

REAR AXLE & REAR SUSPENSION

SECTION **RA**

CONTENTS

PRECAUTIONS AND PREPARATION	2	REAR AXLE	6	FE
Precautions	2	Wheel Hub	6	
Special Service Tools	2	REAR SUSPENSION	7	CI
Commercial Service Tools	2	Removal and Installation	8	
REAR AXLE AND REAR SUSPENSION	3	Coil Spring and Strut Assembly	8	
ON-VEHICLE SERVICE	4	Stabilizer Bar	12	MT
Rear Axle and Rear Suspension Parts	4	SERVICE DATA AND SPECIFICATIONS (SDS)	13	
Rear Wheel Bearing	4	General Specifications	13	
Rear Wheel Alignment	4	Inspection and Adjustment	13	AT

GI

VA

EM

LC

EF &
EC

FE

CI

MT

AT

FA

RA

BR

ST

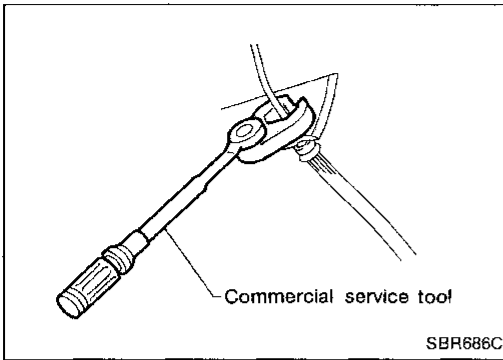
BF

HA

EL

IDX

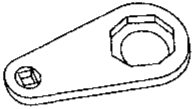
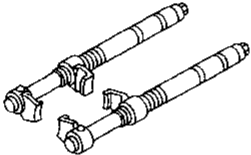
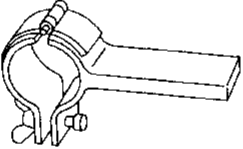
PRECAUTIONS AND PREPARATION



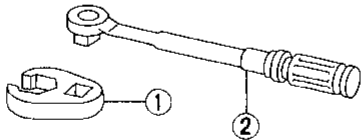
Precautions

- When installing rubber parts, final tightening must be carried out under unladen condition* with tires on ground.
*: Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.
- Use flare nut wrench when removing or installing brake tubes.
- When removing each suspension part, check wheel alignment and adjust if necessary.
- Do not jack up at the parallel links and radius rod.
- Always torque brake lines when installing.

Special Service Tools

Tool number (Kent-Moore No.) Tool name	Description	
ST35490000 (J26083) Gland packing wrench	 NT158	Removing and installing gland packing
HT71780000 (—) Spring compressor	 NT144	Removing and installing coil spring
ST35652000 (—) Strut attachment	 NT145	Fixing strut assembly

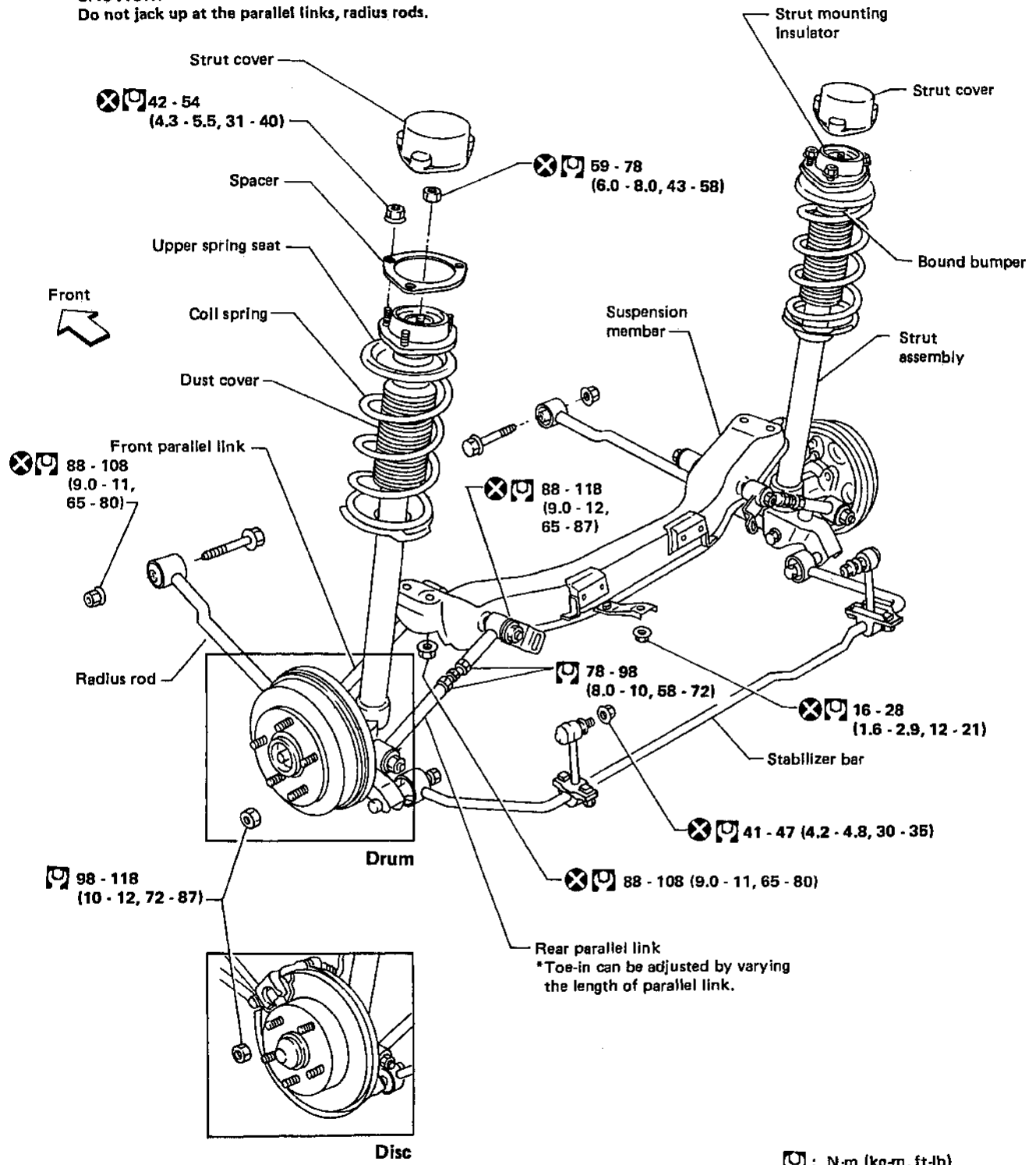
Commercial Service Tools

Tool name	Description	
① Flare nut crows foot ② Torque wrench	 NT223	Removing and installing brake piping

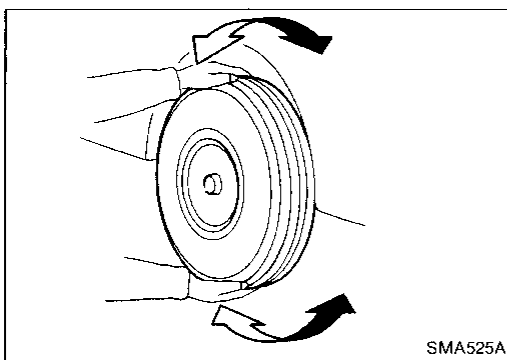
REAR AXLE AND REAR SUSPENSION

When installing rubber parts, final tightening must be carried out under unladen condition* with tires on ground.

- * Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.
- CAUTION:**
Do not jack up at the parallel links, radius rods.



CI
MA
EM
LC
EF & EC
FE
CL
MT
AT
FA
RA
BR
ST
BF
HA
EL
IDX



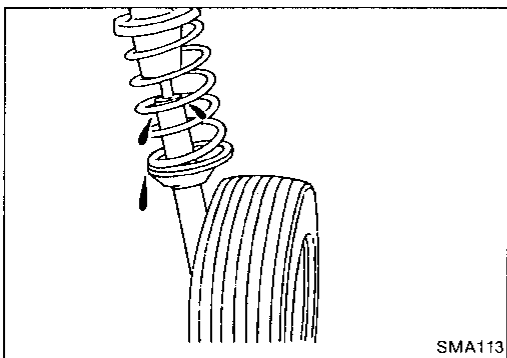
SMA525A

Rear Axle and Rear Suspension Parts

Check axle and suspension parts for looseness, wear or damage.

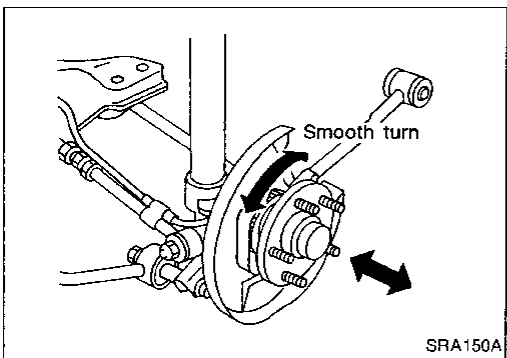
- Shake each rear wheel to check for excessive play.
- Retighten all axle and suspension nuts and bolts to the specified torque.

Tightening torque: Refer to REAR SUSPENSION. (RA-7)



SMA113

- Check strut (shock absorber) for oil leakage or other damage.
- Check wheelarch height. Refer to ON-VEHICLE SERVICE in FA section.



SRA150A

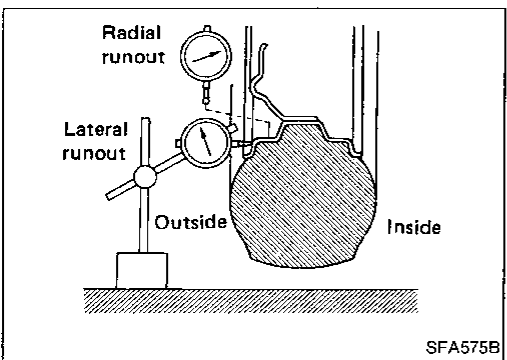
Rear Wheel Bearing

- Check axial end play.

Axial end play:

0.05 mm (0.0020 in) or less

- Check that wheel bearings operate smoothly.
- Check tightening torque of wheel bearing lock nut.
☞: 186 - 255 N·m (19 - 26 kg-m, 137 - 188 ft-lb)
- If there is any axial end play or wheel bearing does not turn smoothly, replace wheel bearing assembly. Refer to REAR AXLE — Wheel Hub. (RA-6)



SFA575B

Rear Wheel Alignment

PRELIMINARY INSPECTION

Make following checks. Adjust, repair or replace if necessary.

- Check tires for wear and for improper inflation.
- Check rear wheel bearings for looseness.
- Check wheel runout.
Wheel runout: Refer to SDS in FA section.
- Check that rear strut (shock absorber) works properly.
- Check rear axle and rear suspension parts for looseness.
- Check vehicle posture (Unladen*).

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

CAMBER

Camber is preset at factory and cannot be adjusted.

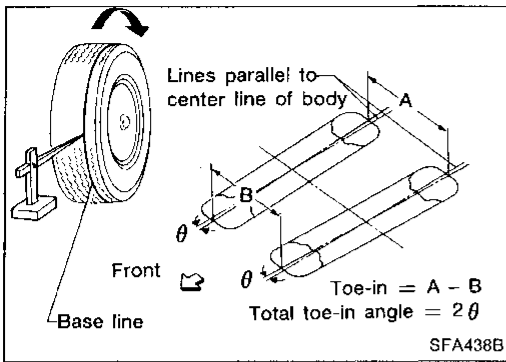
Camber:

Refer to SDS. (RA-13)

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

ON-VEHICLE SERVICE

Rear Wheel Alignment (Cont'd)

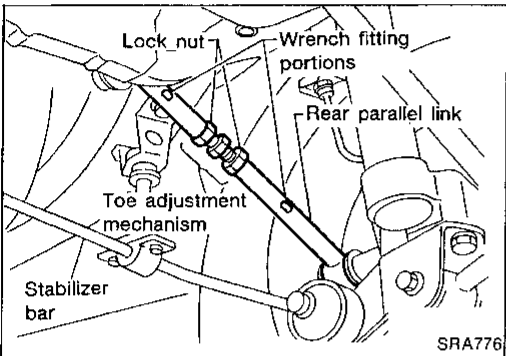


TOE-IN

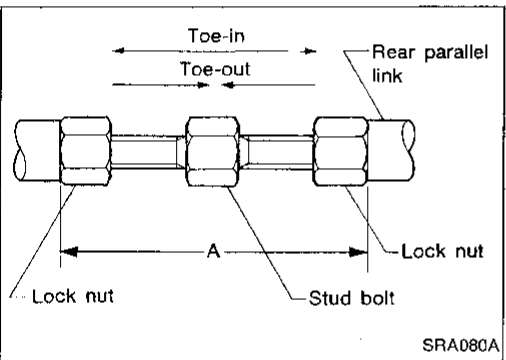
1. Draw a base line across the tread.
 - After lowering rear of vehicle, move it up and down to eliminate friction.
2. Measure toe-in.
 - Measure distance "A" and "B" at the same height as hub center.

Toe-in:

Refer to SDS. (RA-13)



3. Adjust toe-in by varying the lengths of rear parallel links.



- Adjust left and right rear parallel links to the same length "A".
- Tighten lock nut while holding rear parallel link with wrench to prevent bushing from twisting.

Standard length "A":

50 - 55 mm (1.97 - 2.17 in)

GI

MA

EM

LC

FF &
EC

FE

CL

MT

AT

FA

RA

BR

ST

BF

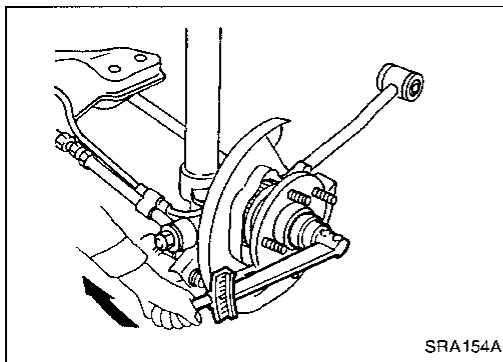
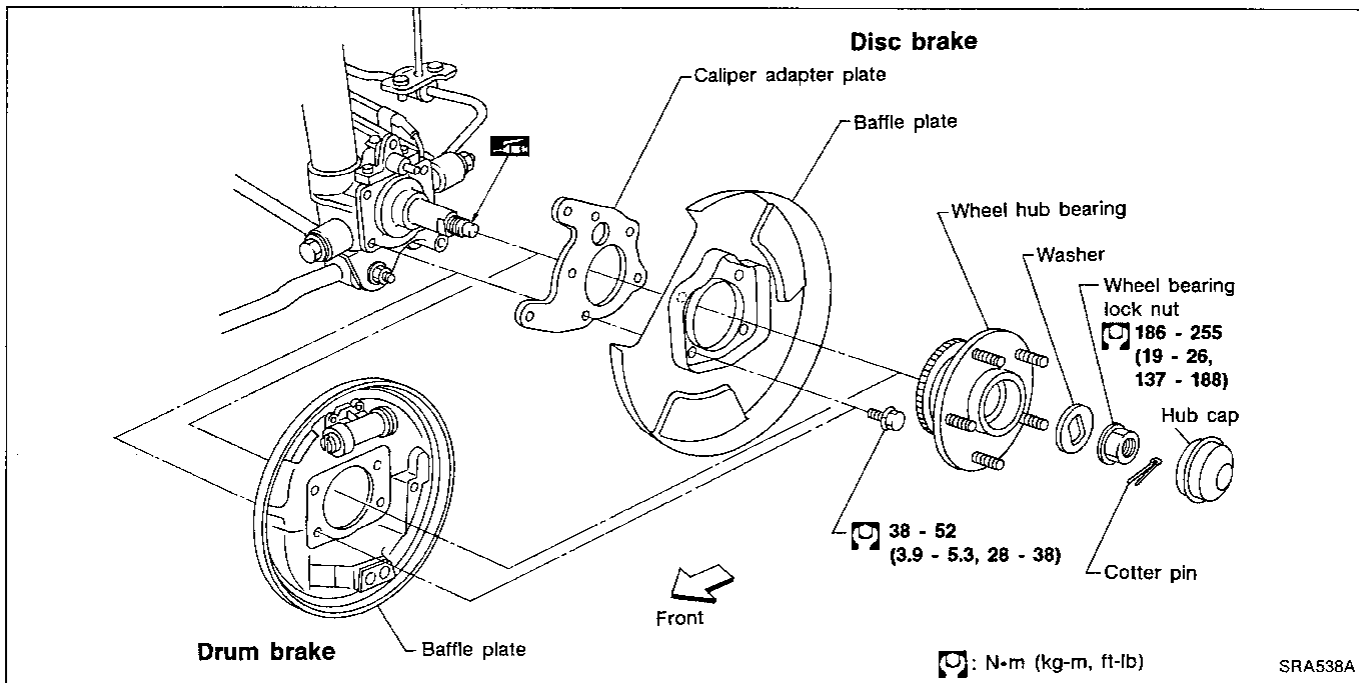
HA

EL

IDX

REAR AXLE

Wheel Hub



REMOVAL

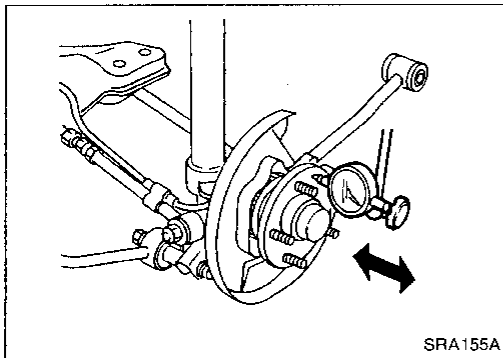
CAUTION:

Wheel hub bearing usually does not require maintenance. If any of the following symptoms are noted, replace wheel hub bearing assembly.

- Growling noise is emitted from wheel hub bearing during operation.
- Wheel hub bearing drags or turns roughly when hub is turned with your hand after bearing lock nut is tightened to specified torque.
- After wheel hub bearing is removed from knuckle spindle.
 - 1) Remove brake caliper assembly.
 - 2) Remove wheel bearing lock nut.

Brake hose does not need to be disconnected from brake caliper.

Be careful not to depress brake pedal, or piston will pop out. Make sure brake hose is not twisted.



INSTALLATION

- Install wheel hub bearing.
- Tighten wheel bearing lock nut.
Ⓜ: 186 - 255 N·m
(19 - 26 kg-m, 137 - 188 ft-lb)
- Check that wheel bearings operate smoothly.
- Check wheel bearing axial end play.

Axial end play:

0.05 mm (0.0020 in) or less

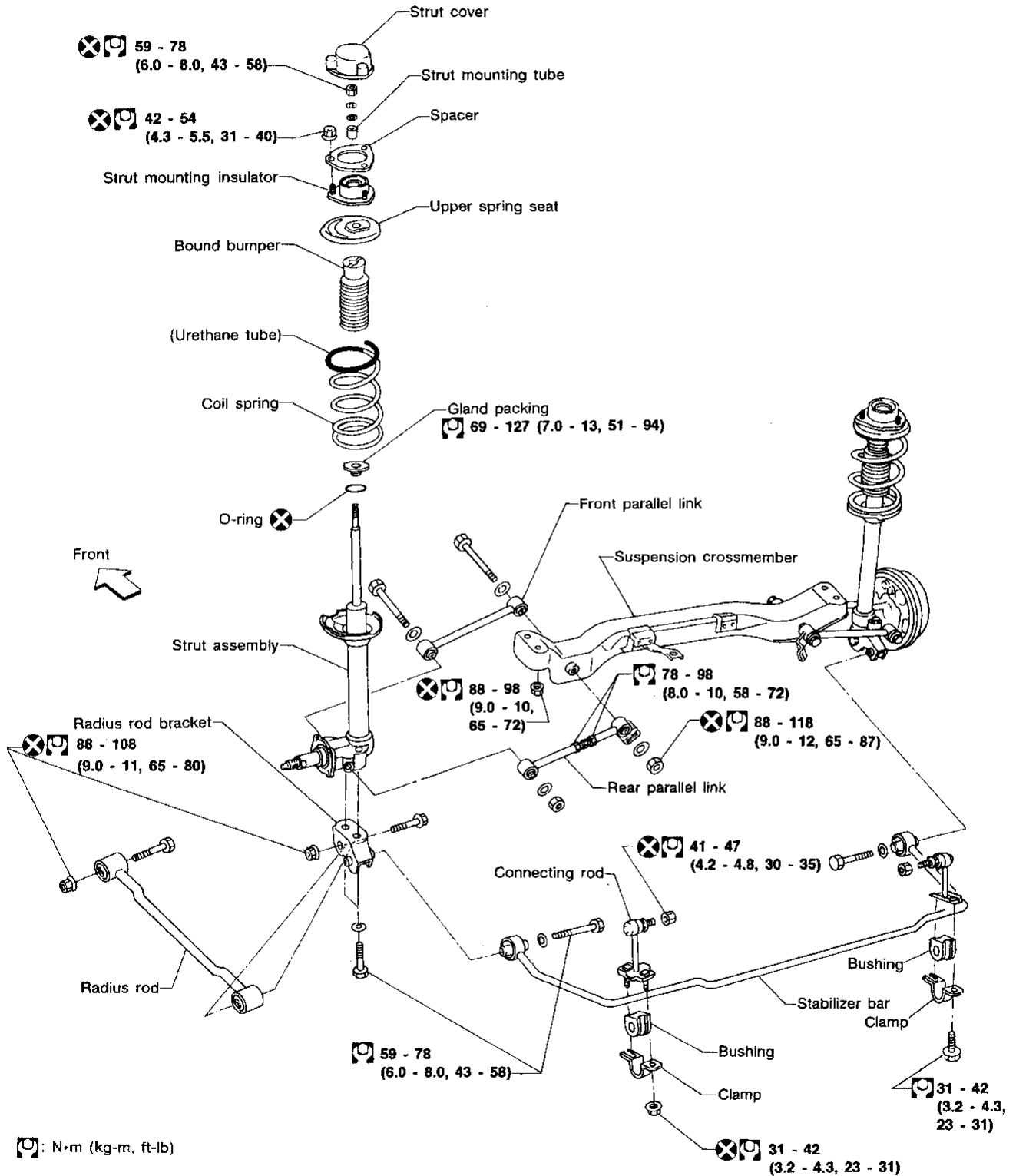
REAR SUSPENSION

When installing rubber parts, final tightening must be carried out under unladen condition* with tires on ground.

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

CAUTION:

Do not jack up at the parallel links, radius rods.



GI

MA

EM

LC

EF &
EC

FE

CL

MT

AT

FA

RA

BR

ST

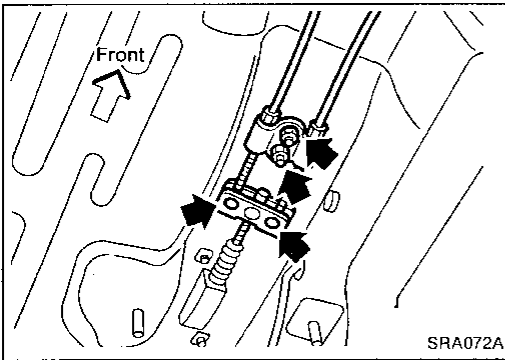
BF

HA

EL

IDX

REAR SUSPENSION

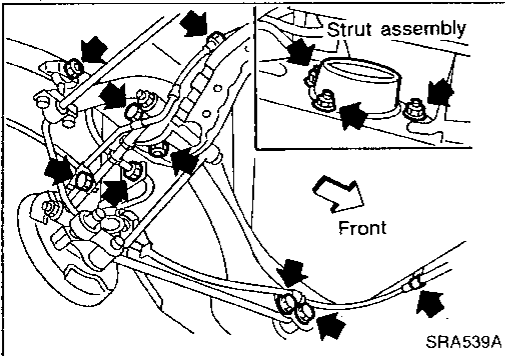


Removal and Installation

CAUTION:

Do not jack up at the parallel links or radius rods.

- Disconnect brake hydraulic line and parking brake cable at equalizer.

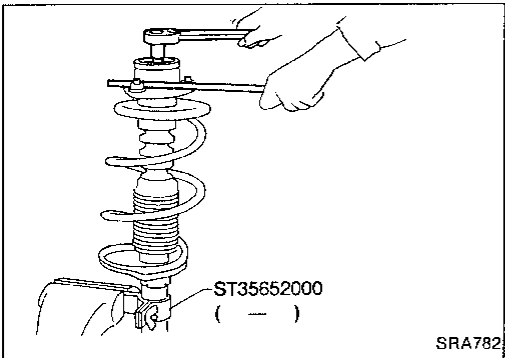


- Remove suspension assembly.

CAUTION:

Before removing the suspension assembly, disconnect the ABS wheel sensor from the assembly and move it away from the suspension assembly. Failure to do so may result in damage to the sensor wires and the sensor becoming inoperative.

- 1) Remove parallel link fixing bolt, radius rod fixing bolt, stabilizer fixing bolt, stabilizer connecting rod brackets and parking brake cable fixing bolts.
- 2) Remove rear seat and parcel shelf. Refer to BF section.
- 3) Remove strut securing nuts (Upper side). Then pull out strut assembly.

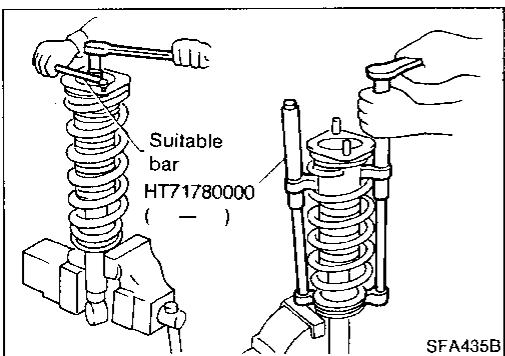


Coil Spring and Strut Assembly

DISASSEMBLY

1. Set strut assembly on vise with attachment, then loosen piston rod lock nut.

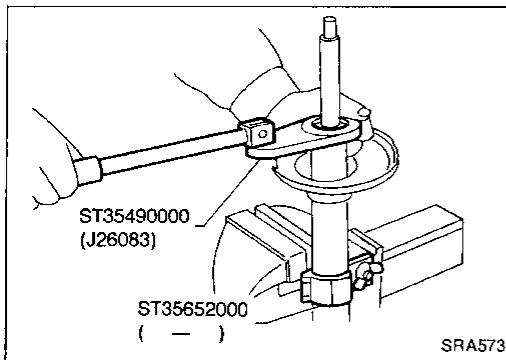
Do not remove piston rod lock nut.



2. Compress spring with Tool so that the strut mounting insulator can be turned by hand.
3. Remove piston rod lock nut.

REAR SUSPENSION

Coil Spring and Strut Assembly (Cont'd)



4. Remove gland packing with Tool.

Avoid getting dirt and dust into gland packing portion.

5. Retract piston rod by pushing it down until it bottoms. Then, slowly withdraw piston rod from cylinder together with piston guide.

GI

MA

EM

INSPECTION

Wash all parts, except nonmetallic parts, with solvent; then dry with compressed air.

Blow dirt and dust off of nonmetallic parts with compressed air.

LC

EF &
EC

Strut assembly

- If oil is oozing from the gland packing, the strut need not be replaced.

If oil leakage is evident on spring seat, check piston rod gland packing and O-ring.

If oil leakage occurs on welded portion of outer strut casing, replace strut assembly.

- If the shock absorber is malfunctioning, replace it as a shock absorber kit-cartridge.

FE

CL

MT

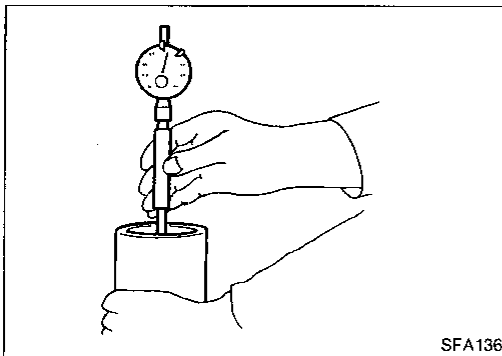
Gland packing

Check gland packing for oil leakage. Replace gland packing if necessary.

AT

FA

RA



Inner cylinder

Check inner cylinder for cracks, deformation or other damage. For inner cylinder damage, replace shock absorber kit-cartridge.

BR

Bore diameter:

Refer to SDS. (RA-13)

ST

BF

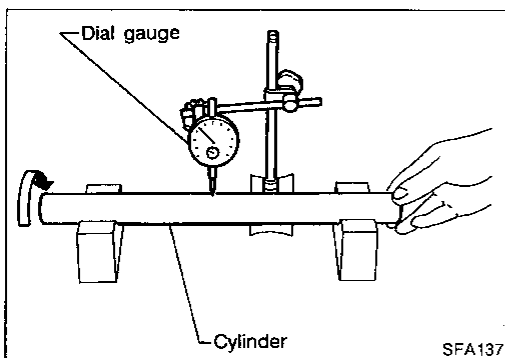
HA

Runout limit:

0.2 mm (0.008 in)

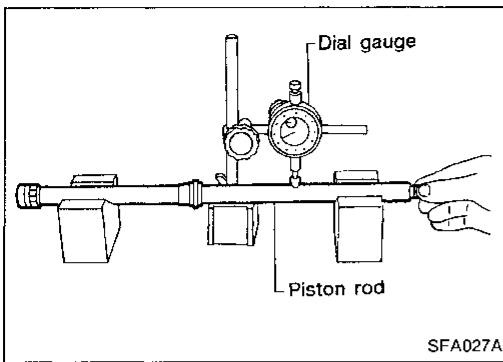
EL

IDX



REAR SUSPENSION

Coil Spring and Strut Assembly (Cont'd)



Piston rod

- Check piston rod for cracks, deformation or other damage. Replace shock absorber kit-cartridge, if necessary.
- Check threads for cracks or other damage. Replace shock absorber kit-cartridge, if necessary.

Rod diameter:

Refer to SDS. (RA-13)

Runout limit:

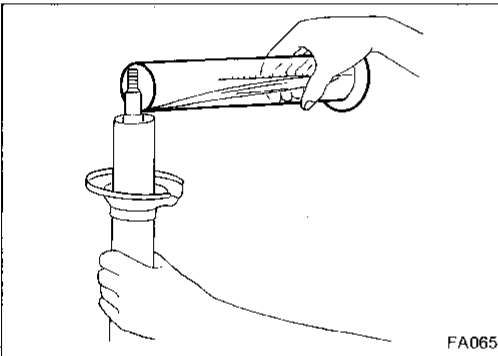
0.1 mm (0.004 in)

Strut mounting insulator

Check cemented rubber-to-metal portion for melting or cracks. Check rubber parts for deterioration.

Coil spring

Check for cracks, deformation or other damage. Replace if necessary.



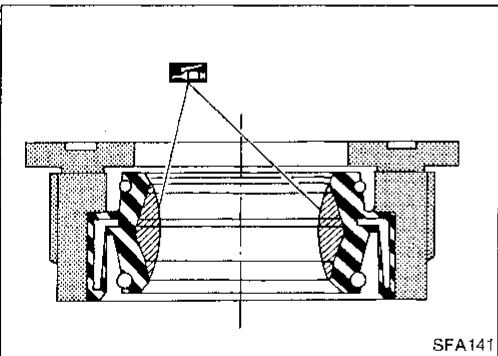
ASSEMBLY

Before assembly, keep away from dust.

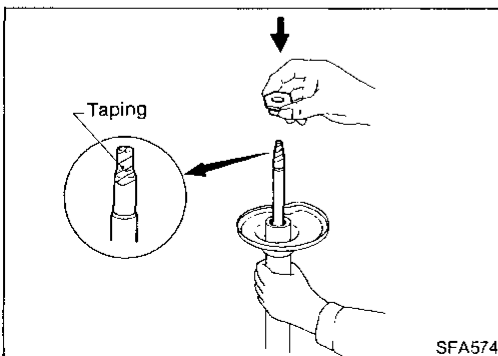
- Add correct amount of fluid. [Except shock absorber kit-cartridge]
Use "NISSAN GENUINE STRUT FLUID" or equivalent.
Oil capacity is very important since performance of strut varies with amount of fluid in strut.

Capacity:

350 ml (11.8 US fl oz, 12.3 Imp fl oz)



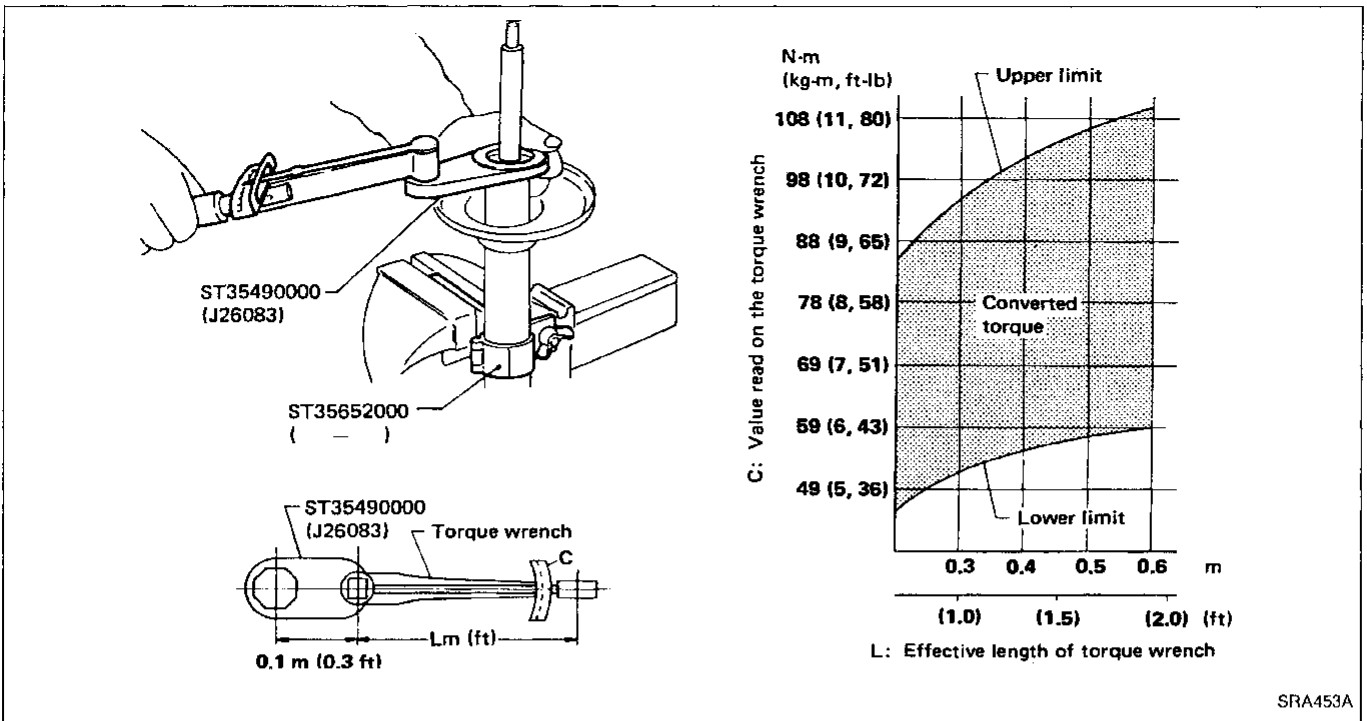
- Lubricate sealing lip of gland packing with multi-purpose grease.



- Install gland packing.
Cover piston rod with tape to prevent damage to oil seal lip.
- Tighten gland packing to the specified torque (Refer to the following chart.) with Tool.

REAR SUSPENSION

Coil Spring and Strut Assembly (Cont'd)



SRA453A

GI

VA

EM

IC

EF & EC

FE

CL

WT

AT

FA

RA

BR

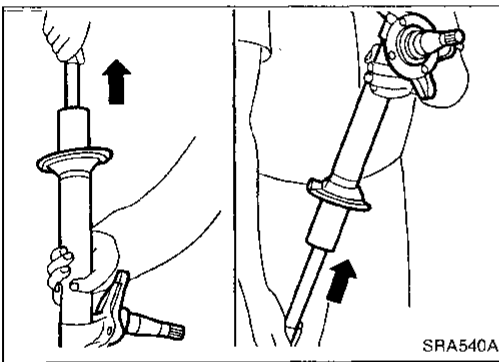
ST

BF

HA

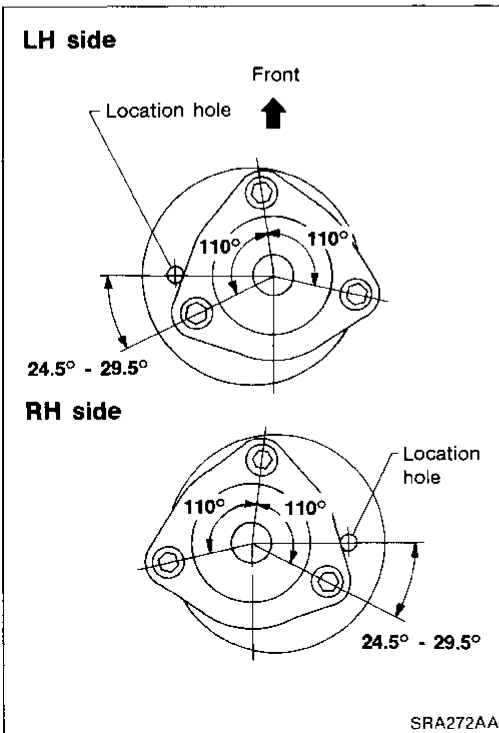
EL

IDX



SRA540A

- Repeat procedures (as shown at left) several times so that air will be thoroughly bled from strut [Except shock absorber kit-cartridge].

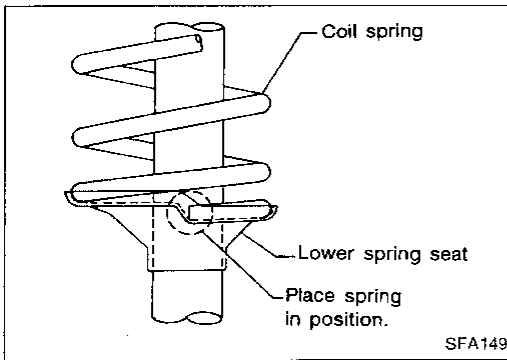


SRA272AA

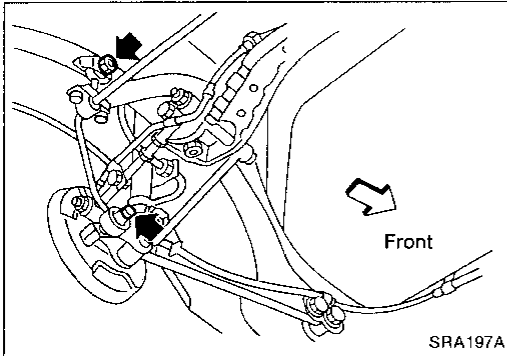
- Locate upper spring seat as shown.

REAR SUSPENSION

Coil Spring and Strut Assembly (Cont'd)



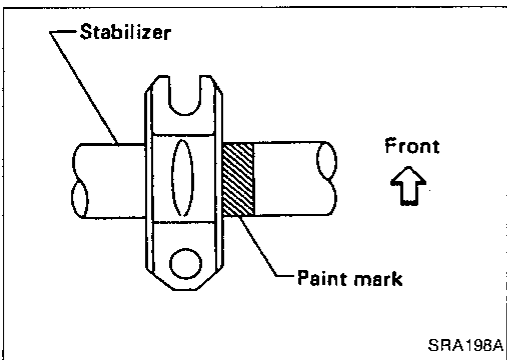
- After placing coil spring in position on lower spring seat, release spring compressor gradually.



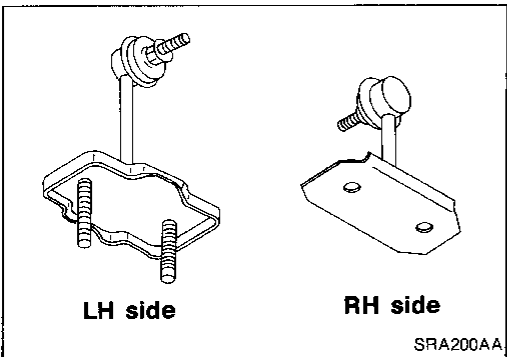
Stabilizer Bar

REMOVAL AND INSTALLATION

- Remove stabilizer bar.



- When installing stabilizer, refer to paint marks to mount it even.



- When installing connecting rod, make sure that parts are in their correct position.

SERVICE DATA AND SPECIFICATIONS (SDS)

General Specifications

COIL SPRING

Applied model		VG30E	VE30DE
Wire diameter	mm (in)	12.0 (0.472)	12.3 (0.484)
Coil diameter	mm (in)	130 (5.12)	
Free length	mm (in)	334.0 (13.15)	311.5 (12.26)
Identification color		Blue x 1, Pink x 1	Pink x 2

STABILIZER BAR

Engine model		VG30E	VE30DE
Diameter	mm (in)	13.8 (0.543)	15.0 (0.591)

STRUT (Non-adjustable)

Applied model		VG30E	VE30DE
Oil capacity	mℓ (US fl oz, Imp fl oz)	350 (11.8, 12.3)	
Inner cylinder	mm (in)		
Bore diameter		32 (1.26)	
Runout limit		0.2 (0.008)	
Piston rod	mm (in)		
Rod diameter		22 (0.87)	
Runout limit		0.1 (0.004)	

Inspection and Adjustment

WHEEL ALIGNMENT (Unladen*)

Applied model		All
Camber	degree	-1°20' to 10'
Toe-in		
A - B	mm (in)	-3 to -1 (-0.12 to -0.04)
Total angle 2θ	degree	-15' to -5'

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

WHEEL BEARING

Applied model		All
Wheel bearing axial end play limit	mm (in)	0.05 (0.0020)
Wheel bearing lock nut tightening torque	N·m (kg·m, ft·lb)	186 - 255 (19 - 26, 137 - 188)

GF

WA

EM

LC

EF &
EC

FE

CL

MT

AT

FA

RA

BR

ST

BF

HA

EL

IDX