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# FSU

## SECTION

### FRONT SUSPENSION

FSU

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# PRECAUTIONS

[2WD]

## PRECAUTIONS

PPF:00001

### Caution

NES00016

- When installing rubber bushings, the final tightening must be carried out under unladen conditions with tires on ground. 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.

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# PREPARATION

[2WD]

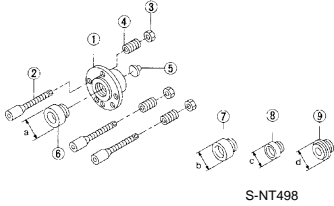
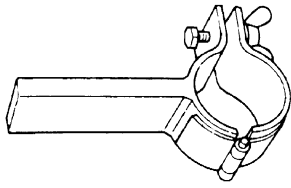
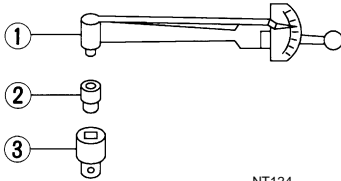
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NES00017

## PREPARATION

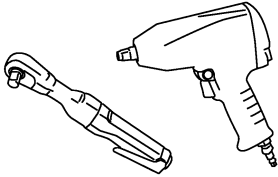
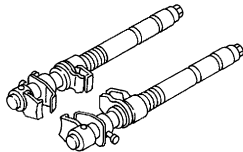
### Special Service Tools [SST]

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
KV991040S0 ( — ) CCK gauge attachment 1. Plate 2. Guide bolt 3. Nut 4. Spring 5. Center plate 6. KV99104020 Adapter A a: 72 mm (2.83 in) dia. 7. KV99104030 Adapter B b: 65 mm (2.56 in) dia. 8. KV99104040 Adapter C c: 57 mm (2.24 in) dia. 9. KV99104050 Adapter D d: 53.4 mm (2.102 in) dia.	 <p style="text-align: center;">S-NT498</p> Measuring wheel alignment
ST35652000 ( — ) Strut attachment	 <p style="text-align: center;">ZZA0807D</p> Disassembling and assembling shock absorber
ST3127S000 (See J-25765-A) Preload Gauge 1. GG91030000 (J-25765-A) Torque wrench 2. HT62940000 ( — ) Socket adapter 3. HT62900000 ( — ) Socket adapter	 <p style="text-align: center;">NT124</p> Measuring rotating torque of ball joint

## Commercial Service Tools

NES00018

Tool name	Description
Power tool	 <p style="text-align: center;">PBIC0190E</p> <ul style="list-style-type: none"> <li>● Removing wheel nuts</li> <li>● Removing torque member fixing bolts</li> <li>● Removing undercover</li> <li>● Removing front suspension components parts</li> <li>● Removing hub lock nut</li> </ul>
Spring compressor	 <p style="text-align: center;">S-NT717</p> Removing and installing coil spring

# NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

[2WD]

## NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

PPF:00003

### NVH Troubleshooting Chart

NES00019

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

Symptom		Possible cause and SUSPECTED PARTS	Reference page												
			FSU-8	FSU-12	—	—	—	FSU-8	FSU-6	FSU-18	NVH in PR section	NVH in FAX and FSU section	NVH in WT section	NVH in BR section	NVH in PS section
Symptom	FRONT SUSPENSION	Noise	x	x	x	x	x	x			x	x	x	x	x
		Shake	x	x	x	x		x			x	x	x	x	x
		Vibration	x	x	x	x	x				x	x			x
		Shimmy	x	x	x	x			x			x	x	x	x
		Judder	x	x	x							x	x	x	x
		Poor quality ride or handling	x	x	x	x	x		x	x		x	x		

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## FRONT SUSPENSION ASSEMBLY

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### On-Vehicle Inspection

NES0001A

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

#### INSPECTION OF UPPER LINK BALL JOINT END PLAY

1. Set front wheels in a straight-ahead position. Do not depress brake pedal.
2. Place an iron bar or similar tool between transverse link and steering knuckle.
3. Measure axial end play by prying it up and down.

**Axial end play : 0 mm (0 in)**

#### **CAUTION:**

**Be careful not to damage ball joint boot. Do not damage the installation position by applying excessive force.**

#### SHOCK ABSORBER INSPECTION

Check for oil leakage, damage and breakage of installation positions.

### Wheel Alignment Inspection DESCRIPTION

NES0001B

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 tires for improper air pressure and wear.
- Check road wheels for runout. Refer to [WT-6, "ROAD WHEEL"](#) .
- Check wheel bearing axial end play. Refer to [FAX-5, "WHEEL BEARING INSPECTION"](#) .
- Check transverse link ball joint axial end play. Refer to [FSU-14, "INSPECTION AFTER REMOVAL"](#) .
- Check shock absorber operation.
- Check each mounting part of axle and suspension for looseness and deformation.
- Check each of suspension member, shock absorber, upper link and transverse link for cracks, deformation and other damage.
- Check 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.

## THE 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). **Do NOT 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). **DO NOT 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.

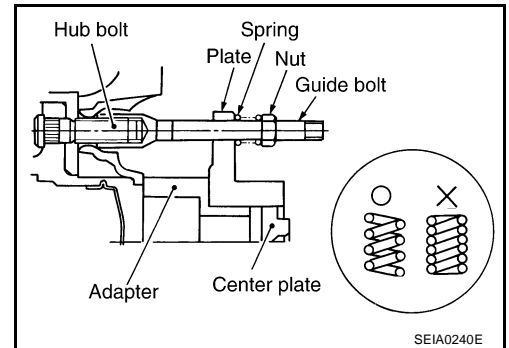
## INSPECTION OF CAMBER, CASTER AND KINGPIN INCLINATION ANGLES

- Camber, caster, kingpin inclination angles cannot be adjusted.
- Before inspection, mount front wheels onto turning radius gauge. Mount rear wheels onto a stand that has same height so vehicle will remain horizontal.

### Using a CCK Gauge

Install the CCK gauge attachment [SST: KV991040S0 ( - )] with the following procedure on wheel, then measure wheel alignment.

1. Remove three wheel nuts, and install the guide bolts to hub bolt.
2. Screw the adapter into the plate until it contacts the plate tightly.
3. Screw the center plate into the plate.
4. Insert the plate assembly on the guide bolt. Put the spring in, and then evenly screw the three guide bolt nuts. When fastening the guide nuts, do not completely compress the spring.



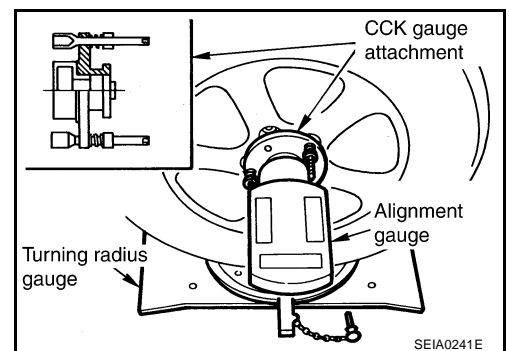
5. Place the dent of alignment gauge onto the projection of the center plate and tightly contact them to measure.

**Camber, caster, kingpin inclination angles:**

Refer to [FSU-19, "SERVICE DATA AND SPECIFICATIONS \(SDS\)"](#).

### CAUTION:

- If camber, caster, or kingpin inclination angle is outside the standard, check front suspension parts for wear and damage. Replace suspect parts if a malfunction is detected.
- Kingpin inclination angle is reference value, no inspection is required.

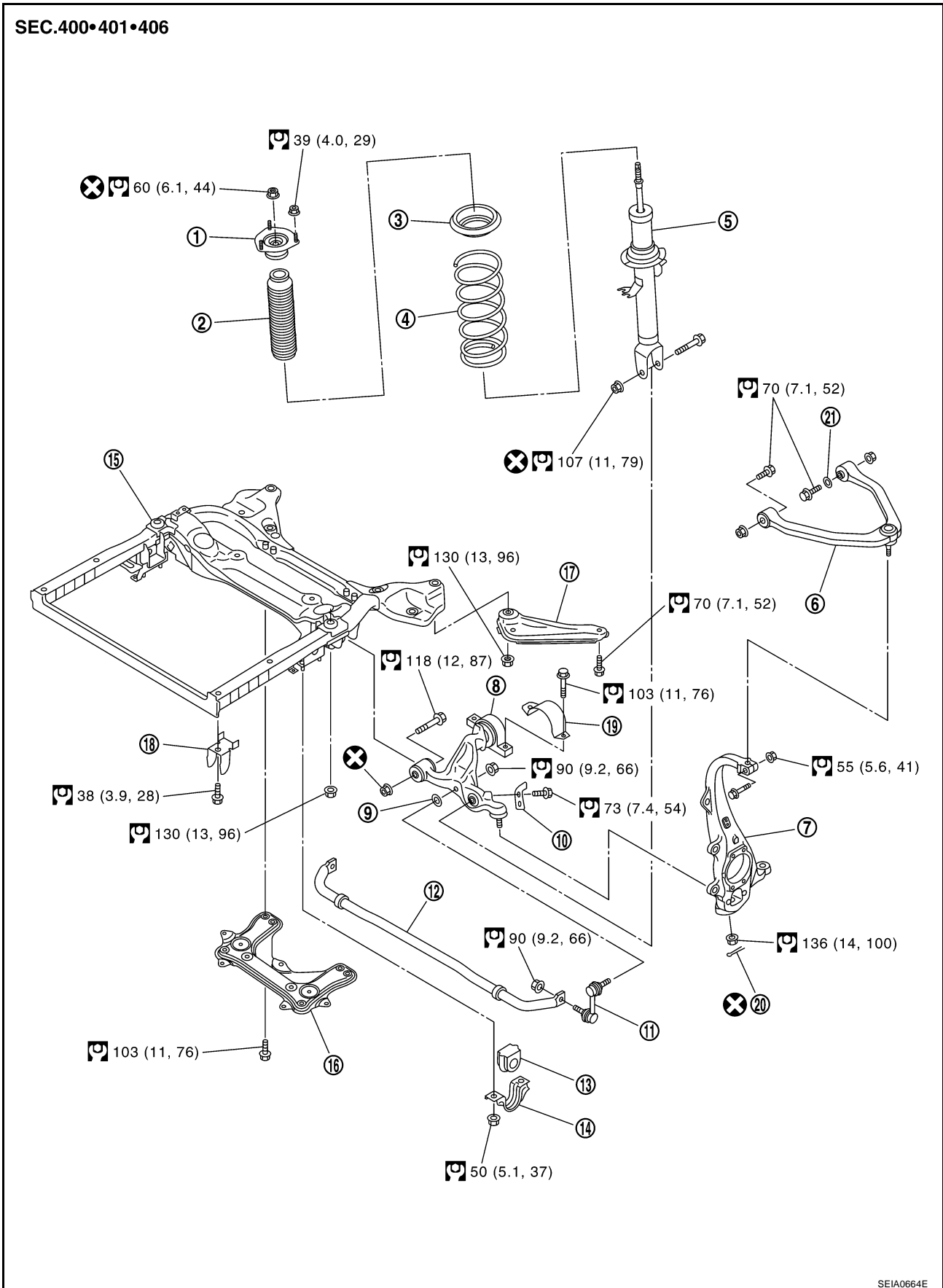


# FRONT SUSPENSION ASSEMBLY

[2WD]

NES0001C

## Components





# FRONT SUSPENSION ASSEMBLY

[2WD]

- |                                    |                               |                             |
|------------------------------------|-------------------------------|-----------------------------|
| 1. Shock absorber mounting bracket | 2. Bound bumper               | 3. Rubber seat              |
| 4. Coil spring                     | 5. Shock absorber             | 6. Upper link               |
| 7. Steering knuckle                | 8. Transverse link            | 9. Washer                   |
| 10. Steering stopper bracket       | 11. Stabilizer connecting rod | 12. Stabilizer bar          |
| 13. Stabilizer bushing             | 14. Stabilizer clamp          | 15. Front suspension member |
| 16. Rack stay                      | 17. Member stay               | 18. Member bracket          |
| 19. Clamp                          | 20. Cotter pin                | 21. Stopper rubber          |

Refer to [GI-11, "Components"](#) , for the symbols in the figure.

## Removal and Installation

### REMOVAL

NES000ID

1. For VK45DE engine models, disconnect related electric wires and hoses from engine assembly to remove front suspension member with engine assembly. Refer to [EM-247, "ENGINE ASSEMBLY"](#) .
2. Remove cowl top panel and hood. Refer to [EI-18, "COWL TOP"](#) , [EI-17, "HOOD"](#) .
3. For VQ35DE engine models, install engine slinger, and then hoist engine. Refer to [EM-114, "Removal and Installation \(2WD Models\)"](#) .
4. Remove tires from vehicle with a power tool.
5. Remove wheel sensor from steering knuckle. Refer to [BRC-54, "WHEEL SENSOR"](#) .

#### CAUTION:

**Do not pull on wheel sensor harness.**

6. Remove brake hose bracket. Refer to [BR-11, "BRAKE TUBE AND HOSE"](#) .
7. Remove undercover with a power tool.
8. Remove cotter pin (1), and then loosen the nut.
9. Remove steering outer socket (2) from steering knuckle (3) so as not to damage ball joint boot (4) using the ball joint remover (suitable tool).

#### CAUTION:

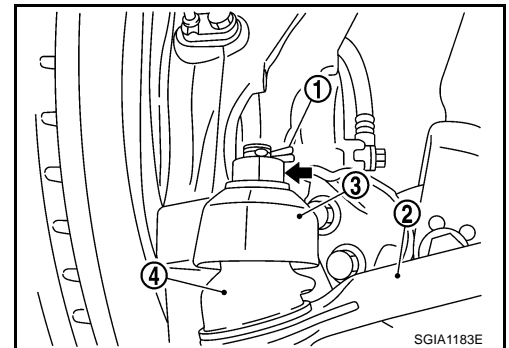
**Temporarily tighten the nut to prevent damage to threads and to prevent the ball joint remover (suitable tool) from suddenly coming off.**

10. Remove the mounting nut on the upper side of stabilizer connecting rod with a power tool, and then remove stabilizer connecting rod from transverse link.
11. Separate steering gear assembly and lower joint. Refer to [PS-13, "STEERING COLUMN"](#) .
12. Remove rack stay. Refer to [FSU-8, "Components"](#) .
13. Remove steering hydraulic piping bracket from front suspension member. Refer to [PS-39, "HYDRAULIC LINE"](#) .
14. Remove the mounting nut and bolt on the lower side of shock absorber with a power tool, and then remove shock absorber from transverse link.
15. Remove cotter pin of transverse link and steering knuckle, and then loosen nut.
16. Set jack under front suspension member.
17. Remove transverse link from steering knuckle so as not to damage ball joint boot using the ball joint remover (suitable tool)

#### CAUTION:

**Temporarily tighten the nut to prevent damage to threads and to prevent ball joint remover (suitable tool) from suddenly coming off.**

18. Remove the mounting nuts of engine mounting insulator. Refer to [EM-114, "ENGINE ASSEMBLY"](#) .
19. Remove the mounting bolts of member bracket, and then remove member bracket from front suspension member with a power tool. Refer to [FSU-8, "Components"](#) .
20. Remove the mounting nut and bolts of member stay, and then remove member stay from front suspension member and vehicle with a power tool.
21. Remove the mounting nut of front suspension member with a power tool. Refer to [FSU-8, "Components"](#) .



# FRONT SUSPENSION ASSEMBLY

[2WD]

- 
22. For VQ35DE engine models, gradually lower a jack to remove front suspension assembly from vehicle.  
For VK45DE engine models, gradually lower a jack to remove front suspension assembly with engine assembly from vehicle.

## INSTALLATION

- Installation is the reverse order of removal. For tightening torque, refer to [FSU-8, "Components"](#) .
- Perform final tightening of each of parts (rubber bushing), under unladen conditions, which were removed when removing front suspension assembly. Check wheel alignment. Refer to [FSU-6, "Wheel Alignment Inspection"](#) .
- Adjust neutral position of steering angle sensor after checking wheel alignment. Refer to [BRC-6, "Adjustment of Steering Angle Sensor Neutral Position"](#) .
- Check wheel sensor harness for proper connection. Refer to [BRC-54, "WHEEL SENSOR"](#) .

## COIL SPRING AND SHOCK ABSORBER

PPF:55302

### Removal and Installation

NES0001E

#### REMOVAL

1. Remove tires from vehicle with a power tool.
  2. Remove harness of wheel sensor from shock absorber. Refer to [BRC-54, "WHEEL SENSOR"](#).
- CAUTION:**  
Do not pull on wheel sensor harness.
3. Remove brake hose bracket. Refer to [BR-11, "BRAKE TUBE AND HOSE"](#).
  4. Remove the mounting nut on the upper side of stabilizer connecting rod with a power tool, and then remove stabilizer connecting rod from transverse link.
  5. Remove mounting nut and bolt on the lower side of shock absorber with a power tool, and then remove shock absorber from transverse link.
  6. Remove cotter pin of transverse link and steering knuckle, and then loosen nut.
  7. Remove transverse link from steering knuckle so as not to damage ball joint boot using the ball joint remover (suitable tool).

**CAUTION:**

Temporarily tighten the nut to prevent damage to threads and to prevent ball joint remover (suitable tool) from suddenly coming off.

8. Remove the mounting nuts of shock absorber mounting bracket, then remove shock absorber from vehicle.

#### INSTALLATION

- Installation is the reverse order of removal. For tightening torque, refer to [FSU-8, "Components"](#).
- Perform final tightening of bolt and nut at the shock absorber lower side (rubber bushing), under unladen conditions with tires on level ground. Check wheel alignment. Refer to [FSU-6, "Wheel Alignment Inspection"](#).
- Adjust neutral position of steering angle sensor after checking wheel alignment. Refer to [BRC-6, "Adjustment of Steering Angle Sensor Neutral Position"](#).
- Check wheel sensor harness for proper connection. Refer to [BRC-54, "WHEEL SENSOR"](#).

### Disassembly and Assembly

NES0001F

#### DISASSEMBLY

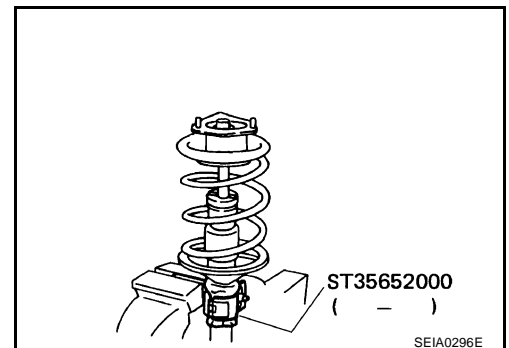
**CAUTION:**

Do not damage shock absorber piston rod when removing components from shock absorber.

1. Install strut attachment [SST] to shock absorber and secure it in a vise.

**CAUTION:**

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



# COIL SPRING AND SHOCK ABSORBER

[2WD]

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

**CAUTION:**

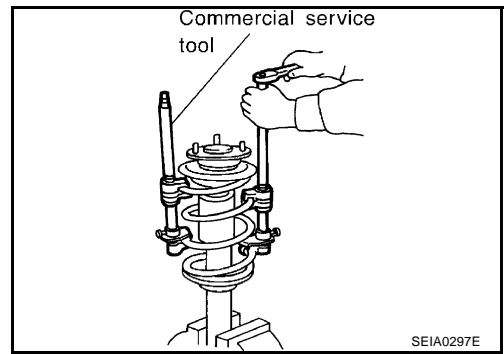
**Be sure a spring compressor is securely attached coil spring. Compress coil spring**

- Make sure coil spring with a spring compressor between rubber seat and spring lower seat (shock absorber) is free and then remove piston rod lock nut while securing the piston rod tip so that piston rod does not turn.
- Remove shock absorber mounting bracket, rubber seat, bound bumper from shock absorber.
- 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.**

- Remove the strut attachment from shock absorber.



## INSPECTION AFTER DISASSEMBLY

### Shock Absorber Inspection

Check the following:

- Shock absorber for deformation, cracks or damage, and replace it if a malfunction is detected.
- Piston rod for damage, uneven wear or distortion, and replace it if a malfunction is detected.
- For oil leakage, and replace it if a malfunction is detected.

### Shock Absorber Mounting Bracket and Rubber Parts Inspection

Check shock absorber mounting bracket for cracks and rubber parts for wear. Replace it if a malfunction is detected.

### Coil Spring Inspection

Check coil spring for cracks, wear or damage, and replace it if a malfunction is detected.

## ASSEMBLY

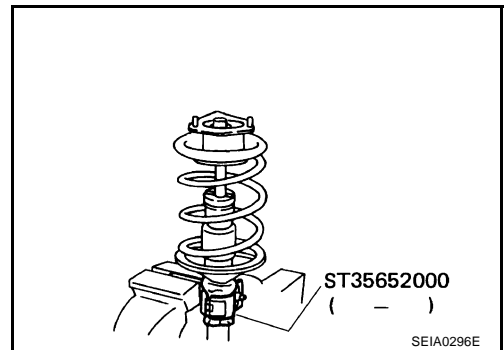
**CAUTION:**

**Do not damage shock absorber piston rod when installing components to shock absorber.**

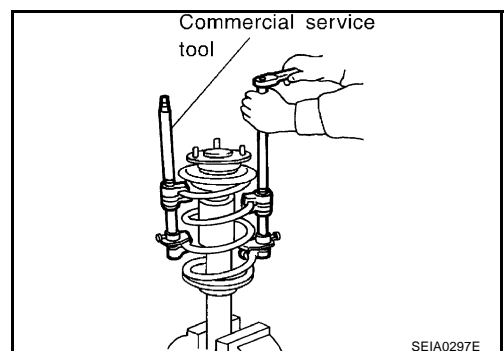
- Install strut attachment [SST] to shock absorber and secure it in a vise.

**CAUTION:**

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



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



# COIL SPRING AND SHOCK ABSORBER

[2WD]

**CAUTION:**

- Install coil spring as shown in the figure with large diameter side [100 mm (3.94 in)] up and small diameter side [90 mm (3.54 in)] down. (Distinction marks are 4.75 and 5.75 turn from the lower side end.)
- Be sure a spring compressor is securely attached to coil spring. Compress coil spring.

3. Apply soapy water to bound bumper. Insert bound bumper into shock absorber mounting bracket, and then install it to shock absorber together with rubber seat.

**CAUTION:**

**Do not use machine oil.**

- Install shock absorber mounting bracket as shown in the figure.

**CAUTION:**

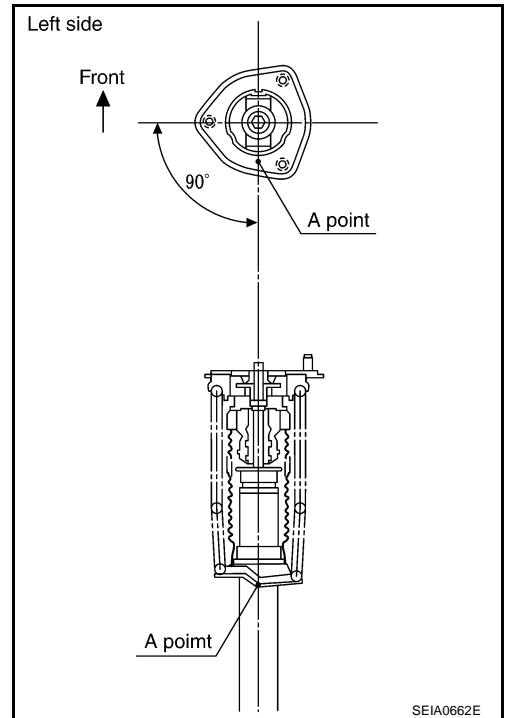
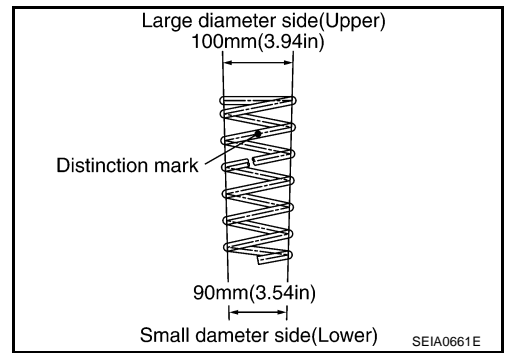
- Coil spring is securely seated in spring mounting groove of rubber seat.
- The bottom part of spring should be at the position of A point of spring seat.

4. Secure piston rod tip so that piston rod does not turn, then tighten piston rod lock nut with specified torque.
5. Gradually release a spring compressor, and remove coil spring.

**CAUTION:**

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

6. Remove the strut attachment from shock absorber.



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## TRANSVERSE LINK

### Removal and Installation

#### REMOVAL

1. Remove tires from vehicle with a power tool.
2. Remove undercover with a power tool.
3. Remove the mounting nut on the upper side of stabilizer connecting rod with a power tool, and then remove stabilizer connecting rod from transverse link.
4. Separate steering gear assembly and lower joint. Refer to [PS-13, "STEERING COLUMN"](#) .
5. Remove rack stay. Refer to [FSU-8, "Components"](#) .
6. Remove the mounting nut and bolt on the lower side of shock absorber with a power tool, and then remove shock absorber from transverse link.
7. Remove transverse link from steering knuckle. Refer to [FAX-5, "Removal and Installation"](#) .
8. Set jack under front suspension member.
9. Remove the mounting bolts of member bracket, and then remove member bracket from front suspension member with a power tool. Refer to [FSU-8, "Components"](#) .
10. Remove the mounting nut and bolts of member stay, and then remove member stay from front suspension member and vehicle with a power tool.
11. Remove the mounting nut of front suspension member with a power tool. Refer to [FSU-8, "Components"](#) .
12. Gradually lower the suspension member to the position where transverse link mounting bolts is remove.

#### CAUTION:

**Be careful not to lower it too far. (Do not overload the links)**

13. Remove mounting nut and bolts, and then remove transverse link from vehicle.

#### INSPECTION AFTER REMOVAL

##### Visual Inspection

- Check transverse link and bushing for deformation, cracks or damage. Replace it if a malfunction is detected.
- Check ball joint boot for cracks or other damage, and also for grease leakage. Replace it if a malfunction is detected.

##### Ball Joint Inspection

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

##### Swing Torque Inspection

#### NOTE:

Before measurement, move ball stud at least ten times by hand to check for smooth movement.

- Hook a spring balance at cotter pin mounting hole. Confirm spring balance measurement value is within specifications when ball stud begins moving.

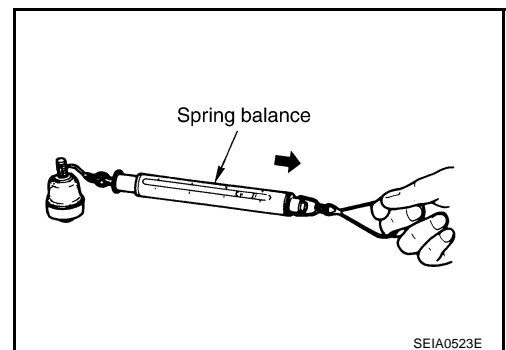
#### Swing torque

: 0.5 - 3.6 N·m (0.06 - 0.36 kg·m, 5 - 31 in·lb)

#### Spring balance measurement

: 7.8 - 56.3 N (0.8 - 5.7 kg, 1.8 - 12.5 lb)

- If it is outside the specified range, replace transverse link assembly.



# TRANSVERSE LINK

[2WD]

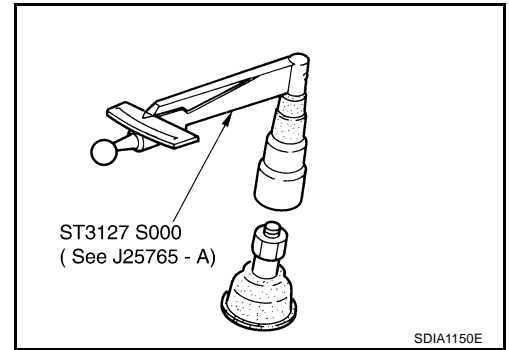
## Rotating Torque Inspection

- Attach mounting nut to ball stud. Make sure that rotating torque is within specifications with a preload gauge [SST].

### Rotating torque

: 0.5 - 3.9 N·m (0.06 - 0.39 kg·m, 5 - 34 in·lb)

- If it is outside the specified range, replace transverse link assembly.



## Axial End Play Inspection

- Move tip of ball stud in axial direction to check for looseness.

**Axial end play : 0 mm (0 in)**

- If it is outside the specified range, replace transverse link assembly.

## INSTALLATION

- Installation is the reverse order of removal. For tightening torque, refer to [FSU-8, "Components"](#) .
- Perform final tightening of bolts and nuts at the front suspension member installation position and the shock absorber lower side (rubber bushing) under unladen conditions with tires on level ground. Check wheel alignment. Refer to [FSU-6, "Wheel Alignment Inspection"](#) .
- Adjust neutral position of steering angle sensor after checking wheel alignment. Refer to [BRC-6, "Adjustment of Steering Angle Sensor Neutral Position"](#) .

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## UPPER LINK

### Removal and Installation

#### REMOVAL

1. Remove tires from vehicle with a power tool.
2. Remove shock absorber. Refer to [FSU-11, "COIL SPRING AND SHOCK ABSORBER"](#).
3. Remove mounting nut and bolt with a power tool, and then remove upper link from steering knuckle.
4. Remove mounting nuts and bolts, and then remove upper link and stopper rubber from vehicle.

#### INSPECTION AFTER REMOVAL

##### Visual Inspection

Check the following:

- Upper link and bushing for deformation, cracks or damage. Replace it if a malfunction is detected.
- Ball joint boot for cracks or other damage, and also for grease leakage. Replace it if a malfunction is detected.

##### Ball Joint Inspection

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

##### Swing Torque Inspection

###### NOTE:

Before measurement, move ball stud at least ten times by hand to check for smooth movement.

- Hook a spring balance at cutout on ball stud. Confirm spring balance measurement value is within specifications when ball stud begins moving.

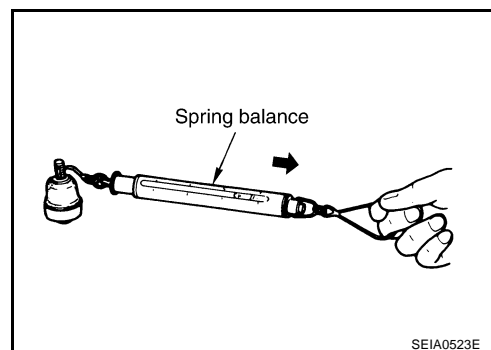
###### Swing torque

: 0 - 2.0 N·m (0 - 0.2 kg·m, 0 - 17 in·lb)

###### Spring balance measurement

: 0 - 61.5 N (0 - 6.2 kg, 0 - 13.6 lb)

- If it is outside the specified range, replace upper link assembly.



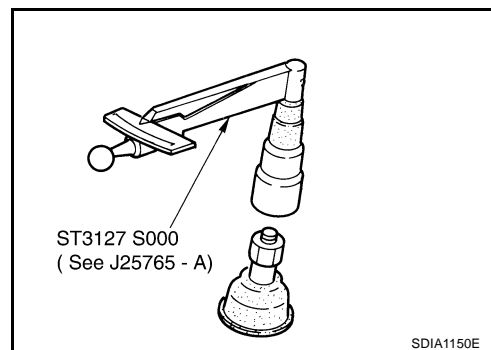
##### Rotating Torque Inspection

- Attach mounting nut to ball stud. Make sure that rotating torque is within specifications with a preload gauge [SST].

###### Rotating torque

: 0 - 2.0 N·m (0 - 0.2 kg·m, 0 - 17 in·lb)

- If it is outside the specified range, replace upper link assembly.



##### Axial End Play Inspection

- Move tip of ball stud in axial direction to check for looseness.

**Axial end play : 0 mm (0 in)**

- If it is outside the specified range, replace upper link assembly.

#### INSTALLATION

- Installation is the reverse order of removal. For tightening torque, refer to [FSU-8, "Components"](#).
- Perform final tightening of bolts and nuts at the vehicle installation position (rubber bushing) under unladen conditions with tires on level ground. Check wheel alignment. Refer to [FSU-6, "Wheel Alignment Inspection"](#).



## UPPER LINK

[2WD]

- Adjust neutral position of steering angle sensor after checking wheel alignment. Refer to [BRC-6, "Adjustment of Steering Angle Sensor Neutral Position"](#) .

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## STABILIZER BAR

PFP:54611

### Removal and Installation

NES000II

#### REMOVAL

1. Remove tires from vehicle with a power tool.
2. Remove undercover with a power tool.
3. Remove the mounting nut on the lower side of stabilizer connecting rod with a power tool, and then remove stabilizer connecting rod from stabilizer bar.
4. If necessary remove the mounting nut on the upper side of stabilizer connecting rod with a power tool, and then remove stabilizer connecting rod from transverse link.
5. Remove the mounting nuts of stabilizer clamp, and then remove stabilizer clamp and stabilizer bushing.
6. Remove stabilizer bar from vehicle.

#### INSPECTION AFTER REMOVAL

Check stabilizer bar, stabilizer connecting rod, stabilizer bushing and stabilizer clamp for deformation, cracks or damage. Replace it if a malfunction is detected.

#### INSTALLATION

Installation is the reverse order of removal. For tightening torque, refer to [FSU-8, "Components"](#) .

# SERVICE DATA AND SPECIFICATIONS (SDS)

[2WD]

## SERVICE DATA AND SPECIFICATIONS (SDS)

PF0:00030

### Wheel Alignment (Unladen \*)

NES000U

Tire size		245/45R18	245/40R19	
Camber Degree minute (Decimal degree)	Minimum	-1° 00' (-1.00°)		
	Nominal	-0° 15' (-0.25°)		
	Maximum	0° 30' (0.50°)		
	Left and right difference	33' (0.55°) or less		
Caster Degree minute (Decimal degree)	Minimum	3° 45' (3.75°)	3° 50' (3.83°)	
	Nominal	4° 30' (4.50°)	4° 35' (4.58°)	
	Maximum	5° 15' (5.25°)	5° 20' (5.33°)	
	Left and right difference	39' (0.65°) or less		
Kingpin inclination Degree minute (Decimal degree)	Minimum	6° 30' (6.50°)		
	Nominal	7° 15' (7.25°)		
	Maximum	8° 00' (8.00°)		
Total toe-in	Distance	Minimum	0 mm (0 in)	
		Nominal	In 1 mm (0.04 in)	
		Maximum	In 2 mm (0.08 in)	
	Angle (left wheel or right wheel) Degree minute (Decimal degree)	Minimum	0' (0°)	
		Nominal	In 3' (0.05°)	
		Maximum	In 6' (0.10°)	

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

### Ball Joint

NES000IK

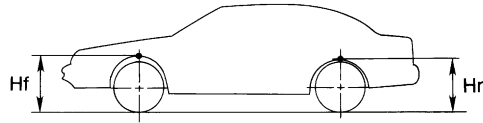
Swing torque	Transverse link	0.5 - 3.6 N·m (0.06 - 0.36 kg-m, 5 - 31 in-lb)
	Upper link	0 - 2.0 N·m (0 - 0.2 kg-m, 0 - 17 in-lb)
Measurement on spring balance	Transverse link	7.8 - 56.3 N (0.8 - 5.7 kg, 1.8 - 12.5 lb)
	Upper link	0 - 61.5 N (0 - 6.2 kg, 0 - 13.6 lb)
Rotating torque	Transverse link	0.5 - 3.9 N·m (0.06 - 0.39 kg-m, 5 - 34 in-lb)
	Upper link	0 - 2.0 N·m (0 - 0.2 kg-m, 0 - 17 in-lb)
Axial end play		0 mm (0 in)

# SERVICE DATA AND SPECIFICATIONS (SDS)

[2WD]

## Wheelarch Height (Unladen\*)

NES000L



SFA818A

Tire size		245/45R18	245/40R19
Front (Hf)	USA	717 mm (28.23 in)	721 mm (28.39 in)
	CANADA	718 mm (28.27 in)	
Rear (Hr)	USA	710 mm (27.95 in)	711 mm (27.99 in)
	CANADA	711 mm (27.99 in)	

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

# PRECAUTIONS

[AWD]

## PRECAUTIONS

PPF:00001

### Caution

NES0001M

- When installing rubber bushings, the final tightening must be carried out under unladen conditions with tires on ground. 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.

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# PREPARATION

[AWD]

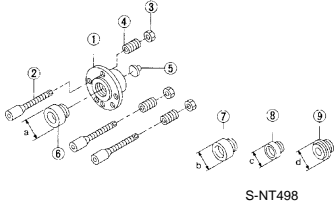
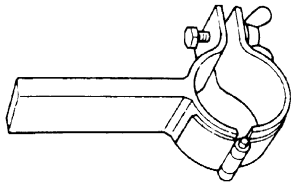
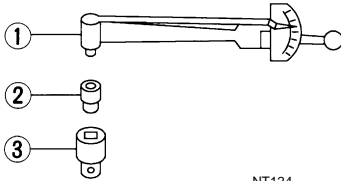
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NES0001N

## PREPARATION

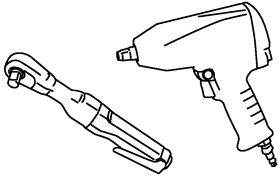
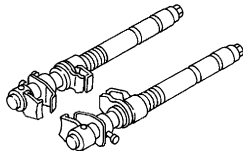
### Special Service Tools [SST]

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
KV991040S0 ( — ) CCK gauge attachment 1. Plate 2. Guide bolt 3. Nut 4. Spring 5. Center plate 6. KV99104020 Adapter A a: 72 mm (2.83 in) dia. 7. KV99104030 Adapter B b: 65 mm (2.56 in) dia. 8. KV99104040 Adapter C c: 57 mm (2.24 in) dia. 9. KV99104050 Adapter D d: 53.4 mm (2.102 in) dia.	 <p style="text-align: center;">S-NT498</p>	Measuring wheel alignment
ST35652000 ( — ) Strut attachment	 <p style="text-align: center;">ZZA0807D</p>	Disassembling and assembling shock absorber
ST3127S000 (See J-25765-A) Preload Gauge 1. GG91030000 (J-25765-A) Torque wrench 2. HT62940000 ( — ) Socket adapter 3. HT62900000 ( — ) Socket adapter	 <p style="text-align: center;">NT124</p>	Measuring rotating torque of ball joint

## Commercial Service Tools

NES0001O

Tool name		Description
Power tool	 <p style="text-align: center;">PBIC0190E</p>	<ul style="list-style-type: none"> <li>● Removing wheel nuts</li> <li>● Removing torque member fixing bolts</li> <li>● Removing undercover</li> <li>● Removing front suspension components parts</li> <li>● Removing hub lock nut</li> </ul>
Spring compressor	 <p style="text-align: center;">S-NT717</p>	Removing and installing coil spring

# NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

[AWD]

## NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

PFP:00003

### NVH Troubleshooting Chart

NES0001P

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

Reference page		FSU-26	FSU-30	—	—	—	FSU-26	FSU-24	FSU-36	NVH in PR section	NVH in RFD section	NVH in FAX and FSU section	NVH in WT section	NVH in FAX section	NVH in BR section	NVH in PS section		
Possible cause and SUSPECTED PARTS		Improper installation, looseness	Strut deformation, damage or deflection	Bushing or mounting deterioration	Parts interference	Spring fatigue	Suspension looseness	Incorrect wheel alignment	Stabilizer bar fatigue	PROPELLER SHAFT	DIFFERENTIAL	FRONT AXLE AND FRONT SUSPENSION	ROAD WHEEL	DRIVE SHAFT	BRAKES	STEERING		
Symptom	FRONT SUSPENSION	Noise	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	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

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## FRONT SUSPENSION ASSEMBLY

PFP:54010

### On-Vehicle Inspection

NES0001Q

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

#### INSPECTION OF UPPER LINK BALL JOINT END PLAY

1. Set front wheels in a straight-ahead position. Do not depress brake pedal.
2. Place an iron bar or similar tool between transverse link and steering knuckle.
3. Measure axial end play by prying it up and down.

**Axial end play : 0 mm (0 in)**

#### **CAUTION:**

**Be careful not to damage ball joint boot. Do not damage the installation position by applying excessive force.**

#### SHOCK ABSORBER INSPECTION

Check for oil leakage, damage and breakage of installation positions.

### Wheel Alignment Inspection DESCRIPTION

NES0001R

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:

1. Check tires for improper air pressure and wear.
2. Check road wheels for runout. Refer to [WT-6, "ROAD WHEEL"](#) .
3. Check wheel bearing axial end play. Refer to [FAX-5, "WHEEL BEARING INSPECTION"](#) .
4. Check transverse link ball joint axial end play. Refer to [FSU-32, "INSPECTION AFTER REMOVAL"](#) .
5. Check shock absorber operation.
6. Check each mounting part of axle and suspension for looseness and deformation.
7. Check each of suspension member, shock absorber, upper link and transverse link for cracks, deformation and other damage.
8. Check 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.



## THE 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). **Do NOT 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). **DO NOT 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.

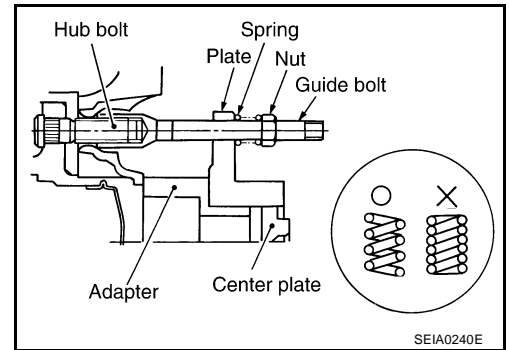
## INSPECTION OF CAMBER, CASTER AND KINGPIN INCLINATION ANGLES

- Camber, caster, kingpin inclination angles cannot be adjusted.
- Before inspection, mount front wheels onto turning radius gauge. Mount rear wheels onto a stand that has same height so vehicle will remain horizontal.

### Using a CCK Gauge

Install the CCK gauge attachment [SST: KV991040S0 ( - )] with the following procedure on wheel, then measure wheel alignment.

1. Remove three wheel nuts, and install the guide bolts to hub bolt.
2. Screw the adapter into the plate until it contacts the plate tightly.
3. Screw the center plate into the plate.
4. Insert the plate assembly on the guide bolt. Put the spring in, and then evenly screw the three guide bolt nuts. When fastening the guide nuts, do not completely compress the spring.



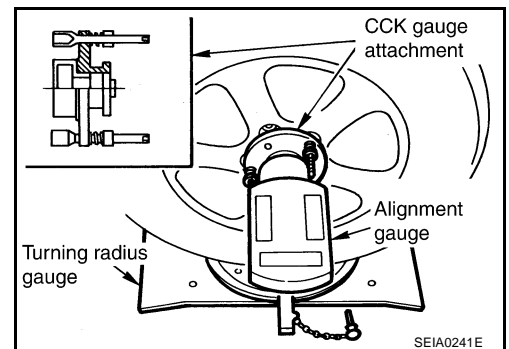
5. Place the dent of alignment gauge onto the projection of the center plate and tightly contact them to measure.

**Camber, caster, kingpin inclination angles:**

Refer to [FSU-37, "SERVICE DATA AND SPECIFICATIONS \(SDS\)"](#) .

### CAUTION:

- If camber, caster, or kingpin inclination angle is outside the standard, check front suspension parts for wear and damage. Replace suspect parts if a malfunction is detected.
- Kingpin inclination angle is reference value, no inspection is required.



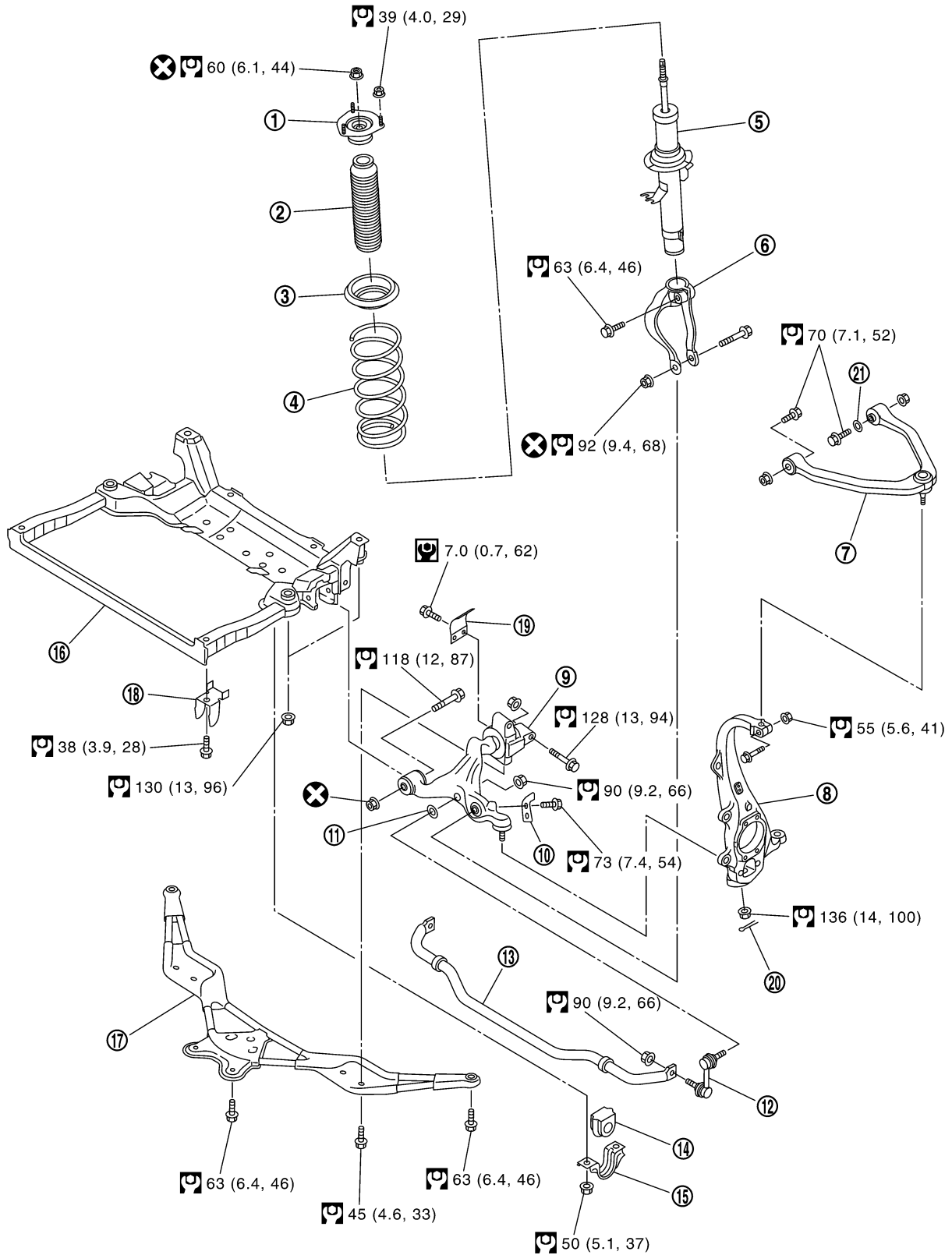
# FRONT SUSPENSION ASSEMBLY

[AWD]

## Components

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SEC.400•401•406



SEIA0665E

# FRONT SUSPENSION ASSEMBLY

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- |                                    |                        |                               |
|------------------------------------|------------------------|-------------------------------|
| 1. Shock absorber mounting bracket | 2. Bound bumper        | 3. Rubber seat                |
| 4. Coil spring                     | 5. Shock absorber      | 6. Shock absorber arm         |
| 7. Upper link                      | 8. Steering knuckle    | 9. Transverse link            |
| 10. Steering stopper bracket       | 11. Washer             | 12. Stabilizer connecting rod |
| 13. Stabilizer bar                 | 14. Stabilizer bushing | 15. Stabilizer clamp          |
| 16. Front suspension member        | 17. Front cross bar    | 18. Member bracket            |
| 19. Clamp                          | 20. Cotter pin         | 21. Stopper rubber            |

Refer to [GI-11, "Components"](#) , for the symbols in the figure.

## Removal and Installation

### REMOVAL

1. Remove cowl top panel and hood. Refer to [EI-18, "COWL TOP"](#) , [EI-17, "HOOD"](#) .
2. Install engine slinger, and then hoist engine. Refer to [EM-119, "Removal and Installation \(AWD Models\)"](#) .
3. Remove tires from vehicle with a power tool.
4. Remove wheel sensor from steering knuckle. Refer to [BRC-54, "WHEEL SENSOR"](#) .

#### CAUTION:

**Do not pull on wheel sensor harness.**

5. Remove brake hose bracket. Refer to [BR-11, "BRAKE TUBE AND HOSE"](#) .
6. Remove undercover with a power tool.
7. Remove cotter pin (1), and then loosen the nut.
8. Remove steering outer socket (2) from steering knuckle (3) so as not to damage ball joint boot (4) using the ball joint remover (suitable tool).

#### CAUTION:

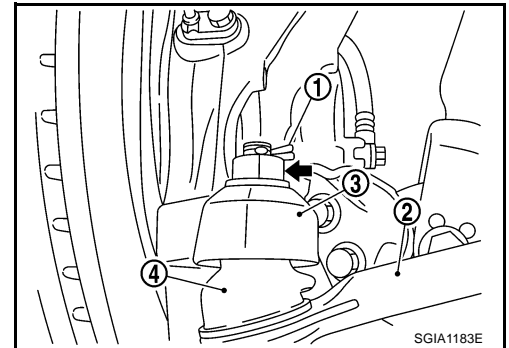
**Temporarily tighten the nut to prevent damage to threads and to prevent the ball joint remover (suitable tool) from suddenly coming off.**

9. Remove the mounting nut on the upper side of stabilizer connecting rod with a power tool, and then remove stabilizer connecting rod from transverse link.
10. Separate steering gear assembly and lower joint. Refer to [PS-13, "STEERING COLUMN"](#) .
11. Remove front cross bar. Refer to [FSU-26, "Components"](#) .
12. Remove steering hydraulic piping bracket from front suspension member. Refer to [PS-39, "HYDRAULIC LINE"](#) .
13. Remove the mounting nut and bolt on the lower side of shock absorber arm with a power tool, and then remove shock absorber arm from transverse link.
14. Remove cotter pin of transverse link and steering knuckle, and then loosen nut.
15. Remove transverse link from steering knuckle so as not to damage ball joint boot using the ball joint remover (suitable tool).

#### CAUTION:

**Temporarily tighten the nut to prevent damage to threads and to prevent ball joint remover (suitable tool) from suddenly coming off.**

16. Set jack under front suspension member.
17. Remove the mounting nuts of engine mounting insulator. Refer to [EM-114, "ENGINE ASSEMBLY"](#) .
18. Remove the mounting bolts of member bracket, and then remove member bracket from front suspension member with a power tool. Refer to [FSU-26, "Components"](#) .
19. Remove the mounting nuts of front suspension member with a power tool. Refer to [FSU-26, "Components"](#) .
20. Gradually lower a jack to remove front suspension assembly from vehicle.



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## INSTALLATION

- Installation is the reverse order of removal. For tightening torque, refer to [FSU-26, "Components"](#) .
- Perform final tightening of each of parts (rubber bushing), under unladen conditions, which were removed when removing front suspension assembly. Check wheel alignment. Refer to [FSU-24, "Wheel Alignment Inspection"](#) .
- Adjust neutral position of steering angle sensor after checking wheel alignment. Refer to [BRC-6, "Adjustment of Steering Angle Sensor Neutral Position"](#) .
- Check wheel sensor harness for proper connection. Refer to [BRC-54, "WHEEL SENSOR"](#) .

## COIL SPRING AND SHOCK ABSORBER

PFP:55302

### Removal and Installation

NES000IU

#### REMOVAL

1. Remove tires from vehicle with a power tool.
2. Remove harness of wheel sensor from shock absorber. Refer to [BRC-54, "WHEEL SENSOR"](#).  
**CAUTION:**  
**Do not pull on wheel sensor harness.**
3. Remove brake hose bracket. Refer to [BR-11, "BRAKE TUBE AND HOSE"](#).
4. Remove the mounting nut on the upper side of stabilizer connecting rod with a power tool, and then remove stabilizer connecting rod from transverse link.
5. Remove mounting nut and bolt on the lower side of shock absorber arm with a power tool, and then remove shock absorber arm from transverse link.
6. Remove cotter pin of transverse link and steering knuckle, and then loosen nut.
7. Remove transverse link from steering knuckle so as not to damage ball joint boot using the ball joint remover (suitable tool).  
**CAUTION:**  
**Temporarily tighten the nut to prevent damage to threads and to prevent ball joint remover (suitable tool) from suddenly coming off.**
8. Remove the mounting bolt on the upper side of shock absorber arm with a power tool, and then remove shock absorber arm from shock absorber.
9. Remove the mounting nuts of shock absorber mounting bracket, then remove shock absorber from vehicle.

#### INSTALLATION

- Installation is the reverse order of removal. For tightening torque, refer to [FSU-26, "Components"](#).
- Perform final tightening of bolt and nut at the shock absorber arm lower side (rubber bushing) under unladen conditions with tires on level ground. Check wheel alignment. Refer to [FSU-24, "Wheel Alignment Inspection"](#).
- Adjust neutral position of steering angle sensor after checking wheel alignment. Refer to [BRC-6, "Adjustment of Steering Angle Sensor Neutral Position"](#).
- Check wheel sensor harness for proper connection. Refer to [BRC-54, "WHEEL SENSOR"](#).

### Disassembly and Assembly

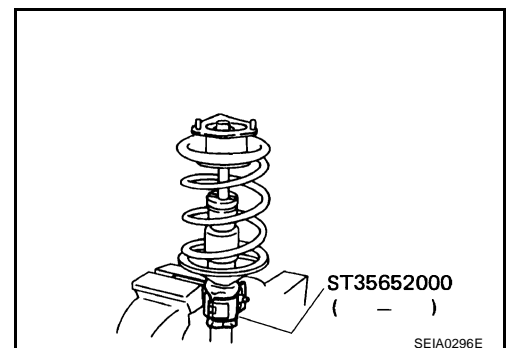
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#### DISASSEMBLY

**CAUTION:**  
**Do not damage shock absorber piston rod when removing components from shock absorber.**

1. Install strut attachment [SST] to shock absorber and secure it in a vise.

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



# COIL SPRING AND SHOCK ABSORBER

[AWD]

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

**CAUTION:**

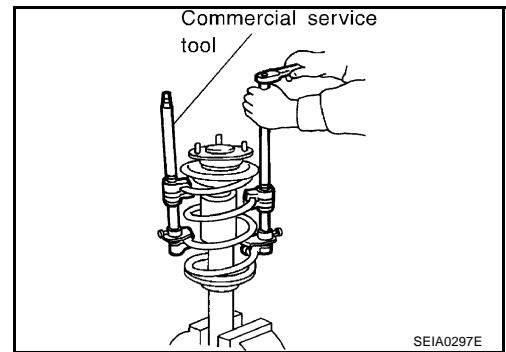
**Be sure a spring compressor is securely attached coil spring. Compress coil spring**

- Make sure coil spring with a spring compressor between rubber seat and spring lower seat (shock absorber) is free and then remove piston rod lock nut while securing the piston rod tip so that piston rod does not turn.
- Remove shock absorber mounting bracket, rubber seat, bound bumper from shock absorber.
- 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.**

- Remove the strut attachment from shock absorber.



## INSPECTION AFTER DISASSEMBLY

### Shock Absorber Inspection

Check the following:

- Shock absorber for deformation, cracks or damage, and replace it if a malfunction is detected.
- Piston rod for damage, uneven wear or distortion, and replace it if a malfunction is detected.
- For oil leakage, and replace it if a malfunction is detected.

### Shock Absorber Mounting Bracket and Rubber Parts Inspection

Check shock absorber mounting bracket for cracks and rubber parts for wear. Replace it if a malfunction is detected

### Coil Spring Inspection

Check coil spring for cracks, wear or damage, and replace it if a malfunction is detected.

## ASSEMBLY

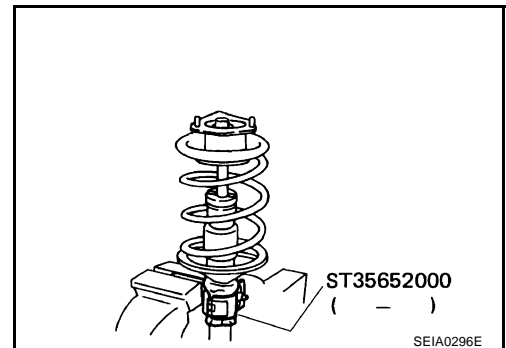
**CAUTION:**

**Do not damage shock absorber piston rod when installing components to shock absorber.**

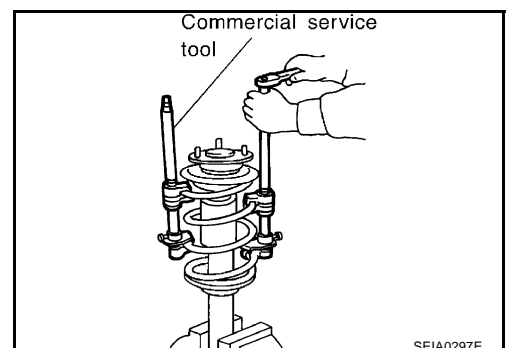
- Install strut attachment [SST] to shock absorber and secure it in a vise.

**CAUTION:**

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



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



# COIL SPRING AND SHOCK ABSORBER

[AWD]

**CAUTION:**

- Install coil spring as shown in the figure with large diameter side [100 mm (3.94 in)] up and small diameter side [90 mm (3.54 in)] down. (Distinction marks are 4.75 and 5.75 turn from the lower side end.)
- Be sure a spring compressor is securely attached to coil spring. Compress coil spring.

3. Apply soapy water to bound bumper. Insert bound bumper into shock absorber mounting bracket, and then install it to shock absorber together with rubber seat.

**CAUTION:**

**Do not use machine oil.**

- Install shock absorber mounting bracket as shown in the figure.

**CAUTION:**

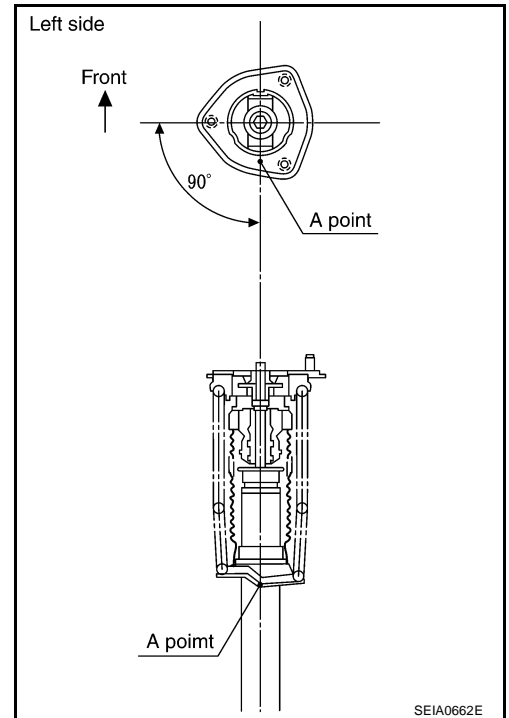
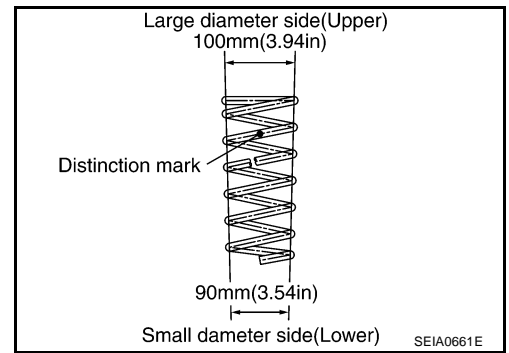
- Coil spring is securely seated in spring mounting groove of rubber seat.
- The bottom part of spring should be at the position of A point of spring seat.

4. Secure piston rod tip so that piston rod does not turn, then tighten piston rod lock nut with specified torque.
5. Gradually release a spring compressor, and remove coil spring.

**CAUTION:**

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

6. Remove the strut attachment from shock absorber.



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## TRANSVERSE LINK

PFP:54500

### Removal and Installation

#### REMOVAL

NES000IW

1. Remove tires from vehicle with a power tool.
2. Remove undercover with a power tool.
3. Remove the mounting nut on the upper side of stabilizer connecting rod with a power tool, and then remove stabilizer connecting rod from transverse link.
4. Remove the mounting nut and bolt on the lower side of shock absorber arm with a power tool, and then remove shock absorber arm from transverse link.
5. Remove front cross bar. Refer to [FSU-26, "Components"](#).
6. Remove transverse link from steering knuckle. Refer to [FAX-5, "Removal and Installation"](#).
7. Remove mounting nuts and bolts, and then remove transverse link from vehicle.

#### INSPECTION AFTER REMOVAL

##### Visual Inspection

Check the following:

- Transverse link and bushing for deformation, cracks or damage. Replace it if a malfunction is detected.
- Ball joint boot for cracks or other damage, and also for grease leakage. Replace it if a malfunction is detected.

##### Ball Joint Inspection

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

##### Swing Torque Inspection

###### NOTE:

Before measurement, move ball stud at least ten times by hand to check for smooth movement.

- Hook a spring balance at cotter pin mounting hole. Confirm spring balance measurement value is within specifications when ball stud begins moving.

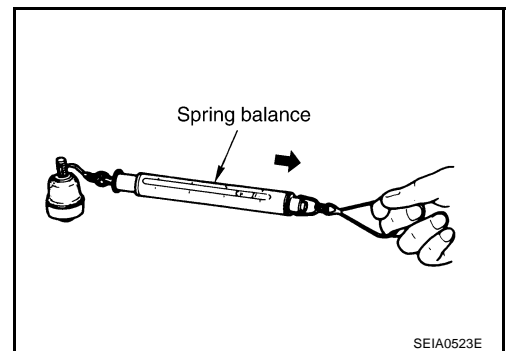
###### Swing torque

: 0.5 - 3.6 N·m (0.06 - 0.36 kg·m, 5 - 31 in·lb)

###### Spring balance measurement

: 7.8 - 56.3 N (0.8 - 5.7 kg, 1.8 - 12.5 lb)

- If it is outside the specified range, replace transverse link assembly.



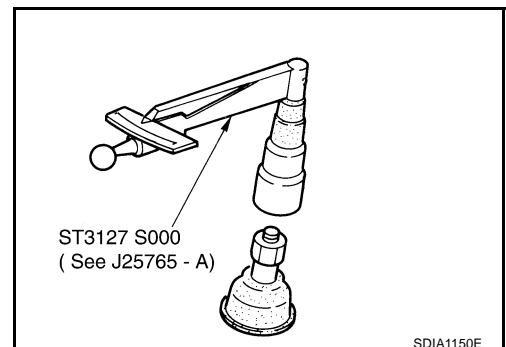
##### Rotating Torque Inspection

- Attach mounting nut to ball stud. Make sure that rotating torque is within specifications with a preload gauge [SST].

###### Rotating torque

: 0.5 - 3.9 N·m (0.06 - 0.39 kg·m, 5 - 34 in·lb)

- If it is outside the specified range, replace transverse link assembly.



##### Axial End Play Inspection

- Move tip of ball stud in axial direction to check for looseness.

**Axial end play : 0 mm (0 in)**

- If it is outside the specified range, replace transverse link assembly.



## INSTALLATION

- Installation is the reverse order of removal. For tightening torque, refer to [FSU-26, "Components"](#) .
- Perform final tightening of bolts and nuts at the front suspension member installation position and the shock absorber lower side (rubber bushing) under unladen conditions with tires on level ground. Check wheel alignment. Refer to [FSU-24, "Wheel Alignment Inspection"](#) .
- Adjust neutral position of steering angle sensor after checking wheel alignment. Refer to [BRC-6, "Adjustment of Steering Angle Sensor Neutral Position"](#) .

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## UPPER LINK

### Removal and Installation

#### REMOVAL

1. Remove tires from vehicle with a power tool.
2. Remove shock absorber. Refer to [FSU-29, "COIL SPRING AND SHOCK ABSORBER"](#) .
3. Remove mounting nut and bolt with a power tool, and then remove upper link from steering knuckle.
4. Remove mounting nuts and bolts, and then remove upper link and stopper rubber from vehicle.

#### INSPECTION AFTER REMOVAL

##### Visual Inspection

Check the following:

- Upper link and bushing for deformation, cracks or damage. Replace it if a malfunction is detected.
- Ball joint boot for cracks or other damage, and also for grease leakage. Replace it if a malfunction is detected.

##### Ball Joint Inspection

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

##### Swing Torque Inspection

###### NOTE:

Before measurement, move ball stud at least ten times by hand to check for smooth movement.

- Hook a spring balance at cutout on ball stud. Confirm spring balance measurement value is within specifications when ball stud begins moving.

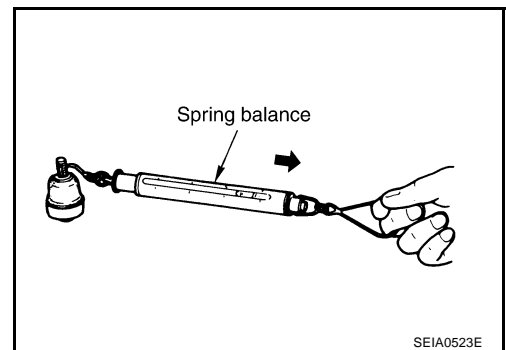
###### Swing torque

: 0 - 2.0 N·m (0 - 0.2 kg·m, 0 - 17 in·lb)

###### Spring balance measurement

: 0 - 61.5 N (0 - 6.2 kg, 0 - 13.6 lb)

- If it is outside the specified range, replace upper link assembly.



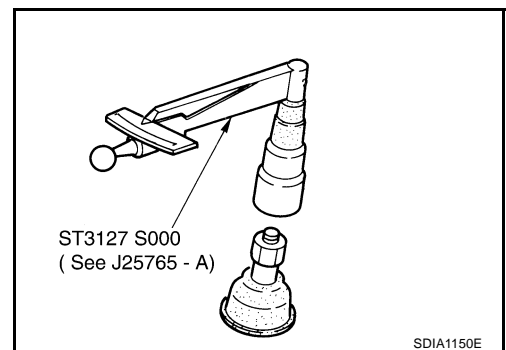
##### Rotating Torque Inspection

- Attach mounting nut to ball stud. Make sure that rotating torque is within specifications with a preload gauge [SST].

###### Rotating torque

: 0 - 2.0 N·m (0 - 0.2 kg·m, 0 - 17 in·lb)

- If it is outside the specified range, replace upper link assembly.



##### Axial End Play Inspection

- Move tip of ball stud in axial direction to check for looseness.

**Axial end play : 0 mm (0 in)**

- If it is outside the specified range, replace upper link assembly.

#### INSTALLATION

- Installation is the reverse order of removal. For tightening torque, refer to [FSU-26, "Components"](#) .
- Perform final tightening of bolts and nuts at the vehicle installation position (rubber bushing) under unladen conditions with tires on level ground. Check wheel alignment. Refer to [FSU-24, "Wheel Alignment Inspection"](#) .

## UPPER LINK

[AWD]

- Adjust neutral position of steering angle sensor after checking wheel alignment. Refer to [BRC-6, "Adjustment of Steering Angle Sensor Neutral Position"](#) .

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## STABILIZER BAR

### Removal and Installation

#### REMOVAL

1. Remove tires from vehicle with a power tool.
2. Remove undercover with a power tool.
3. Remove the mounting nut on the lower side of stabilizer connecting rod with a power tool, and then remove stabilizer connecting rod from stabilizer bar.
4. If necessary remove the mounting nut on the upper side of stabilizer connecting rod with a power tool, and then remove stabilizer connecting rod from transverse link.
5. Remove the mounting nuts of stabilizer clamp, and then remove stabilizer clamp and stabilizer bushing.
6. Remove stabilizer bar from vehicle.

#### INSPECTION AFTER REMOVAL

Check stabilizer bar, stabilizer connecting rod, stabilizer bushing, and stabilizer clamp for deformation, cracks or damage. Replace it if a malfunction is detected.

#### INSTALLATION

Installation is the reverse order of removal. For tightening torque, refer to [FSU-26, "Components"](#) .

# SERVICE DATA AND SPECIFICATIONS (SDS)

[AWD]

## SERVICE DATA AND SPECIFICATIONS (SDS)

PF0:00030

### Wheel Alignment (Unladen\*)

NES000I2

Camber Degree minute (Decimal degree)	Minimum	-1° 00' (-1.00°)	
	Nominal	-0° 15' (-0.25°)	
	Maximum	0° 30' (-0.50°)	
	Left and right difference	33' (0.55°) or less	
Caster Degree minute (Decimal degree)	Minimum	3° 05' (3.08°)	
	Nominal	3° 50' (3.83°)	
	Maximum	4° 35' (4.58°)	
	Left and right difference	39' (0.65°) or less	
Kingpin inclination Degree minute (Decimal degree)	Minimum	6° 30' (6.50°)	
	Nominal	7° 15' (7.25°)	
	Maximum	8° 00' (8.00°)	
Total toe-in	Distance	Minimum	0 mm (0 in)
		Nominal	In 1 mm (0.04 in)
		Maximum	In 2 mm (0.08 in)
	Angle (left wheel or right wheel) Degree minute (Decimal degree)	Minimum	0' (0°)
		Nominal	In 3' (0.05°)
		Maximum	In 6' (0.10°)

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

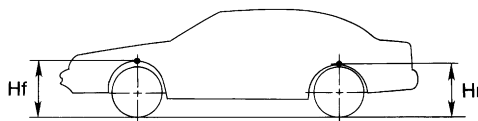
### Ball Joint

NES000J0

Swing torque	Transverse link	0.5 - 3.6 N·m (0.06 - 0.36 kg·m, 5 - 31 in-lb)
	Upper link	0 - 2.0 N·m (0 - 0.2 kg·m, 0 - 17 in-lb)
Measurement on spring balance	Transverse link	7.8 - 56.3 N (0.8 - 5.7 kg, 1.8 - 12.5 lb)
	Upper link	0 - 61.5 N (0 - 6.2 kg, 0 - 13.6 lb)
Rotating torque	Transverse link	0.5 - 3.9 N·m (0.06 - 0.39 kg·m, 5 - 34 in-lb)
	Upper link	0 - 2.0 N·m (0 - 0.2 kg·m, 0 - 17 in-lb)
Axial end play		0 mm (0 in)

### Wheelarch Height (Unladen\*)

NES000J1



SFA818A

Tire size		245/45R18
Front (Hf)	USA	731 mm (28.78 in)
	CANADA	732 mm (28.82 in)
Rear (Hr)	USA	725 mm (28.54 in)
	CANADA	726 mm (28.58 in)

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

