

SECTION

FSU

FRONT SUSPENSION

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PRECAUTIONS

PRECAUTIONS

PFP:00001

Caution

AES0002P

- When installing rubber bushings, final tightening must be carried out under unladen condition with tires on level ground. Oil will shorten the life of rubber bushings. Be sure to wipe off any spilled oil.
- Unladen condition means that fuel, coolant and lubricant are full. Spare tire, jack, hand tools and mats in designated positions.
- After servicing suspension parts, be sure to check wheel alignment.
- Caulking nuts are not reusable. Always use new ones when installing. Since new caulking nuts are pre-oiled, tighten as they are.
- Avoid burden to front cross bar.

PREPARATION

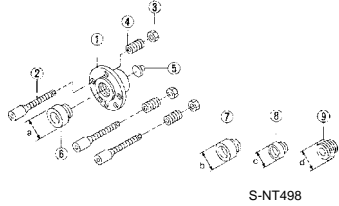
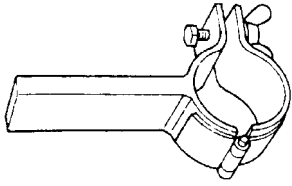
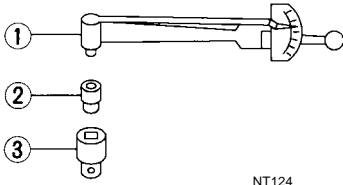
PREPARATION

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Special Service Tools

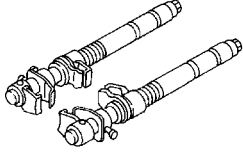
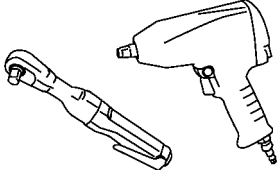
AES0002Q

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 bolts 3. Nuts 4. Springs 5. Center plate 6. KV9910 4020 Adapter A a: 72 mm (2.83 in) dia. 7. KV9910 4030 Adapter B b: 65 mm (2.56 in) dia. 8. KV9910 4040 Adapter C c: 57 mm (2.24 in) dia. 9. KV9910 4050 Adapter D d: 53.4 mm (2.102 in) dia.	 S-NT498 Measuring wheel alignment
ST3565 2000 (—) Strut attachment	 ZZA0807D Disassembling and assembling shock absorber
ST3127 S000 (See J25742-1) Preload gauge 1. GC91030000 Torque wrench (J25765) 2. HT62940000 (—) Socket adapter (1/2") 3. HT62900000 (—) Socket adapter (3/8")	 NT124 Measuring sliding torque of ball joint

Commercial Service Tools

AES0002R

Tool name	Description
Spring compressor	 S-NT717 Removing coil spring
Power tool	 PBIC0190E <ul style="list-style-type: none"> ● Removing wheel nuts ● Removing under cover ● Removing front suspension components parts

NOISE, VIBRATION, AND HARSHNESS (NVH) TROUBLESHOOTING

NOISE, VIBRATION, AND HARSHNESS (NVH) TROUBLESHOOTING

PFP:00003

NVH Troubleshooting Chart

AES0002S

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

Reference page			FSU-8	FSU-11	—	—	—	FSU-8	FSU-5	FSU-18	NVH in PR section	NVH in RFD section.	NVH in RAX and RSU section.	NVH in WT section.	NVH in WT section.	NVH in RAX section.	NVH in BR section.	NVH in PS section.
Possible cause and SUSPECTED PARTS			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	TIRES	ROAD WHEEL	DRIVE SHAFT	BRAKES	STEERING
Symptom	FRONT 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		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			

x: Applicable

FRONT SUSPENSION ASSEMBLY

FRONT SUSPENSION ASSEMBLY

PFP:54010

On-Vehicle Inspection and Service

AES0002U

Check that the mounting conditions (looseness, back lash) of each component and component statuses (wear, damage) are normal.

INSPECTION OF BALL JOINT END PLAY OF EACH LINK

1. Set front wheels in a straight-ahead position. Do not depress brake pedal.
2. Check ball joint axial end play of each link.

CAUTION:

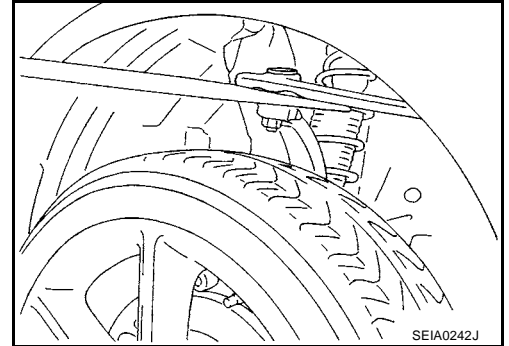
Be careful not to damage ball joint boot.

Upper Link Ball Joint

- Measure axial end play by installing and moving up/down with an iron pry bar or something similar between upper link and steering knuckle.

Standard value

Axial end play : 0 mm (0 in)

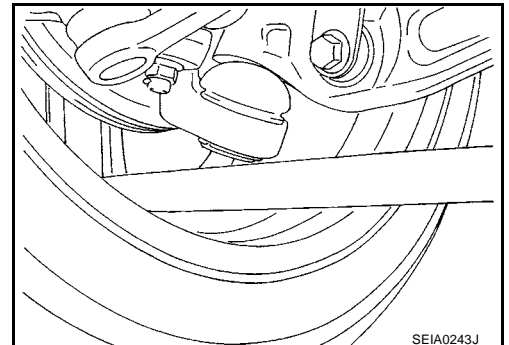


Steering Knuckle Lower Ball Joint

- Measure axial end play by installing and moving up/down with an iron pry bar or something similar between steering knuckle and wheel.

Standard value

Axial end play : 0 mm (0 in)

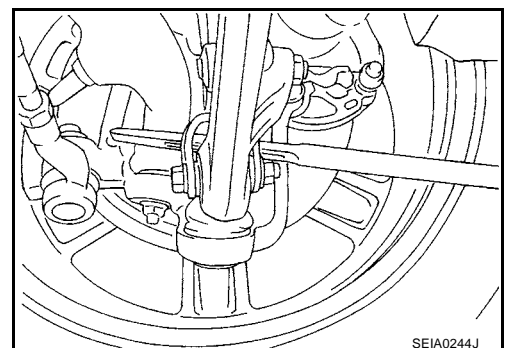


Compression Rod Ball Joint

- Measure axial end play by installing and moving up/down with an iron pry bar or something similar between compression rod and transverse link.

Standard value

Axial end play : 0 mm (0 in)



SHOCK ABSORBER INSPECTION

Check shock absorber for oil leakage, damage and replace if necessary.

Wheel Alignment Inspection DESCRIPTION

AES0002V

- Measure wheel alignment under unladen conditions. "Unladen conditions" means that fuel, coolant, and lubricant are full. Spare tire, jack, hand tools and mats in designated positions.

FRONT SUSPENSION ASSEMBLY

PRELIMINARY INSPECTION

1. Check tires for improper air pressure and wear.
2. Check road wheels for runout.
3. Check wheel bearing axial end play.
4. Check ball joint axial end play of compression rod, upper link, and steering knuckle.
5. Check shock absorber operation.
6. Check each mounting point of axle and suspension for looseness and deformation.
7. Check each link, rod, and member for cracks, deformation and other damage.
8. Check vehicle posture.

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

1. Remove wheel nuts (2), and install a guide bolt (special service tool) to hub bolt.
2. Screw adapter (special service tool) into plate body (special service tool) until it contacts body tightly.
3. Screw center plate (special service tool) into plate body (special service tool).
4. Insert plate (special service tool) on guide bolt (special service tool). Put spring in, and then evenly screw in guide bolt nut (special service tool). When fastening guide bolt nut, do not completely compress spring.
5. Place the dent of alignment gauge onto the projection of center plate (special service tool) and tightly contact them to measure.

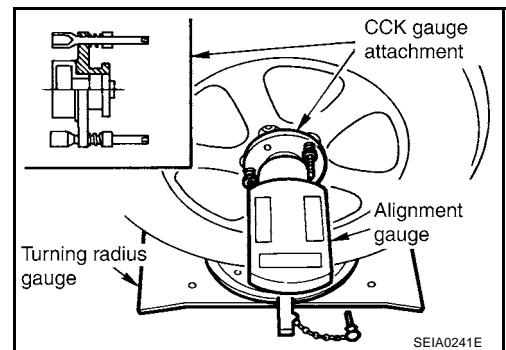
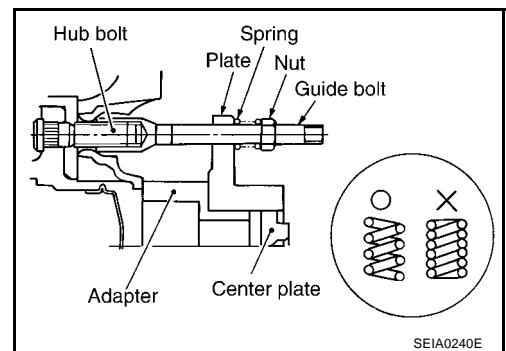
Standard value

Camber, caster, kingpin inclination angles:

Refer to [FSU-21, "SERVICE DATA"](#)

CAUTION:

- If camber, caster, or kingpin inclination angle is outside the standard, check front suspension parts for wear and damage, and replace suspect parts if necessary.
- King pin inclination angle is reference value, no inspection is required. (Due to the type of suspension, the kingpin inclination angle cannot be measured correctly using a normal alignment tester.)

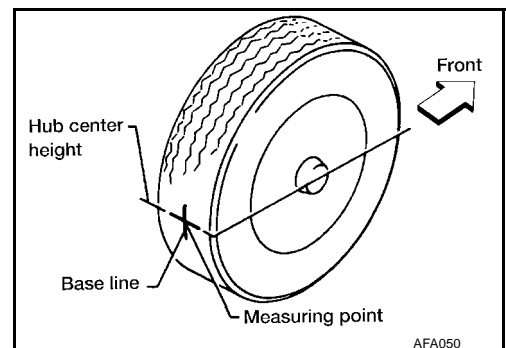


Toe-In Inspection

Measure toe-in using the following procedure.

WARNING:

- Always perform the following procedure on a flat surface.
 - Make sure that no person is in front of vehicle before pushing it.
1. Bounce front of vehicle up and down to stabilize the posture.
 2. Push vehicle straight ahead about 5 m (16 ft).
 3. Put a mark on base line of the tread (rear side) of both tires at the same height of hub center. These are measuring points.



FRONT SUSPENSION ASSEMBLY

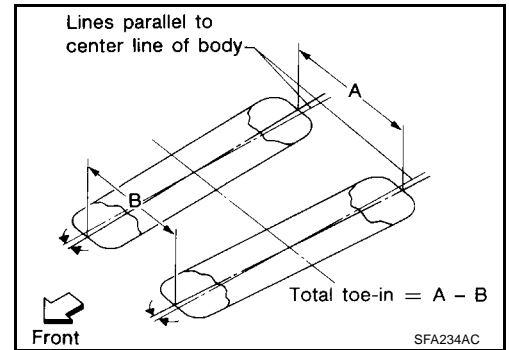
4. Measure distance "A" (rear side).
5. Push vehicle slowly ahead to rotate wheels 180 degrees (1/2 turn).

If wheels have rotated more than 180 degrees (1/2 turn), try the above procedure again from the beginning. Never push vehicle backward.

6. Measure distance "B" (front side).

Standard value

Total toe-in : Refer to **FSU-21, "SERVICE DATA"**



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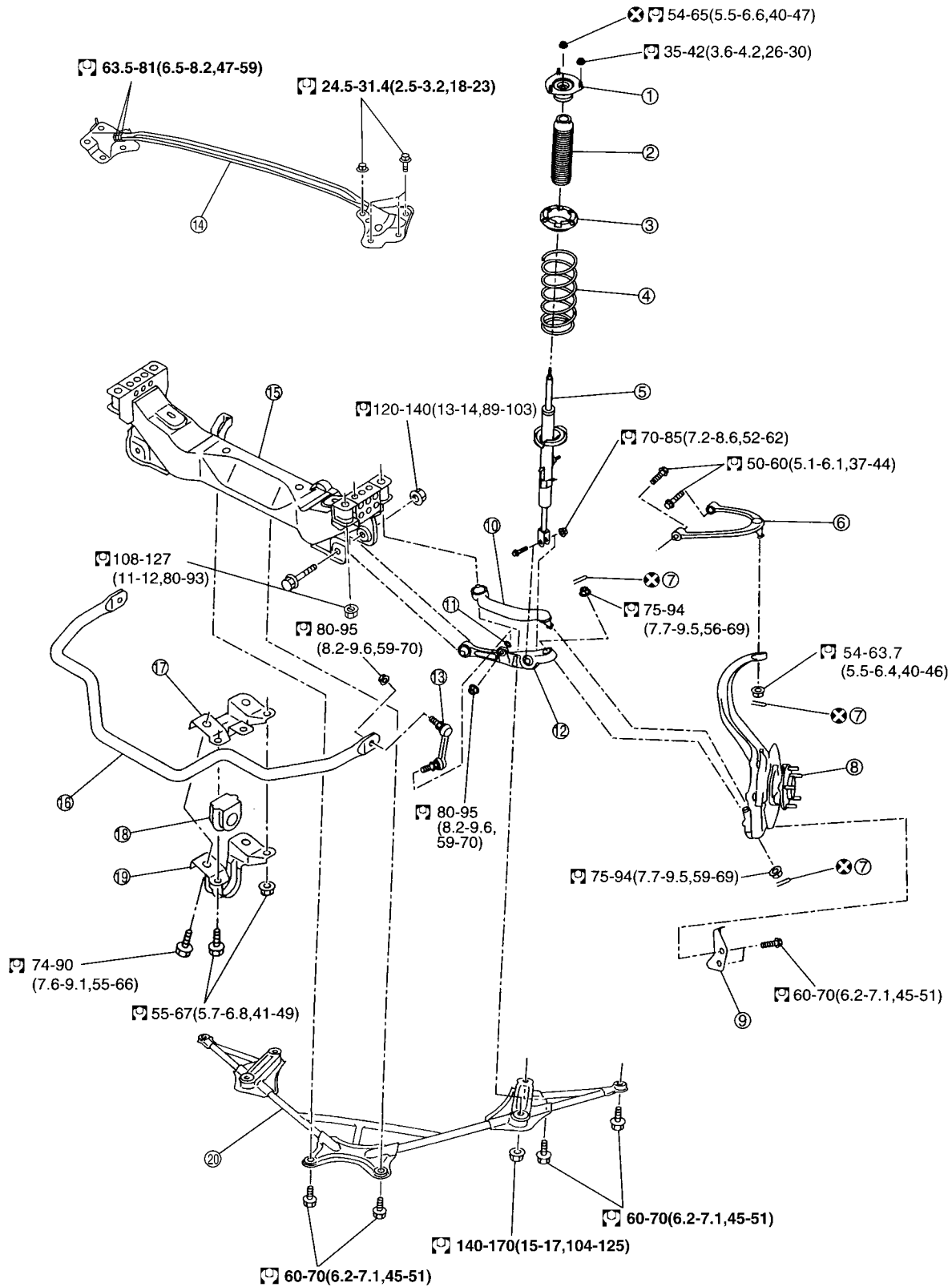
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FRONT SUSPENSION ASSEMBLY

Components

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SEC.400-401-406



SEIA0238E

FRONT SUSPENSION ASSEMBLY

- | | | |
|-------------------------------|------------------------------|-----------------------------|
| 1. Mounting insulator | 2. Bound bumper | 3. Spring upper seat |
| 4. Coil spring | 5. Shock absorber | 6. Upper link |
| 7. Cotter pin | 8. Front axle | 9. Steering stopper bracket |
| 10. Compression rod | 11. Washer | 12. Transverse link |
| 13. Stabilizer connecting rod | 14. Tower bar | 15. Front suspension member |
| 16. Stabilizer bar | 17. Stabilizer clamp bracket | 18. Stabilizer bushing |
| 19. Stabilizer clamp | 20. Front cross bar | |

Removal and Installation

REMOVAL

AES000DM

1. Remove tire with power tool.
2. Remove brake caliper with power tool. Hang it in a place where it will not interfere with work. Refer to [BR-25, "FRONT DISC BRAKE \(CLZ25VD TYPE\)"](#), [BR-31, "FRONT DISC BRAKE \(OPB27VA TYPE\)"](#).
3. Remove under cover with power tool.
4. Remove fixing bolts and nuts, then remove front cross bar from vehicle with power tool.
5. Remove steering hydraulic piping bracket from front suspension member. Refer to [PS-34, "HYDRAULIC LINE"](#).
6. Remove steering gear and front suspension member attachment bolts and hang steering gear on vehicle. Refer to [PS-17, "POWER STEERING GEAR AND LINKAGE"](#).
7. Set jack under engine.

CAUTION:

When setting jack to the engine, use a wooden block or an equivalent for the setting.

8. Remove fixing bolt and nut between shock absorber and transverse link with power tool.
9. Remove cotter pin of upper link ball joint, and then loosen nut.
10. Use a ball joint remover (suitable tool) to remove upper link from steering knuckle. Be careful not to damage ball joint boot.

CAUTION:

To prevent damage to threads and to prevent ball joint remover (suitable tool) from coming off, and temporarily tighten lock nuts.

11. Remove fixing nut and washer located at the bottom of stabilizer connecting rod, and then remove stabilizer connecting rod from transverse link with power tool.
12. Remove fixing nuts between engine mounting insulator and front suspension member. Refer to [EM-89, "ENGINE ASSEMBLY"](#).
13. Remove fixing nuts between front suspension member and body with power tool.
14. Remove front suspension assembly from vehicle.

INSTALLATION

- Refer to [FSU-8, "Components"](#) for tightening torque. Tighten in the reverse order of removal.

CAUTION:

Refer to component parts location and do not reuse non-reusable parts.

- Perform final tightening of shock absorber lower side (rubber bushing) under unladen condition with tires on level ground. Check wheel alignment. Refer to [FSU-21, "SERVICE DATA"](#).

COIL SPRING AND SHOCK ABSORBER

COIL SPRING AND SHOCK ABSORBER

PFP:54302

Removal and Installation

AES0002W

REMOVAL

1. Remove tire with power tool.
2. Remove under cover with power tool.
3. Remove harness of wheel sensor from shock absorber. Refer to [BRC-87, "WHEEL SENSORS"](#) (With TCS), [BRC-149, "WHEEL SENSORS"](#) (With VDC).

CAUTION:

Do not pull on wheel sensor harness.

4. Remove mounting nuts of brake hose from shock absorber.
5. Remove mounting bolt and nut between shock absorber and transverse link with power tool.
6. Remove tower bar. Refer to [FSU-20, "TOWER BAR"](#).
7. Remove mounting nuts on mounting insulator with power tool, then remove shock absorber from vehicle.

INSTALLATION

- Refer to [FSU-8, "Components"](#) for tightening torque. Tighten in the reverse order of removal.

CAUTION:

Refer to component parts location and do not reuse non-reusable parts.

- Perform final tightening of shock absorber lower side (rubber bushing) under unladen condition with tires on level ground. Check wheel alignment. Refer to [FSU-21, "SERVICE DATA"](#).

Disassembly and Assembly

AES0002X

DISASSEMBLY

CAUTION:

Make sure piston rod on shock absorber is not damaged when removing components from shock absorber.

1. Install strut attachment (special service tool) to shock absorber and fix it in a vise.

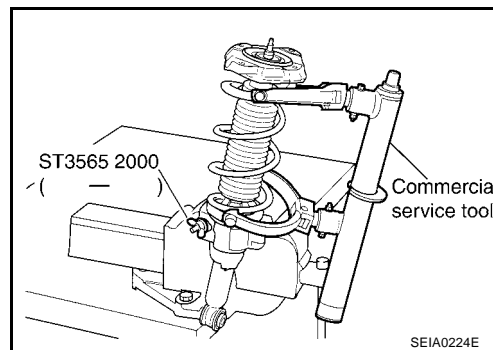
CAUTION:

When installing strut attachment (special service tool) to shock absorber, wrap a shop cloth around shock absorber to protect it from damage.

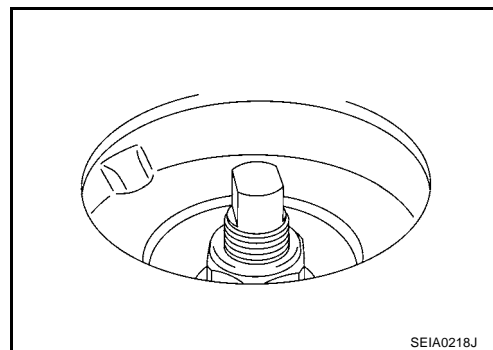
2. Using a spring compressor (commercial service tool), compress coil spring between spring upper seat and spring lower seat (on shock absorber) until coil spring is free.

CAUTION:

Be sure spring compressor (commercial service tool) is securely attached to coil spring. Compress coil spring.



3. Check that coil spring between spring upper seat and spring lower seat is free and then secure piston rod tip so that piston rod does not turn, and remove piston rod lock nut.



4. Remove mounting insulator, bound bumper, spring upper seat. Then remove coil spring from shock absorber.
5. Gradually release spring compressor (commercial service tool), and remove coil spring.

COIL SPRING AND SHOCK ABSORBER

CAUTION:

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

6. Remove strut attachment (special service tool) from shock absorber.

INSPECTION AFTER DISASSEMBLY

Shock Absorber Inspection

- Check shock absorber for deformation, cracks, damage, and replace if necessary.
- Check piston rod for damage, uneven wear, distortion, and replace if necessary.
- Check welded and sealed areas for oil leakage, and replace if necessary.

Mounting Insulator and Rubber Parts Inspection

Check mounting insulator for cracks and rubber parts for wear. Replace them if necessary.

Coil Spring Inspection

Check coil spring for cracks, wear, damage, and replace if necessary.

ASSEMBLY

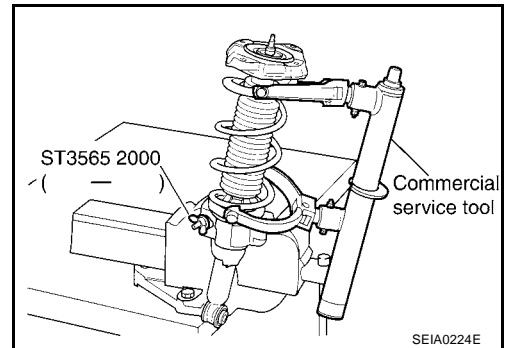
CAUTION:

Make sure piston rod on shock absorber is not damaged when attaching components to shock absorber.

1. Install strut attachment (special service tool) to shock absorber and fix it in a vise.

CAUTION:

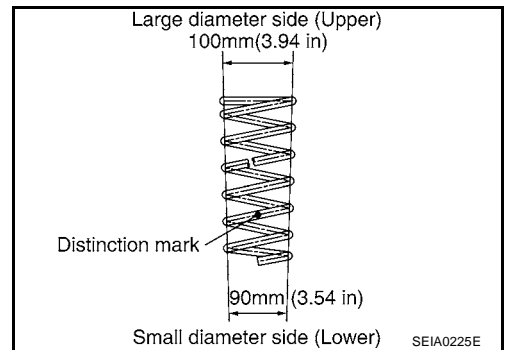
When installing strut attachment (special service tool) to shock absorber, wrap a shop cloth around shock absorber to protect it from damage.



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

CAUTION:

- Install 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. (Identification paint is the 4th winding point from lower side.
- Be sure spring compressor (commercial service tool) is securely attached to coil spring. Compress coil spring.



3. Apply soapy water to bound bumper and insert into mounting insulator.

CAUTION:

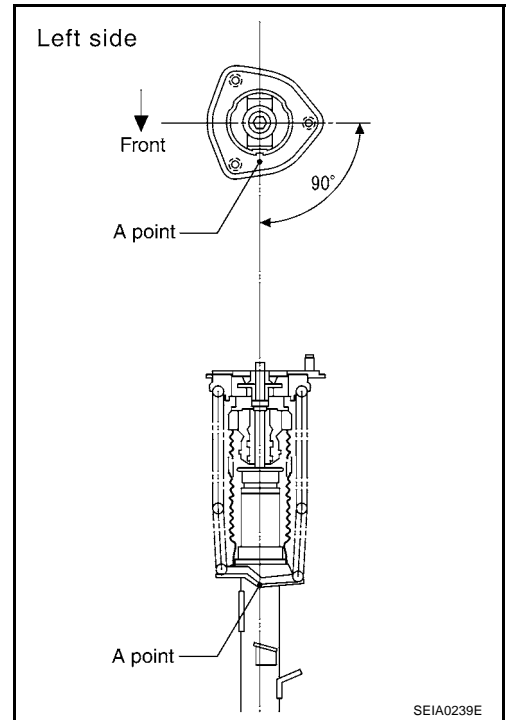
Do not use machine oil.

COIL SPRING AND SHOCK ABSORBER

4. Attach spring upper seat and mounting insulator as shown in the figure.

CAUTION:

- Make sure coil spring is securely seated in spring mounting groove of spring upper seat.
- The bottom part of spring should be at the position of A point of spring seat.



5. Secure piston rod tip so that piston rod does not turn, and tighten the specified torque on piston rod lock nut.
 6. Gradually release spring compressor (commercial service tool), and remove coil spring.
- CAUTION:**
- Loosen while making sure coil spring attachment position does not move.**
7. Remove strut attachment (special service tool) from shock absorber.

TRANSVERSE LINK

TRANSVERSE LINK

PFP:54500

Removal and Installation

AES0002Y

REMOVAL

1. Remove tire with power tool.
2. Remove under cover with power tool.
3. Remove mounting nut and washer on lower portion of stabilizer connecting rod with power tool.
4. Remove mounting nut between transverse link and shock absorber on lower position.
5. Remove mounting nut between transverse link and front suspension member with power tool.
6. Remove transverse link from steering knuckle. Refer to [FAX-4, "FRONT WHEEL HUB AND KNUCKLE"](#).
7. Remove transverse link from vehicle.

INSPECTION AFTER REMOVAL

Visual Inspection

Check transverse link and bushing for deformation, cracks, or damage. Replace the entire transverse link assembly if cracks, deformation or any other damage is found.

INSTALLATION

- Refer to [FSU-8, "Components"](#) for tightening torque. Tighten in the reverse order of removal.
- CAUTION:**
Refer to component parts location and do not reuse non-reusable parts.
- Perform final tightening of front suspension member installation position and shock absorber lower side (rubber bushing) under unladen condition with tires on level ground. Check wheel alignment. Refer to [FSU-21, "SERVICE DATA"](#).

UPPER LINK

PFP:54524

Removal and Installation REMOVAL

AES00031

1. Remove tire with power tool.
2. Remove under cover with power tool.
3. Remove shock absorber. Refer to [FSU-10, "COIL SPRING AND SHOCK ABSORBER"](#).
4. Remove cotter pin of upper link ball joint, and loosen nut.
5. Use a ball joint remover (suitable tool) to remove upper link from steering knuckle. Be careful not to damage ball joint boot.

CAUTION:

To prevent damage to threads and to prevent ball joint remover (suitable tool) from coming off, temporarily tighten lock nuts.

6. Remove bolts holding upper link to body with power tool.
7. Remove upper link from vehicle.

INSPECTION AFTER REMOVAL

Visual Inspection

- Check upper link and bushing for deformation, cracks, or damage. If any non-standard condition is found, replace it.
- Check boot of ball joint for cracks, or damage, and also for grease leakage. If any non-standard condition is found, replace it.

Ball Joint Inspection

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

Swing Torque Inspection

CAUTION:

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

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

Standard value

Swing torque:

Less than 2.0 N·m (0.20 kg·m, 18 in·lb)

Measured value of spring scale:

Less than 34.8 N (3.5 kg, 7.8 lb)

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

Rotating Torque Inspection

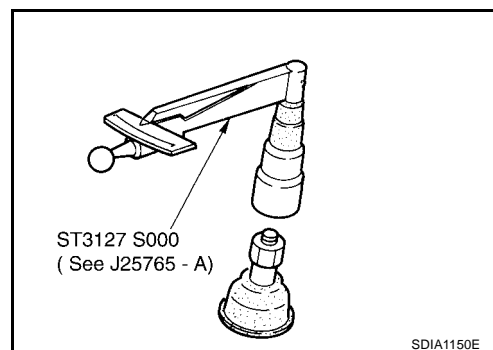
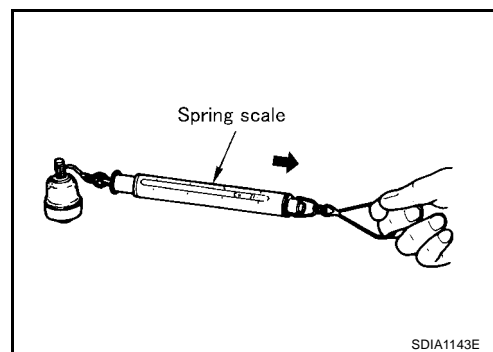
- Attach mounting nut to ball stud. Check that sliding torque is within specifications with a preload gauge (special service too).

Standard value

Rotating torque:

Less than 2.0 N·m (0.20 kg·m, 18 in·lb)

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



UPPER LINK

Axial End Play Inspection

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

Standard value

Axial end play : 0 mm (0 in)

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

INSTALLATION

- Refer to [FSU-8, "Components"](#) for tightening torque. Tighten in the reverse order of removal.

CAUTION:

Refer to component parts location and do not reuse non-reusable parts.

- Perform final tightening of front suspension member installation position (rubber bushing) under unladen condition with tires on level ground. Check wheel alignment. Refer to [FSU-21, "SERVICE DATA"](#).

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COMPRESSION ROD

COMPRESSION ROD

PFP:54468

Removal and Installation REMOVAL

AES00032

1. Remove tire with power tool.
2. Remove under cover with power tool.
3. Remove front cross bar from vehicle with power tool.
4. Remove cotter pin of compression rod ball joint, and loosen nut.
5. Use a ball joint remover (suitable tool) to remove compression rod from steering knuckle. Be careful not to damage ball joint boot.

CAUTION:

To prevent damage to threads and to prevent ball joint remover (suitable tool) from coming off, temporarily tighten lock nuts.

6. Remove compression rod from vehicle.

INSPECTION AFTER REMOVAL

Visual Inspection

- Check compression rod and bushing for deformation, cracks, or damage. If any non-standard condition is found, replace it.
- Check boot of ball joint for cracks, or damage, and also for grease leakage. If any non-standard condition is found, replace it.

Ball Joint Inspection

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

Swing Torque Inspection

CAUTION:

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

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

Standard value

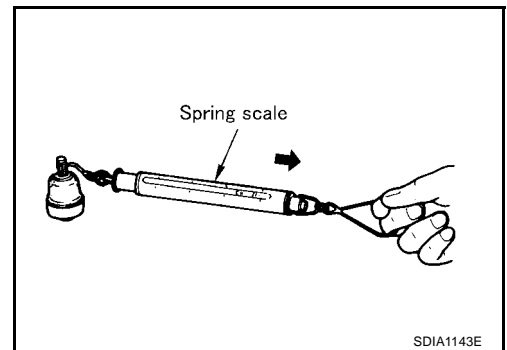
Swing torque:

0.147 - 2.45 N·m (0.02 - 0.24 kg·m, 2 - 21 in·lb)

Measured value of spring scale:

2.37 - 39.5 N (0.24 - 4.03 kg, 0.53 - 8.88 lb)

- If it is outside the specified range, replace compression rod assembly.



Rotating Torque Inspection

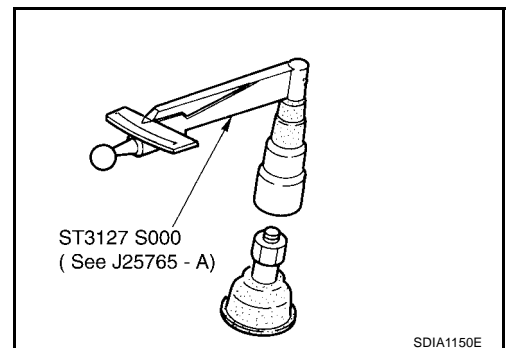
- Attach mounting nut to ball stud. Check that sliding torque is within specifications with a preload gauge (special service tool).

Standard value

Rotating torque:

0.147 - 2.45 N·m (0.02 - 0.24 kg·m, 2 - 21 in·lb)

- If it is outside the specified range, replace compression rod assembly.



COMPRESSION ROD

AXIAL END PLAY INSPECTION

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

Standard value

Axial end play : 0 mm (0 in)

- If it is outside the specified range, replace compression rod assembly.

INSTALLATION

- Refer to [FSU-8, "Components"](#) for tightening torque. Tighten in the reverse order of removal.

CAUTION:

Refer to component parts location and do not reuse non-reusable parts.

- Perform final tightening of installation position between front suspension member and front cross bar (rubber bushing) under unladen condition with tires on level ground. Check wheel alignment. Refer to [FSU-21, "SERVICE DATA"](#).

A

B

C

D

FSU

F

G

H

I

J

K

L

M

STABILIZER BAR

STABILIZER BAR

PFP:54611

Removal and Installation

AES000C0

REMOVAL

1. Remove tire with power tool.
2. Remove under cover with power tool.
3. Remove mounting nut on upper portion of stabilizer connecting rod with power tool.
4. Remove fixing bolts and nuts, then remove stabilizer clamp, stabilizer bushing, and stabilizer clamp bracket.
5. Remove stabilizer bar from vehicle.

INSPECTION AFTER REMOVAL

Check stabilizer bar, stabilizer connecting rod, stabilizer bushing, stabilizer clamp and stabilizer clamp bracket for deformation, cracks and damage, and replace if necessary.

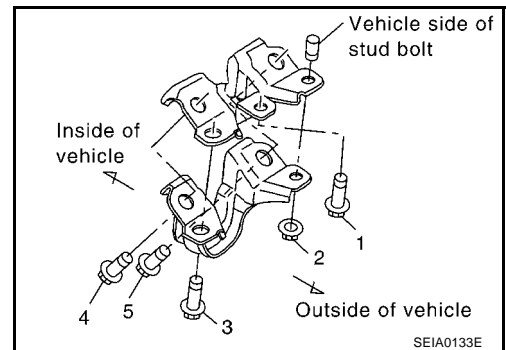
INSTALLATION

- Refer to [FSU-8, "Components"](#) for tightening torque. Tighten in the reverse order of removal.

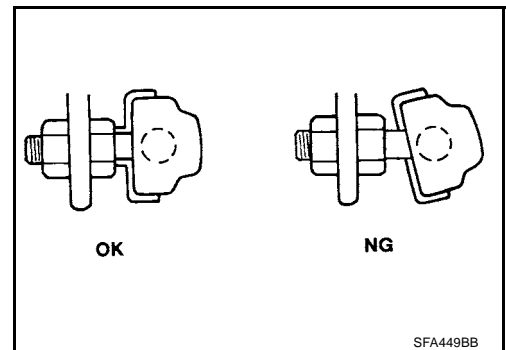
CAUTION:

Refer to component parts location and do not reuse non-reusable parts.

- Tighten each bolt and nut as shown in the figure for tightening stabilizer bracket and stabilizer clamp. Tightening order is as follows. 1 (fully tighten) → 2 (temporarily tighten) → 3 (temporarily tighten) → 2 (fully tighten) → 3 (fully tighten) → 4, 5 (temporarily tighten) → 4, 5 (fully tighten).



- Stabilizer bar uses pillow ball type connecting rod. Position ball joint with case on pillow ball head parallel to stabilizer bar.



FRONT SUSPENSION MEMBER

FRONT SUSPENSION MEMBER

PFP:54401

Removal and Installation

AES000C1

REMOVAL

1. Remove tire with power tool.
2. Remove under cover with power tool.
3. Remove fixing bolts and nuts, then remove front cross bar from vehicle with power tool.
4. Remove steering hydraulic piping bracket from front suspension member. Refer to [PS-34, "HYDRAULIC LINE"](#).
5. Remove steering gear and front suspension member attachment bolts and hang steering gear on vehicle. Refer to [PS-17, "POWER STEERING GEAR AND LINKAGE"](#).
6. Remove transverse link from front suspension member with power tool. Refer to [FSU-13, "TRANSVERSE LINK"](#).
7. Set jack under engine.

CAUTION:

When setting jack to the engine, use a wooden block or an equivalent for the setting.

8. Remove fixing nuts between engine mounting insulator and front suspension member. Refer to [EM-89, "ENGINE ASSEMBLY"](#).
9. Remove fixing nuts between front suspension member and body with power tool.
10. Remove front suspension member from vehicle.

INSPECTION AFTER REMOVAL

Check front suspension member for deformed parts, cracks, or any other damage. Replace if necessary.

INSTALLATION

- Refer to [FSU-8, "Components"](#) for tightening torque. Tighten in the reverse order of removal.
- CAUTION:**
- Refer to component parts location and do not reuse non-reusable parts.**
- Perform final tightening of installation position between front suspension member and transverse link (rubber bushing) under unladen condition with tires on level ground. Check wheel alignment. Refer to [FSU-21, "SERVICE DATA"](#).

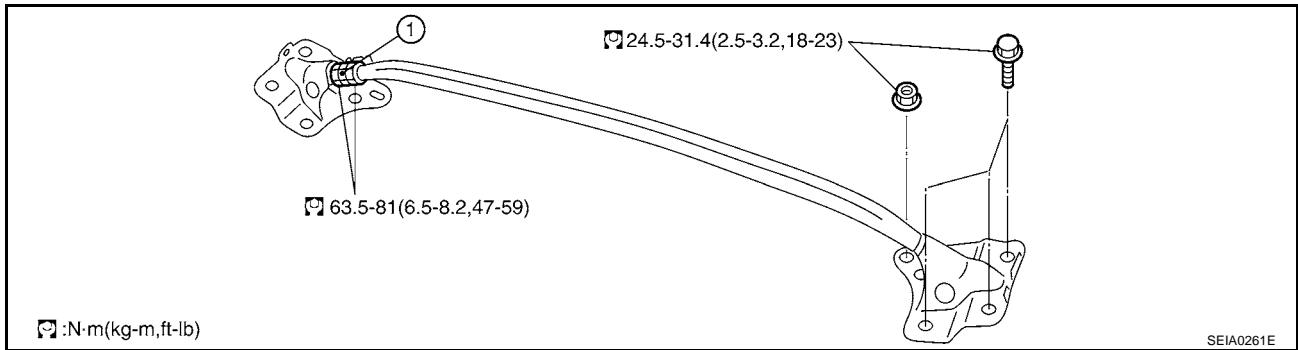
TOWER BAR

TOWER BAR

PFP:544A2

Removal and Installation

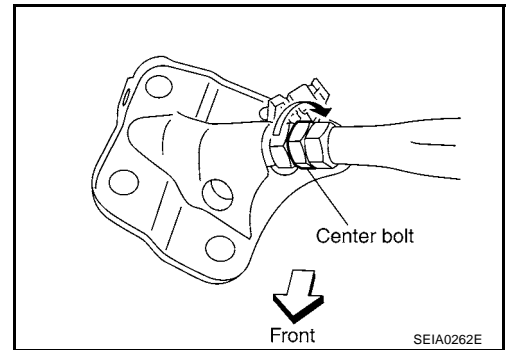
AES000DE



1. Center bolt

REMOVAL

1. Fix center bolt, and then loosen nut in the right and left side.
2. Loosen center bolt to the direction in the figure on 660° (Or turn bolt 1.7 times) to place the silver mark of center bolt above.



3. Remove tower bar fixing bolts and nuts, and remove tower bar from vehicle with power tool.

INSTALLATION

1. Install tower bar and tighten at the specified torque.

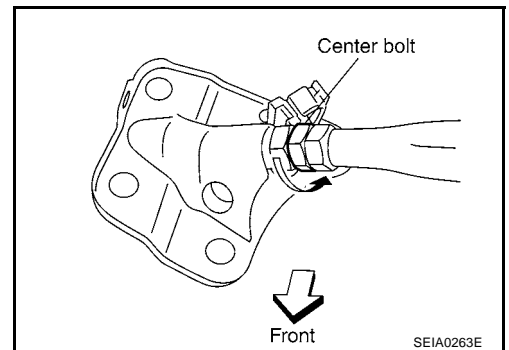
NOTE:

If it is hard to install tower bar, install it turning center bolt.

2. Tighten center bolt to the direction in the figure on 660° (Or turn bolt 1.7 times) to place the black mark of center bolt above.

NOTE:

The space between tower bar and engine collector should be between 10.0 mm (0.394 in) and 17.0 mm (0.669 in).



3. Tighten both nut of the right and left side of center bolt.

SERVICE DATA

SERVICE DATA

PPF:00030

Wheel Alignment (Unladen)

AES00033

Camber Degree minute (Decimal degree)	Minimum	- 1° 20' (- 1.33°)
	Nominal	- 0° 35' (- 0.58°)
	Maximum	0° 10' (0.17°)
	Left and right difference	45' (0.75°)
Caster Degree minute (Decimal degree)	Minimum	7° 35' (7.58°)
	Nominal	8° 10' (8.17°)
	Maximum	8° 55' (8.92°)
	Left and right difference	45' (0.75°)
Kingpin inclination Degree minute (Decimal degree)	Minimum	4° 20' (4.33°)
	Nominal	5° 05' (5.08°)
	Maximum	5° 50' (5.83°)
Total toe-in	Distance (A - B)	Minimum 0 mm (0 in)
		Nominal 1 mm (0.04 in)
		Maximum 2 mm (0.08 in)

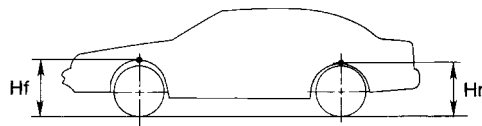
Ball Joint

AES00034

Swing torque	Less than 2.0 N·m (0.20 kg·m, 18 in·lb) (Upper link) 0.147 - 2.45 N·m (0.02 - 0.24 kg·m, 2 - 21 in·lb) (Compression rod)
Measurement on spring balance (cotter pinhole position)	Less than 34.8 N (3.5 kg, 7.8 lb) (Upper link) 2.37 - 39.5 N (0.24 - 4.03 kg, 0.53 - 8.88 lb) (Compression rod)
Rotating torque	Less than 2.0 N·m (0.20 kg·m, 18 in·lb) (Upper link) 0.147 - 2.45 N·m (0.02 - 0.24 kg·m, 2 - 21 in·lb) (Compression rod)
Axial end play	0 mm (0 in)

Wheelarch Height (Unladen*)

AES00035



SFA818A

Applied model	225/50R17 (Front) 235/50R17 (Rear)	225/45R18 (Front) 245/45R18 (Rear)
Front (Hf)	681 mm (26.81 in)	683 mm (26.89 in)
Rear (Hr)	700 mm (27.56 in)	706 mm (27.80 in)

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

SERVICE DATA
