

SECTION **RSU**
 REAR SUSPENSION

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RSU

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PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

Precautions for Suspension

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- When installing rubber bushings, the final tightening must be carried out under unladen conditions with tires on ground. Spilled oil might shorten the life of rubber bushings. Be sure to wipe off any spilled oil.
- Unladen conditions mean that fuel, engine coolant and lubricant are full. Spare tire, jack, hand tools and mats are in designated positions.
- After servicing suspension parts, be sure to check wheel alignment.
- Self-lock nuts are not reusable. Always use new ones when installing. Since new self-lock nuts are pre-oiled, tighten as they are.

PREPARATION

< PREPARATION >

PREPARATION

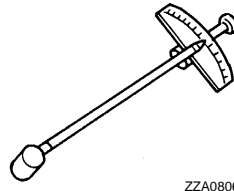
PREPARATION

Special Service Tools

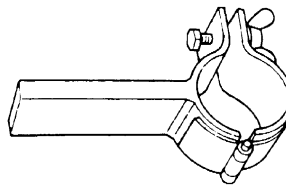
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The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name	Description
ST3127S000 (J-25765-A) Preload gauge	Measuring rotating torque of ball joint
ST35652000 (-) Shock absorber attachment	Disassembling and assembling shock absorber



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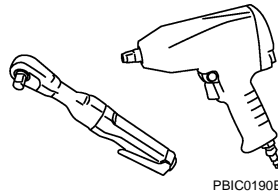


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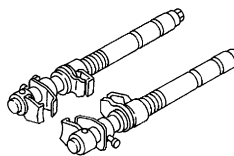
Commercial Service Tools

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Tool name	Description
Power tool	Loosening bolts and nuts
Spring compressor	Removing and installing coil spring



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NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

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Use chart below to find the cause of the symptom. If necessary, repair or replace these parts.

Symptom		Possible cause and SUSPECTED PARTS	Reference page															
			Improper installation, looseness	Shock absorber deformation, damage or deflection	Bushing or mounting deterioration	Parts interference	Spring fatigue	Suspension looseness	Incorrect wheel alignment	Stabilizer bar fatigue	PROPELLER SHAFT	DIFFERENTIAL	REAR AXLE AND REAR SUSPENSION	TIRE	ROAD WHEEL	DRIVE SHAFT	BRAKE	STEERING
REAR SUSPENSION	Noise		x	x	x	x	x	x			x	x	x	x	x	x	x	x
	Shake		x	x	x	x		x			x		x	x	x	x	x	x
	Vibration		x	x	x	x	x			x		x	x		x			
	Shimmy		x	x	x	x			x				x	x	x		x	x
	Judder		x	x	x								x	x	x		x	x
	Poor quality ride or handling		x	x	x	x			x	x			x	x	x			

x: Applicable

REAR SUSPENSION ASSEMBLY

< PERIODIC MAINTENANCE >

PERIODIC MAINTENANCE

REAR SUSPENSION ASSEMBLY

Inspection

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MOUNTING INSPECTION

Make sure the mounting conditions (looseness, backlash) of each component and component conditions (wear, damage) are normal.

BALL JOINT AXIAL END PLAY

1. Place an iron bar or equivalent between lower link or upper link and axle housing.
2. Measure axial end play by playing it up and down.

Axial end play : Refer to [RSU-24, "Ball Joint"](#).

CAUTION:

- Never depress brake pedal when measuring.
- Never perform with tires on level ground.
- Be careful not to damage ball joint boot. Never damage the installation position by applying excessive force.

SHOCK ABSORBER

Check for oil leakage and damage. Replace it if necessary.

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WHEEL ALIGNMENT

< PERIODIC MAINTENANCE >

WHEEL ALIGNMENT

Inspection

INFOID:000000006059231

DESCRIPTION

Measure wheel alignment under unladen conditions.

NOTE:

"Unladen conditions" means that fuel, engine coolant, and lubricant are full. Spare tire, jack, hand tools and mats are in designated positions.

PRELIMINARY CHECK

Check the following:

- Tires for improper air pressure and wear.
- Road wheels for runout. Refer to [WT-68, "Inspection"](#).
- Wheel bearing axial end play. Refer to [RAX-6, "Inspection"](#).
- Ball joint axial end play of suspension arm. Refer to [RSU-24, "Ball Joint"](#).
- Shock absorber operation.
- Each mounting point of axle and suspension for looseness and deformation.
- Each of front lower link, rear lower link, toe control link (without 4WAS), 4WAS rear actuator (with 4WAS), rear suspension member, suspension arm and shock absorber for cracks, deformation, and other damage.
- Vehicle height (posture).

GENERAL INFORMATION AND RECOMMENDATIONS

- A four-wheel thrust alignment should be performed.
- This type of alignment is recommended for any NISSAN/INFINITI vehicle.
- The four-wheel "thrust" process helps ensure that the vehicle is properly aligned and the steering wheel is centered.
- The alignment rack itself should be capable of accepting any NISSAN/INFINITI vehicle.
- The rack should be checked to ensure that it is level.
- Make sure the machine is properly calibrated.
- Your alignment equipment should be regularly calibrated in order to give correct information.
- Check with the manufacturer of your specific equipment for their recommended Service/Calibration Schedule.

ALIGNMENT PROCESS

IMPORTANT:

Use only the alignment specifications listed in this Service Manual.

- When displaying the alignment settings, many alignment machines use "indicators": (Green/red, plus or minus, Go/No Go). **Never use these indicators.**
- The alignment specifications programmed into your machine that operate these indicators may not be correct.
- This may result in an ERROR.
- Some newer alignment machines are equipped with an optional "Rolling Compensation" method to "compensate" the sensors (alignment targets or head units). **Never use this "Rolling Compensation" method.**
- Use the "Jacking Compensation Method". After installing the alignment targets or head units, raise the vehicle and rotate the wheels 1/2 turn both ways.
- See Instructions in the alignment machine you're using for more information on this.

Adjustment

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CAMBER

WHEEL ALIGNMENT

< PERIODIC MAINTENANCE >

- If camber is exceeds the standard value, adjust with adjusting bolt (2) in rear lower link (1).

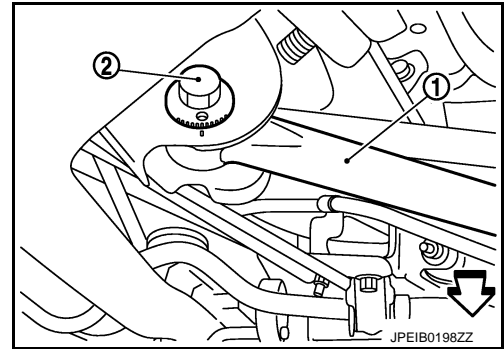
← : Vehicle front

Camber: Refer to [RSU-24, "Wheel Alignment"](#).

CAUTION:

After adjusting camber, be sure to check toe-in.

- If camber is not still within the specification, inspect and replace any damaged or worn suspension parts.



TOE-IN (WITHOUT 4WAS)

- If toe-in is exceeds the standard value, adjust with adjusting bolt (2) in toe control link (1).

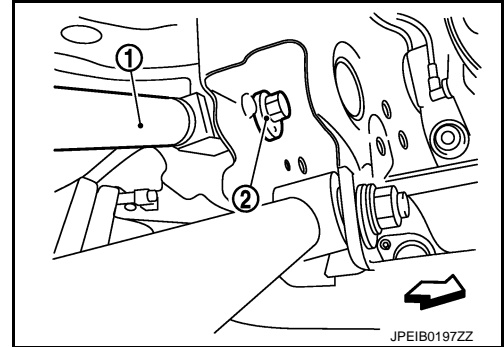
← : Vehicle front

Toe-In: Refer to [RSU-24, "Wheel Alignment"](#).

CAUTION:

Be sure to adjust equally on right and left side with adjusting bolt.

- If toe-in is not still within the specification, inspect and replace any damaged or worn suspension parts.



TOE-IN (WITH 4WAS)

- Loosen lock nut (1) of the 4WAS rear actuator to adjust the length with tie rod bar (2).

Toe-In: Refer to [RSU-24, "Wheel Alignment"](#).

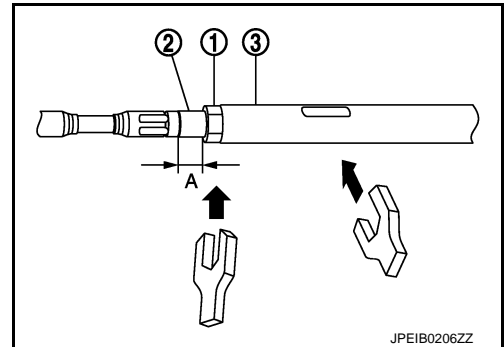
CAUTION:

- **Tighten the lock nut to the specified torque with the socket (3) fixed. Refer to [STC-187, "Exploded View"](#).**

- **Adjust the length symmetrically.**

- **The tie rod bar screw head allowance (A) after the adjustment must be 19 mm (0.75 in) or less.**

- If toe-in is not still within the specification, inspect and replace any damaged or worn 4WAS rear actuator or suspension parts.



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REAR COIL SPRING AND SHOCK ABSORBER

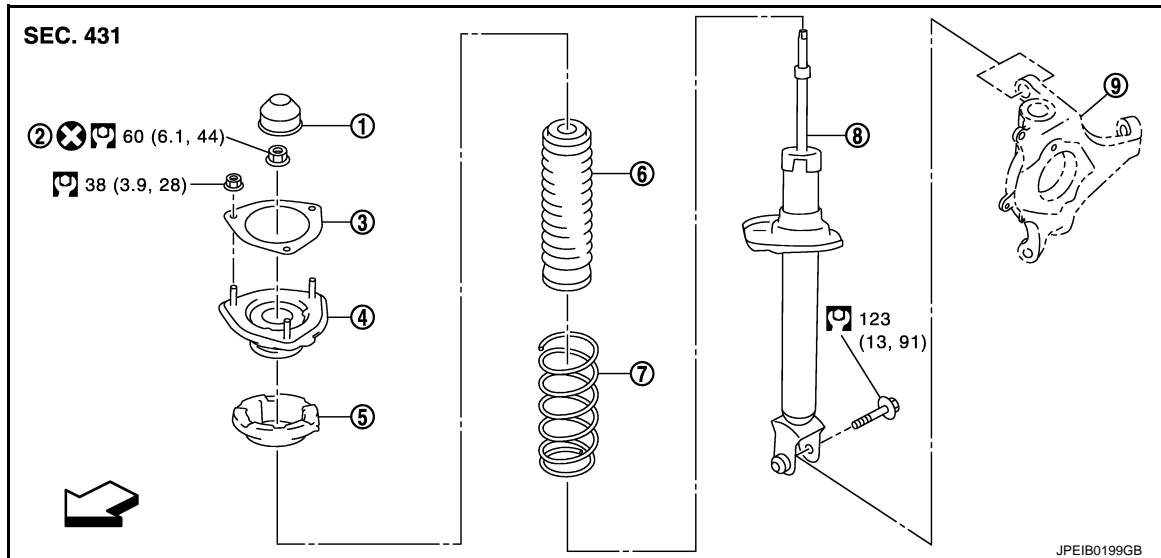
< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION

REAR COIL SPRING AND SHOCK ABSORBER

Exploded View

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- | | | |
|-----------------------|------------------------|-----------------|
| 1. Cap | 2. Piston rod lock nut | 3. Gasket |
| 4. Mounting insulator | 5. Rubber seat | 6. Bound bumper |
| 7. Coil spring | 8. Shock absorber | 9. Axle housing |

↔ Vehicle front

Refer to [GI-4, "Components"](#) for symbols in the figure.

Removal and Installation

INFOID:000000006059237

REMOVAL

1. Perform adjustment before removal. (With 4WAS) Refer to [RSU-10, "Inspection and Adjustment"](#).
2. Remove tires with power tool. Refer to [WT-68, "Removal and Installation"](#).
3. Set suitable jack under axle housing.
CAUTION:
Check that jack supporting status is stable.
4. Remove shock absorber from axle housing.
5. Remove the rear parcel shelf finisher. Refer to [INT-43, "Removal and Installation"](#).
6. Remove the seat belt retractor. Refer to [SB-12, "SEAT BELT RETRACTOR : Removal and Installation"](#).
7. Remove mounting insulator nuts, and then remove shock absorber assembly.

INSTALLATION

Note the following, and install in the reverse order of removal.

- Perform final tightening of bolts and nuts at the shock absorber lower side (rubber bushing), under unladen conditions with tires on level ground.
- Perform inspection after installation. Refer to [RSU-10, "Inspection and Adjustment"](#).
- After replacing the shock absorber, always follow the disposal procedure to discard the shock absorber. Refer to [RSU-10, "Disposal"](#).

Disassembly and Assembly

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DISASSEMBLY

CAUTION:

Never damage shock absorber piston rod when removing components from shock absorber.

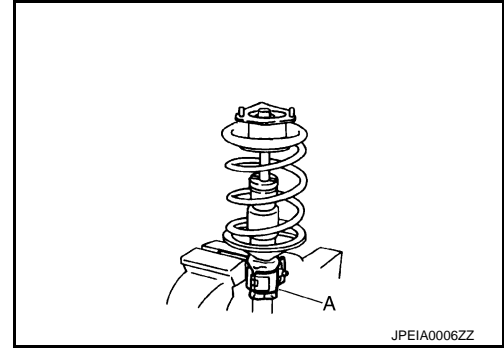
REAR COIL SPRING AND SHOCK ABSORBER

< REMOVAL AND INSTALLATION >

1. Remove gasket and cap from mounting insulator.
2. Install shock absorber attachment (A) [SST: ST35652000 (-)] to shock absorber and secure it in a vise.

CAUTION:

When installing the shock absorber attachment to shock absorber, wrap a shop cloth around shock absorber to protect it from damage.



3. Using a spring compressor (A) (commercial service tool), compress coil spring between rubber seat and shock absorber until coil spring with a spring compressor is free.

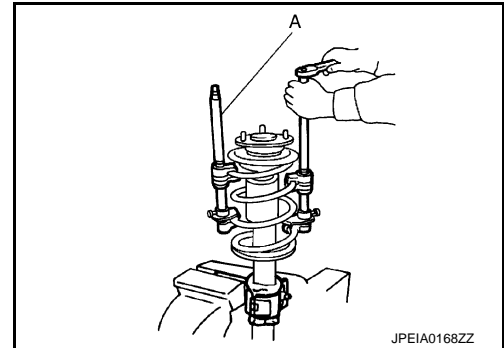
CAUTION:

Be sure a spring compressor is securely attached coil spring. Compress coil spring.

4. Make sure coil spring with a spring compressor between rubber seat and shock absorber is free. And then remove piston rod lock nut while securing the piston rod tip so that piston rod does not turn.

CAUTION:

Start compressing the coil spring after checking that the spring compressor is completely attached.



5. Remove mounting insulator, rubber sheet, and bound bumper from shock absorber.
6. After remove coil spring with a spring compressor, and then gradually release a spring compressor.

CAUTION:

Loosen while making sure coil spring attachment position does not move.

7. Remove the shock absorber attachment from shock absorber.

ASSEMBLY

CAUTION:

Never damage shock absorber piston rod when installing components from shock absorber.

1. Install shock absorber attachment (A) [SST: ST35652000 (-)] to shock absorber and secure it in a vise.

CAUTION:

When installing the shock absorber attachment to shock absorber, wrap a shop cloth around shock absorber to protect it from damage.

2. Compress coil spring using a spring compressor (commercial service tool), and install it onto shock absorber.

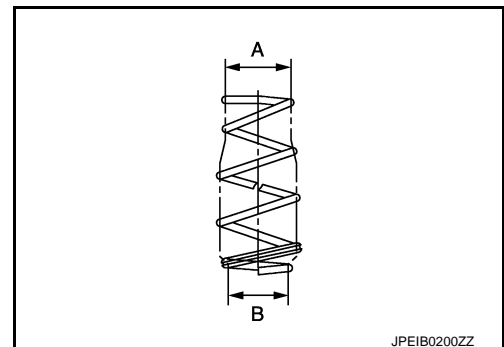
CAUTION:

- Install with the large-diameter side (A) facing up and the small-diameter side (B) facing down.
- Be sure a spring compressor is securely attached to coil spring. Compress coil spring.

3. Apply soapy water to bound bumper.

CAUTION:

Never use machine oil.



4. Install rubber sheet and mounting insulator to shock absorber.

CAUTION:

REAR COIL SPRING AND SHOCK ABSORBER

< REMOVAL AND INSTALLATION >

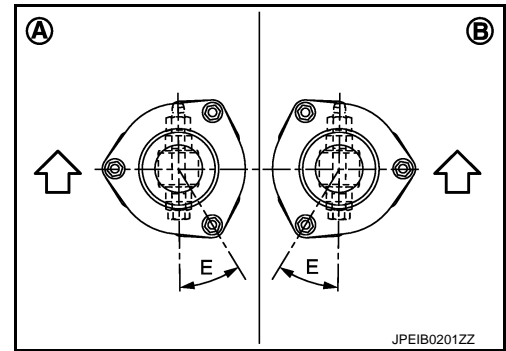
Install the mount insulator so that the stud bolt is in the position shown in the figure.

A : LH

B : RH

↔ : Vehicle front (shock absorber lower bolt insertion direction)

Angle (E) : 29.7°



5. Secure piston rod tip so that piston rod does not turn, then tighten piston rod lock nut with specified torque.

6. Gradually release a spring compressor, and remove coil spring.

CAUTION:

Loosen while making sure coil spring attachment position does not move.

7. Remove the shock absorber attachment from shock absorber.

8. Install the gasket and cap to the mounting insulator.

Inspection and Adjustment

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ADJUSTMENT BEFORE REMOVAL

Adjust neutral position of 4WAS front actuator. (With 4WAS) Refer to [STC-87. "Work Procedure \(Pattern 1\)"](#).

INSPECTION AFTER DISASSEMBLY

Shock absorber

Check the following items and replace if necessary.

- Check shock absorber assembly for deformation, cracks, and other damage.
- Check piston rod for damage, uneven wear, and distortion.
- Check for oil leakage

Mounting insulator, rubber seat, bound bumper, and gasket

- Check mounting insulator, rubber seat, bound bumper, and gasket for cracks, uneven wear, and damage. Replace if necessary.

Coil spring

- Check coil spring for cracks, uneven wear, and damage. Replace if necessary.

INSPECTION AFTER INSTALLATION

1. Check wheel alignment. Refer to [RSU-6. "Inspection"](#).
2. Adjust neutral position of steering angle sensor. (Without 4WAS) Refer to [BRC-68. "Work Procedure"](#).
3. Adjust neutral position of 4WAS front actuator. (With 4WAS) Refer to [STC-87. "Work Procedure \(Pattern 2\)"](#).

Disposal

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1. Set shock absorber horizontally with the piston rod fully extended.

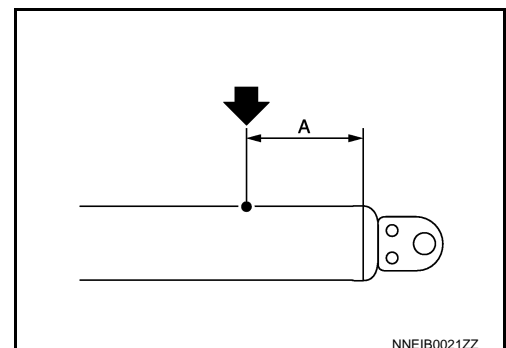
2. Drill 2 – 3 mm (0.08 – 0.12 in) hole at the position (●) from top as shown in the figure to release gas gradually.

CAUTION:

- **Wear eye protection (safety glasses).**
- **Wear gloves.**
- **Be careful with metal chips or oil blown out by the compressed gas.**

NOTE:

- Drill vertically in this direction (↕).
- Directly to the outer tube avoiding brackets.
- The gas is clear, colorless, odorless, and harmless.



A : 20 – 30 mm (0.79 – 1.18 in)

REAR COIL SPRING AND SHOCK ABSORBER

< REMOVAL AND INSTALLATION >

3. Position the drilled hole downward and drain oil by moving the piston rod several times.

CAUTION:

Dispose of drained oil according to the law and local regulations.

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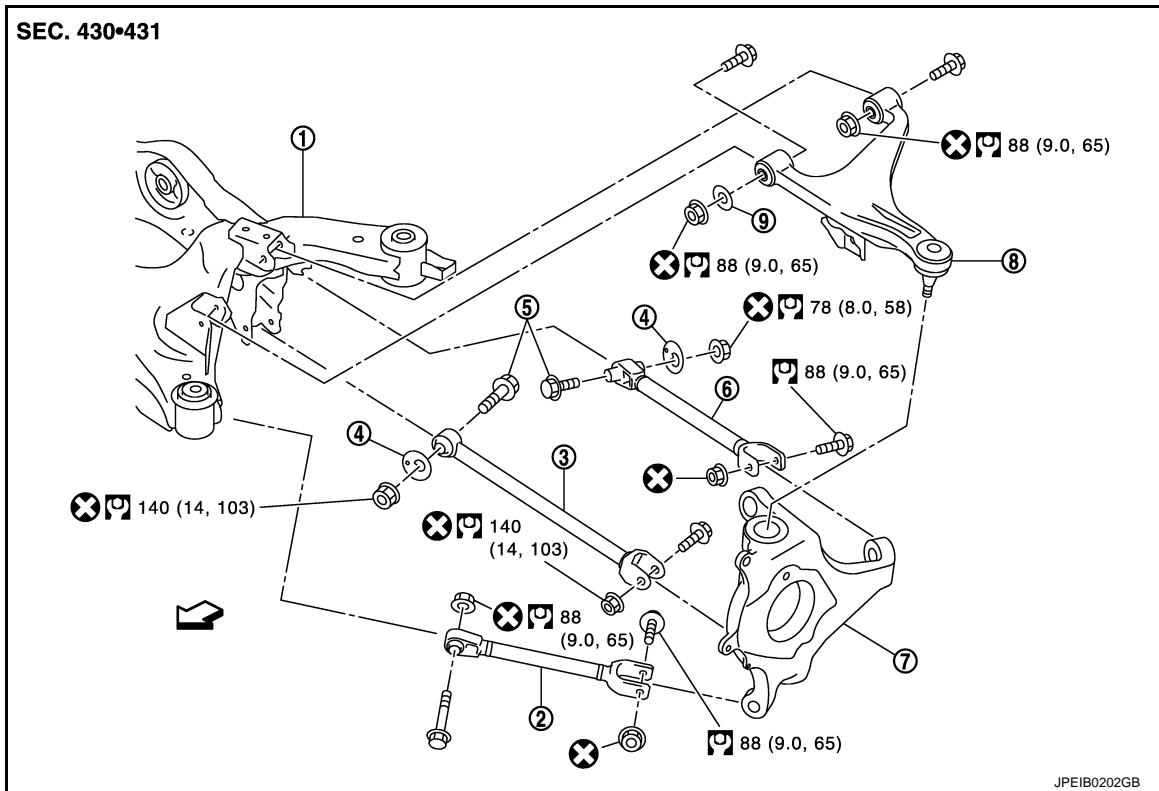
SUSPENSION ARM

< REMOVAL AND INSTALLATION >

SUSPENSION ARM

Exploded View

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- | | | |
|---------------------------|---------------------|------------------------------------|
| 1. Rear suspension member | 2. Front lower link | 3. Rear lower link |
| 4. Eccentric disk | 5. Adjusting bolt | 6. Toe control link (without 4WAS) |
| 7. Axle housing | 8. Suspension arm | 9. Stopper bushing |

←: Vehicle front

Refer to [GI-4. "Components"](#) for symbols in the figure.

Removal and Installation

INFOID:000000006059242

REMOVAL

Right Side

1. Perform adjustment before removal. (With 4WAS) Refer to [RSU-13. "Inspection and Adjustment"](#).
2. Remove rear suspension assembly. Refer to [RSU-22. "Removal and Installation"](#).
3. Remove stabilizer connecting rod from suspension arm. Refer to [RSU-21. "Removal and Installation"](#).
4. Separate suspension arm from axle housing. Refer to [RAX-8. "Removal and Installation"](#).
5. Remove suspension arm from axle housing.
6. Remove stopper bushing, bolts, and nuts, and then remove suspension arm from suspension member.
7. Perform inspection after removal. Refer to [RSU-13. "Inspection and Adjustment"](#).

Left Side

NOTE:

When removing and installing the right side at the same time, it is efficient to remove the suspension arm assembly.

1. Perform adjustment before removal. (With 4WAS) Refer to [RSU-13. "Inspection and Adjustment"](#).
2. Remove tire with power tool. Refer to [WT-68. "Removal and Installation"](#).

SUSPENSION ARM

< REMOVAL AND INSTALLATION >

3. Remove caliper assembly. Hang caliper assembly in a place where it will not interfere with work. Refer to [BR-56, "BRAKE CALIPER ASSEMBLY \(1 PISTON TYPE\) : Removal and Installation"](#) (1 piston type), [BR-60, "BRAKE CALIPER ASSEMBLY \(2 PISTON TYPE\) : Removal and Installation"](#) (2 piston type).

CAUTION:

Never depress brake pedal while brake caliper is removed.

4. Remove disc rotor. Refer to [RAX-8, "Removal and Installation"](#).
5. Remove drive shaft. Refer to [RAX-12, "Removal and Installation"](#).
6. Remove shock absorber from axle housing. Refer to [RSU-8, "Removal and Installation"](#).
7. Remove height sensor from suspension arm. (With AFS) Refer to [EXL-128, "Removal and Installation"](#).
8. Remove stabilizer connecting rod from suspension arm. Refer to [RSU-21, "Removal and Installation"](#).
9. Separate suspension arm from axle housing. Refer to [RAX-8, "Removal and Installation"](#).
10. Remove stopper bushing, bolt, and nut, and then remove suspension arm from suspension member.
11. Perform inspection after removal. Refer to [RSU-13, "Inspection and Adjustment"](#).

INSTALLATION

Note the following and, install in the reverse order of removal.

- Perform final tightening of rear suspension member installation position (rubber bussing), under unladen conditions with tires on level ground.
- Perform inspection after installation. Refer to [RSU-13, "Inspection and Adjustment"](#).

Inspection and Adjustment

INFOID:000000006059243

ADJUSTMENT BEFORE REMOVAL

Adjust neutral position of 4WAS front actuator. (With 4WAS) Refer to [STC-87, "Work Procedure \(Pattern 1\)"](#).

INSPECTION AFTER REMOVAL

Appearance

Check the following items, and replace the part if necessary.

- Check suspension arm and bushing for deformation, cracks, and other damage.
- Check ball joint boot for cracks, damage, and leakage of grease.

Ball Joint Inspection

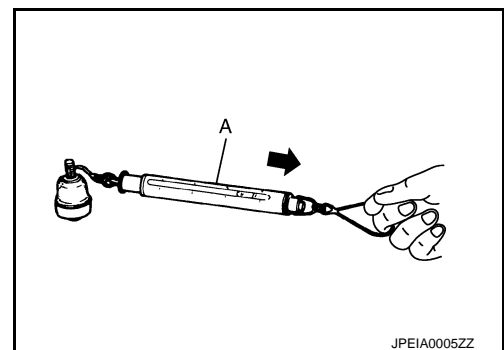
Manually move ball stud to confirm that it moves smoothly with no binding.

Swing Torque Inspection

1. Move the ball stud at least ten times by hand to check for smooth movement.
2. Hook spring balance (A) at cotter pin mounting hole. Confirm spring balance measurement value is within specifications when ball stud begins moving.

Swing torque : Refer to [RSU-24, "Ball Joint"](#).

- If swing torque exceeds the standard range, replace suspension arm assembly.



Rotating Torque Inspection

1. Move the ball stud at least ten times by hand to check for smooth movement.

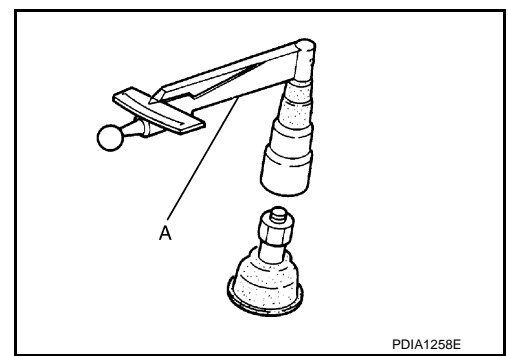
SUSPENSION ARM

< REMOVAL AND INSTALLATION >

2. Attach the mounting nut to ball stud. Make sure that rotating torque is within the specifications with a preload gauge (A) [SST: ST3127S000 (J-25765-A)].

Rotating torque : Refer to [RSU-24, "Ball Joint"](#).

- If rotating torque exceeds the standard range, replace suspension arm assembly.



Axial End Play Inspection

1. Move the ball stud at least ten times by hand to check for smooth movement.
2. Move tip of ball stud in axial direction to check for looseness.

Axial end play : Refer to [RSU-24, "Ball Joint"](#).

- If axial end play exceeds the standard range, replace suspension arm assembly.

INSPECTION AFTER INSTALLATION

Right Side

1. Adjust parking brake operation (stroke). Refer to [PB-3, "Inspection and Adjustment"](#).
2. Check wheel alignment. Refer to [RSU-6, "Inspection"](#).
3. Adjust neutral position of steering angle sensor. (Without 4WAS) Refer to [BRC-68, "Work Procedure"](#).
4. Adjust neutral position of 4WAS front actuator. (With 4WAS) Refer to [STC-87, "Work Procedure \(Pattern 2\)"](#).
5. Adjust levelizer adjustment of height sensor. (with AFS) Refer to [EXL-64, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT \(HEIGHT SENSOR\) : Special Repair Requirement"](#).

Left Side

1. Check wheel alignment. Refer to [RSU-6, "Inspection"](#).
2. Adjust neutral position of steering angle sensor. (Without 4WAS) Refer to [BRC-68, "Work Procedure"](#).
3. Adjust neutral position of 4WAS front actuator. (With 4WAS) Refer to [STC-87, "Work Procedure \(Pattern 2\)"](#).
4. Adjust levelizer adjustment of height sensor. (With AFS) Refer to [EXL-64, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT \(HEIGHT SENSOR\) : Special Repair Requirement"](#).

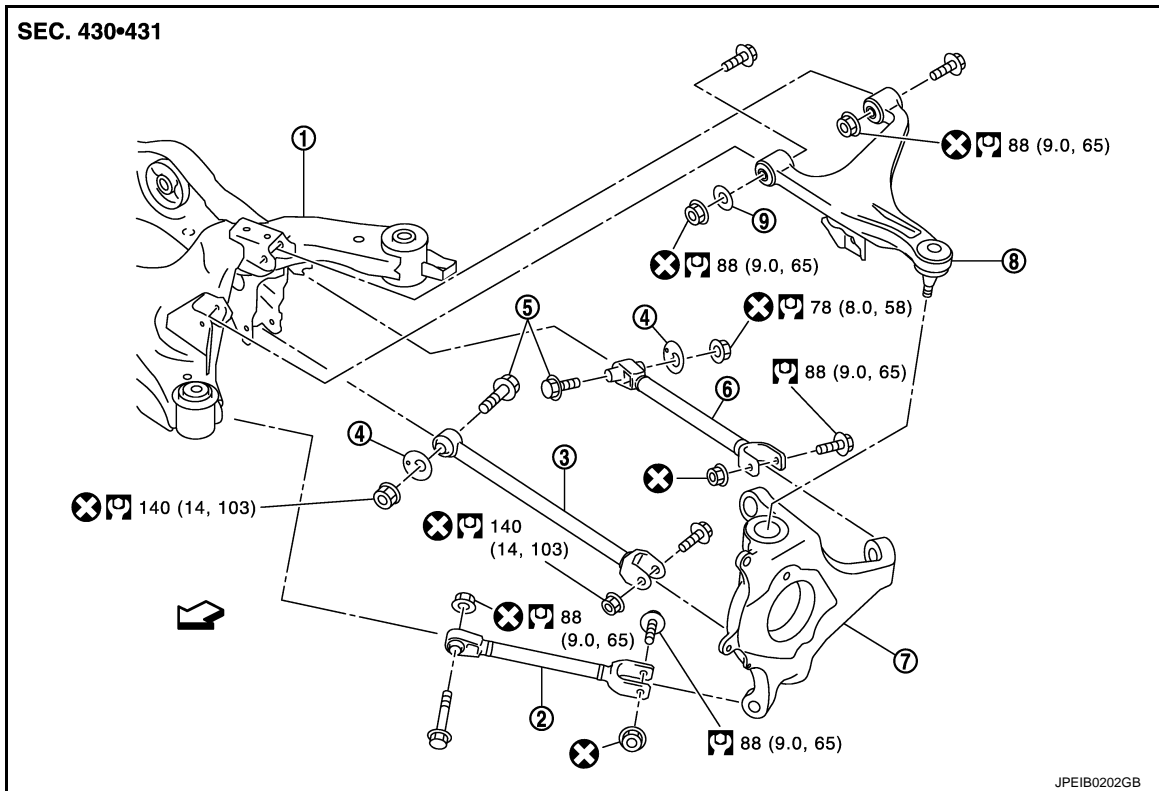
FRONT LOWER LINK

< REMOVAL AND INSTALLATION >

FRONT LOWER LINK

Exploded View

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- | | | |
|---------------------------|---------------------|------------------------------------|
| 1. Rear suspension member | 2. Front lower link | 3. Rear lower link |
| 4. Eccentric disk | 5. Adjusting bolt | 6. Toe control link (without 4WAS) |
| 7. Axle housing | 8. Suspension arm | 9. Stopper bushing |

← Vehicle front

Refer to [GI-4, "Components"](#) for symbols in the figure.

Removal and Installation

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REMOVAL

1. Perform adjustment before removal. (With 4WAS) Refer to [RSU-16, "Inspection and Adjustment"](#).
2. Remove tires with power tool. Refer to [WT-68, "Removal and Installation"](#).
3. Set suitable jack under axle housing.
CAUTION:
Check that jack supporting status is stable.
4. Separate shock absorber from axle housing. Refer to [RSU-8, "Removal and Installation"](#).
5. Remove rear suspension member stay. Refer to [RSU-22, "Removal and Installation"](#).
6. Remove nuts and bolts, and remove front lower link.
7. Perform inspection after removal. Refer to [RSU-16, "Inspection and Adjustment"](#).

INSTALLATION

Note the following, and install in the reverse order of removal.

- Perform final tightening of rear suspension member installation position (rubber bussing), under unladen conditions with tires on level ground.
- Perform inspection after installation. Refer to [RSU-16, "Inspection and Adjustment"](#).

FRONT LOWER LINK

< REMOVAL AND INSTALLATION >

Inspection and Adjustment

INFOID:000000006059246

ADJUSTMENT BEFORE REMOVAL

Adjust neutral position of 4WAS front actuator. (With 4WAS) Refer to [STC-87, "Work Procedure \(Pattern 1\)"](#).

INSPECTION AFTER REMOVAL

Check front lower link and bushing for any deformation, cracks, or damage. Replace it if necessary.

INSPECTION AFTER INSTALLATION

1. Check wheel alignment. Refer to [RSU-6, "Inspection"](#).
2. Adjust neutral position of steering angle sensor. (Without 4WAS) Refer to [BRC-68, "Work Procedure"](#).
3. Adjust neutral position of 4WAS front actuator. (With 4WAS) Refer to [STC-87, "Work Procedure \(Pattern 2\)"](#).

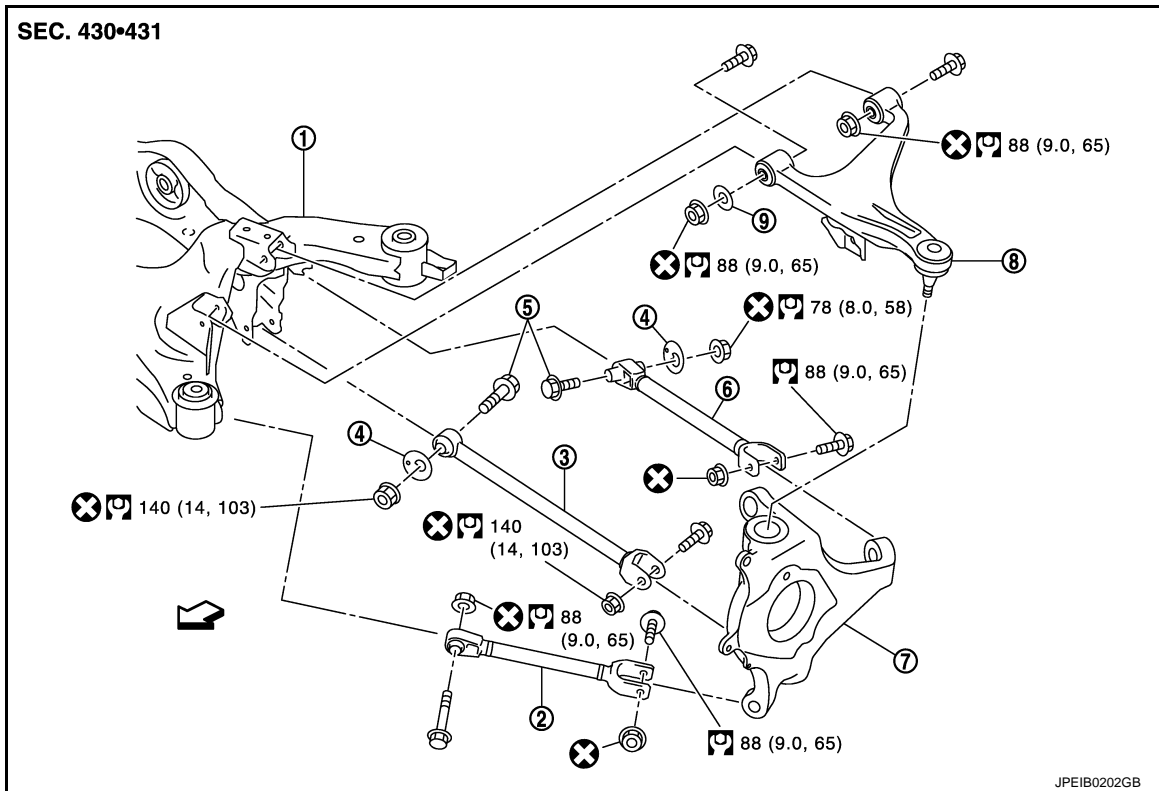
REAR LOWER LINK

< REMOVAL AND INSTALLATION >

REAR LOWER LINK

Exploded View

INFOID:000000006059286



- | | | |
|---------------------------|---------------------|------------------------------------|
| 1. Rear suspension member | 2. Front lower link | 3. Rear lower link |
| 4. Eccentric disk | 5. Adjusting bolt | 6. Toe control link (without 4WAS) |
| 7. Axle housing | 8. Suspension arm | 9. Stopper bushing |

← Vehicle front

Refer to [GI-4, "Components"](#) for symbols in the figure.

Removal and Installation

INFOID:000000006059248

REMOVAL

1. Perform adjustment before removal. (With 4WAS) Refer to [RSU-17, "Inspection and Adjustment"](#).
2. Remove tires with power tool. Refer to [WT-68, "Removal and Installation"](#).
3. Set suitable jack under axle housing.
CAUTION:
Check that jack supporting status is stable.
4. Separate shock absorber from axle housing. Refer to [RSU-8, "Removal and Installation"](#).
5. Remove eccentric disc, adjusting bolt, mounting bolt, and nut. Remove rear lower link.
6. Perform inspection after removal. Refer to [RSU-17, "Inspection and Adjustment"](#).

INSTALLATION

Note the following, and install in the reverse order of removal.

- Perform final tightening of rear suspension member installation position (rubber bussing), under unladen conditions with tires on level ground.
- Perform inspection after installation. Refer to [RSU-17, "Inspection and Adjustment"](#).

Inspection and Adjustment

INFOID:000000006059249

ADJUSTMENT BEFORE REMOVAL

REAR LOWER LINK

< REMOVAL AND INSTALLATION >

Adjust neutral position of 4WAS front actuator. (With 4WAS) Refer to [STC-87. "Work Procedure \(Pattern 1\)"](#).

INSPECTION AFTER REMOVAL

Check rear lower link and bushing for any deformation, cracks, or damage. Replace it if necessary.

INSPECTION AFTER INSTALLATION

1. Check wheel alignment. Refer to [RSU-6. "Inspection"](#).
2. Adjust neutral position of steering angle sensor. (Without 4WAS) Refer to [BRC-68. "Work Procedure"](#).
3. Adjust neutral position of 4WAS front actuator. (With 4WAS) Refer to [STC-87. "Work Procedure \(Pattern 2\)"](#).

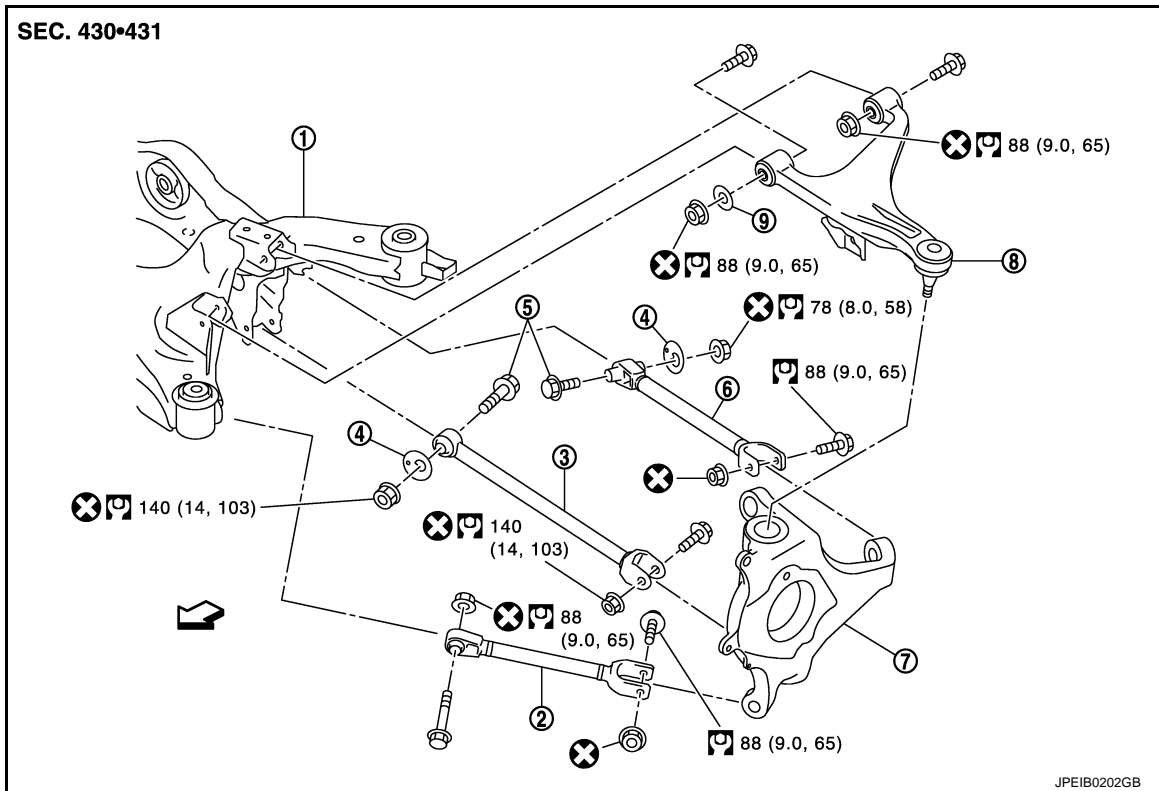
TOE CONTROL LINK

< REMOVAL AND INSTALLATION >

TOE CONTROL LINK

Exploded View

INFOID:000000006059287



- | | | |
|---------------------------|---------------------|------------------------------------|
| 1. Rear suspension member | 2. Front lower link | 3. Rear lower link |
| 4. Eccentric disk | 5. Adjusting bolt | 6. Toe control link (without 4WAS) |
| 7. Axle housing | 8. Suspension arm | 9. Stopper bushing |

← Vehicle front

Refer to [GI-4, "Components"](#) for symbols in the figure.

Removal and Installation

INFOID:000000006059278

REMOVAL

1. Remove tires with power tool. Refer to [WT-68, "Removal and Installation"](#).
2. Set suitable jack under axle housing.
CAUTION:
Check that jack supporting status is stable.
3. Separate shock absorber from axle housing. Refer to [RSU-8, "Removal and Installation"](#).
4. Remove eccentric disk, adjusting bolt, mounting bolt, and nut. Remove toe control link.
5. Perform inspection after removal. Refer to [RSU-19, "Inspection"](#).

INSTALLATION

Note the following, and install in the reverse order of removal.

- Perform final tightening of rear suspension member and axle installation position (rubber bushing), under unladen conditions with tires on level ground.
- Perform inspection after installation. Refer to [RSU-19, "Inspection"](#).

Inspection

INFOID:000000006059279

INSPECTION AFTER REMOVAL

Check toe control link and bushing for any deformation, cracks, or damage. Replace it if necessary.

TOE CONTROL LINK

< REMOVAL AND INSTALLATION >

INSPECTION AFTER INSTALLATION

1. Check wheel alignment. Refer to [RSU-6, "Inspection"](#).
2. Adjust neutral position of steering angle sensor. Refer to [BRC-68, "Work Procedure"](#).

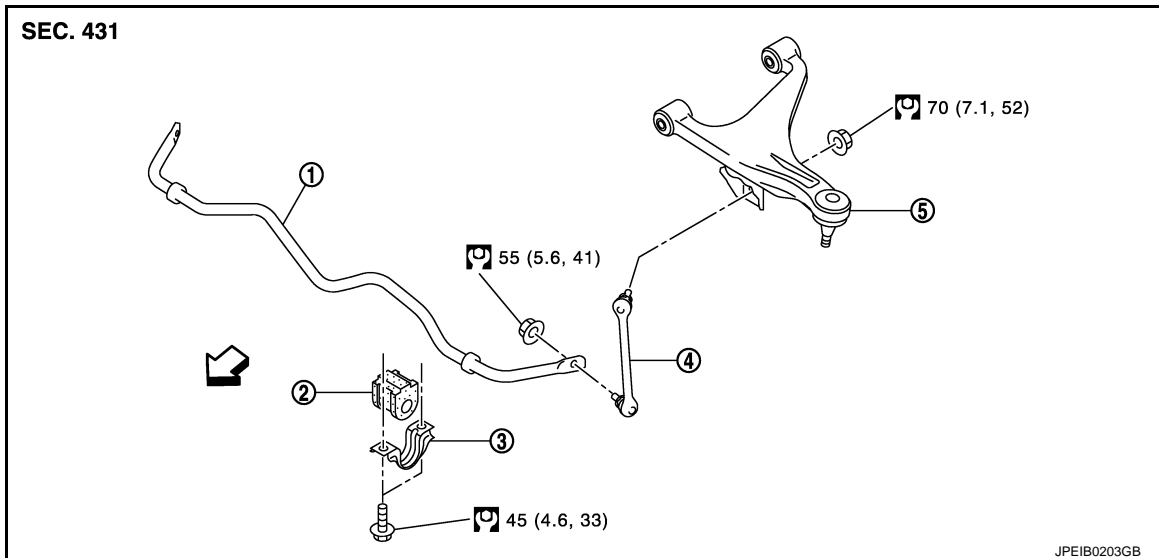
REAR STABILIZER

< REMOVAL AND INSTALLATION >

REAR STABILIZER

Exploded View

INFOID:000000006059250



- | | | |
|------------------------------|-------------------|---------------------|
| 1. Stabilizer bar | 2. Bushing | 3. Stabilizer clamp |
| 4. Stabilizer connecting rod | 5. Suspension arm | |

←: Vehicle front

Refer to [GI-4, "Components"](#) for symbols in the figure.

Removal and Installation

INFOID:000000006059251

REMOVAL

1. Remove member stay. Refer to [RSU-22, "Removal and Installation"](#).
2. Remove stabilizer connecting rod.
3. Remove stabilizer clamp and bushing.
4. Remove stabilizer bar.
5. Perform inspection after removal. Refer to [RSU-21, "Inspection"](#).

INSTALLATION

Note the following, and install in the reverse order of removal.

- Perform final tightening of rear suspension member and axle installation position (rubber bushing), under unladen conditions with tires on level ground.

Inspection

INFOID:000000006059252

INSPECTION AFTER REMOVAL

Check stabilizer bar, stabilizer connecting rod, stabilizer bushing and stabilizer clamp for deformation, cracks or damage. Replace it if necessary.

REAR SUSPENSION ASSEMBLY

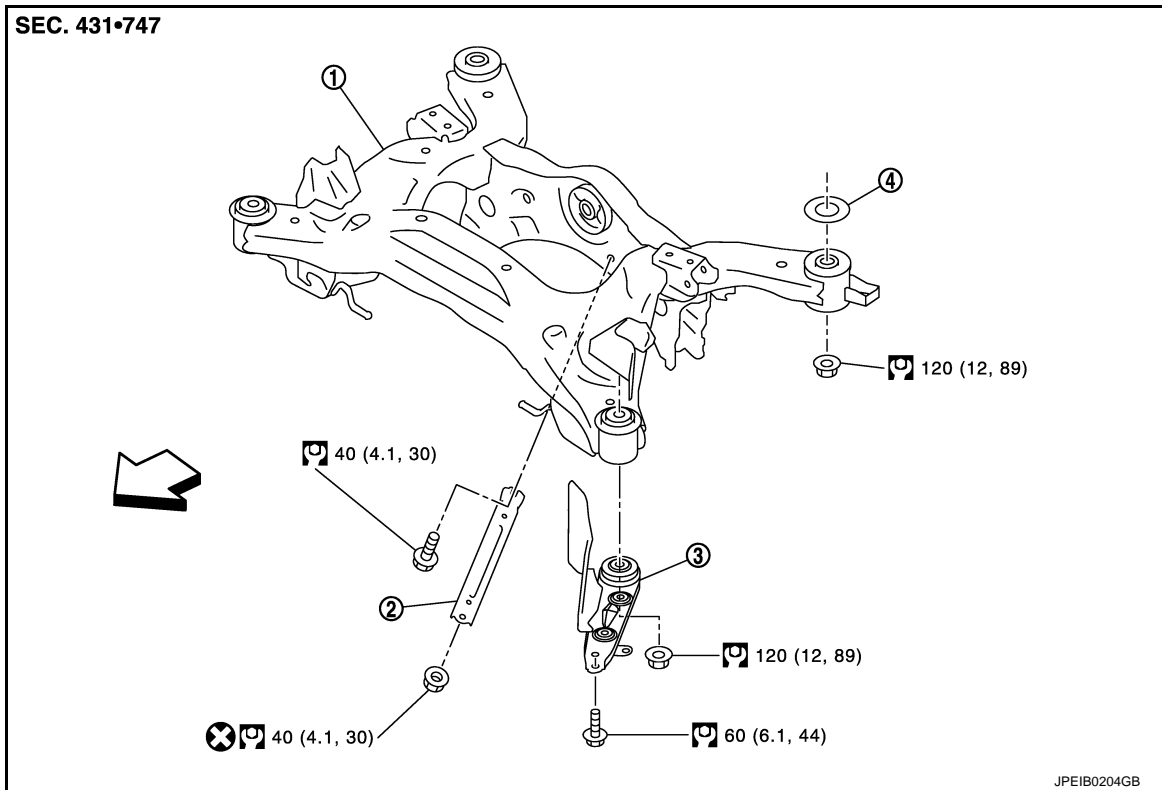
< UNIT REMOVAL AND INSTALLATION >

UNIT REMOVAL AND INSTALLATION

REAR SUSPENSION ASSEMBLY

Exploded View

INFOID:000000006059253



1. Rear suspension member
2. Member stay
3. Rear suspension member stay
4. Mount stopper

↔ Vehicle front

Refer to [GI-4, "Components"](#) for symbols in the figure.

Removal and Installation

INFOID:000000006059254

REMOVAL

1. Perform adjustment before removal. (With 4WAS) Refer to [RSU-23, "Inspection and Adjustment"](#).
2. Remove tires with power tool. Refer to [WT-68, "Removal and Installation"](#).
3. Remove caliper assemblies. Hang caliper assembly in a place where it will not interfere with work. Refer to [BR-56, "BRAKE CALIPER ASSEMBLY \(1 PISTON TYPE\) : Removal and Installation"](#) (1 piston type), [BR-60, "BRAKE CALIPER ASSEMBLY \(2 PISTON TYPE\) : Removal and Installation"](#) (2 piston type).

CAUTION:

Avoid depressing brake pedal while brake caliper is removed.

4. Remove disc rotor. Refer to [RAX-8, "Removal and Installation"](#).
5. Remove main muffler. Refer to [EX-6, "VQ37VHR : Removal and Installation"](#) (VQ37VHR), [EX-7, "VK56VD : Removal and Installation"](#) (VK56VD).
6. Remove member stay and rear final drive assembly. Refer to [DLN-171, "Removal and Installation"](#) (VQ37VHR), [DLN-210, "Removal and Installation"](#) (VK56VD).
7. Remove drive shaft. Refer to [RAX-12, "Removal and Installation"](#).
8. Separate rear cable from front cable, and then remove rear cable from rear suspension member. Refer to [PB-6, "Removal and Installation"](#).

REAR SUSPENSION ASSEMBLY

< UNIT REMOVAL AND INSTALLATION >

9. Remove wheel sensor and sensor harness from rear suspension member. Refer to [BRC-138, "REAR WHEEL SENSOR : Removal and Installation"](#). A
10. Disconnect height sensor harness connector. Refer to [EXL-128, "Removal and Installation"](#) (with AFS).
11. Remove shock absorber from axle housing. Refer to [RSU-8, "Removal and Installation"](#). B
12. Set suitable jack under rear suspension member.
CAUTION:
Check that jack supporting status is stable.
13. Remove rear under cover from rear suspension member stay. Refer to [EXT-29, "REAR UNDER COVER : Removal and Installation"](#). C
14. Remove rear suspension member stay.
15. Remove rear suspension member mounting nuts. D
16. Slowly lower jack, then remove rear suspension member, suspension arms, front lower links, wheel hub and housings from vehicle as a unit.
CAUTION:
Operate while checking that jack supporting status is stable.
17. Remove mount stopper from rear suspension member.
18. Remove height sensor from suspension arm (left side). Refer to [EXL-128, "Removal and Installation"](#) (with AFS). F
19. Remove toe control link from rear suspension member. Refer to [RSU-19, "Removal and Installation"](#) (without 4WAS). G
20. Remove 4WAS rear actuator assembly from rear suspension member. Refer to [STC-187, "Removal and Installation"](#) (with 4WAS).
21. Remove suspension arms, front lower link, rear lower link, and axle housing from rear suspension member. H
22. Perform inspection after removal. Refer to [RSU-23, "Inspection and Adjustment"](#). I

INSTALLATION

Note the following, and install in the reverse order of the removal.

- Perform final tightening of rear suspension member installation position (rubber bussing), under unladen conditions with tires on level ground. J
- Perform inspection after installation. Refer to [RSU-23, "Inspection and Adjustment"](#). K

Inspection and Adjustment

INFOID:000000006059255

ADJUSTMENT BEFORE REMOVAL

Adjust neutral position of 4WAS front actuator. (With 4WAS) Refer to [STC-87, "Work Procedure \(Pattern 1\)"](#). L

INSPECTION AFTER REMOVAL

Check rear suspension member for deformation, cracks, or any other damage. Replace if necessary.

INSPECTION AFTER INSTALLATION

1. Check wheel sensor and harness for proper connection. Refer to [BRC-138, "REAR WHEEL SENSOR : Exploded View"](#). M
2. Adjust parking brake operation (stroke). Refer to [PB-3, "Inspection and Adjustment"](#). N
3. Check wheel alignment. Refer to [RSU-6, "Inspection"](#).
4. Adjust neutral position of steering angle sensor. (Without 4WAS) Refer to [BRC-68, "Work Procedure"](#).
5. Adjust neutral position of 4WAS front actuator. (With 4WAS) Refer to [STC-87, "Work Procedure \(Pattern 2\)"](#). O
6. Adjust levelizer adjustment of height sensor. (With AFS) Refer to [EXL-64, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT \(HEIGHT SENSOR\) : Special Repair Requirement"](#). P

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Wheel Alignment

INFOID:000000006059256

Item		Standard	
Axle type		2WD	AWD
Camber Degree minute (Decimal degree)	Minimum	-1° 30' (-1.50°)	-1° 00' (-1.00°)
	Nominal	-1° 00' (-1.00°)	-0° 30' (-0.50°)
	Maximum	-0° 30' (-0.50°)	0° 00' (0.00°)
Toe-in	Total toe-in Distance	Minimum	0 mm (0 in)
		Nominal	In 2.9 mm (0.114 in)
		Maximum	In 5.8 mm (0.228 in)
	Toe angle (left wheel or right wheel) Degree minute (Decimal degree)	Minimum	0° 00' (0.00°)
		Nominal	In 0° 07' (0.12°)
		Maximum	In 0° 14' (0.23°)

Measure value under unladen* conditions.

*: Fuel, engine coolant and lubricant are full. Spare tire, jack, hand tools and mats are in designated positions.

Ball Joint

INFOID:000000006059257

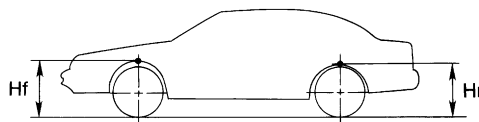
Item	Standard
Swing torque	0.5 – 3.4 N·m (0.06 – 0.34 kg-m, 5 – 30 in-lb)
Measurement on spring balance (cotter pinhole position)	8.1 – 54.8 N (0.83 – 5.59 kg, 1.83 – 12.31 lb)
Rotating torque	0.5 – 3.4 N·m (0.06 – 0.34 kg-m, 5 – 30 in-lb)
Axial end play	0 mm (0 in)

Wheelarch Height

INFOID:000000006059258

VQ37VHR

Item	Standard		
	2WD		AWD
Axle type	18 inch		20 inch
Wheel size	18 inch	20 inch	18 inch
Front (Hf)	752 mm (29.61 in)	751 mm (29.57 in)	765 mm (30.12 in)
Rear (Hr)	743 mm (29.25 in)	742 mm (29.21 in)	757 mm (29.80 in)



SFA818A

Measure value under unladen* conditions.

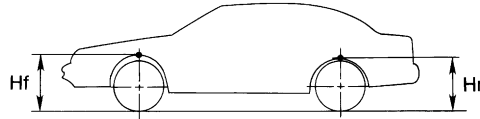
*: Fuel, engine coolant and lubricant are full. Spare tire, jack, hand tools and mats are in designated positions.

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

VK56VD

Item	Standard		
	2WD		AWD
Axle type	2WD		AWD
Wheel size	18 inch	20 inch	18 inch
Front (Hf)	751 mm (29.57 in)	750 mm (29.53 in)	763 mm (30.04 in)
Rear (Hr)	743 mm (29.25 in)	741 mm (29.17 in)	757 mm (29.80 in)



SFA818A

Measure value under unladen* conditions.

*: Fuel, engine coolant and lubricant are full. Spare tire, jack, hand tools and mats are in designated positions.

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