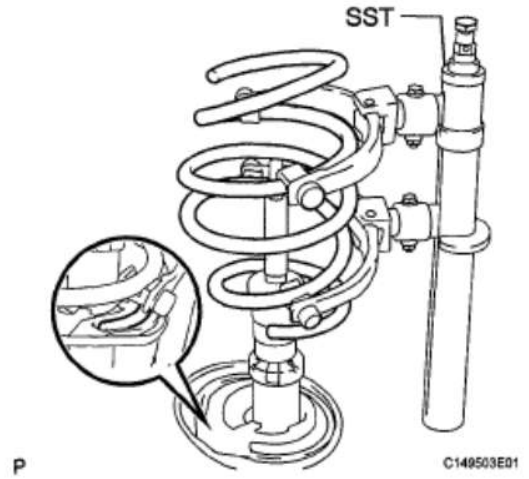


Fig. 37: Installing Front Coil Spring To Front Shock Absorber
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. **INSTALL FRONT COIL SPRING UPPER INSULATOR**
   a. Install the front coil spring upper insulator as shown in the illustration.

HINT:

Any misalignment between the front shock absorber lower bracket and the alignment mark must be +/- 5°.

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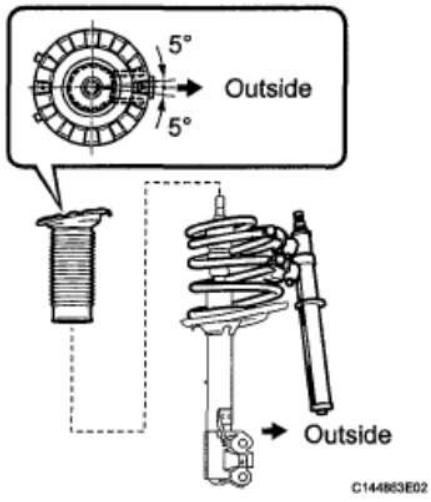


Fig. 38: Installing Front Coil Spring Upper Insulator
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. **INSTALL FRONT COIL SPRING UPPER SEAT**
   a. Install the front coil spring upper seat with the mark facing to the outside of the vehicle.

      HINT:

      Any misalignment between the front shock absorber lower bracket and the alignment mark must be +/- 5°.

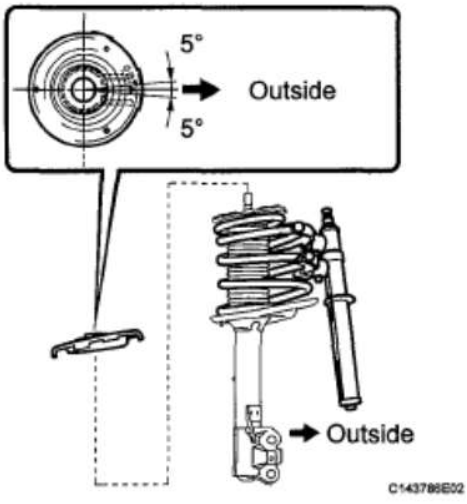


Fig. 39: Installing Front Coil Spring Upper Seat With Mark Facing To Outside Of Vehicle
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

7. **INSTALL FRONT SUSPENSION SUPPORT BEARING**
   a. Install the front suspension support bearing as shown in the illustration.

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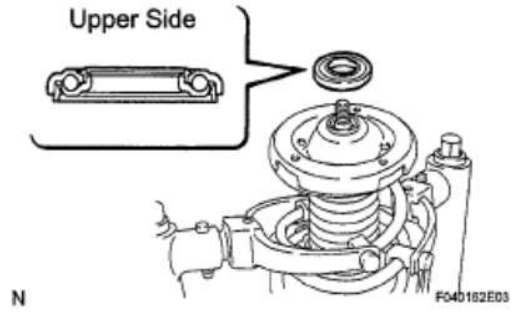


Fig. 40: Identifying Front Suspension Support Bearing
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

8. **INSTALL FRONT SUSPENSION SUPPORT SUB-ASSEMBLY**
   a. Install the front suspension support sub-assembly as shown in the illustration.

      HINT:

      Check that the slot on the piston rod and the slot on the front suspension support sub-assembly are aligned.

   b. Temporarily tighten a new front support to front shock absorber nut.

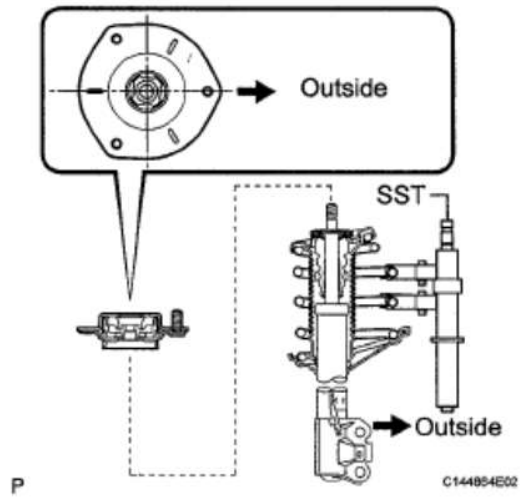


Fig. 41: Installing Front Suspension Support Sub-Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

9. **INSTALL FRONT SHOCK ABSORBER WITH COIL SPRING**
   a. Install the front shock absorber with coil spring (upper side) with the nut and 2 spacers.

      Torque: 85 N*m (866 kgf*cm, 63 ft.*lbf)

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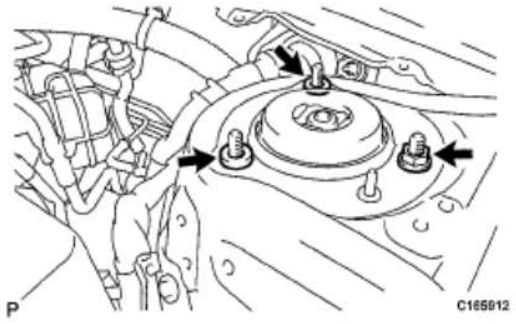


Fig. 42: Identifying Upper Side Of Front Shock Absorber With Coil Spring
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Install the front shock absorber with coil spring (lower side) to the steering knuckle and insert the 2 bolts and 2 nuts.

Torque: 290 N*m (2956 kgf*cm, 214 ft.*lbf)

NOTE: When installing the nuts, keep the bolts from rotating.

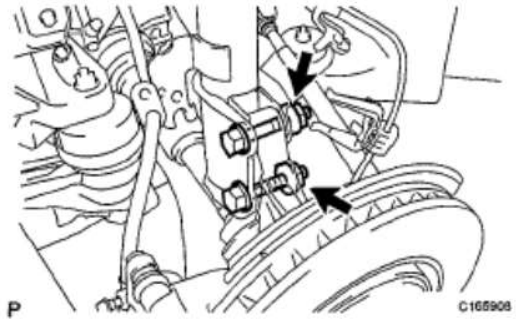


Fig. 43: Locating Front Shock Absorber Bolts And Nuts (Lower Side)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

10. **INSTALL FRONT STABILIZER LINK ASSEMBLY**

a. Install the front stabilizer link assembly to the front shock absorber with the nut.

Torque: 74 N*m (755 kgf*cm, 55 ft.*lbf)

NOTE: If the ball joint turns together with the nut, use a hexagon wrench (6 mm) to hold the stud bolt.

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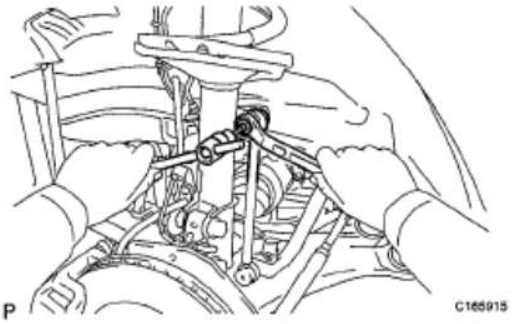


Fig. 44: Installing Front Stabilizer Link Assembly To Front Shock Absorber With Nut
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

11. **INSTALL FRONT SPEED SENSOR**
    a. Install the front speed sensor and front flexible hose with the bolt.

    Torque: 19 N*m (194 kgf*cm, 14 ft.*lbf)

    NOTE: Do not twist the front speed sensor when installing it.

    b. Install the clamp.

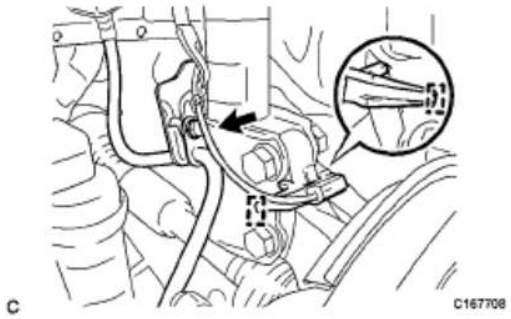


Fig. 45: Locating Front Speed Sensor And Front Flexible Hose
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

12. **INSTALL OUTER COWL TOP PANEL SUB-ASSEMBLY**
    a. Install the outer cowl top panel sub-assembly with the 8 bolts and 6 nuts.

    Torque: Nut A

    85 N*m (866 kgf*cm, 63 ft.*lbf)

    Bolt B

    8.8 N*m (90 kgf*cm, 78 in.*lbf)

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Nut C

8.8 N*m (90 kgf*cm, 78 in.*lbf)

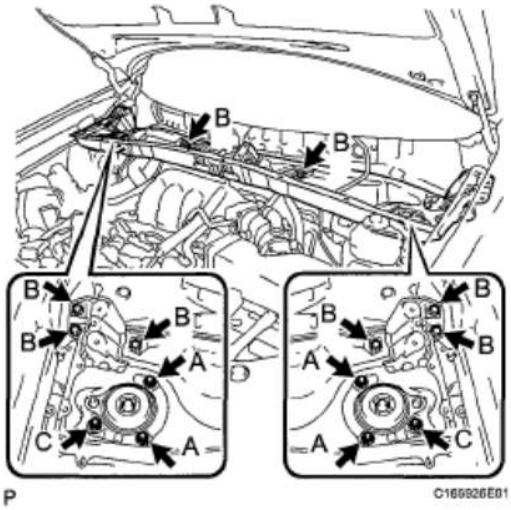


Fig. 46: Locating Outer Cowl Top Panel Sub-Assembly With Bolts And Nuts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Engage the 4 clamps.

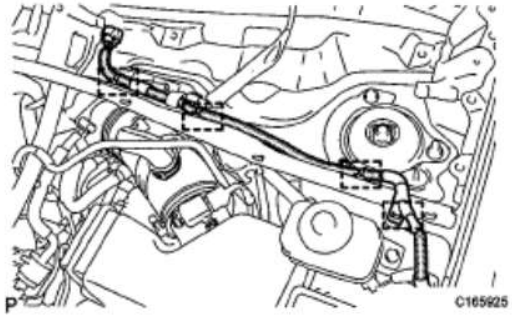


Fig. 47: Identifying Wiper Wire Harness Clamps
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

13. **FULLY TIGHTEN FRONT SUPPORT TO FRONT SHOCK ABSORBER NUT**
    a. Fully tighten the front support to front shock absorber nut.

    Torque: 70 N*m (714 kgf*cm, 52 ft.*lbf)

14. **INSTALL WINDSHIELD WIPER MOTOR AND LINK** (See **INSTALLATION**)
15. **INSTALL COWL TOP VENTILATOR LOUVER SUB-ASSEMBLY** (See **INSTALLATION**)

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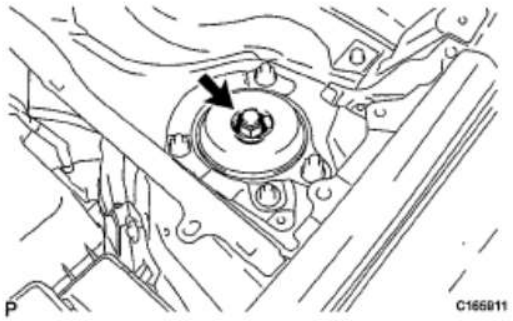


Fig. 48: Locating Front Shock Absorber Nut
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

16. **INSTALL FRONT WIPER ARM AND BLADE ASSEMBLY RH** (See **INSTALLATION**)
17. **INSTALL FRONT WIPER ARM AND BLADE ASSEMBLY LH** (See **INSTALLATION**)
18. **INSTALL EJECTOR TUBE (for 1AR-FE)** (See **INSTALLATION**)
19. **INSTALL FRONT WHEEL**

    Torque: 103 N*m (1050 kgf*cm, 76 ft.*lbf)

20. **INSPECT AND ADJUST FRONT WHEEL ALIGNMENT**

    Inspect and adjust front wheel alignment (See **FRONT WHEEL ALIGNMENT**).

DISPOSAL

1. **DISPOSE OF FRONT SHOCK ABSORBER**
   a. Position the front shock absorber assembly level with the piston rod fully extended. Using a drill, make a hole in the cylinder between A and B as shown in the illustration to discharge the gas inside.

NOTE:

- **The gas is colorless, odorless, and nonpoisonous.**
- **Be careful when drilling because shards of metal may fly about, so always use the proper safety equipment.**

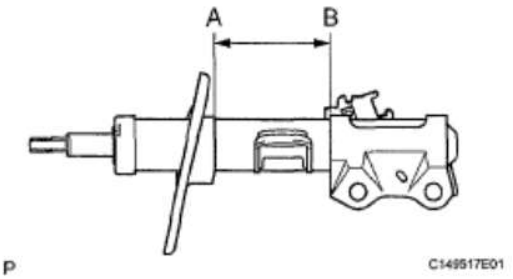


Fig. 49: Drilling Make Hole In Cylinder Between A And B
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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FRONT SUSPENSION MEMBER

COMPONENTS

for 2GR-FE:

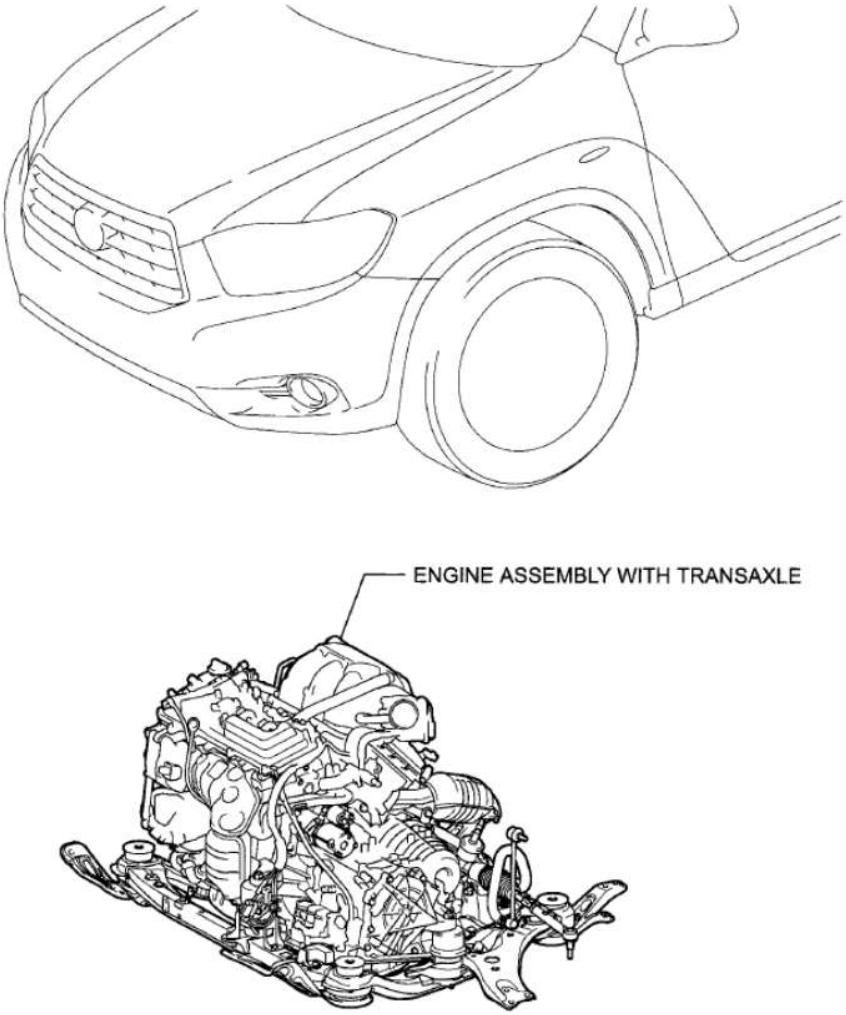


Fig. 50: Identifying Front Suspension Member Components With Torque Specification (1 Of 6)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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for 1AR-FE:

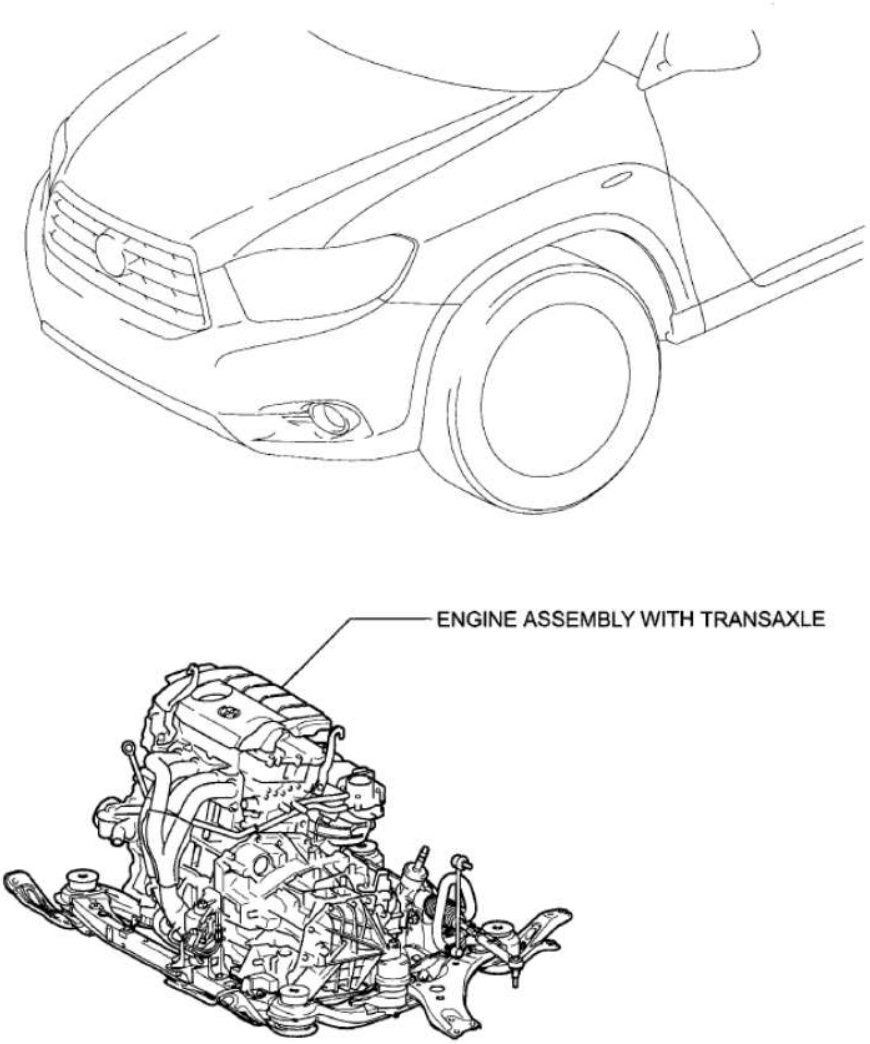


Fig. 51: Identifying Front Suspension Member Components With Torque Specification (2 Of 6)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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for 2GR-FE:

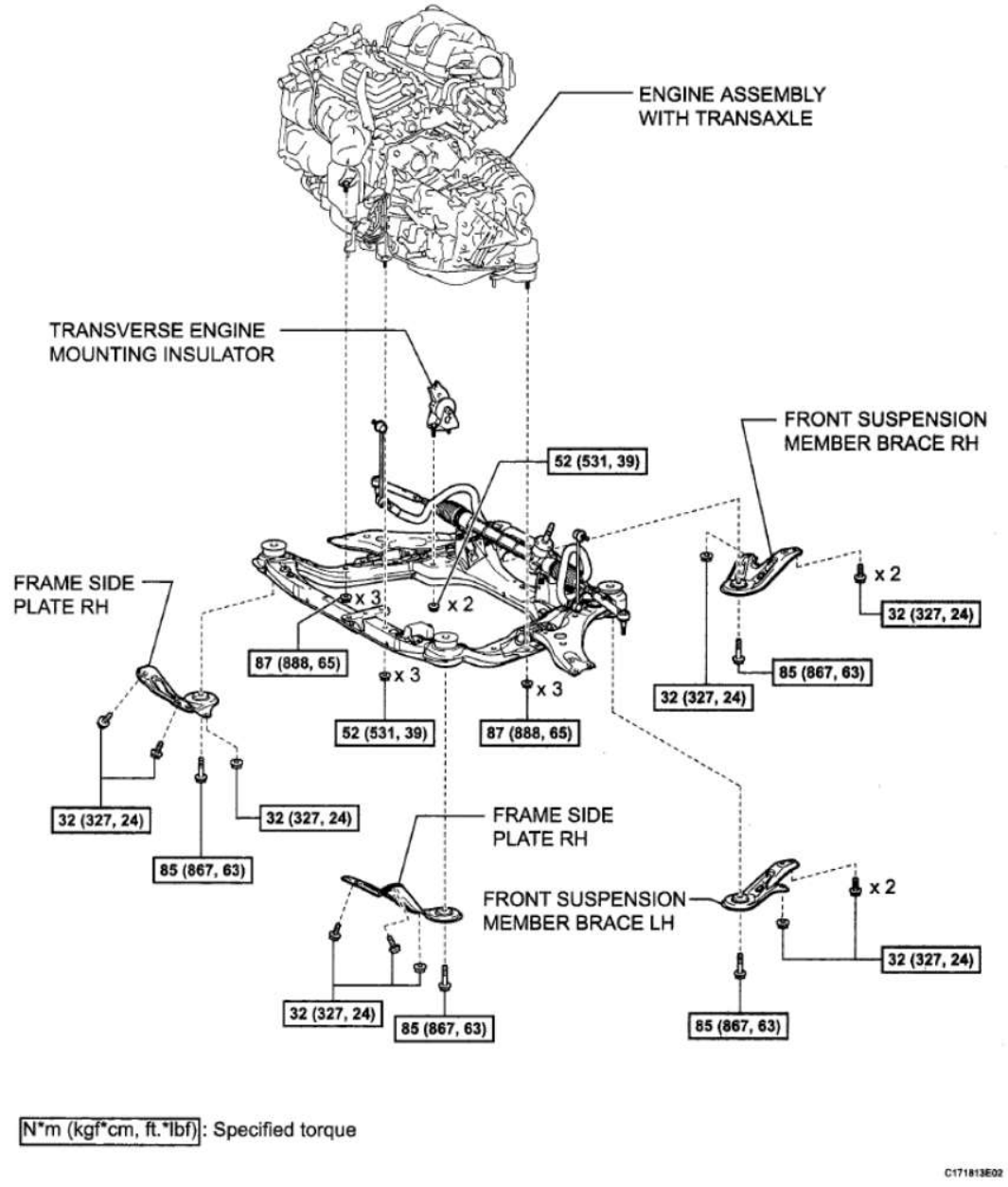


Fig. 52: Identifying Front Suspension Member Components With Torque Specification (3 Of 6)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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for 1AR-FE:

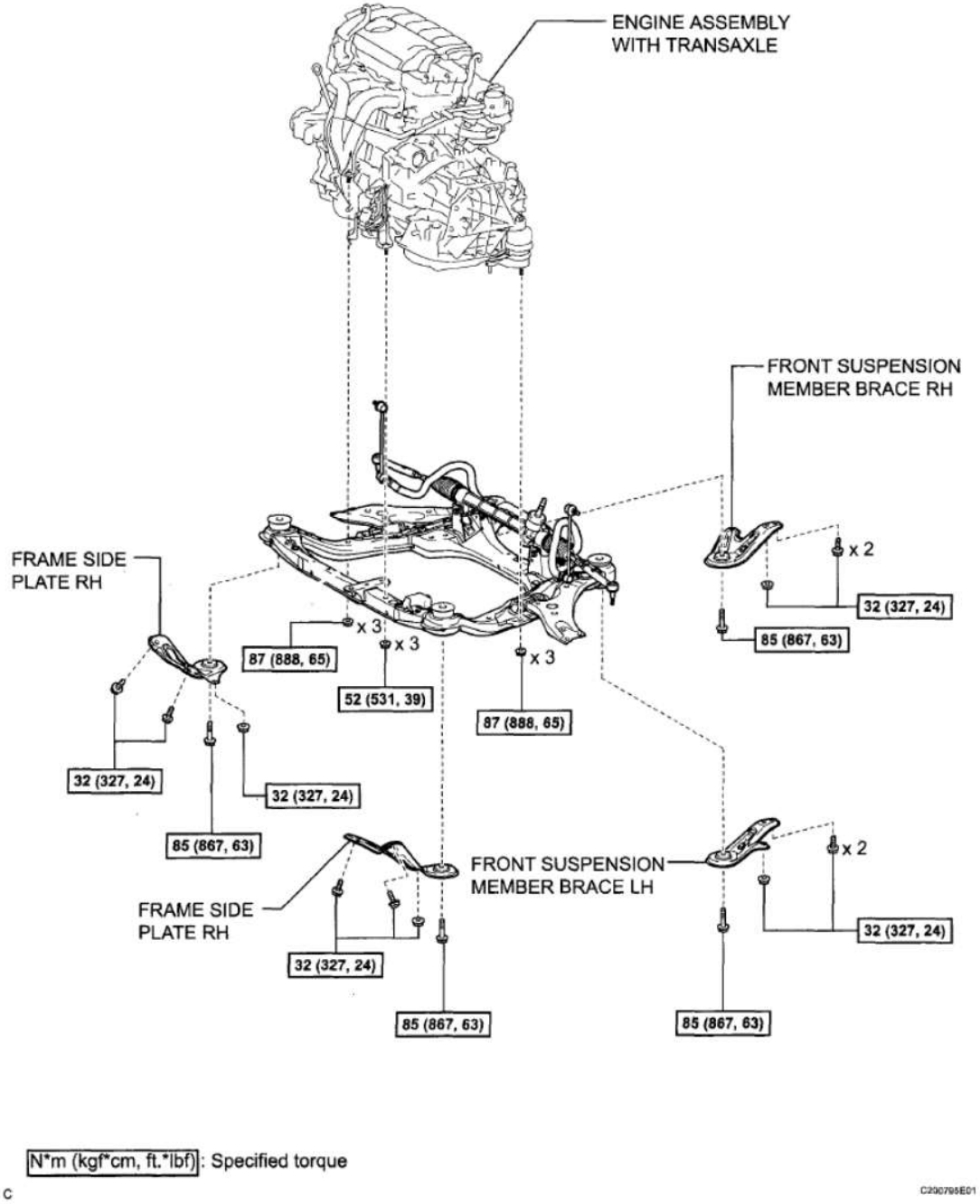


Fig. 53: Identifying Front Suspension Member Components With Torque Specification (4 Of 6)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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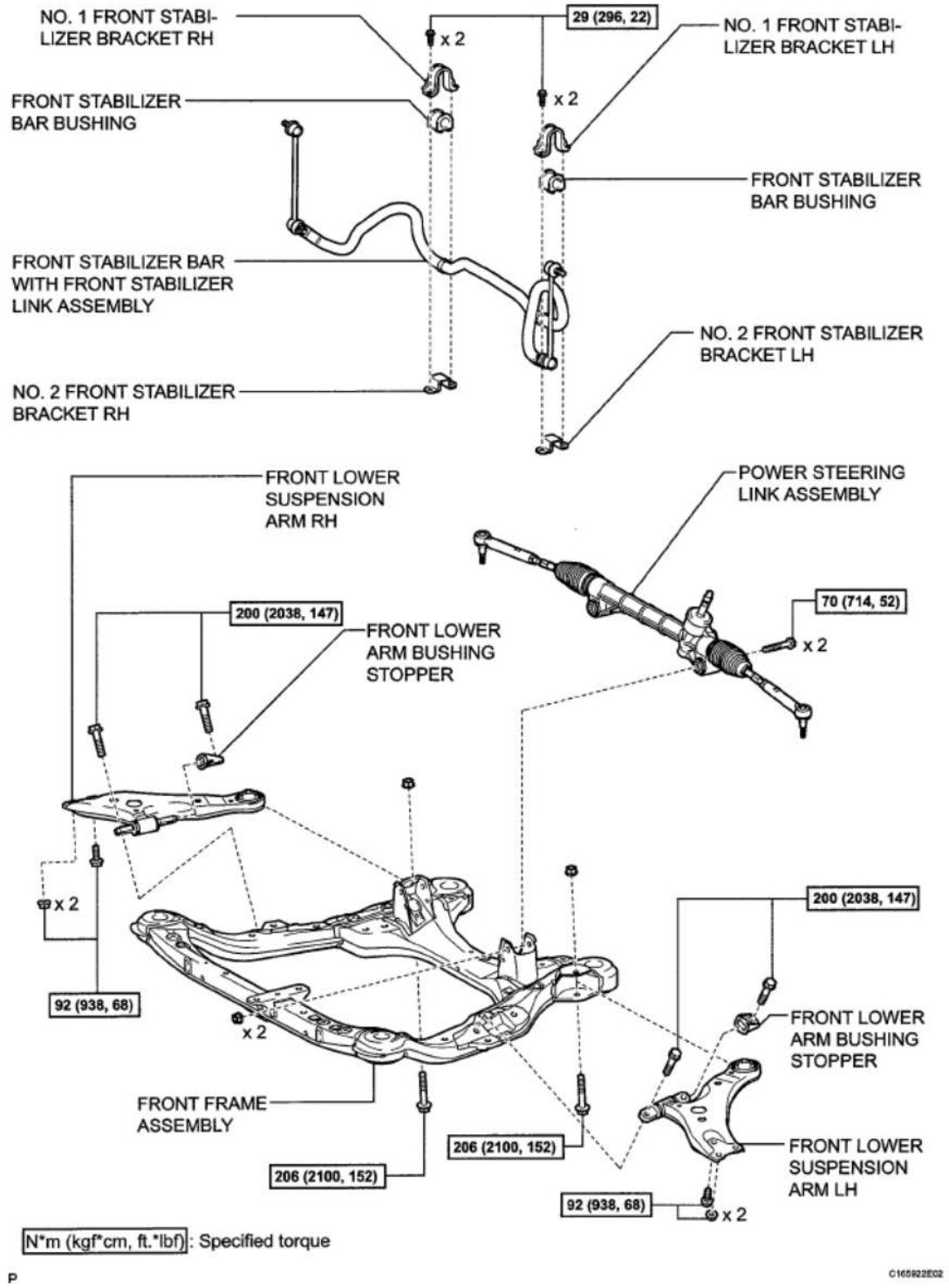


Fig. 54: Identifying Front Suspension Member Components With Torque Specification (5 Of 6)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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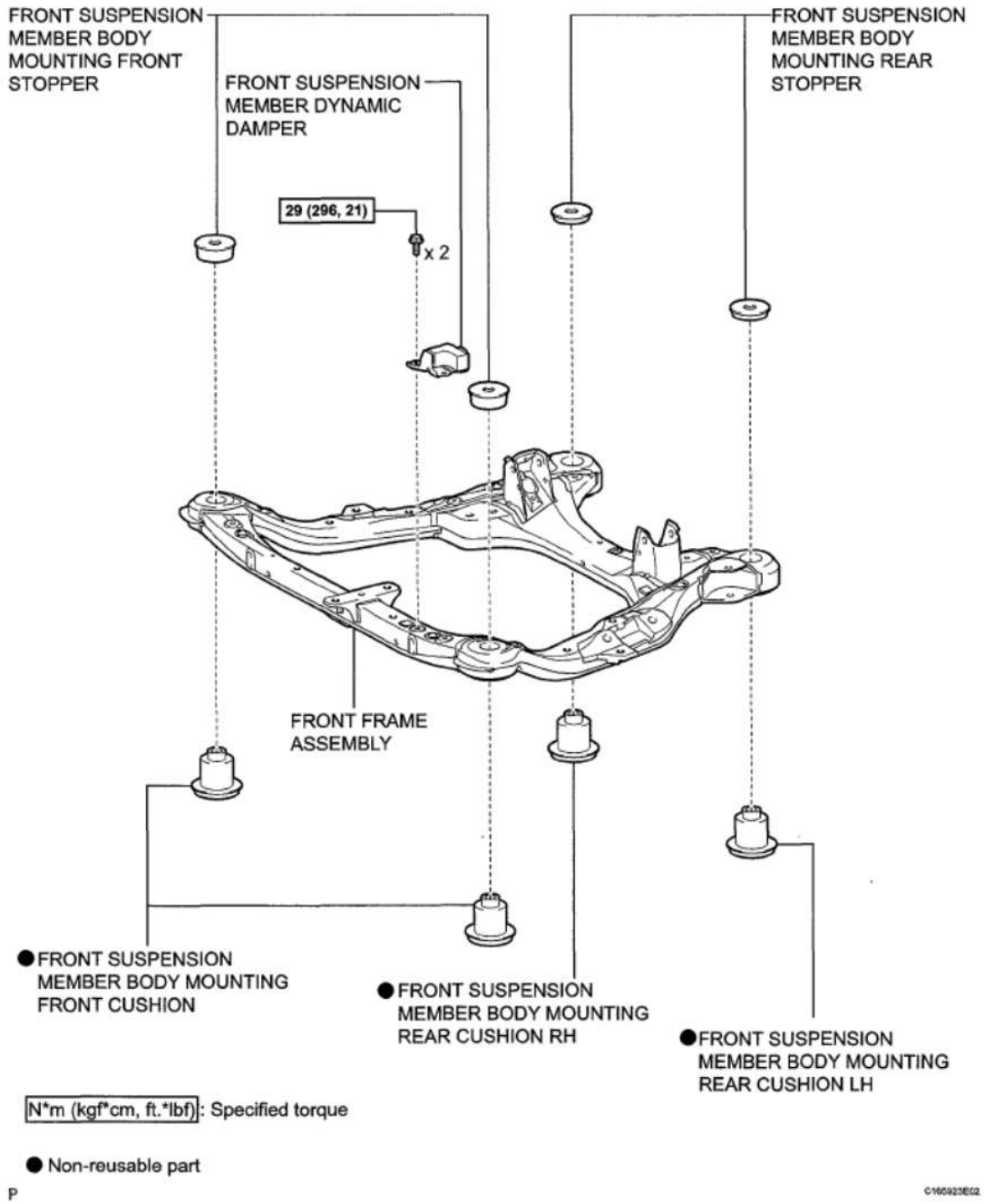


Fig. 55: Identifying Front Suspension Member Components With Torque Specification (6 Of 6)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **REMOVE ENGINE ASSEMBLY WITH TRANSAXLE**

   HINT:

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- Refer to the procedure up to Remove Engine Assembly with Transaxle (for 2GR-FE) (See **REMOVAL**).
- Refer to the procedure up to Remove Engine Assembly with Transaxle (for 1AR-FE) (See **REMOVAL**).

2. **REMOVE NO. 1 FRONT STABILIZER BRACKET LH** (See **REMOVAL**)
3. **REMOVE NO. 1 FRONT STABILIZER BRACKET RH**

   HINT:

   Perform the same procedure as the LH side.

4. **REMOVE FRONT STABILIZER BAR WITH FRONT STABILIZER LINK ASSEMBLY**
5. **REMOVE POWER STEERING LINK ASSEMBLY** (See **REMOVAL**)
6. **INSTALL ENGINE HANGERS (for 2GR-FE)** (See **REMOVAL**)
7. **INSTALL ENGINE HANGERS (for 1AR-FE)** (See **REMOVAL**)
8. **REMOVE FRONT FRAME ASSEMBLY (for 2GR-FE)** (See **REMOVAL**)
9. **REMOVE FRONT FRAME ASSEMBLY (for 1AR-FE)** (See **REMOVAL**)
10. **REMOVE TRANSVERSE ENGINE MOUNTING INSULATOR (for 2GR-FE)** (See **INSPECTION**)
11. **REMOVE FRONT LOWER SUSPENSION ARM LH** (See **REMOVAL**)
12. **REMOVE FRONT LOWER SUSPENSION ARM RH**

    HINT:

    Perform the same procedure as the LH side.

13. **REMOVE FRONT SUSPENSION MEMBER DYNAMIC DAMPER**
    a. Remove the 2 bolts and front suspension member dynamic damper.
14. **REMOVE FRONT SUSPENSION MEMBER BODY MOUNTING FRONT STOPPER**
15. **REMOVE FRONT SUSPENSION MEMBER BODY MOUNTING REAR STOPPER**

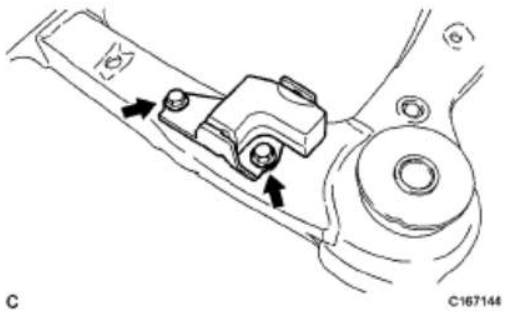


Fig. 56: Locating Front Suspension Member Dynamic Damper Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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16. **REMOVE FRONT SUSPENSION MEMBER BODY MOUNTING FRONT CUSHION**

a. Install SST as shown in the illustration.

SST 09830-10010 (09830-01010, 09830-01040, 09830-01050), 09950-40011 (09951-04020, 09952-04010, 09955-04011)

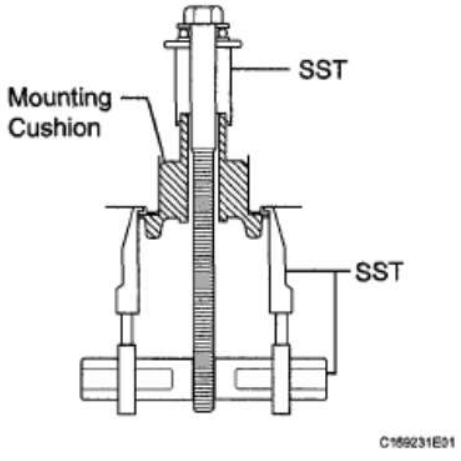


Fig. 57: Removing Front Suspension Member Body Mounting Front Cushion
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Using SST, remove the front suspension member body mounting front cushion.

NOTE:

- **Make sure that the claws of SST are securely hung onto the mounting cushion.**
- **Tighten SST slowly and evenly.**
- **Be careful as the mounting cushion may fly out.**
- **The mounting cushion cannot be reused.**

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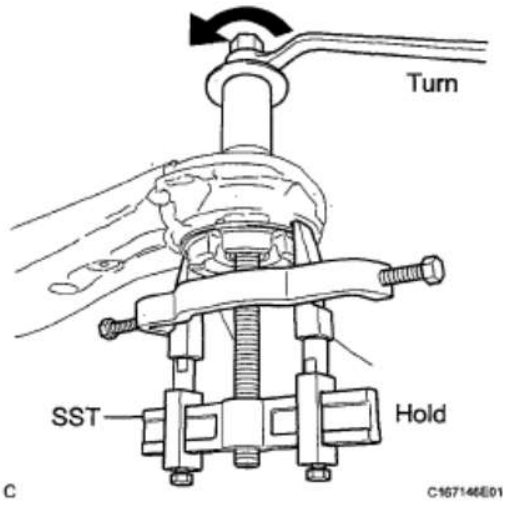


Fig. 58: Removing Front Suspension Member Body Mounting Front Cushion
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

17. **REMOVE FRONT SUSPENSION MEMBER BODY MOUNTING REAR CUSHION LH**
    a. Using SST, remove the front suspension member body mounting rear cushion LH.

    SST 09830-10010 (09830-01010, 09830-01040, 09830-01050), 09950-40011 (09951-04020, 09952-04010, 09954-04010, 09955-04011)

    NOTE:
    - **Make sure that the claws of SST are securely hung onto the mounting cushion.**
    - **Tighten SST slowly and evenly.**
    - **Be careful as the mounting cushion may fly out.**
    - **The mounting cushion cannot be reused.**

18. **REMOVE FRONT SUSPENSION MEMBER BODY MOUNTING REAR CUSHION RH**

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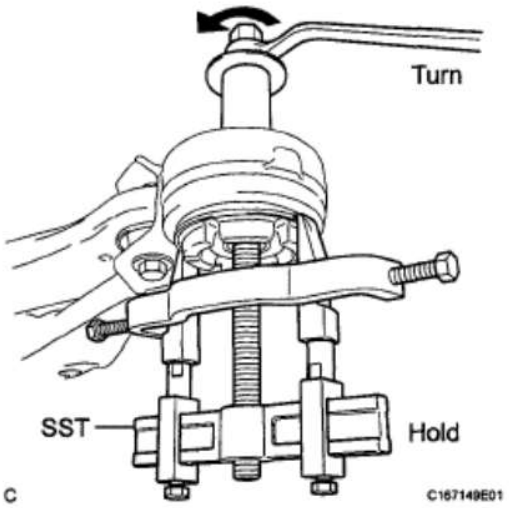


Fig. 59: Removing Front Suspension Member Body Mounting Rear Cushion LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

HINT:

Perform the same procedure as the LH side.

SST 09830-10010 (09830-01010, 09830-01040, 09830-01050), 09950-40011 (09951-04020, 09952-04010, 09954-04010, 09955-04011)

INSTALLATION

1. **INSTALL FRONT SUSPENSION MEMBER BODY MOUNTING REAR CUSHION LH**
   a. Temporarily install a new front suspension member body mounting rear cushion LH while confirming the installation direction.

NOTE: Position the front suspension member body mounting rear cushion in the correct direction.

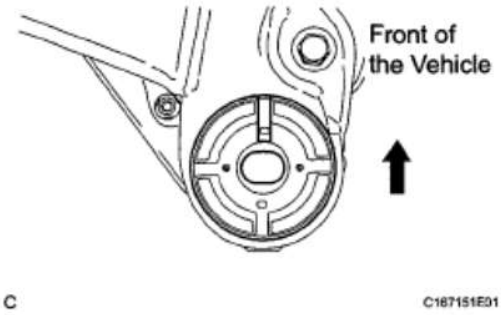


Fig. 60: Identifying Front Suspension Member Body Mounting Rear Cushion LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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b. Install SST as shown in the illustration.

SST 09830-10010 (09830-01010, 09830-01020, 09830-01030, 09830-01060)

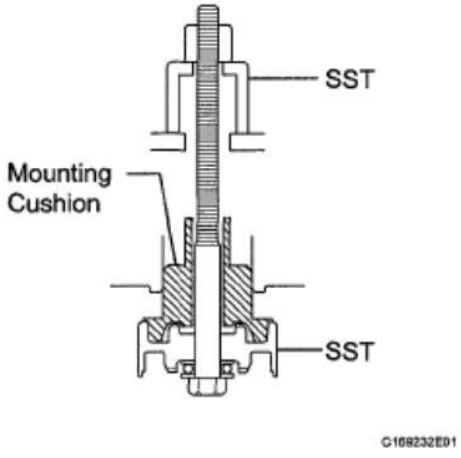


Fig. 61: Identifying Front Suspension Member Body Mounting Rear Cushion
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Using SST, install the front suspension member body mounting rear cushion LH as shown in the illustration.

NOTE: Check that there is no clearance between the front suspension member and the front suspension member body mounting rear cushion LH.

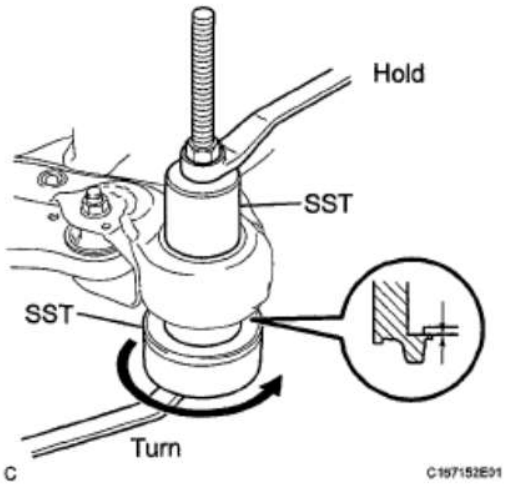


Fig. 62: Installing Front Suspension Member Body Mounting Rear Cushion LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL FRONT SUSPENSION MEMBER BODY MOUNTING REAR CUSHION RH**

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a. Temporarily install a new front suspension member body mounting rear cushion RH while confirming the installation direction.

NOTE: Position the front suspension member body mounting rear cushion in the correct direction.

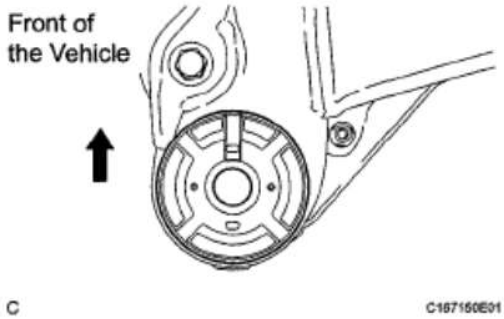


Fig. 63: Identifying Front Suspension Member Body Mounting Rear Cushion RH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Using SST, install the front suspension member body mounting rear cushion RH.

SST 09830-10010 (09830-01010, 09830-01020, 09830-01030, 09830-01060)

HINT:

Perform the same procedure as the LH side.

3. **INSTALL FRONT SUSPENSION MEMBER BODY MOUNTING FRONT CUSHION**

a. Temporarily install a new front suspension member body mounting front cushion while confirming the installation direction.

NOTE: Position the front suspension member body mounting front cushion in the correct direction.

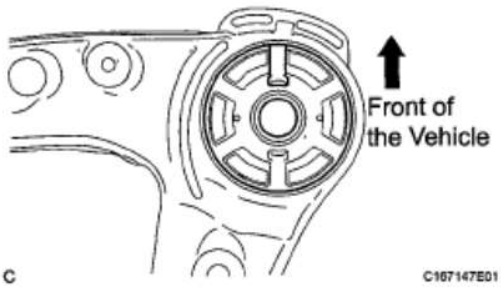


Fig. 64: Identifying Front Suspension Member Body Mounting Front Cushion
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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b. Using SST, install the front suspension member body mounting front cushion as shown in the illustration.

SST 09830-10010 (09830-01010, 09830-01020, 09830-01030, 09830-01060)

NOTE: Check that there is no clearance between the front suspension member and the front suspension member body mounting rear cushion.

4. **INSTALL FRONT SUSPENSION MEMBER BODY MOUNTING REAR STOPPER**
5. **INSTALL FRONT SUSPENSION MEMBER BODY MOUNTING FRONT STOPPER**

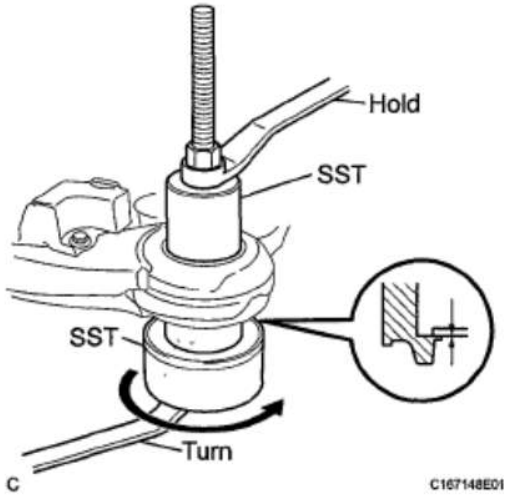


Fig. 65: Installing Front Suspension Member Body Mounting Front Cushion
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. **INSTALL FRONT SUSPENSION MEMBER DYNAMIC DAMPER**
   a. Install the front suspension member dynamic damper with the 2 bolts.

   Torque: 29 N*m (296 kgf*cm, 21 ft.*lbf)

7. **INSTALL FRONT LOWER SUSPENSION ARM LH** (See **REMOVAL**)
8. **INSTALL FRONT LOWER SUSPENSION ARM RH**

HINT:

Perform the same procedure as the LH side.

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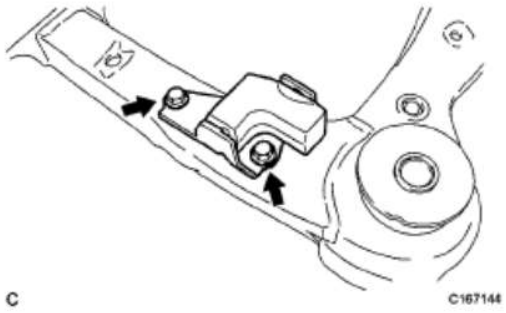


Fig. 66: Locating Front Suspension Member Dynamic Damper Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

9. **INSTALL TRANSVERSE ENGINE MOUNTING INSULATOR (for 2GR-FE)** (See **INSTALLATION**)
10. **INSTALL FRONT FRAME ASSEMBLY (for 2GR-FE)** (See **INSTALLATION**)
11. **INSTALL FRONT FRAME ASSEMBLY (for 1AR-FE)** (See **INSTALLATION**)
12. **REMOVE ENGINE HANGERS (for 2GR-FE)** (See **INSTALLATION**)
13. **REMOVE ENGINE HANGER NO.1 (for 1AR-FE)**
14. **INSTALL POWER STEERING LINK ASSEMBLY** (See **INSTALLATION**)
15. **INSTALL FRONT STABILIZER BAR WITH FRONT STABILIZER LINK ASSEMBLY**
16. **INSTALL NO. 1 FRONT STABILIZER BRACKET LH** (See **INSTALLATION**)
17. **INSTALL NO. 1 FRONT STABILIZER BRACKET RH**

    HINT:

    Perform the same procedure as the LH side.

18. **INSTALL ENGINE ASSEMBLY WITH TRANSAXLE**

    HINT:

    - Refer to the procedure from Install Engine Assembly with Transaxle (for 2GR-FE) (See **INSTALLATION**).
    - Refer to the procedure from Install Engine Assembly with Transaxle (for 1AR-FE) (See **INSTALLATION**).

FRONT LOWER SUSPENSION ARM

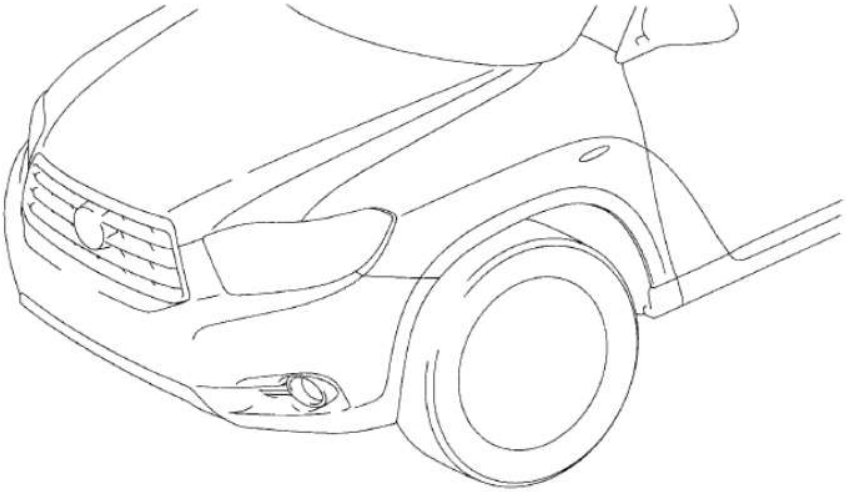
COMPONENTS

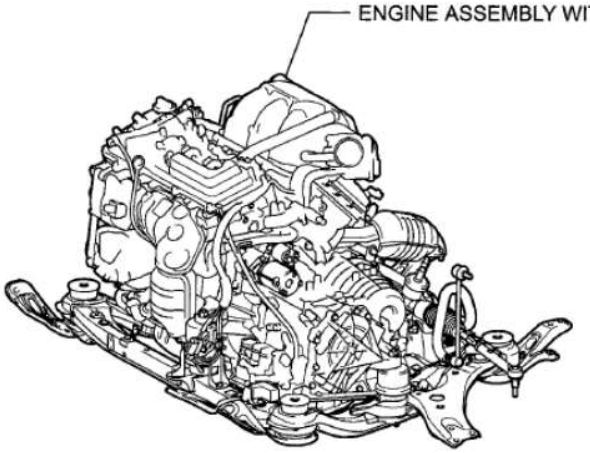
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for 2GR-FE:





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Fig. 67: Identifying Front Lower Suspension Arm Components With Torque Specification (1 Of 6)
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for 1AR-FE:

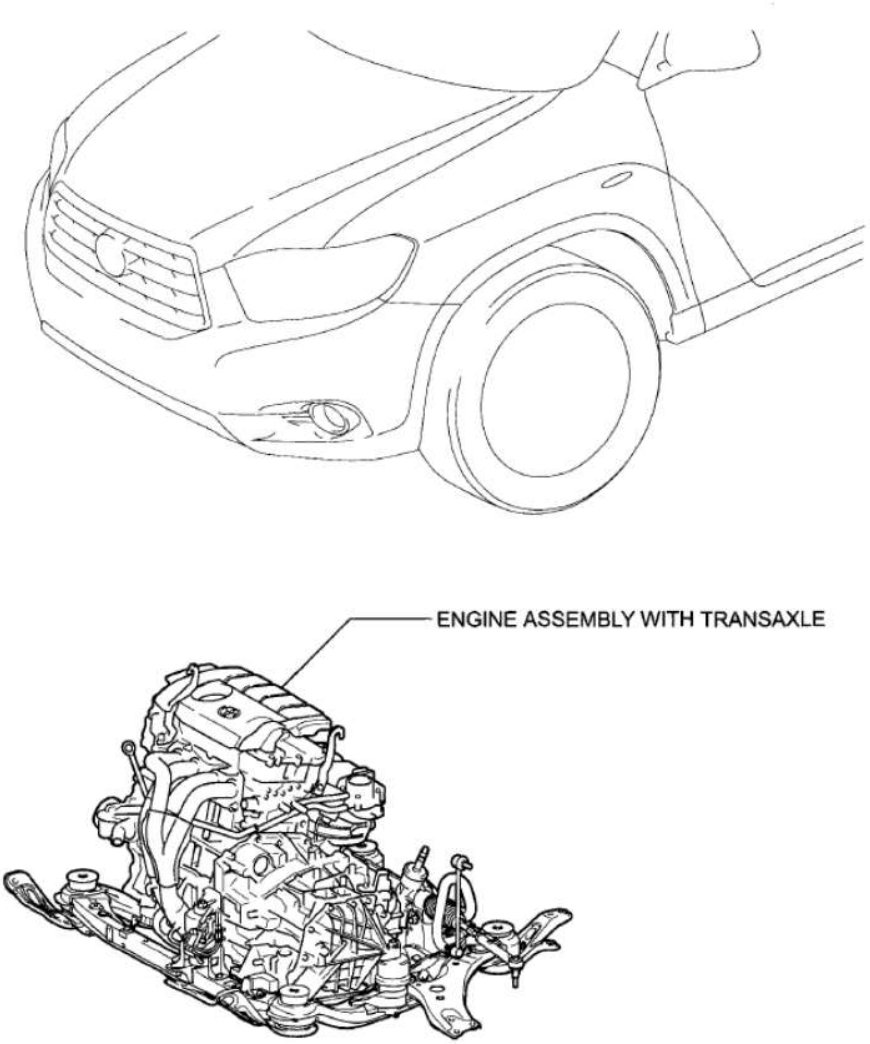


Fig. 68: Identifying Front Lower Suspension Arm Components With Torque Specification (2 Of 6)
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for 2GR-FE:

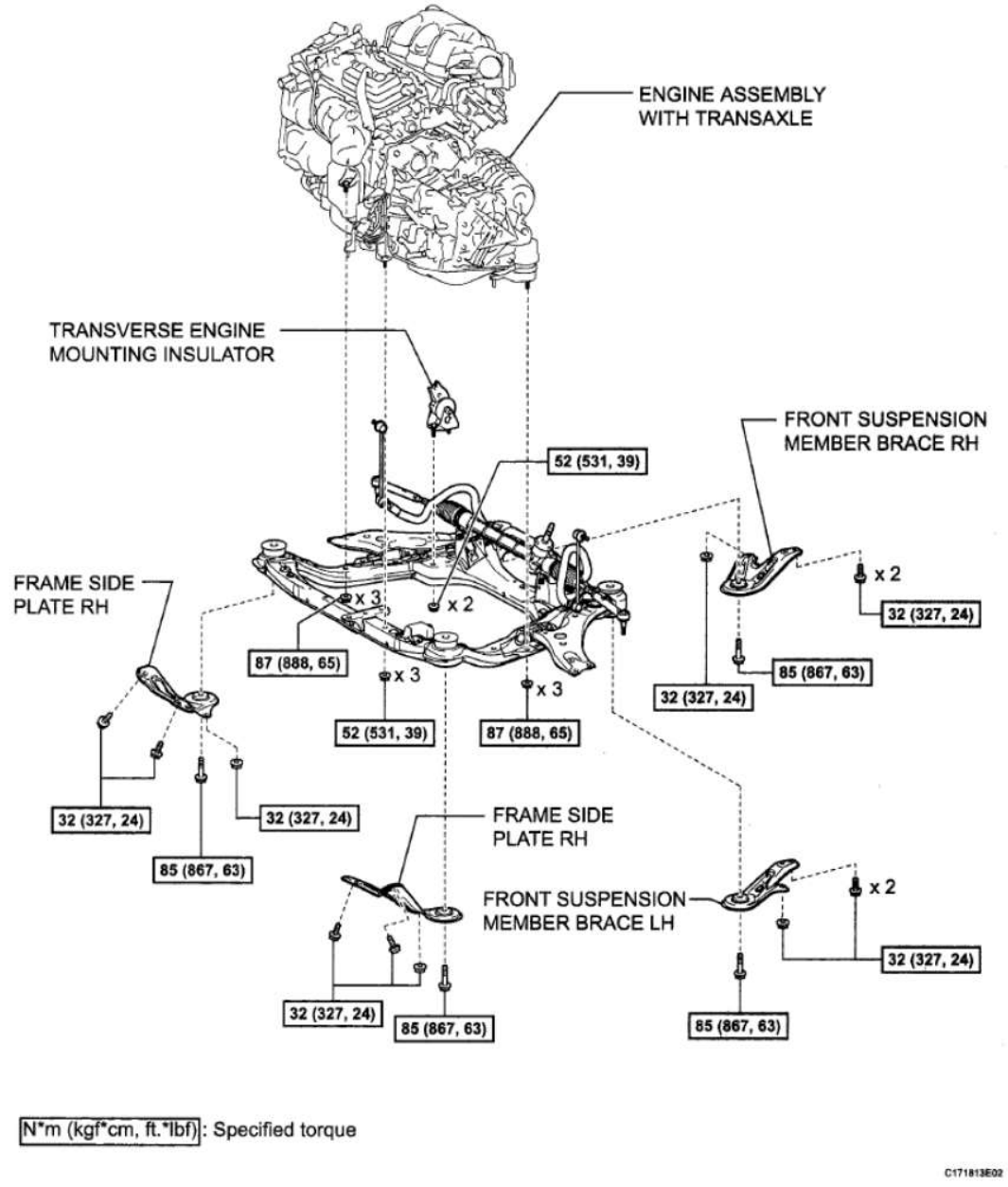


Fig. 69: Identifying Front Lower Suspension Arm Components With Torque Specification (3 Of 6)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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for 1AR-FE:

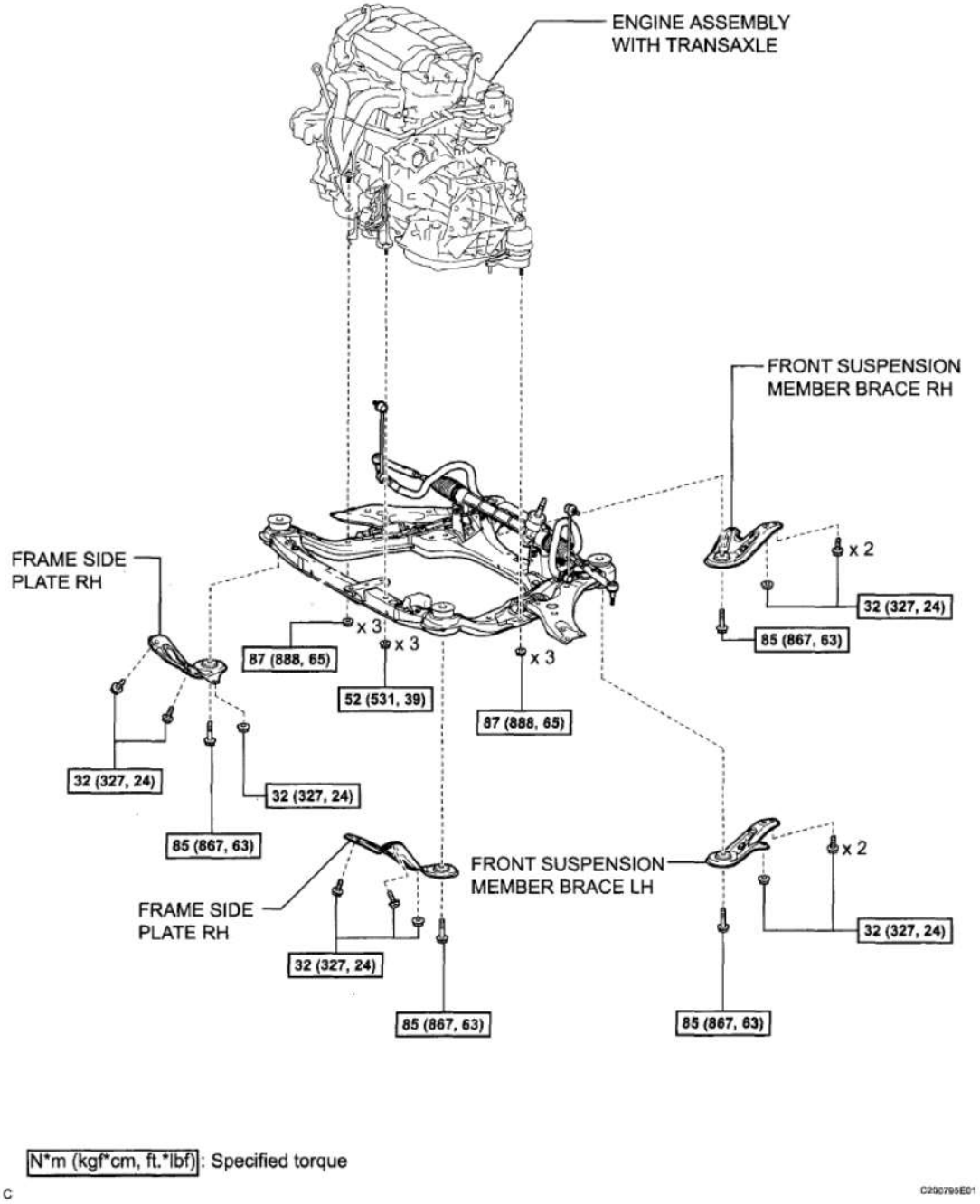


Fig. 70: Identifying Front Lower Suspension Arm Components With Torque Specification (4 Of 6)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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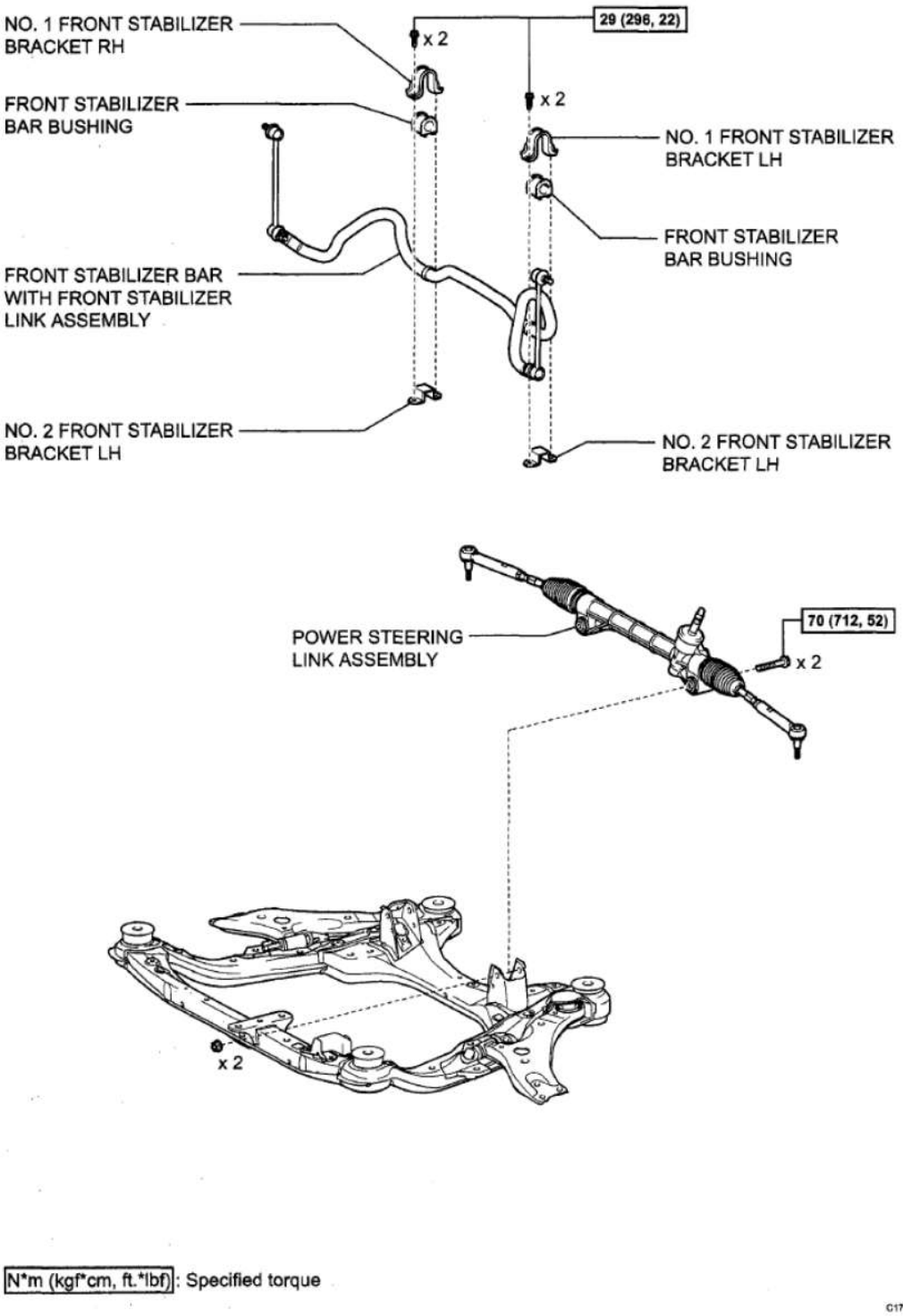


Fig. 71: Identifying Front Lower Suspension Arm Components With Torque Specification (5 Of 6)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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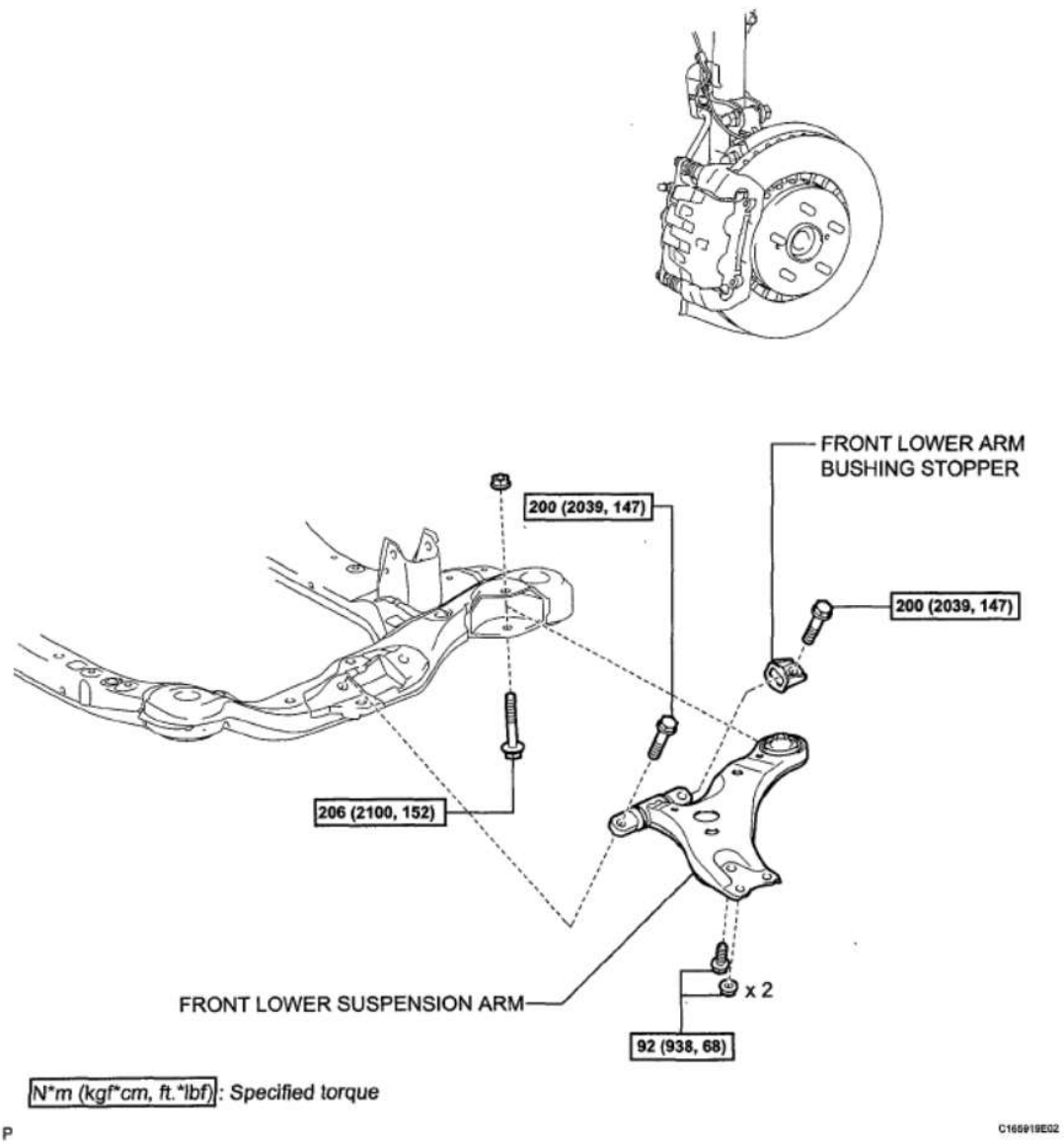


Fig. 72: Identifying Front Lower Suspension Arm Components With Torque Specification (6 Of 6)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **REMOVE ENGINE ASSEMBLY WITH TRANSAXLE**

   HINT:

   - Refer to the procedure up to Remove Engine Assembly with Transaxle (for 2GR-FE) (See **REMOVAL**).
   - Refer to the procedure up to Remove Engine Assembly with Transaxle (for 1AR-FE) (See **REMOVAL**).

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2. **REMOVE NO. 1 FRONT STABILIZER BRACKET LH** (See **REMOVAL**)
3. **REMOVE NO. 1 FRONT STABILIZER BRACKET RH**

   HINT:

   Perform the same procedure as the LH side.

4. **REMOVE FRONT STABILIZER BAR WITH FRONT STABILIZER LINK ASSEMBLY**
5. **REMOVE POWER STEERING LINK ASSEMBLY** (See **REMOVAL**)
6. **INSTALL ENGINE HANGERS (for 2GR-FE)** (See **REMOVAL**)
7. **INSTALL ENGINE HANGERS (for 1AR-FE)** (See **REMOVAL**)
8. **REMOVE FRONT FRAME ASSEMBLY (for 2GR-FE)** (See **REMOVAL**)
9. **REMOVE FRONT FRAME ASSEMBLY (for 1AR-FE)** (See **REMOVAL**)
10. **REMOVE FRONT LOWER SUSPENSION ARM**
    a. Remove the 3 bolts, nut, and the front lower suspension arm from the front frame assembly.
    b. Remove the front lower arm bushing stopper from the front lower suspension arm.

INSTALLATION

1. **INSTALL FRONT LOWER SUSPENSION ARM**
   a. Install the front lower arm bushing stopper to the front lower suspension arm.
   b. Install the front lower suspension arm to the front frame assembly with the 3 bolts and nut, but do not tighten them yet.

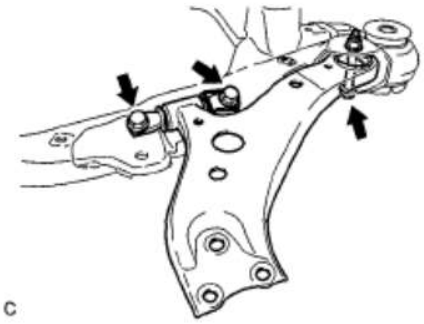


Fig. 73: Locating Front Lower Suspension Arm Bolts And Nuts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   c. Tighten the 3 bolts in numerical order shown in the illustration.

   Torque: Bolt 1, 2

   200 N*m (2039 kgf*cm, 147 ft.*lbf)

   Bolt 3

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206 N*m (2100 kgf*cm, 152 ft.*lbf)

HINT:

Start installing the bolts from the front side of the vehicle.

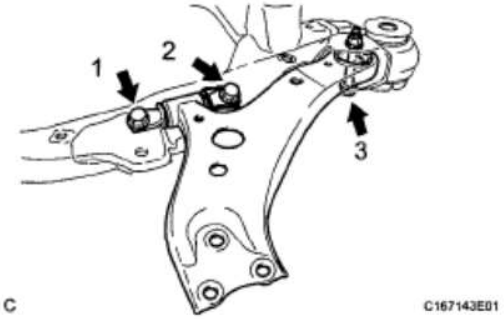


Fig. 74: Tightening Front Lower Suspension Arm Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL FRONT FRAME ASSEMBLY (for 2GR-FE)** (See **INSTALLATION**)
3. **INSTALL FRONT FRAME ASSEMBLY (for 1AR-FE)** (See **INSTALLATION**)
4. **REMOVE ENGINE HANGERS (for 2GR-FE)** (See **INSTALLATION**)
5. **REMOVE ENGINE HANGERS (for 1AR-FE)** (See **INSTALLATION**)
6. **INSTALL POWER STEERING LINK ASSEMBLY** (See **INSTALLATION**)
7. **INSTALL FRONT STABILIZER BAR WITH FRONT STABILIZER LINK ASSEMBLY**
8. **INSTALL NO. 1 FRONT STABILIZER BRACKET LH** (See **INSTALLATION**)
9. **INSTALL NO. 1 FRONT STABILIZER BRACKET RH**

   HINT:

   Perform the same procedure as the LH side.

10. **INSTALL ENGINE ASSEMBLY WITH TRANSAXLE**

    HINT:

    - Refer to the procedure from Install Engine Assembly with Transaxle (for 2GR-FE) (See **INSTALLATION**).
    - Refer to the procedure from Install Engine Assembly with Transaxle (for 1AR-FE) (See **INSTALLATION**).

FRONT LOWER BALL JOINT

COMPONENTS

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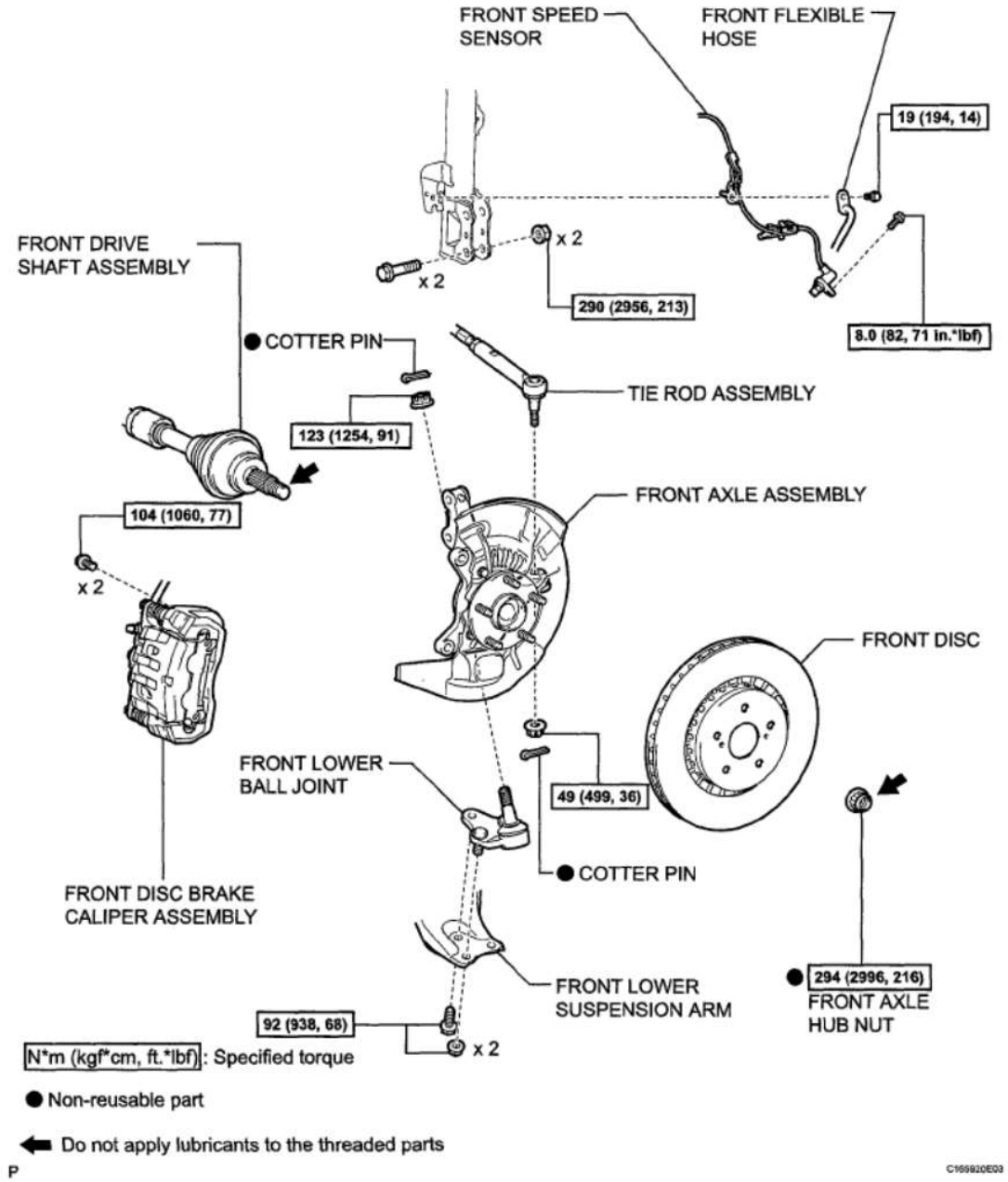


Fig. 75: Identifying Front Lower Ball Joint Components With Torque Specification
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **REMOVE FRONT WHEEL**
2. **REMOVE FRONT AXLE HUB NUT (for 2GR-FE)** (See **REMOVAL**)
3. **REMOVE FRONT AXLE HUB NUT (for 1AR-FE)** (See **REMOVAL**)
4. **SEPARATE FRONT SPEED SENSOR**

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a. Remove the bolt and resin clamp, and separate the front speed sensor.

NOTE:

- **Be sure to completely separate the front speed sensor from the front shock absorber with coil spring.**
- **Be careful not to damage the front speed sensor.**
- **Clean the installation hole and the surface for the speed sensor every time the speed sensor is removed.**

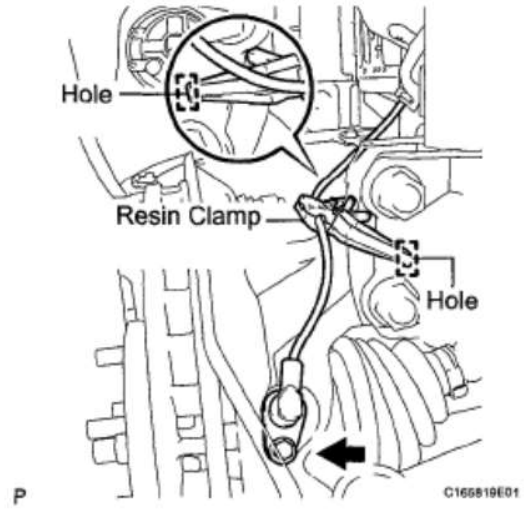


Fig. 76: Locating Front Speed Sensor
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. **SEPARATE FRONT DRIVE SHAFT ASSEMBLY**

a. Put matchmarks on the front drive shaft assembly and the front axle hub sub-assembly.

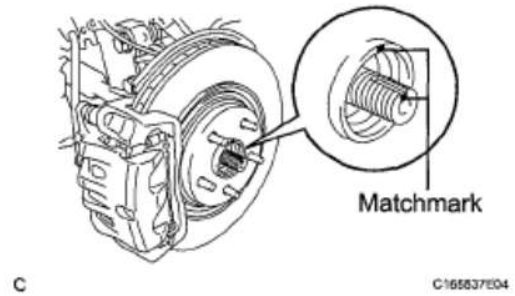


Fig. 77: Putting Matchmarks On Front Drive Shaft Assembly And Front Axle Hub Sub-Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Using a plastic hammer, separate the front drive shaft assembly from the front axle assembly.

NOTE: Loosen the staked part of the front axle hub nut completely,

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otherwise the threads of the drive shaft may be damaged.

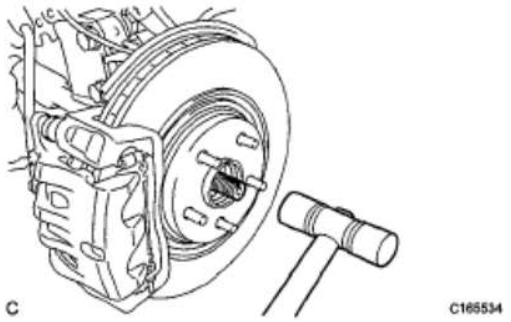


Fig. 78: Separating Front Drive Shaft Assembly From Front Axle Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. **SEPARATE FRONT DISC BRAKE CALIPER ASSEMBLY**
   a. Remove the 2 bolts and separate the front disc brake caliper assembly.

NOTE: Use wire or an equivalent tool to keep the brake caliper from hanging down by the flexible hose.

7. **REMOVE FRONT DISC** (See **INSPECTION**)
8. **SEPARATE TIE ROD ASSEMBLY** (See **REMOVAL**)

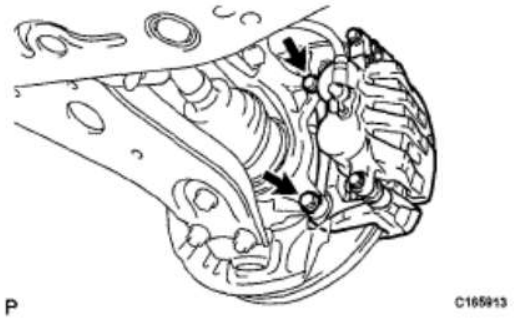


Fig. 79: Locating Front Disc Brake Caliper Assembly Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

9. **SEPARATE FRONT LOWER SUSPENSION ARM**
   a. Remove the bolt, 2 nuts, and separate the front lower suspension arm from the lower ball joint.

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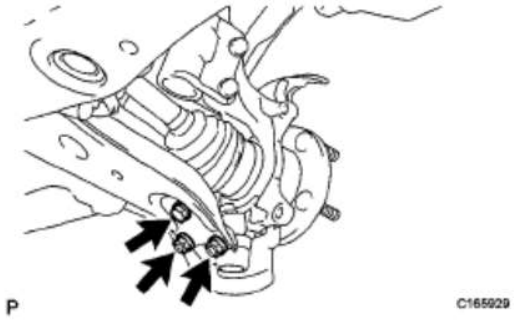


Fig. 80: Locating Front Lower Suspension Arm Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

10. **REMOVE FRONT AXLE ASSEMBLY**
    a. Remove the 2 bolts, 2 nuts and front axle assembly.

NOTE: When removing the nuts, keep the bolts from rotating.

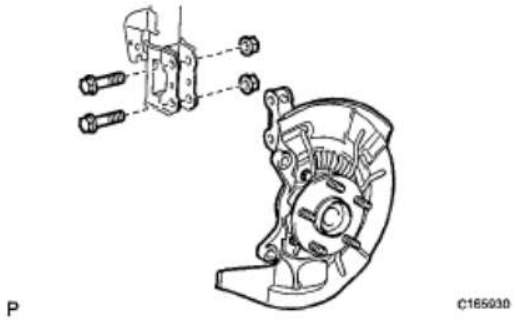
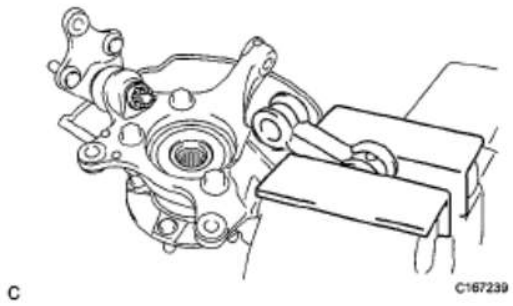


Fig. 81: Identifying Front Axle Assembly With Bolts Nuts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

11. **REMOVE FRONT LOWER BALL JOINT**
    a. Secure the front axle assembly in a vise using aluminum plates.

NOTE: When using a vise, do not overtighten it.



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Fig. 82: Securing Front Axle Assembly In Vise
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Remove the cotter pin and nut.

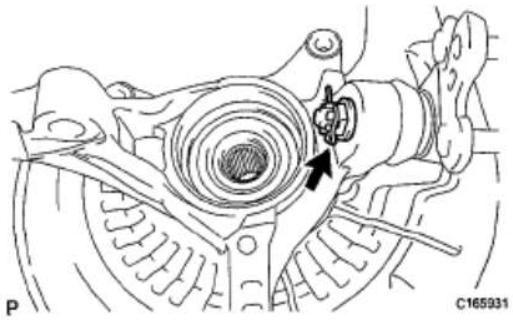


Fig. 83: Locating Cotter Pin And Nut
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Install SST to the front lower ball joint as shown in the illustration.

SST 09960-20010 (09961-02050, 09961-02050)

NOTE: Check that the clearance measurement between SST and the front axle assembly is 1 mm (0.04 in.).

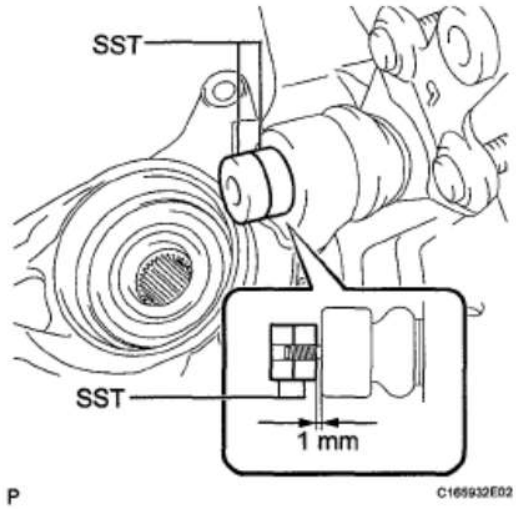


Fig. 84: Installing SST To Front Lower Ball Joint
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

d. Using SST, remove the front lower ball joint from the front axle assembly as shown in the illustration.

SST 09960-20010 (09961-02010, 09961-02050, 09961-02050)

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NOTE:

- **Install SST so that A and B are parallel.**
- **Be sure to place a wrench on the part indicated in the illustration.**
- **Do not damage the front lower ball joint dust cover.**

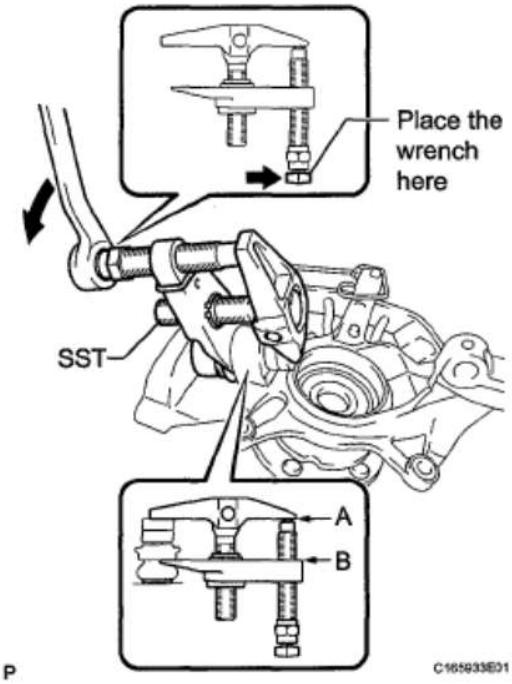


Fig. 85: Removing Front Lower Ball Joint From Front Axle Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. **INSPECT FRONT LOWER BALL JOINT**
   a. Inspect the turning torque of the ball joint.
      1. Secure the front lower ball joint in a vise using aluminum plates.
      2. Install the nut to the front lower ball joint stud.
      3. Using a torque wrench, turn the nut continuously at a rate of 3 to 5 seconds per turn and take the torque reading on the 5th turn.

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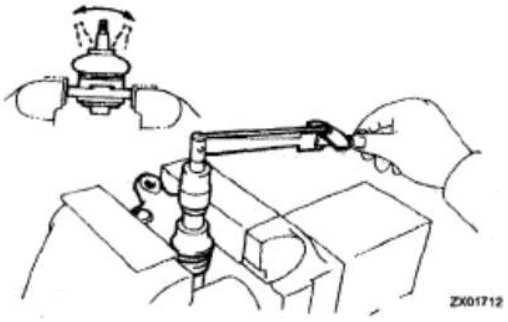


Fig. 86: Inspecting Lower Ball Joint Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Turning torque:

0.7 to 4.5 N*m (7 to 46 kgf*cm, 6.2 to 40 in.*lbf)

If the turning torque is not within the specified range, replace the front lower ball joint with a new one.

b. Inspect the dust cover.
   1. Check that the dust cover is not cracked and that there is no grease on it.

INSTALLATION

1. **INSTALL FRONT LOWER BALL JOINT**
   a. Install the front lower ball joint to the steering knuckle with the nut.

      Torque: 123 N*m (1254 kgf*cm, 91 ft.*lbf)

      NOTE: Prevent oil from adhering to the screw and tapered parts.

   b. Install a new cotter pin.

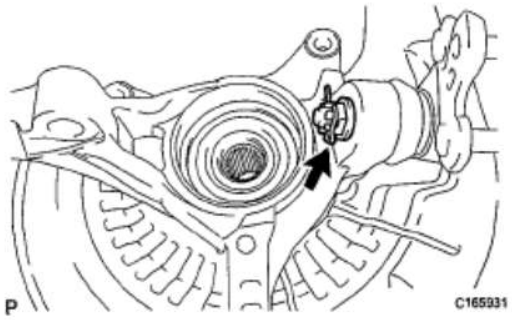


Fig. 87: Locating Cotter Pin And Nut
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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NOTE: **If the holes for the cotter pin are not aligned, tighten the nut further up to 60°.**

2. **INSTALL FRONT AXLE ASSEMBLY**
   a. Install the front axle assembly to the front shock absorber with the 2 bolts and 2 nuts.

   Torque: 290 N*m (2956 kgf*cm, 213 ft.*lbf)

   CAUTION: Only when reusing the bolts and nuts, apply a small amount of engine oil to the threads of the nuts.

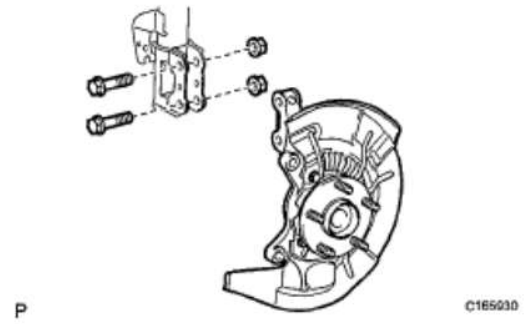


Fig. 88: Identifying Front Axle Assembly With Bolts Nuts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. **INSTALL FRONT DRIVE SHAFT ASSEMBLY**
   a. Align the matchmarks and install the front drive shaft assembly to the front axle hub sub-assembly.

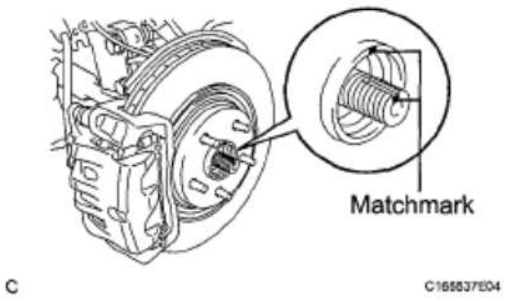


Fig. 89: Putting Matchmarks On Front Drive Shaft Assembly And Front Axle Hub Sub-Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. **INSTALL FRONT LOWER SUSPENSION ARM**
   a. Install the front lower suspension arm to the front lower ball joint with the bolt and 2 nuts.

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

5. **CONNECT TIE ROD ASSEMBLY** (See **INSTALLATION**)

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6. **INSTALL FRONT DISC** (See **REASSEMBLY**)

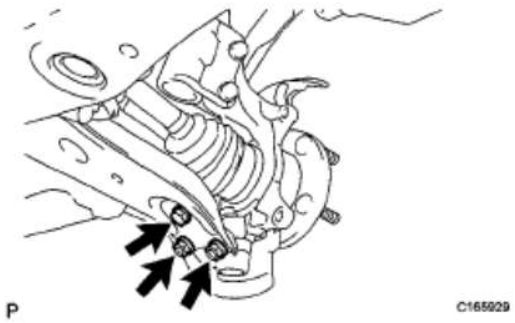


Fig. 90: Locating Front Lower Suspension Arm Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

7. **INSTALL FRONT DISC BRAKE CALIPER ASSEMBLY**
   a. Install the front disc brake caliper assembly to the steering knuckle with the 2 bolts.

   Torque: 104 N*m (1060 kgf*cm, 77 ft.*lbf)

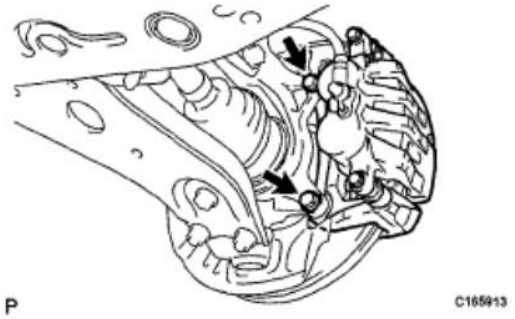


Fig. 91: Locating Front Disc Brake Caliper Assembly Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

8. **INSTALL FRONT SPEED SENSOR**
   a. Install the clamp and front speed sensor with the bolt.

   Torque: 8.0 N*m (82 kgf*cm, 71 in.*lbf)

NOTE:

- **Prevent foreign matter from attaching to the sensor tip.**
- **Firmly insert the sensor body into the knuckle before tightening the bolt.**
- **After installing the sensor to the knuckle, make sure that there is no clearance between the sensor stay and knuckle. Also make sure that no foreign matter is stuck between the parts.**
- **To prevent interference between the sensor and magnetic rotor,**

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do not rotate the sensor body during or after the insertion of the sensor body to the knuckle.

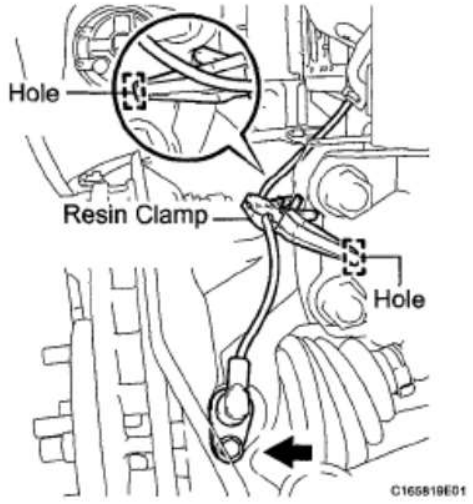


Fig. 92: Locating Front Speed Sensor
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

9. **INSTALL FRONT AXLE HUB NUT (for 2GR-FE)** (See **INSTALLATION**)
10. **INSTALL FRONT AXLE HUB NUT (for 1AR-FE)** (See **INSTALLATION**)
11. **CHECK ABS SPEED SENSOR SIGNAL**

    HINT:

    Check ABS speed sensor signal (See **TEST MODE PROCEDURE**).

12. **INSTALL FRONT WHEEL**

    Torque: 103 N*m (1050 kgf*cm, 76 ft.*lbf)

13. **INSPECT AND ADJUST FRONT WHEEL ALIGNMENT**

    HINT:

    Inspect and adjust front wheel alignment (See **FRONT WHEEL ALIGNMENT**).

FRONT STABILIZER BAR (FOR 1AR-FE)

COMPONENTS

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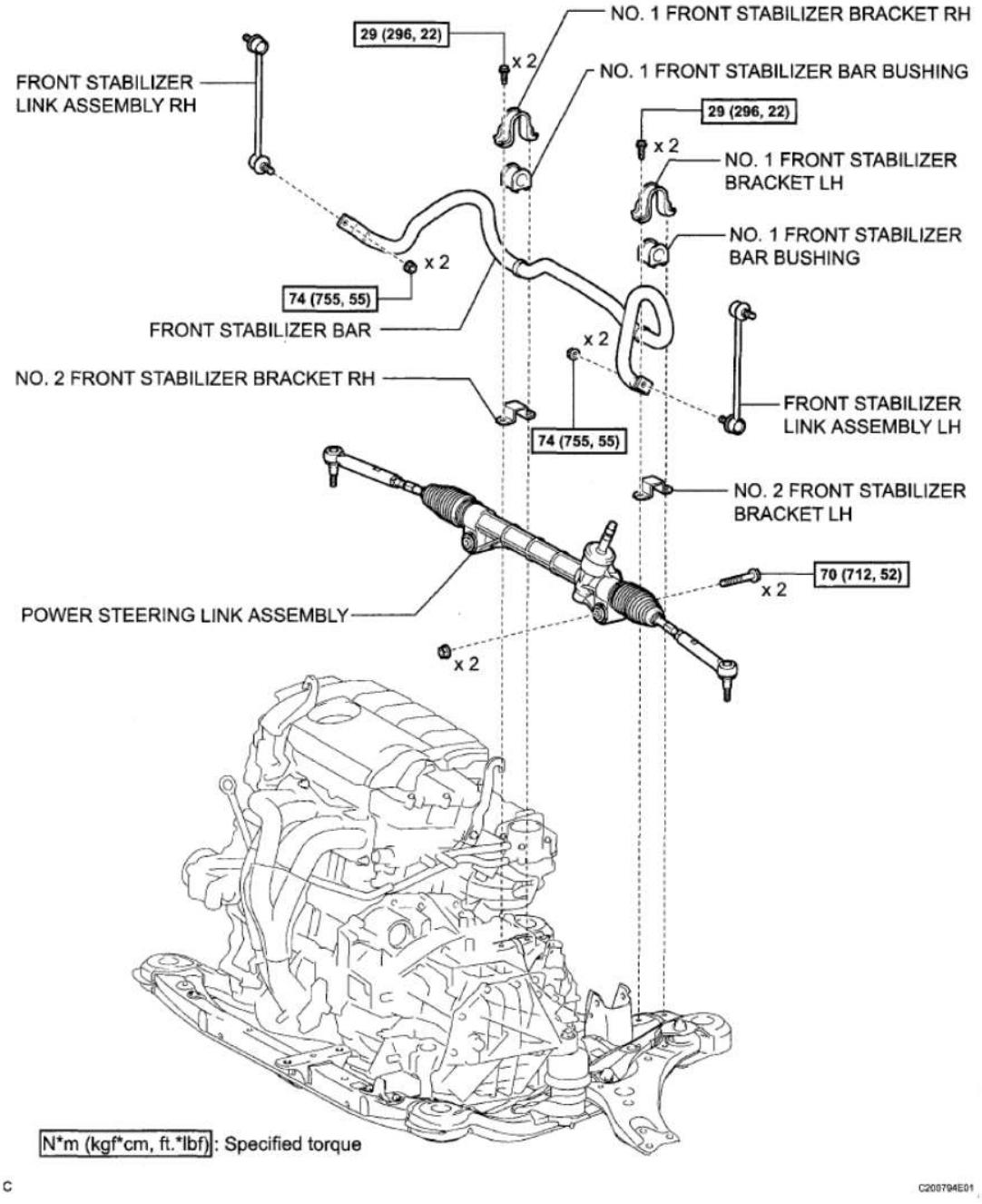


Fig. 93: Identifying Front Stabilizer Bar (1AR-FE) Components With Torque Specification
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **REMOVE POWER STEERING LINK ASSEMBLY**

   HINT:

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Refer to the procedure up to Remove Power Steering Link Assembly (See **REMOVAL**).

2. **REMOVE FRONT STABILIZER LINK ASSEMBLY LH**
   a. Remove the 2 nuts and the front stabilizer link assembly LH.

      HINT:

      If the ball joint turns together with the nut, use a hexagon wrench (6 mm) to hold the stud bolt.

3. **REMOVE FRONT STABILIZER LINK ASSEMBLY RH**

   HINT:

   Perform the same procedure as the LH side.

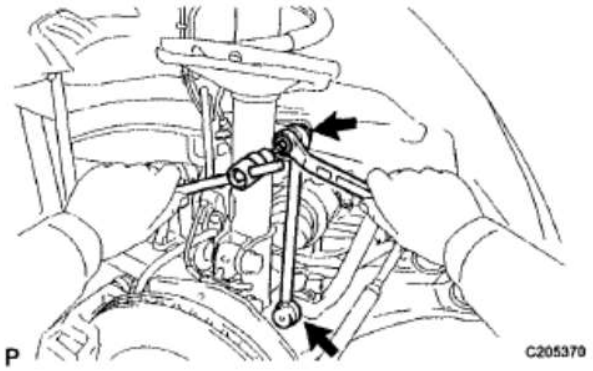


Fig. 94: Removing Front Stabilizer Link Assembly LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. **REMOVE FRONT STABILIZER BAR**
   a. Remove the front stabilizer bar by removing it from the left side of the vehicle.

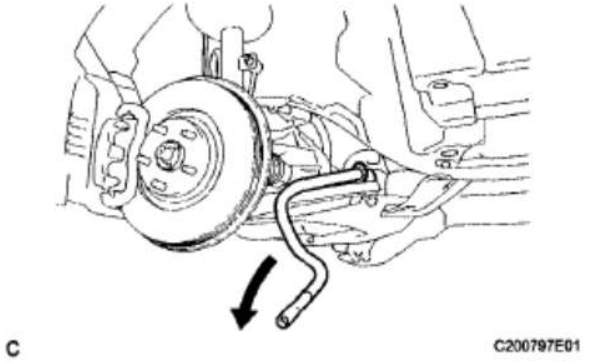


Fig. 95: Removing Front Stabilizer Bar
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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5. **REMOVE NO. 2 FRONT STABILIZER BRACKET LH**
   a. Remove the No. 2 front stabilizer bracket LH from the front stabilizer bar bushing.
6. **REMOVE NO. 2 FRONT STABILIZER BRACKET RH**

   HINT:

   Perform the same procedure as the LH side.

7. **REMOVE NO. 1 FRONT STABILIZER BAR BUSHING**
   a. Remove the 2 No. 1 front stabilizer bar bushings from the front stabilizer bar.

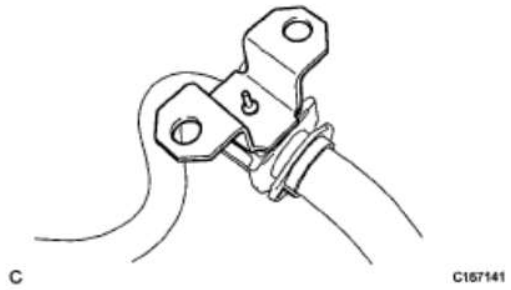


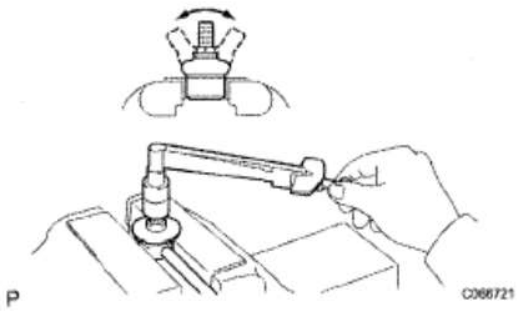
Fig. 96: Identifying No. 2 Front Stabilizer Bracket
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. **INSPECT FRONT STABILIZER LINK ASSEMBLY**
   a. Inspect the turning torque of the ball joint.
      1. Secure the front stabilizer link assembly in a vise using aluminum plates.
      2. Install the nut to the front stabilizer link assembly stud.
      3. Using a torque wrench, turn the nut continuously at a rate of 3 to 5 seconds per turn and take the torque reading on the 5th turn.

         Turning torque:

         0.05 to 1.96 N*m (0.5 to 20 kgf*cm, 0.4 to 17 in.*lbf)



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Fig. 97: Inspecting Front Stabilizer Link Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

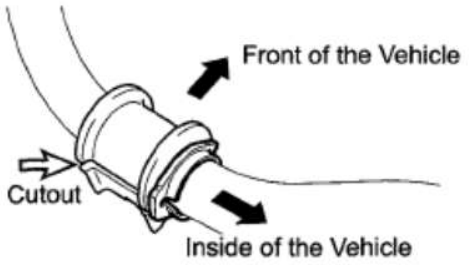
If the turning torque is not within the specified range, replace the front stabilizer link assembly with a new one.

b. Inspect the dust cover.
   1. Check that the dust cover is not cracked and that there is no grease on it.

INSTALLATION

1. **INSTALL NO. 1 FRONT STABILIZER BAR BUSHING**
   a. Install the 2 No. 1 front stabilizer bar bushings to the front stabilizer bar as shown in the illustration.

NOTE: When installing the No. 1 front stabilizer bar bushings, make sure that the cutout faces the rear of the vehicle.



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Fig. 98: Installing No. 1 Front Stabilizer Bar Bushings To Front Stabilizer Bar
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL NO. 2 FRONT STABILIZER BRACKET LH**
   a. Install the No. 2 front stabilizer bracket LH to the No. 1 front stabilizer bar bushing.
3. **INSTALL NO. 2 FRONT STABILIZER BRACKET RH**

HINT:

Perform the same procedure as the LH side.

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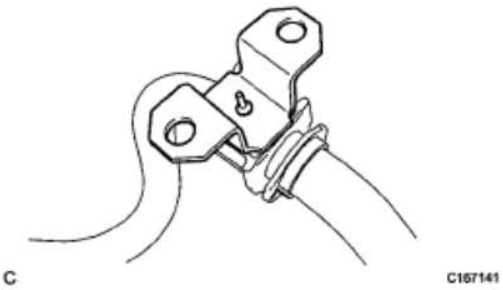


Fig. 99: Identifying No. 2 Front Stabilizer Bracket
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. **INSTALL FRONT STABILIZER BAR**
   a. Install the front stabilizer bar by inserting it from the left side of the vehicle.

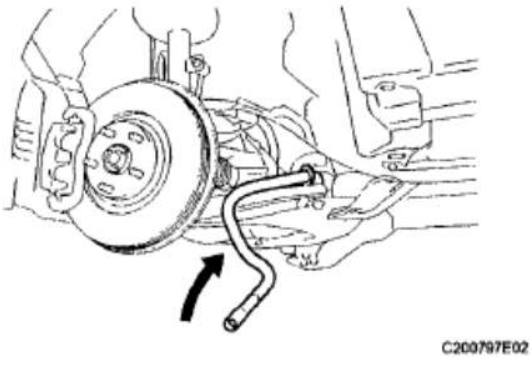


Fig. 100: Identifying Front Stabilizer Bar By Inserting From Left Side Of Vehicle
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. **INSTALL FRONT STABILIZER LINK ASSEMBLY LH**
   a. Install the front stabilizer link assembly LH with the 2 nuts.

   Torque: 74 N*m (755 kgf*cm, 55 ft.*lbf)

   HINT:

   If the ball joint turns together with the nut, use a hexagon wrench (6 mm) to hold the stud bolt.

6. **INSTALL FRONT STABILIZER LINK ASSEMBLY RH**

   HINT:

   Perform the same procedure as the LH side.

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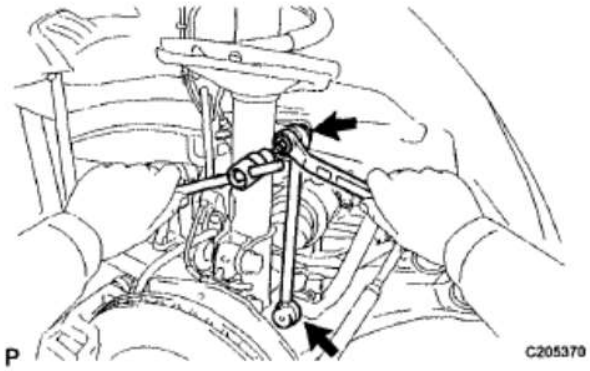


Fig. 101: Tightening Front Stabilizer Link Assembly LH With Nuts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

7. **INSTALL POWER STEERING LINK ASSEMBLY**

   HINT:

   Refer to the procedure from Install Power Steering Link Assembly (See **INSTALLATION**).

FRONT STABILIZER BAR (FOR 2GR-FE)

COMPONENTS

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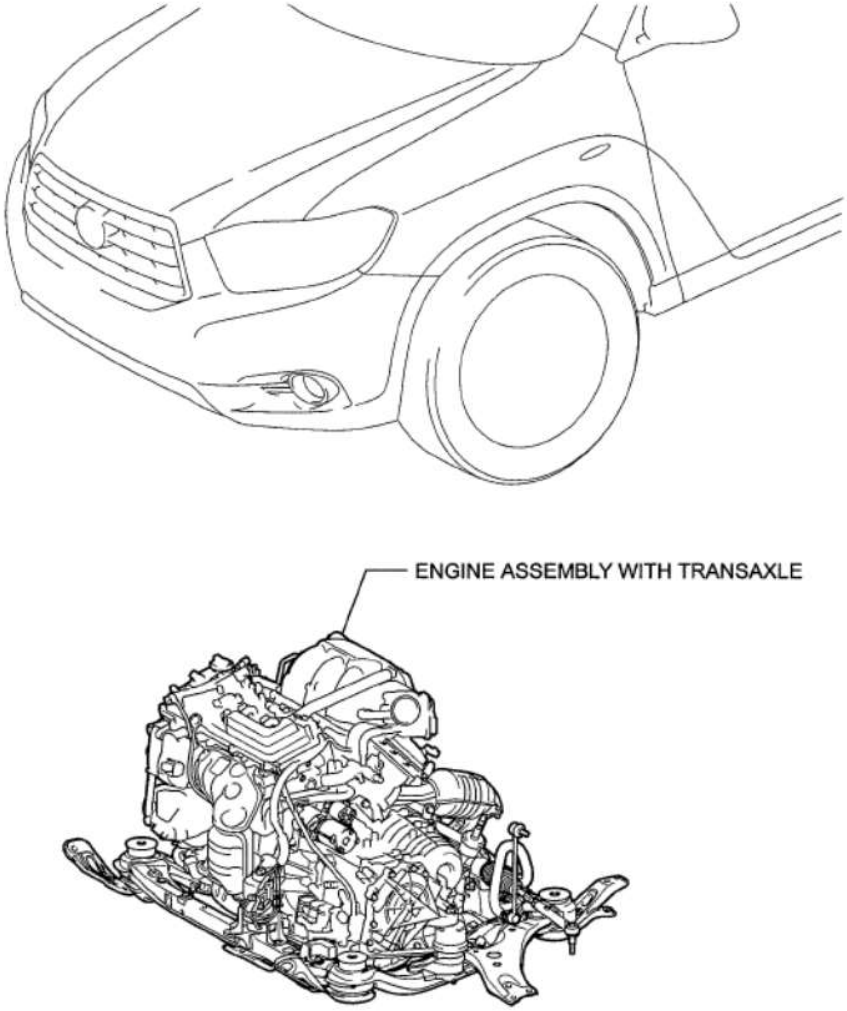


Fig. 102: Identifying Front Stabilizer Bar (2GR-FE) Components With Torque Specification (1 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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Fig. 103: Identifying Front Stabilizer Bar (2GR-FE) Components With Torque Specification (2 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

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1. **REMOVE ENGINE ASSEMBLY WITH TRANSAXLE**

   HINT:

   Remove engine assembly with transaxle (See **INSPECTION**).

2. **SEPARATE FRONT STABILIZER LINK ASSEMBLY LH**
   a. Remove the nut and separate the front stabilizer link assembly LH.

      HINT:

      If the ball joint turns together with the nut, use a hexagon wrench (6 mm) to hold the stud bolt.

3. **SEPARATE FRONT STABILIZER LINK ASSEMBLY RH**

   HINT:

   Perform the same procedure as the LH side.

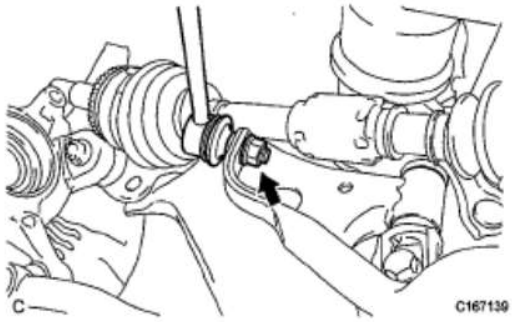


Fig. 104: Separating Front Stabilizer Link Assembly LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. **REMOVE NO. 1 FRONT STABILIZER BRACKET LH**
   a. Remove the 2 bolts and the No. 1 front stabilizer bracket LH from the front frame assembly.
5. **REMOVE NO. 1 FRONT STABILIZER BRACKET RH**

   HINT:

   Perform the same procedure as the LH side.

6. **REMOVE FRONT STABILIZER BAR**

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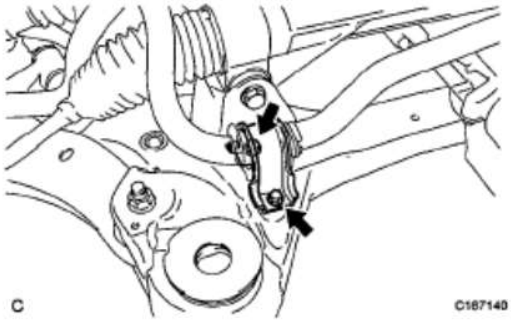


Fig. 105: Locating No. 1 Front Stabilizer Bracket RH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

7. **REMOVE NO. 2 FRONT STABILIZER BRACKET LH**
   a. Remove the No. 2 front stabilizer bracket LH from the front stabilizer bar bushing.
8. **REMOVE NO. 2 FRONT STABILIZER BRACKET RH**

   HINT:

   Perform the same procedure for the LH side.

9. **REMOVE NO. 1 FRONT STABILIZER BAR BUSHING**
   a. Remove the 2 No. 1 front stabilizer bar bushings from the front stabilizer bar.

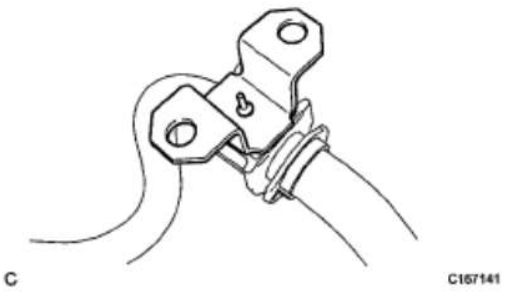


Fig. 106: Identifying No. 2 Front Stabilizer Bracket
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. **INSPECT FRONT STABILIZER LINK ASSEMBLY**
   a. Inspect the turning torque of the ball joint.
      1. Secure the front stabilizer link assembly in a vise using aluminum plates.
      2. Install the nut to the front stabilizer link assembly stud.
      3. Using a torque wrench, turn the nut continuously at a rate of 3 to 5 seconds per turn and take the torque reading on the 5th turn.

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Turning torque:

0.05 to 1.96 N*m (0.5 to 20 kgf*cm, 0.4 to 17 in.*lbf)

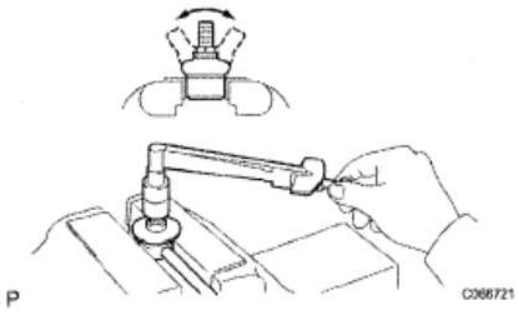


Fig. 107: Inspecting Front Stabilizer Link Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If the turning torque is not within the specified range, replace the front stabilizer link assembly with a new one.

b. Inspect the dust cover.
   1. Check that the dust cover is not cracked and that there is no grease on it.

INSTALLATION

1. **INSTALL NO. 1 FRONT STABILIZER BAR BUSHING**
   a. Install the 2 No. 1 front stabilizer bar bushings to the front stabilizer bar as shown in the illustration.

NOTE: Install the No. 1 front stabilizer bar bushings so that the cutout faces the rear of the vehicle.

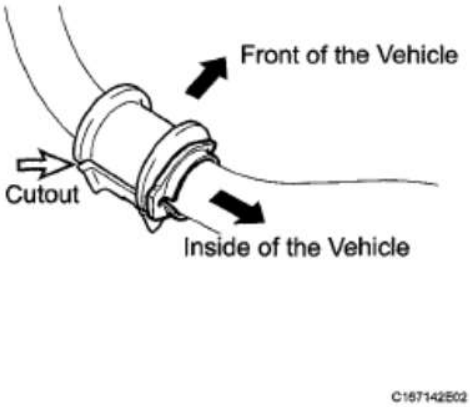


Fig. 108: Installing No. 1 Front Stabilizer Bar Bushings To Front Stabilizer Bar
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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2. **INSTALL NO. 2 FRONT STABILIZER BRACKET LH**
   a. Install the No. 2 front stabilizer bracket LH to the No. 1 front stabilizer bar bushing.
3. **INSTALL NO. 2 FRONT STABILIZER BRACKET RH**

   HINT:

   Perform the same procedure as the LH side.

4. **INSTALL FRONT STABILIZER BAR**
   a. Install the front stabilizer bar by inserting it from the right side of the vehicle.

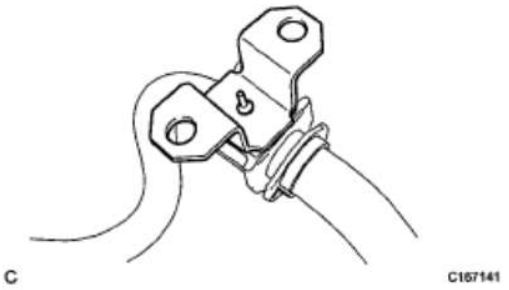


Fig. 109: Identifying No. 2 Front Stabilizer Bracket
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. **INSTALL NO. 1 FRONT STABILIZER BRACKET LH**
   a. Install the No. 1 front stabilizer bracket LH to the front frame assembly with the 2 bolts.

      Torque: 29 N*m (296 kgf*cm, 21 ft.*lbf)

6. **INSTALL NO. 1 FRONT STABILIZER BRACKET RH**

   HINT:

   Perform the same procedure as the LH side.

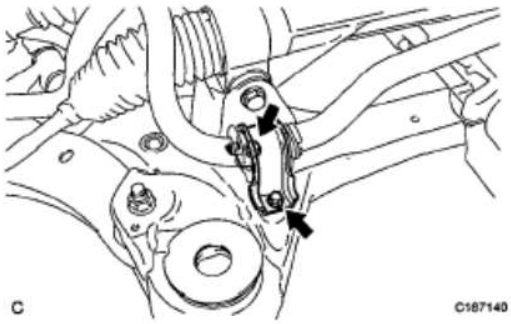


Fig. 110: Locating No. 1 Front Stabilizer Bracket RH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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7. **INSTALL FRONT STABILIZER LINK ASSEMBLY LH**
   a. Install the front stabilizer link assembly LH with the nut.

      Torque: 74 N*m (755 kgf*cm, 55 ft.*lbf)

      HINT:

      If the ball joint turns together with the nut, use a hexagon wrench (6 mm) to hold the stud bolt.

8. **INSTALL FRONT STABILIZER LINK ASSEMBLY RH**

   HINT:

   Perform the same procedure as the LH side.

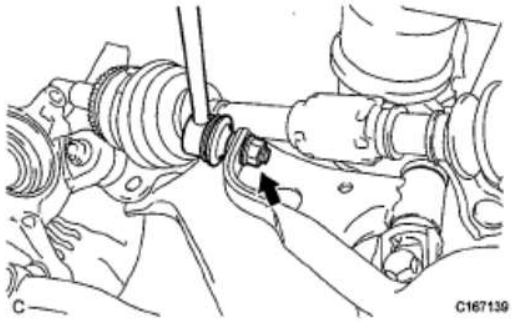


Fig. 111: Separating Front Stabilizer Link Assembly LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

9. **INSTALL ENGINE ASSEMBLY WITH TRANSAXLE**

   HINT:

   Install engine assembly with transaxle (See **INSTALLATION**).

10. **INSPECT AND ADJUST FRONT WHEEL ALIGNMENT**

    HINT:

    Inspect and adjust front wheel alignment (See **FRONT WHEEL ALIGNMENT**).

REAR SHOCK ABSORBER

COMPONENTS

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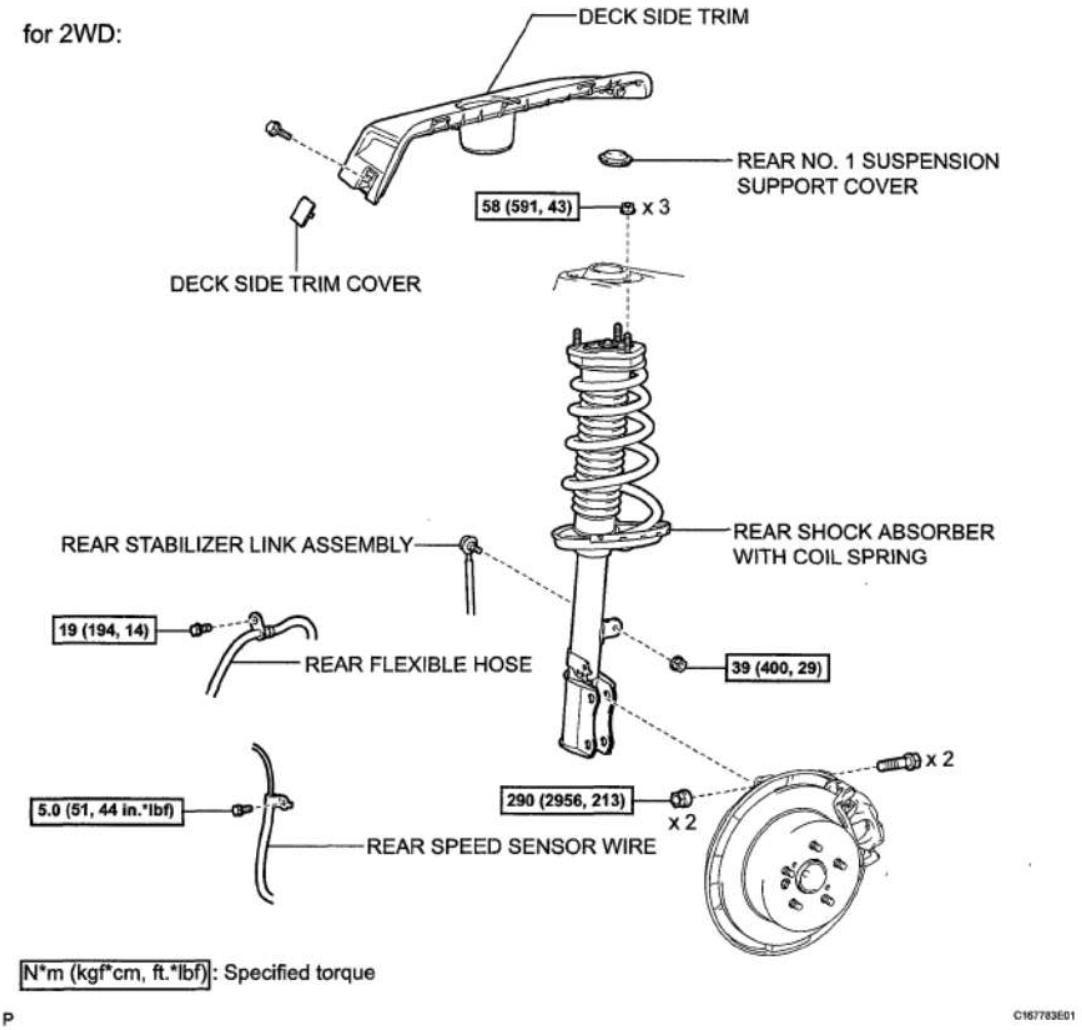


Fig. 112: Identifying Rear Shock Absorber Components With Torque Specification (1 Of 3)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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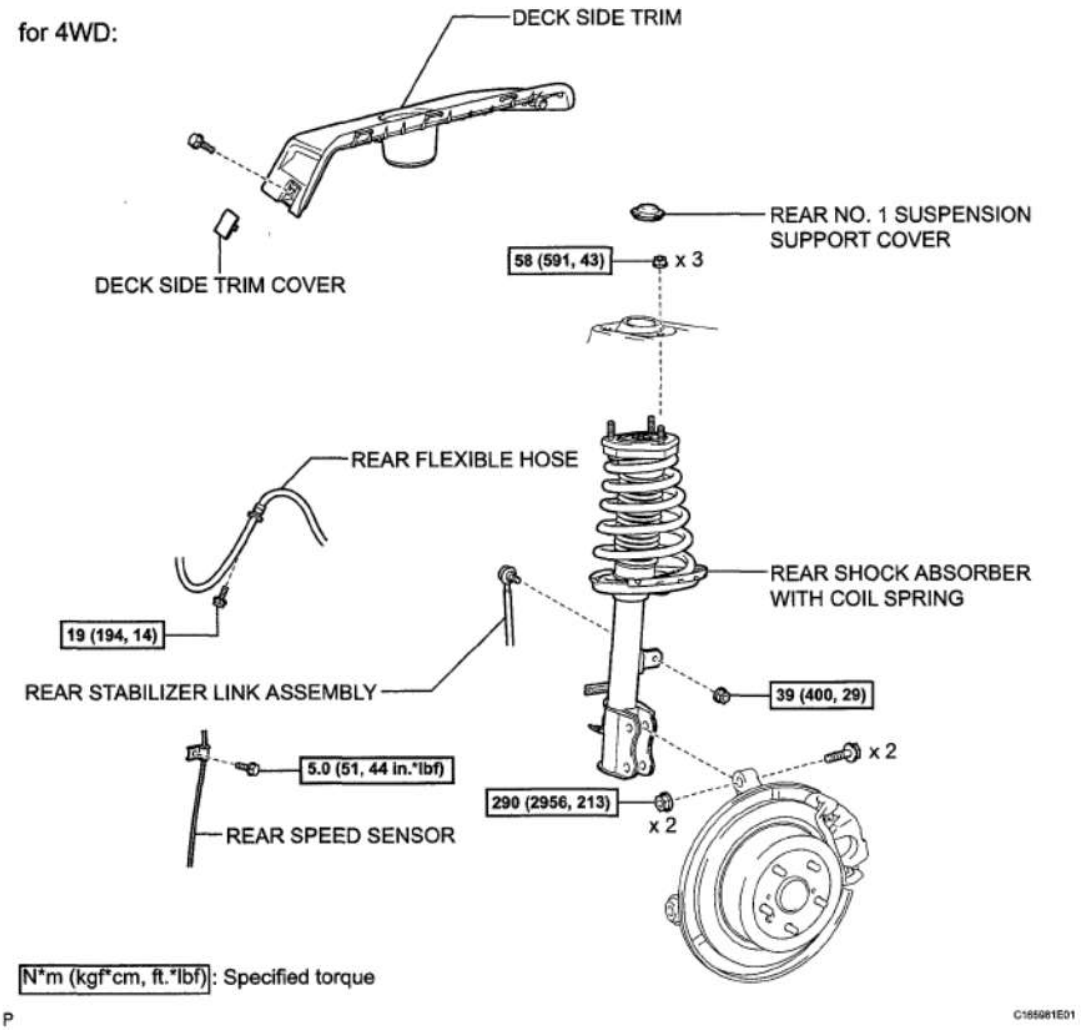


Fig. 113: Identifying Rear Shock Absorber Components With Torque Specification (2 Of 3)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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Fig. 114: Identifying Rear Shock Absorber Components With Torque Specification (3 Of 3)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

HINT:

- Use the same procedures for the RH side and LH side.
- The procedures listed below are for the LH side.

1. **REMOVE REAR WHEEL**
2. **REMOVE DECK SIDE TRIM COVER** (See **REMOVAL**)

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3. **REMOVE DECK SIDE TRIM** (See **REMOVAL**)
4. **SEPARATE REAR FLEXIBLE HOSE (for 2WD)**
   a. Remove the bolt and separate the rear flexible hose from the rear shock absorber with coil spring.

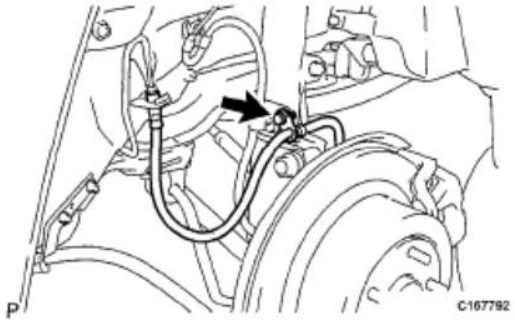


Fig. 115: Locating Rear Flexible Hose (2WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. **SEPARATE REAR FLEXIBLE HOSE (for 4WD)**
   a. Remove the bolt and separate the rear flexible hose from the rear shock absorber with coil spring.

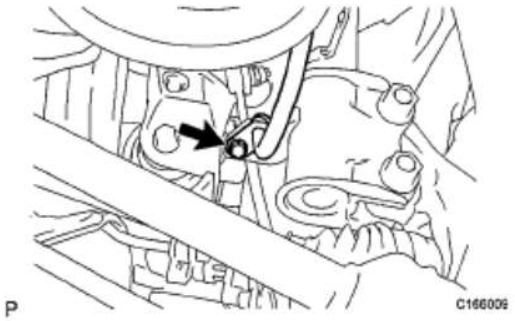
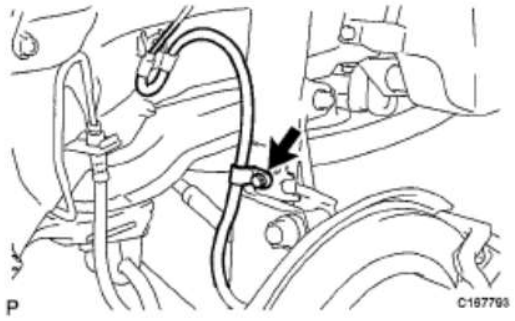


Fig. 116: Locating Rear Flexible Hose (4WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. **SEPARATE REAR SPEED SENSOR WIRE (for 2WD)**
   a. Remove the bolt and separate the rear speed sensor from the rear shock absorber with coil spring.



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Fig. 117: Locating Rear Speed Sensor Wire (2WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

7. **SEPARATE REAR SPEED SENSOR (for 4WD)**
   a. Remove the bolt and separate the rear speed sensor from the rear shock absorber with coil spring.

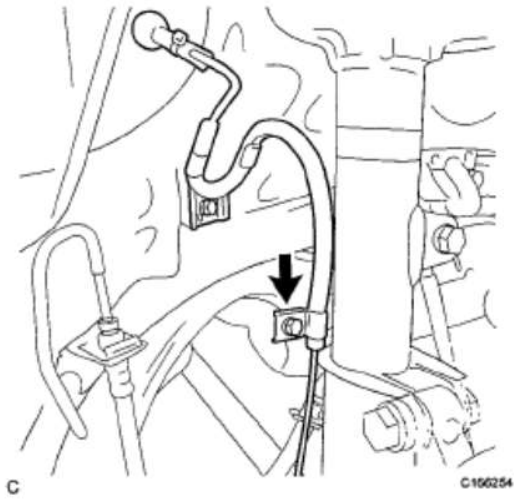


Fig. 118: Locating Rear Speed Sensor (4WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

8. **SEPARATE REAR STABILIZER LINK ASSEMBLY (for 2WD)**
   a. Remove the nut and separate the rear stabilizer link assembly from the rear shock absorber with coil spring.

      HINT:

      If the ball joint turns together with the nut, use a hexagon wrench (5 mm) to hold the stud bolt.

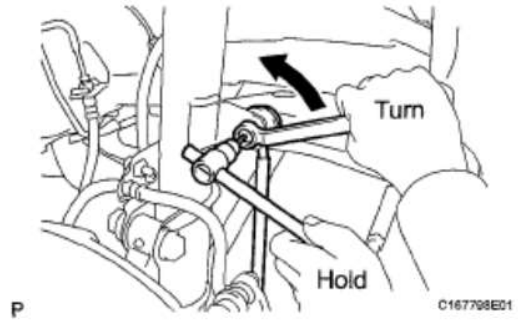


Fig. 119: Separating Rear Stabilizer Link Assembly (2WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

9. **SEPARATE REAR STABILIZER LINK ASSEMBLY (for 4WD)**

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a. Remove the nut and separate the rear stabilizer link assembly from the rear shock absorber with coil spring.

HINT:

If the ball joint turns together with the nut, use a hexagon wrench (5 mm) to hold the stud bolt.

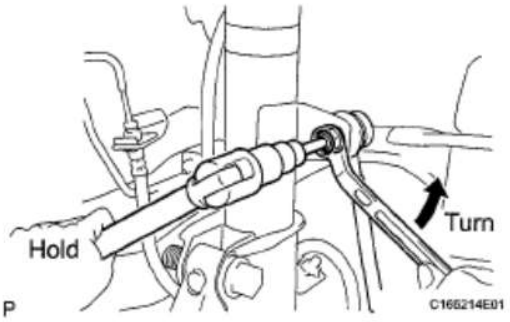


Fig. 120: Separating Rear Stabilizer Link Assembly (4WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

10. **REMOVE REAR NO. 1 SUSPENSION SUPPORT COVER**

a. Disengage the 4 claws and remove the rear No. 1 suspension support cover.

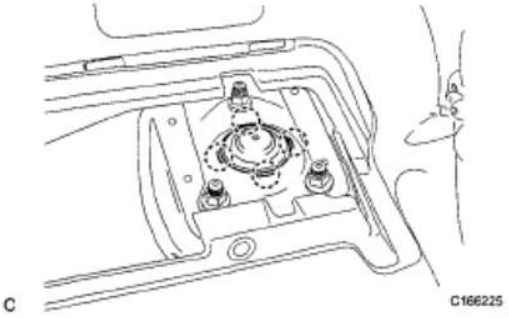


Fig. 121: Identifying Rear No. 1 Suspension Support Cover Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

11. **REMOVE REAR SHOCK ABSORBER WITH COIL SPRING (for 2WD)**

a. Using a jack and wooden block, support the rear axle carrier sub-assembly.

NOTE: Do not deform the dust cover.

HINT:

Support the rear axle carrier sub-assembly until reinstallation of the rear shock absorber with coil spring is complete.

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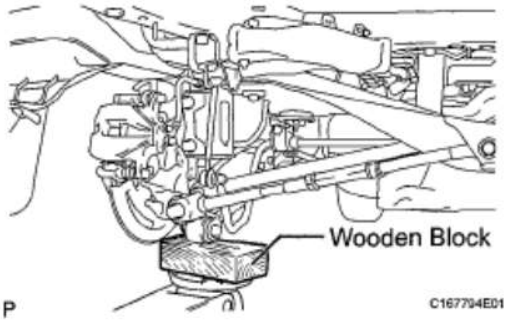


Fig. 122: Supporting Rear Axle Carrier Sub-Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Loosen the rear support to rear shock absorber nut.

CAUTION: Do not remove the rear support to rear shock absorber nut.

NOTE: Loosen the nut only when the rear shock absorber with coil spring needs to be disassembled.

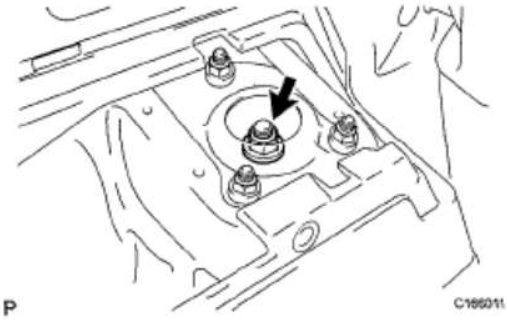


Fig. 123: Locating Rear Shock Absorber Nut
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Remove the 2 bolts and 2 nuts, and separate the rear shock absorber with coil spring from the rear axle carrier sub-assembly.

NOTE: When removing the nuts, keep the bolts from rotating.

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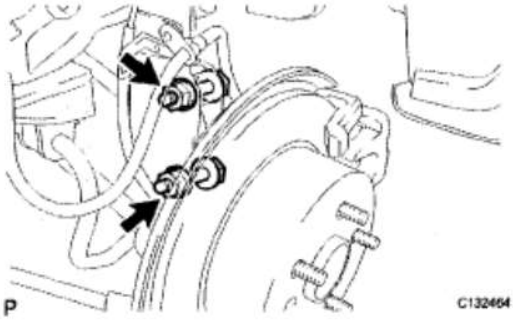


Fig. 124: Locating Rear Shock Absorber Nuts And Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

d. Remove the 3 nuts and rear shock absorber with coil spring.

NOTE: Make sure that the rear speed sensor and rear flexible hose are disconnected from the rear shock absorber with coil spring.

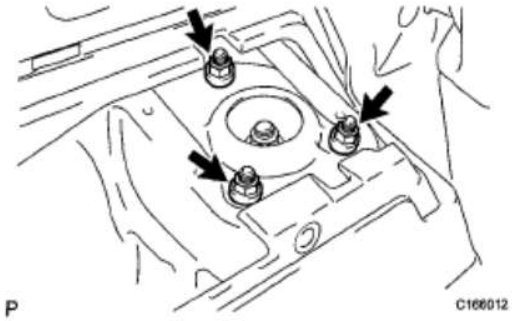


Fig. 125: Locating Rear Shock Absorber Nuts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

12. **REMOVE REAR SHOCK ABSORBER WITH COIL SPRING (for 4WD)**
    a. Using a jack and wooden block, support the rear axle carrier sub-assembly.

NOTE: Do not deform the dust cover.

HINT:

Support the rear axle carrier sub-assembly until reinstallation of the rear shock absorber with coil spring is complete.

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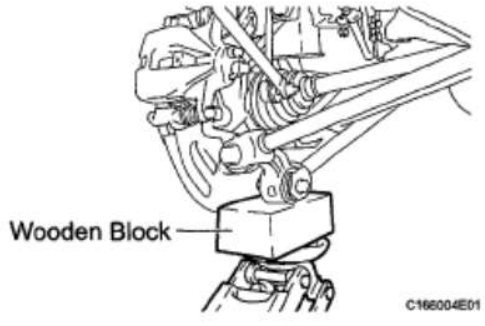


Fig. 126: Supporting Rear Axle Carrier Sub-Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Loosen the rear support to rear shock absorber nut.

CAUTION: Do not remove the rear support to rear shock absorber nut.

NOTE: Loosen the nut only when the rear shock absorber with coil spring needs to be disassembled.

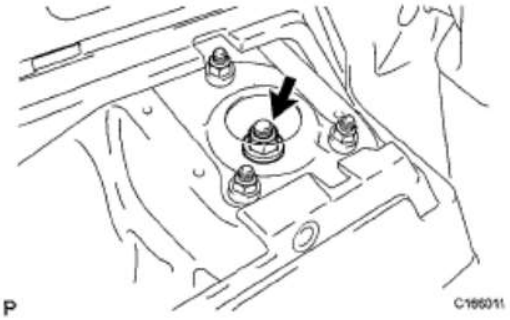


Fig. 127: Locating Rear Shock Absorber Nut
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Remove the 2 bolts and 2 nuts, and separate the rear shock absorber with coil spring from the rear axle carrier sub-assembly.

NOTE: When removing the nuts, keep the bolts from rotating.

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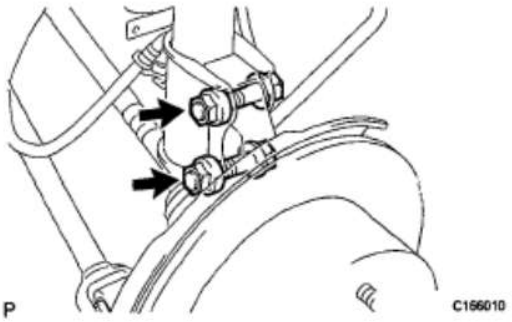


Fig. 128: Locating Rear Shock Absorber Nut And Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

d. Remove the 3 nuts and rear shock absorber with coil spring.

NOTE: Make sure that the rear speed sensor and rear flexible hose are disconnected from the rear shock absorber with coil spring.

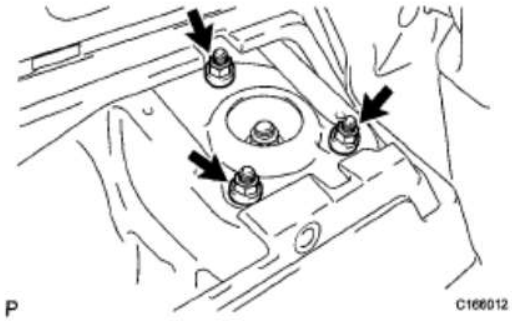


Fig. 129: Locating Rear Shock Absorber Nuts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

13. **SECURE REAR SHOCK ABSORBER WITH COIL SPRING (for 2WD)**

a. Install the bolt and nut to the rear shock absorber with coil spring as shown in the illustration and secure the rear shock absorber with coil spring in a vise.

Length (A):

28 mm (1.1 in.)

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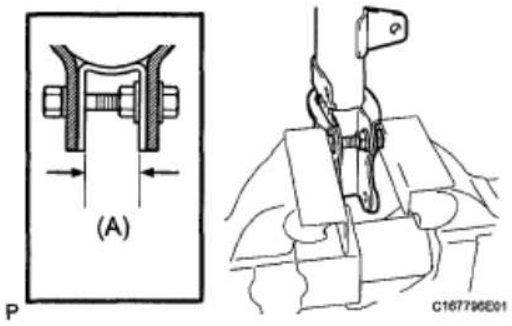


Fig. 130: Securing Rear Shock Absorber With Coil Spring In Vise (2WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

14. **SECURE REAR SHOCK ABSORBER WITH COIL SPRING (for 4WD)**
    a. Install the bolt and nut to the rear shock absorber with coil spring as shown in the illustration and secure the rear shock absorber with coil spring in a vise.

    Length (A):

    28 mm (1.1 in.)

15. **REMOVE REAR SUPPORT TO REAR SHOCK ABSORBER NUT**
    a. Using SST, compress the rear coil spring.

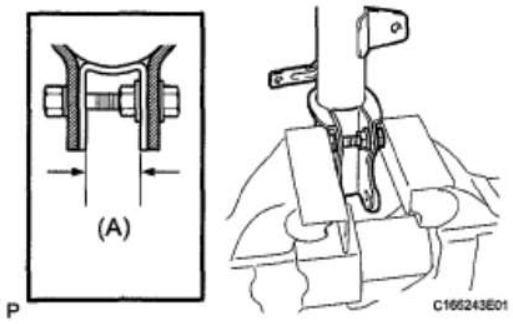


Fig. 131: Securing Rear Shock Absorber With Coil Spring In Vise (4WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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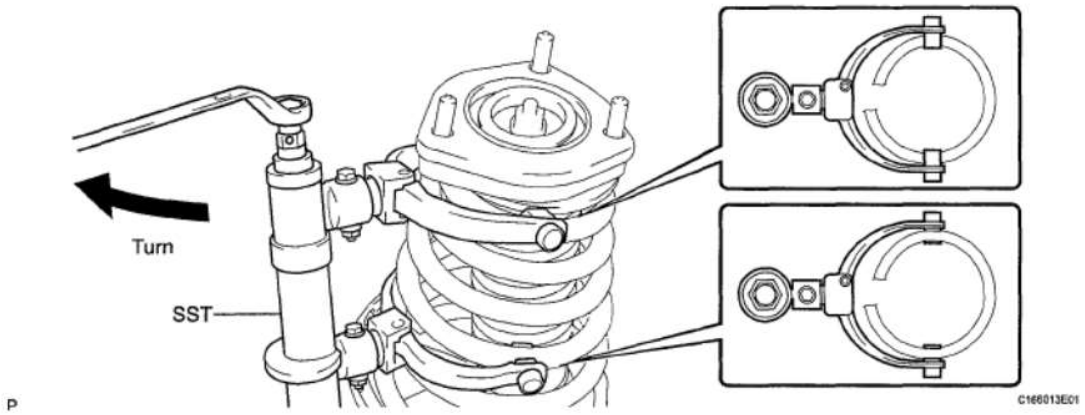


Fig. 132: Compressing Rear Coil Spring
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

SST 09727-30021 (09727-00010, 09727-00021, 09727-00031)

NOTE: Do not use an impact wrench. It will damage SST.

b. Check that the front coil spring is fully compressed.
c. Hold the rear suspension support assembly and remove the rear support to rear shock absorber nut from the rear shock absorber assembly.

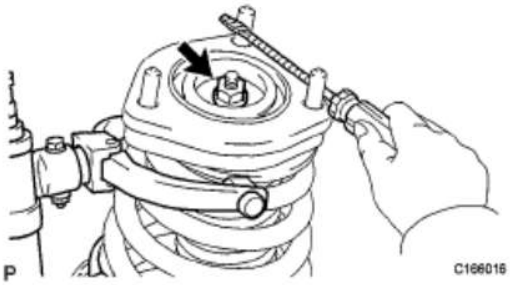


Fig. 133: Holding Rear Suspension Support Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

16. **REMOVE REAR SUPPORT TO REAR SHOCK ABSORBER COLLAR**
    a. Remove the rear support to rear shock absorber collar from the rear shock absorber assembly.

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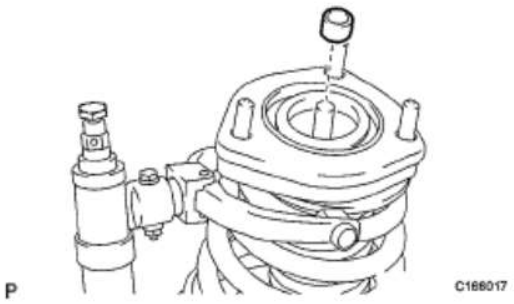


Fig. 134: Identifying Rear Support To Rear Shock Absorber Collar
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

17. **REMOVE REAR SUSPENSION SUPPORT ASSEMBLY**
    a. Remove the rear suspension support assembly from the rear shock absorber assembly.

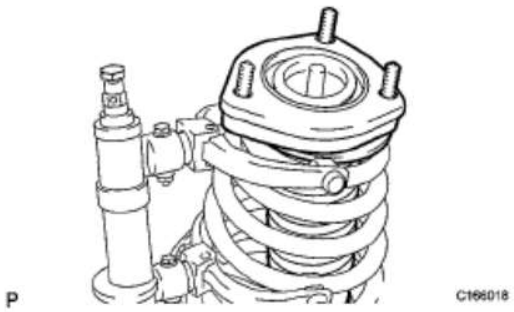


Fig. 135: Identifying Rear Suspension Support Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

18. **REMOVE REAR COIL SPRING**
    a. Remove the rear coil spring together with SST from the rear shock absorber assembly.

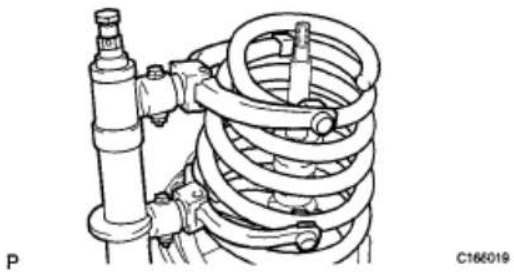


Fig. 136: Identifying Rear Coil Spring With SST
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

19. **REMOVE REAR NO. 1 SPRING BUMPER**
    a. Remove the rear No. 1 spring bumper from the rear shock absorber assembly.

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Fig. 137: Identifying Rear No. 1 Spring Bumper
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

20. **REMOVE REAR LOWER COIL SPRING INSULATOR**
    a. Remove the rear lower coil spring insulator from the rear shock absorber assembly.



Fig. 138: Identifying Rear Lower Coil Spring Insulator
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. **INSPECT REAR SHOCK ABSORBER ASSEMBLY**
    a. Compress and extend the shock absorber rod 4 or more times.

    Standard:

    There is no abnormal resistance or sound and operation resistance is normal.

    HINT:

    If there is any abnormality, replace the rear shock absorber with a new one.

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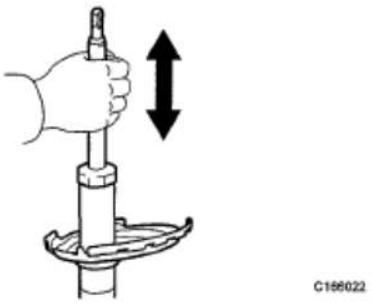


Fig. 139: Compressing And Extend Shock Absorber Rod
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSTALLATION

1. **INSTALL REAR LOWER COIL SPRING INSULATOR**
   a. Install the rear lower coil spring insulator onto the rear shock absorber assembly.

NOTE: **Fit the recessed part of the rear lower coil spring insulator into the recession on the shock absorber assembly.**

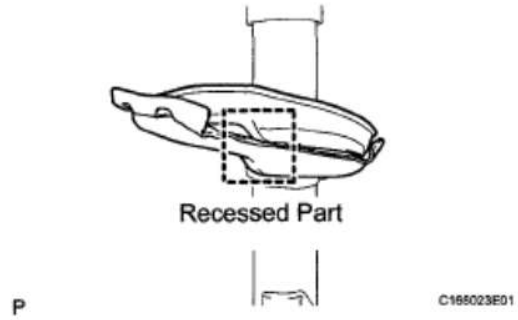


Fig. 140: Installing Rear Lower Coil Spring Insulator Onto Rear Shock Absorber Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL REAR NO. 1 SPRING BUMPER**
   a. Install the rear No. 1 spring bumper to the rear shock absorber assembly.



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Fig. 141: Installing Rear No. 1 Spring Bumper To Rear Shock Absorber Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. **TEMPORARILY INSTALL REAR COIL SPRING**
   a. Using SST, compress the rear coil spring.

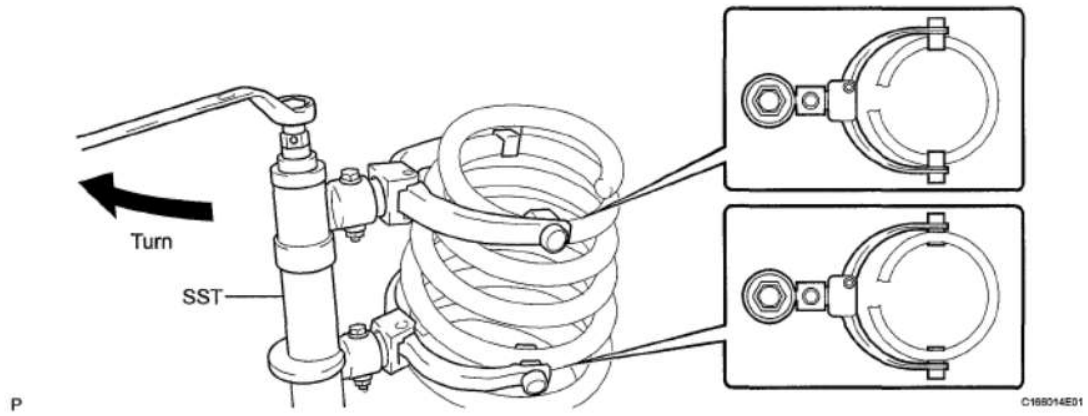


Fig. 142: Compressing Rear Coil Spring
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

SST 09727-30021 (09727-00010, 09727-00021, 09727-00031)

NOTE: Do not use an impact wrench. It will damage the SST.

   b. Temporarily install the rear coil spring together with SST to the rear shock absorber assembly.

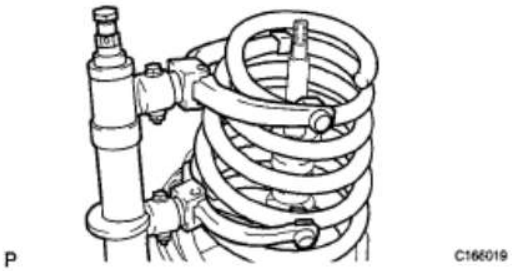


Fig. 143: Identifying Rear Coil Spring With SST
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. **INSTALL REAR SUSPENSION SUPPORT ASSEMBLY**
   a. Install the rear suspension support assembly to the rear shock absorber assembly.

   HINT:

   Align the cutout on the rear shock absorber assembly with the protrusion on the rear suspension support assembly by referring to the illustration.

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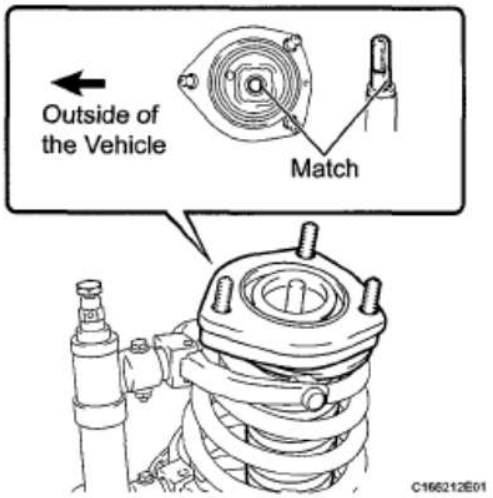


Fig. 144: Aligning Cutout On Rear Shock Absorber Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. **INSTALL REAR SUPPORT TO REAR SHOCK ABSORBER COLLAR**
   a. Install the rear support to rear shock absorber collar to the rear shock absorber assembly.

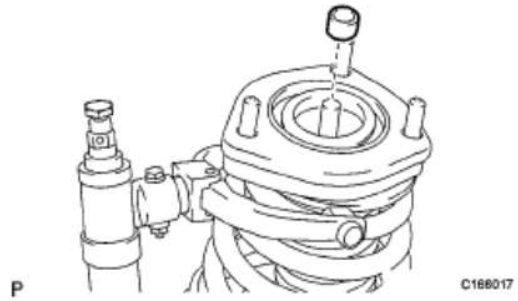


Fig. 145: Identifying Rear Support To Rear Shock Absorber Collar
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. **TEMPORARILY INSTALL REAR SUPPORT TO REAR SHOCK ABSORBER NUT**
   a. Temporarily install the rear support to rear shock absorber nut to the rear shock absorber assembly.
7. **INSTALL REAR COIL SPRING**
   a. Install the rear coil spring.

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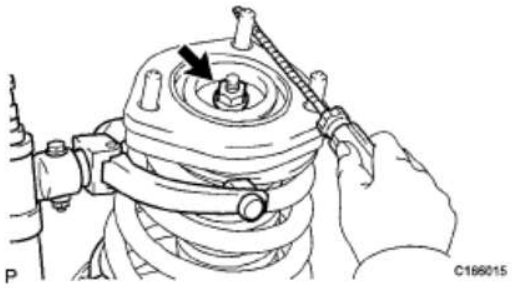


Fig. 146: Locating Rear Shock Absorber Nut
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

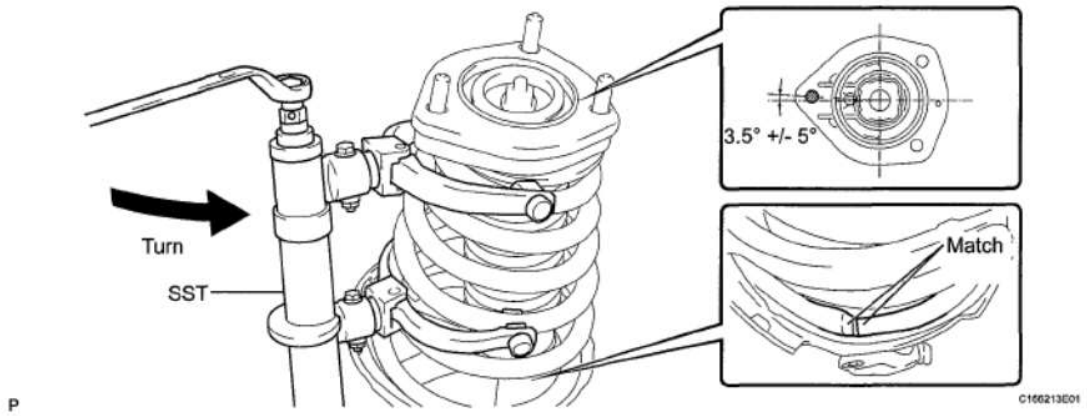


Fig. 147: Installing Rear Coil Spring
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NOTE:

- **Do not use an impact wrench. It will damage the SST.**
- **Make sure that the end of the rear coil spring is positioned in the depression of the rear lower coil spring insulator.**
- **Ensure that the stud bolt is positioned 3.5° to the outside of the vehicle as shown in the illustration. The deviation should be within +- 5°.**

8. **INSTALL REAR SHOCK ABSORBER WITH COIL SPRING (for 2WD)**
   a. Install the rear shock absorber with coil spring with the 3 nuts.

   Torque: 58 N*m (591 kgf*cm, 43 ft.*lbf)

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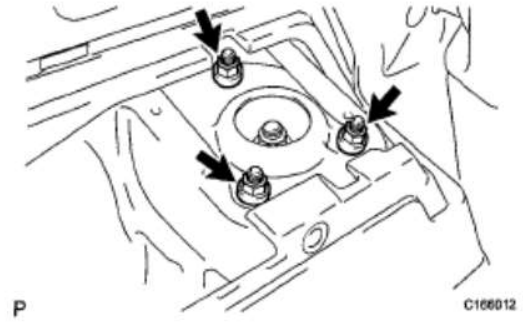


Fig. 148: Locating Rear Shock Absorber Nuts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Install the rear shock absorber with coil spring with the 2 bolts and 2 nuts.

Torque: 290 N*m (2956 kgf*cm, 213 ft.*lbf)

NOTE: When installing the nuts, keep the bolts from rotating.

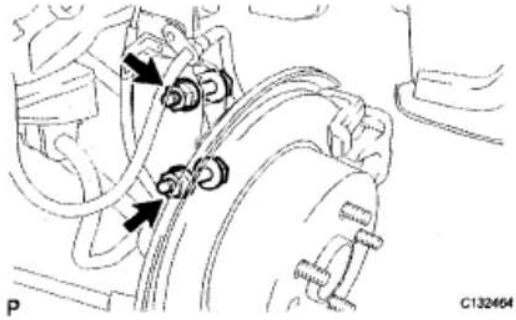


Fig. 149: Locating Rear Shock Absorber Nuts And Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Fully tighten the rear support to rear shock absorber nut.

Torque: 55 N*m (561 kgf*cm, 40 ft.*lbf)

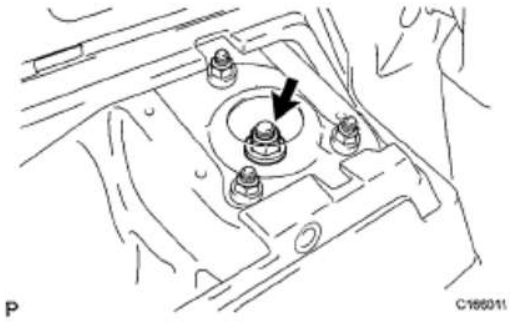


Fig. 150: Locating Rear Shock Absorber Nut

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Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

9. **INSTALL REAR SHOCK ABSORBER WITH COIL SPRING (for 4WD)**
   a. Install the rear shock absorber with coil spring with the 3 nuts.

   Torque: 58 N*m (591 kgf*cm, 43 ft.*lbf)

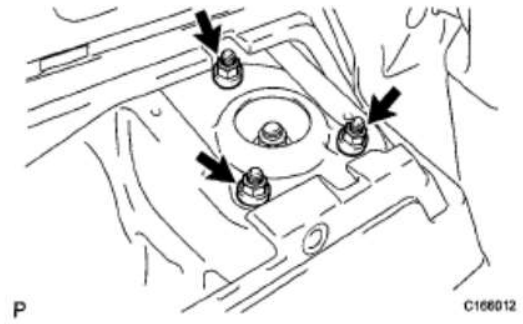


Fig. 151: Locating Rear Shock Absorber Nuts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   b. Install the rear shock absorber with coil spring with the 2 bolts and 2 nuts.

   Torque: 290 N*m (2956 kgf*cm, 213 ft.*lbf)

   NOTE: When installing the nuts, keep the bolts from rotating.

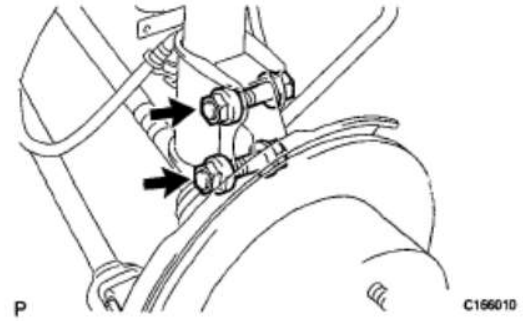


Fig. 152: Locating Rear Shock Absorber Nut And Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   c. Fully tighten the rear support to rear shock absorber nut.

   Torque: 55 N*m (561 kgf*cm, 40 ft.*lbf)

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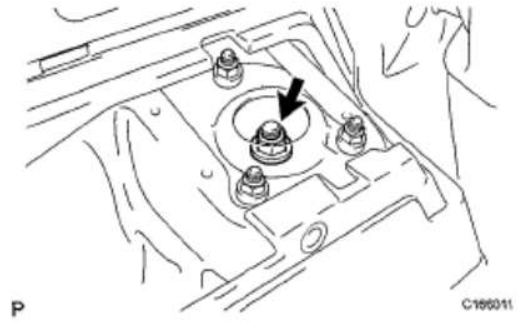


Fig. 153: Locating Rear Shock Absorber Nut
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

10. **INSTALL REAR NO. 1 SUSPENSION SUPPORT COVER**
    a. Install the rear No. 1 suspension support cover.

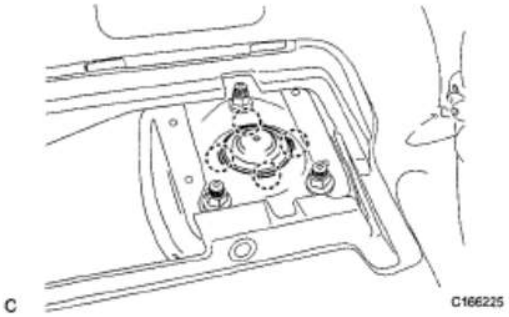


Fig. 154: Identifying Rear No. 1 Suspension Support Cover Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

11. **INSTALL REAR STABILIZER LINK ASSEMBLY (for 2WD)**
    a. Install the rear stabilizer link assembly to the rear shock absorber with coil spring with the nut.

    Torque: 39 N*m (400 kgf*cm, 29 ft.*lbf)

    HINT:

    If the ball joint turns together with the nut, use a hexagon wrench (5 mm) to hold the stud bolt.

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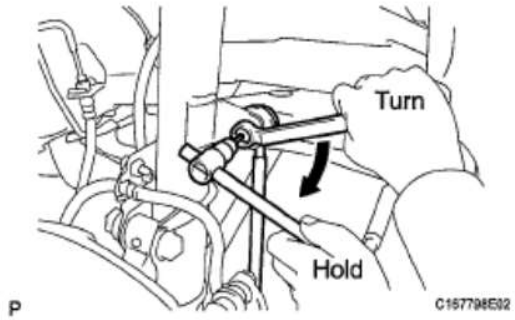


Fig. 155: Installing Rear Stabilizer Link Assembly (2WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

12. **INSTALL REAR STABILIZER LINK ASSEMBLY (for 4WD)**
    a. Install the rear stabilizer link assembly to the rear shock absorber with coil spring with the nut.

    Torque: 39 N*m (400 kgf*cm, 29 ft.*lbf)

    HINT:

    If the ball joint turns together with the nut, use a hexagon wrench (5 mm) to hold the stud bolt.

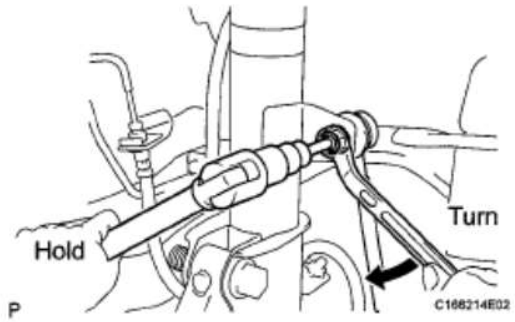


Fig. 156: Installing Rear Stabilizer Link Assembly (4WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

13. **INSTALL REAR SPEED SENSOR WIRE (for 2WD)**
    a. Install the rear speed sensor wire to the rear shock absorber with coil spring with the bolt.

    Torque: 5.0 N*m (51 kgf*cm, 44 in.*lbf)

    NOTE: Do not twist the rear speed sensor wire when installing it.

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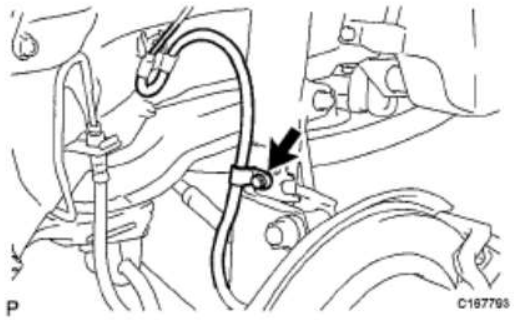


Fig. 157: Locating Rear Speed Sensor Wire (2WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

14. **INSTALL REAR SPEED SENSOR (for 4WD)**
    a. Install the rear speed sensor to the rear shock absorber with coil spring with the bolt.

    Torque: 5.0 N*m (51 kgf*cm, 44 in.*lbf)

    NOTE: Do not twist the rear speed sensor wire when installing it.

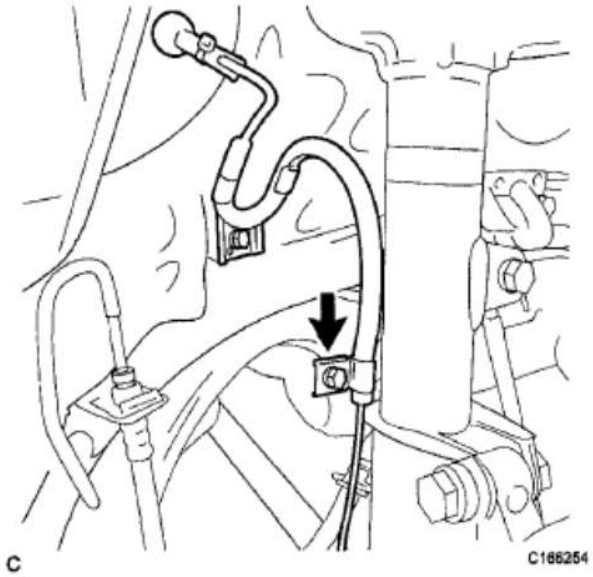


Fig. 158: Locating Rear Speed Sensor (4WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

15. **INSTALL REAR FLEXIBLE HOSE (for 2WD)**
    a. Install the rear flexible hose to the rear shock absorber with coil spring with the bolt.

    Torque: 19 N*m (194 kgf*cm, 14 ft.*lbf)

    NOTE: Do not twist the rear flexible hose when installing it.

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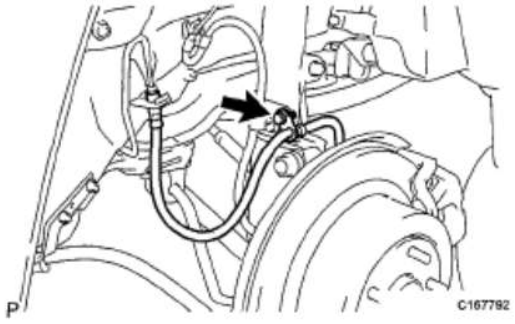


Fig. 159: Locating Rear Flexible Hose (2WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

16. **INSTALL REAR FLEXIBLE HOSE (for 4WD)**
    a. Install the rear flexible hose to the rear shock absorber with coil spring with the bolt.

    Torque: 19 N*m (194 kgf*cm, 14 ft.*lbf)

    NOTE: Do not twist the rear flexible hose when installing it.

17. **INSTALL DECK SIDE TRIM** (See **INSTALLATION**)
18. **INSTALL DECK SIDE TRIM COVER** (See **INSTALLATION**)

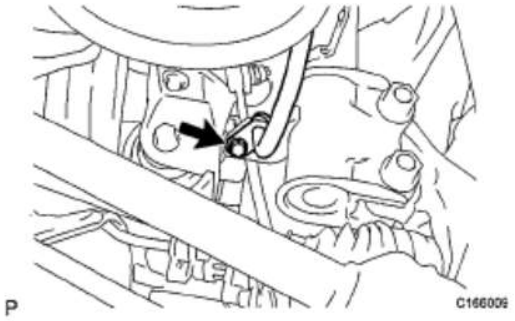


Fig. 160: Locating Rear Flexible Hose (4WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

19. **INSTALL REAR WHEEL**

    Torque: 103 N*m (1050 kgf*cm, 76 ft.*lbf)

20. **INSPECT AND ADJUST REAR WHEEL ALIGNMENT**

    HINT:

    See **REAR WHEEL ALIGNMENT**

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DISPOSAL

1. **DISPOSE OF REAR SHOCK ABSORBER (for 2WD)**
   a. Fully extend the shock absorber piston rod.
   b. Using a drill, make a hole in area B shown in the illustration to discharge the gas inside.

   Length (A):

   25 mm (0.98 in.)

   Length (B):

   25 mm (0.98 in.)

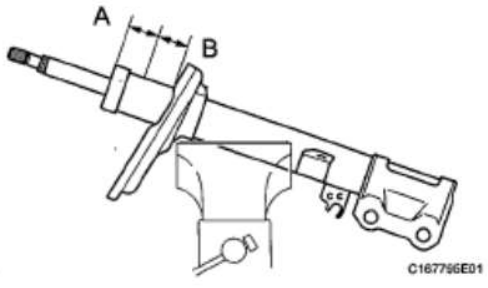


Fig. 161: Identifying Rear Shock Absorber Hole Area (2WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

CAUTION:
- **Be careful when drilling because shards of metal may fly about. Always use proper safety equipment.**
- **The gas is colorless, odorless and non-poisonous.**

2. **DISPOSE OF REAR SHOCK ABSORBER (for 4WD)**
   a. Fully extend the shock absorber piston rod.
   b. Using a drill, make a hole in area B shown in the illustration to discharge the gas inside.

   Length (A):

   25 mm (0.98 in.)

   Length (B):

   25 mm (0.98 in.)

CAUTION:
- **Be careful when drilling because shards of metal may fly about. Always use proper safety equipment.**

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- **The gas is colorless, odorless and non-poisonous.**

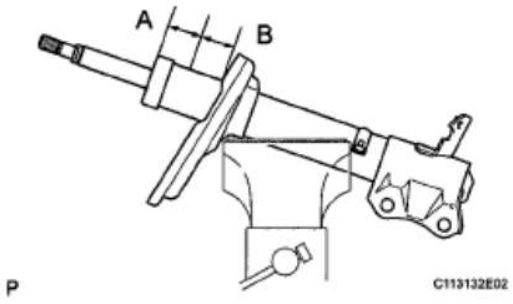


Fig. 162: Identifying Rear Shock Absorber Hole Area (4WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REAR SUSPENSION MEMBER (FOR 2WD)

COMPONENTS

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Fig. 163: Identifying Rear Suspension Member (2WD) Components With Torque Specification (1 Of 5)
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Fig. 164: Identifying Rear Suspension Member (2WD) Components With Torque Specification (2 Of 5)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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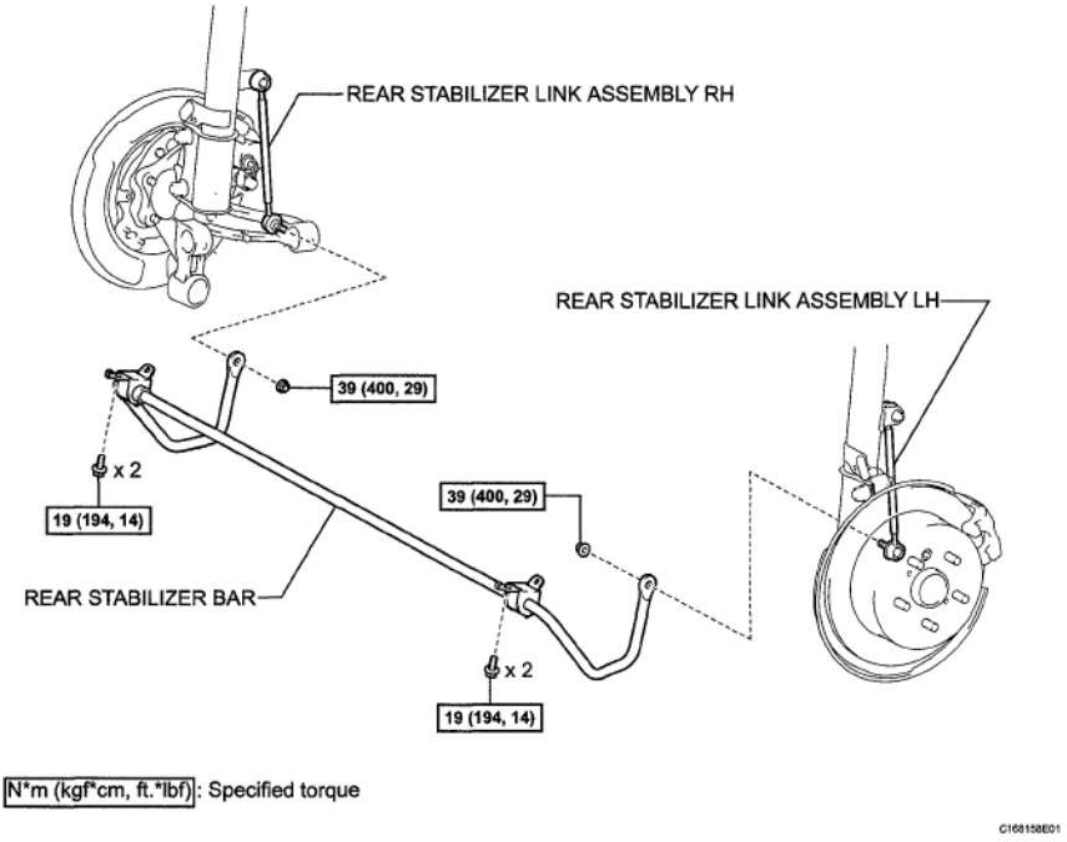


Fig. 165: Identifying Rear Suspension Member (2WD) Components With Torque Specification (3 Of 5)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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Fig. 166: Identifying Rear Suspension Member (2WD) Components With Torque Specification (4 Of 5)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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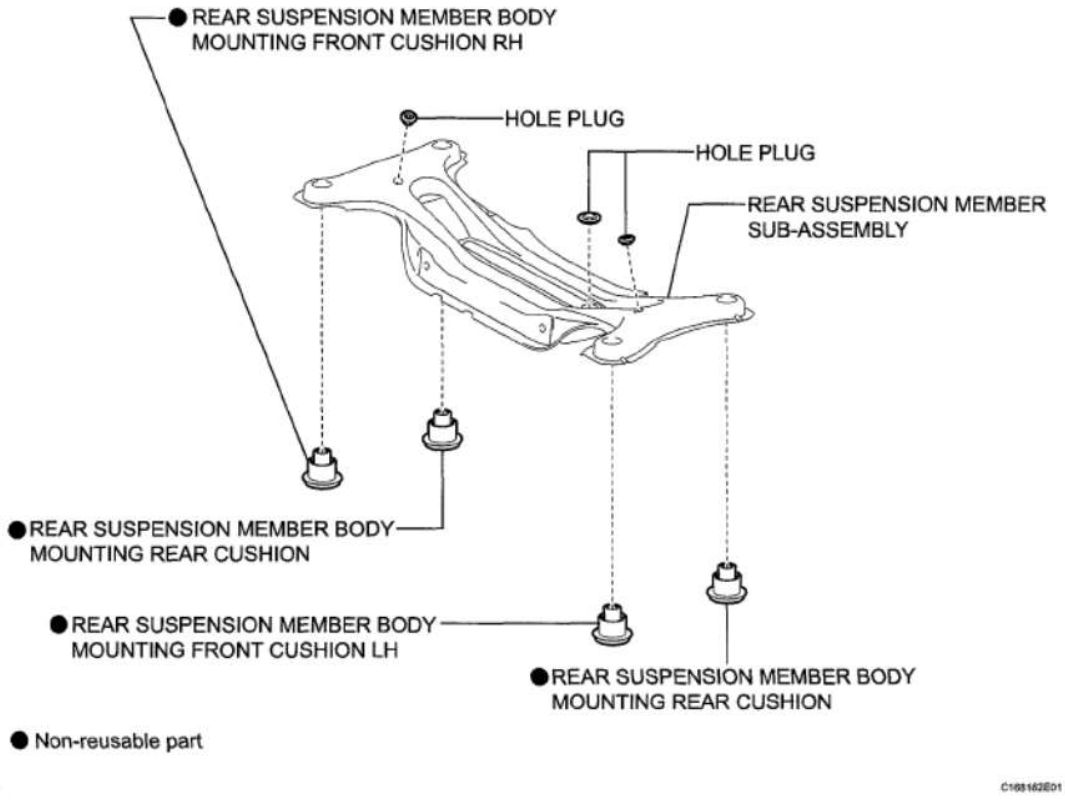


Fig. 167: Identifying Rear Suspension Member (2WD) Components With Torque Specification (5 Of 5)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **REMOVE DECK BOARD ASSEMBLY** (See **REMOVAL**)
2. **REMOVE NO. 3 DECK BOARD SUB-ASSEMBLY (w/ Tonneau Cover)** (See **REMOVAL**)
3. **REMOVE NO. 2 DECK BOARD SUB-ASSEMBLY (w/ Tonneau Cover)** (See **REMOVAL**)
4. **REMOVE TONNEAU COVER ASSEMBLY (w/ Tonneau Cover)** (See **REMOVAL**)
5. **REMOVE REAR MAT** (See **REMOVAL**)
6. **REMOVE DECK TRIM SERVICE HOLE COVER**
7. **REMOVE LOWER SPARE WHEEL CARRIER HINGE COVER (w/ Cover)**
8. **REMOVE SPARE TIRE**
9. **REMOVE SPARE WHEEL CARRIER LOCK COVER (w/ Cover)**
10. **REMOVE REAR WHEELS**
11. **SEPARATE REAR STABILIZER LINK ASSEMBLY LH** (See **INSTALLATION**)
12. **SEPARATE REAR STABILIZER LINK ASSEMBLY RH** (See **INSTALLATION**)
13. **REMOVE REAR STABILIZER BAR** (See **INSPECTION**)
14. **REMOVE REAR NO. 2 SUSPENSION ARM ASSEMBLY LH** (See **INSTALLATION**)
15. **REMOVE REAR NO. 2 SUSPENSION ARM ASSEMBLY RH**

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HINT:

Perform the same procedure as the LH side.

16. **REMOVE REAR NO. 1 SUSPENSION ARM ASSEMBLY LH** (See **INSTALLATION**)
17. **REMOVE REAR NO. 1 SUSPENSION ARM ASSEMBLY RH**

HINT:

Perform the same procedure as the LH side.

18. **REMOVE EXHAUST PIPE CLAMP BRACKET SUB-ASSEMBLY**
    a. Separate the exhaust pipe clamp from the exhaust pipe clamp bracket sub-assembly.

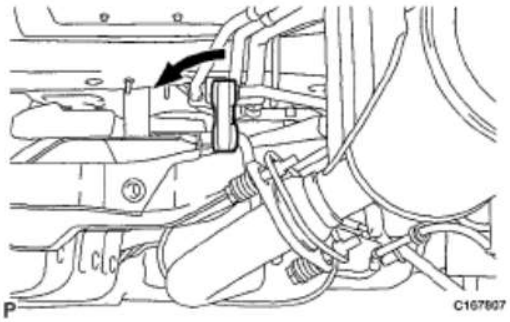


Fig. 168: Separating Exhaust Pipe Clamp
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

    b. Remove the 3 bolts and the exhaust pipe clamp bracket sub-assembly.

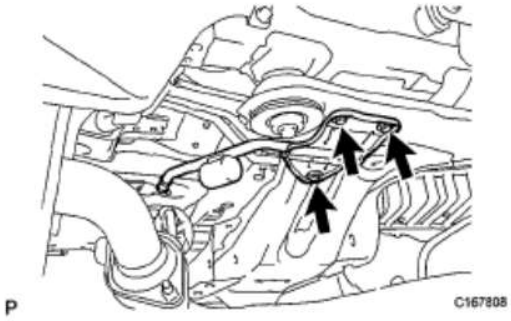


Fig. 169: Locating Exhaust Pipe Clamp Bracket Sub-Assembly Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

19. **REMOVE REAR SUSPENSION MEMBER**
    a. Using a jack and 2 wooden blocks, and support the rear suspension member.

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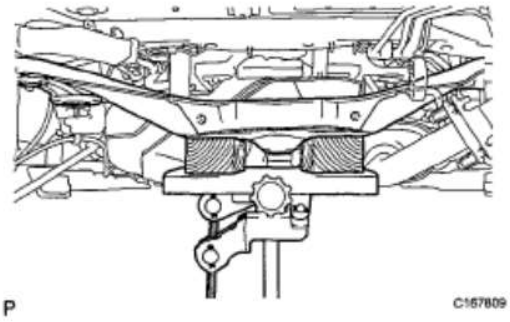


Fig. 170: Supporting Rear Suspension Member
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Remove the 4 nuts, the 2 bolts, and the 4 rear lower suspension member stoppers.

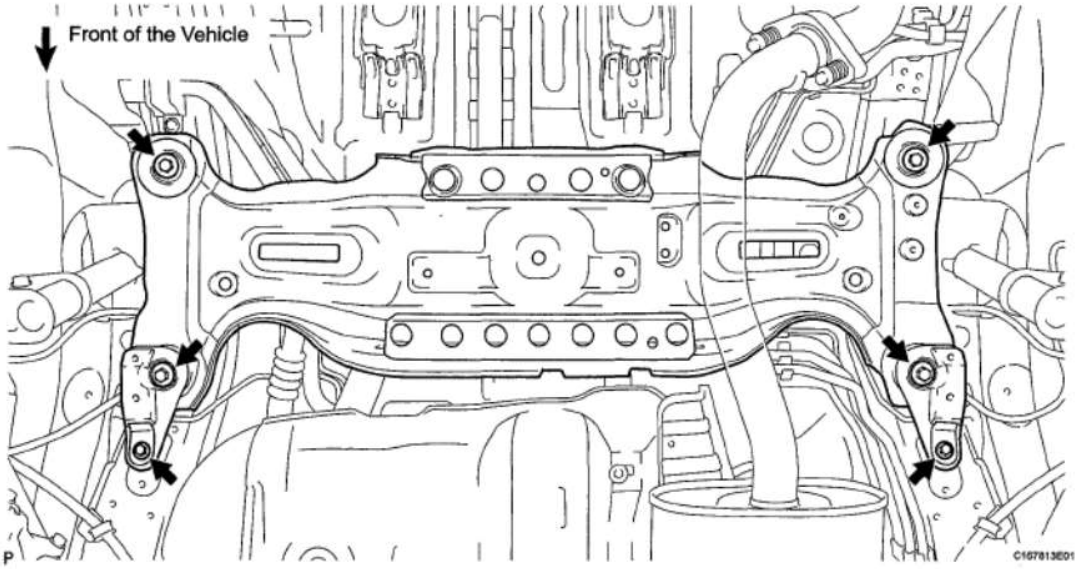
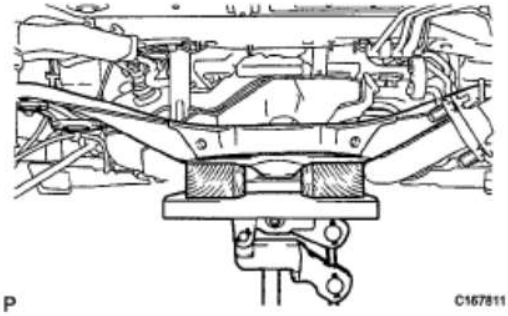


Fig. 171: Identifying Rear Lower Suspension Member Stoppers Nut And Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Lower the suspension member to the point shown in the illustration.



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Fig. 172: Lowering Suspension Member To Point
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

d. Remove the rear suspension member as shown in the illustration.

NOTE: When removing the rear suspension member, be careful not to damage the vehicle body or other components installed on the vehicle.

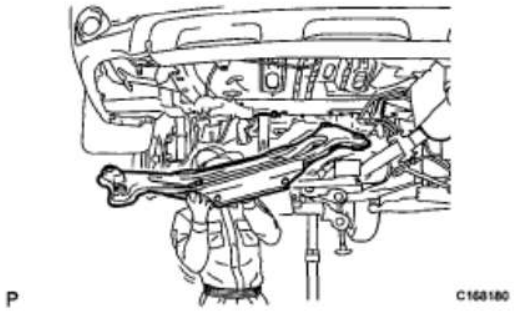


Fig. 173: Removing Rear Suspension Member
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

20. **REMOVE REAR SUSPENSION MEMBER BODY MOUNTING FRONT CUSHION LH**

a. Using SST and a press, remove the rear suspension member body mounting front cushion LH from the rear suspension member sub-assembly.

SST 09527-17011, 09950-70010 (09951-07100), 09950-60010 (09951-00340)

HINT:

- Install SST as shown in the illustration.
- To prevent the rear suspension member sub-assembly from falling after removing the rear suspension member body mounting front cushion LH, support the rear suspension member sub-assembly using your hands and body while pressing.

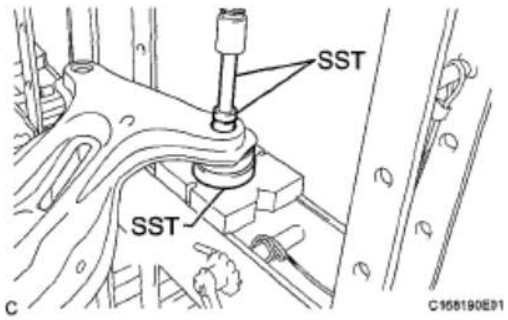


Fig. 174: Pressing Rear Suspension Member Body Mounting Front Cushion LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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21. **REMOVE REAR SUSPENSION MEMBER BODY MOUNTING FRONT CUSHION RH**

HINT:

Perform the same procedure as the LH side.

22. **REMOVE REAR SUSPENSION MEMBER BODY MOUNTING REAR CUSHION (for LH Side)**

a. Using SST and a press, remove the rear suspension member body mounting rear cushion from the rear suspension member sub-assembly.

SST 09527-17011, 09950-70010 (09951-07100), 09950-60010 (09951-00340)

HINT:

- Install SST as shown in the illustration.
- To prevent the rear suspension member sub-assembly from falling after removing the rear suspension member body mounting rear cushion, support the rear suspension member sub-assembly using your hands and body while pressing.

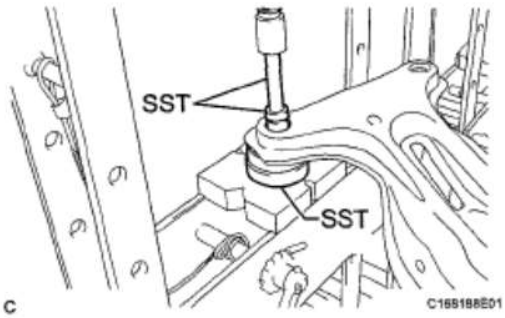


Fig. 175: Pressing Rear Suspension Member Body Mounting Rear Cushion
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

23. **REMOVE REAR SUSPENSION MEMBER BODY MOUNTING REAR CUSHION (for RH Side)**

HINT:

Perform the same procedure as the LH side.

24. **REMOVE HOLE PLUG**

a. Remove the 3 hole plugs from the rear suspension member sub-assembly.

HINT:

There are two sizes of hole plugs.

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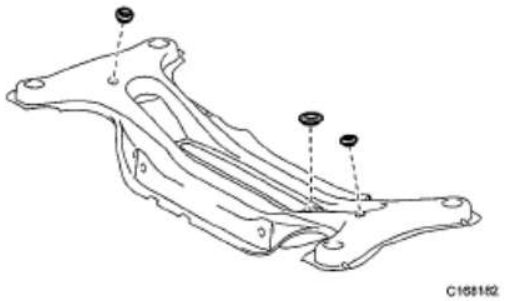


Fig. 176: Identifying Rear Suspension Member Sub-Assembly Hole Plugs
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

25. **REMOVE STUD BOLT (for LH Side)**
    a. Remove the stud bolt.
26. **REMOVE STUD BOLT (for RH Side)**

    HINT:

    Perform the same procedure as the LH side.

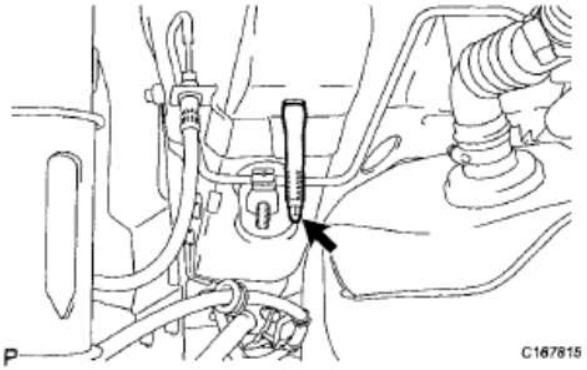


Fig. 177: Locating Stud Bolt
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSTALLATION

1. **INSTALL STUD BOLT (for LH Side)**
    a. Install the stud bolt.

    Torque: 17 N*m (173 kgf*cm, 12 ft.*lbf)

2. **INSTALL STUD BOLT (for RH Side)**

    HINT:

    Perform the same procedure as the LH side.

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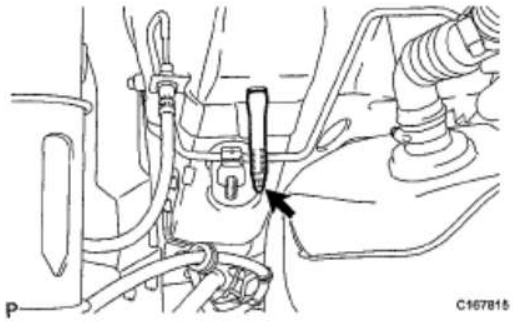


Fig. 178: Locating Stud Bolt
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. **INSTALL HOLE PLUG**
   a. Install the hole plugs to the rear suspension member sub-assembly.

      HINT:

      There are two sizes of hole plugs.

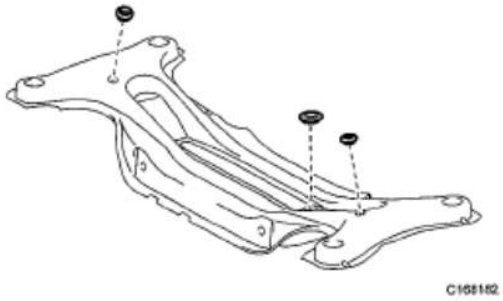
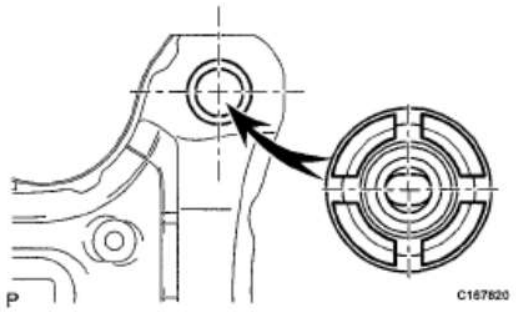


Fig. 179: Identifying Rear Suspension Member Sub-Assembly Hole Plugs
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. **INSTALL REAR SUSPENSION MEMBER BODY MOUNTING FRONT CUSHION LH**
   a. Temporarily install a new rear suspension member body mounting front cushion LH to the position shown in the illustration.



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Fig. 180: Installing Rear Suspension Member Body Mounting Front Cushion LH To Position
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b. Using SST and a press, install the rear suspension member body mounting front cushion LH to the rear suspension member sub-assembly.

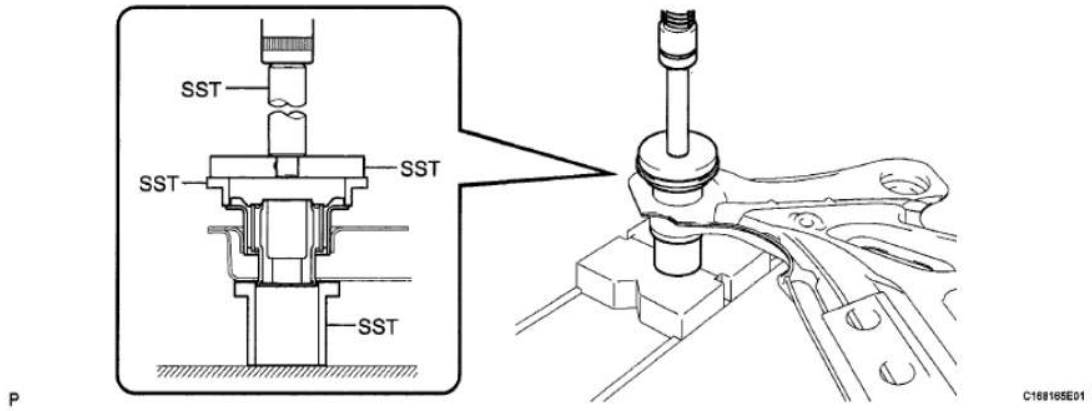


Fig. 181: Pressing Rear Suspension Member Body Mounting Front Cushion LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

SST 09950-70010 (09951-07100), 09950-60020 (09951-00890), 09502-12010, 09515-30010

HINT:

Slowly press in the mounting cushion.

c. While observing from the side, press in the rear suspension member body mounting front cushion LH until there is no clearance between the rear suspension member body mounting front cushion LH and the rear suspension member sub-assembly as shown in the illustration.

NOTE: Do not press the rear suspension member excessively, or it will easily deform.

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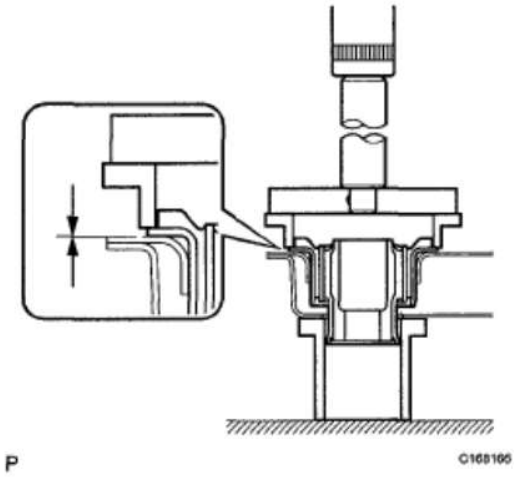


Fig. 182: Pressing Rear Suspension Member Body Mounting Front Cushion LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. **INSTALL REAR SUSPENSION MEMBER BODY MOUNTING FRONT CUSHION RH**
   a. Temporarily install a new rear suspension member body mounting front cushion RH to the position shown in the illustration.

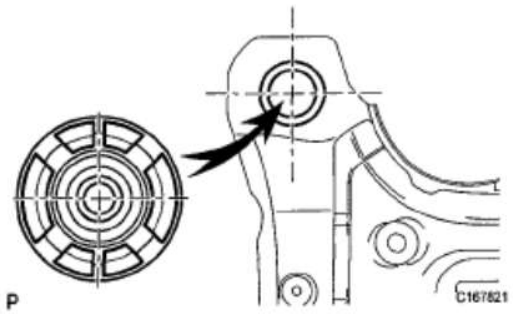


Fig. 183: Installing Rear Suspension Member Body Mounting Front Cushion RH To Position
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   b. Using SST and a press, install the rear suspension member body mounting front cushion RH to the rear suspension member sub-assembly.

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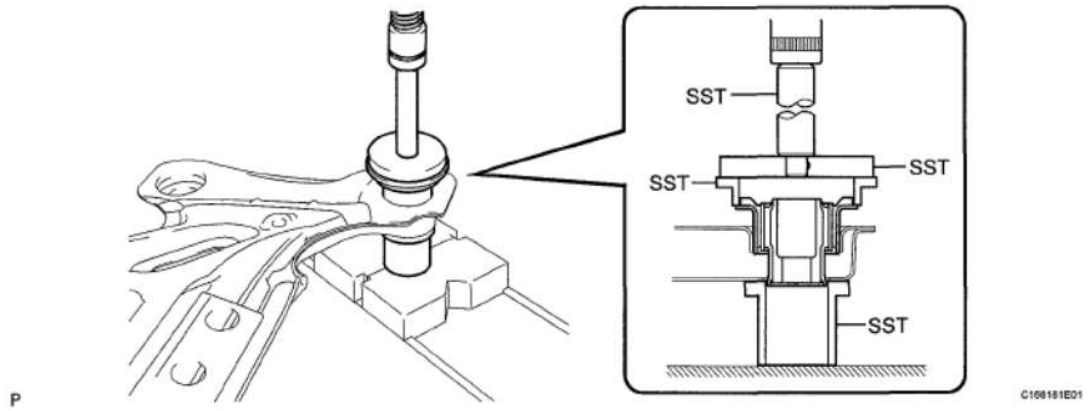


Fig. 184: Pressing Rear Suspension Member Body Mounting Front Cushion RH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

SST 09950-70010 (09951-07100), 09950-60020 (09951-00890), 09502-12010, 09515-30010

HINT:

Slowly press in the mounting cushion.

c. While observing from the side, press in the rear suspension member body mounting front cushion RH until there is no clearance between the rear suspension member body mounting front cushion RH and the rear suspension member sub-assembly as shown in the illustration.

NOTE: Do not press the rear suspension member excessively, or it will easily deform.

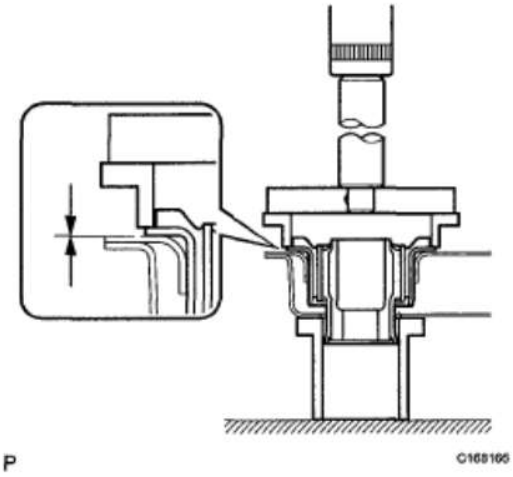


Fig. 185: Pressing Rear Suspension Member Body Mounting Front Cushion RH
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6. **INSTALL REAR SUSPENSION MEMBER BODY MOUNTING REAR CUSHION (for LH Side)**

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a. Temporarily install a new rear suspension member body mounting rear cushion (LH side) to the position shown in the illustration.

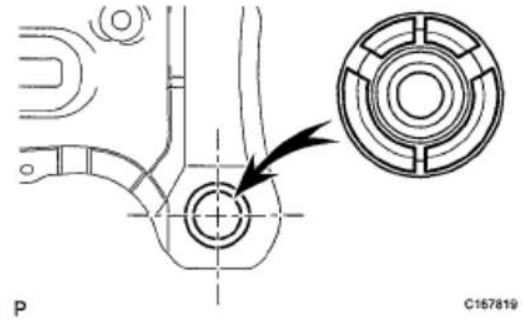


Fig. 186: Installing Rear Suspension Member Body Mounting Rear Cushion LH Position
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Using SST and a press, install the rear suspension member body mounting rear cushion (LH side) to the rear suspension member sub-assembly.

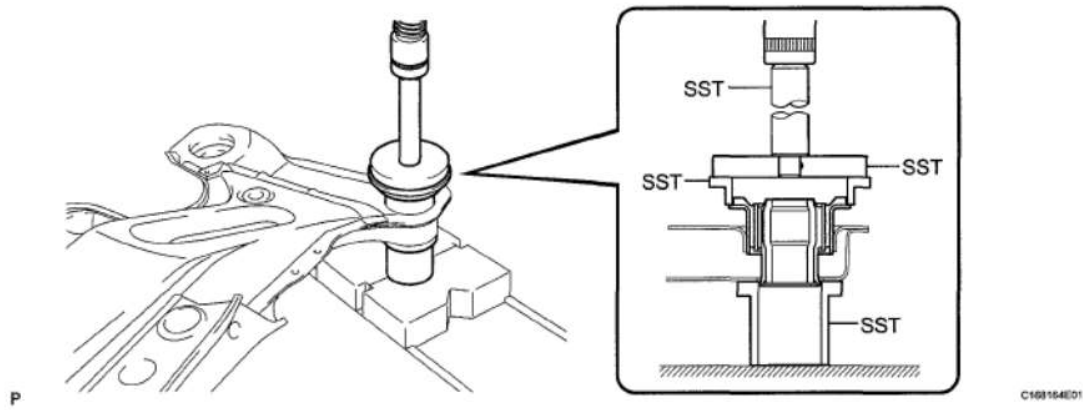


Fig. 187: Pressing Rear Suspension Member Body Mounting Rear Cushion (LH Side)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

SST 09950-70010 (09951-07100), 09950-60020 (09951-00890), 09502-12010, 09515-30010

HINT:

Slowly press in the mounting cushion.

c. While observing from the side, press in the rear suspension member body mounting rear cushion (LH side) until there is no clearance between the rear suspension member body mounting rear cushion (LH side) and the rear suspension member sub-assembly as shown in the illustration.

NOTE: Do not press the rear suspension member excessively, or it will easily deform.

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7. **INSTALL REAR SUSPENSION MEMBER BODY MOUNTING REAR CUSHION (for RH Side)**

HINT:

Perform the same procedure as the LH side.

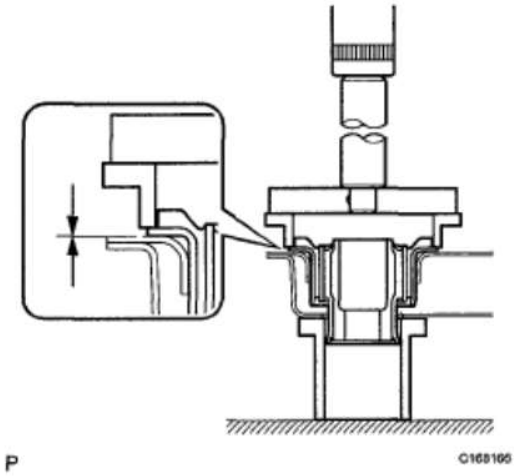


Fig. 188: Pressing Rear Suspension Member Body Mounting Front Cushion RH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

8. **INSTALL REAR SUSPENSION MEMBER**

a. Set the jack and wooden blocks below the vehicle as shown in the illustration.

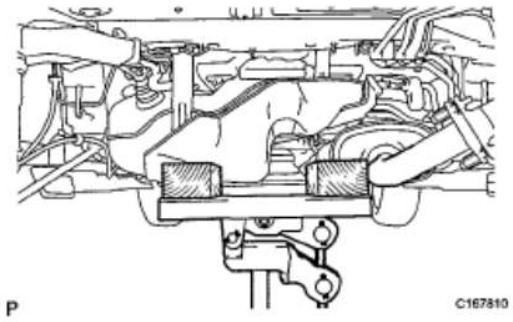


Fig. 189: Lifting Rear Suspension Member
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Set the rear suspension member onto the jack as shown in the illustration.

NOTE: When removing the rear suspension member, be careful not to damage the vehicle body or other components installed on the vehicle.

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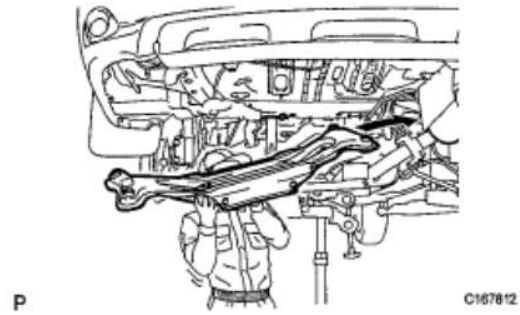


Fig. 190: Setting Rear Suspension Member Onto Jack
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Raise the rear suspension member with a jack.
d. Install the rear suspension member and the rear lower suspension member stopper LH and RH with the 4 nuts.

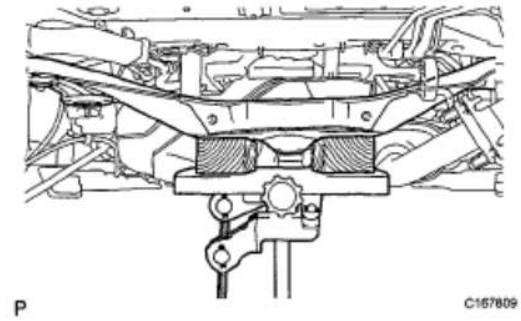


Fig. 191: Raising Rear Suspension Member With Jack
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

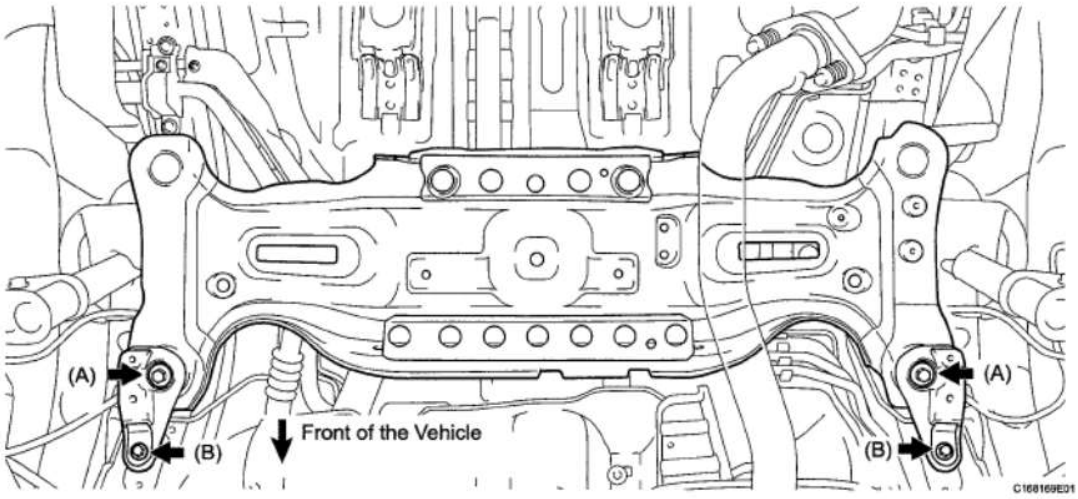


Fig. 192: Identifying Rear Lower Suspension Member Stopper LH And RH With Nuts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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Torque: Nut A

55 N*m (561 kgf*cm, 40 ft.*lbf)

Nut B

38 N*m (387 kgf*cm, 28 ft.*lbf)

e. Install the rear suspension member and the rear lower suspension member stoppers with the 2 bolts.

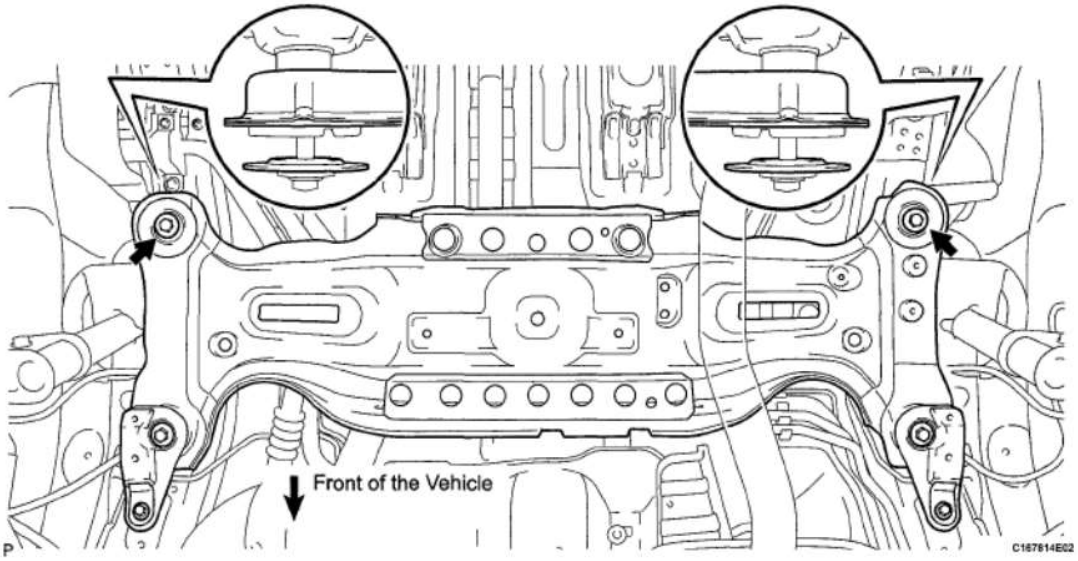


Fig. 193: Identifying Rear Lower Suspension Member Stoppers With Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Torque: 55 N*m (561 kgf*cm, 40 ft.*lbf)

NOTE: Be sure to install the rear suspension member with the rear lower suspension member stopper in the correct direction as shown in the illustration.

9. **INSTALL EXHAUST PIPE CLAMP BRACKET SUB-ASSEMBLY**
   a. Install the exhaust pipe clamp bracket sub-assembly with the 3 bolts.

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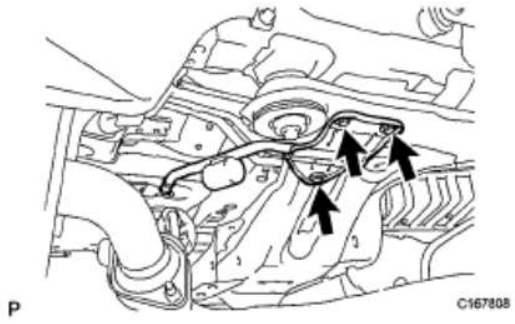


Fig. 194: Locating Exhaust Pipe Clamp Bracket Sub-Assembly Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Install the exhaust pipe clamp to the exhaust pipe clamp bracket sub-assembly.

10. **TEMPORARILY INSTALL REAR NO. 1 SUSPENSION ARM ASSEMBLY LH** (See **INSTALLATION**)
11. **TEMPORARILY INSTALL REAR NO. 1 SUSPENSION ARM ASSEMBLY RH**

    HINT:

    Perform the same procedure as the LH side.

12. **TEMPORARILY INSTALL REAR NO. 2 SUSPENSION ARM ASSEMBLY LH** (See **INSTALLATION**)

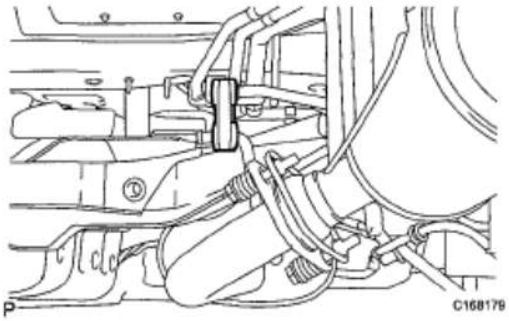


Fig. 195: Identifying Exhaust Pipe Clamp
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

13. **TEMPORARILY INSTALL REAR NO. 2 SUSPENSION ARM ASSEMBLY RH**

    HINT:

    Perform the same procedure as the LH side.

14. **STABILIZE SUSPENSION** (See **INSTALLATION**)
15. **FULLY TIGHTEN REAR NO. 1 SUSPENSION ARM ASSEMBLY LH** (See **REAR LOWER**

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ARM (FOR 4WD))

16. **FULLY TIGHTEN REAR NO. 1 SUSPENSION ARM ASSEMBLY RH**

    HINT:

    Perform the same procedure as the LH side.

17. **FULLY TIGHTEN REAR NO. 2 SUSPENSION ARM ASSEMBLY LH** (See **REAR LOWER ARM (FOR 4WD)**)
18. **FULLY TIGHTEN REAR NO. 2 SUSPENSION ARM ASSEMBLY RH**

    HINT:

    Perform the same procedure as the LH side.

19. **INSTALL REAR STABILIZER BAR** (See **INSTALLATION**)
20. **INSTALL REAR STABILIZER LINK ASSEMBLY LH** (See **REAR LOWER ARM (FOR 4WD)**)
21. **INSTALL REAR STABILIZER LINK ASSEMBLY RH** (See **REAR LOWER ARM (FOR 4WD)**)
22. **INSTALL REAR WHEELS**

    Torque: 103 N*m (1,050 kgf*cm, 76 ft.*lbf)

23. **INSTALL SPARE WHEEL CARRIER LOCK COVER (w/ Cover)**
24. **INSTALL SPARE TIRE**
25. **INSTALL LOWER SPARE WHEEL CARRIER HINGE COVER (w/ Cover)**
26. **INSTALL DECK TRIM SERVICE HOLE COVER**
27. **INSTALL REAR MAT** (See **INSTALLATION**)
28. **INSTALL TONNEAU COVER ASSEMBLY** (See **INSTALLATION**)
29. **INSTALL NO. 2 DECK BOARD SUB-ASSEMBLY** (See **INSTALLATION**)
30. **INSTALL NO. 3 DECK BOARD SUB-ASSEMBLY** (See **INSTALLATION**)
31. **INSTALL DECK BOARD ASSEMBLY** (See **INSTALLATION**)
32. **INSPECT AND ADJUST REAR WHEEL ALIGNMENT**

    HINT:

    See **REAR WHEEL ALIGNMENT**

REAR SUSPENSION MEMBER (FOR 4WD)

COMPONENTS

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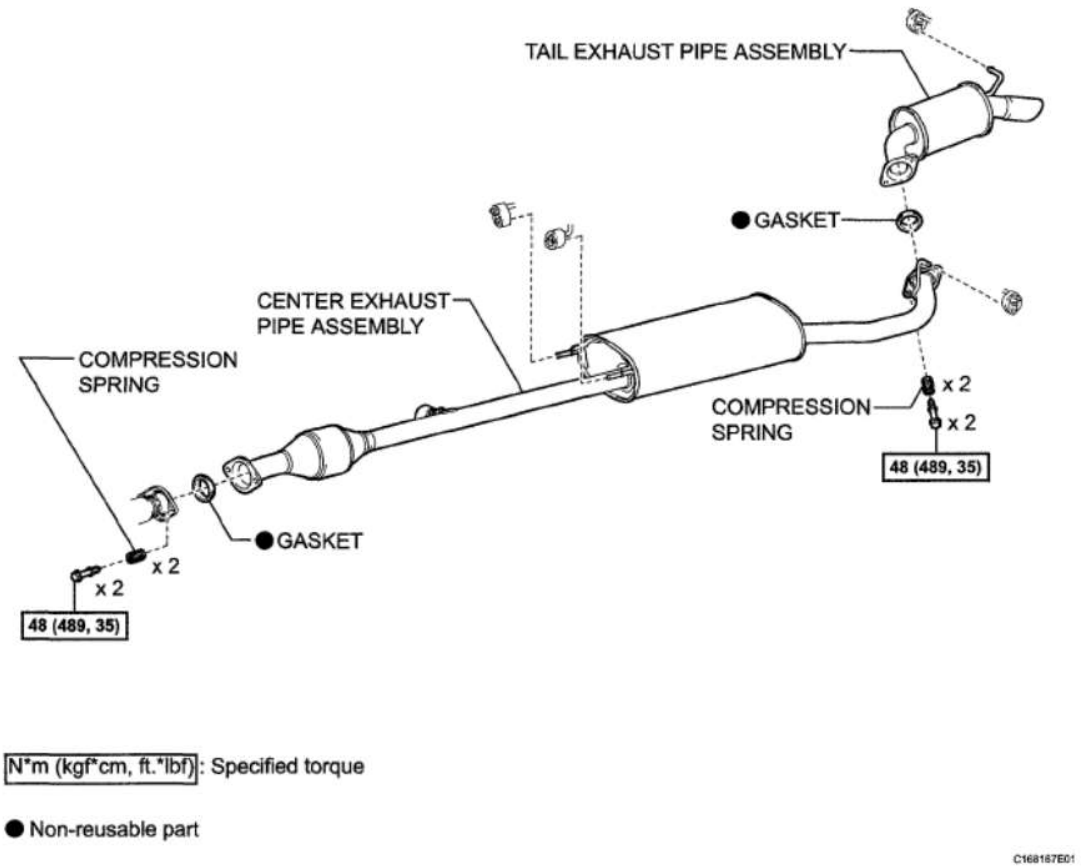


Fig. 196: Identifying Rear Suspension Member (4WD) Components With Torque Specification (1 Of 8)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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Fig. 197: Identifying Rear Suspension Member (4WD) Components With Torque Specification (2 Of 8)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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Fig. 198: Identifying Rear Suspension Member (4WD) Components With Torque Specification (3 Of 8)
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Fig. 199: Identifying Rear Suspension Member (4WD) Components With Torque Specification (4 Of 8)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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Fig. 200: Identifying Rear Suspension Member (4WD) Components With Torque Specification (5 Of 8)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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Fig. 201: Identifying Rear Suspension Member (4WD) Components With Torque Specification (6 Of 8)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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Fig. 202: Identifying Rear Suspension Member (4WD) Components With Torque Specification (7 Of 8)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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Fig. 203: Identifying Rear Suspension Member (4WD) Components With Torque Specification (8 Of 8)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **REMOVE REAR WHEELS**
2. **REMOVE TAIL EXHAUST PIPE ASSEMBLY** (See **INSTALLATION**)
3. **REMOVE CENTER EXHAUST PIPE ASSEMBLY** (See **INSTALLATION**)
4. **REMOVE PROPELLER WITH CENTER BEARING SHAFT ASSEMBLY** (See **REMOVAL**)
5. **SEPARATE REAR SPEED SENSOR LH** (See **REMOVAL**)
6. **SEPARATE REAR SPEED SENSOR RH**

   HINT:

   Perform the same procedure as the LH side.

7. **REMOVE REAR AXLE SHAFT NUT LH** (See **REMOVAL**)
8. **REMOVE REAR AXLE SHAFT NUT RH**

   HINT:

   Perform the same procedure as the LH side.

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9. **SEPARATE REAR DISC BRAKE CALIPER ASSEMBLY LH** (See **REPLACEMENT**)
10. **SEPARATE REAR DISC BRAKE CALIPER ASSEMBLY RH**

    HINT:

    Perform the same procedure as the LH side.

11. **REMOVE REAR DISC (for LH Side)** (See **INSPECTION**)
12. **REMOVE REAR DISC (for RH Side)**

    HINT:

    Perform the same procedure as the LH side.

13. **REMOVE REAR AXLE HUB AND BEARING ASSEMBLY LH** (See **REMOVAL**)
14. **REMOVE REAR AXLE HUB AND BEARING ASSEMBLY RH**

    HINT:

    Perform the same procedure as the LH side.

15. **SEPARATE NO. 3 PARKING BRAKE CABLE ASSEMBLY** (See **INSTALLATION**)
16. **SEPARATE NO. 2 PARKING BRAKE CABLE ASSEMBLY**

    HINT:

    Perform the same procedure as the No. 3 parking brake cable assembly.

17. **REMOVE REAR STRUT ROD ASSEMBLY LH** (See **INSTALLATION**)
18. **REMOVE REAR STRUT ROD ASSEMBLY RH**

    HINT:

    Perform the same procedure as the LH side.

19. **REMOVE REAR AXLE CARRIER SUB-ASSEMBLY LH** (See **INSTALLATION**)
20. **REMOVE REAR AXLE CARRIER SUB-ASSEMBLY RH**

    HINT:

    Perform the same procedure as the LH side.

21. **REMOVE REAR NO. 2 SUSPENSION ARM ASSEMBLY LH**
    a. Put matchmarks on the adjust cams and the rear suspension member sub-assembly.
    b. Remove the nut, the No. 2 camber adjust cam, the rear suspension toe adjust cam sub-assembly,

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and the rear No. 2 suspension arm assembly LH.

NOTE: Mark the removed parts to distinguish left from right and keep them in order for reinstallation.

HINT:

When removing the nut, keep the rear suspension toe adjust cam sub-assembly from rotating.

22. **REMOVE REAR NO. 2 SUSPENSION ARM ASSEMBLY RH**

HINT:

Perform the same procedure as the LH side.

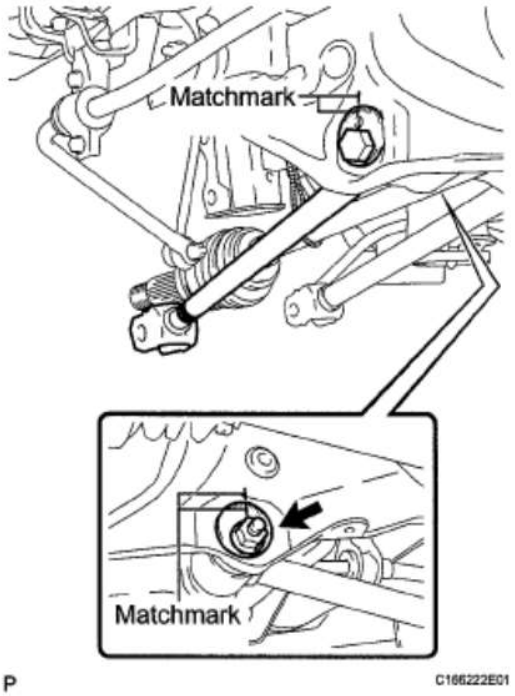


Fig. 204: Putting Matchmarks On Adjust Cams And Rear Suspension Member Sub-Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

23. **REMOVE REAR NO. 1 SUSPENSION ARM ASSEMBLY RH**

a. Remove the bolt, the nut, and the rear No. 1 suspension arm assembly RH from the rear suspension member sub-assembly.

NOTE:

- **Since a stopper nut is used, loosen the bolt.**
- **Mark the removed parts to distinguish left from right and keep them in order for reinstallation.**

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24. **REMOVE REAR DIFFERENTIAL FILLER PLUG** (See **REMOVAL**)
25. **REMOVE REAR DIFFERENTIAL DRAIN PLUG** (See **REMOVAL**)
26. **REMOVE REAR DRIVE SHAFT ASSEMBLY LH** (See **REMOVAL**)
27. **REMOVE REAR DRIVE SHAFT SNAP RING LH** (See **DISASSEMBLY**)
28. **REMOVE REAR DRIVE SHAFT ASSEMBLY RH**

    HINT:

    Perform the same procedure as the LH side.

29. **REMOVE REAR DRIVE SHAFT SNAP RING RH**

    HINT:

    Perform the same procedure as the LH side.

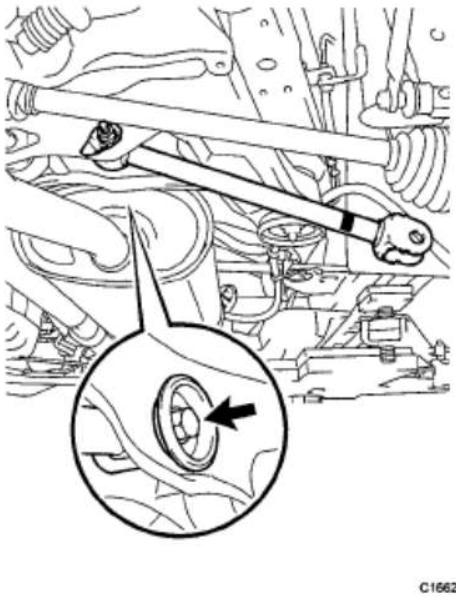


Fig. 205: Identifying Rear No. 1 Suspension Arm Assembly RH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

30. **REMOVE REAR SUSPENSION MEMBER**
    a. Support the rear suspension member with a jack using a wooden block.

       HINT:

       Use a properly sized wooden block to keep the jack and suspension member level.

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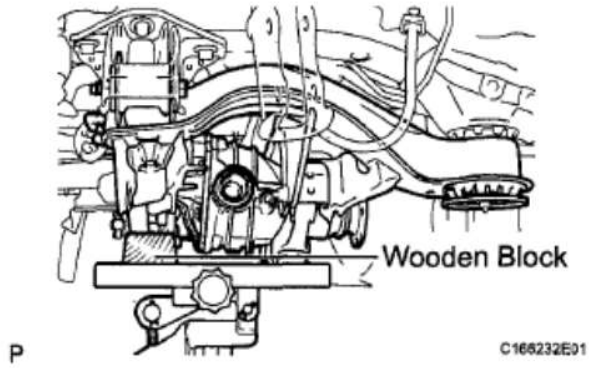


Fig. 206: Supporting Rear Suspension Member With Jack
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Remove the 4 nuts, 2 bolts and 2 rear lower suspension member stopper retainers.
c. Lower the rear suspension member.
d. Remove the 2 rear upper suspension member stoppers.

31. **REMOVE REAR NO. 1 SUSPENSION ARM ASSEMBLY LH** (See **INSTALLATION**)
32. **REMOVE REAR DIFFERENTIAL CARRIER ASSEMBLY** (See **REMOVAL**)
33. **REMOVE REAR NO. 1 DIFFERENTIAL MOUNT CUSHION** (See **REMOVAL**)

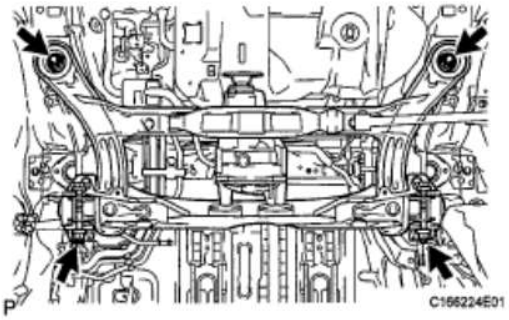


Fig. 207: Locating Rear Lower Suspension Member Stopper Nuts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

34. **REMOVE REAR NO. 2 DIFFERENTIAL MOUNT CUSHION** (See **INSTALLATION**)
35. **REMOVE REAR SUSPENSION MEMBER BODY MOUNTING FRONT CUSHION (for LH Side)**
    a. Using SST, remove the rear suspension member body mounting front cushion.

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Fig. 208: Removing Rear Suspension Member Body Mounting Front Cushion
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

SST 09830-10010 (09830-01010, 09830-01040, 09830-01050), 09950-40011 (09951-04020, 09952-04010, 09955-04011, 09954-04010, 09958-04011)

NOTE:

- **Set the tips of the claws in the cutouts of the body mounting cushion.**
- **Securely install the spacer No. 1 to the inner cylinder of the body mounting cushion as shown in the illustration.**
- **Apply a small amount of grease to the threads of SST (center bolt) before use.**
- **Tighten SST slowly and evenly.**
- **Be careful as the body mounting cushion may fly out.**
- **The body mounting cushion cannot be reused.**

36. **REMOVE REAR SUSPENSION MEMBER BODY MOUNTING FRONT CUSHION (for RH Side)**

HINT:

Perform the same procedure as the LH side.

37. **REMOVE REAR SUSPENSION MEMBER BODY MOUNTING REAR CUSHION (for LH Side)**
    a. Using SST, temporarily remove the rear suspension member body mounting rear cushion.

SST 09710-30050, 09950-40011 (09951-04020, 09955-04031, 09954-04010, 09952-04010, 09958-04011, 09953-04010)

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NOTE:

- **Set the tips of the claws in the cutouts of the body mounting cushion.**
- **Securely install the spacer No. 1 to the inner cylinder of the body mounting cushion as shown in the illustration.**
- **Apply a small amount of grease to the threads of SST (center bolt) before use.**
- **Tighten SST slowly and evenly.**
- **Be careful as the body mounting cushion may fly out.**
- **The body mounting cushion cannot be reused.**

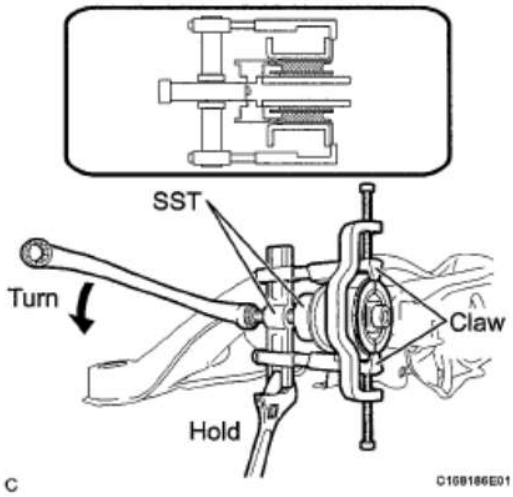


Fig. 209: Removing Rear Suspension Member Body Mounting Rear Cushion
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. When the mounting cushion protrudes approximately 6 mm, reassemble SST as shown in the illustration and remove the mounting cushion.

SST 09710-30050, 09950-40011 (09951-04020, 09955-04031, 09954-04010, 09952-04010, 09958-04011, 09953-04010, 09953-04020)

NOTE:

- **Set the tips of the claws in the cutouts of the body mounting cushion.**
- **Securely install the spacer No. 1 to the inner cylinder of the body mounting cushion as shown in the illustration.**
- **Apply a small amount of grease to the threads of SST (center bolt) before use.**
- **Tighten SST slowly and evenly.**
- **Be careful as the body mounting cushion may fly out.**
- **The body mounting cushion cannot be reused.**

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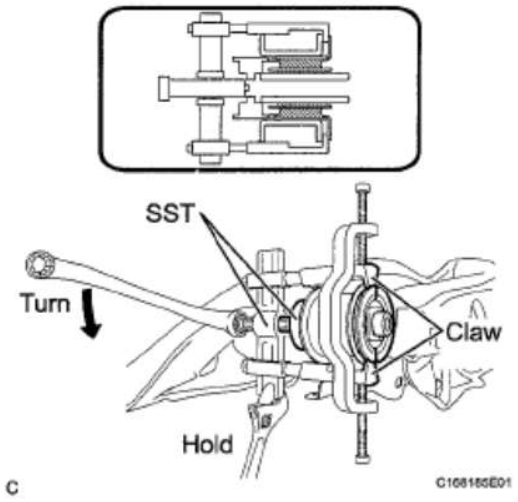


Fig. 210: Removing Mounting Cushion
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

HINT:

Use the shorter center bolt first, and then change it to the longer center bolt.

38. **REMOVE REAR SUSPENSION MEMBER BODY MOUNTING REAR CUSHION (for RH Side)**

HINT:

Perform the same procedure as the LH side.

39. **REMOVE HOLE PLUG**
    a. Remove the 2 hole plugs.

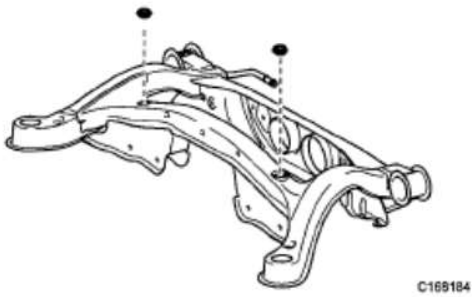


Fig. 211: Identifying Hole Plugs
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

40. **REMOVE REAR NO. 2 BODY MOUNTING BRACKET SUB-ASSEMBLY LH**
    a. Remove the 3 bolts and rear No. 2 body mounting bracket sub-assembly LH.

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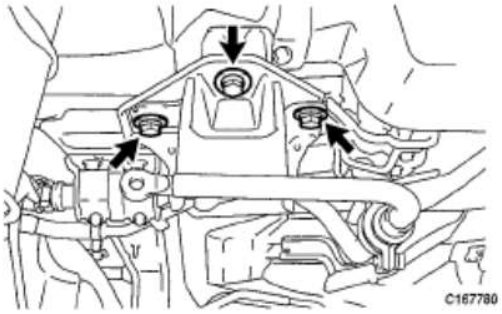


Fig. 212: Locating Rear No. 2 Body Mounting Bracket Sub-Assembly LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

41. **REMOVE REAR NO. 2 BODY MOUNTING BRACKET SUB-ASSEMBLY RH**
    a. Remove the 3 bolts and rear No. 2 body mounting bracket sub-assembly RH.

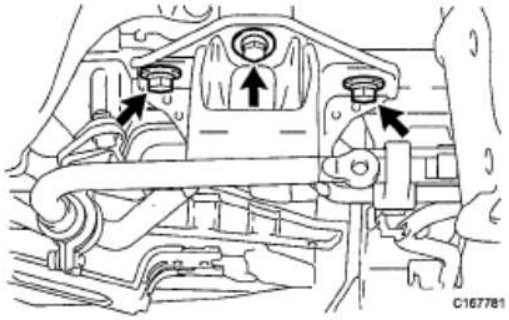
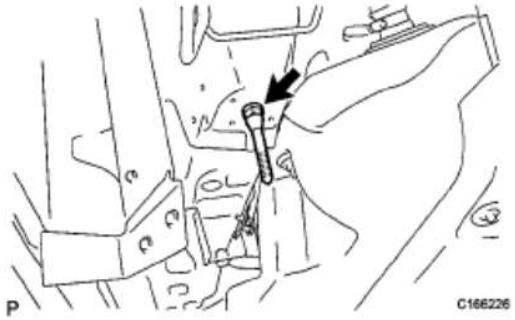


Fig. 213: Locating Rear No. 2 Body Mounting Bracket Sub-Assembly RH Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

42. **REMOVE STUD BOLT (for LH Side)**
    a. Remove the stud bolt.
43. **REMOVE STUD BOLT (for RH Side)**

    HINT:

    Perform the same procedure as the LH side.



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Fig. 214: Locating Stud Bolt
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSTALLATION

1. **INSTALL STUD BOLT (for LH Side)**
   a. Using SST and a socket wrench (21 mm), install the stud bolt.

      SST 09817-33190

      Torque: 180 N*m (1840 kgf*cm, 133 ft.*lbf)

2. **INSTALL STUD BOLT (for RH Side)**

   HINT:

   Perform the same procedure as the LH side.

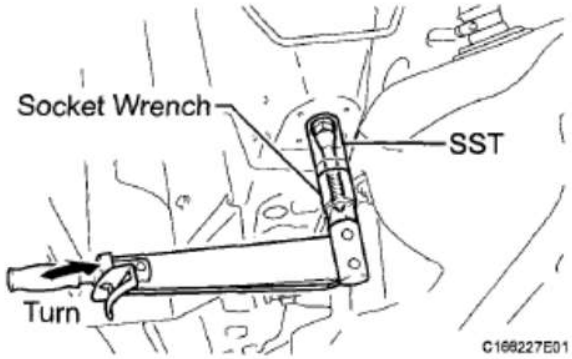


Fig. 215: Tightening Stud Bolt
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. **TEMPORARILY INSTALL REAR NO. 2 BODY MOUNTING BRACKET SUB-ASSEMBLY LH**
   a. Temporarily install the rear No. 2 body mounting bracket sub-assembly LH with the 2 bolts (A) and bolt (B).

      NOTE: Two types of bolts are used. Install each bolt to the correct position.

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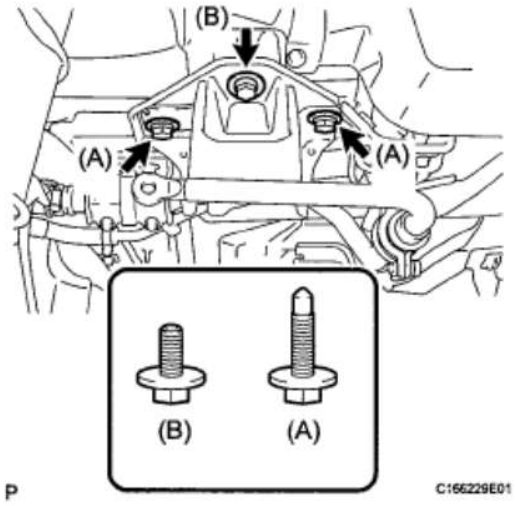


Fig. 216: Locating Rear No. 2 Body Mounting Bracket Sub-Assembly LH With Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. **TEMPORARILY INSTALL REAR NO. 2 BODY MOUNTING BRACKET SUB-ASSEMBLY RH**
   a. Temporarily install the rear No. 2 body mounting bracket sub-assembly RH with the 2 bolts (A) and bolt (B).

NOTE: Two types of bolts are used. Install each bolt to the correct position.

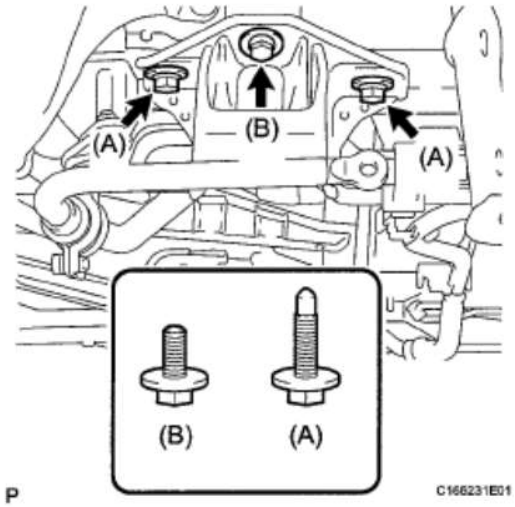


Fig. 217: Locating Rear No. 2 Body Mounting Bracket Sub-Assembly RH With Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. **INSTALL HOLE PLUG**
   a. Install the 2 hole plugs.

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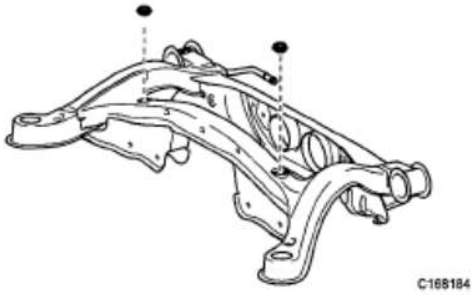


Fig. 218: Identifying Hole Plugs
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. **INSTALL REAR SUSPENSION MEMBER BODY MOUNTING FRONT CUSHION (for LH Side)**
   a. Temporarily install a new rear suspension member body mounting front cushion while confirming the installation direction.

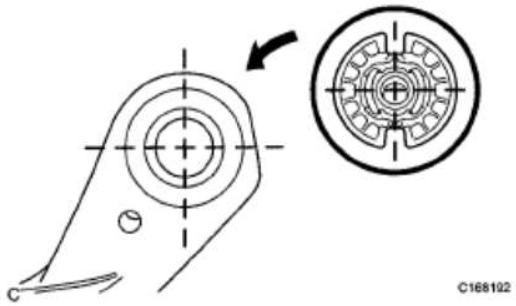


Fig. 219: Identifying Rear Suspension Member Body Mounting Front Cushion Installation Position
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   b. Using SST, install the rear suspension member body mounting front cushion until there is no clearance between the suspension member sub-assembly and the rear suspension member body mounting front cushion.

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Fig. 220: Installing Rear Suspension Member Body Mounting Front Cushion
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

SST 09830-10010 (09830-01010, 09830-01020, 09830-01030, 09830-01060)

NOTE:

- **Tighten SST slowly and evenly.**
- **Apply a small amount of grease to the threads of SST (center bolt) before use.**
- **Install the side marked "F" of SST to the body mounting cushion.**

7. **INSTALL REAR SUSPENSION MEMBER BODY MOUNTING FRONT CUSHION (for RH Side)**

HINT:

Perform the same procedure as the LH side.

8. **INSTALL REAR SUSPENSION MEMBER BODY MOUNTING REAR CUSHION (for LH Side)**
   a. Temporarily install a new rear suspension member body mounting rear cushion while confirming the installation direction

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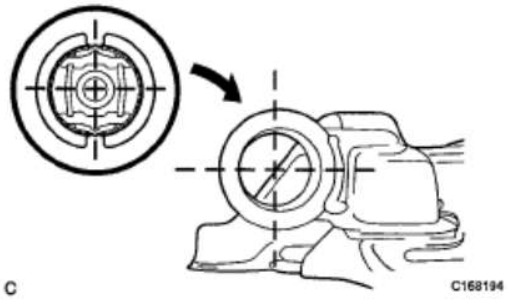


Fig. 221: Identifying Rear Suspension Member Body Mounting Rear Cushion Installation Position
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Using SST, install the rear suspension member rear body mounting cushion until there is no clearance between the suspension member sub-assembly and the rear suspension member body mounting rear cushion.

SST 09830-36010, 09515-21010

NOTE:

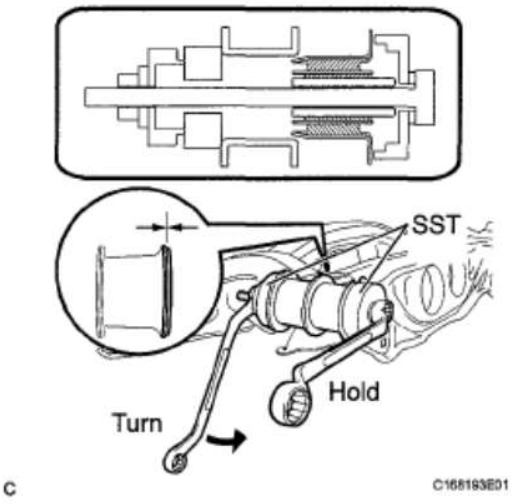
- **Tighten SST slowly and evenly.**
- **Apply a small amount of grease to the threads of SST (center bolt) before use.**

9. **INSTALL REAR SUSPENSION MEMBER BODY MOUNTING REAR CUSHION (for RH Side)**

HINT:

Perform the same procedure as the LH side.

10. **INSTALL REAR NO. 1 DIFFERENTIAL MOUNT CUSHION** (See **INSTALLATION**)



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Fig. 222: Installing Rear Suspension Member Rear Body Mounting Cushion
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

11. **INSTALL REAR NO. 2 DIFFERENTIAL MOUNT CUSHION** (See **INSTALLATION**)
12. **INSTALL REAR DIFFERENTIAL CARRIER ASSEMBLY** (See **INSTALLATION**)
13. **TEMPORARILY INSTALL REAR NO. 1 SUSPENSION ARM ASSEMBLY LH** (See **INSTALLATION**)
14. **TEMPORARILY INSTALL REAR SUSPENSION MEMBER**
    a. Support the rear suspension member with a jack using a wooden block.

    HINT:

    - Use a properly sized wooden block to keep the jack and suspension member level.
    - Support the rear suspension member until retightening of the suspension member is complete.

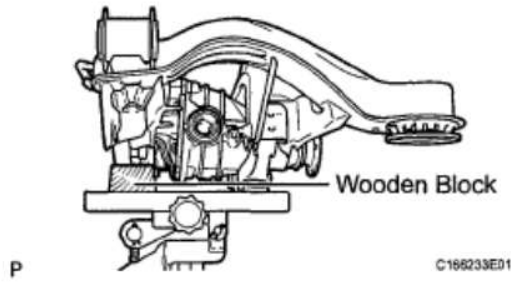


Fig. 223: Supporting Rear Suspension Member With Jack
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

    b. Raise the rear suspension member with a jack.
    c. Temporarily install the rear suspension member, the 2 rear upper suspension member stoppers and rear lower suspension member stopper retainers with the 4 nuts and the 2 bolts.

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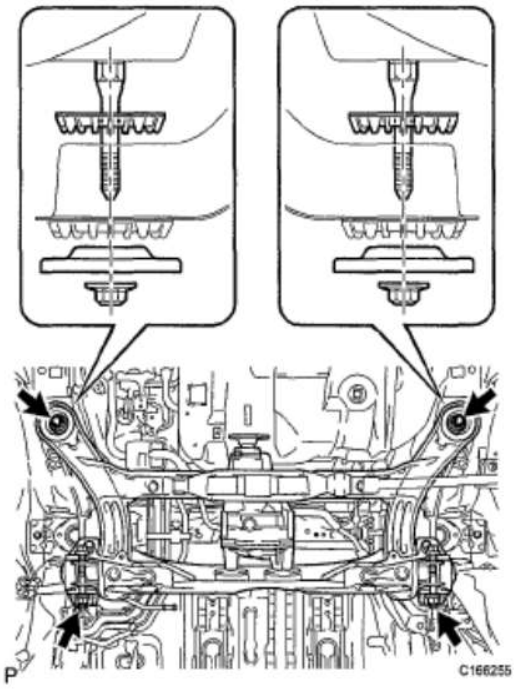


Fig. 224: Identifying Rear Upper And Lower Suspension Member Stoppers With Nuts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

d. Fully tighten the 2 nuts.

Torque: 115 N*m (1170 kgf*cm, 85 ft.*lbf)

15. **FULLY TIGHTEN REAR NO. 2 BODY MOUNTING BRACKET SUB-ASSEMBLY LH**

a. Lightly shake the rear suspension member to settle the body mounting cushion in the rear No. 2 body mounting bracket sub-assembly.

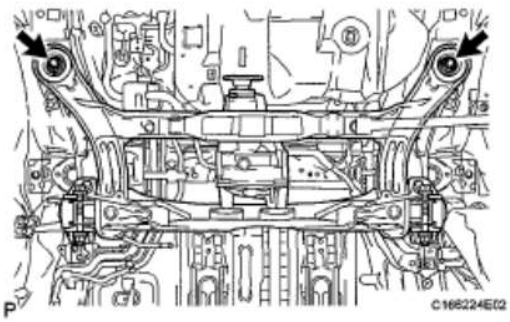


Fig. 225: Locating Rear Suspension Member Nuts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Fully tighten the 3 bolts.

Torque: 90 N*m (920 kgf*cm, 66 ft.*lbf)

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16. **FULLY TIGHTEN REAR NO. 2 BODY MOUNTING BRACKET SUB-ASSEMBLY RH**

a. Lightly shake the rear suspension member to settle the body mounting cushion in the rear No. 2 body mounting bracket sub-assembly.

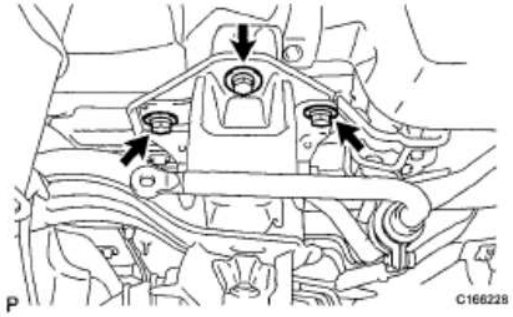


Fig. 226: Locating Rear No. 2 Body Mounting Bracket Sub-Assembly LH Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Fully tighten the 3 bolts.

Torque: 90 N*m (920 kgf*cm, 66 ft.*lbf)

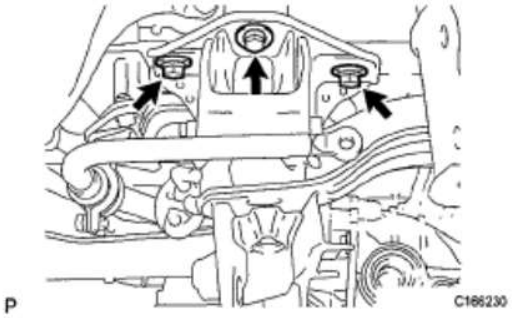


Fig. 227: Locating Rear No. 2 Body Mounting Bracket Sub-Assembly RH Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

17. **FULLY TIGHTEN REAR SUSPENSION MEMBER**

a. Using SST and a socket wrench (19 mm), fully tighten the nut (LH side).

Torque: without SST

181 N*m (1850 kgf*cm, 133 ft.*lbf) with SST

134 N*m (1366 kgf*cm, 98 ft.*lbf)

SST 09961-00950

NOTE:

- **Use a torque wrench with a fulcrum length of 425 mm (16.73 in.).**

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- **This torque value is effective when SST is parallel to the torque wrench.**

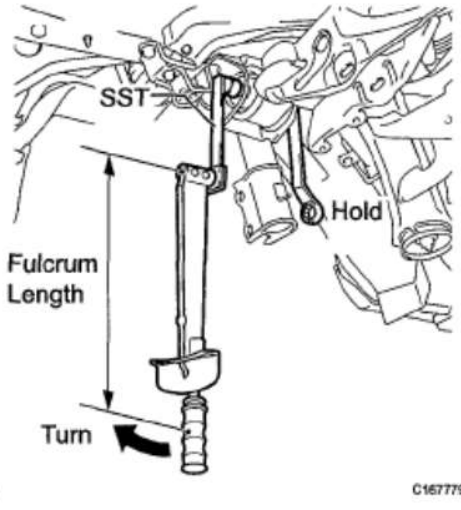


Fig. 228: Tightening Rear Suspension Member LH Side
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Using SST and a socket wrench (19 mm), fully tighten the nut (RH side).

Torque: without SST

181 N*m (1850 kgf*cm, 133 ft.*lbf)

with SST

134 N*m (1366 kgf*cm, 98 ft.*lbf)

SST 09961-00950

NOTE:

- **Use a torque wrench with a fulcrum length of 425 mm (16.73 in.).**
- **This torque value is effective when SST is parallel to the torque wrench.**

18. **INSTALL REAR DRIVE SHAFT SNAP RING LH** (See **REASSEMBLY**)
19. **INSTALL REAR DRIVE SHAFT ASSEMBLY LH** (See **INSTALLATION**)

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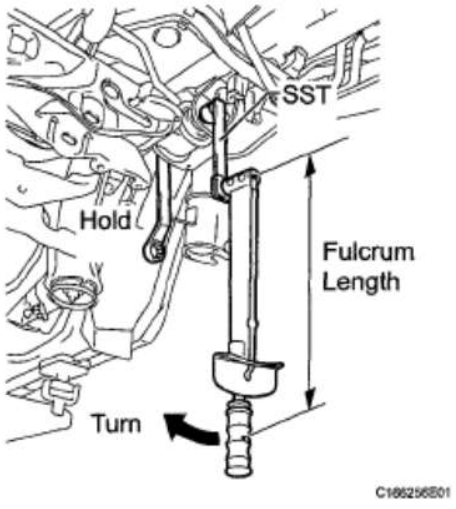


Fig. 229: Tightening Rear Suspension Member RH Side
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

20. **INSTALL REAR DRIVE SHAFT SNAP RING RH**

    HINT:

    Perform the same procedure as the LH side.

21. **INSTALL REAR DRIVE SHAFT ASSEMBLY RH**

    HINT:

    Perform the same procedure as the LH side.

22. **INSTALL REAR DIFFERENTIAL DRAIN PLUG** (See **INSTALLATION**)
23. **ADD DIFFERENTIAL OIL** (See **INSTALLATION**)
24. **INSPECT DIFFERENTIAL OIL** (See **DIFFERENTIAL OIL**)
25. **INSTALL REAR DIFFERENTIAL FILLER PLUG** (See **INSTALLATION**)
26. **TEMPORARILY INSTALL REAR NO. 1 SUSPENSION ARM ASSEMBLY RH**
    a. Temporarily install the rear No. 1 suspension arm assembly RH to the rear suspension member sub-assembly with the bolt and the nut.

NOTE:

- **Ensure that the identification mark faces the rear side of the vehicle.**
- **Since a stopper nut is used, temporarily tighten the bolt.**

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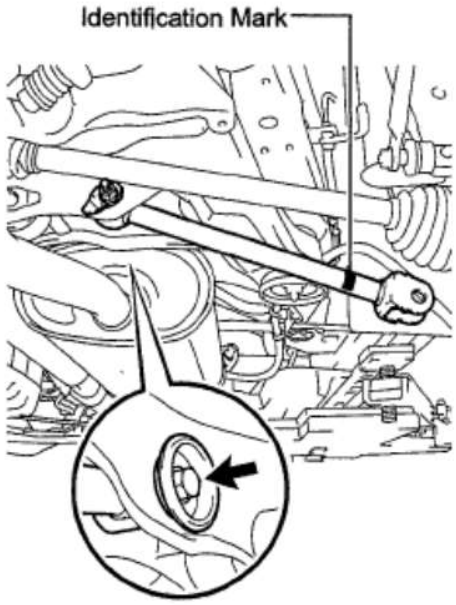


Fig. 230: Identifying Mark On Rear No. 1 Suspension Arm
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

27. **TEMPORARILY INSTALL REAR NO. 2 SUSPENSION ARM ASSEMBLY LH**
    a. Temporarily install the rear No. 2 suspension arm assembly LH to the rear suspension member sub-assembly with the rear suspension toe adjust cam sub-assembly, the No. 2 camber adjust cam and the nut.

    NOTE: Ensure that the identification mark faces the rear side of the vehicle.

    HINT:

    When temporarily tightening the nut, keep the rear suspension toe adjust cam sub-assembly from rotating.

28. **TEMPORARILY INSTALL REAR NO. 2 SUSPENSION ARM ASSEMBLY RH**

    HINT:

    Perform the same procedure as the LH side.

29. **INSTALL REAR AXLE CARRIER SUB-ASSEMBLY LH** (See **INSTALLATION**)
30. **INSTALL REAR AXLE CARRIER SUB-ASSEMBLY RH**

    HINT:

    Perform the same procedure as the LH side.

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31. **TEMPORARILY INSTALL REAR STRUT ROD ASSEMBLY LH** (See **INSTALLATION**)
32. **TEMPORARILY INSTALL REAR STRUT ROD ASSEMBLY RH**

HINT:

Perform the same procedure as the LH side.

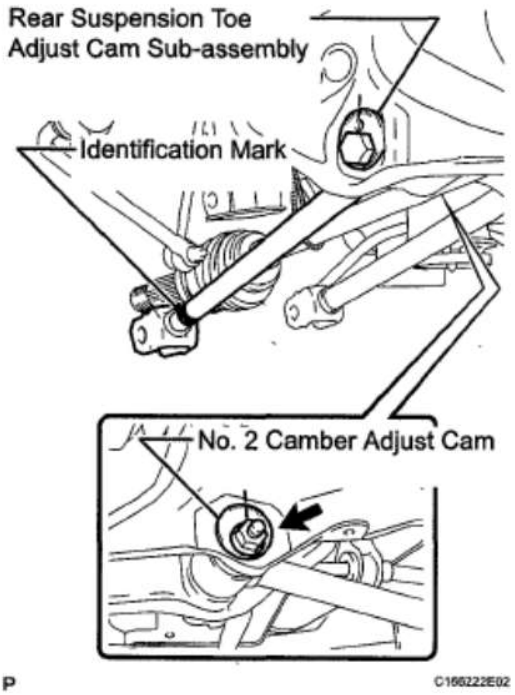


Fig. 231: Identifying Mark On Rear No. 2 Suspension Arm
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

33. **INSTALL REAR AXLE HUB AND BEARING ASSEMBLY LH** (See **INSTALLATION**)
34. **INSTALL REAR AXLE HUB AND BEARING ASSEMBLY RH**

HINT:

Perform the same procedure as the LH side.

35. **INSTALL REAR DISC (for LH Side)** (See **REASSEMBLY**)
36. **INSTALL REAR DISC (for RH Side)**

HINT:

Perform the same procedure as the LH side.

37. **INSTALL REAR DISC BRAKE CALIPER ASSEMBLY LH** (See **REPLACEMENT**)

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38. **INSTALL REAR DISC BRAKE CALIPER ASSEMBLY RH**

    HINT:

    Perform the same procedure as the LH side.

39. **TEMPORARILY INSTALL REAR AXLE SHAFT NUT LH** (See **INSTALLATION**)
40. **TEMPORARILY INSTALL REAR AXLE SHAFT NUT RH**

    HINT:

    Perform the same procedure as the LH side.

41. **INSTALL REAR SPEED SENSOR LH** (See **INSTALLATION**)
42. **INSTALL REAR SPEED SENSOR RH**

    HINT:

    Perform the same procedure as the LH side.

43. **STABILIZE SUSPENSION** (See **REAR STRUT ROD**)
44. **FULLY TIGHTEN REAR NO. 1 SUSPENSION ARM ASSEMBLY LH** (See **INSTALLATION**)
45. **FULLY TIGHTEN REAR NO. 1 SUSPENSION ARM ASSEMBLY RH** (See **REAR STRUT ROD**)
46. **FULLY TIGHTEN REAR NO. 2 SUSPENSION ARM ASSEMBLY LH** (See **REAR STRUT ROD**)
47. **FULLY TIGHTEN REAR NO. 2 SUSPENSION ARM ASSEMBLY RH**

    HINT:

    Perform the same procedure as the LH side.

48. **FULLY TIGHTEN REAR STRUT ROD ASSEMBLY LH** (See **REAR STABILIZER BAR (FOR 2WD)**)
49. **FULLY TIGHTEN REAR STRUT ROD ASSEMBLY RH**

    HINT:

    Perform the same procedure as the LH side.

50. **INSTALL NO. 3 PARKING BRAKE CABLE ASSEMBLY** (See **REAR STABILIZER BAR (FOR 2WD)**)
51. **INSTALL NO. 2 PARKING BRAKE CABLE ASSEMBLY**

    HINT:

    Perform the same procedure as the No. 3 parking brake cable assembly.

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52. **SEPARATE REAR DISC BRAKE CALIPER ASSEMBLY LH** (See **REPLACEMENT**)
53. **SEPARATE REAR DISC BRAKE CALIPER ASSEMBLY RH**

    HINT:

    Perform the same procedure as the LH side.

54. **REMOVE REAR DISC (for LH Side)** (See **INSPECTION**)
55. **REMOVE REAR DISC (for RH Side)**

    HINT:

    Perform the same procedure as the LH side.

56. **INSPECT REAR AXLE HUB BEARING LOOSENESS (for LH Side)** (See **ON-VEHICLE INSPECTION**)
57. **INSPECT REAR AXLE HUB BEARING LOOSENESS (for RH Side)**

    HINT:

    Perform the same procedure as the LH side.

58. **INSPECT REAR AXLE HUB RUNOUT (for LH Side)** (See **ON-VEHICLE INSPECTION**)
59. **INSPECT REAR AXLE HUB RUNOUT (for RH Side)**

    HINT:

    Perform the same procedure as the LH side.

60. **INSTALL REAR DISC (for LH Side)** (See **REASSEMBLY**)
61. **INSTALL REAR DISC (for RH Side)**

    HINT:

    Perform the same procedure as the LH side.

62. **INSTALL REAR DISC BRAKE CALIPER ASSEMBLY LH** (See **REPLACEMENT**)
63. **INSTALL REAR DISC BRAKE CALIPER ASSEMBLY RH**

    HINT:

    Perform the same procedure as the LH side.

64. **INSTALL REAR AXLE SHAFT NUT LH** (See **INSTALLATION**)
65. **INSTALL REAR AXLE SHAFT NUT RH**

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HINT:

Perform the same procedure as the LH side.

66. **INSTALL CENTER EXHAUST PIPE ASSEMBLY** (See **INSTALLATION**)
67. **INSTALL TAIL EXHAUST PIPE ASSEMBLY** (See **INSTALLATION**)
68. **TEMPORARILY TIGHTEN PROPELLER WITH CENTER BEARING SHAFT ASSEMBLY** (See **INSTALLATION**)
69. **FULLY TIGHTEN PROPELLER WITH CENTER BEARING SHAFT ASSEMBLY** (See **INSTALLATION**)
70. **INSPECT AND ADJUST TRANSFER OIL** (See **TRANSFER OIL**)
71. **INSPECT FOR EXHAUST GAS LEAK** (See **INSTALLATION**)
72. **INSTALL REAR WHEELS**

    Torque: 103 N*m (1050 kgf*cm, 76 ft.*lbf)

73. **INSPECT REAR WHEEL ALIGNMENT**

    HINT:

    See **REAR WHEEL ALIGNMENT**

74. **CHECK FOR SPEED SENSOR SIGNAL**

    HINT:

    See **TEST MODE PROCEDURE**

REAR LOWER ARM (FOR 2WD)

COMPONENTS

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Fig. 232: Identifying Rear Lower Arm (2WD) Components With Torque Specification (1 Of 4)
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Fig. 233: Identifying Rear Lower Arm (2WD) Components With Torque Specification (2 Of 4)
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Fig. 234: Identifying Rear Lower Arm (2WD) Components With Torque Specification (3 Of 4)
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Fig. 235: Identifying Rear Lower Arm (2WD) Components With Torque Specification (4 Of 4)
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REMOVAL

HINT:

- Use the same procedures for the RH side and LH side.
- The procedures listed below are for the LH side.

1. **REMOVE DECK BOARD ASSEMBLY** (See **REMOVAL**)
2. **REMOVE NO. 3 DECK BOARD SUB-ASSEMBLY (w/ Tonneau Cover)** (See **REMOVAL**)
3. **REMOVE NO. 2 DECK BOARD SUB-ASSEMBLY (w/ Tonneau Cover)** (See **REMOVAL**)
4. **REMOVE TONNEAU COVER ASSEMBLY (w/ Tonneau Cover)** (See **REMOVAL**)
5. **REMOVE REAR MAT** (See **REMOVAL**)
6. **REMOVE DECK TRIM SERVICE HOLE COVER**

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7. **REMOVE LOWER SPARE WHEEL CARRIER HINGE COVER (w/ Cover)**
8. **REMOVE SPARE TIRE**
9. **REMOVE SPARE WHEEL CARRIER LOCK COVER (w/ Cover)**
10. **REMOVE REAR WHEEL**
11. **SEPARATE REAR STABILIZER LINK ASSEMBLY LH**
    a. Remove the nut and separate the rear stabilizer link assembly LH from the rear stabilizer bar.

    HINT:

    If the ball joint turns together with the nut, use a hexagon wrench (5 mm) to hold the stud bolt.

12. **SEPARATE REAR STABILIZER LINK ASSEMBLY RH**

    HINT:

    Perform the same procedure as the LH side.

13. **REMOVE REAR STABILIZER BAR** (See **INSPECTION**)

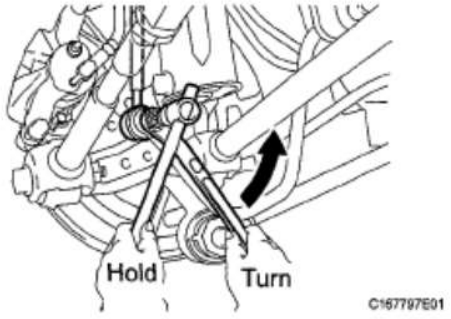


Fig. 236: Separating Rear Stabilizer Link Assembly RH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

14. **REMOVE REAR NO. 2 SUSPENSION ARM ASSEMBLY**
    a. Remove the bolt and the nut, and separate the rear No. 2 suspension arm assembly from the rear axle carrier sub-assembly.

    NOTE: Since a stopper nut is used, loosen the bolt.

    b. Remove the bolt and the rear No. 2 suspension arm assembly.

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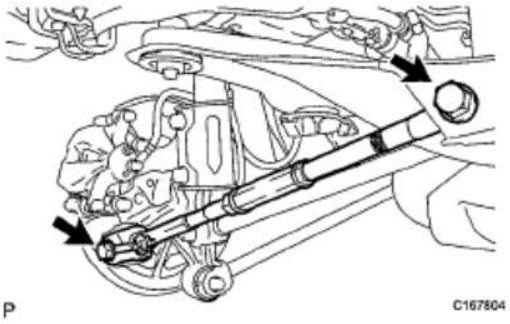


Fig. 237: Locating Rear No. 2 Suspension Arm Assembly Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

15. **REMOVE REAR NO. 1 SUSPENSION ARM ASSEMBLY**
    a. Remove the bolt and the nut, and separate the rear No. 1 suspension arm assembly from the rear axle carrier sub-assembly.

    NOTE: Since a stopper nut is used, loosen the bolt.

    b. Remove the bolt and the rear No. 1 suspension arm assembly.

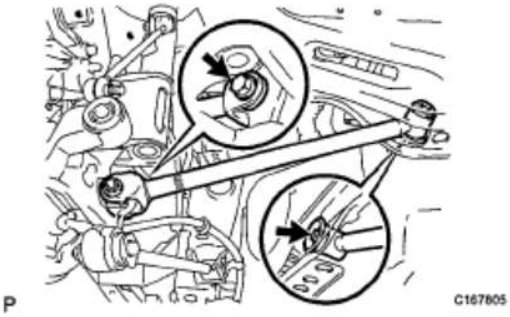


Fig. 238: Locating Rear No. 1 Suspension Arm Assembly Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSTALLATION

1. **TEMPORARILY INSTALL REAR NO. 1 SUSPENSION ARM ASSEMBLY**
    a. Temporarily install the rear No. 1 suspension arm assembly to the rear suspension member with the bolt.

    NOTE: Ensure that the identification mark faces the rear side of the vehicle.

    b. Temporarily install the rear No. 1 suspension arm assembly to the rear axle carrier sub-assembly with the bolt and the nut.

    NOTE: Since a stopper nut is used, temporarily tighten the bolt.

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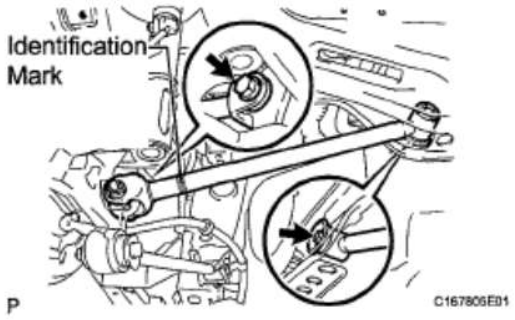


Fig. 239: Locating Rear No. 1 Suspension Arm Assembly Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **TEMPORARILY INSTALL REAR NO. 2 SUSPENSION ARM ASSEMBLY**
   a. Temporarily install the rear No. 2 suspension arm assembly to the rear suspension member with the bolt.

   NOTE: Ensure that the identification mark faces the rear side of the vehicle.

   b. Temporarily install the rear No. 2 suspension arm assembly to the rear axle carrier sub-assembly with the bolt and the nut.

   NOTE: Since a stopper nut is used, temporarily tighten the bolt.

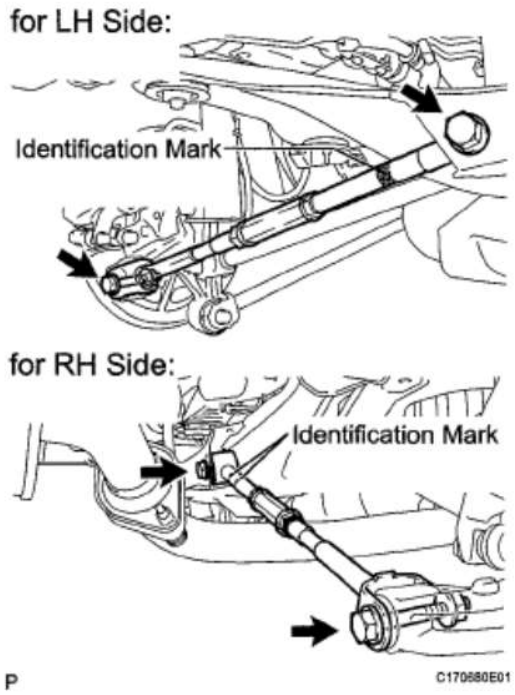


Fig. 240: Locating Rear No. 2 Suspension Arm Assembly Bolts
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3. **STABILIZE SUSPENSION**

   a. Jack up the rear axle carrier, placing a wooden block underneath to avoid damage. Apply load to the suspension so that the installed bolt of the rear No. 1 suspension arm (inner side) is horizontally aligned with the center of the rear axle hub.

CAUTION: Do not jack up the rear axle carrier sub-assembly too high as the vehicle may fall.

NOTE: Do not bend the brake dust cover.

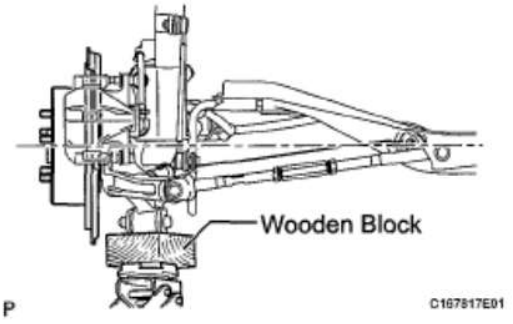


Fig. 241: Lifting Rear Axle Carrier
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

HINT:

- If the rear drive shaft assembly cannot be positioned horizontally as shown in the illustration even when the rear axle carrier sub-assembly is jacked up, apply additional load to the vehicle such as by having a person sit in the rear seat.
- Use the same procedures for the RH side and LH side.

4. **FULLY TIGHTEN REAR NO. 1 SUSPENSION ARM ASSEMBLY**

   a. Using SST and a socket wrench (19 mm), fully tighten the bolt.

Torque: without SST

120 N*m (1223 kgf*cm, 88 ft.*lbf)

with SST

89 N*m (904 kgf*cm, 65 ft.*lbf)

SST 09961-00950

NOTE:

- **Use a torque wrench with a fulcrum length of 425 mm (16.73 in.).**
- **This torque value is effective when SST is parallel to the torque**

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wrench.

- **The final torque must be applied under standard vehicle height conditions.**

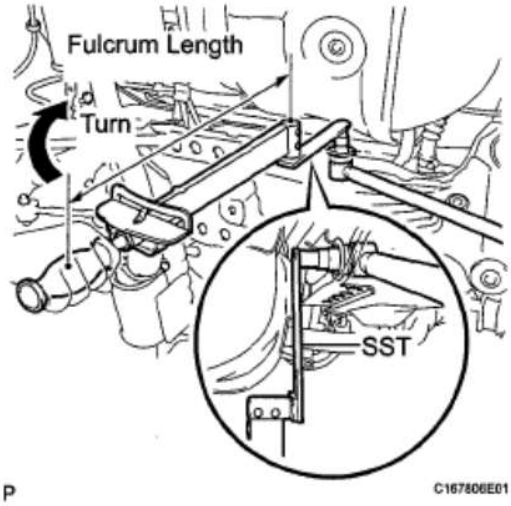


Fig. 242: Tightening Rear No. 1 Suspension Arm Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Fully tighten the bolt

Torque: 112 N*m (1141 kgf*cm, 82 ft.*lbf)

NOTE:

- **Since a stopper nut is used, fully tighten the bolt.**
- **The final torque must be applied under standard vehicle height conditions.**

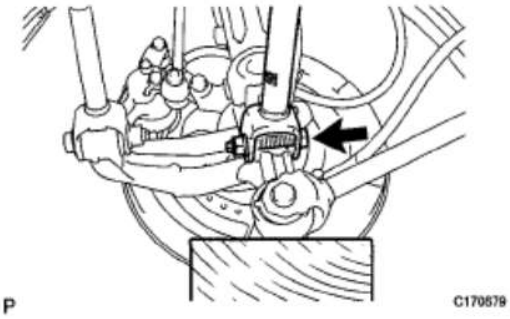


Fig. 243: Lifting Rear No. 1 Suspension Arm
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. **FULLY TIGHTEN REAR NO. 2 SUSPENSION ARM ASSEMBLY**
   a. Fully tighten the bolts.

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Torque: Bolt (A)

120 N*m (1223 kgf*cm, 88 ft.*lbf)

Bolt (B)

112 N*m (1141 kgf*cm, 82 ft.*lbf)

NOTE:

- **Since a stopper nut is used, fully tighten the bolt.**
- **The final torque must be applied under standard vehicle height conditions.**

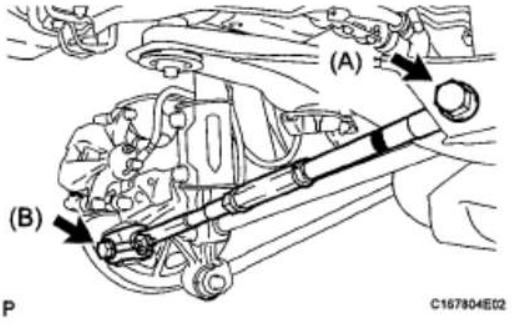


Fig. 244: Locating Rear No. 2 Suspension Arm Assembly Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. **INSTALL REAR STABILIZER BAR** (See **INSTALLATION**)
7. **INSTALL REAR STABILIZER LINK ASSEMBLY LH**
   a. Install the rear stabilizer link assembly LH to the rear stabilizer bar with the nut.

   Torque: 39 N*m (400 kgf*cm, 29 ft.*lbf)

   HINT:

   If the ball joint turns together with the nut, use a hexagon wrench (5 mm) to hold the stud bolt.
8. **INSTALL REAR STABILIZER LINK ASSEMBLY RH**

   HINT:

   Perform the same procedure as the LH side.

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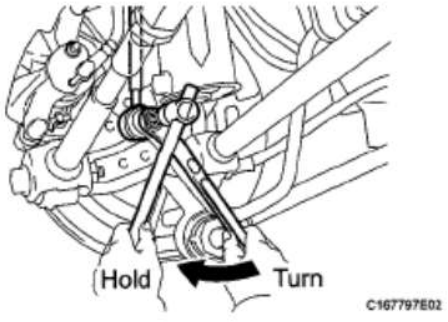


Fig. 245: Tightening Rear Stabilizer Link Assembly LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

9. **INSTALL REAR WHEEL**

   Torque: 103 N*m (1050 kgf*cm, 76 ft.*lbf)

10. **INSTALL SPARE WHEEL CARRIER LOCK COVER (w/ Cover)**
11. **INSTALL SPARE TIRE**
12. **INSTALL LOWER SPARE WHEEL CARRIER HINGE COVER (w/ Cover)**
13. **INSTALL DECK TRIM SERVICE HOLE COVER**
14. **INSTALL REAR MAT** (See **INSTALLATION**)
15. **INSTALL TONNEAU COVER ASSEMBLY (w/ Tonneau Cover)** (See **INSTALLATION**)
16. **INSTALL NO. 2 DECK BOARD SUB-ASSEMBLY (w/ Tonneau Cover)** (See **INSTALLATION**)
17. **INSTALL NO. 3 DECK BOARD SUB-ASSEMBLY (w/ Tonneau Cover)** (See **INSTALLATION**)
18. **INSTALL DECK BOARD ASSEMBLY** (See **INSTALLATION**)
19. **INSPECT AND ADJUST REAR WHEEL ALIGNMENT**

    HINT:

    See **REAR WHEEL ALIGNMENT**

REAR LOWER ARM (FOR 4WD)

COMPONENTS

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Fig. 246: Identifying Rear Lower Arm (4WD) Components With Torque Specification (1 Of 9)
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Fig. 247: Identifying Rear Lower Arm (4WD) Components With Torque Specification (2 Of 9)
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Fig. 248: Identifying Rear Lower Arm (4WD) Components With Torque Specification (3 Of 9)
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Fig. 249: Identifying Rear Lower Arm (4WD) Components With Torque Specification (4 Of 9)
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Fig. 250: Identifying Rear Lower Arm (4WD) Components With Torque Specification (5 Of 9)
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Fig. 251: Identifying Rear Lower Arm (4WD) Components With Torque Specification (6 Of 9)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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Fig. 252: Identifying Rear Lower Arm (4WD) Components With Torque Specification (7 Of 9)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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Fig. 253: Identifying Rear Lower Arm (4WD) Components With Torque Specification (8 Of 9)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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Fig. 254: Identifying Rear Lower Arm (4WD) Components With Torque Specification (9 Of 9)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

HINT:

- The removal procedures for the LH and RH sides are different.
- When removing RH side components, it is not necessary to follow the steps with (for LH Side).
- When removing LH side components, it is not necessary to follow the steps with (for RH side).

1. **REMOVE REAR WHEEL (for RH Side)**
2. **REMOVE REAR WHEELS (for LH Side)**
3. **REMOVE REAR NO. 2 SUSPENSION ARM ASSEMBLY LH (for LH Side)**
   a. Put matchmarks on the adjust cams and the rear suspension member sub-assembly.
   b. Remove the bolt and the nut, and separate the rear No. 2 suspension arm assembly LH from the rear axle carrier sub-assembly LH.

NOTE: Since a stopper nut is used, loosen the bolt.

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c. Remove the nut, the No. 2 camber adjust cam, the rear suspension toe adjust cam sub-assembly, and the rear No. 2 suspension arm assembly LH.

HINT:

When removing the nut, keep the rear suspension toe adjust cam sub-assembly from rotating.

4. **REMOVE TAIL EXHAUST PIPE ASSEMBLY** (See **INSTALLATION**)
5. **REMOVE CENTER EXHAUST PIPE ASSEMBLY** (See **INSTALLATION**)
6. **REMOVE REAR NO. 2 SUSPENSION ARM ASSEMBLY RH (for RH Side)**

HINT:

Perform the same procedure as the rear No. 2 suspension arm assembly LH.

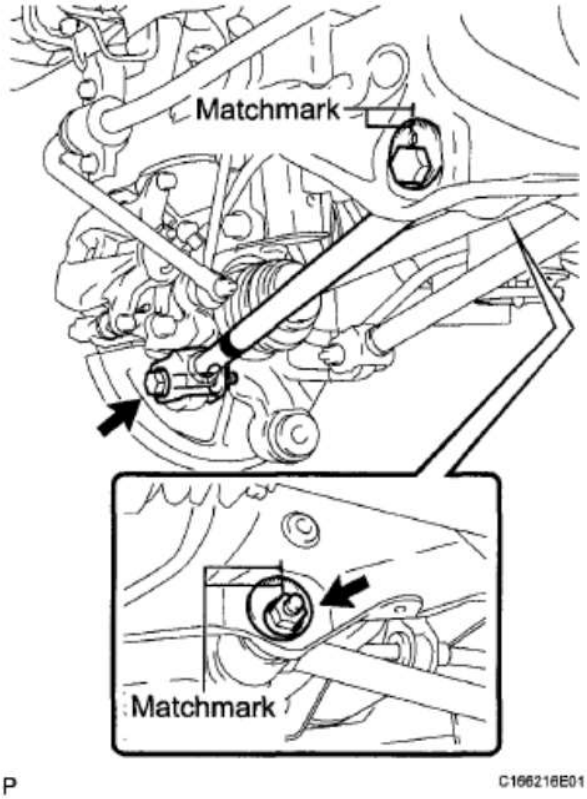


Fig. 255: Locating Rear No. 2 Suspension Arm Assembly LH Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

7. **REMOVE PROPELLER WITH CENTER BEARING SHAFT ASSEMBLY (for LH Side)** (See **REMOVAL**)
8. **REMOVE REAR AXLE SHAFT NUT LH (for LH Side)** (See **REMOVAL**)
9. **REMOVE REAR AXLE SHAFT NUT RH (for LH Side)** (See **INSTALLATION**)

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10. **SEPARATE NO. 3 PARKING BRAKE CABLE ASSEMBLY (for LH Side)** (See **INSTALLATION**)
11. **SEPARATE NO. 2 PARKING BRAKE CABLE ASSEMBLY** (See **INSTALLATION**)
12. **REMOVE REAR STRUT ROD ASSEMBLY LH (for LH Side)** (See **INSTALLATION**)
13. **REMOVE REAR STRUT ROD ASSEMBLY RH** (See **INSTALLATION**)
14. **REMOVE REAR NO. 1 SUSPENSION ARM ASSEMBLY RH (for RH Side)**
    a. Remove the bolt and the nut, and separate the rear No. 1 suspension arm assembly RH from the rear axle carrier sub-assembly RH.

    NOTE: Since a stopper nut is used, loosen the bolt.

    b. Remove the bolt, the nut, and the rear No. 1 suspension arm assembly RH from the rear suspension member sub-assembly.

    NOTE: Since a stopper nut is used, loosen the bolt.

15. **REMOVE REAR SPEED SENSOR LH (for LH Side)** (See **REMOVAL**)
16. **REMOVE REAR SPEED SENSOR RH (for LH Side)** (See **REMOVAL**)
17. **SEPARATE REAR DISC BRAKE CALIPER ASSEMBLY LH (for LH Side)** (See **REPLACEMENT**)
18. **SEPARATE REAR DISC BRAKE CALIPER ASSEMBLY RH (for LH Side)** (See **INSTALLATION**)

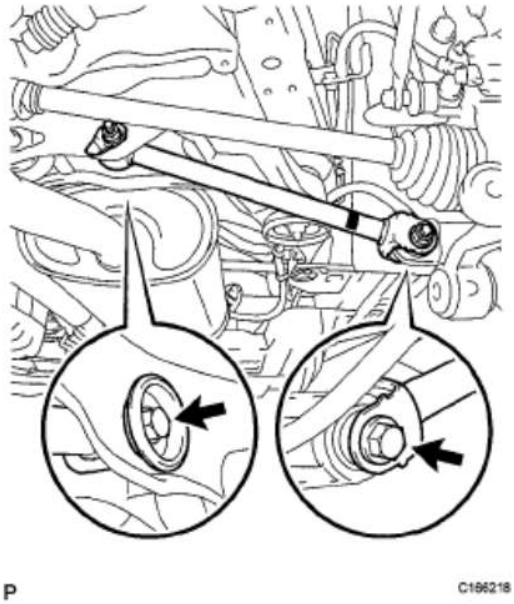


Fig. 256: Locating Rear No. 1 Suspension Arm Assembly RH Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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19. **REMOVE REAR DISC (for LH Side)**
    a. Remove the rear disc from the rear axle hub and bearing assembly LH (See **INSPECTION**).
    b. Remove the rear disc from the rear axle hub and bearing assembly RH.

    HINT:

    Perform the same procedure as the LH side (See **INSPECTION**).

20. **REMOVE REAR AXLE HUB AND BEARING ASSEMBLY LH (for LH Side)** (See **REMOVAL**)
21. **REMOVE REAR AXLE HUB AND BEARING ASSEMBLY RH (for LH Side)** (See **INSTALLATION**)
22. **REMOVE REAR AXLE CARRIER SUB-ASSEMBLY LH (for LH Side)**
    a. Loosen the bolt.

NOTE: Since a stopper nut is used, loosen the bolt.

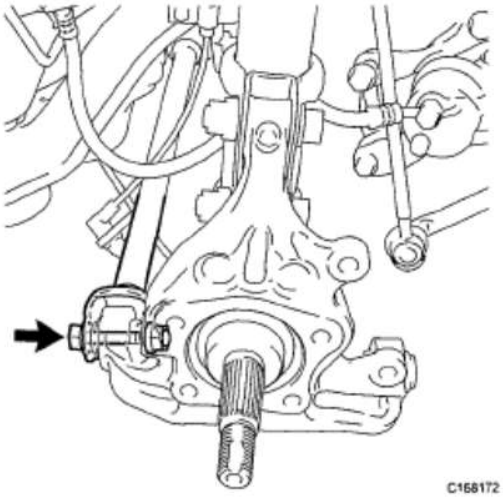


Fig. 257: Locating Rear Axle Carrier Sub-Assembly LH Bolt
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

    b. Remove the 2 bolts and 2 nuts, and separate the rear shock absorber with coil spring from the rear axle carrier sub-assembly LH.

NOTE:
- **Be careful not to damage the outboard joint boot.**
- **Be careful not to damage the speed sensor rotor.**

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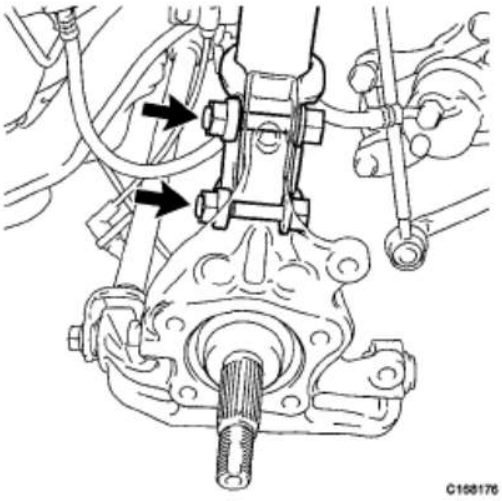


Fig. 258: Locating Rear Shock Absorber Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Remove the bolt, the nut, and the rear axle carrier sub-assembly LH.

NOTE:
- **Be careful not to damage the outboard joint boot.**
- **Be careful not to damage the speed sensor rotor.**

HINT:

Use a rope or equivalent to hang the rear drive shaft assembly.

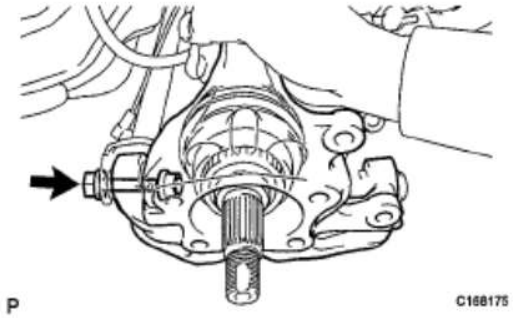


Fig. 259: Locating Rear Drive Shaft Assembly Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

23. **REMOVE REAR AXLE CARRIER SUB-ASSEMBLY RH (for LH Side)**

a. Loosen the 2 bolts.

NOTE: Since stopper nuts are used, loosen the bolts.

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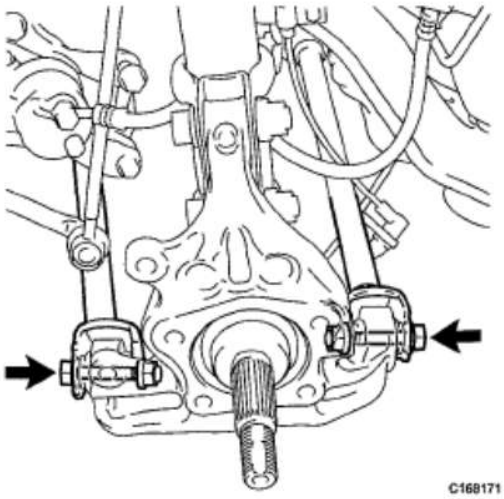


Fig. 260: Locating Rear Axle Carrier Sub-Assembly LH And RH Side Bolt
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Remove the 2 bolts and 2 nuts, and separate the rear shock absorber with coil spring from the rear axle carrier sub-assembly RH.

NOTE:

- **Be careful not to damage the outboard joint boot.**
- **Be careful not to damage the speed sensor rotor.**

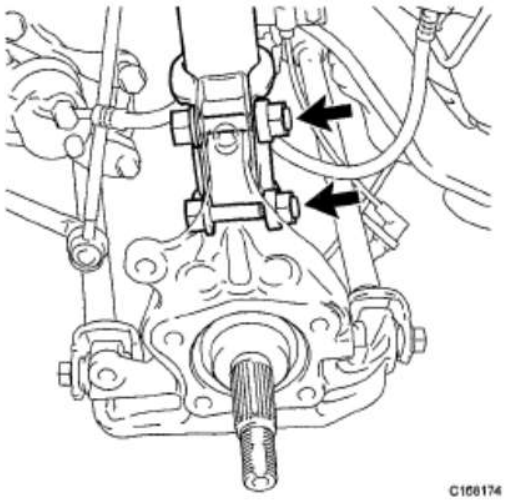


Fig. 261: Locating Rear Shock Absorber Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Remove the 2 bolts, the 2 nuts, and the rear axle carrier sub-assembly RH.

NOTE:

- **Be careful not to damage the outboard joint boot.**

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- **Be careful not to damage the speed sensor rotor.**

HINT:

Use a rope or equivalent to hang the rear drive shaft assembly.

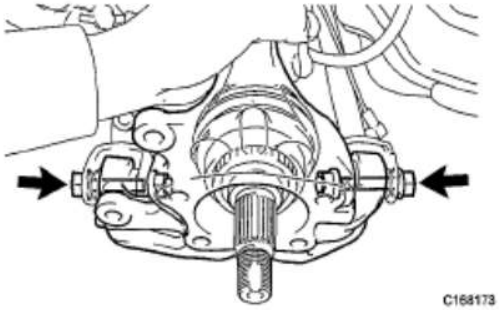


Fig. 262: Locating Rear Axle Carrier Sub-Assembly RH Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

24. **REMOVE REAR DIFFERENTIAL FILLER PLUG (for LH Side)** (See **REMOVAL**)
25. **REMOVE REAR DIFFERENTIAL DRAIN PLUG (for LH Side)** (See **REMOVAL**)
26. **REMOVE REAR DRIVE SHAFT ASSEMBLY LH (for LH Side)** (See **REMOVAL**)
27. **REMOVE REAR DRIVE SHAFT SNAP RING LH (for LH Side)** (See **DISASSEMBLY**)
28. **REMOVE REAR DRIVE SHAFT ASSEMBLY RH (for LH Side)** (See **INSTALLATION**)
29. **REMOVE REAR DRIVE SHAFT SNAP RING RH (for LH Side)** (See **INSTALLATION**)
30. **REMOVE REAR SUSPENSION MEMBER (for LH Side)** (See **INSTALLATION**)
31. **REMOVE REAR NO. 1 SUSPENSION ARM ASSEMBLY LH (for LH Side)**
    a. Remove the bolt, the nut, and the rear No. 1 suspension arm assembly LH from the rear suspension member sub-assembly.

NOTE: Since a stopper nut is used, loosen the bolt.

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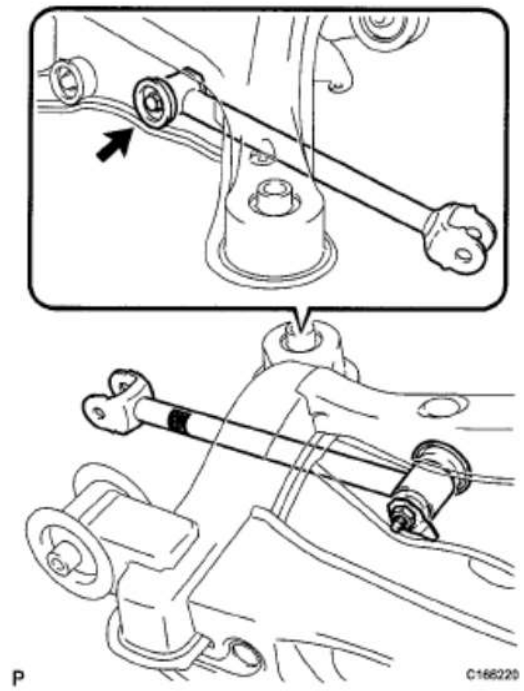


Fig. 263: Identifying Mark On Rear No. 1 Suspension Arm Assembly LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSTALLATION

1. **TEMPORARILY INSTALL REAR NO. 1 SUSPENSION ARM ASSEMBLY LH (for LH Side)**
   a. Temporarily install the rear No. 1 suspension arm assembly LH to the rear suspension member sub-assembly with the bolt and the nut.

NOTE:

- **Ensure that the identification mark faces the rear side of the vehicle.**
- **Since a stopper nut is used, temporarily tighten the bolt.**

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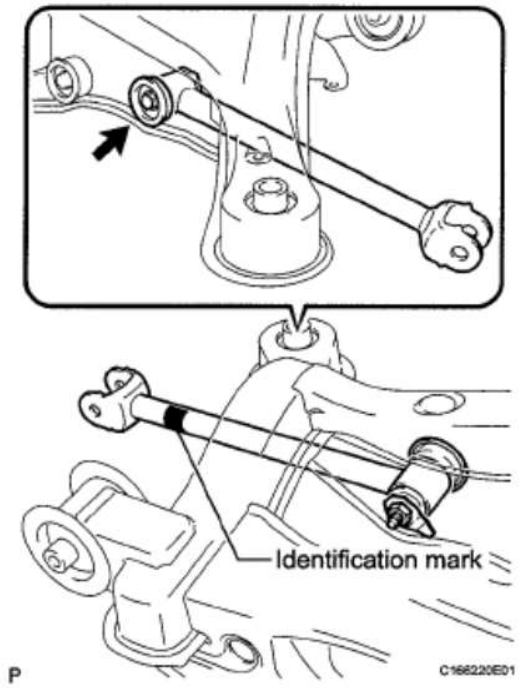


Fig. 264: Identifying Mark On Rear No. 1 Suspension Arm Assembly LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Set the rear No. 1 suspension arm LH in the position shown in the illustration.

Length A:

20 mm (0.787 in.)

c. Fully tighten the bolt.

Torque: 80 N*m (815 kgf*cm, 59 ft.*lbf)

NOTE: Since a stopper nut is used, temporarily tighten the bolt.

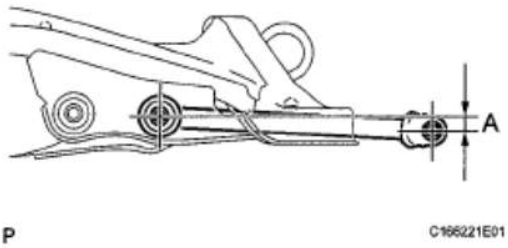


Fig. 265: Identifying Rear No. 1 Suspension Arm LH In Position
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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2. **INSTALL REAR SUSPENSION MEMBER (for LH Side)**

a. Support the rear suspension member with a jack using a wooden block.

HINT:

- Use a properly sized wooden block to keep the jack and suspension member level.
- Support the suspension member until retightening of the suspension member is complete.

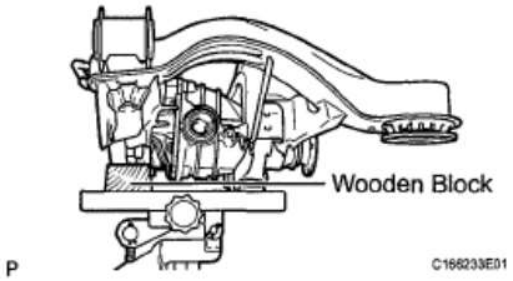


Fig. 266: Supporting Rear Suspension Member With Jack
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Raise the rear suspension member with a jack.

c. Temporarily install the rear suspension member, 2 rear upper suspension member stoppers, and 2 rear lower suspension member stopper retainers with the 4 nuts and 2 bolts.

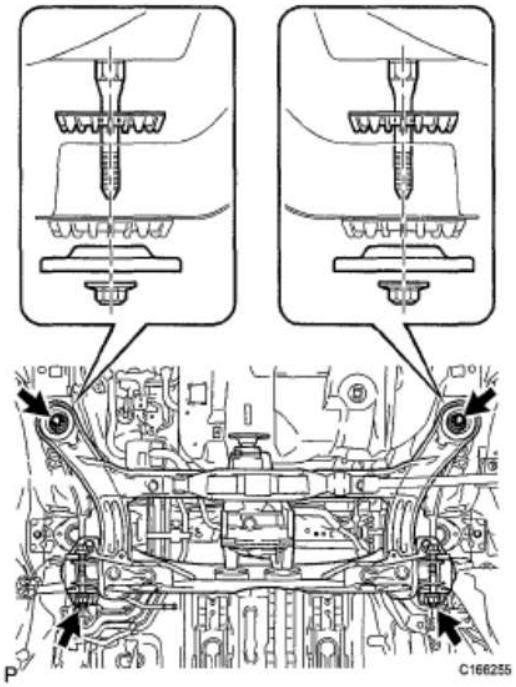


Fig. 267: Identifying Rear Upper And Lower Suspension Member Stoppers With Nuts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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d. Fully tighten the 2 nuts.

Torque: 115 N*m (1170 kgf*cm, 85 ft.*lbf)

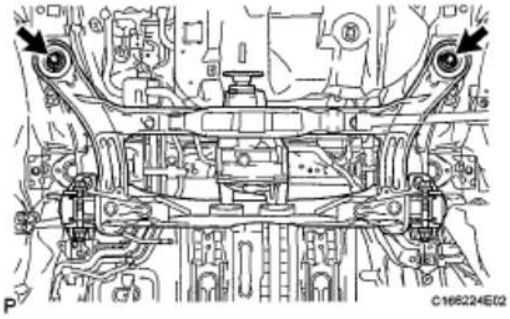


Fig. 268: Locating Rear Suspension Member Nuts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

e. Using SST and a socket wrench (19 mm), fully tighten the nut (LH side).

Torque: without SST

181 N*m (1850 kgf*cm, 133 ft.*lbf)

with SST

134 N*m (1366 kgf*cm, 98 ft.*lbf)

SST 09961-00950

NOTE:

- **Use a torque wrench with a fulcrum length of 425 mm (16.73 in.).**
- **This torque value is effective when SST is parallel to the torque wrench.**

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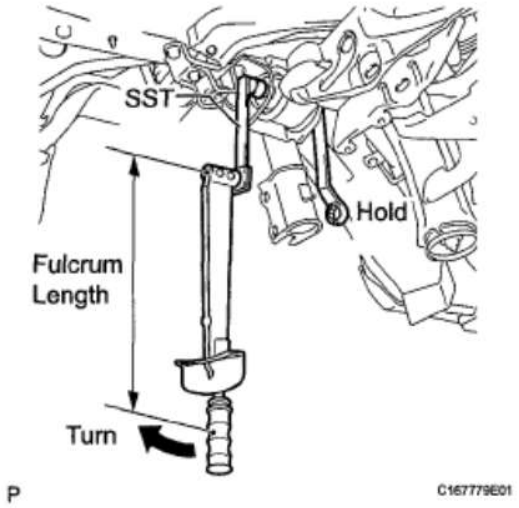


Fig. 269: Tightening Rear Suspension Member LH Side
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

f. Using SST and a socket wrench (19 mm), fully tighten the nut (RH side).

Torque: without SST

181 N*m (1850 kgf*cm, 133 ft.*lbf)

with SST

134 N*m (1366 kgf*cm, 98 ft.*lbf)

SST 09961-00950

NOTE:

- **Use a torque wrench with a fulcrum length of 425 mm (16.73 in.).**
- **This torque value is effective when SST is parallel to the torque wrench.**

3. **INSTALL REAR DRIVE SHAFT SNAP RING LH (for LH Side)** (See **REASSEMBLY**)
4. **INSTALL REAR DRIVE SHAFT ASSEMBLY LH (for LH Side)** (See **INSTALLATION**)

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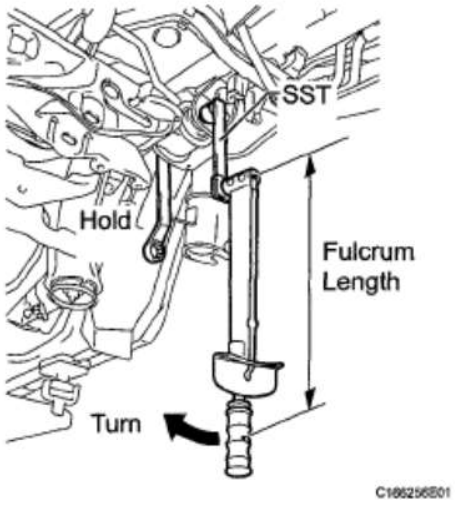


Fig. 270: Tightening Rear Suspension Member RH Side
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. **INSTALL REAR DRIVE SHAFT SNAP RING RH (for LH Side)** (See **REAR LOWER ARM (FOR 2WD)**)
6. **INSTALL REAR DRIVE SHAFT ASSEMBLY RH (for LH Side)** (See **REAR LOWER ARM (FOR 2WD)**)
7. **INSTALL REAR DIFFERENTIAL DRAIN PLUG (for LH Side)** (See **INSTALLATION**)
8. **ADD DIFFERENTIAL OIL (for LH Side)** (See **INSTALLATION**)
9. **INSPECT DIFFERENTIAL OIL (for LH Side)** (See **DIFFERENTIAL OIL**)
10. **INSTALL REAR DIFFERENTIAL FILLER PLUG (for LH Side)** (See **INSTALLATION**)
11. **INSTALL REAR AXLE CARRIER SUB-ASSEMBLY LH (for LH Side)**
    a. Temporarily install the rear axle carrier sub-assembly LH with the bolt and the nut.

NOTE:

- **Be careful not to damage the outboard joint boot.**
- **Be careful not to damage the speed sensor rotor.**
- **Prevent foreign matter from adhering to the speed sensor rotor.**

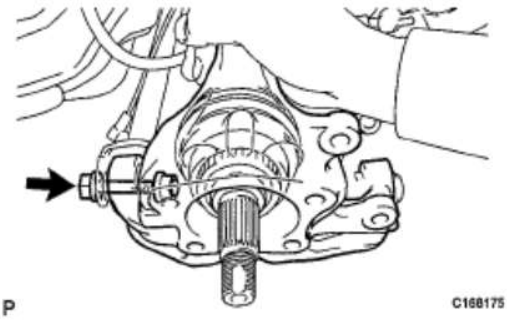


Fig. 271: Locating Rear Drive Shaft Assembly Bolts

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b. Install the rear axle carrier sub-assembly LH with the 2 bolts and the 2 nuts.

Torque: 290 N*m (2956 kgf*cm, 213 ft.*lbf)

NOTE:

- **Be careful not to damage the outboard joint boot.**
- **Be careful not to damage the speed sensor rotor.**
- **Prevent foreign matter from adhering to the speed sensor rotor.**
- **Do not rotate the rear drive shaft assembly without the rear axle hub and bearing assembly installed.**

HINT:

Insert the bolts from the rear side.

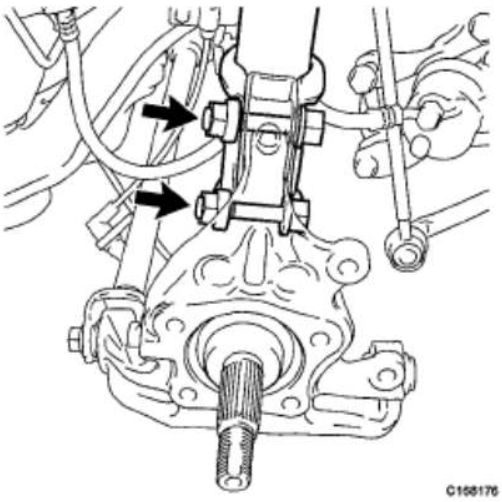


Fig. 272: Locating Rear Shock Absorber Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

12. **INSTALL REAR AXLE CARRIER SUB-ASSEMBLY RH (for LH Side)**

a. Temporarily install the the rear axle carrier sub-assembly LH with the 2 bolts and the 2 nuts.

NOTE:

- **Be careful not to damage the outboard joint boot.**
- **Be careful not to damage the speed sensor rotor.**
- **Prevent foreign matter from adhering to the speed sensor rotor.**

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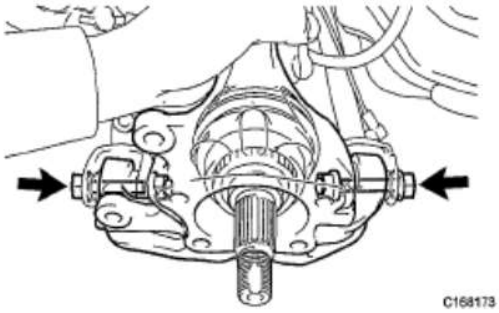


Fig. 273: Locating Rear Axle Carrier Sub-Assembly RH Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Install the rear axle carrier sub-assembly LH with the 2 bolts and the 2 nuts.

Torque: 290 N*m (2956 kgf*cm, 213 ft.*lbf)

NOTE:

- **Be careful not to damage the outboard joint boot.**
- **Be careful not to damage the speed sensor rotor.**
- **Prevent foreign matter from adhering to the speed sensor rotor.**
- **Do not rotate the rear drive shaft assembly without the rear axle hub and bearing assembly installed.**

HINT:

Insert the bolts from the rear side.

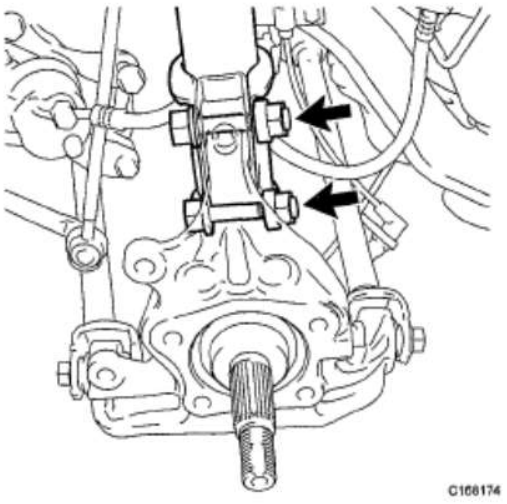


Fig. 274: Locating Rear Shock Absorber Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

13. **TEMPORARILY INSTALL REAR NO. 1 SUSPENSION ARM ASSEMBLY RH (for RH Side)**

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a. Temporarily install the rear No. 1 suspension arm assembly RH to the rear suspension member sub-assembly with the bolt and the nut.

NOTE: Ensure that the identification mark faces the rear side of the vehicle. Since a stopper nut is used, temporarily tighten the bolt.

b. Temporarily install the rear No. 1 suspension arm assembly RH to the rear axle carrier sub-assembly RH with the bolt and the nut.

NOTE: Since a stopper nut is used, temporarily tighten the bolt.

14. **TEMPORARILY INSTALL REAR STRUT ROD ASSEMBLY LH (for LH Side)** (See **INSTALLATION**)
15. **TEMPORARILY INSTALL REAR STRUT ROD ASSEMBLY RH** (See **REAR LOWER ARM (FOR 2WD)**)

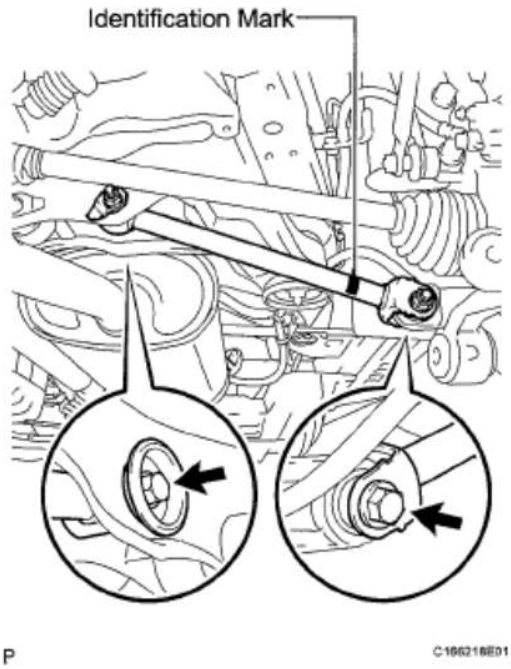


Fig. 275: Identifying Mark On Rear No. 1 Suspension Arm Assembly RH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

16. **TEMPORARILY INSTALL REAR NO. 2 SUSPENSION ARM ASSEMBLY LH (for LH Side)**
    a. Temporarily install the rear No. 2 suspension arm assembly LH to the rear suspension member sub-assembly with the rear suspension toe adjust cam sub-assembly, the No. 2 camber adjust cam and the nut.

NOTE: Ensure that the identification mark faces the rear side of the vehicle.

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HINT:

When temporarily tightening the nut, keep the rear suspension toe adjust cam sub-assembly from rotating.

b. Temporarily install the rear No. 2 suspension arm assembly LH to the rear axle carrier sub-assembly LH with the bolt and the nut.

NOTE: Since a stopper nut is used, temporarily tighten the bolt.

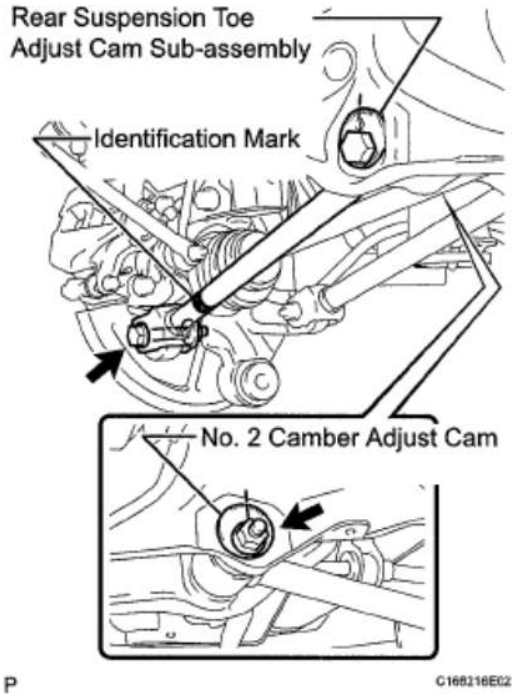


Fig. 276: Locating Rear No. 2 Suspension Arm Assembly LH Bolt
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

17. **TEMPORARILY INSTALL REAR NO. 2 SUSPENSION ARM ASSEMBLY RH (for RH Side)**

HINT:

Perform the same procedure as the rear No. 2 suspension arm assembly LH.

18. **INSTALL REAR AXLE HUB AND BEARING ASSEMBLY LH (for LH Side)** (See **INSTALLATION**)
19. **INSTALL REAR AXLE HUB AND BEARING ASSEMBLY RH (for LH Side)** (See **REAR LOWER ARM (FOR 2WD)**)
20. **INSTALL REAR DISC (for LH Side)**
    a. Install the rear disc to the rear axle hub and bearing assembly LH (See **REASSEMBLY**).

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b. Install the rear disc to the rear axle hub and bearing assembly RH.

HINT:

Perform the same procedure as the LH side (See **REASSEMBLY**).

21. **INSTALL REAR DISC BRAKE CALIPER ASSEMBLY LH (for LH Side)** (See **REPLACEMENT**)
22. **INSTALL REAR DISC BRAKE CALIPER ASSEMBLY RH (for LH Side)** (See **REAR LOWER ARM (FOR 2WD)**)
23. **TEMPORARILY INSTALL REAR AXLE SHAFT NUT LH (for LH Side)** (See **INSTALLATION**)
24. **TEMPORARILY INSTALL REAR AXLE SHAFT NUT RH (for LH Side)** (See **REAR LOWER ARM (FOR 2WD)**)
25. **INSTALL REAR SPEED SENSOR LH (for LH Side)** (See **INSTALLATION**)
26. **INSTALL REAR SPEED SENSOR RH (for LH Side)** (See **REAR LOWER ARM (FOR 2WD)**)
27. **STABILIZE SUSPENSION**
    a. Jack up the rear axle carrier sub-assembly, placing a wooden block underneath to avoid damage. Apply load to the suspension so that the rear drive shaft assembly is positioned horizontally.

CAUTION: Do not jack up the rear axle carrier sub-assembly too high as the vehicle may fall.

NOTE: Do not bend the brake dust cover.

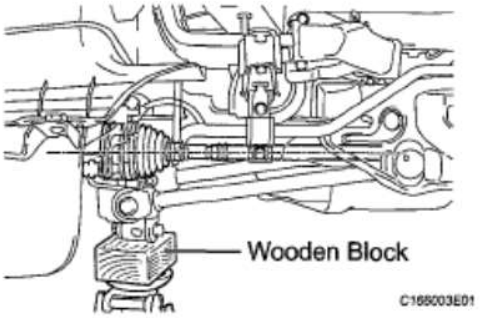


Fig. 277: Lifting Rear Axle Carrier Sub-Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

HINT:

- If the rear drive shaft assembly cannot be positioned horizontally as shown in the illustration even when the rear axle carrier sub-assembly is jacked up, apply additional load to the vehicle such as by having a person sit in the rear seat.
- Use the same procedures for the RH side and LH side.

28. **FULLY TIGHTEN REAR NO. 1 SUSPENSION ARM ASSEMBLY LH (for LH Side)** (See

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INSTALLATION)

29. **FULLY TIGHTEN REAR NO. 1 SUSPENSION ARM ASSEMBLY RH (for LH Side)**
    a. Fully tighten the rear No. 1 suspension arm assembly RH.

    HINT:

    Perform the same procedure as the rear No. 1 suspension arm assembly LH (See **INSTALLATION**).

30. **FULLY TIGHTEN REAR NO. 1 SUSPENSION ARM ASSEMBLY RH (for RH Side)**
    a. Fully tighten the 2 bolts.

    Torque: Bolt (A)

    80 N*m (815 kgf*cm, 59 ft.*lbf)

    Bolt (B)

    112 N*m (1141 kgf*cm, 82 ft.*lbf)

    NOTE:
    - **Since a stopper nut is used, temporarily tighten the bolt.**
    - **The final torque must be applied under standard vehicle height conditions.**

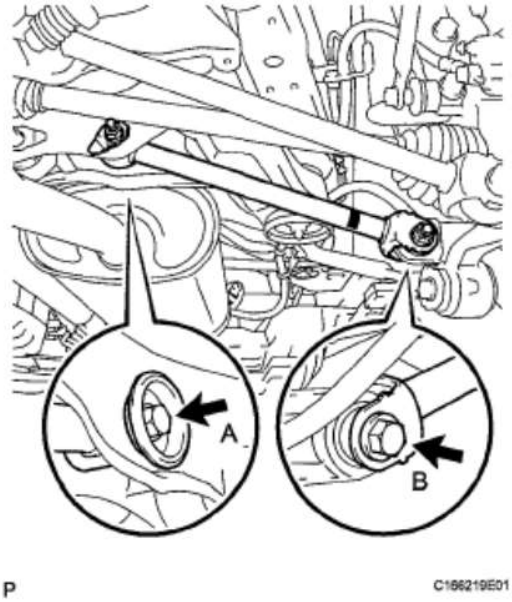


Fig. 278: Locating Rear No. 1 Suspension Arm Assembly RH Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

31. **FULLY TIGHTEN REAR NO. 2 SUSPENSION ARM ASSEMBLY LH (for LH Side)**

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a. Align the matchmarks on the adjust cams and rear suspension member sub-assembly.
b. Fully tighten the nut.

Torque: 100 N*m (1019 kgf*cm, 74 ft.*lbf)

NOTE: The final torque must be applied under standard vehicle height conditions.

HINT:

When fully tightening the nut, keep the rear suspension toe adjust cam sub-assembly from rotating.

c. Fully tighten the bolt.

Torque: 112 N*m (1141 kgf*cm, 82 ft.*lbf)

NOTE:
- **Since a stopper nut is used, fully tighten the bolt.**
- **The final torque must be applied under standard vehicle height conditions.**

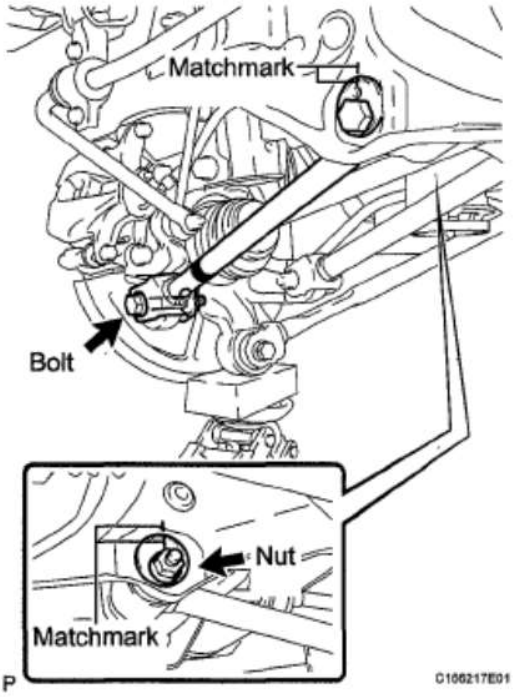


Fig. 279: Aligning Matchmarks On Adjust Cams And Rear Suspension Member Sub-Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

32. **FULLY TIGHTEN REAR NO. 2 SUSPENSION ARM ASSEMBLY RH (for RH Side)**

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HINT:

Perform the same procedure as the rear No. 2 suspension arm assembly LH.

33. **FULLY TIGHTEN REAR NO. 2 SUSPENSION ARM ASSEMBLY RH (for LH Side)**
    a. Fully tighten the rear No. 2 suspension arm assembly RH.

       HINT:

       Perform the same procedure as the rear No. 2 suspension arm assembly LH (See **INSTALLATION**).

34. **FULLY TIGHTEN REAR STRUT ROD ASSEMBLY LH (for LH Side)** (See **REAR STABILIZER BAR (FOR 2WD)**)
35. **FULLY TIGHTEN REAR STRUT ROD ASSEMBLY RH** (See **REAR LOWER ARM (FOR 2WD)**)
36. **INSTALL NO. 3 PARKING BRAKE CABLE ASSEMBLY (for LH Side)** (See **REAR STABILIZER BAR (FOR 2WD)**)
37. **INSTALL NO. 2 PARKING BRAKE CABLE ASSEMBLY** (See **REAR LOWER ARM (FOR 2WD)**)
38. **SEPARATE REAR DISC BRAKE CALIPER ASSEMBLY LH (for LH Side)** (See **REPLACEMENT**)
39. **SEPARATE REAR DISC BRAKE CALIPER ASSEMBLY RH (for LH Side)** (See **REAR LOWER ARM (FOR 2WD)**)
40. **REMOVE REAR DISC (for LH Side)**
    a. Remove the rear disc from the rear axle hub and bearing assembly LH (See **INSPECTION**).
    b. Remove the rear disc from the rear axle hub and bearing assembly RH.

       HINT:

       Perform the same procedure as the LH side (See **INSPECTION**).

41. **INSPECT REAR AXLE HUB BEARING LOOSENESS (for LH Side)**
    a. Inspect the rear axle hub bearing looseness (See **ON-VEHICLE INSPECTION**).

       HINT:

       Use the same procedure for the RH side and LH side.

42. **INSPECT REAR AXLE HUB RUNOUT (for LH Side)**
    a. Inspect the rear axle hub bearing runout (See **ON-VEHICLE INSPECTION**).

       HINT:

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Use the same procedure for the RH side and LH side.

43. **INSTALL REAR DISC (for LH Side)**
    a. Install the rear disc to the rear axle hub and bearing assembly LH (See **REASSEMBLY**).
    b. Install the rear disc to the rear axle hub and bearing assembly RH.

    HINT:

    Perform the same procedure as the LH side (See **REASSEMBLY**).

44. **INSTALL REAR DISC BRAKE CALIPER ASSEMBLY LH (for LH Side)** (See **REPLACEMENT**)
45. **INSTALL REAR DISC BRAKE CALIPER ASSEMBLY RH (for LH Side)** (See **REAR LOWER ARM (FOR 2WD)**)
46. **INSTALL REAR AXLE SHAFT NUT LH (for LH Side)** (See **INSTALLATION**)
47. **INSTALL REAR AXLE SHAFT NUT RH (for LH Side)** (See **REAR LOWER ARM (FOR 2WD)**)
48. **TEMPORARILY TIGHTEN PROPELLER WITH CENTER BEARING SHAFT ASSEMBLY (for LH Side)** (See **INSTALLATION**)
49. **FULLY TIGHTEN PROPELLER WITH CENTER BEARING SHAFT ASSEMBLY (for LH Side)** (See **INSTALLATION**)
50. **INSPECT AND ADJUST TRANSFER OIL (for LH Side)** (See **TRANSFER OIL**)
51. **INSTALL CENTER EXHAUST PIPE ASSEMBLY** (See **INSTALLATION**)
52. **INSTALL TAIL EXHAUST PIPE ASSEMBLY** (See **INSTALLATION**)
53. **INSPECT FOR EXHAUST GAS LEAK** (See **INSTALLATION**)
54. **INSTALL REAR WHEELS (for LH Side)**

    Torque: 103 N*m (1050 kgf*cm, 76 ft.*lbf)

55. **INSTALL REAR WHEEL (for RH Side)**

    Torque: 103 N*m (1050 kgf*cm, 76 ft.*lbf)

56. **INSPECT AND ADJUST REAR WHEEL ALIGNMENT**

    HINT:

    See **REAR WHEEL ALIGNMENT**

57. **CHECK FOR REAR SPEED SENSOR SIGNAL (for LH Side)**

    HINT:

    See **TEST MODE PROCEDURE**

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REAR STRUT ROD

COMPONENTS

Fig. 280: Identifying Rear Strut Rod Components With Torque Specification (1 Of 2)
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Fig. 281: Identifying Rear Strut Rod Components With Torque Specification (2 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

HINT:

- Use the same procedures for the RH side and LH side.
- The procedures listed below are for the LH side.

1. **REMOVE REAR WHEEL**
2. **SEPARATE NO. 3 PARKING BRAKE CABLE ASSEMBLY**
    a. Remove the bolt and the nut, and separate the No. 3 parking brake cable assembly.

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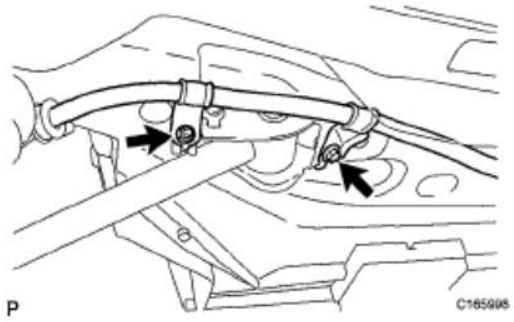


Fig. 282: Locating No. 3 Parking Brake Cable Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. **REMOVE REAR STRUT ROD ASSEMBLY (for 2WD)**
   a. Remove the 2 bolts, the 2 nuts, and the rear strut rod assembly.

NOTE: Since stopper nuts are used, loosen the bolts.

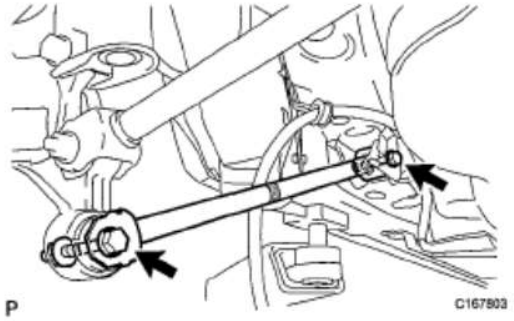
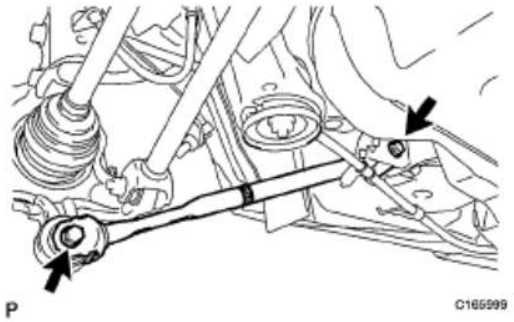


Fig. 283: Locating Rear Strut Rod Assembly Bolts (2WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. **REMOVE REAR STRUT ROD ASSEMBLY (for 4WD)**
   a. Remove the 2 bolts, the 2 nuts, and the rear strut rod assembly.

NOTE: Since stopper nuts are used, loosen the bolts.



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Fig. 284: Locating Rear Strut Rod Assembly Bolts (4WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSTALLATION

1. **TEMPORARILY INSTALL REAR STRUT ROD ASSEMBLY (for 2WD)**
   a. Check that the identification mark of the rear strut rod assembly is positioned on the inner side of the vehicle.
   b. Temporarily install the rear strut rod assembly with the 2 bolts and the 2 nuts.

NOTE: Since stopper nuts are used, temporarily tighten the bolts.

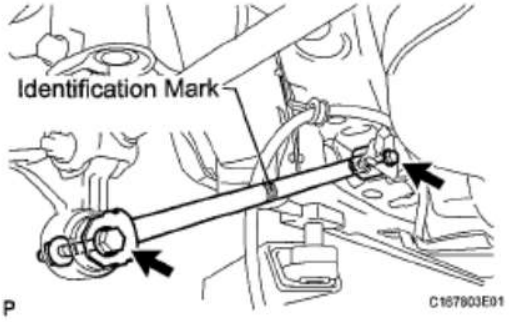


Fig. 285: Identifying Mark Of Rear Strut Rod Assembly (2WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **TEMPORARILY INSTALL REAR STRUT ROD ASSEMBLY (for 4WD)**
   a. Check that the identification mark of the rear strut rod assembly is positioned on the inner side of the vehicle.
   b. Temporarily install the rear strut rod assembly with the 2 bolts and the 2 nuts.

NOTE: Since stopper nuts are used, temporarily tighten the bolts.

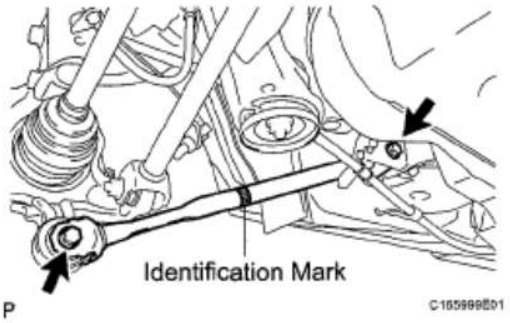


Fig. 286: Identifying Mark Of Rear Strut Rod Assembly (4WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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3. **STABILIZE SUSPENSION (for 2WD)** (See **INSTALLATION**)
4. **STABILIZE SUSPENSION (for 4WD)** (See **REAR STRUT ROD**)
5. **FULLY TIGHTEN REAR STRUT ROD ASSEMBLY (for 2WD)**
   a. Fully tighten the 2 bolts.

Torque: 80 N*m (815 kgf*cm, 59 ft.*lbf)

NOTE:

- **Since stopper nuts are used, fully tighten the bolts.**
- **The final torque must be applied under standard vehicle height conditions.**

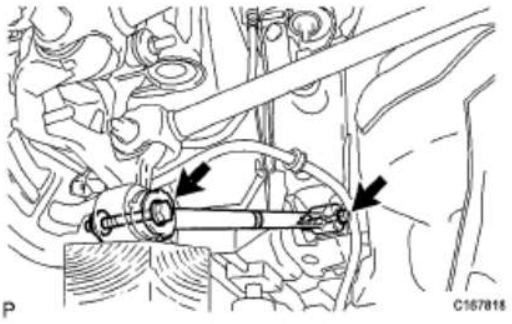


Fig. 287: Locating Rear Strut Rod Assembly (2WD) Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. **FULLY TIGHTEN REAR STRUT ROD ASSEMBLY (for 4WD)**
   a. Fully tighten the bolt.

Torque: 80 N*m (815 kgf*cm, 59 ft.*lbf)

NOTE:

- **Since a stopper nut is used, fully tighten the bolt.**
- **The final torque must be applied under standard vehicle height conditions.**

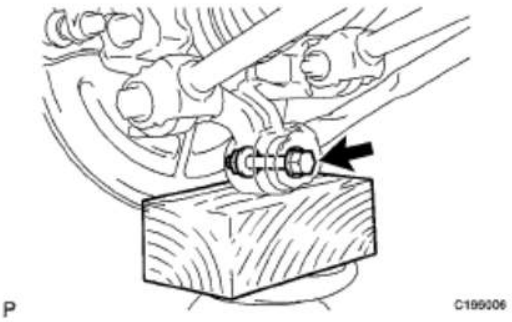


Fig. 288: Locating Rear Strut Rod Assembly (4WD) Bolts

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Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Fully tighten the bolt.

Torque: 80 N*m (815 kgf*cm, 59 ft.*lbf)

NOTE:

- **Since a stopper nut is used, fully tighten the bolt.**
- **The final torque must be applied under standard vehicle height conditions.**

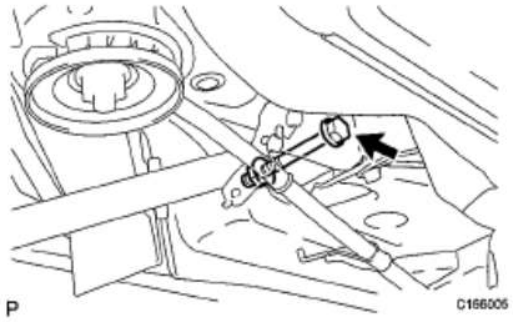


Fig. 289: Locating Bolt
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

7. **INSTALL NO. 3 PARKING BRAKE CABLE ASSEMBLY**
   a. Install the No. 3 parking brake cable assembly with the bolt and the nut.

Torque: Bolt

39 N*m (397 kgf*cm, 29 ft.*lbf)

Nut

6.0 N*m (61 kgf*cm, 53 in.*lbf)

NOTE: **Do not twist the No. 3 parking brake cable assembly when installing it.**

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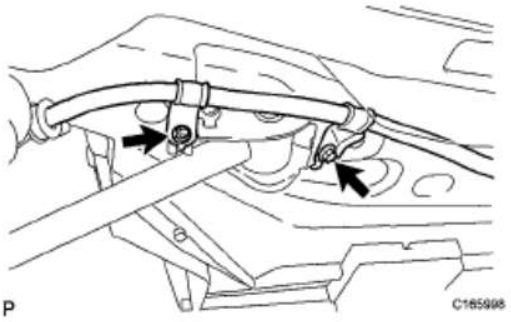


Fig. 290: Locating No. 3 Parking Brake Cable Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

8. **INSTALL REAR WHEEL**

Torque: 103 N*m (1050 kgf*cm, 76 ft.*lbf)

REAR STABILIZER BAR (FOR 2WD)

COMPONENTS

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Fig. 291: Identifying Rear Stabilizer Bar (2WD) Components With Torque Specification (1 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Fig. 292: Identifying Rear Stabilizer Bar (2WD) Components With Torque Specification (2 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **REMOVE REAR WHEELS**
2. **REMOVE REAR STABILIZER LINK ASSEMBLY LH**
   a. Remove the nut and separate the rear stabilizer link assembly LH from the rear stabilizer bar.

      HINT:

      If the ball joint turns together with the nut, use a hexagon wrench (5 mm) to hold the stud bolt.

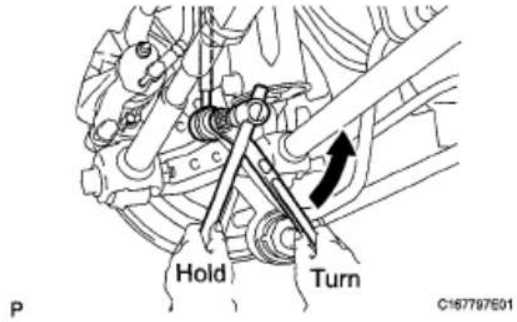


Fig. 293: Separating Rear Stabilizer Link Assembly LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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b. Remove the nut and the rear stabilizer link assembly LH from the rear shock absorber with coil spring LH.

HINT:

If the ball joint turns together with the nut, use a hexagon wrench (5 mm) to hold the stud bolt.

3. **REMOVE REAR STABILIZER LINK ASSEMBLY RH**

HINT:

Perform the same procedure as the LH side.

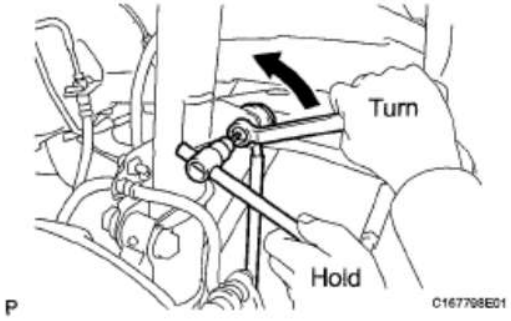


Fig. 294: Separating Rear Stabilizer Link Assembly (2WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. **REMOVE REAR STABILIZER BAR**
   a. Remove the 4 bolts and rear stabilizer bar.

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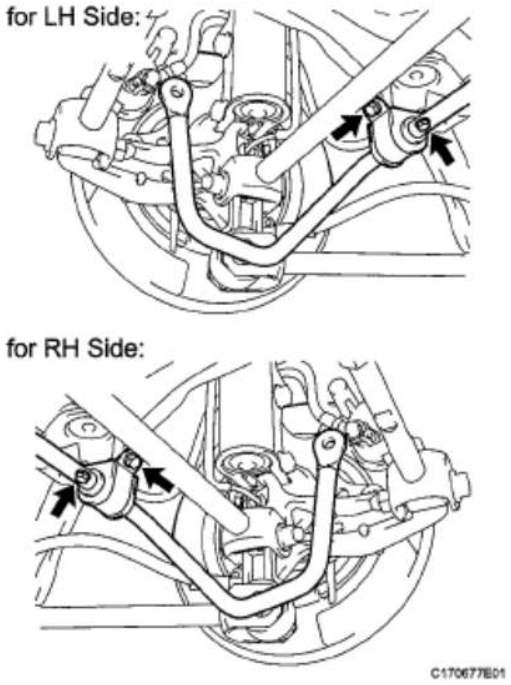


Fig. 295: Locating Rear Stabilizer Bar Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. **REMOVE REAR NO. 1 STABILIZER BAR BRACKET (for LH Side)**
   a. Remove the rear No. 1 stabilizer bar bracket.
6. **REMOVE REAR NO. 1 STABILIZER BAR BRACKET (for RH Side)**

HINT:

Perform the same procedure as the LH side.

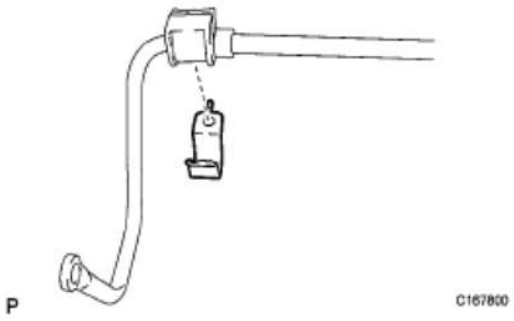


Fig. 296: Identifying Rear No. 1 Stabilizer Bar Bracket LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

7. **REMOVE REAR STABILIZER BUSHING (for LH Side)**
   a. Remove the rear stabilizer bushing.

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8. **REMOVE REAR STABILIZER BUSHING (for RH Side)**

HINT:

Perform the same procedure as the LH side.

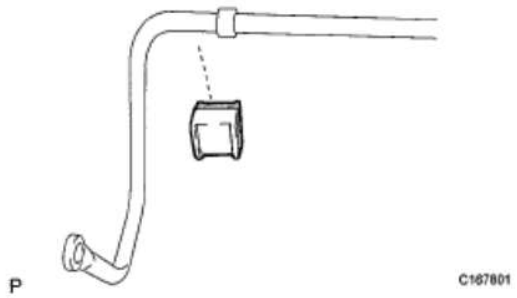


Fig. 297: Identifying Rear No. 1 Stabilizer Bar Bracket RH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. **INSPECT REAR STABILIZER LINK ASSEMBLY**
   a. As shown in the illustration, move the ball joint stud back and forth 5 times before installing the nut.
   b. Using a torque wrench, turn the nut continuously at a rate of 3 to 5 seconds per turn and take the torque reading on the fifth turn.

Turning torque:

1.0 N*m (10 kgf*cm, 8.9 in.*lbf) or less

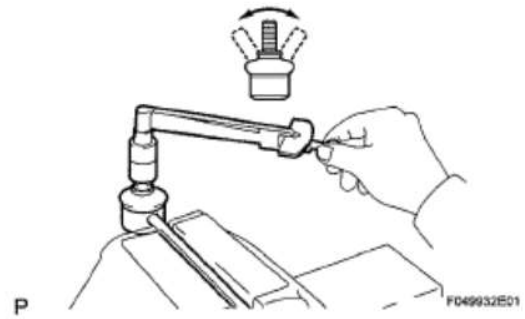


Fig. 298: Inspecting Front Stabilizer Link Assembly LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If the turning torque is not within the specified range, replace the rear stabilizer link assembly with a new one.

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c. Check for any cracks and grease leaks on the ball joint dust cover.

INSTALLATION

1. **INSTALL REAR STABILIZER BUSHING (for LH Side)**
   a. Install the rear stabilizer bushing.
2. **INSTALL REAR STABILIZER BUSHING (for RH Side)**

   HINT:

   Perform the same procedure as the LH side.

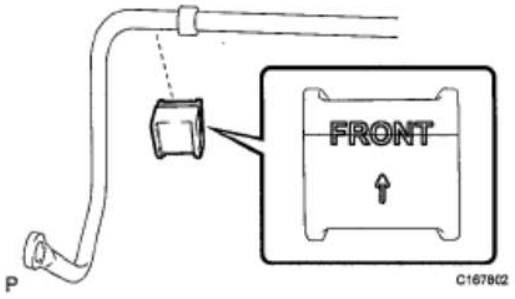


Fig. 299: Identifying Rear Stabilizer Bushing Installation Position
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. **INSTALL REAR NO. 1 STABILIZER BAR BRACKET (for LH Side)**
   a. Install the rear stabilizer bar bracket.
4. **INSTALL REAR NO. 1 STABILIZER BAR BRACKET (for RH Side)**

   HINT:

   Perform the same procedure as the LH side.

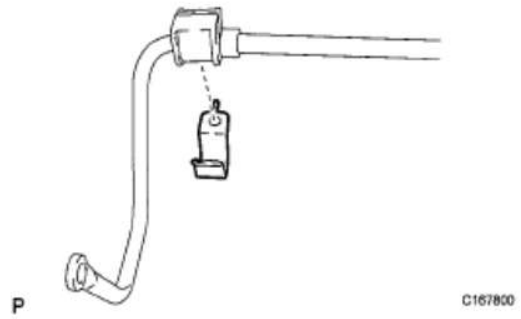


Fig. 300: Identifying Rear No. 1 Stabilizer Bar Bracket LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. **INSTALL REAR STABILIZER BAR**

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a. Install the rear stabilizer bar with the 4 bolts.

Torque: 19 N*m (194 kgf*cm, 14 ft.*lbf)

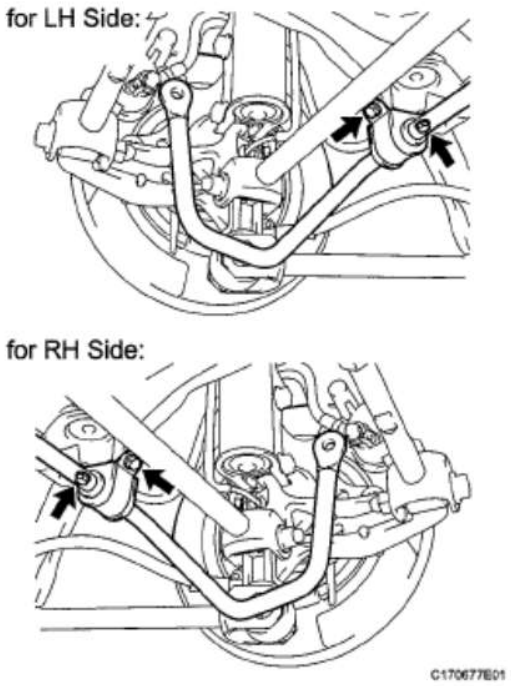


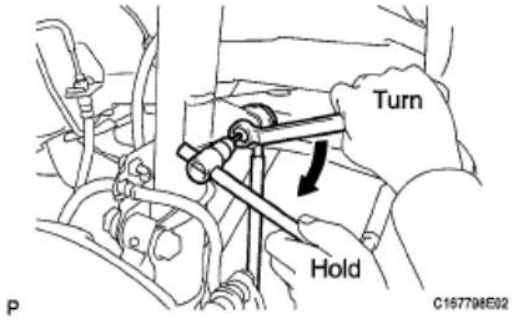
Fig. 301: Locating Rear Stabilizer Bar With Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. **INSTALL REAR STABILIZER LINK ASSEMBLY LH**
   a. Install the rear stabilizer link assembly LH to the rear shock absorber with coil spring LH with the nut.

   Torque: 39 N*m (400 kgf*cm, 29 ft.*lbf)

   HINT:

   If the ball joint turns together with the nut, use a hexagon wrench (5 mm) to hold the stud bolt.



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Fig. 302: Installing Rear Stabilizer Link Assembly (2WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Install the rear stabilizer link assembly LH to the rear stabilizer bar with the nut.

Torque: 39 N*m (400 kgf*cm, 29 ft.*lbf)

HINT:

If the ball joint turns together with the nut, use a hexagon wrench (5 mm) to hold the stud bolt.

7. **INSTALL REAR STABILIZER LINK ASSEMBLY RH**

HINT:

Perform the same procedure as the LH side.

8. **INSTALL REAR WHEELS**

Torque: 103 N*m (1050 kgf*cm, 76 ft.*lbf)

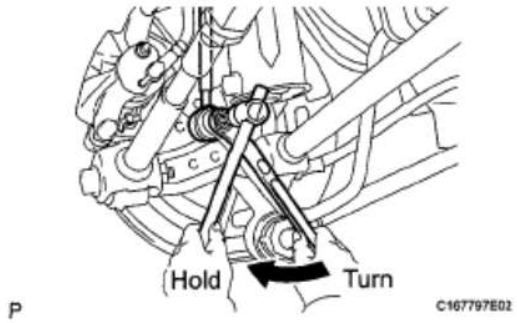


Fig. 303: Tightening Rear Stabilizer Link Assembly LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REAR STABILIZER BAR (FOR 4WD)

COMPONENTS

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Fig. 304: Identifying Rear Stabilizer Bar (4WD) Components With Torque Specification (1 Of 4)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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Fig. 305: Identifying Rear Stabilizer Bar (4WD) Components With Torque Specification (2 Of 4)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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Fig. 306: Identifying Rear Stabilizer Bar (4WD) Components With Torque Specification (3 Of 4)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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Fig. 307: Identifying Rear Stabilizer Bar (4WD) Components With Torque Specification (4 Of 4)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **REMOVE DECK BOARD ASSEMBLY** (See **REMOVAL**)
2. **REMOVE NO. 3 DECK BOARD SUB-ASSEMBLY (w/ Tonneau Cover)** (See **REMOVAL**)
3. **REMOVE NO. 2 DECK BOARD SUB-ASSEMBLY (w/ Tonneau Cover)** (See **REMOVAL**)
4. **REMOVE TONNEAU COVER ASSEMBLY (w/ Tonneau Cover)** (See **REMOVAL**)

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5. **REMOVE REAR MAT** (See **REMOVAL**)
6. **REMOVE DECK TRIM SERVICE HOLE COVER**
7. **REMOVE LOWER SPARE WHEEL CARRIER HINGE COVER (w/ Cover)**
8. **REMOVE SPARE TIRE**
9. **REMOVE SPARE WHEEL CARRIER LOCK COVER (w/ Cover)**
10. **REMOVE REAR WHEELS**
11. **REMOVE TAIL EXHAUST PIPE ASSEMBLY** (See **INSTALLATION**)
12. **REMOVE REAR STABILIZER LINK ASSEMBLY LH**
    a. Remove the nut and separate the rear stabilizer link assembly LH from the rear stabilizer bar.

    HINT:

    If the ball joint turns together with the nut, use a hexagon wrench (5 mm) to hold the stud bolt.

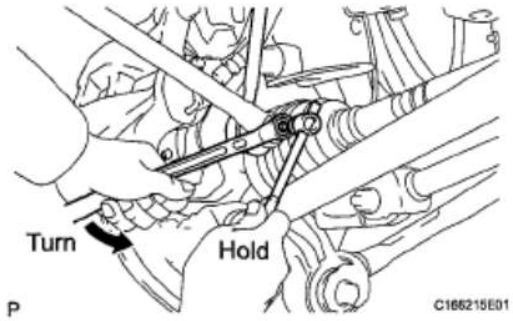


Fig. 308: Separating Rear Stabilizer Link Assembly LH From Rear Stabilizer Bar
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

    b. Remove the nut and the rear stabilizer link assembly LH from the rear shock absorber with coil spring LH.

    HINT:

    If the ball joint turns together with the nut, use a hexagon wrench (5 mm) to hold the stud bolt.

13. **REMOVE REAR STABILIZER LINK ASSEMBLY RH**

    HINT:

    Perform the same procedure as the LH side.

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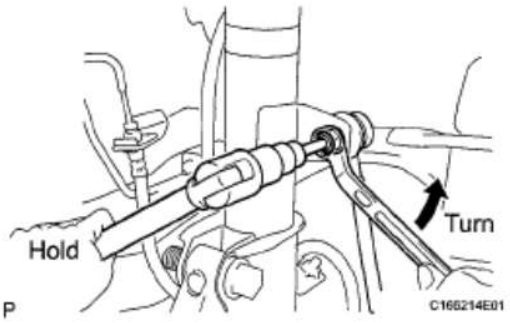


Fig. 309: Separating Rear Stabilizer Link Assembly (4WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

14. **REMOVE REAR STABILIZER BAR BRACKET LH (for Rear Side)**
    a. Remove the 2 bolts and the rear stabilizer bar bracket LH (rear side).

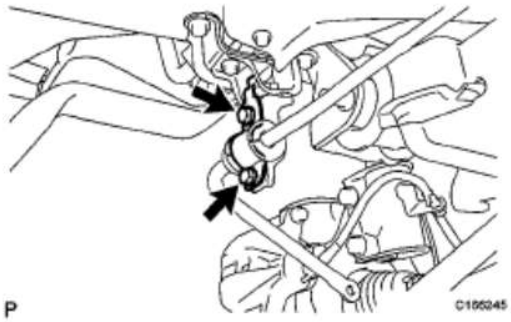


Fig. 310: Locating Rear Stabilizer Bar Bracket Bolts LH (Rear Side)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

15. **REMOVE REAR STABILIZER BAR BRACKET RH (for Rear Side)**
    a. Remove the 2 bolts and the rear stabilizer bar bracket RH (rear side).

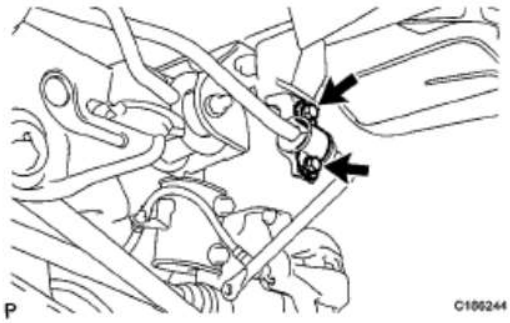


Fig. 311: Locating Rear Stabilizer Bar Bracket Bolts RH (Rear Side)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

16. **REMOVE REAR STABILIZER BUSHING (for LH Side)**

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a. Remove the rear stabilizer bushing (LH side).

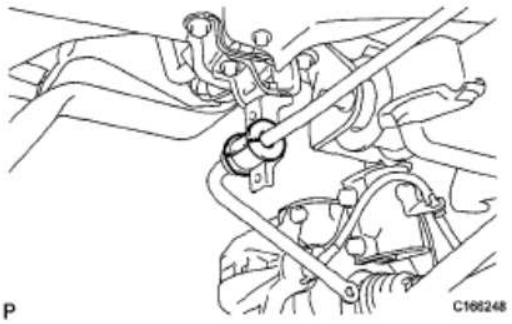


Fig. 312: Identifying Rear Stabilizer Bushing (LH Side)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

17. **REMOVE REAR STABILIZER BUSHING (for RH Side)**
    a. Remove the rear stabilizer bushing (RH side).

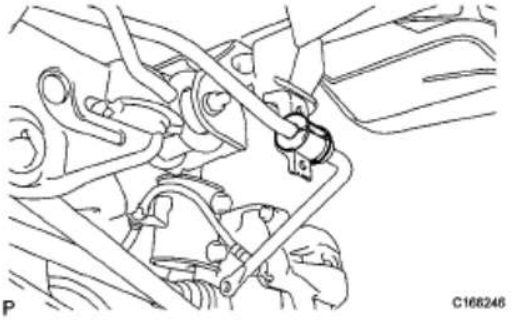


Fig. 313: Identifying Rear Stabilizer Bushing (RH Side)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

18. **REMOVE REAR STABILIZER BAR BRACKET LH (for Front Side)**
    a. Remove the bolt and the rear stabilizer bar bracket LH (front side).

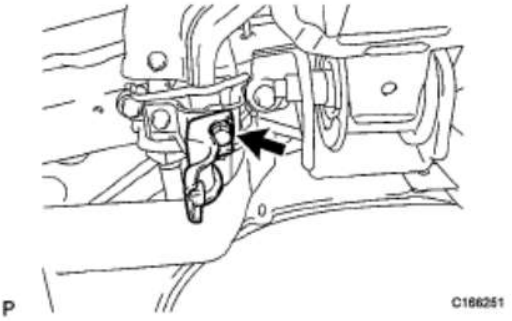


Fig. 314: Locating Rear Stabilizer Bar Bracket Bolt LH (Front Side)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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19. **REMOVE REAR STABILIZER BAR BRACKET RH (for Front Side)**
    a. Remove the 2 bolts and the rear stabilizer bar bracket RH (front side).
20. **REMOVE REAR STABILIZER BAR**

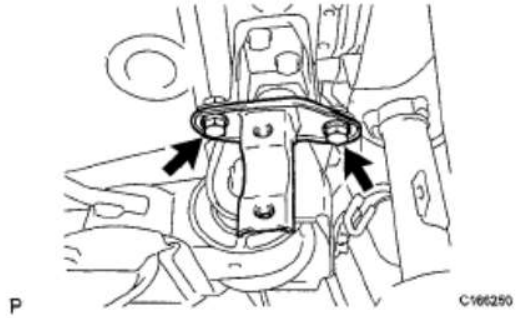


Fig. 315: Locating Rear Stabilizer Bar Bracket Bolts RH (Front Side)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. **INSPECT REAR STABILIZER LINK ASSEMBLY**
    a. Move the ball joint stud back and forth 5 times before installing the nut as shown in the illustration.
    b. Using a torque wrench, turn the nut continuously at a rate of 3 to 5 seconds per turn and take the torque reading on the fifth turn.

    Turning torque:

    1.0 N*m, (10 kgf*cm, 8.9 in.*lbf) or less

    If the turning torque is not within the specified range, replace the rear stabilizer link assembly with a new one.

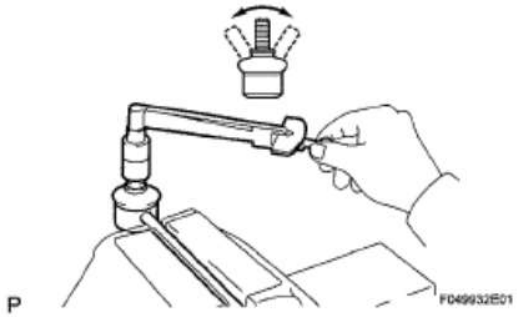


Fig. 316: Inspecting Front Stabilizer Link Assembly LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

    c. Check for any cracks and grease leaks on the ball joint dust cover.

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INSTALLATION

1. **TEMPORARILY INSTALL REAR STABILIZER BAR**
   a. Temporarily install the rear stabilizer bar with the identification mark positioned on the left side of the vehicle.

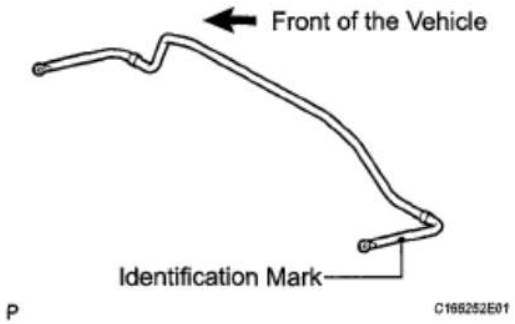


Fig. 317: Identifying Mark On Rear Stabilizer Bar
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **TEMPORARILY INSTALL REAR STABILIZER BAR BRACKET LH (for Front Side)**
   a. Temporarily install the rear stabilizer bar bracket LH (front side) with the bolt.

   HINT:

   Loosely tighten the bolt so that the bracket can be moved by hand.

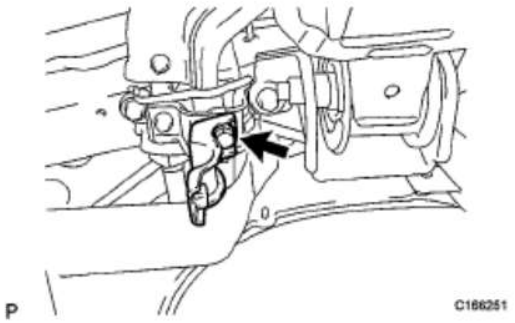


Fig. 318: Locating Rear Stabilizer Bar Bracket Bolt LH (Front Side)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. **TEMPORARILY INSTALL REAR STABILIZER BAR BRACKET RH (for Front Side)**
   a. Temporarily install the rear stabilizer bar bracket RH (front side) with the 2 bolts.

   HINT:

   Loosely tighten the bolts so that the bracket can be moved by hand.

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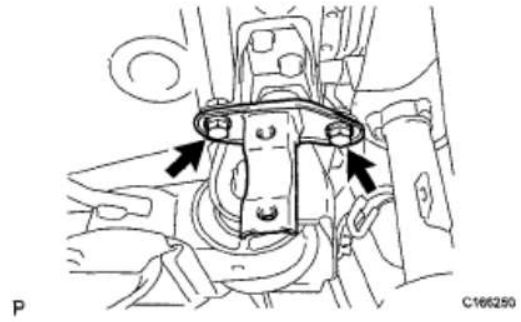


Fig. 319: Locating Rear Stabilizer Bar Bracket Bolts RH (Front Side)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. **INSTALL REAR STABILIZER BUSHING (for LH Side)**
   a. Install the rear stabilizer bushing (LH side) to the rear stabilizer bar.

NOTE: **Make sure that the cutout of the rear stabilizer bushing is positioned within the range shown in the illustration.**

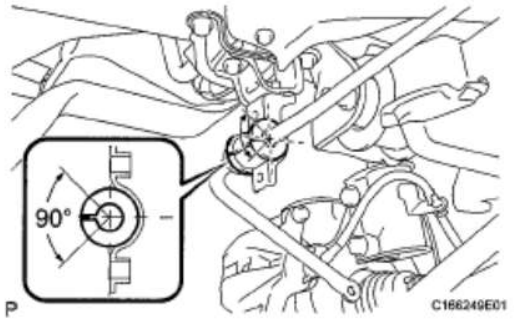


Fig. 320: Identifying Rear Stabilizer Bushing Position (LH Side)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. **INSTALL REAR STABILIZER BUSHING (for RH Side)**
   a. Install the rear stabilizer bushing (RH side) to the rear stabilizer bar.

NOTE: **Make sure that the cutout of the rear stabilizer bushing is positioned within the range shown in the illustration.**

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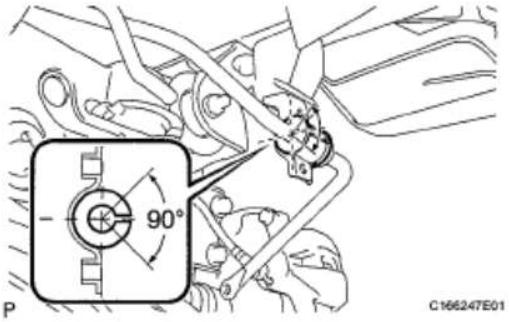


Fig. 321: Identifying Rear Stabilizer Bushing Position (RH Side)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. **INSTALL REAR STABILIZER BAR BRACKET LH (for Rear Side)**
   a. Install the rear stabilizer bar bracket LH (rear side) with the 2 bolts.

   Torque: 19 N*m (194 kgf*cm, 14 ft.*lbf)

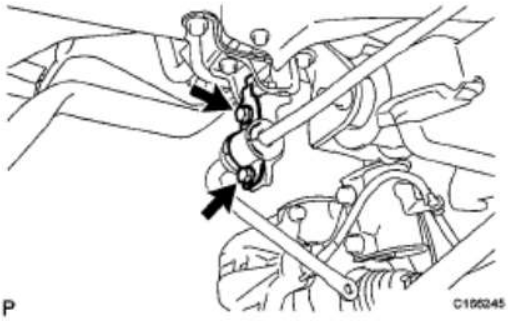


Fig. 322: Locating Rear Stabilizer Bar Bracket Bolts LH (Rear Side)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

7. **INSTALL REAR STABILIZER BAR BRACKET RH (for Rear Side)**
   a. Install the rear stabilizer bar bracket RH (rear side) with the 2 bolts.

   Torque: 19 N*m (194 kgf*cm, 14 ft.*lbf)

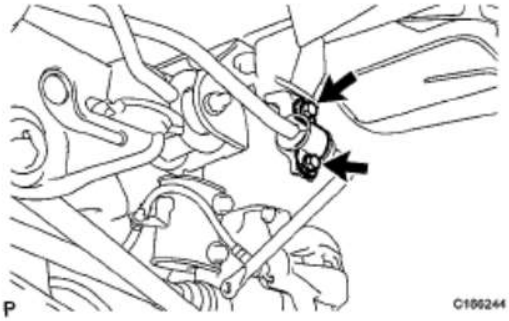


Fig. 323: Locating Rear Stabilizer Bar Bracket Bolts RH (Rear Side)

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Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

8. **FULLY TIGHTEN REAR STABILIZER BAR BRACKET LH (for Front Side)**
   a. Fully tighten the bolt.

      Torque: 54 N*m (550 kgf*cm, 40 ft.*lbf)

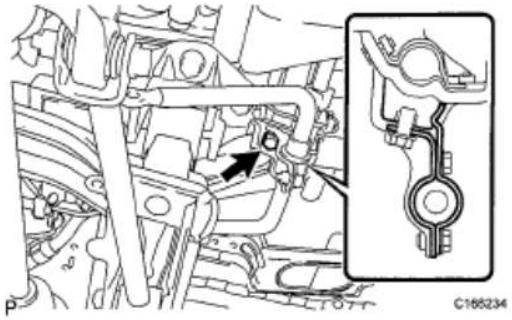


Fig. 324: Locating Rear Stabilizer Bar Bracket Bolts LH (Front Side)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

9. **FULLY TIGHTEN REAR STABILIZER BAR BRACKET RH (for Front Side)**
   a. Fully tighten the 2 bolts.

      Torque: 19 N*m (194 kgf*cm, 14 ft.*lbf)

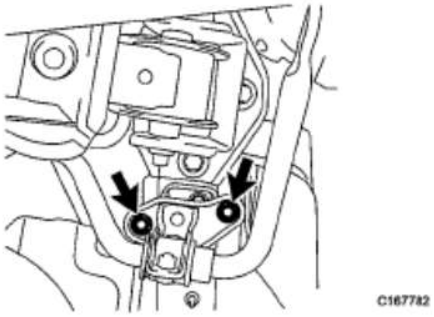


Fig. 325: Locating Rear Stabilizer Bar Bracket RH (Front Side)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

10. **INSTALL REAR STABILIZER LINK ASSEMBLY LH**
    a. Install the rear stabilizer link assembly LH to the rear shock absorber with coil spring LH with the nut.

       Torque: 39 N*m (400 kgf*cm, 29 ft.*lbf)

       HINT:

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If the ball joint turns together with the nut, use a hexagon wrench (5 mm) to hold the stud bolt.

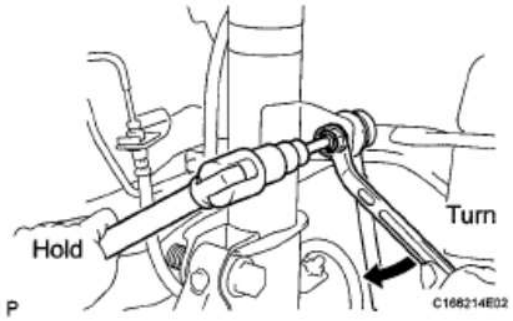


Fig. 326: Installing Rear Stabilizer Link Assembly (4WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Install the rear stabilizer link assembly LH to the rear stabilizer bar with the nut.

Torque: 39 N*m (400 kgf*cm, 29 ft.*lbf)

HINT:

If the ball joint turns together with the nut, use a hexagon wrench (5 mm) to hold the stud bolt.

11. **INSTALL REAR STABILIZER LINK ASSEMBLY RH**

HINT:

Perform the same procedure as the LH side.

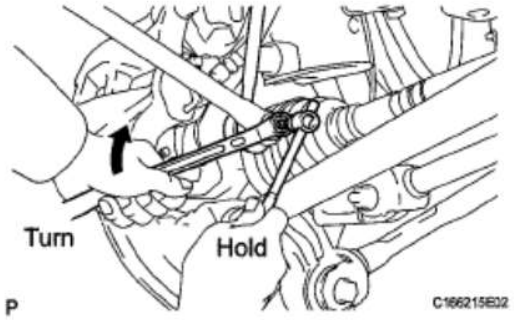


Fig. 327: Installing Rear Stabilizer Link Assembly LH To Rear Stabilizer Bar With Nut
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

12. **INSTALL TAIL EXHAUST PIPE ASSEMBLY** (See **INSTALLATION**)
13. **INSPECT FOR EXHAUST GAS LEAK** (See **INSTALLATION**)
14. **INSTALL REAR WHEELS**

Torque: 103 N*m (1050 kgf*cm, 76 ft.*lbf)

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15. **INSTALL SPARE WHEEL CARRIER LOCK COVER (w/ Cover)**
16. **INSTALL SPARE TIRE**
17. **INSTALL LOWER SPARE WHEEL CARRIER HINGE COVER (w/ Cover)**
18. **INSTALL DECK TRIM SERVICE HOLE COVER**
19. **INSTALL REAR MAT** (See **INSTALLATION**)
20. **INSTALL TONNEAU COVER ASSEMBLY (w/ Tonneau Cover)** (See **INSTALLATION**)
21. **INSTALL NO. 2 DECK BOARD SUB-ASSEMBLY (w/ Tonneau Cover)** (See **INSTALLATION**)
22. **INSTALL NO. 3 DECK BOARD SUB-ASSEMBLY (w/ Tonneau Cover)** (See **INSTALLATION**)
23. **INSTALL DECK BOARD ASSEMBLY** (See **INSTALLATION**)

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