SECTION FSU
FRONT SUSPENSION

CONTENTS

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:0000000011147011

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes dual stage front air bag modules. The SRS system may only deploy one front air bag, depending on the severity of a collision and whether the front passenger seat is occupied. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

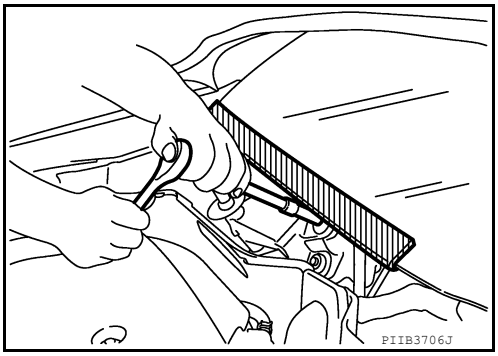
WARNING:

- **When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery and wait at least three minutes before performing any service.**

Precaution for Procedure without Cowl Top Cover

INFOID:0000000011147012

When performing the procedure after removing cowl top cover, cover the lower end of windshield with urethane, etc to prevent damage to windshield.



Precautions for Suspension

INFOID:0000000011147013

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

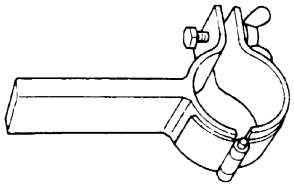
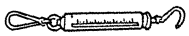
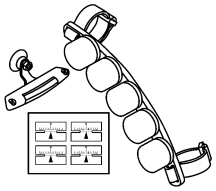
PREPARATION

PREPARATION

Special Service Tool

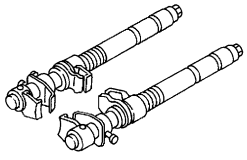
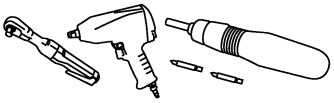
INFOID:0000000011147014

The actual shape of the tools may differ from those illustrated here.

Tool number (TechMate No.) Tool name	Description
ST35652000 (—) Strut attachment  ZZA0807D	Disassembling and assembling strut
— (J-44372) Pull gauge  LST024	Measuring ball joint swinging force
— (J-49286) Drift and Pull gauge  AWEIA0156ZZ	Measuring drift and pull

Commercial Service Tool

INFOID:0000000011147015

Tool name	Description
Spring compressor  S-NT717	Removing and installing coil spring
Power tool  PIIB1407E	Loosening nuts, screws and bolts

SYMPTOM DIAGNOSIS

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

INFOID:0000000011147016

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

Reference page			FSU-8, FSU-11, FSU-13, FSU-16	FSU-5, "Inspection and Adjustment"	—	—	—	FSU-8, FSU-11, FSU-13, FSU-16	FSU-5, "Inspection and Adjustment"	FSU-5, "Inspection and Adjustment"	DLN-95	DLN-64	FAX-5	WT-51	WT-51	WT-51	BR-6	ST-44
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 (AWD)	DIFFERENTIAL (AWD)	FRONT AXLE	TIRE	ROAD WHEEL	DRIVE SHAFT	BRAKE	STEERING
Symptom	FRONT SUSPENSION	Noise	×	×	×	×	×	×			×	×	×	×	×	×	×	×
		Shake	×	×	×	×		×			×		×	×	×	×	×	×
		Vibration	×	×	×	×	×				×		×	×		×		×
		Shimmy	×	×	×	×			×				×	×	×		×	×
		Shudder	×	×	×								×	×	×		×	×
		Poor quality ride or handling	×	×	×	×	×		×	×			×	×	×			

×: Applicable

PERIODIC MAINTENANCE

FRONT SUSPENSION ASSEMBLY

Inspection and Adjustment

INFOID:0000000011147017

INSPECTION

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

LOWER 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 upper link and steering knuckle.
3. Measure axial end play by prying it up and down.Refer to FSU-22, "Ball Joint".
   CAUTION:
   Be careful not to damage ball joint boot. Do not damage the installation position by applying excessive force.

SHOCK ABSORBER

Check for oil leakage, damage and replace if malfunction is detected.

WHEEL ALIGNMENT

WARNING:
If the vehicle is equipped with the ICC cruise control system and the rear toe has been adjusted during a wheel alignment, the ICC sensor must be aligned. Refer to CCS-94, "ICC Sensor Adjustment".

Description

Measure wheel alignment under unladen conditions.

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

General Information and Recommendations

- A four-wheel thrust alignment should be performed.
  - This type of alignment is recommended for any 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 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.

Preliminary Check

Check the following:

1. Tires for improper air pressure and wear.
2. Road wheels for runout. Refer to WT-52, "Inspection".
3. Wheel bearing axial end play. Refer to FAX-31, "Wheel Bearing".
4. Transverse link ball joint axial end play. Refer to FSU-11, "Removal and Installation".
5. Shock absorber operation.
6. Each mounting part of axle and suspension for looseness and deformation.
7. Each of suspension member, shock absorber, upper link and transverse link for cracks, deformation and other damage.
8. Vehicle height (posture).

Alignment Process

IMPORTANT:
Use only the alignment specifications listed in this Service Manual.

- When displaying the alignment settings, many alignment machines use "indicators" **Do not use these indicators.**: (Green/red, plus or minus, Go/No Go).
  - The alignment specifications programmed into your machine that operate these indicators may not be correct.
  - This may result in an ERROR.
- Most camera-type alignment machines are equipped with both "Rolling Compensation" method and optional "Jacking Compensation" method to "compensate" the alignment targets or head units. "Rolling Compensation" is the preferred method.
  - If using the "Rolling Compensation" method, after installing the alignment targets or head units, push or pull on the rear wheel to move the vehicle. Do not push or pull the vehicle body.
  - If using the "Jacking Compensation" method, after installing the alignment targets or head units, raise the vehicle and rotate the wheels 1/2 turn both ways.
    NOTE:
    Do not use the "Rolling Compensation" method if you are using sensor-type alignment equipment.
  - Follow all instructions for the alignment machine you're using for more information.

CAMBER, CASTER AND KINGPIN INCLINATION ANGLES INSPECTION

CAUTION:

Camber, caster, kingpin inclination angles cannot be adjusted.

Before inspection, set the front wheels onto a turning radius gauge. Set the rear wheels onto a pad that has the same height so the vehicle will remain horizontal.

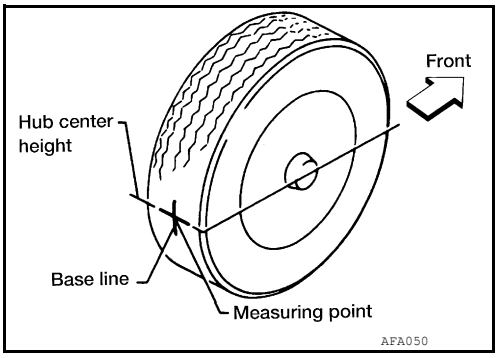
TOTAL TOE-IN INSPECTION

Measure the total toe-in using the following procedure.

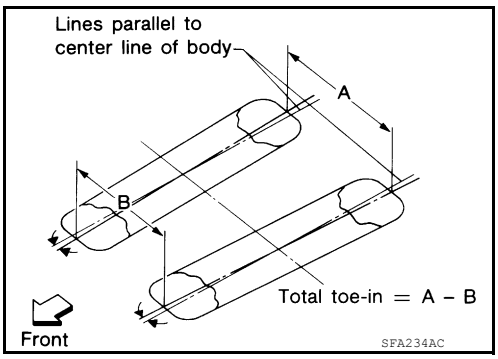
WARNING:

- **Always perform the following procedure on a flat surface.**
- **Make sure that no person is in front of vehicle before pushing it.**

1. Bounce the front of vehicle up and down to stabilize the vehicle height (posture).
2. Push on the rear wheel to move the 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.



4. Measure the distance (A) from the rear side.
5. Push on the rear wheel to move the vehicle slowly ahead and to rotate the wheels 180 degrees (1/2 turn).
   CAUTION:
   If the wheels have rotated more than 180 degrees (1/2 turn), try the above procedure again from the beginning. Do not push vehicle backward.
6. Measure the distance (B) from the front side.



7. Use the formula below to calculate total toe-in.

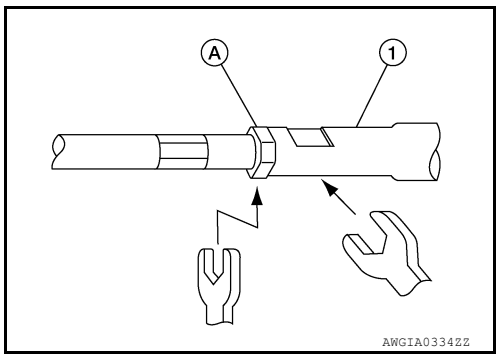
Total toe-in formula : **A - B**

Total toe-in specification : **Refer to FSU-22, "Wheel Alignment (Unladen*1)".**

TOE-IN ADJUSTMENT

1. Loosen the inner socket locknut (A).
   CAUTION:
   To prevent damage, hold outer socket (1) across flats using suitable tool while loosening inner socket lock nut.
2. Adjust the toe using the inner socket.
   CAUTION:
   Always evenly adjust toe using LH and RH inner sockets alternately and adjust the total toe-in to the standard.

   Total toe-in : Refer to FSU-22, "Wheel Alignment (Unladen*1)".



3. Tighten the inner socket locknut. Refer to ST-51, "Exploded View".
   CAUTION:
   - **To prevent damage, hold outer socket across flats using suitable tool while tightening inner socket lock nut.**
   - **Inspect to make sure no boot deformation has occurred during toe-in adjustment. Adjust boot as necessary.**
4. After toe-in adjustment, adjust neutral position of steering angle sensor. Refer to BRC-60, "Work Procedure".

REMOVAL AND INSTALLATION

FRONT COIL SPRING AND STRUT

Exploded View

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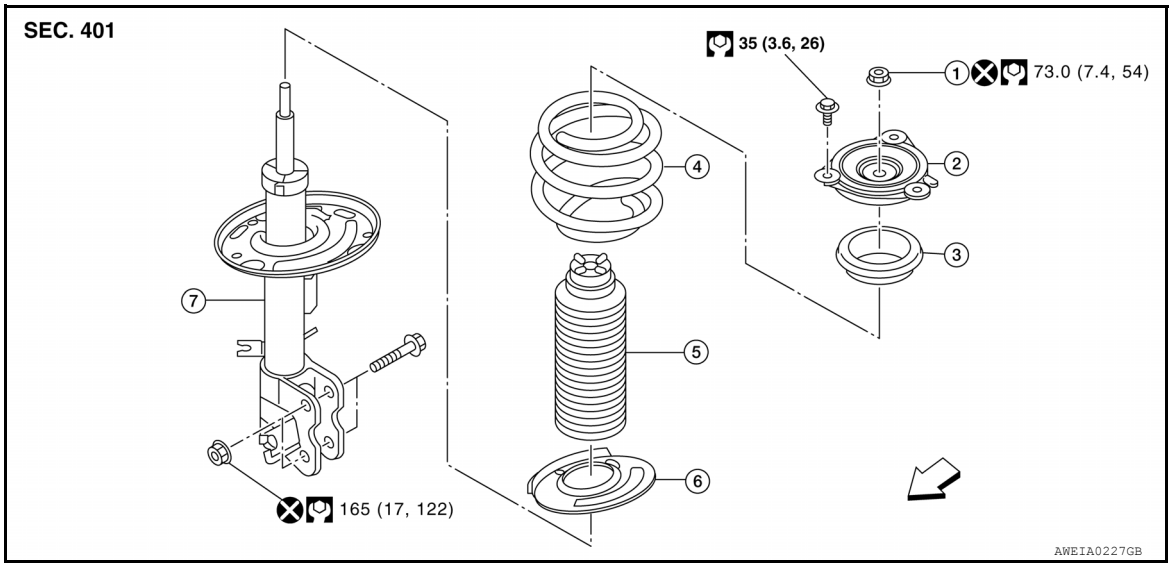


1. Piston rod lock nut
2. Strut insulator
3. Strut bearing
4. Coil spring
5. Bound bumper
6. Lower rubber seat
7. Strut

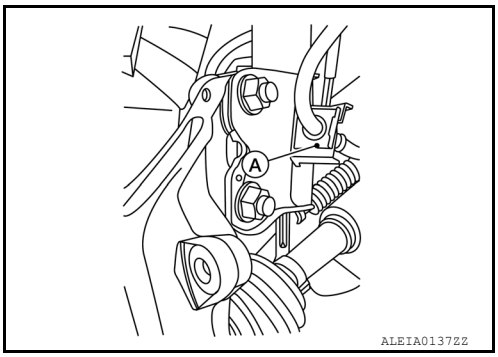
⇦ Front

Removal and Installation

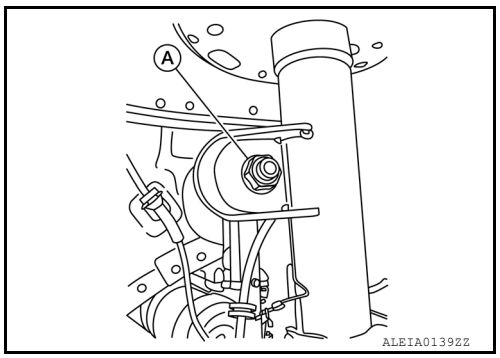
INFOID:0000000011147019

REMOVAL

1. Remove wiper arm covers and wiper arms. Refer to WW-70, "Removal and Installation".
2. Remove cowl top finisher assembly. Refer to EXT-25, "Exploded View".
3. Remove front coil spring and strut insulator covers.
4. Remove upper front coil spring and strut insulator bolts using power tool.
5. Remove the wheels and tires using power tool. Refer to WT-61, "Road Wheel".
6. Remove wheel sensor harness from the front coil spring and strut.
7. Remove brake hose lock plate (A).



8. Remove stabilizer connecting rod nut (A) from front coil spring and strut. Position stabilizer connecting rod aside. Refer to FSU-13, "Exploded View".



9. Remove steering knuckle-to-front coil spring and strut bolts and nuts with power tool.
10. Remove front coil spring and strut assembly.

INSTALLATION

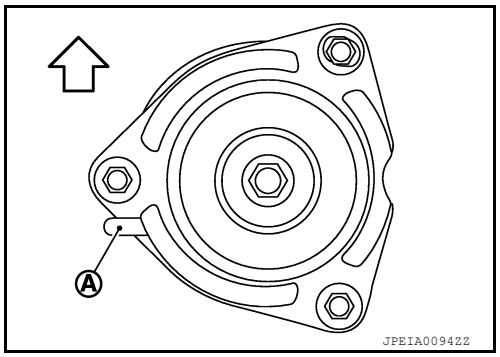
Installation is in the reverse order of removal,

CAUTION:

Do not reuse the lower strut nuts.

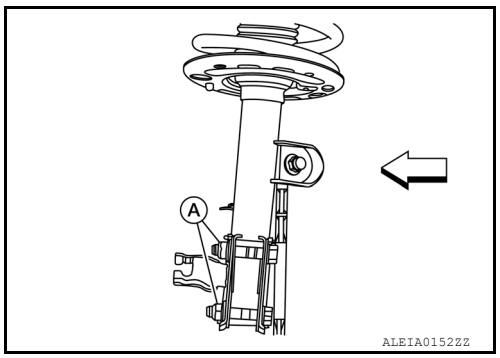
- Be sure tab (A) on strut mount insulator is positioned as shown.

⇦ : Front



- Be sure the nuts (A) for the front strut are facing front of vehicle.

⇦ : Front



- Check wheel alignment. Refer to FSU-5, "Inspection and Adjustment".
- Adjust neutral position of steering angle sensor. Refer to BRC-60, "Work Procedure".

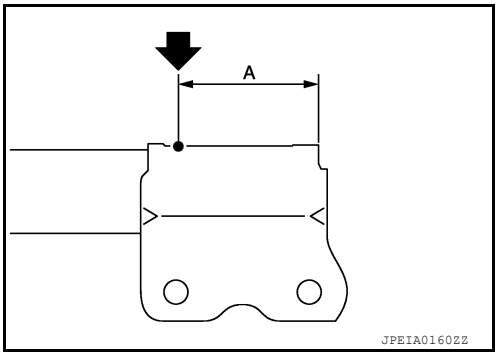
Disposal

INFOID:0000000011147020

1. Set strut assembly horizontally with the piston rod fully extended.

2. Drill 2 – 3 mm (0.08 – 0.12 in) hole at the position (●) from top as shown to release gas gradually.
CAUTION:
- **Wear eye protection (safety glasses).**
- **Wear gloves.**
- **Be careful with metal chips or oil blown out by the compressed gas.**

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



(A) : 20 – 30 mm (0.79 – 1.18 in)

3. Position the drilled hole downward and drain oil by moving the piston rod several times.
CAUTION:
Dispose of drained oil according to the law and local regulations.

TRANSVERSE LINK

Exploded View

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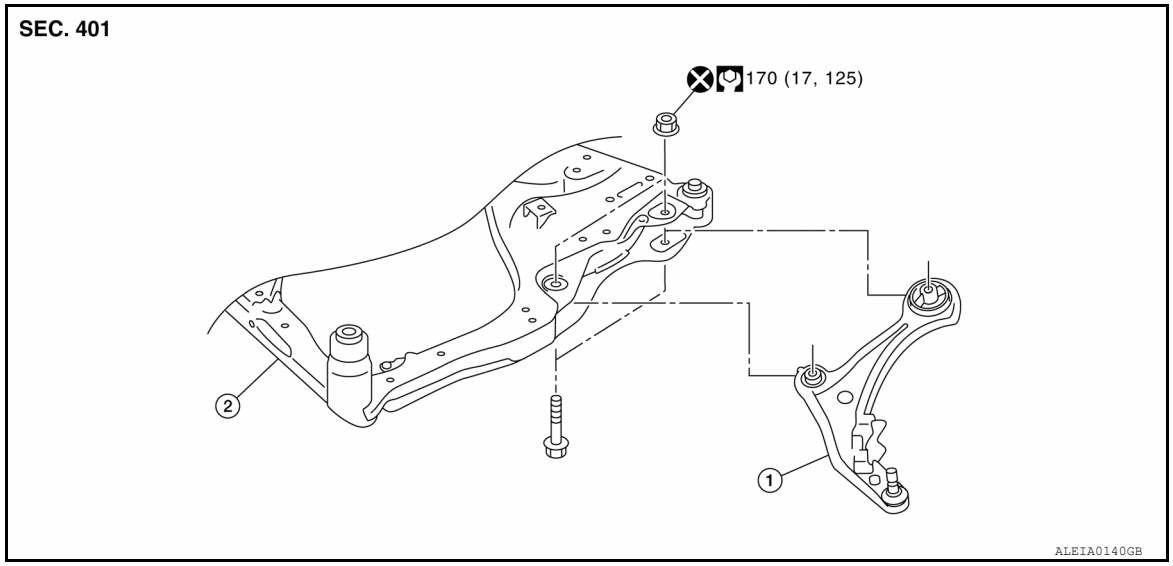


1. Transverse link
2. Front suspension member
⇦ Front

Removal and Installation

INFOID:0000000011147022

REMOVAL

1. Remove front wheels and tires using power tool. Refer to WT-61, "Road Wheel".
2. Remove brake caliper torque member bolts, leaving brake hose attached, reposition the caliper aside with wire. Refer to BR-36, "BRAKE CALIPER ASSEMBLY : Removal and Installation".
   CAUTION:
   Do not depress brake pedal while brake caliper is removed.
3. Put alignment marks on disc rotor and wheel hub and bearing assembly, then remove disc rotor.
   CAUTION:
   - **Put alignment marks on the wheel hub and bearing assembly and the disc rotor before removing the disc rotor.**
   - **Do not drop the disc rotor.**
4. Remove speed sensor.
5. Disengage the drive shaft from wheel hub and bearing assembly. Refer to FAX-15, "Exploded View (LH)" and FAX-17, "Exploded View (RH)".
6. Separate the outer socket from the knuckle. Refer to FSU-16, "Exploded View".
7. Remove the strut from the knuckle using power tool. Refer to FSU-16, "Exploded View".
8. Remove transverse link from steering knuckle.
9. Remove the steering knuckle and hub.
10. Remove transverse link nuts and bolts.
11. Remove transverse link from suspension member.

INSPECTION AFTER REMOVAL

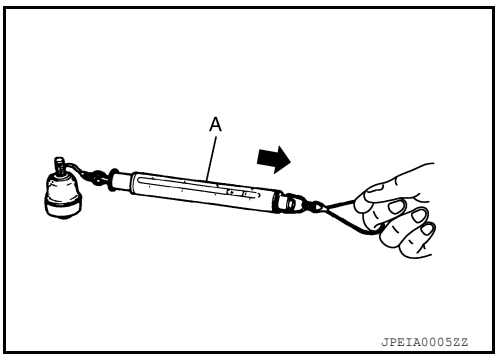
Ball Joint Inspection

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

Swing Torque Inspection

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

2. Hook Tool (A) on ball joint at pinch bolt location. Confirm measurement value is within specifications when ball joint begins moving.



Tool number : — (J-44372)
Swing torque :Refer to FSU-22, "Ball Joint".
Spring balance measurement :Refer to FSU-22, "Ball Joint".

- If swing torque exceeds standard range, replace transverse link.

Axial End Play Inspection

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

Axial end play :Refer to FSU-22, "Ball Joint".

- If axial end play exceeds the standard value, replace transverse link.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

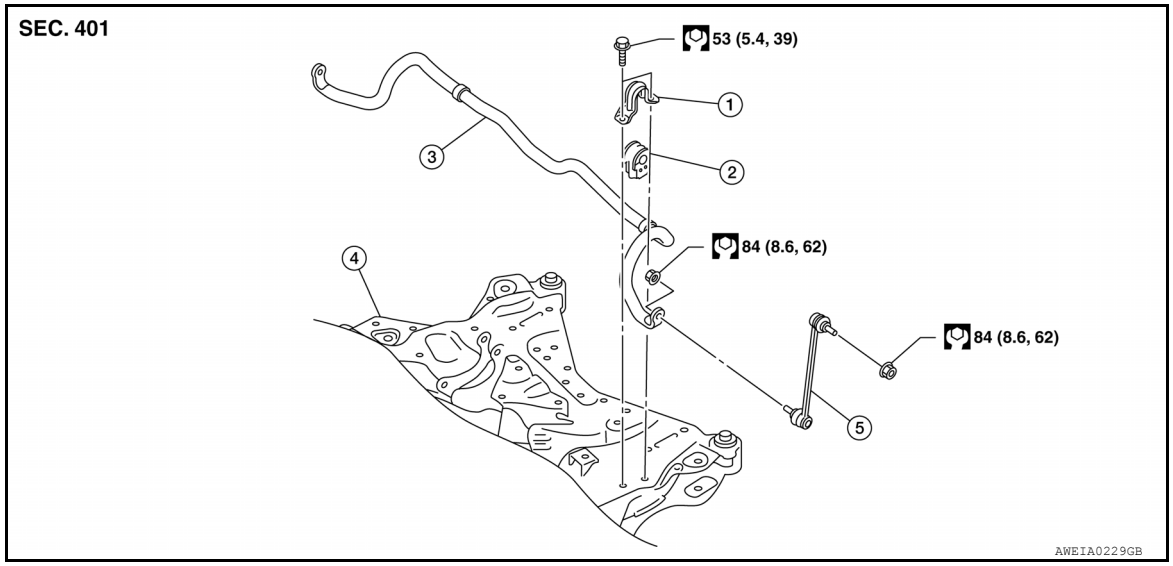
Do not reuse transverse link nuts.

- Perform final tightening of bolts and nuts at the front suspension member, under unladen conditions with tires on level ground.
- Check wheel alignment. Refer to FSU-5, "Inspection and Adjustment".
- Adjust neutral position of steering angle sensor. Refer to BRC-60, "Work Procedure".

FRONT STABILIZER

Exploded View

INFOID:0000000011147023



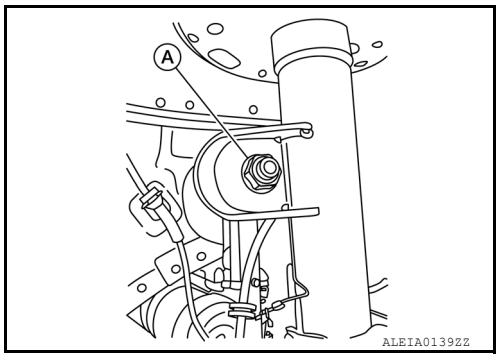
1. Stabilizer clamp
2. Stabilizer bushing
3. Stabilizer bar
4. Front suspension member
5. Stabilizer connecting rod
⇦ Front

Removal and Installation

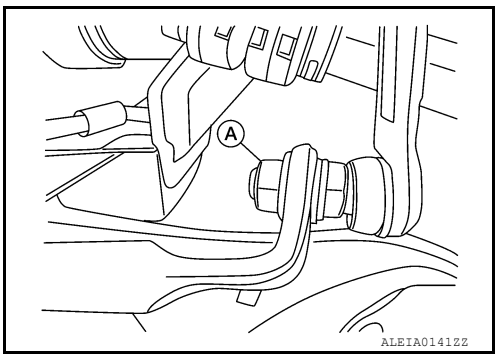
INFOID:0000000011147024

REMOVAL

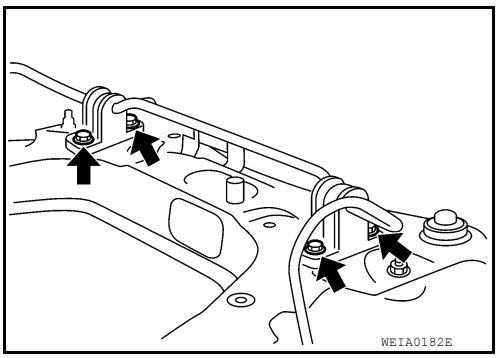
1. Remove the wheels and tires using power tool. Refer to WT-53, "Adjustment".
2. Remove heat insulator (AWD models).
3. Remove rear propeller shaft. (AWD models) Refer to DLN-97, "Removal and Installation".
4. Disconnect the LH outer socket from steering knuckle. Refer to ST-60, "Exploded View".
5. Remove front exhaust tube. Refer to EX-5, "Exploded View".
6. Remove engine rear mount bracket (FWD models).
7. Disconnect steering column from steering gear. Refer to ST-49, "Exploded View".
8. Remove the steering gear bolts. Refer to ST-60, "Exploded View".
9. Position the steering gear forward.
10. Disconnect the RH outer socket from steering knuckle. Refer to ST-60, "Exploded View".
11. Remove stabilizer connecting rod nut (A) from front coil spring and strut.



12. Remove stabilizer connecting rod nut (A) from stabilizer bar and remove the stabilizer connecting rod.



13. Remove bolts (⬅) of stabilizer clamp, and then remove stabilizer clamp and stabilizer bushing from front suspension member.

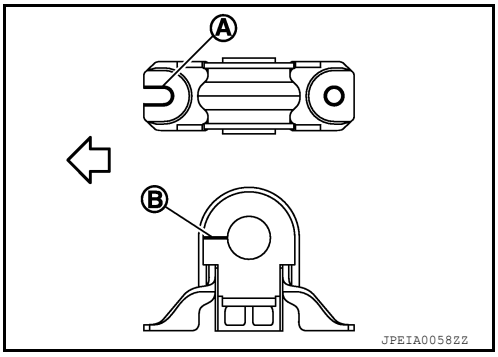


14. Remove stabilizer bar from the LH side of vehicle.

INSTALLATION

Installation is in the reverse order of removal.

- Install stabilizer clamp so that notch (A) is facing front of vehicle (⇦).
- Install stabilizer bushing so that slit (B) is facing front of vehicle (⇦).

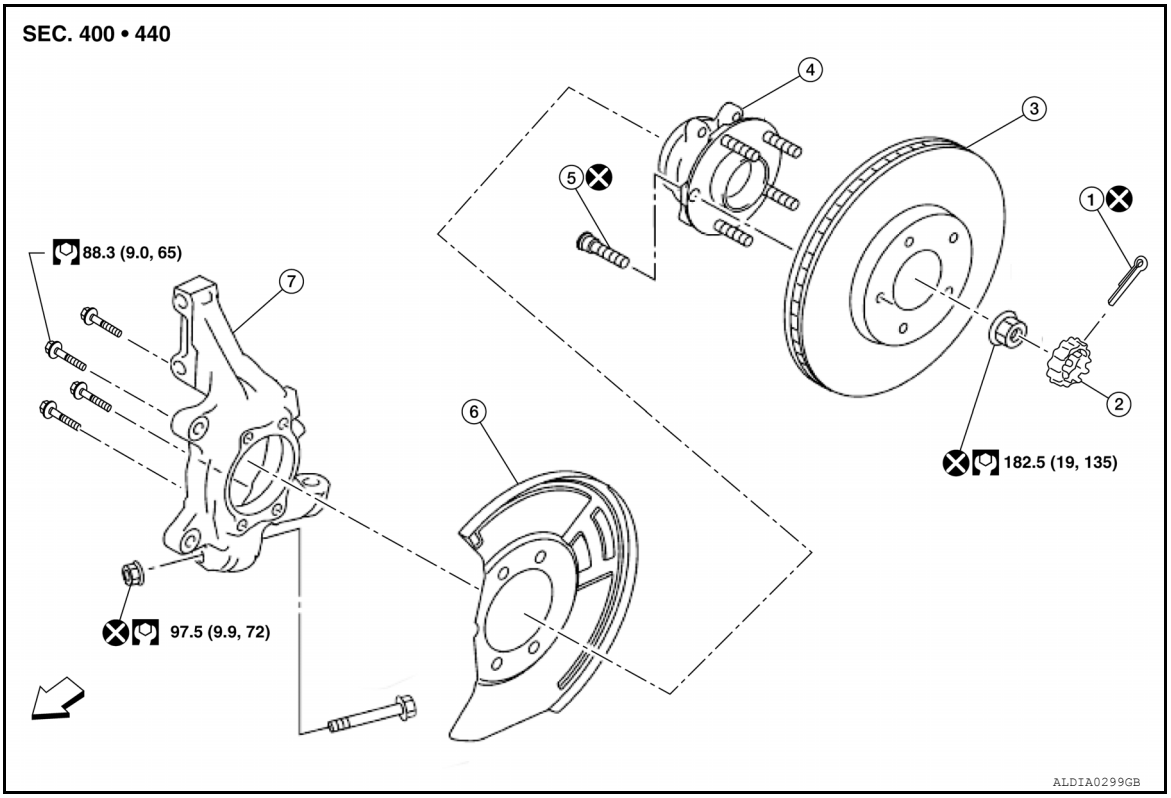


- Check wheel alignment. Refer to FSU-5, "Inspection and Adjustment".
- Adjust neutral position of steering angle sensor. Refer to BRC-60, "Work Procedure".

STEERING KNUCKLE

Exploded View

INFOID:0000000011147025



1. Cotter pin
2. Nut retainer
3. Rotor
4. Wheel hub and bearing assembly
5. Wheel hub bolt
6. Splash guard
7. Steering knuckle

⇦ Front

Removal and Installation

INFOID:0000000011147026

REMOVAL

1. Remove front wheel hub and bearing. Refer to FAX-8, "Removal and Installation".
2. Separate outer socket from steering knuckle. Refer to ST-60, "Exploded View".
3. Remove the steering knuckle lower pinch bolt and separate transverse link from the steering knuckle.
4. Remove steering knuckle to strut bolts and steering knuckle. Refer to FSU-15, "Exploded View".

INSPECTION AFTER REMOVAL

Check for deformity, cracks and damage on each part, replace if necessary.

Ball Joint Inspection

- Check for boot breakage, axial looseness, and torque of transverse link ball joint and repair as necessary.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

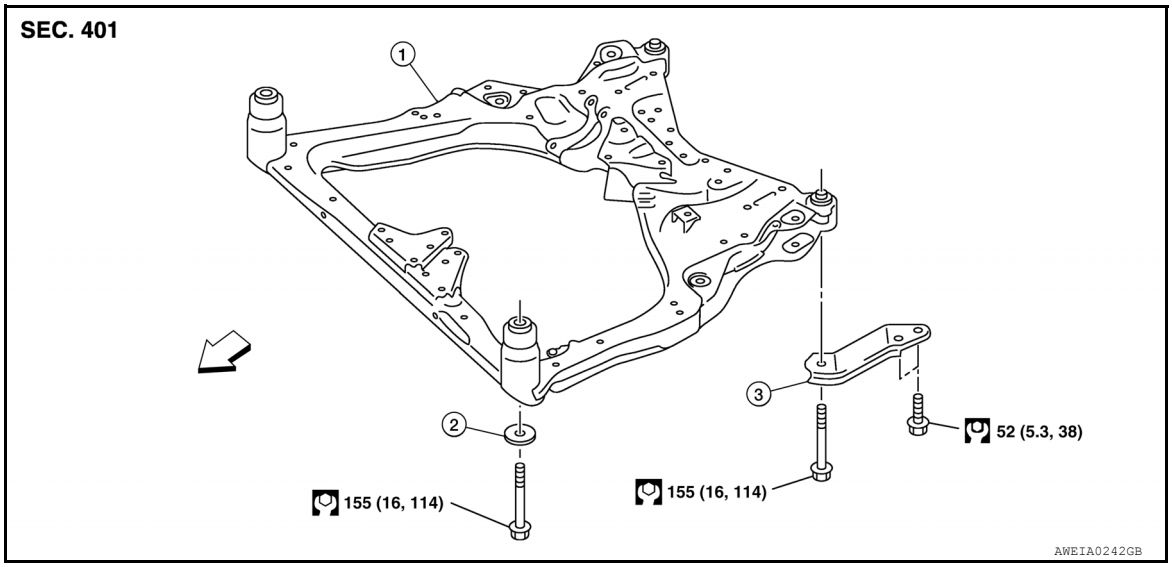
- **Do not reuse the lower strut nuts.**
- **Do not reuse the wheel hub lock nut.**
- **Do not reuse the cotter pin.**
- Check wheel alignment. Refer to FSU-5, "Inspection and Adjustment".
- Adjust the neutral position of the steering angle sensor. Refer to BRC-60, "Work Procedure".

UNIT REMOVAL AND INSTALLATION

FRONT SUSPENSION MEMBER

Exploded View

INFOID:0000000011147027



1. Front suspension member
2. Rebound stopper
3. Front suspension member stay

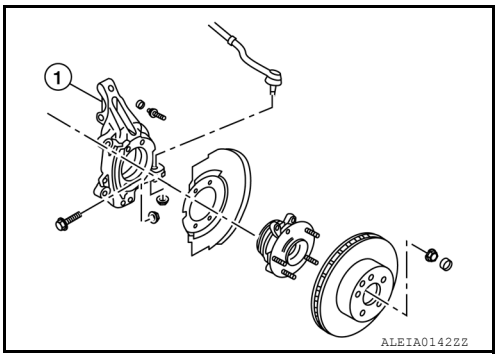
⇦ Front

Removal and Installation

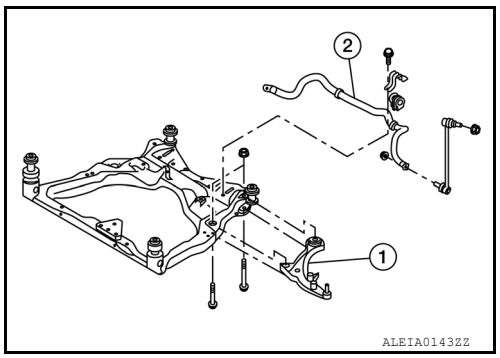
INFOID:0000000011147028

REMOVAL

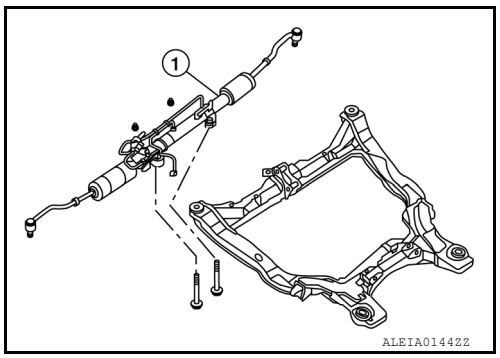
1. Remove the wheels and tires using power tool. Refer to WT-53, "Adjustment".
2. Remove the engine and transmission with the front suspension member. Refer to EM-103, "FWD : Removal and Installation" (FWD) or EM-108, "AWD : Removal and Installation" (AWD).
   • Engine, transmission and suspension member must be removed as an assembly.
3. Lift engine and transmission off of suspension member.
4. Remove the steering knuckle (1). Refer to FSU-15, "Removal and Installation".



5. Remove the transverse links (1) and stabilizer bar (2). Refer to FSU-11, "Removal and Installation" and FSU-13, "Removal and Installation".



6. Remove the steering gear assembly (1) and hydraulic lines. Refer to ST-60, "Exploded View".



INSTALLATION

Installation is in the reverse order of removal.

- Refer to FSU-16, "Exploded View" for tightening torque.
- After installation, perform final tightening of each part under unladen conditions with tires on ground. Check wheel alignment. Refer to FSU-5, "Inspection and Adjustment".

Inspection

INFOID:0000000011147029

INSPECTION AFTER REMOVAL

Check the front suspension member for significant deformation, cracks, or damages. Replace it if necessary.

INSPECTION AFTER INSTALLATION

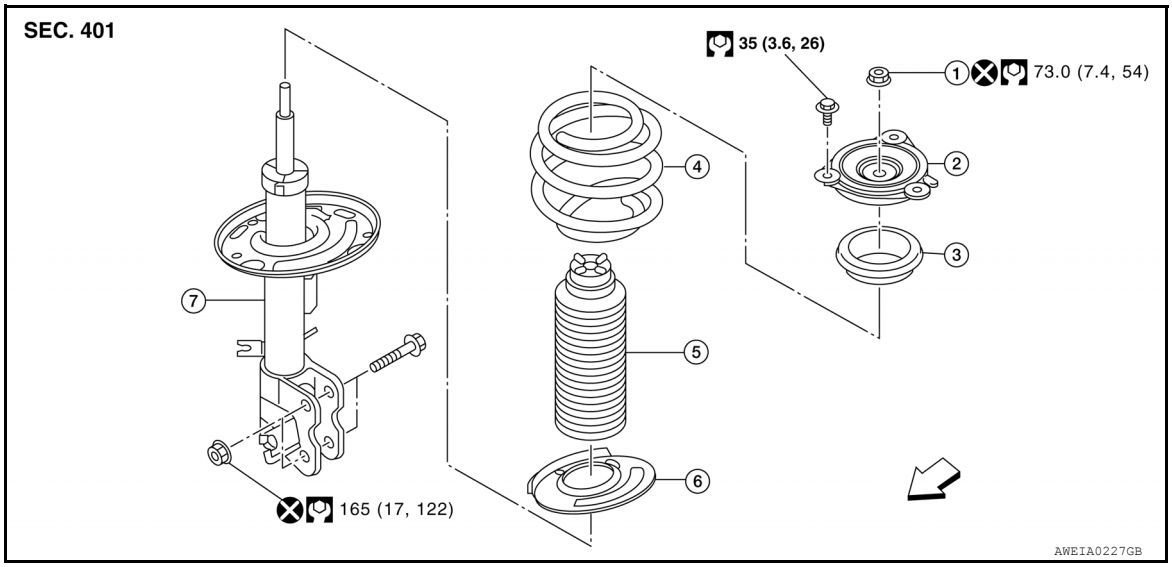
1. Check wheel sensor harness for proper connection. Refer to BRC-125, "Exploded View - Front Wheel Sensor".
2. Check wheel alignment. Refer to FSU-5, "Inspection and Adjustment".
3. Adjust the neutral position of the steering angle sensor. Refer to BRC-60, "Work Procedure".

UNIT DISASSEMBLY AND ASSEMBLY

FRONT COIL SPRING AND STRUT

Exploded View

INFOID:0000000011147030



1. Piston rod lock nut
2. Strut mount insulator
3. Strut mount bearing
4. Coil spring
5. Bound bumper
6. Lower rubber seat
7. Strut
- ⇦ Front

Disassembly and Assembly

INFOID:0000000011147031

DISASSEMBLY

CAUTION:

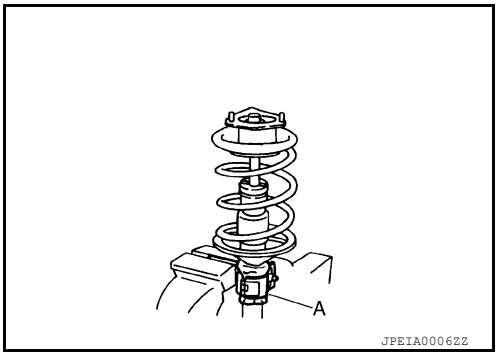
Do not damage the piston rod when removing components from the front coil spring and strut.

1. Install Tool (A) to the front coil spring and strut.

   CAUTION:

   When installing Tool (A), wrap a shop cloth around the front coil spring and strut to protect the parts from damage.

   Tool number : ST35652000 (–)



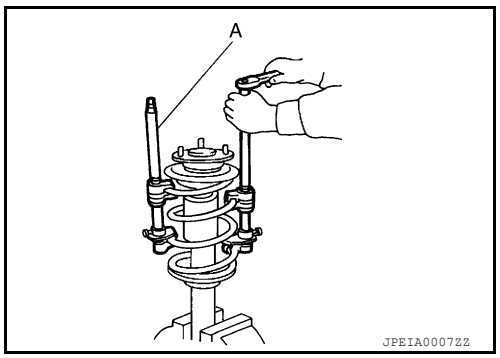
2. Secure Tool (A) in a vise.
3. Install a suitable tool to strut rod.
4. Slightly loosen the piston rod lock nut.

   WARNING:

   Do not remove the piston rod lock nut completely. If it is removed completely, the coil spring can jump out and may cause serious damage or injury.

5. Compress the coil spring using a suitable tool (A).

WARNING:
Make sure that the pawls of the suitable tool are firmly hooked on the coil spring. The suitable tool must be tightened alternately so as to not tilt the coil spring.



6. Make sure the coil spring is free between the strut mount insulator and the lower rubber seat.
7. Hold the piston rod and remove the piston rod lock nut.
8. Remove the strut mount insulator, the strut mount bearing, and the bound bumper from the strut.
9. Gradually release the suitable tool and remove the coil spring.

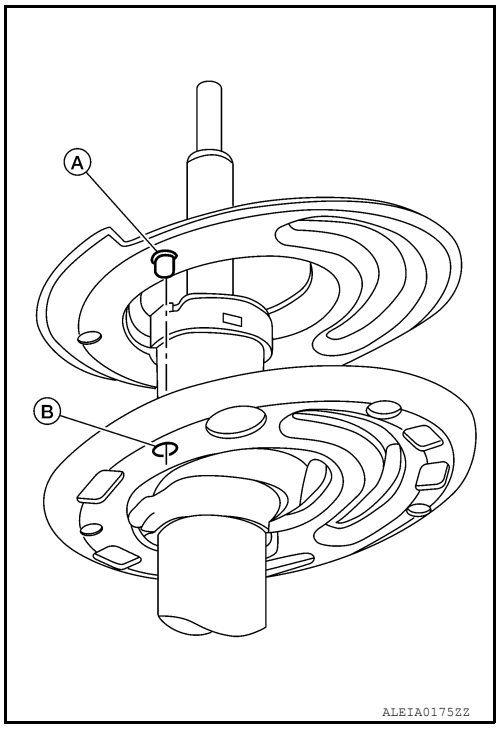
CAUTION:
Release the suitable tool while making sure the position of the suitable tool on the coil spring does not move.

10. Remove the lower rubber seat.
11. Inspect the components. Refer to FSU-21, "Inspection".

ASSEMBLY

CAUTION:
Do not damage the piston rod when installing components to the front coil spring and strut.

1. Install the lower rubber seat to the strut. Make sure that the pin (A) on the lower rubber seat is positioned into the hole (B) on the strut.

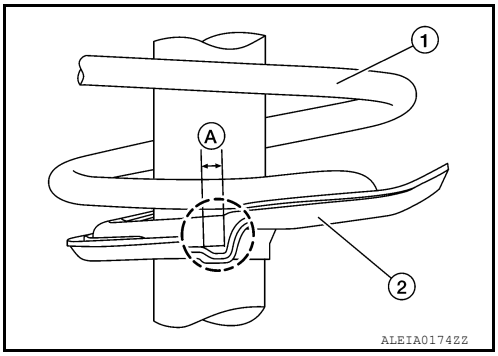


2. Compress the coil spring using a suitable tool.

WARNING:
Make sure that the pawls of the suitable tool are firmly hooked on the coil spring. The suitable tool must be tightened alternately so as to not tilt the coil spring.

3. Align the lower end of the coil spring (1) with the lower rubber seat (2) as shown.

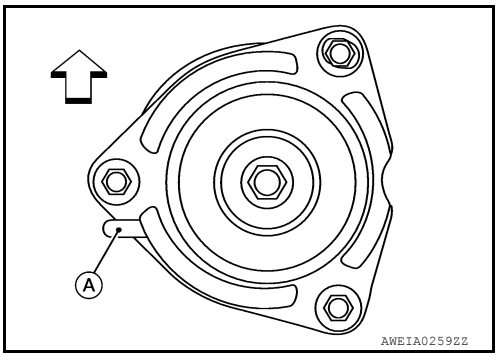
Maximum Gap (A) : 5 mm (0.2 in)



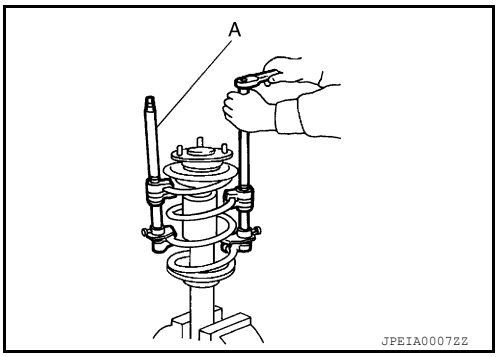
4. Connect the bound bumper to the strut mount bearing.
CAUTION:
- **Be sure to install the bound bumper to the strut mount bearing securely.**
- **When installing the bound bumper, use soapy water. Do not use machine oil or other lubricants.**

5. Install the strut mount bearing and the strut mount insulator.
6. Temporarily install the piston rod lock nut.
CAUTION:
Do not reuse the piston rod lock nut.
7. Be sure that the tab (A) on the strut mount insulator is positioned on the outboard side of the vehicle.

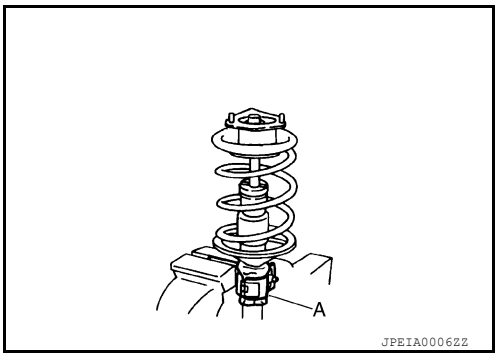
⇦ :Front



8. Gradually release the suitable tool (A) and remove the suitable tool from the coil spring.
CAUTION:
Release the suitable tool while making sure the position of the suitable tool on the coil spring does not move.



9. Tighten the piston rod lock nut to the specified torque. Refer to FSU-18, "Exploded View".
10. Remove Tool (A) from the vise.
11. Remove Tool (A) from the front coil spring and strut.



12. After replacing the strut, always follow the disposal procedure to discard the old strut. Refer to FSU-9, "Disposal".

Inspection

INFOID:0000000011147032

INSPECTION AFTER DISASSEMBLY

Strut

- Check the strut for deformation, cracks, and damage. Replace the strut if necessary.
- Check the piston rod for damage, uneven wear, and distortion. Replace the strut if necessary.
- Check welded and sealed areas for oil leaks. Replace the strut if necessary.

Insulator and Rubber Parts

Check the strut mount insulator for cracks. Check the rubber parts for wear. Replace the parts if necessary.

Coil Spring

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

SERVICE DATA AND SPECIFICATIONS (SDS)

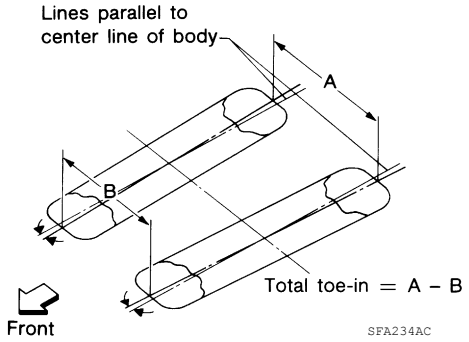
SERVICE DATA AND SPECIFICATIONS (SDS)

Wheel Alignment (Unladen*1)

INFOID:0000000011147033

WARNING:
If the vehicle is equipped with the ICC cruise control system and the rear toe has been adjusted during a wheel alignment, the ICC sensor must be aligned. Refer to CCS-94, "ICC Sensor Adjustment".

Item		Standard	
Measurement wheel		(LH) side	(RH) side
Camber Degree minute (Decimal degree)	Minimum	–1° 00′ (–1.00°)	–1° 15′ (–1.25°)
	Nominal	–0° 15′ (–0.25°)	–0° 30′ (–0.50°)
	Maximum	0° 30′ (0.50°)	0° 15′ (0.25°)
	(LH) and (RH) difference*2	–0° 15′ ± 0° 33′ (0.25° ± 0.55°)	
Caster Degree minute (Decimal degree)	Minimum	3° 55′ (3.92°)	
	Nominal	4° 40′ (4.67°)	
	Maximum	5° 25′ (5.42°)	
	(LH) and (RH) difference*2	0.30′ (0.50°) Maximum	
Kingpin inclination Degree minute (Decimal degree)	Minimum	11° 55′ (11.92°)	12° 10′ (12.17°)
	Nominal	12° 40′ (12.67°)	12° 55′ (12.92°)
	Maximum	13° 25′ (13.42°)	13° 40′ (13.67°)



Total toe-in	Distance (A - B)	Minimum	Out 0.6 mm (Out 0.024 in)
		Nominal	In 1.4 mm (In 0.055 in)
		Maximum	In 3.4 mm (In 0.134 in)
	Angle (LH) and (RH) Degree minute (Decimal degree)	Minimum	Out 0° 3′ 36″ (Out 0.06°)
		Nominal	In 0° 6′ 14″ (In 0.10°)
		Maximum	In 0° 15′ 36″ (In 0.26°)

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

*2: The difference when assuming the (LH) side is the standard.

Ball Joint

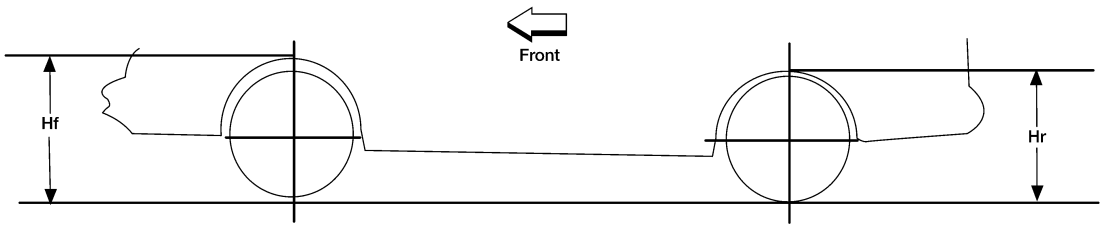
INFOID:0000000011147034

Item		Standard
Swing torque	Transverse link	0.5 – 4.9 N·m (0.05 – 0.50 kg-m, 4 – 43 in-lb)
Measurement on spring balance	Transverse link	11.1 – 108.9 N (1.13 – 11.11 kg, 2.50 – 24.48 lb)
Axial end play		0 mm (0 in)

Wheelarch Height

INFOID:0000000011147035

UNITED STATES

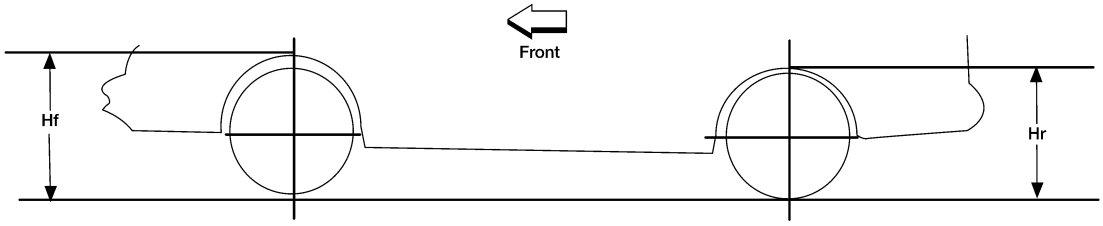


LEIA0085E

Drive type	FWD			AWD		
Tire size	235/65R18		235/55R20	235/65R18		235/55R20
Grade	Base	Premium		Base	Premium	Premium
Front (Hf)	822 mm (32.36 in)	822 mm (32.36 in)	821 mm (32.32 in)	822 mm (32.36 in)	821 mm (32.32 in)	820 mm (32.28 in)
Rear (Hr)	828 mm (32.60 in)	827 mm (32.56 in)	826 mm (32.52 in)	827 mm (32.56 in)		825 mm (32.48 in)

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

CANADA



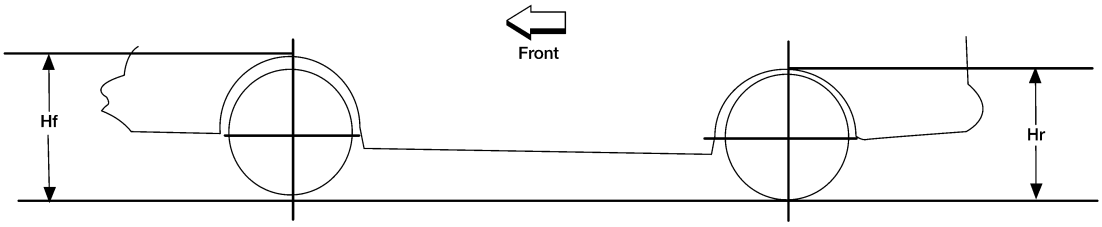
LEIA0085E

Drive type	AWD		
Tire size	235/65R18		235/55R20
Grade	Base	Premium	Premium
Front (Hf)	822 mm (32.36 in)	822 mm (32.36 in)	821 mm (32.32 in)
Rear (Hr)	828 mm (32.60 in)	827 mm (32.56 in)	826 mm (32.52 in)

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

MEXICO

Unit: mm (in)



LEIA0085E

Drive type	AWD
Tire size	235/65R18
Grade	Premium
Front (Hf)	822 (32.36)
Rear (Hf)	827 (32.56)

Measure value under unladen* conditions. (Fuel, engine coolant and lubricant are full. Spare tire, jack, hand tools and mats are in designated positions).