SECTION FAX
FRONT AXLE

CONTENTS

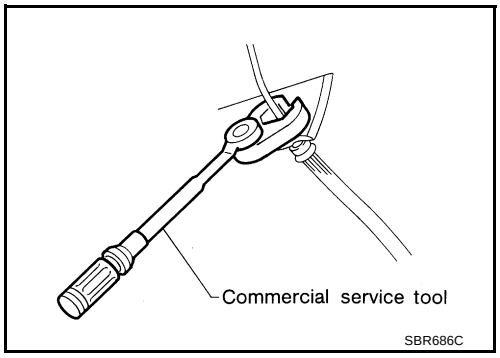
PRECAUTIONS

PFP:00001

Precautions

ADS00001

- When installing rubber parts, final tightening must be carried out under unladen condition* with tires on ground.
  Oil will shorten the life of rubber bushes. Be sure to wipe off any spilled oil.
  *: Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.
- After installing removed suspension parts, check wheel alignment and adjust if necessary.
- Lock nuts are unreusable parts; always use new ones. When replacing, do not wipe oil off the new lock nut before tightening.
- Use flare nut wrench when removing or installing brake tubes.
- Always torque brake lines when installing.



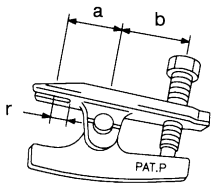
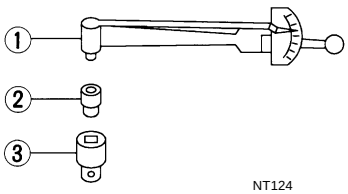
PREPARATION

PFP:00002

Special Service Tools

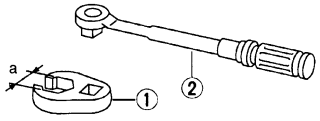
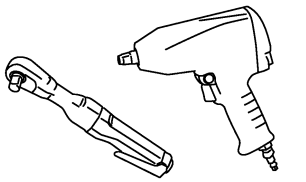
ADS00002

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
HT7252 0000 (J25730-A) Ball joint remover a: 33 mm (1.30 in) b: 50 mm (1.97 in) r: 11.5 mm (0.453 in)  NT546	Removing tie-rod and lower ball joint
ST3127 S000 (See J25742-1) Preload Gauge 1. GG91030000 Torque wrench (J25765) 2. HT62940000 (—) Socket adapter (1/2″) 3. HT62900000 (—) Socket adapter (3/8″)  NT124	Measurement ball joint of sliding torque

Commercial Service Tools

ADS00003

Tool name	Description
1. Flare nut crowfoot a: 10 mm (0.39 in) 2. Torque wrench  S-NT360	Removing and installing each brake piping
Power tool  PBIC0190E	● Removing wheel nuts ● Removing engine under cover ● Removing brake caliper assembly

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

PFP:00003

NVH Troubleshooting Chart

ADS00004

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

Reference page			Refer to FAX-5 .	—	Refer to FAX-5 .	NVH in WT section.	NVH in WT section.	NVH in PS section.
Possible cause and SUSPECTED PARTS			Improper installation, looseness	Parts interference	Wheel bearing damage	TIRES	ROAD WHEEL	STEERING
Symptom	FRONT AXLE	Noise	×	×		×	×	×
		Shake	×	×		×	×	×
		Vibration	×	×		×		×
		Shimmy	×	×		×	×	×
		Judder	×			×	×	×
		Poor quality ride or handling	×	×	×	×	×	

×: Applicable

FRONT WHEEL HUB AND KNUCKLE

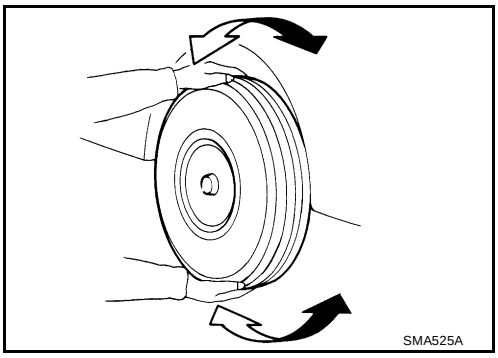
PFP:40202

On-Vehicle Service Inspection

ADS00005

Check front axle parts for excessive play, cracks, wear or other damage.

- Shake each front wheel to check for excessive play.
- Make sure that cotter pin is inserted.
- Retighten all nuts and bolts to the specified torque.


SMA525A

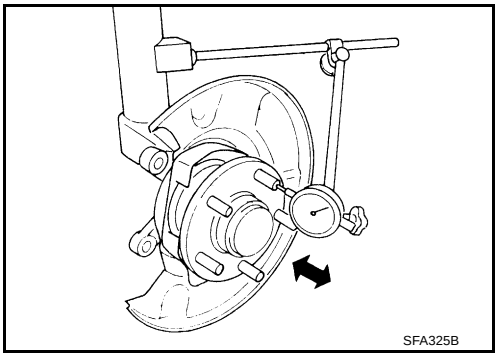
FRONT WHEEL BEARING

With vehicle raised, inspect the following.

- Move wheel hub in the axial direction by hand. Check that there is no looseness of front wheel bearings.

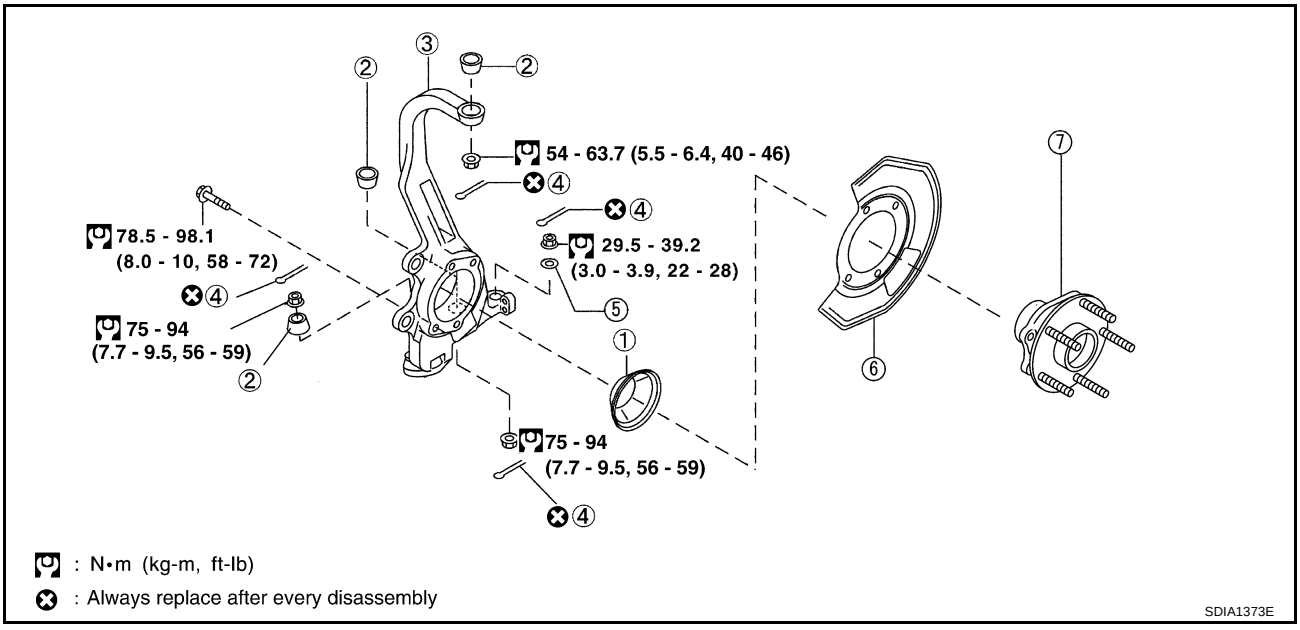
Axial end play limit : 0.05 mm (0.002 in) or less

- Rotate wheel hub and check that there is no unusual noise or other irregular conditions. If there are any irregular conditions, replace wheel bearings.


SFA325B

Removal and Installation

ADS00006

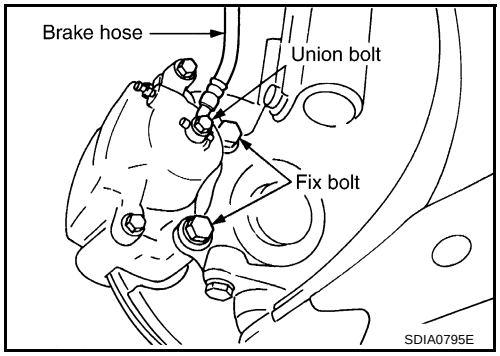


1. Hub cap
2. Ball seat
3. Steering knuckle
4. Cotter pin
5. Washer
6. Baffle plate
7. Wheel hub bearing

REMOVAL

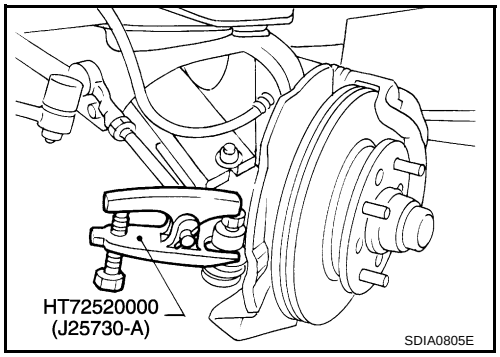
1. Remove tire with power tool.
2. Remove engine under cover with power tool.
3. Remove brake caliper from steering knuckle with power tool. Hang it in a place where it will not interfere with work.

   CAUTION:
   Avoid depressing brake pedal while brake caliper is removed.



4. Remove ABS wheel sensor from steering knuckle.
5. Remove disc rotor.
6. Use a ball joint remover to remove transverse link from steering knuckle.

   CAUTION:
   Ball joint remover may come off suddenly. Therefore, temporarily tighten lock nut.



7. Remove lock nut and cotter pin between upper link, transverse link and compression rod, and, steering knuckle.
8. Remove steering knuckle and wheel hub bearing fixing bolt.
9. Remove wheel hub bearing assembly from steering knuckle.

INSPECTION AFTER REMOVAL

Visual Inspection

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

Ball Joint Inspection

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

Oscillating Torque Inspection

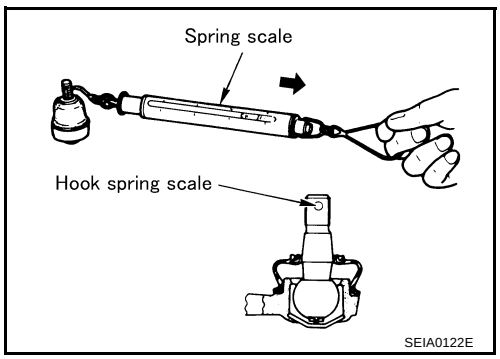
- Hook spring scale at cotter pin mounting hole. Confirm spring scale measurement value is within specifications when ball stud begins moving.

  Tensile force:

  0.147 - 1.4 N·m (0.02 - 0.14 kg-m, 2 - 12 in-lb)

  Measurement force:

  2.23 - 21.2 N (0.22 - 2.16 kg, 0.50 - 4.77 lb)



- If the value is outside the standard, replace steering knuckle.

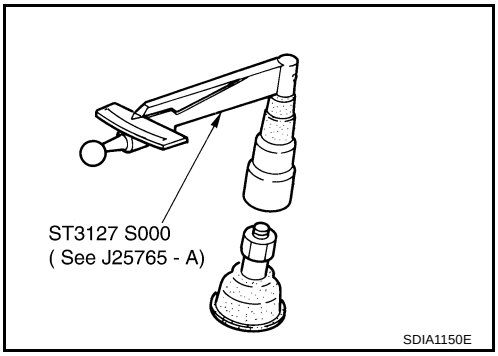
Sliding Torque Inspection

- Attach mounting nut to ball stud. Check that sliding torque is within specifications with a preload gauge.

Sliding torque:

0.147 - 1.4 N·m (0.02 - 0.14 kg-m, 2 - 12 in-lb)

- If the value is outside the standard, replace steering knuckle.



Axial End Play

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

Axial end play : 0 mm (0 in)

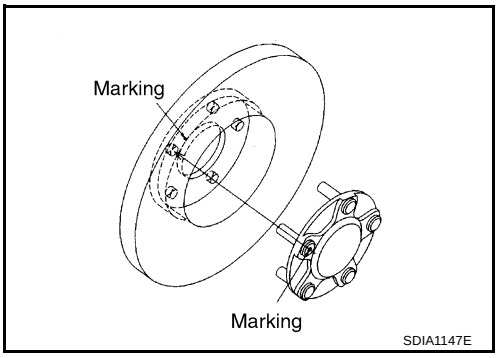
- If any looseness is noted, replace steering knuckle.

INSTALLATION

- Refer to FAX-5, "Removal and Installation" for tightening torque. Install in the reverse order of removal.

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

- Wheel hub bearing and disc must be installed to fit the marked position each other.



SERVICE DATA

PFP:00030

Wheel Bearing

ADS00008

End play in axial direction	0.05 mm (0.002 in) or less

BALL JOINT

Tensile force	0.147 - 1.4 N·m (0.02 - 0.14 kg-m, 2 - 12 in-lb)
Measurement on spring balance	2.23 - 21.2 N (0.22 - 2.16 kg, 0.50 - 4.77 lb)
Sliding torque	0.147 - 1.4 N·m (0.02 - 0.14 kg-m, 2 - 12 in-lb)
Axial end play	0 mm (0 in)