

Mazda 3 Workshop Manual - Suspension

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GENERAL PROCEDURES



GENERAL PROCEDURES (SUSPENSION)

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Wheel and Tire Installation

1. When installing the wheels and tires, tighten the wheel nuts in a criss-cross pattern to the following tightening torque.

Tightening torque

88.2-117.6 N·m {9.00-11.99 kgf·m, 65.06-86.73 ft·lbf}

Suspension Links Removal/Installation

1. For the joint sections with rubber bushings, raise the vehicle using a lift, and then temporarily tighten the installation bolts and nuts. Lower the vehicle to the ground and tighten them completely with the specified torque.

Connector Disconnection

1. Disconnect the negative battery cable before performing any work that requires handling of connectors. (See [BATTERY REMOVAL/INSTALLATION \[Z6\]](#).) (See [BATTERY REMOVAL/INSTALLATION \[LF\]](#).)

WHEEL ALIGNMENT PRE-INSPECTION

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1. Park the vehicle on a level ground, in an unloaded condition*, and with the wheels straight forward.

Unloaded condition.....Fuel tank is full. Engine coolant and engine oil are at specified level. Spare tire, jack and tools are in designated position.

2. Inspect the tire pressure.

- Adjust to the recommended pressure if necessary. (See [SUSPENSION](#).)

3. Inspect the wheel bearing play.

- Correct if necessary. (See [WHEEL HUB, STEERING KNUCKLE INSPECTION](#).) (See [WHEEL HUB COMPONENT INSPECTION](#).)

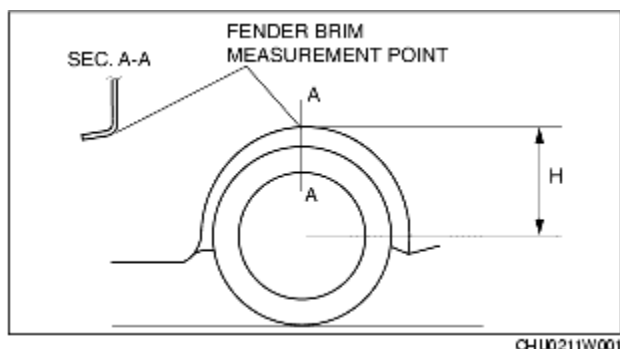
4. Inspect the wheel runout.

- Correct if necessary. (See [SUSPENSION](#).)

5. Rock the vehicle, and verify that there is no looseness in the steering wheel joint and suspension ball joint.

6. Rock the vehicle, and verify that the shock absorber operates properly.

7. Measure height H from the center of the wheel to the fender brim.



8. Verify that the difference between the left and right dimension H is within the specification.

- If it exceeds the specification, repeat the Step 2-7.

Standard

10 mm {0.39 in} or less

FRONT WHEEL ALIGNMENT

B3E021101015W01

Specification (Unloaded)*1

Item		Fuel gauge indication				
		Empty	1/4	1/2	3/4	Full
Maximum steering angle [Tolerance $\pm 3^\circ$]	Inner	39°48'				
	Outer	32°48'				
Total toe-in	Tire [Tolerance ± 4 { ± 0.16 }]	2 {0.08}				
	Rim inner	1 $\pm$ 3 {0.04 $\pm$ 0.12}				
	(degree)	0°11' $\pm$ 0°22'				
Caster angle*2 (Reference value) [Tolerance $\pm 1^\circ$]		2°55'	2°57'	3°00'	3°02'	3°04'
Camber angle*2 (Reference value) [Tolerance $\pm 1^\circ$]		-0°39'	-0°40'			-0°41'
Steering axis inclination (Reference value)		13°59'	14°00'	14°01'		14°02'

*1 :

Engine coolant and engine oil are at specified level. Spare tire, jack and tools are in designated position.

*2 :

Difference between left and right must not exceed 1°30'.

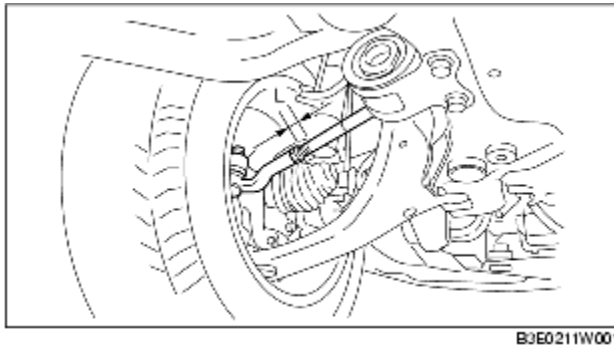
Steering Angle Adjustment

1. Loosen the locknut of the tie-rod end.
2. Remove the rack boot clamp.
3. Rotate the tie rod and adjust the steering angle.

Note

- The travel distance of the right and left tie rods should be the same.

4. Rotate the tie rod and adjust so that the difference between right and left dimension L shown in the figure is less than the specification.



Standard

3 mm {0.12 in} or less

5. Tighten the locknut of the tie-rod end.

Tightening torque

68.6-98.0 N·m {7.00-9.99 kgf·m, 50.6-72.2 ft·lbf}

6. Correct the rack boot twists.
7. Install and fix the rack boot clamp.
8. After adjusting the steering angle, always inspect and adjust the toe angle.

Total Toe-in Adjustment

1. Loosen the locknut of the tie-rod end.
2. Remove the rack boot clamp.
3. Adjust the total toe-in by rotating each tie rod (left and right) in the opposite directions by the same amount respectively.

Note

- Toe angle changes by **approx. 6mm {0.2 in}** per one rotation of the tie rod for one wheel.

- Each tie rod has a right-hand thread. When increasing the toe-in angle, rotate the right tie rod toward the front of the vehicle and rotate the left tie rod toward the rear of the vehicle by the same amount.

4. Tighten the locknut of the tie-rod end.

Tightening torque

68.6-98.0 N·m {7.00-9.99 kgf·m, 50.6-72.2 ft·lbf}

5. Verify that the rack boot does not have any twisting and install the rack boot clamp.

REAR WHEEL ALIGNMENT

B3E021101016W01

Specification (Unloaded)*1

Item			Fuel gauge indication				
			Empty	1/4	1/2	3/4	Full
Total toe-in	Tire [Tolerance ± 4 { ± 0.16 }]	(mm {in})	2 {0.08}				
	Rim inner		1 $\pm$ 3 {0.04 $\pm$ 0.12}				
	(degree)		0°11'±0°22'				
Camber angle*2 (Reference value) [Tolerance $\pm 1^\circ$]			-1°10'	-1°12'	-1°14'	-1°17'	-1°19'
Thrust angle (Reference value) [Tolerance $\pm 0^\circ 48'$]			0°				

*1 :

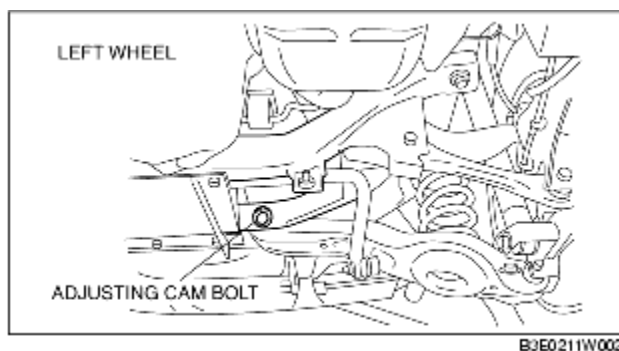
Engine coolant and engine oil are at specified level. Spare tire, jack and tools are in designated position.

*2 :

Difference between left and right must not exceed 1°30'.

Total Toe-in Adjustment

1. Loosen the installation nut of the adjusting cam bolt.
2. Rotate the adjusting cam bolt in either direction to adjust the camber.



	Left wheel	Right wheel
Toe-out direction	Clockwise	Counterclockwise
Toe-in direction	Counterclockwise	Clockwise

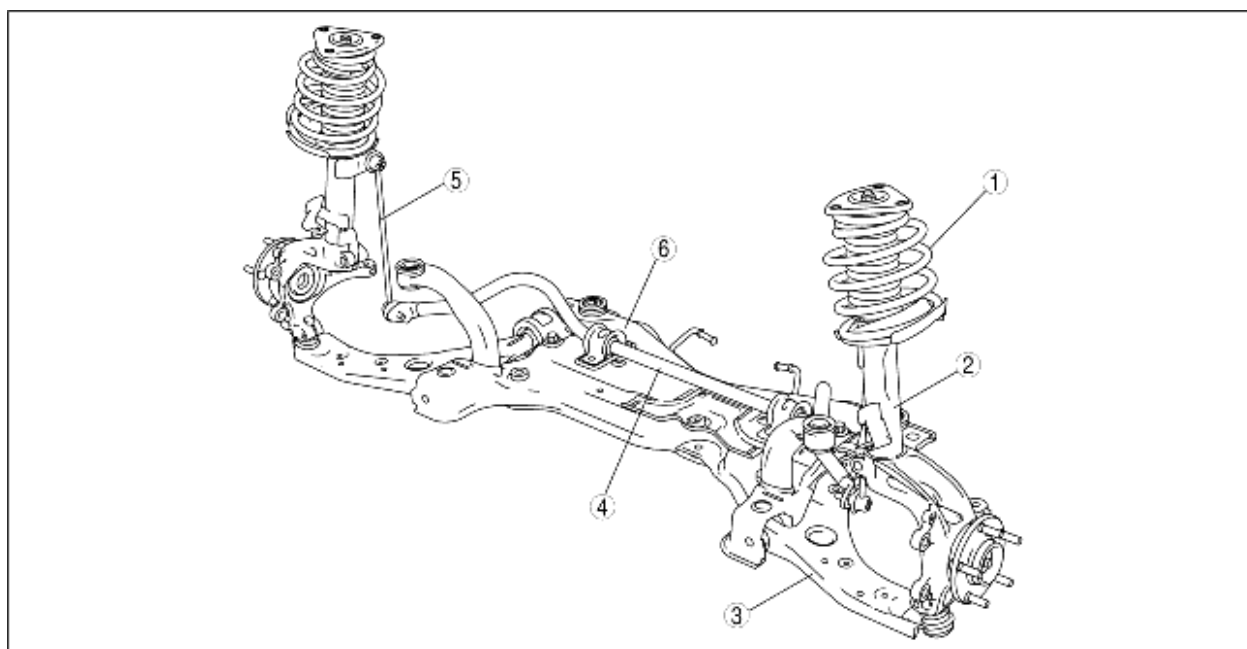
3. Tighten the nut.

Tightening torque

80.0-100.0 N·m {8.16-10.19 kgf·m, 59.01-73.75 ft·lbf}

FRONT SUSPENSION LOCATION INDEX

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1	Front shock absorber and coil spring (See FRONT SHOCK ABSORBER AND COIL SPRING REMOVAL/INSTALLATION.)
2	Front shock absorber

	(See FRONT SHOCK ABSORBER INSPECTION.) (See FRONT SHOCK ABSORBER DISPOSAL.)
3	Front lower arm (See FRONT LOWER ARM REMOVAL/INSTALLATION.) (See FRONT LOWER ARM INSPECTION.)
4	Front stabilizer (See FRONT STABILIZER REMOVAL/INSTALLATION.)
5	Stabilizer control link (See STABILIZER CONTROL LINK INSPECTION.)
6	Front crossmember (See FRONT CROSSMEMBER REMOVAL/INSTALLATION.)

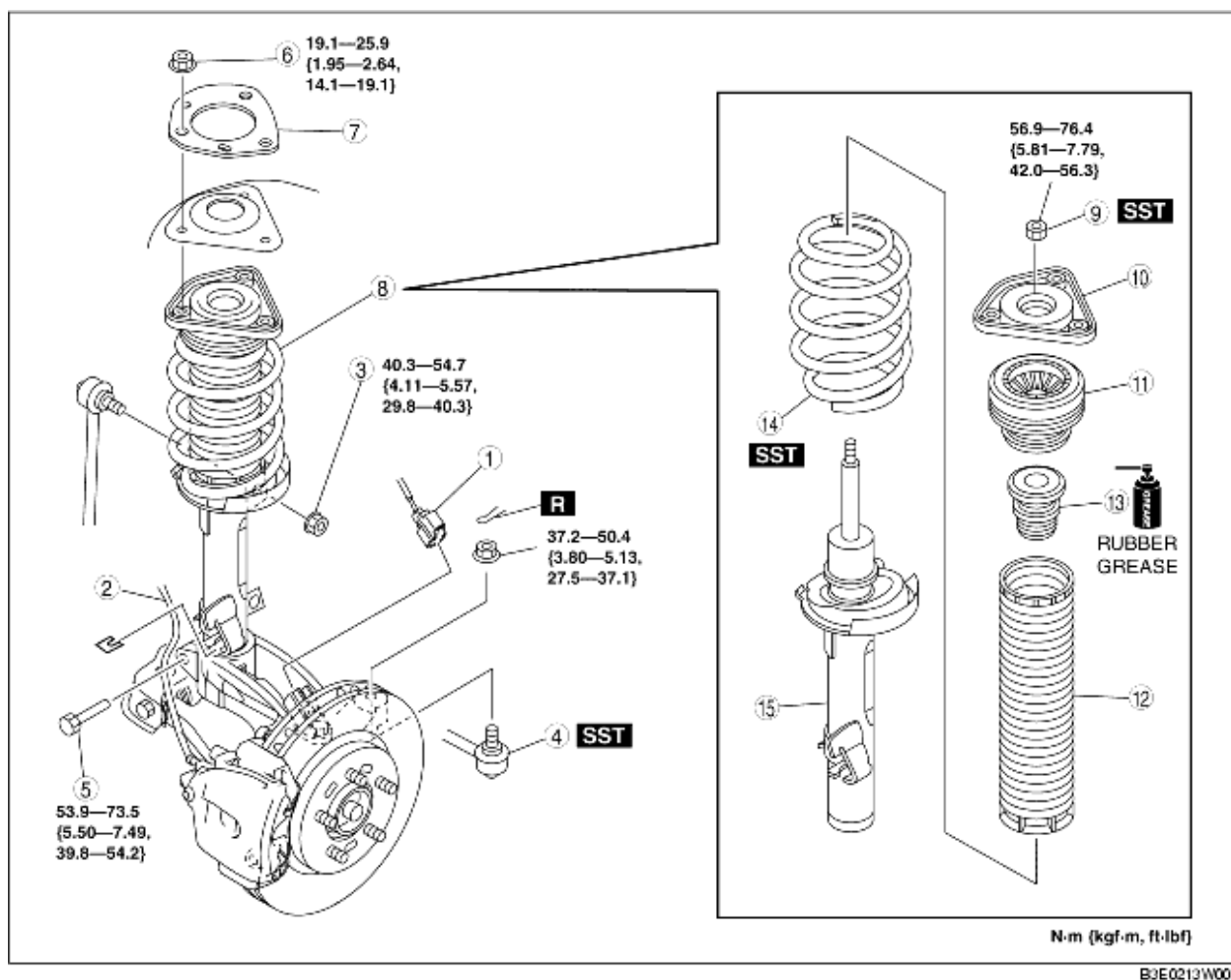
FRONT SHOCK ABSORBER AND COIL SPRING REMOVAL/INSTALLATION

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Caution

- Performing the following procedures without first removing the ABS wheel-speed sensor may possibly cause an open circuit in the wiring harness if it is pulled by mistake. Before performing the following procedures, disconnect the ABS wheel-speed sensor wiring harness connector (axle side) and fix the wiring harness to an appropriate place where it will not be pulled by mistake while servicing the vehicle.

1. Remove in the order indicated in the table.
2. Install in the reverse order of removal.
3. Verify the camber and the caster are within the specification.
 - If they are not within the specification, align the piston rod nut with the center of the shock absorber and coil spring again. (See [Shock Absorber and Coil Spring Installation Note.](#))
4. Inspect the total toe-in and adjust it if necessary. (See [FRONT WHEEL ALIGNMENT.](#))

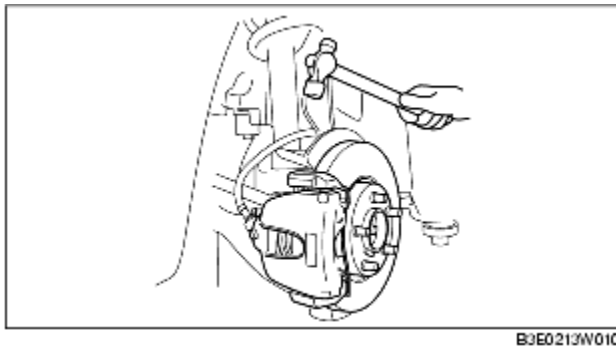


1	ABS wheel-speed sensor wiring harness connector
2	Brake hose
3	Stabilizer control link upper nut
4	Tie-rod end (See STEERING GEAR AND LINKAGE REMOVAL/INSTALLATION.)
5	Shock absorber lower bolt
6	Shock absorber upper nut
7	Stiffener (See Stiffener Installation Note.)
8	Shock absorber and coil spring (See Shock Absorber and Coil Spring Removal Note.) (See Shock Absorber and Coil Spring Installation Note.)
9	Piston rod nut (See Piston Rod Nut Removal Note.)

10	Mounting rubber
11	Bearing (See Bearing Installation Note.)
12	Dust boot (See Dust Boot Installation Note.)
13	Bound stopper
14	Coil spring (See Coil Spring Installation Note.)
15	Front shock absorber

Shock Absorber and Coil Spring Removal Note

1. Loosen the front lower arm inner bolt.
2. Separate the shock absorber from the wheel hub, steering knuckle component by tapping the upper part of the steering knuckle with a hammer.

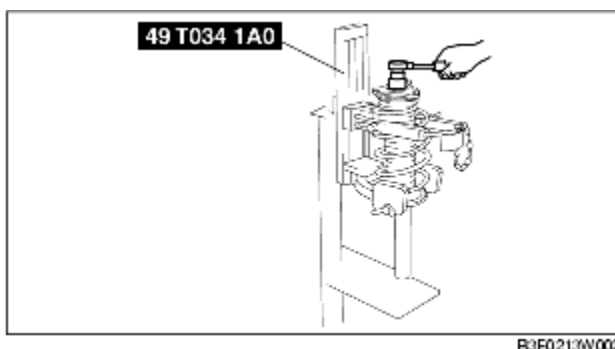


Piston Rod Nut Removal Note

Warning

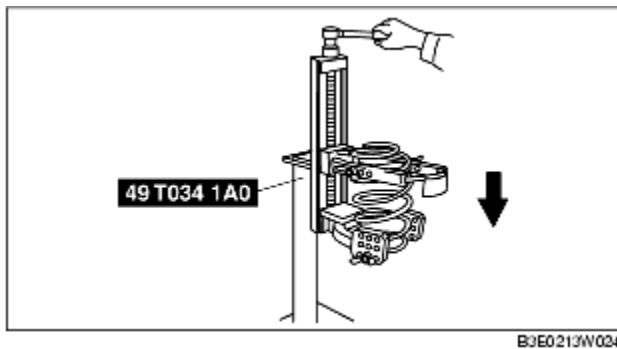
- Before removing the piston rod nut, secure the shock absorber and coil spring in the SSTs. Otherwise, the coil spring could fly off under tremendous pressure and cause serious injury or death, or damage to vehicle parts.

1. Install to the **SSTs** using a piece of cloth in order to prevent the coil spring from being scratched.
2. Compress the coil spring using the **SSTs** and remove the piston rod nut.



Coil Spring Installation Note

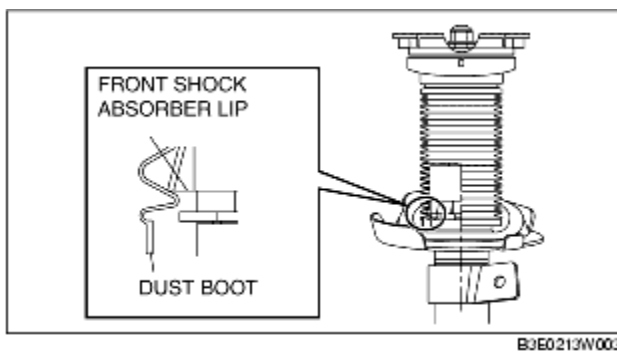
1. Compress the coil spring using the **SSTs**.



2. Install the shock absorber so that the lower end of the coil spring is seated on the step of the lower spring seat.

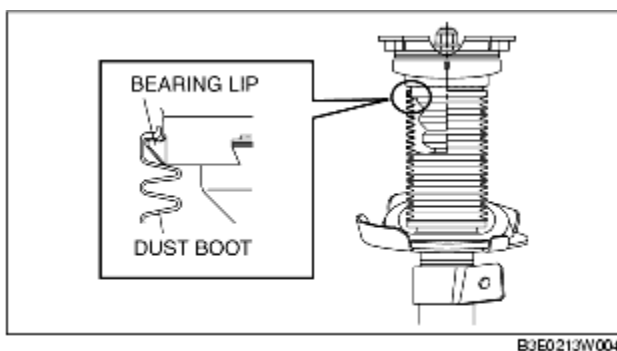
Dust Boot Installation Note

1. Install the dust boot by hooking the bottom edge over the shock absorber lip.

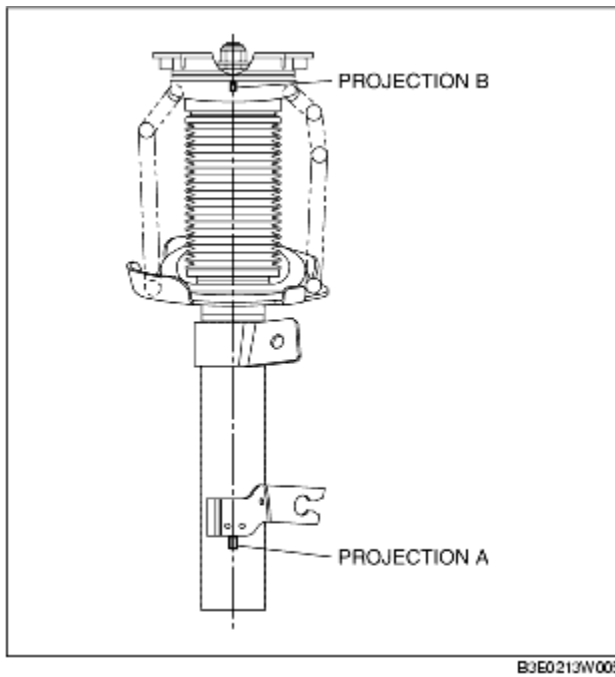


Bearing Installation Note

1. Install the bearing by hooking the upper end of the dust boot to the bearing lip.

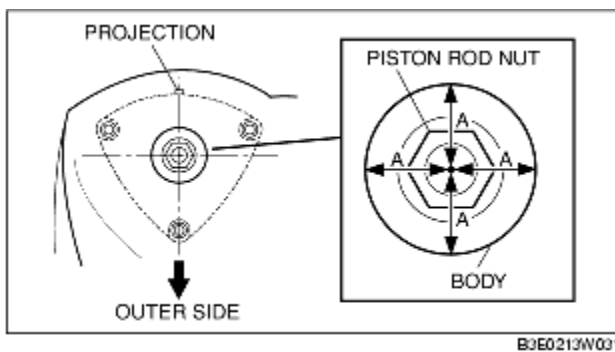


2. Align projection A on the lower part of the shock absorber with the bearing projection B.

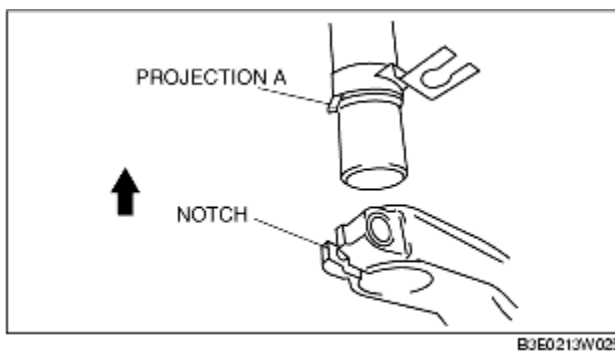


Shock Absorber and Coil Spring Installation Note

1. Align the piston rod nut with the center of the part where the shock absorber is installed by positioning the piston rod nut with lengths A all the same, and tighten the shock absorber upper nuts.

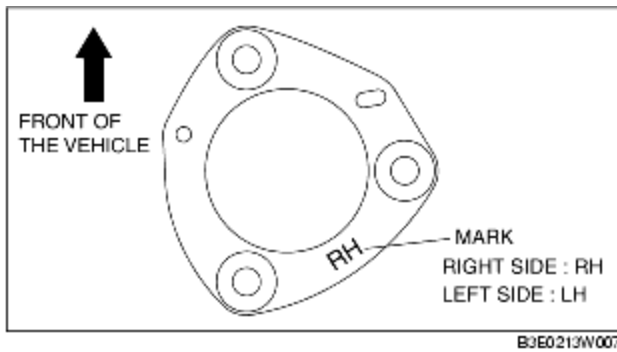


2. Align the knuckle notch with projection A on the lower side of the shock absorber.
3. Raise the front lower arm using a jack and install the shock absorber and coil spring.



Stiffener Installation Note

1. Install the stiffener so that the mark (RH or LH) faces upward.



FRONT SHOCK ABSORBER INSPECTION

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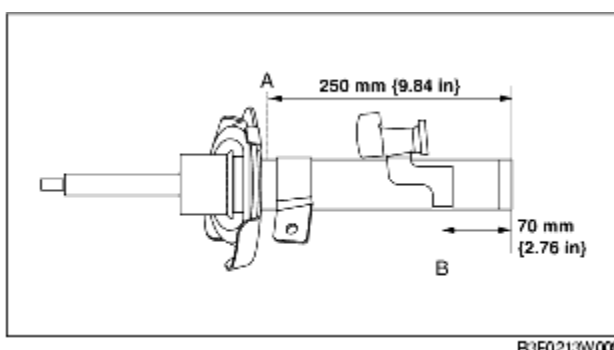
1. Remove the front shock absorber.
2. Inspect for damage and oil leakage.
3. Compress and extend the shock absorber piston rod **at least three times** at a steady rate. **From the fourth** compression stroke, verify that the operational force does not change and that there is no unusual noise.

- If there is any malfunction, replace the shock absorber.

FRONT SHOCK ABSORBER DISPOSAL

B3E021334700W02

1. Place the shock absorber on a level surface or with the piston pointing downwards.
2. Drill a **2-3 mm {0.08-0.11 in}** hole at the point A shown in the figure so that the gas can escape.



Warning

- Whenever drilling into a shock absorber, wear protective eye wear. The gas in the shock absorber is pressurized and could spray metal chips into the eyes and face.

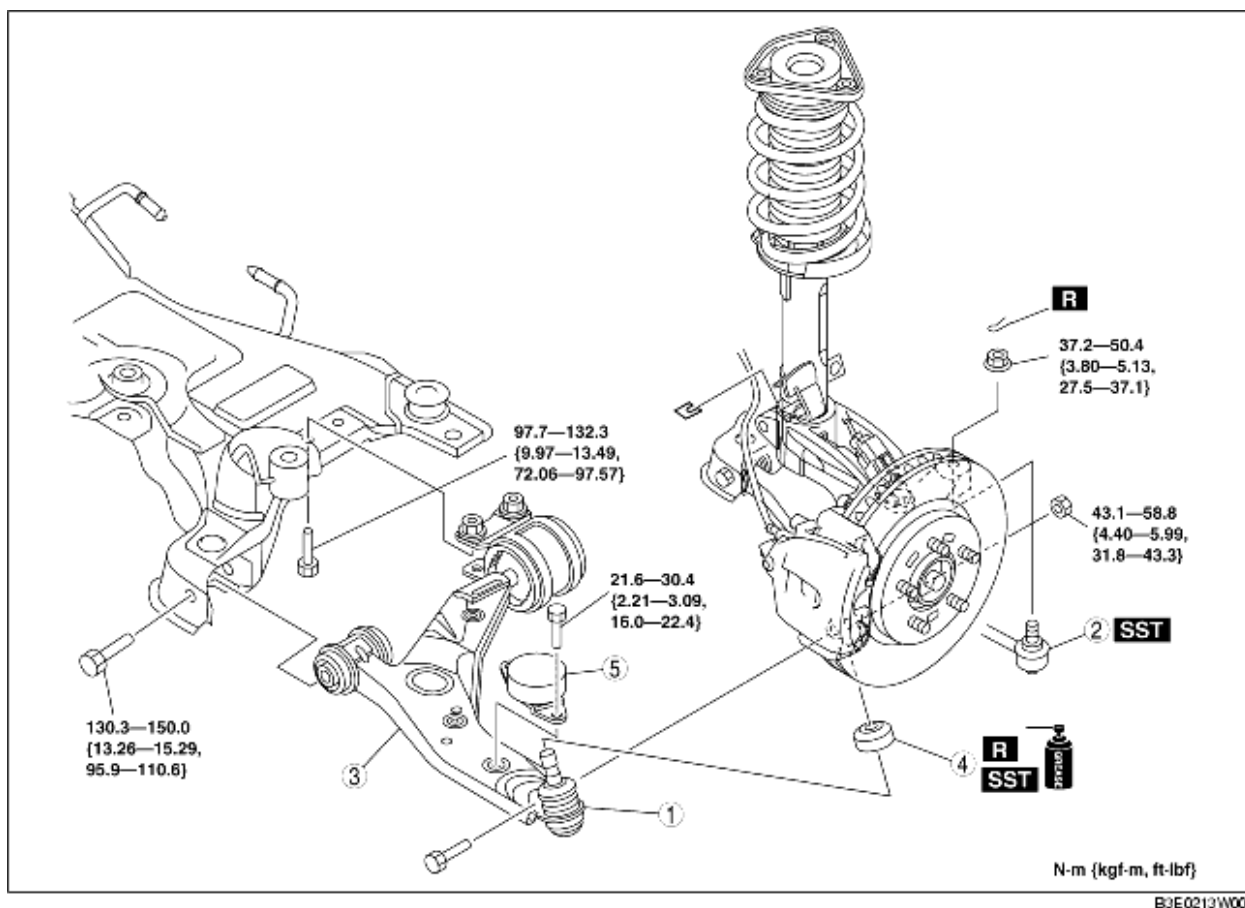
3. Drill a **2-3 mm {0.08-0.11 in}** hole at the point B shown in the figure to drain the oil.

4. Turn the hole made in Step 3 downwards and drain the oil by pumping the piston rod up and down several times.
5. Cut off the end of the shock absorber.
6. Dispose of waste oil according to local waste disposal laws.

FRONT LOWER ARM REMOVAL/INSTALLATION

B3E021334300W01

1. Remove in the order indicated in the table.
2. Install in the reverse order of removal.
3. Inspect the wheel alignment and adjust it if necessary. (See [FRONT WHEEL ALIGNMENT](#).)



1	Front lower arm ball joint
2	Tie-rod end (See STEERING GEAR AND LINKAGE REMOVAL/INSTALLATION .)
3	Front lower arm (See Front Lower Arm Removal Note .)

	(See Front Lower Arm Installation Note.)
4	Dust boot (See Dust Boot Installation Note.)
5	Dynamic damper

Front Lower Arm Removal Note

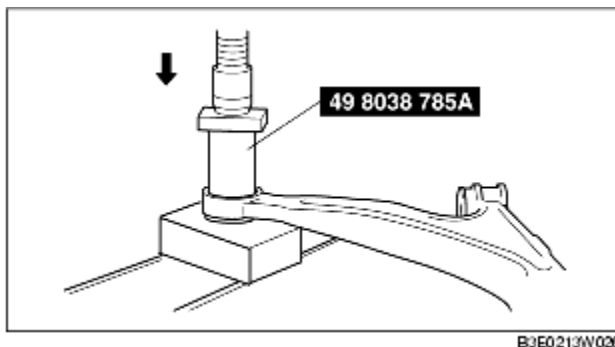
Note

- When working on the right side of LF engine vehicles, move the engine and transaxle slightly towards the front side of the vehicle so that the engine does not interfere with the removal of the lower arm rear side bolt.

1. Remove the No.1 engine mount center bolt. (LF engine vehicles)
2. Move the engine and transaxle slightly towards the front side of the vehicle. (LF engine vehicles)
3. Remove the front lower arm rear side bolt.
4. Remove the front lower arm.

Dust Boot Installation Note

1. Install the dust boot using the **SST** and a press



Front Lower Arm Installation Note

Caution

- Install the front lower arm according to the following procedures for optimal installation. Tighten the lower arm installation bolt properly when the vehicle is lifted.

1. Temporarily install the front lower arm.
2. Install the No.1 engine mount. (LF engine vehicles)

Tightening torque

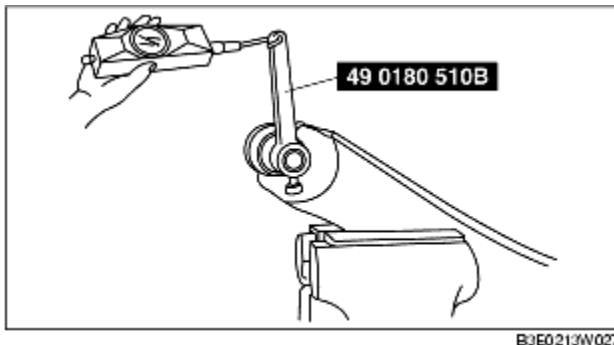
93.1-116.6 N·m {9.50-11.88 kgf·m, 68.67-85.99 ft·lbf}

3. Tighten the front lower arm rear side bolt.
4. Tighten the front lower arm front side bolt.
5. Tighten the nut (front lower arm ball joint).

FRONT LOWER ARM INSPECTION

B3E021334300W02

1. Remove the lower arm from the vehicle.
2. Inspect the arm for bending or damage, and the ball joint for excessive looseness.
 - If there is any malfunction, replace the lower arm.
3. Rotate the ball joint stud **5 times**. Install the **SST** to the ball joint stud, measure the rotational torque using a pull scale.



- If not within the specification, replace the lower arm.

Rotational torque

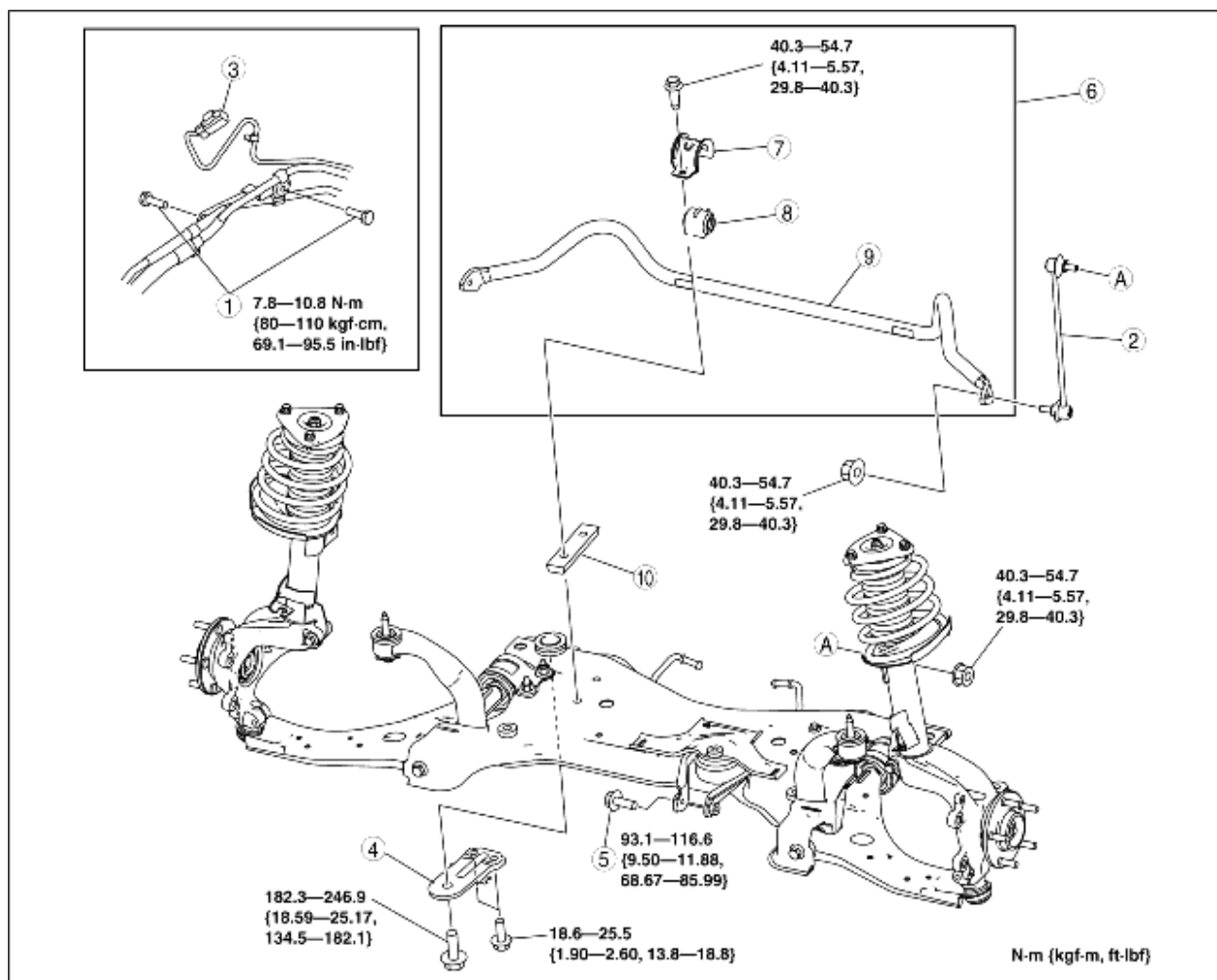
1.0-4.9 N·m {11-49 kgf·cm, 9-43 in·lbf}

Pull scale reading [10-49 N {1.1-4.9 kgf, 3-10 lbf}]

FRONT STABILIZER REMOVAL/INSTALLATION

B3E021334100W01

1. Detach the steering shaft. (See [STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION](#).)
2. Remove in the order indicated in the table.
3. Install in the reverse order of removal.
4. Inspect the wheel alignment and adjust it if necessary. (See [FRONT WHEEL ALIGNMENT](#).)



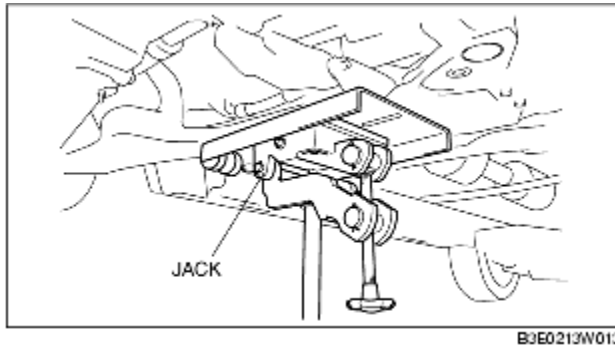
B3E0213/W012

1	Power steering pipe bracket (2 locations)
2	Stabilizer control link
3	Connector (for vehicles with EHPAS)
4	Front crossmember bracket (See Front Crossmember Bracket Removal Note.)
5	No.1 engine mount center bolt
6	Front stabilizer component (See Front Stabilizer Component Removal Note.) (See Front Stabilizer Component Installation Note.)
7	Stabilizer bracket (See Stabilizer Bracket Removal Note.) (See Stabilizer Bracket Installation Note.)
8	Stabilizer bushing (See Stabilizer Bushing Installation Note.)

9	Front stabilizer
10	Stabilizer plate

Front Crossmember Bracket Removal Note

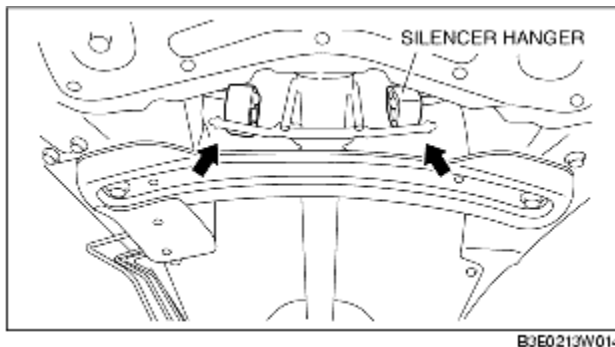
1. Support the front crossmember using a jack.



2. Remove the front crossmember brackets.

Front Stabilizer Component Removal Note

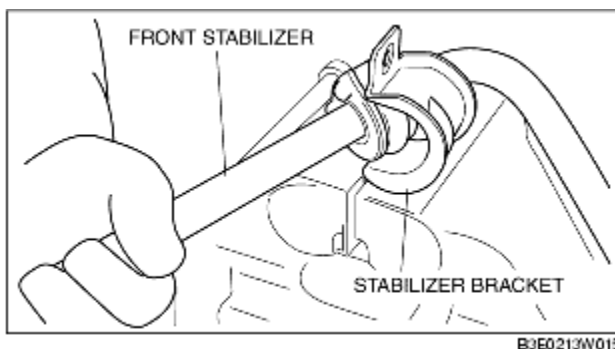
1. Detach the silencer hangers on the middle pipe from the front crossmember.



2. Lower the front crossmember slowly **approx. 90 mm {3.5 in}** and remove the front stabilizer component.

Stabilizer Bracket Removal Note

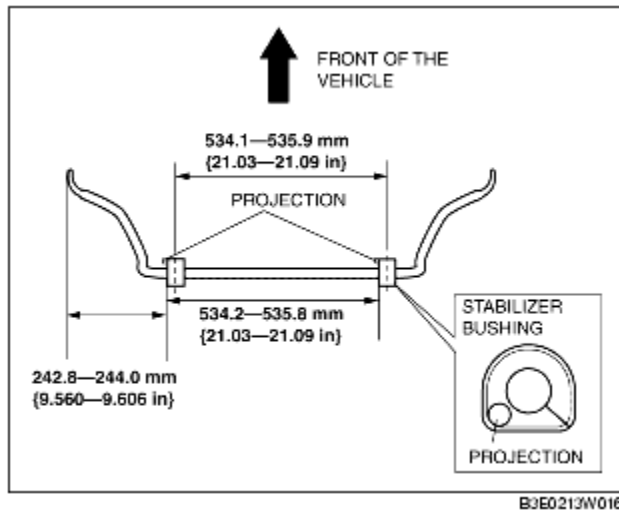
1. Secure the stabilizer bracket flange using a vise.



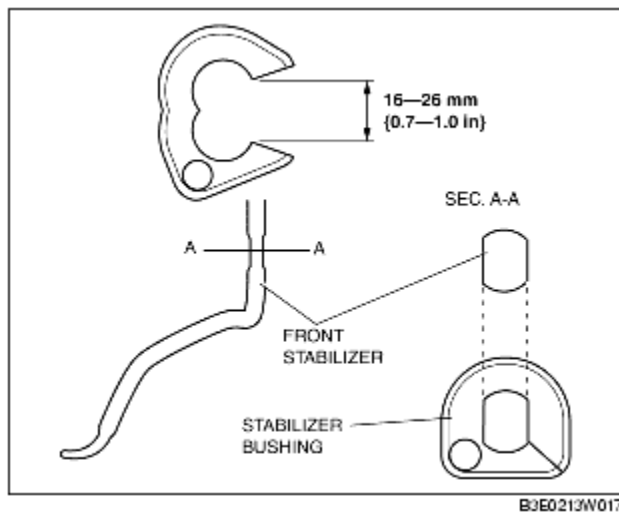
2. Remove the front stabilizer.

Stabilizer Bushing Installation Note

1. Verify the installation direction of the stabilizer bushing.

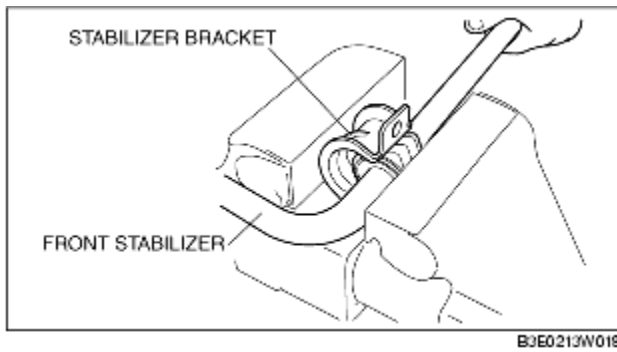


2. Widen the stabilizer bushing opening **16-26 mm {0.7-1.0 in}** and install the bushing to the front stabilizer as shown in the figure.



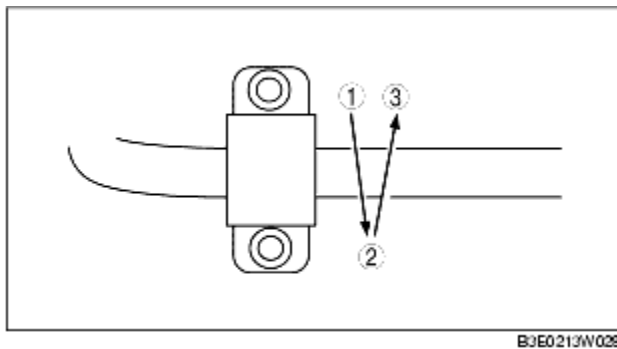
Stabilizer Bracket Installation Note

1. Apply grease to the stabilizer bushing.
2. Install the stabilizer bracket using a vise.



Front Stabilizer Component Installation Note

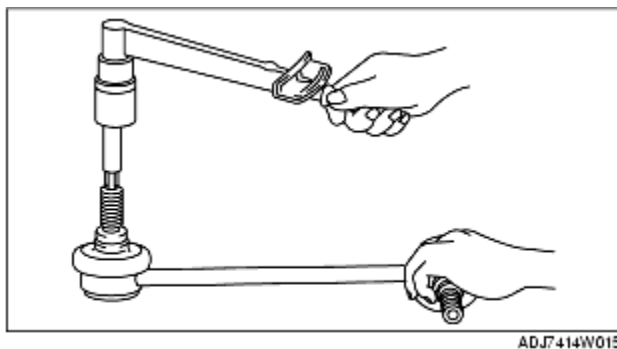
1. Tighten the bolts in order indicated in the figure.



STABILIZER CONTROL LINK INSPECTION

B3E021334150W01

1. Remove the stabilizer control link from the vehicle.
2. Inspect for bending or damage. If there is any malfunction, replace the stabilizer control link.
3. Rotate the ball joint stud **10 times** and shake it side to side **10 times**.
4. Measure the ball-joint rotational torque using an Allen wrench and a torque wrench.



Stabilizer control link ball joint rotational torque

0.2-0.9 N·m {3-9 kgf·cm, 2-7 in·lbf}

- If not within the specification, replace the stabilizer control link.

FRONT CROSSMEMBER REMOVAL/INSTALLATION

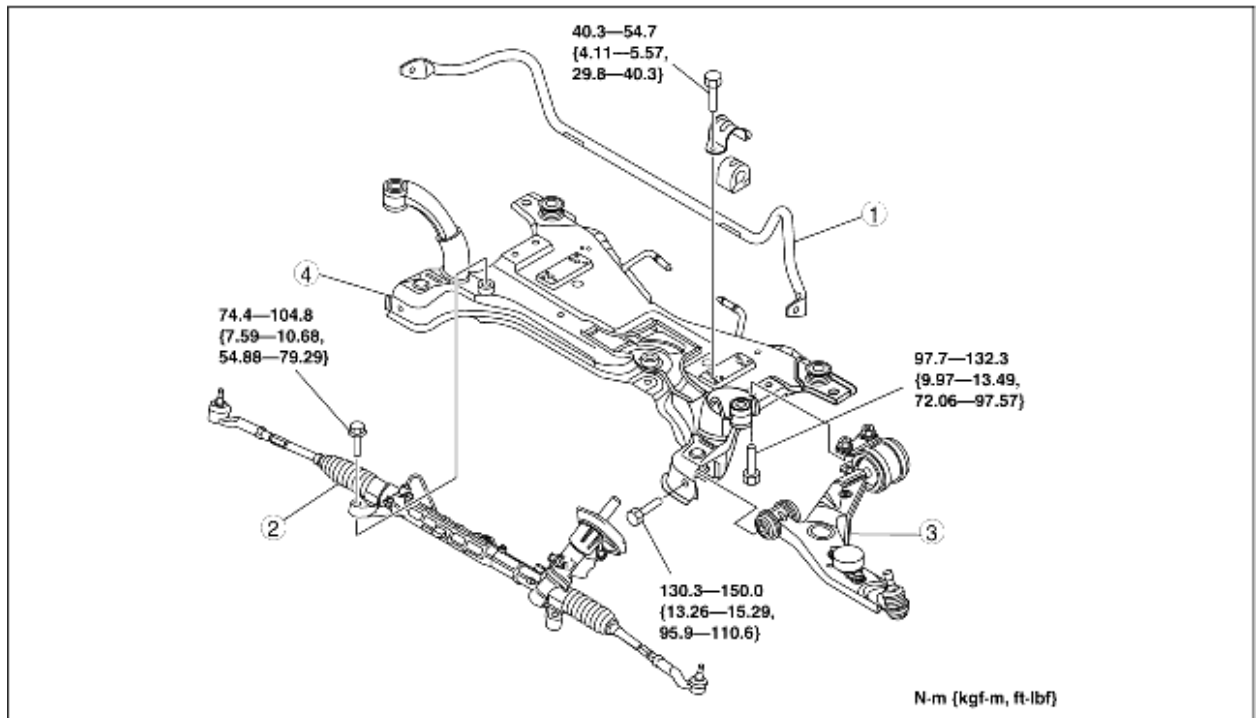
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Caution

• Performing the following procedures without first removing the ABS wheel-speed sensor may possibly cause an open circuit in the wiring harness if it is pulled by mistake. Before performing the following procedures, disconnect the ABS wheel-speed sensor wiring harness connector (axle side) and fix the wiring harness to an appropriate place where it will not be pulled by mistake while servicing the vehicle.

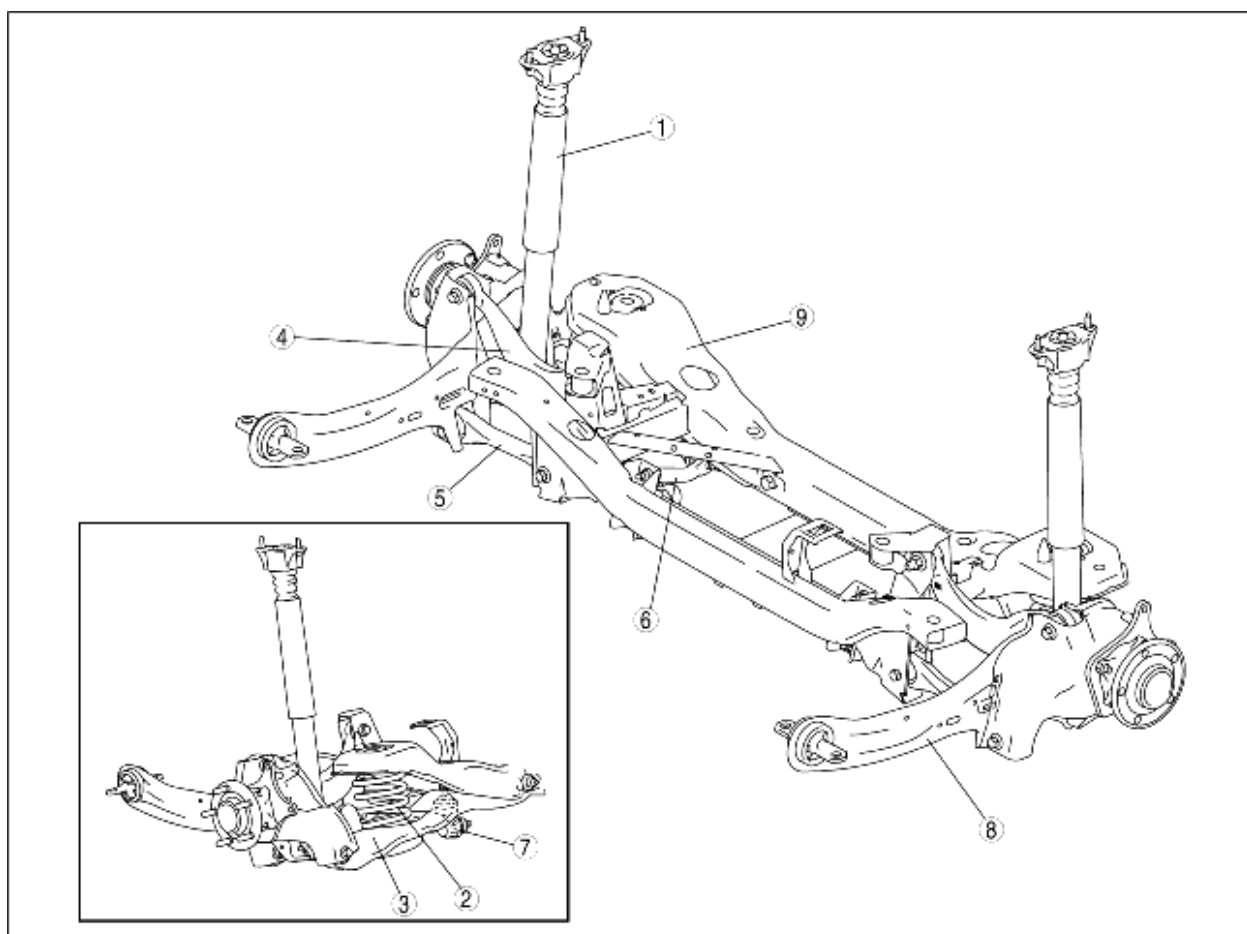
1. Remove the front crossmember component, steering gear and linkage. (See [STEERING GEAR AND LINKAGE REMOVAL/INSTALLATION](#))
2. Remove in the order indicated in the table.
3. Install in the reverse order of removal.
4. Inspect the wheel alignment and adjust it if necessary. (See [FRONT WHEEL ALIGNMENT](#).)



B3E02133W020

1	Front stabilizer
2	Steering gear and linkage
3	Front lower arm
4	Front crossmember

REAR SUSPENSION LOCATION INDEX



B3E0214-W001

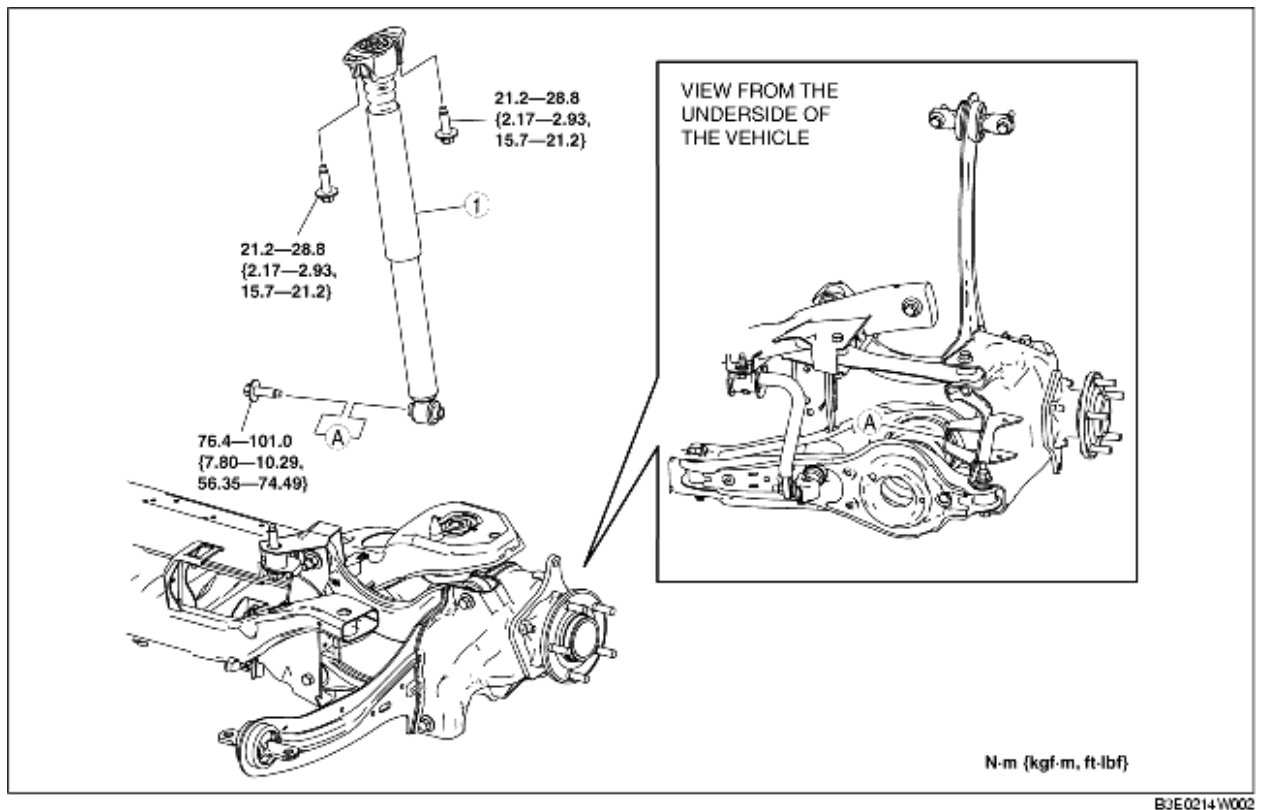
1	Rear shock absorber (See REAR SHOCK ABSORBER REMOVAL/INSTALLATION.) (See REAR SHOCK ABSORBER INSPECTION.) (See REAR SHOCK ABSORBER DISPOSAL.)
2	Rear coil spring (See REAR COIL SPRING REMOVAL/INSTALLATION.)
3	Rear lower arm (See REAR LOWER ARM REMOVAL/INSTALLATION.)
4	Rear upper arm (See REAR UPPER ARM REMOVAL/INSTALLATION.)
5	Rear lateral link (See REAR LATERAL LINK REMOVAL/INSTALLATION.)
6	Rear stabilizer (See REAR STABILIZER REMOVAL/INSTALLATION.)

7	Stabilizer control link (See STABILIZER CONTROL LINK INSPECTION.)
8	Rear trailing link (See REAR TRAILING LINK REMOVAL/INSTALLATION.)
9	Rear crossmember (See REAR CROSSMEMBER REMOVAL/INSTALLATION.)

REAR SHOCK ABSORBER REMOVAL/INSTALLATION

B3E021428700W01

1. Remove in the order indicated in the table.

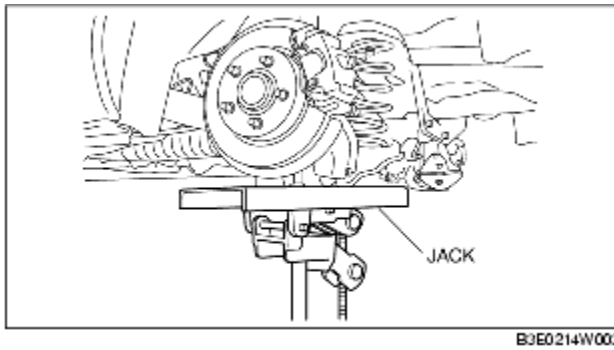


1	Rear shock absorber (See Rear Shock Absorber Removal Note.)
---	---

2. Install in the reverse order of removal.

Rear Shock Absorber Removal Note

1. Support the rear axle using a jack.



2. Remove the rear shock absorber.

REAR SHOCK ABSORBER INSPECTION

B3E021428700W02

1. Inspect in the same way as the front shock absorber.

(See [FRONT SHOCK ABSORBER INSPECTION](#).)

REAR SHOCK ABSORBER DISPOSAL

B3E021428700W03

1. Dispose of the rear shock absorber in the same way as the front shock absorber.

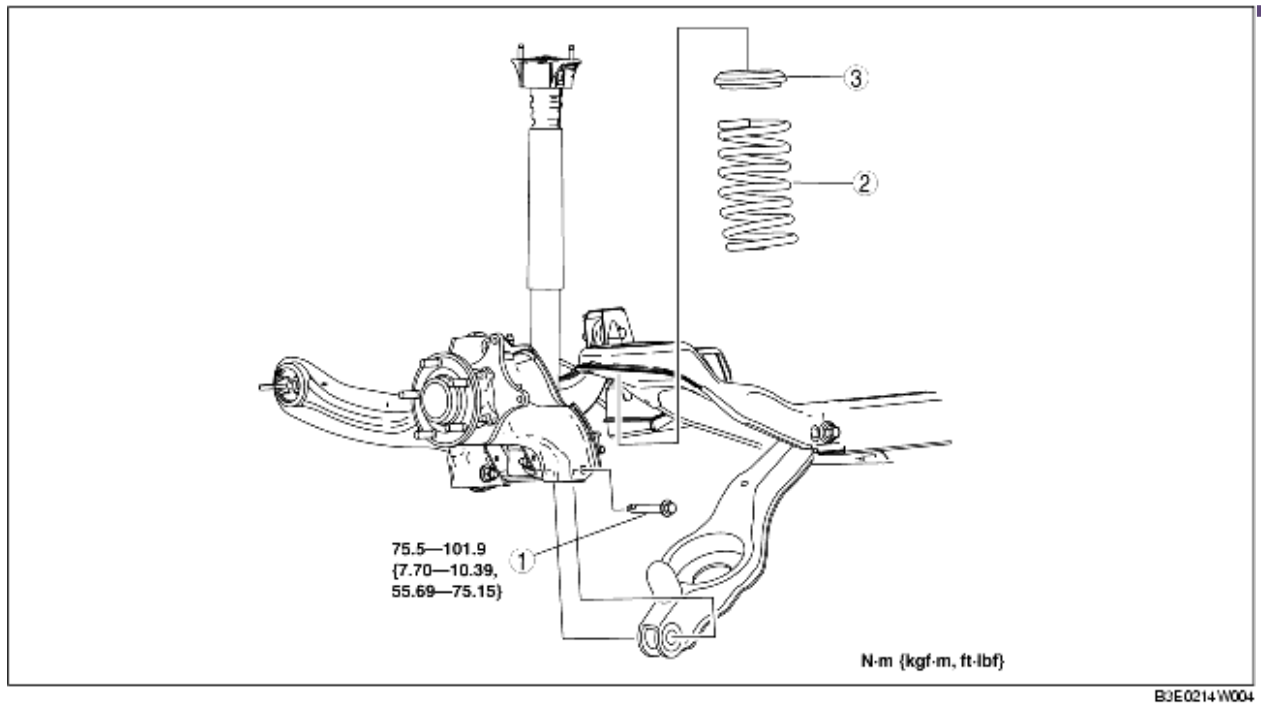
(See [FRONT SHOCK ABSORBER DISPOSAL](#).)

REAR COIL SPRING REMOVAL/INSTALLATION

B3E021428011W01

1. Remove the rear auto leveling sensor. (See [AUTO LEVELING SENSOR REMOVAL/INSTALLATION](#).)
2. Remove the rear stabilizer. (See [REAR STABILIZER REMOVAL/INSTALLATION](#).)
3. Remove in the order indicated in the table.
4. Install in the reverse order of removal.
5. Inspect the wheel alignment and adjust it if necessary.

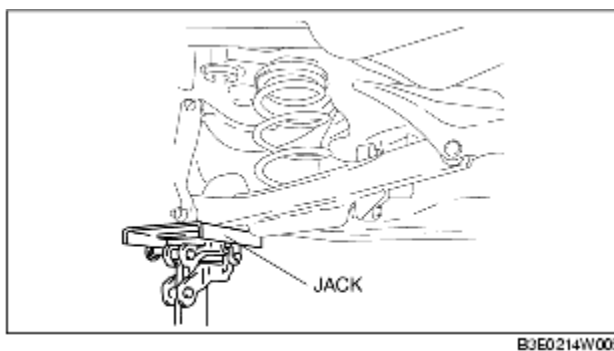
(See [REAR WHEEL ALIGNMENT](#).)



1	Rear lower arm outer bolt (See Rear Lower Arm Outer Bolt Removal Note.)
2	Rear coil spring (See Rear Coil Spring Installation Note.)
3	Upper spring seat rubber

Rear Lower Arm Outer Bolt Removal Note

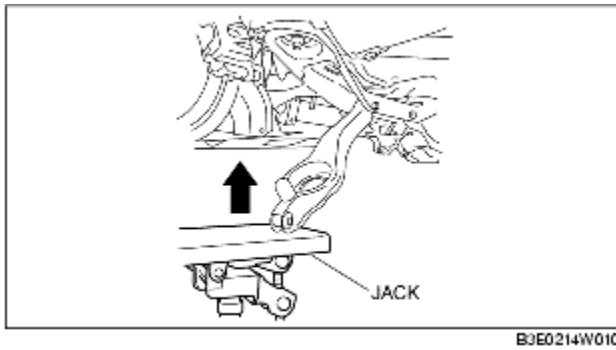
1. Support the rear lower arm using a jack.



2. Loosen the rear lower arm inner bolt.
3. Remove the rear lower arm outer bolt.

Rear Coil Spring Installation Note

1. Position the jack under the rear lower arm and jack up slowly.



Warning

- Installing the coil spring is dangerous. The coil spring could fly off and cause serious injury or death, and damage the vehicle.

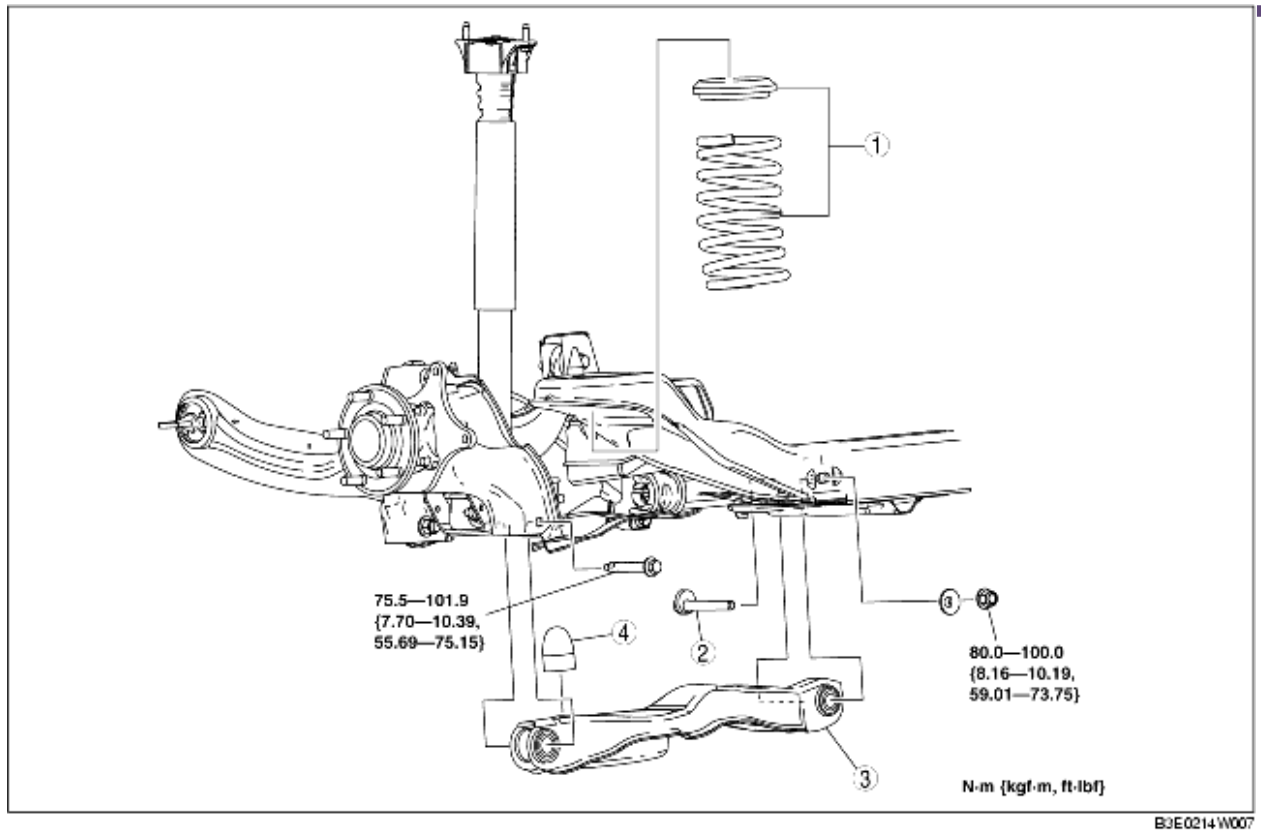
2. Align the upper end of the rear coil spring with the step of the upper spring seat rubber.
3. Align the lower end of the rear coil spring with the step of the lower spring seat rubber.
4. Install the lower arm outer bolt.

REAR LOWER ARM REMOVAL/INSTALLATION

B3E021428310W01

1. Remove in the order indicated in the table.
2. Install in the reverse order of removal.
3. Inspect the wheel alignment and adjust it if necessary.

(See [REAR WHEEL ALIGNMENT](#).)

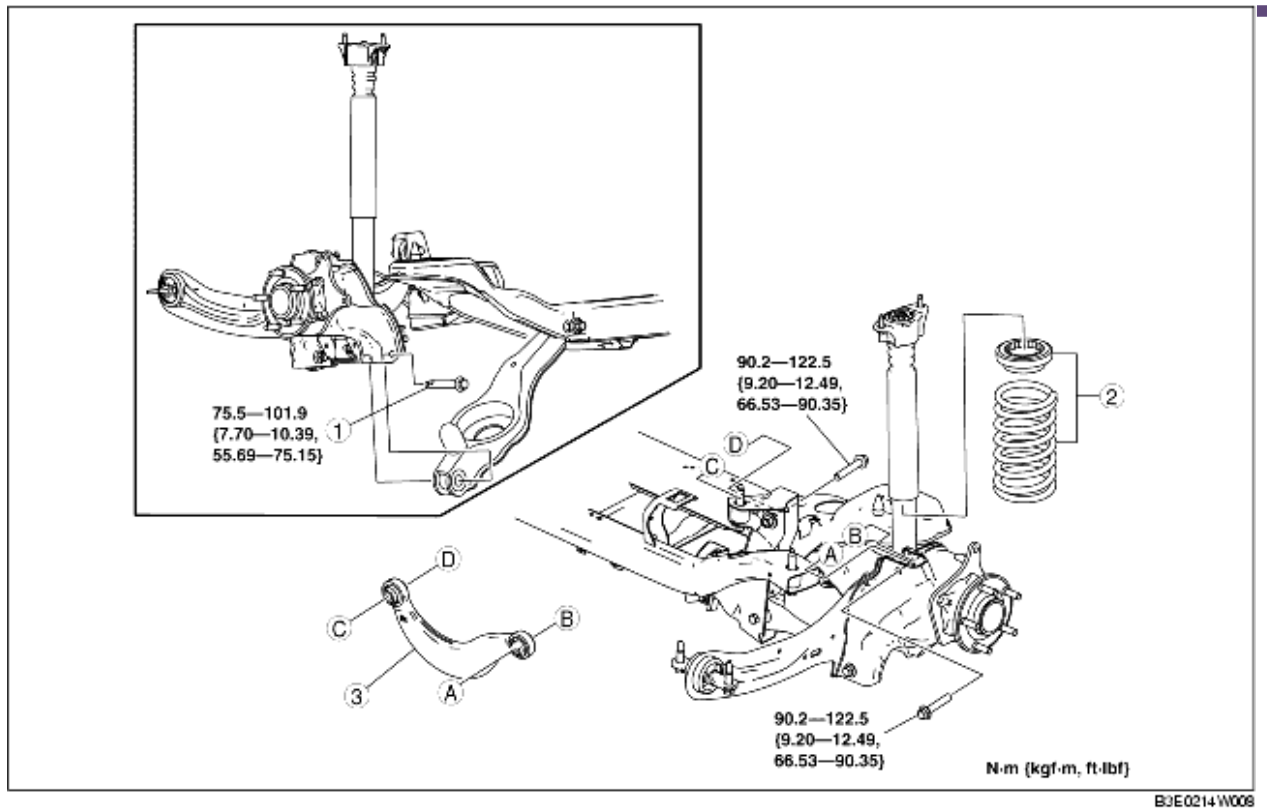


1	Rear coil spring component (See REAR COIL SPRING REMOVAL/INSTALLATION.)
2	Rear lower arm inner bolt
3	Rear lower arm
4	Bound stopper

REAR UPPER ARM REMOVAL/INSTALLATION

B3E021428210W01

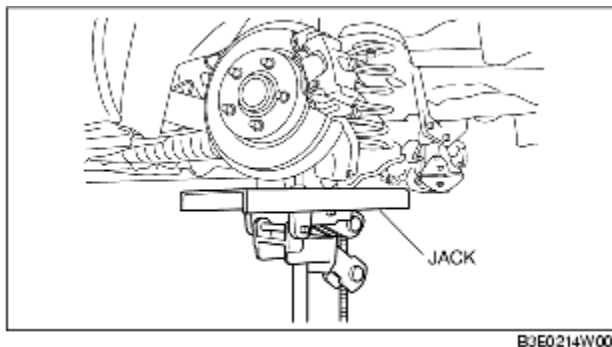
1. Remove the rear auto leveling sensor. (See [AUTO LEVELING SENSOR REMOVAL/INSTALLATION.](#))
2. Remove in the order indicated in the table.
3. Install in the reverse order of removal.
4. Inspect the wheel alignment and adjust it if necessary.
(See [REAR WHEEL ALIGNMENT.](#))



1	Rear lower arm outer bolt (See Rear Lower Arm Outer Bolt Removal Note.)
2	Rear coil spring component (See REAR COIL SPRING REMOVAL/INSTALLATION.)
3	Rear upper arm (See Rear Upper Arm Installation Note.)

Rear Lower Arm Outer Bolt Removal Note

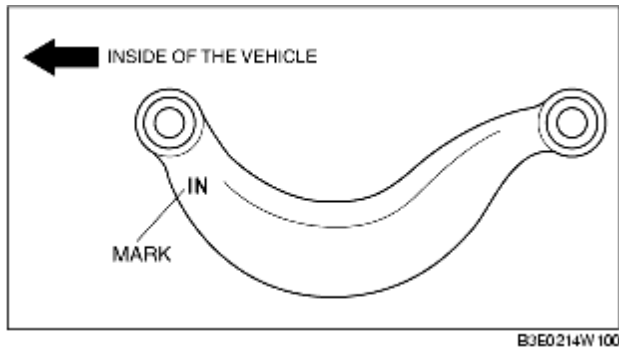
1. Support the rear lower arm using a jack.



2. Loosen the rear lower arm inner bolt.
3. Remove the rear lower arm outer bolt.

Rear Upper Arm Installation Note

1. Install the rear upper arm so that IN mark is facing toward the inside of the vehicle.

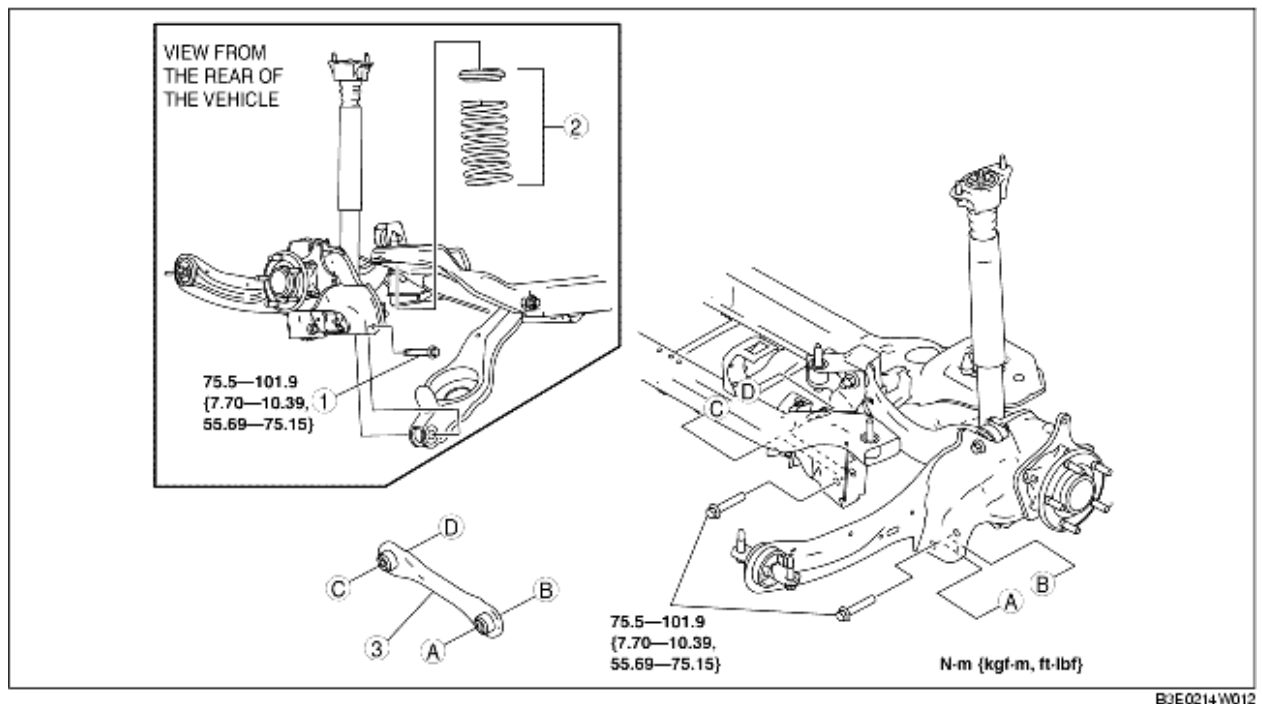


REAR LATERAL LINK REMOVAL/INSTALLATION

B3E021428600W01

1. Remove the rear auto leveling sensor. (See [AUTO LEVELING SENSOR REMOVAL/INSTALLATION.](#))
2. Remove the rear stabilizer. (See [REAR STABILIZER REMOVAL/INSTALLATION.](#))
3. Remove in the order indicated in the table.
4. Install in the reverse order of removal.
5. Inspect the wheel alignment and adjust it if necessary.

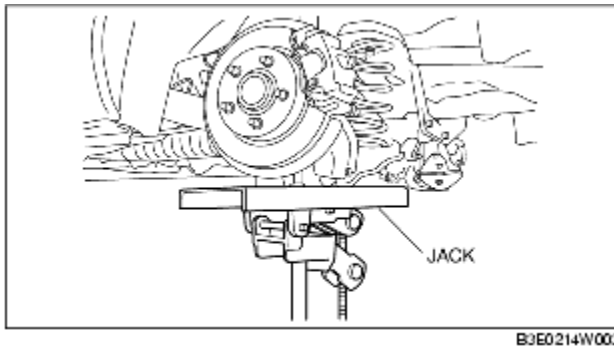
(See [REAR WHEEL ALIGNMENT.](#))



1	Rear lower arm outer bolt (See Rear Lower Arm Outer Bolt Removal Note.)
2	Rear coil spring component (See REAR COIL SPRING REMOVAL/INSTALLATION.)
3	Rear lateral link (See Rear Lateral Link Installation Note.)

Rear Lower Arm Outer Bolt Removal Note

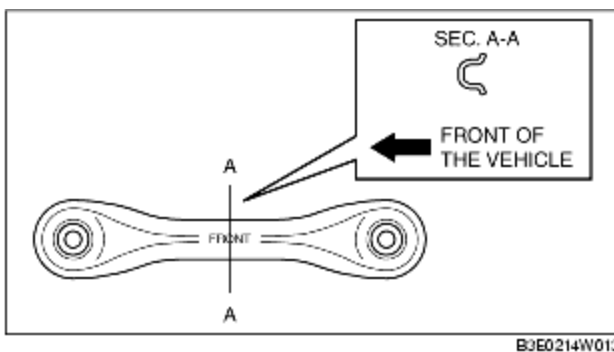
1. Support the rear lower arm using a jack.



2. Loosen the rear lower arm inner bolt.
3. Remove the rear lower arm outer bolt.

Rear Lateral Link Installation Note

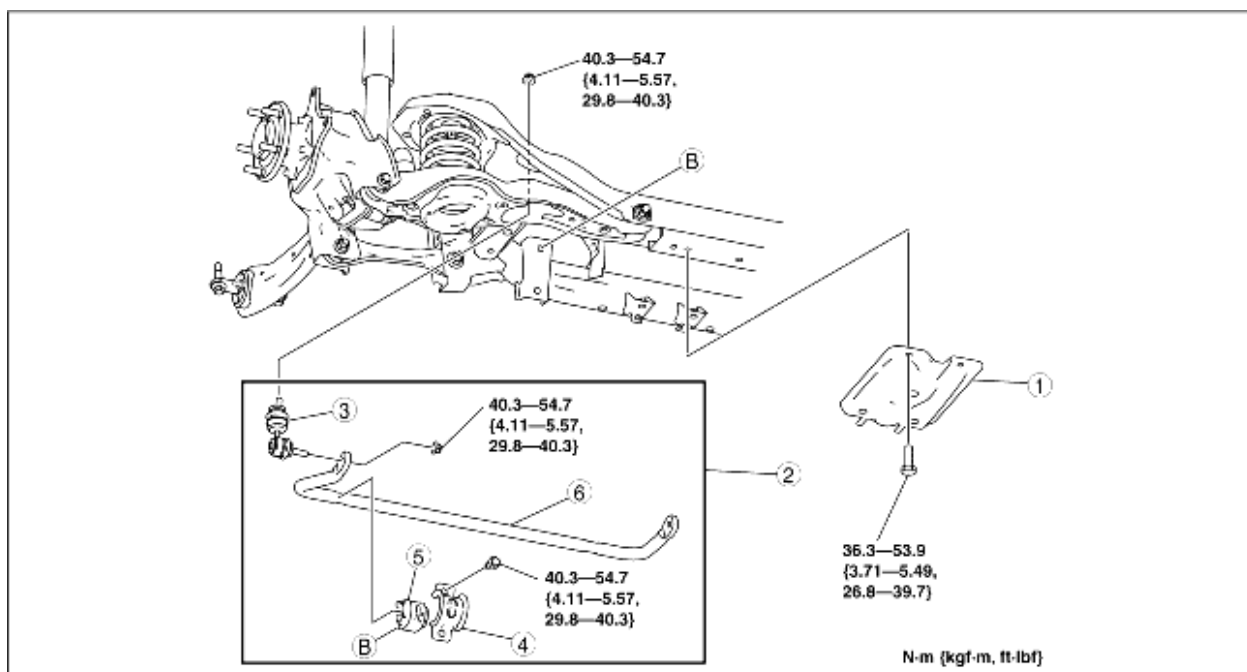
1. Install the rear lateral link so that the rib is facing toward the front of the vehicle.



REAR STABILIZER REMOVAL/INSTALLATION

B3E021428100W01

1. Remove in the order indicated in the table.
2. Install in the reverse order of removal.

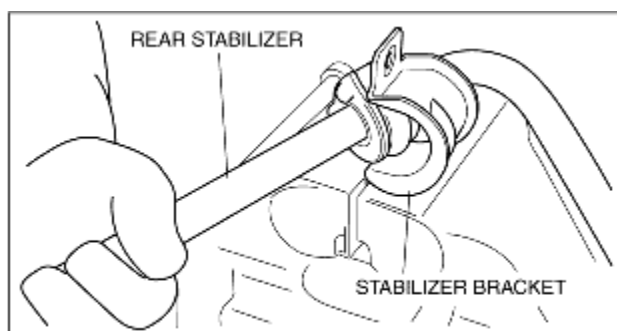


B3E0214W014

1	Charcoal canister cover
2	Rear stabilizer component (See Rear Stabilizer Component Installation Note.)
3	Stabilizer control link
4	Stabilizer bracket (See Stabilizer Bracket Removal Note.) (See Stabilizer Bracket Installation Note.)
5	Stabilizer bushing (See Stabilizer Bushing Installation Note.)
6	Rear stabilizer

Stabilizer Bracket Removal Note

1. Secure the stabilizer bracket flange using a vise.

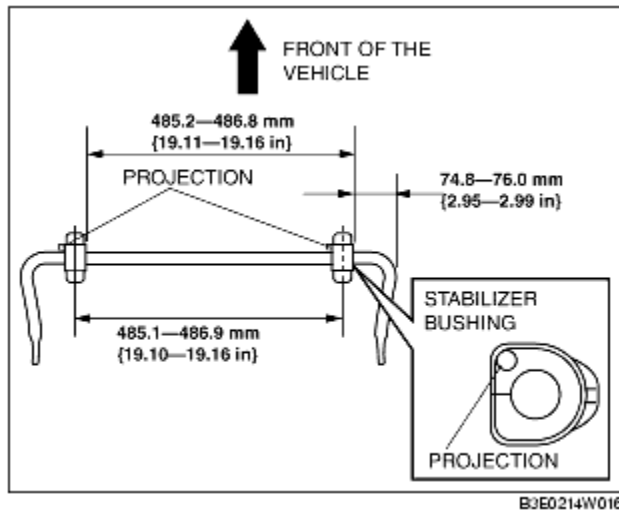


B3E0214W023

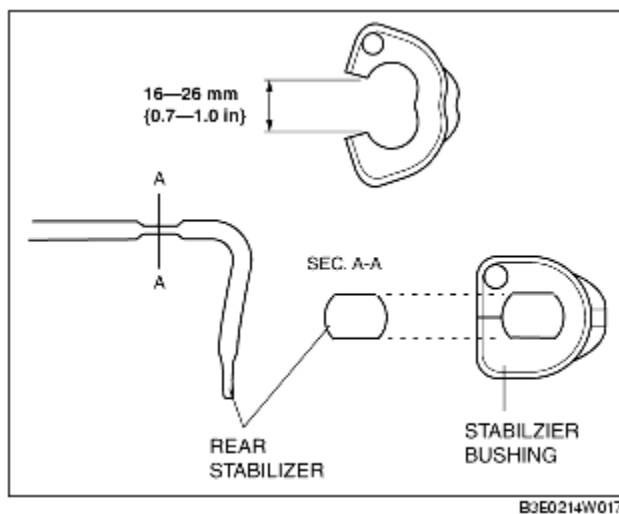
2. Remove the stabilizer bracket.

Stabilizer Bushing Installation Note

1. Place the stabilizer bushing so that the projection is facing toward the left side of the vehicle.

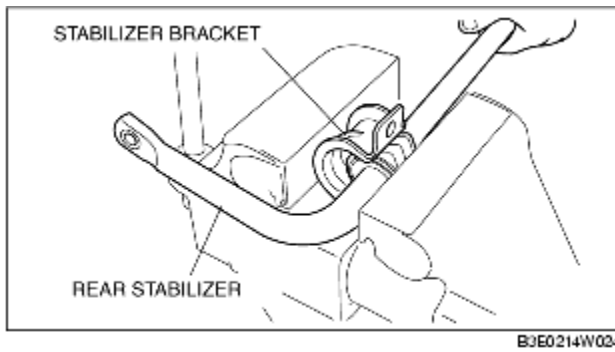


2. Widen the stabilizer bushing opening **16-26 mm {0.7-1.0 in}** and install the bushing to the rear stabilizer as shown in the figure.



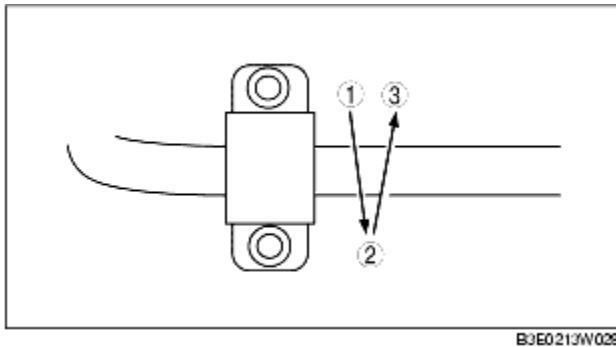
Stabilizer Bracket Installation Note

1. Apply grease to the stabilizer bushing.
2. Install the stabilizer bracket using a vise.



Rear Stabilizer Component Installation Note

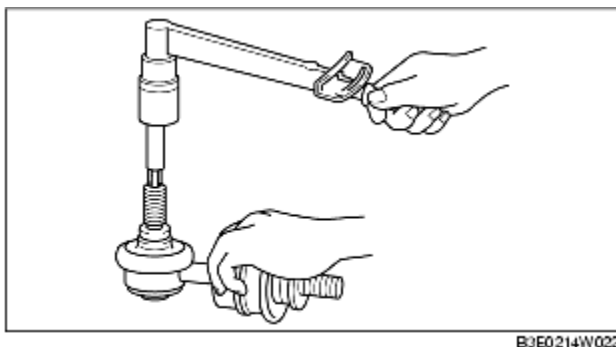
1. Tighten the bolts in order indicated in the figure.



STABILIZER CONTROL LINK INSPECTION

B3E021434150W01

1. Remove the stabilizer control link from the vehicle.
2. Inspect for bending or damage. If there is any malfunction, replace the stabilizer control link.
3. Rotate the ball joint stud **10 times** and shake it side to side **10 times**.
4. Measure the ball-joint rotational torque using an Allen wrench and a torque wrench.



Stabilizer control link ball joint rotational torque

0.5-2.0 N·m {6-20 kgf·cm, 5-17 in·lbf}

- If not within the specification, replace the stabilizer control link.

REAR TRAILING LINK REMOVAL/INSTALLATION

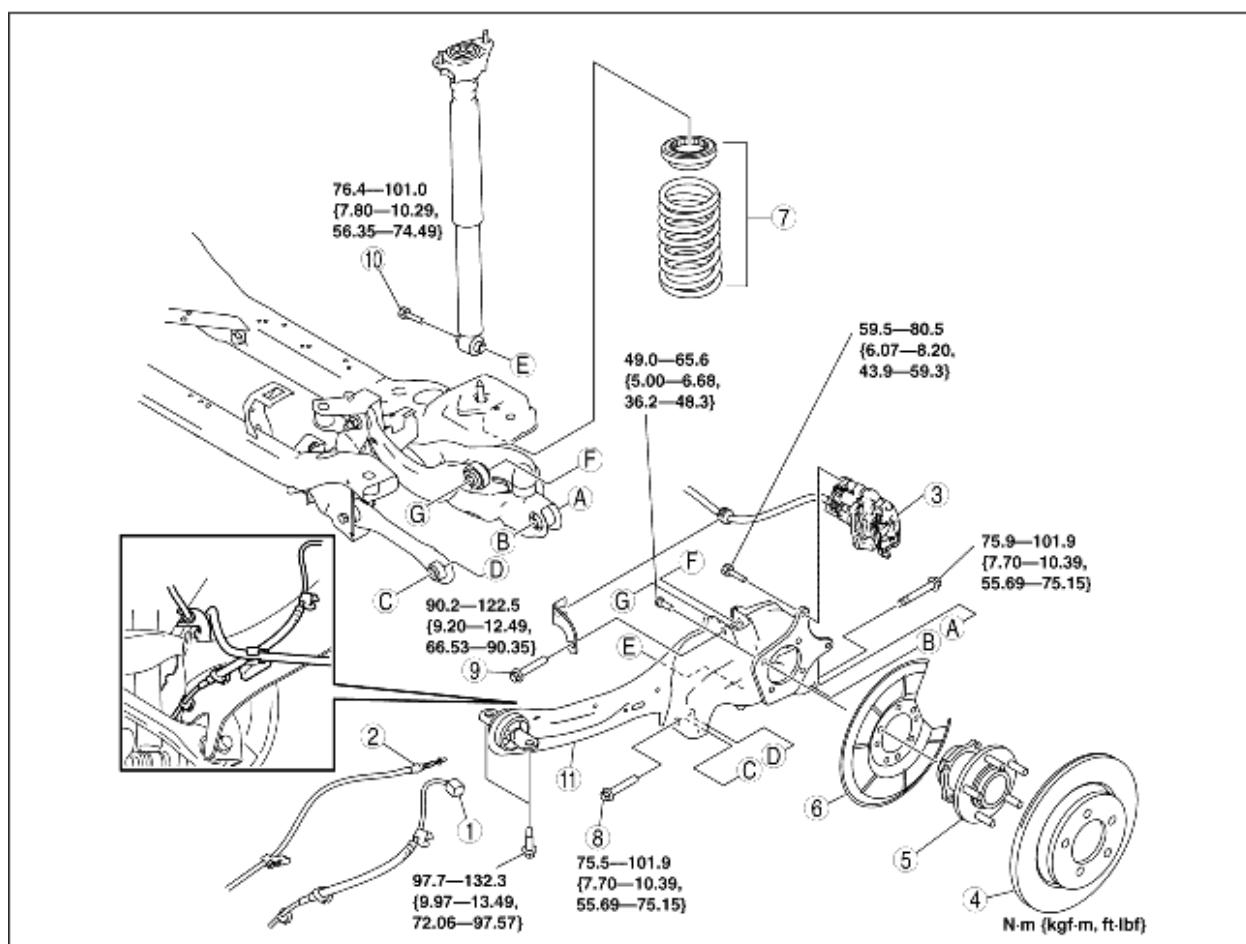
B3E021428200W01

Caution

- Performing the following procedures without first removing the ABS wheel-speed sensor may possibly cause an open circuit in the wiring harness if it is pulled by mistake. Before performing the following procedures, disconnect the ABS wheel-speed sensor wiring harness connector (axle side) and fix the wiring harness to an appropriate place where it will not be pulled by mistake while servicing the vehicle.

1. Remove in the order indicated in the table.
2. Install in the reverse order of removal.
3. Inspect the wheel alignment and adjust it if necessary.

(See [REAR WHEEL ALIGNMENT](#).)



B3E0214W019

1	ABS wheel-speed sensor wiring harness connector
2	Parking brake cable
3	Brake caliper component

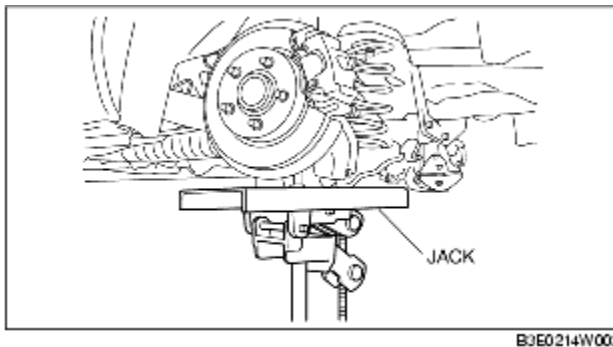
	(See Brake Caliper Component Removal Note .)
4	Disc plate
5	Rear hub component
6	Dust cover
7	Rear coil spring component (See REAR COIL SPRING REMOVAL/INSTALLATION .)
8	Rear lateral link outer bolt (See Rear Lateral Link Outer Bolt Removal Note .)
9	Rear upper arm outer bolt
10	Rear shock absorber lower bolt
11	Rear trailing link (See Rear Trailing Link Installation Note .)

Brake Caliper Component Removal Note

1. Hang the caliper component using a cable and move aside.

Rear Lateral Link Outer Bolt Removal Note

1. Support the trailing link using a jack.



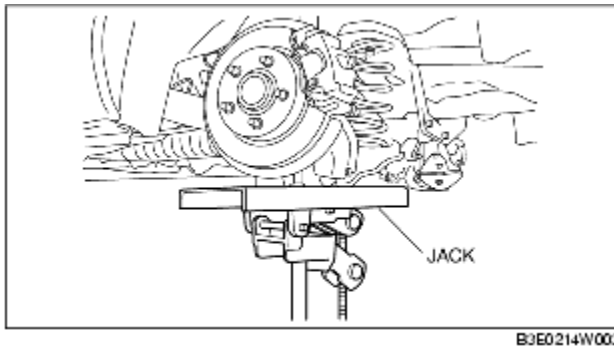
Caution

- Verify that the trailing link is securely supported by a jack. If the trailing link falls off, it can cause serious injury or death, and damage to the vehicle.

2. Remove the rear lateral link outer bolt.

Rear Trailing Link Installation Note

1. Support the trailing link using a jack.



2. Tighten the trailing link front side bolts.

REAR CROSSMEMBER REMOVAL/INSTALLATION

B3E021428400W01

Caution

- Performing the following procedures without first removing the ABS wheel-speed sensor may possibly cause an open circuit in the wiring harness if it is pulled by mistake. Before performing the following procedures, disconnect the ABS wheel-speed sensor wiring harness connector (axle side) and fix the wiring harness to an appropriate place where it will not be pulled by mistake while servicing the vehicle.

1. Remove the rear auto leveling sensor.

(See [AUTO LEVELING SENSOR REMOVAL/INSTALLATION](#).)

2. Remove the rear stabilizer.

(See [REAR STABILIZER REMOVAL/INSTALLATION](#).)

3. Remove the charcoal canister.

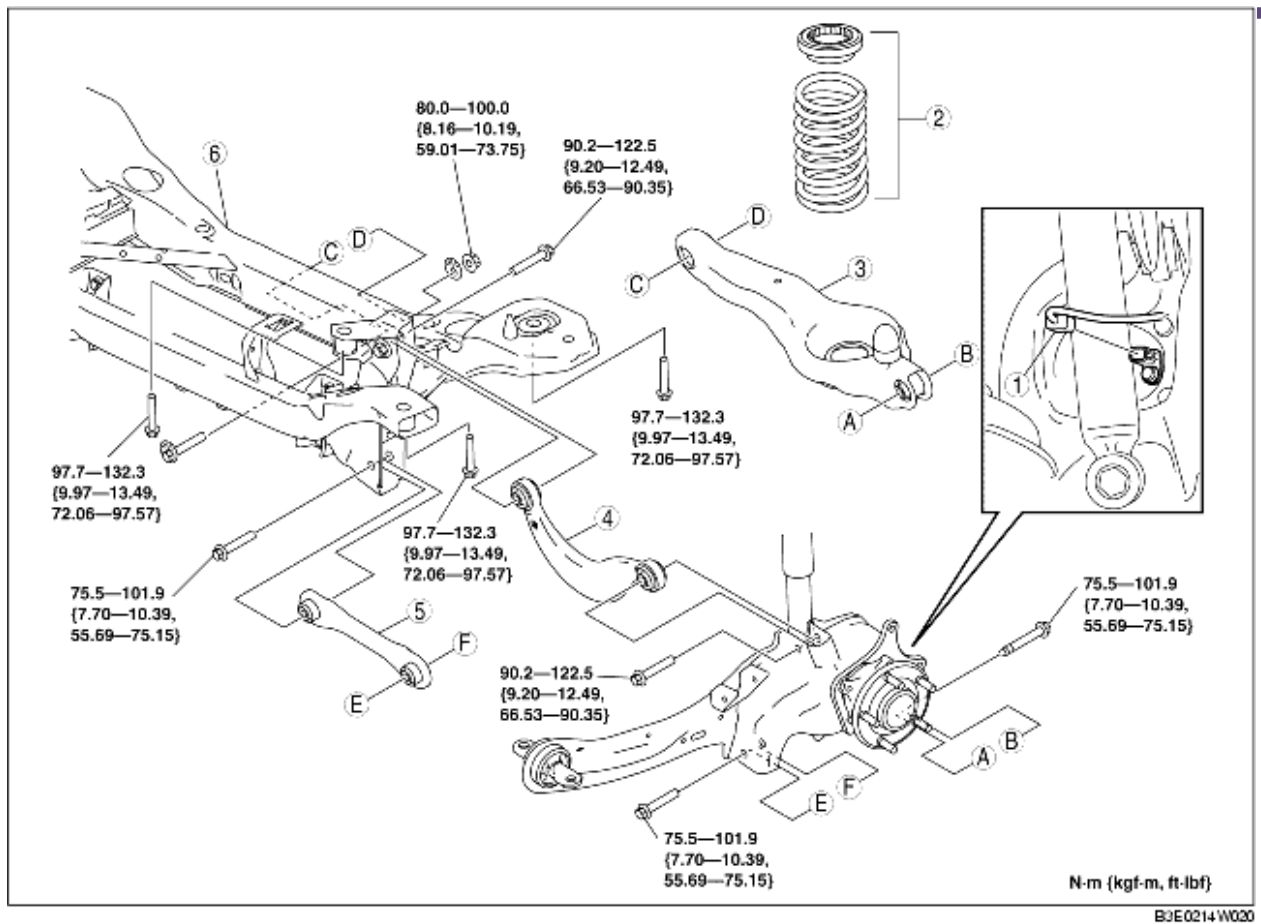
(See [CHARCOAL CANISTER REMOVAL/INSTALLATION](#).)

4. Remove in the order indicated in the table.

5. Install in the reverse order of removal.

6. Inspect the wheel alignment and adjust it if necessary.

(See [REAR WHEEL ALIGNMENT](#).)



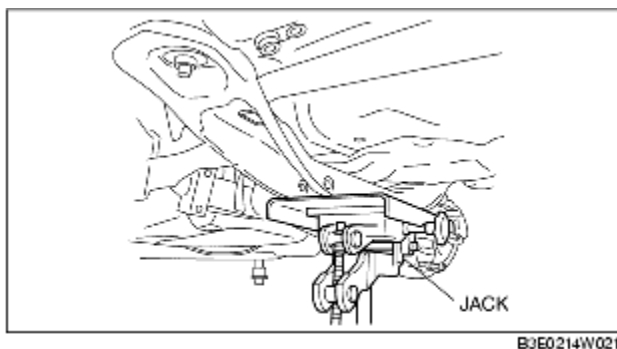
1	ABS wheel-speed sensor wiring harness connector
2	Rear coil spring (See REAR COIL SPRING REMOVAL/INSTALLATION.)
3	Rear lower arm (See REAR LOWER ARM REMOVAL/INSTALLATION.)
4	Rear upper arm (See REAR UPPER ARM REMOVAL/INSTALLATION.)
5	Rear lateral link (See REAR LATERAL LINK REMOVAL/INSTALLATION.)
6	Rear crossmember (See Rear Crossmember Removal Note.)

Rear Crossmember Removal Note

Warning

- Verify that the crossmember is securely supported by a jack. If the rear crossmember falls off, it can cause serious injury or death, and damage to the vehicle.

1. Support the rear crossmember with the jack and remove the bolt.



2. Remove the rear crossmember.

SUSPENSION – Technical Data

B3E025001013W01

Suspension

Item				Fuel gauge indication				
				Empty	1/4	1/2	3/4	Full
Front wheel alignment (Unloaded)* ¹	Maximum steering angle [Tolerance ±3°]		Inner	39°48'				
			Outer	32°48'				
	Total toe-in	Tire [Tolerance ±4 mm {±0.16 in}]	(mm {in})	2 {0.08}				
		Rim inner		1±3 {0.04±0.12}				
		(degree)		0°11'±0°22'				
	Caster angle (Reference value) [Tolerance ±1°]			2°55'	2°57'	3°00'	3°02'	3°04'
	Camber angle (Reference value) [Tolerance ±1°]			-0°39'	-0°40'			-0°41'
	Steering axis inclination (Reference value)			13°59'	14°00'	14°01'		14°02'
Rear wheel alignment (Unloaded)* ¹	Total toe-in	Tire [Tolerance ±4 mm {±0.16 in}]	(mm {in})	2 {0.08}				
		Rim inner		1±3 {0.04±0.12}				
		(degree)		0°11'±0°22'				
	Camber angle* ² (Reference value)			-1°10'	-1°12'	-1°14'	-1°17'	-1°19'

	[Tolerance $\pm 1^\circ$]					
	Thrust angle (Reference value) [Tolerance $\pm 0^\circ 48'$]	0°				
Front lower arm ball joint rotation torque		1.0-4.9 (11-49, 9-43)				
(N·m {kgf·cm, in·lbf})		{Pull scale reading: 10-49 N (1.1-4.9 kgf, 3-10 lbf)}				
Stabilizer control link rotation torque		Front: 0.2-0.9 (3-9, 2-7)				
(N·m {kgf·cm, in·lbf})		Rear: 0.5-2.0 (6-20, 5-17)				

*1 :

Fuel tank full. Engine coolant and engine oil are at specified level. Spare tire, jack, and tools are in designated position. Adjust to the median when carrying out wheel alignment.

Wheel and Tires

Item				Specification			
Standard tire and wheel							
Wheel	Size			15 × 6J		16 × 6 1/2J	17 × 6 1/2J
	Offset		(mm {in})	52.5 {2.07}			
	Pitch circle diameter		(mm {in})	114.3 {4.50}			
	Material			Steel	Aluminum alloy	Aluminum alloy	
Tire	Size			195/65R15 91H		205/55R16 91V	205/50R17 89V
	Air pressure (kPa {kgf/cm², psi})	Front	Up to 3 persons	220 {2.2, 32}			
			Full load	230 {2.3, 33}			
		Rear	Up to 3 persons	220 {2.2, 32}			
			Full load	310 {3.2, 45}			
	Remaining tread		(mm {in})	1.6 {0.06}			
Wheel and tire	Wheel and tire runout		Radial direction	1.5 {0.06} max.			
	(mm {in})		Lateral direction	2.5 {0.10} max.	2.0 {0.08} max.		
	Wheel imbalance		(g {oz})	Knock-type*2:	Adhesive-type*1:	Adhesive-type*1:	Adhesive-type*1:

			9 {0.32} max.	14 {0.49} max. Knock-type*2: 9 {0.32} max.	13 {0.46} max. Knock-type*2: 8 {0.28} max.	11 {0.39} max. Knock-type*2: 7 {0.25} max.
Temporary spare tire						
Wheel	Size		15×4T		15×4T 16×4T	16×4T
	Offset	(mm {in})	45 {1.8}			
	Pitch circle diameter	(mm {in})	114.3 {4.50}			
	Material		Steel			
Tire	Size		T115/70 D15		T115/70 D15 T125/70 D16	T125/70 D16
	Air pressure	(kPa {kgf/cm², psi})	420 {4.2, 60}			
Wheel and tire	Wheel and tire runout	Radial direction	2.0 {0.08} max.			
	(mm {in})	Lateral direction	2.5 {0.10} max.			

*1 :

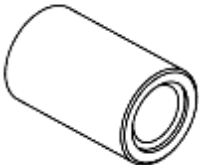
Total weight exceeds 160 g {5.65 oz}.

*2 :

One balance weight: 60 g {2.12 oz} max. If the total weight exceeds 100 g {3.53 oz} on one side, rebalance after moving the tire around on the rim. Do not use 3 or more balance weights.

SUSPENSION – Service Tools

B3E026001013W01

49 T034 1A0		49 0180 510B		49 8038 785A	
Coil spring compressor set		Preload measuring attachment		Dust boot installer	

