

SECTION **FAX**  
FRONT AXLE

A  
B  
C

FAX

CONTENTS

E

**2WD**

**SYMPTOM DIAGNOSIS** ..... 3

**NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING** ..... 3  
NVH Troubleshooting Chart ..... 3

**PRECAUTION** ..... 4

**PRECAUTIONS** ..... 4

**FOR USA AND CANADA** ..... 4  
FOR USA AND CANADA : Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" ..... 4  
FOR USA AND CANADA : Precautions for Drive Shaft ..... 4

**FOR MEXICO** ..... 4  
FOR MEXICO : Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" ..... 4  
FOR MEXICO : Precautions for Drive Shaft ..... 5

**PREPARATION** ..... 6

**PREPARATION** ..... 6  
Special Service Tool ..... 6  
Commercial Service Tool ..... 6

**PERIODIC MAINTENANCE** ..... 7

**FRONT WHEEL HUB AND KNUCKLE** ..... 7  
Inspection ..... 7

**FRONT DRIVE SHAFT** ..... 8  
Inspection ..... 8

**REMOVAL AND INSTALLATION** ..... 9

**FRONT WHEEL HUB AND KNUCKLE** ..... 9  
Exploded View ..... 9

Removal and Installation ..... 9  
Inspection ..... 11

**FRONT DRIVE SHAFT BOOT** ..... 12  
Exploded View ..... 12  
Replacement ..... 13  
Inspection ..... 17

**FRONT DRIVE SHAFT** ..... 19  
Exploded View ..... 19  
Removal and Installation ..... 20  
Disassembly and Assembly ..... 23  
Inspection ..... 26

**SERVICE DATA AND SPECIFICATIONS (SDS)** ..... 28

**SERVICE DATA AND SPECIFICATIONS (SDS)** ..... 28  
Wheel Bearing ..... 28  
Drive Shaft ..... 28

F  
G  
H  
I  
J  
K  
L

**AWD**

**SYMPTOM DIAGNOSIS** ..... 29

**NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING** ..... 29  
NVH Troubleshooting Chart ..... 29

**PRECAUTION** ..... 30

**PRECAUTIONS** ..... 30

**FOR USA AND CANADA** ..... 30  
FOR USA AND CANADA : Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" ..... 30  
FOR USA AND CANADA : Precautions for Drive Shaft ..... 30

**FOR MEXICO** ..... 30

M  
N  
O  
P

FOR MEXICO : Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" .....	30	Removal and Installation .....	35
FOR MEXICO : Precautions for Drive Shaft .....	31	Inspection .....	37
<b>PREPARATION .....</b>	<b>32</b>	<b>FRONT DRIVE SHAFT BOOT .....</b>	<b>38</b>
<b>PREPARATION .....</b>	<b>32</b>	Exploded View .....	38
Special Service Tool .....	32	Replacement .....	39
Commercial Service Tool .....	32	Inspection .....	43
<b>PERIODIC MAINTENANCE .....</b>	<b>33</b>	<b>FRONT DRIVE SHAFT .....</b>	<b>45</b>
<b>FRONT WHEEL HUB AND KNUCKLE .....</b>	<b>33</b>	Exploded View .....	45
Inspection .....	33	Removal and Installation .....	46
<b>FRONT DRIVE SHAFT .....</b>	<b>34</b>	Disassembly and Assembly .....	49
Inspection .....	34	Inspection .....	52
<b>REMOVAL AND INSTALLATION .....</b>	<b>35</b>	<b>SERVICE DATA AND SPECIFICATIONS (SDS) .....</b>	<b>54</b>
<b>FRONT WHEEL HUB AND KNUCKLE .....</b>	<b>35</b>	<b>SERVICE DATA AND SPECIFICATIONS (SDS) .....</b>	<b>54</b>
Exploded View .....	35	Wheel Bearing .....	54
		Drive Shaft .....	54

# NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

< SYMPTOM DIAGNOSIS >

[2WD]

## SYMPTOM DIAGNOSIS

### NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

#### NVH Troubleshooting Chart

INFOID:000000008282538

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

Reference		—	FAX-26	—	FAX-9	—	FAX-7	NVH in FAX and FSU sections	Refer to FRONT AXLE in this chart	NVH in WT section	NVH in WT section	Refer to DRIVE SHAFT in this chart	NVH in BR section	NVH in ST section
Possible cause and SUSPECTED PARTS		Excessive joint angle	Joint sliding resistance	Imbalance	Improper installation, looseness	Parts interference	Wheel bearing damage	FRONT AXLE AND FRONT SUSPENSION	FRONT AXLE	TIRE	ROAD WHEEL	DRIVE SHAFT	BRAKE	STEERING
Symptom	DRIVE SHAFT	Noise	x	x			x	x	x	x	x		x	x
		Shake	x		x		x	x	x	x	x		x	x
	FRONT AXLE	Noise				x	x	x	x	x	x	x	x	x
		Shake				x	x	x	x	x	x	x	x	x
		Vibration				x	x	x	x	x		x		x
		Shimmy				x	x		x	x	x		x	x
		Judder				x		x	x	x	x		x	x
		Poor quality ride or handling				x	x		x		x	x		

x: Applicable

A  
B  
C  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

FAX

**PRECAUTION****PRECAUTIONS****FOR USA AND CANADA****FOR USA AND CANADA : Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"**

INFOID:000000008282539

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 seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted.

Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

**WARNING:**

**Always observe the following items for preventing accidental activation.**

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that 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 "SRS AIR BAG".**
- **Never 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:**

**Always observe the following items for preventing accidental activation.**

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never 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 3 minutes before performing any service.**

**FOR USA AND CANADA : Precautions for Drive Shaft**

INFOID:000000008282540

- Observe the following precautions when disassembling and assembling drive shaft.
- Never disassemble joint sub-assembly because it is non-overhaul parts.
- Perform work in a location which is as dust-free as possible.
- Clean the parts, before disassembling and assembling.
- Prevent the entry of foreign objects during disassembly of the service location.
- Reassemble disassembled parts carefully in the correct order. If work is interrupted, a clean cover must be placed over parts.
- Use paper waste. Fabric shop cloths must not be used because of the danger of lint adhering to parts.
- Clean disassembled parts (except for rubber parts) with kerosene which shall be removed by blowing with air or wiping with paper waste.

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

INFOID:000000008282541

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. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

**WARNING:**

# PRECAUTIONS

< PRECAUTION >

[2WD]

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer. A
- 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 "SRS AIR BAG". B
- Never 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. C

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

### **WARNING:**

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never 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. E
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service. F

## FOR MEXICO : Precautions for Drive Shaft

INFOID:000000008282542

- Observe the following precautions when disassembling and assembling drive shaft. G
- Never disassemble joint sub-assembly because it is non-overhaul parts.
- Perform work in a location which is as dust-free as possible.
- Clean the parts, before disassembling and assembling. H
- Prevent the entry of foreign objects during disassembly of the service location.
- Reassemble disassembled parts carefully in the correct order. If work is interrupted, a clean cover must be placed over parts. I
- Use paper waste. Fabric shop cloths must not be used because of the danger of lint adhering to parts.
- Clean disassembled parts (except for rubber parts) with kerosene which shall be removed by blowing with air or wiping with paper waste. J

FAX

E

F

G

H

I

J

K

L

M

N

O

P

# PREPARATION

< PREPARATION >

[2WD]

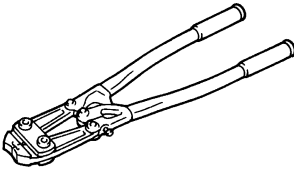

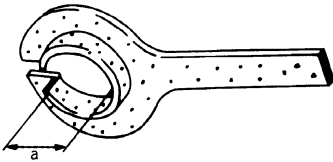
## PREPARATION

### PREPARATION

#### Special Service Tool

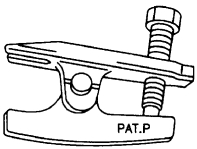
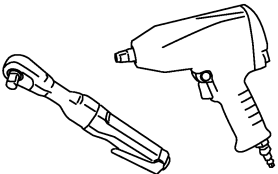
INFOID:000000008282543

The actual shapes of Kent-More tools may differ from those of special service tools illustrated here.

Tool number (Kent-More No.) Tool name	Description
KV40107300 ( — ) Boot band crimping tool	Installing boot band
 <p style="margin-top: 5px;">ZZA1229D</p>	
KV40107500 ( — ) Drive shaft attachment	Removing drive shaft
 <p style="margin-top: 5px;">ZZA1230D</p>	
KV38107900 ( — ) Protector a: 32 mm (1.26 in) dia.	Installing drive shaft
 <p style="margin-top: 5px;">PDIA1183J</p>	

#### Commercial Service Tool

INFOID:000000008282544

Tool name	Description
Ball joint remover	Removing hub bolt
 <p style="margin-top: 5px;">NT146</p>	
Power tool	Loosening bolts and nuts
 <p style="margin-top: 5px;">PBIC0190E</p>	

# FRONT WHEEL HUB AND KNUCKLE

< PERIODIC MAINTENANCE >

[2WD]

## PERIODIC MAINTENANCE

### FRONT WHEEL HUB AND KNUCKLE

#### Inspection

INFOID:000000008282545

#### MOUNTING INSPECTION

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

#### WHEEL BEARING INSPECTION

- Move wheel hub and bearing assembly in the axial direction by hand. Make sure there is no looseness of wheel bearing.

#### Standard

**Axial end play** : Refer to [FAX-28, "Wheel Bearing"](#).

- Rotate wheel hub and make sure there is no unusual noise or other irregular conditions. If there is any of irregular conditions, replace wheel hub and bearing assembly.

A  
B  
C  
FAX  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

## FRONT DRIVE SHAFT

< PERIODIC MAINTENANCE >

[2WD]

---

### FRONT DRIVE SHAFT

#### Inspection

INFOID:000000008282546

- Check drive shaft mounting point and joint for looseness and other damage.
- Check boot for cracks and other damage.

**CAUTION:**

**Replace entire drive shaft assembly when noise or vibration occurs from drive shaft.**



# FRONT WHEEL HUB AND KNUCKLE

< REMOVAL AND INSTALLATION >

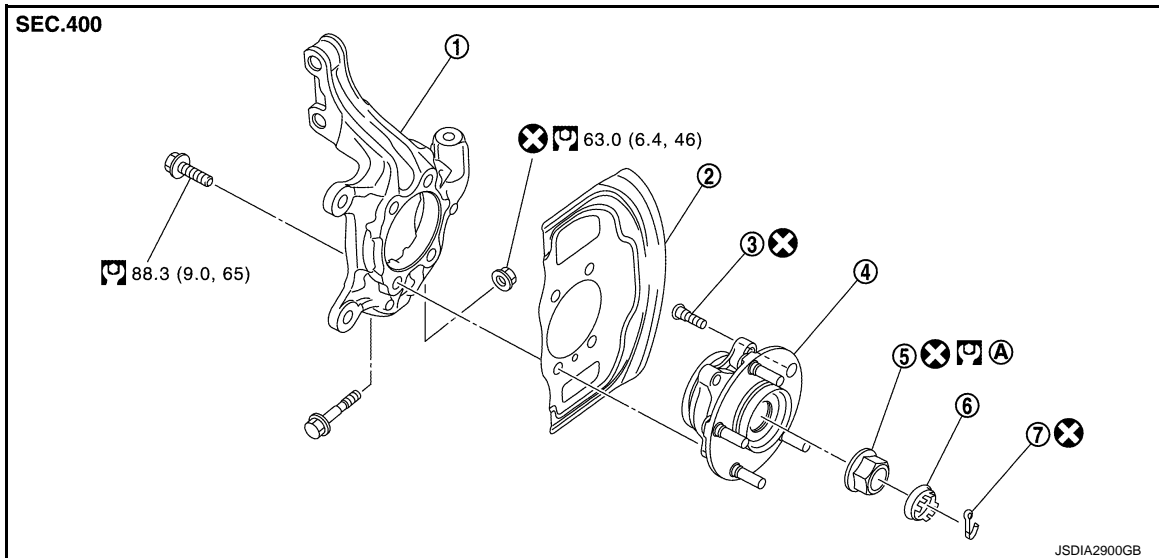
[2WD]

## REMOVAL AND INSTALLATION

### FRONT WHEEL HUB AND KNUCKLE

Exploded View

INFOID:000000008282547



1. Steering knuckle
  2. Splash guard
  3. Hub bolt
  4. Wheel hub and bearing assembly
  5. Wheel hub lock nut
  6. Adjusting cap
  7. Cotter pin
- A. Tightening must be done following the installation procedure. Refer to [FAX-9, "Removal and Installation"](#).  
Refer to [GI-4, "Components"](#) for symbols in the figure.

## Removal and Installation

INFOID:000000008282548

### REMOVAL

#### Wheel Hub and Bearing Assembly

1. Remove tires with power tool.
2. Remove wheel sensor from steering knuckle. Refer to [BRC-66, "FRONT WHEEL SENSOR : Exploded View"](#) (without VDC), [BRC-177, "FRONT WHEEL SENSOR : Exploded View"](#) (with VDC).  
**CAUTION:**  
**Never pull on wheel sensor harness.**
3. Remove lock plate from strut assembly. Refer to [BR-21, "FRONT : Exploded View"](#).
4. Remove torque member mounting bolts with power tool. Hang torque member not to interfere with work. Refer to [BR-37, "BRAKE CALIPER ASSEMBLY : Exploded View"](#).  
**CAUTION:**  
**Never depress brake pedal while brake caliper is removed.**
5. Remove disc rotor. Refer to [BR-37, "BRAKE CALIPER ASSEMBLY : Removal and Installation"](#).  
**CAUTION:**
  - Put matching marks on the wheel hub and bearing assembly and the disc rotor before removing the disc rotor.
  - Never drop disc rotor.
6. Remove cotter pin and adjusting cap, and then loosen wheel hub lock nut with power tool.

# FRONT WHEEL HUB AND KNUCKLE

## < REMOVAL AND INSTALLATION >

[2WD]

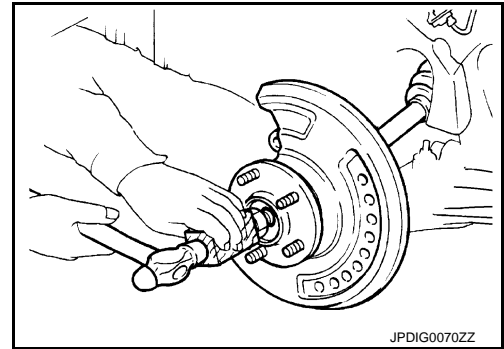
7. Patch wheel hub lock nut with a piece of wood. Hammer the wood to disengage wheel hub and bearing assembly from drive shaft. Remove the wheel hub lock nut.

**CAUTION:**

- Never place drive shaft joint at an extreme angle. Also be careful not to overextend slide joint.
- Never allow drive shaft to hang down without support for housing (or joint sub-assembly), shaft and the other parts.

**NOTE:**

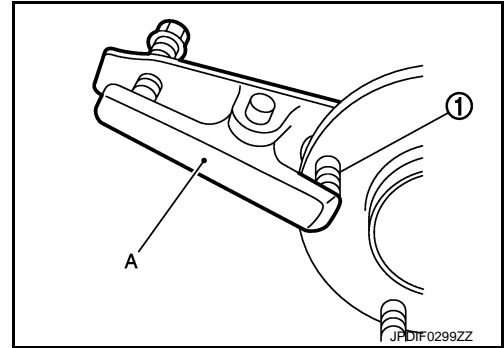
Use suitable puller, if wheel hub and bearing assembly and drive shaft cannot be separated even after performing the above procedure.



8. Remove wheel hub and bearing assembly.
9. Remove hub bolts (1) from wheel hub and bearing assembly, using the ball joint remover (A) (commercial service tool).

**CAUTION:**

- Remove hub bolt only when necessary.
- Never hammer the hub bolt to avoid impact to the wheel hub and bearing assembly.
- Pull out the hub bolt in a direction perpendicular to the wheel hub and bearing assembly.



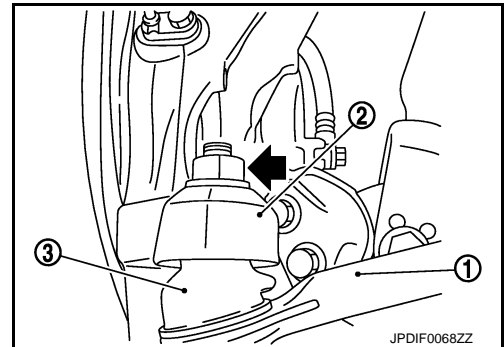
### Steering Knuckle

1. Remove wheel hub and bearing assembly, and then remove splash guard.
2. Remove transverse link from steering knuckle.
3. Remove steering knuckle from strut assembly.
4. Loosen the nut (←) of steering outer socket.
5. Remove steering outer socket (1) from steering knuckle (2) using the ball joint remover so as not to damage ball joint boot (3).

**CAUTION:**

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

6. Remove steering knuckle from vehicle.



### INSTALLATION

Note the following, and install in the reverse order of the removal.

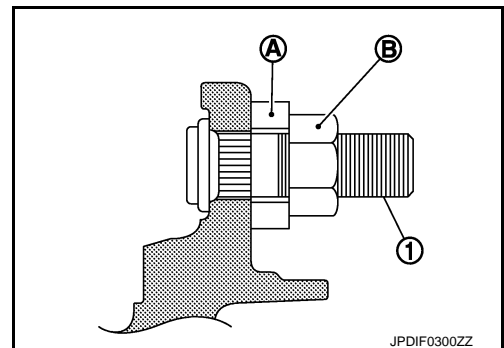
- Place a washer (A) as shown in the figure to install the hub bolts (1) by using the tightening force of the nut (B).

**CAUTION:**

- Check that there is no clearance between wheel hub and bearing assembly, and hub bolt.
- Never reuse hub bolt.
- Never reuse steering knuckle and transverse link fixing nut.
- Clean the matching surface of wheel hub lock nut and wheel hub and bearing assembly.

**CAUTION:**

Never apply lubricating oil to these matching surface.



# FRONT WHEEL HUB AND KNUCKLE

[2WD]

## < REMOVAL AND INSTALLATION >


- Clean the matching surface of drive shaft, wheel hub and bearing assembly. And then apply paste [service parts (440037S000)] to surface (A) of joint sub-assembly of drive shaft.

**CAUTION:**

Apply paste to cover entire flat surface of joint sub-assembly of drive shaft.

**Amount paste : 1.0 – 3.0 g (0.04 – 0.10 oz)**

- Use the following torque range for tightening the wheel hub lock nut.

 : 180 – 185 N·m (18.4 – 18.8 kg·m, 133 – 136 ft·lb)

**CAUTION:**

- Since the drive shaft is assembled by press-fitting, use the tightening torque range for the wheel hub lock nut.
- Be sure to use torque wrench to tighten the wheel hub lock nut. Never use a power tool.
- Never reuse wheel hub lock nut.

**NOTE:**

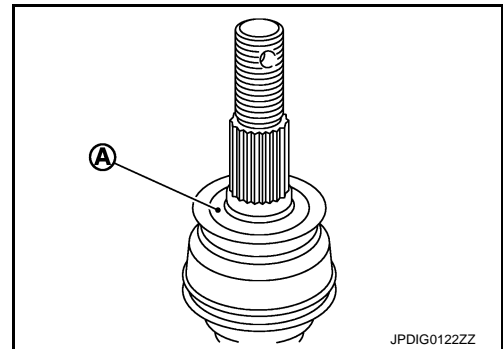
Wheel hub lock nut tightening torque does not over torque for avoiding axle noise, and does not less than torque for avoiding looseness.

- Align the matching marks that have been made during removal when reusing the disc rotor.
- When installing a cotter pin (1) and adjusting cap (2), securely bend the basal portion to prevent rattles.

**CAUTION:**

Never reuse cotter pin.

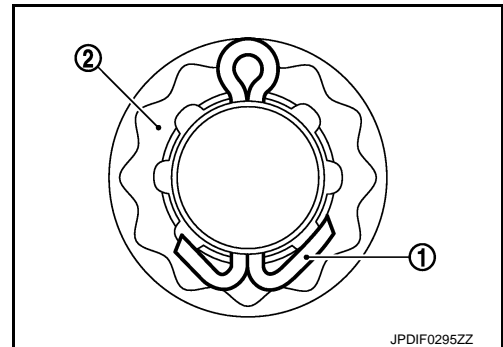
- Perform the final tightening of each of parts under unladen conditions, which were removed when removing wheel hub and bearing assembly and steering knuckle.



A  
B  
C

FAX

E  
F  
G



H  
I  
J

## Inspection

INFOID:000000008282549

### INSPECTION AFTER REMOVAL

Check components for deformation, cracks, and other damage. Replace if there are.

#### Ball Joint Inspection

Check boots of transverse link and steering outer socket ball joint for breakage, axial play, and torque. Refer to [FSU-14. "Inspection"](#) and [ST-15. "Inspection"](#).

### INSPECTION AFTER INSTALLATION

1. Check the wheel alignment. Refer to [FSU-7. "Inspection"](#).
2. Adjust neutral position of steering angle sensor. Refer to [BRC-76. "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement"](#) (with VDC).

K  
L  
M  
N  
O  
P

# FRONT DRIVE SHAFT BOOT

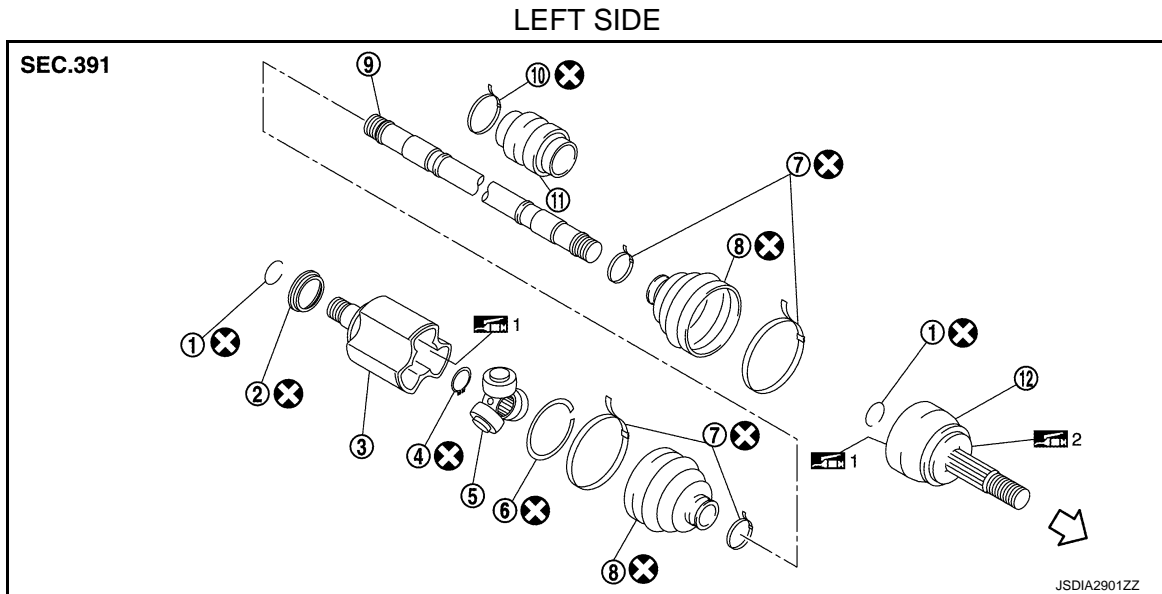
< REMOVAL AND INSTALLATION >

[2WD]

## FRONT DRIVE SHAFT BOOT


Exploded View

INFOID:000000008282550



- |                  |                    |                        |
|------------------|--------------------|------------------------|
| 1. Circular clip | 2. Dust shield     | 3. Housing             |
| 4. Snap ring     | 5. Spider assembly | 6. Stopper ring        |
| 7. Boot band     | 8. Boot            | 9. Shaft               |
| 10. Damper band  | 11. Dynamic damper | 12. Joint sub-assembly |

↔ : Wheel side

 1: Fill NISSAN Genuine grease or equivalent.

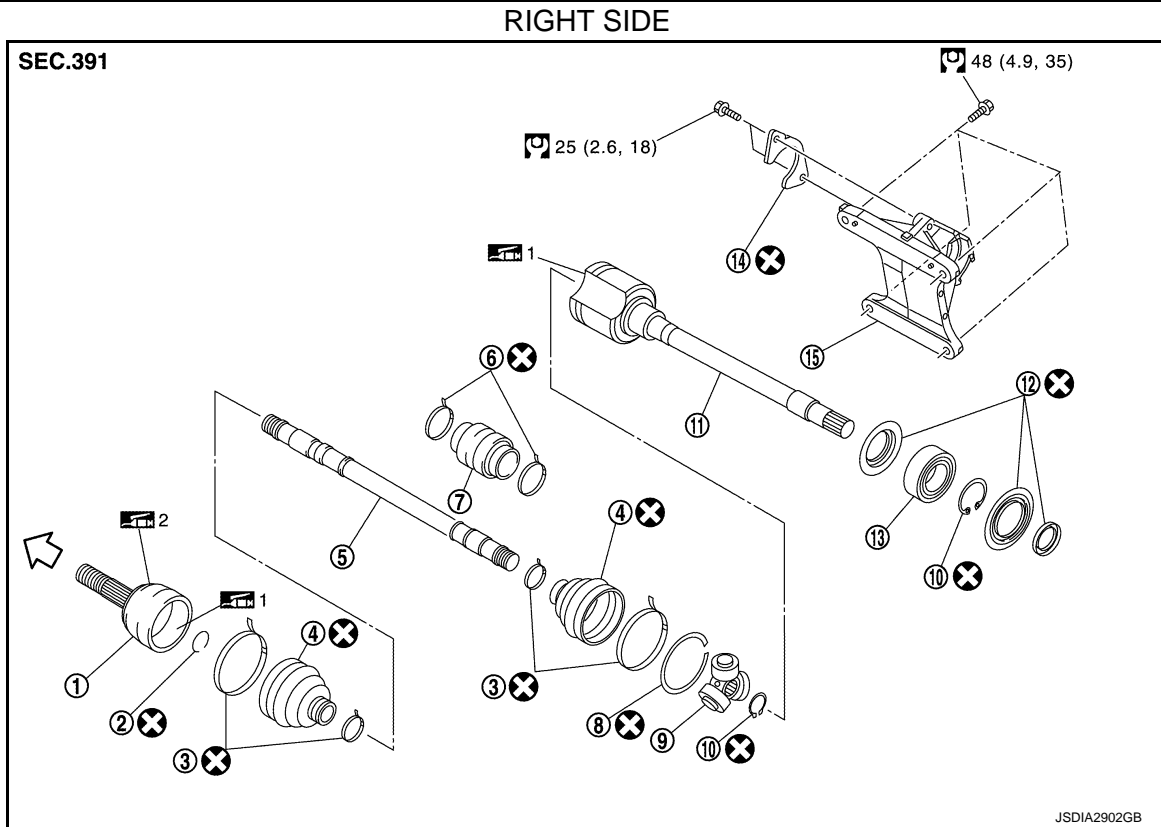
 2: Apply paste [service parts (440037S000)].

Refer to [GI-4, "Components"](#) for symbols not described on the above.

# FRONT DRIVE SHAFT BOOT

< REMOVAL AND INSTALLATION >

[2WD]



- |                       |                  |                             |
|-----------------------|------------------|-----------------------------|
| 1. Joint sub-assembly | 2. Circular clip | 3. Boot band                |
| 4. Boot               | 5. Shaft         | 6. Damper band              |
| 7. Dynamic damper     | 8. Stopper ring  | 9. Spider assembly          |
| 10. Snap ring         | 11. Housing      | 12. Dust shield             |
| 13. Support bearing   | 14. Retainer     | 15. Support bearing bracket |

↶ : Wheel side

1: Fill NISSAN Genuine grease or equivalent.

2: Apply paste [service parts (440037S000)].

Refer to [GI-4, "Components"](#) for symbols not described on the above.

## Replacement

INFOID:000000008282551

### WHEEL SIDE

- Remove tires with power tool.
- Remove wheel sensor from steering knuckle. Refer to [BRC-66, "FRONT WHEEL SENSOR : Exploded View"](#) (without VDC), [BRC-177, "FRONT WHEEL SENSOR : Exploded View"](#) (with VDC).  
**CAUTION:**  
**Never pull on wheel sensor harness.**
- Remove lock plate from strut assembly. Refer to [BR-21, "FRONT : Exploded View"](#).
- Remove torque member mounting bolts with power tool. Hang torque member not to interfere with work. Refer to [BR-37, "BRAKE CALIPER ASSEMBLY : Exploded View"](#).  
**CAUTION:**  
**Never depress brake pedal while brake caliper is removed.**
- Remove disc rotor. Refer to [BR-37, "BRAKE CALIPER ASSEMBLY : Removal and Installation"](#).  
**CAUTION:**
  - Put matching marks on the wheel hub and bearing assembly and the disc rotor before removing the disc rotor.
  - Never drop disc rotor.
- Remove cotter pin and adjusting cap, and then loosen wheel hub lock nut. Refer to [FAX-9, "Removal and Installation"](#).

# FRONT DRIVE SHAFT BOOT

[2WD]

## < REMOVAL AND INSTALLATION >

7. Patch wheel hub lock nut with a piece of wood. Hammer the wood to disengage wheel hub and bearing assembly from drive shaft.

**CAUTION:**

- Never place drive shaft joint at an extreme angle. Also be careful not to overextend slide joint.
- Never allow drive shaft to hang down without support for housing (or joint sub-assembly), shaft and the other parts.

**NOTE:**

Use suitable puller if wheel hub and drive shaft cannot be separated even after performing the above procedure.

8. Remove the wheel hub lock nut.  
9. Remove transverse link from steering knuckle.  
10. Loosen the nut (←) of steering outer socket.  
11. Remove steering outer socket (1) from steering knuckle (2) using the ball joint remover so as not to damage ball joint boot (3).

**CAUTION:**

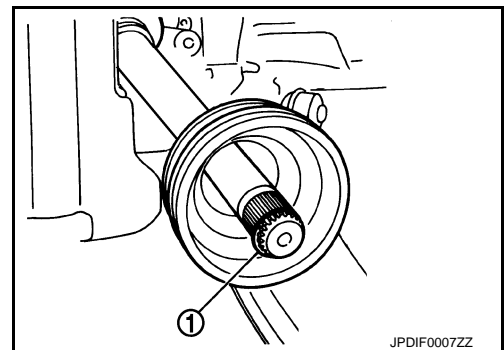
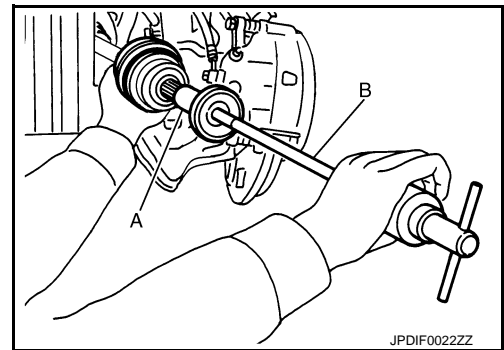
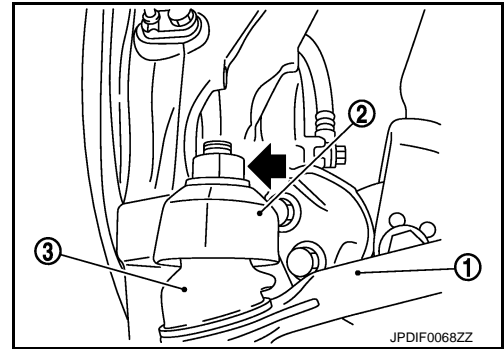
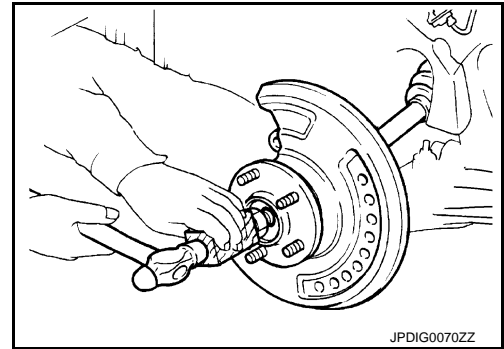
Temporarily tighten the nut to prevent damage to threads and to prevent the ball joint remover from suddenly coming off.

12. Remove drive shaft from wheel hub and bearing assembly.  
13. Remove boot bands, and then remove boot from joint sub-assembly.  
14. Screw a drive shaft puller (A) into joint sub-assembly screw part to a length of 30 mm (1.18 in) or more. Support drive shaft with one hand and pull out joint sub-assembly with a sliding hammer (B) from shaft.

**CAUTION:**

- Align a sliding hammer and drive shaft and remove them by pulling firmly and uniformly.
- If joint sub-assembly cannot be pulled out, try after removing drive shaft from vehicle.

15. Remove circular clip (1) from shaft.  
16. Remove boot from shaft.  
17. Clean the old grease on joint sub-assembly with paper cloth.



# FRONT DRIVE SHAFT BOOT

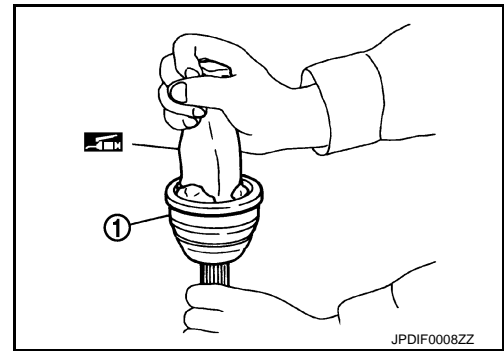
## < REMOVAL AND INSTALLATION >

[2WD]

18. Fill serration slot joint sub-assembly (1) with NISSAN genuine grease or equivalent until the serration slot and ball groove become full to the brim.

**CAUTION:**

After applying grease, use a paper waste to wipe off old grease that has oozed out.

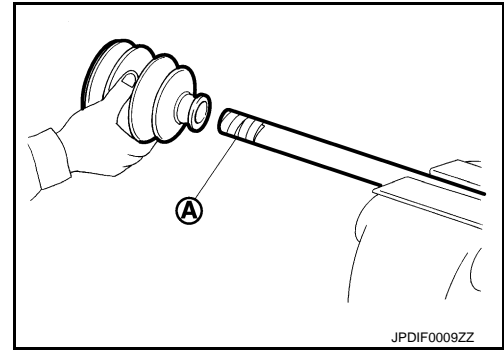


19. Wrap serration on shaft with tape (A) to protect the boot from damage. Install boot and boot bands to shaft.

**CAUTION:**

Never reuse boot and boot band.

20. Remove the tape wrapped around the serration on shaft.



21. Position the circular clip (1) on groove at the shaft edge.

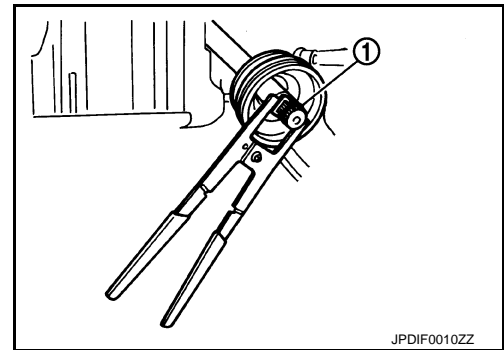
**CAUTION:**

Never reuse circular clip.

**NOTE:**

Drive joint inserter is recommended when installing circular clip.

22. Align both center axes of the shaft edge and joint sub-assembly. Then assemble shaft with joint sub-assembly holding circular clip.

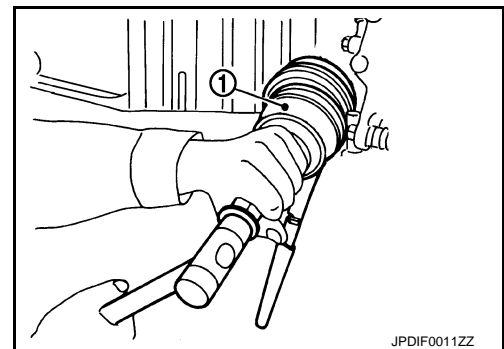


23. Install joint sub-assembly (1) to shaft using plastic hammer.

**CAUTION:**

Confirm that joint sub-assembly is correctly engaged while rotating drive shaft.

24. Fill into the boot inside with the specified amount of grease from large diameter side of boot.



**Standard**

**Grease amount** : Refer to [FAX-28, "Drive Shaft"](#).

A  
B  
C  
FAX  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

# FRONT DRIVE SHAFT BOOT

[2WD]

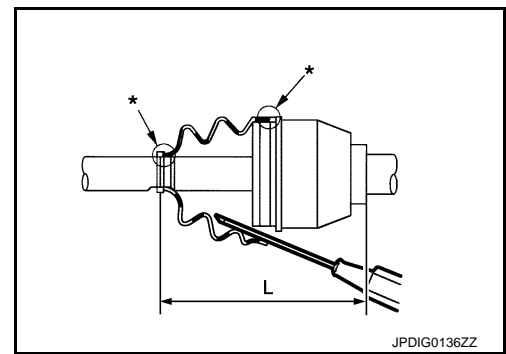
## < REMOVAL AND INSTALLATION >

25. Install the boot securely into grooves (indicated by “\*” marks) shown in the figure.

**CAUTION:**

If grease adheres to the boot mounting surface (indicated “\*” mark) on the shaft or joint sub-assembly, boot may be removed. Remove all grease from the boot mounting surface.

26. To prevent the deformation of the boot, adjust the boot installation length (L) to the specified value shown below by inserting the suitable tool into inside of the boot from the large diameter side of the boot and discharging the inside air.



**Standard**

Boots installed length (L) : Refer to [FAX-28, "Drive Shaft"](#).

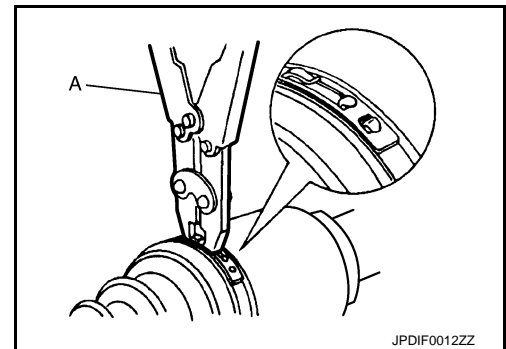
**CAUTION:**

- If the boot installation length is outside the standard, it may cause breakage of boot.
- Be careful not to touch the inside of the boot with a tip of tool.

27. Secure the large and small ends of the boot with boot bands using the boot band crimping tool (A) [SST: KV40107300 ( — )].

**CAUTION:**

Never reuse boot band.



**NOTE:**

Secure boot band so that dimension (M) meets the specification as shown in the figure.

**Dimension (M) : 1.0 – 4.0 mm (0.039 – 0.157 in)**

28. Check that displacement does not occur when boot is rotated with the joint sub-assembly and shaft fixed.

**CAUTION:**

- Reinstall them using boot bands when boot installation positions become incorrect.
- Never reuse boot band.

29. Clean the matching surface of wheel hub lock nut and wheel hub and bearing assembly.

**CAUTION:**

Never apply lubricating oil to these matching surface.

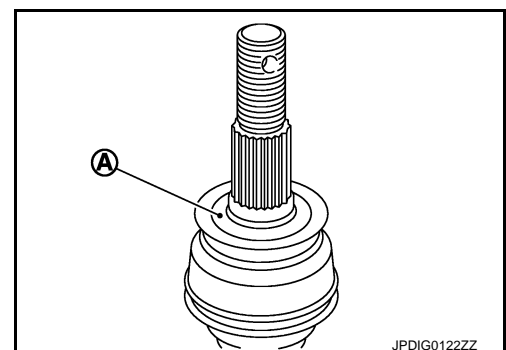
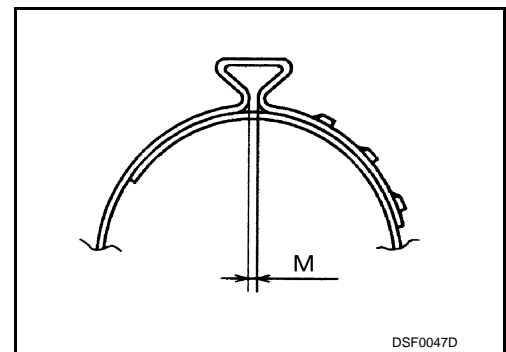
30. Clean the matching surface of drive shaft, wheel hub and bearing assembly. And then apply paste [service parts (440037S000)] to surface (A) of joint sub-assembly of drive shaft.

**CAUTION:**

Apply paste to cover entire flat surface of joint sub-assembly of drive shaft.

**Amount paste : 1.0 – 3.0 g (0.04 – 0.10 oz)**

31. Insert drive shaft to wheel hub and bearing assembly, and then temporarily tighten wheel hub lock nut.





# FRONT DRIVE SHAFT BOOT

< REMOVAL AND INSTALLATION >

[2WD]

**CAUTION:**


- Be sure to use torque wrench to tighten the wheel hub lock nut. Never use a power tool.
- Never reuse wheel hub lock nut.

32. Install transverse link to steering knuckle. Refer to [FAX-9, "Exploded View"](#).  
33. Install steering outer socket to steering knuckle. Refer to [ST-13, "Exploded View"](#).  
34. Install disc rotor. Refer to [BR-37, "BRAKE CALIPER ASSEMBLY : Removal and Installation"](#).

**CAUTION:**

**Align the matching marks made during removal when reusing the disc rotor.**

35. Install torque member to steering knuckle. Refer to [BR-37, "BRAKE CALIPER ASSEMBLY : Exploded View"](#).  
36. Install lock plate to strut assembly. Refer to [BR-21, "FRONT : Exploded View"](#).  
37. Install wheel sensor to steering knuckle. Refer to [BRC-66, "FRONT WHEEL SENSOR : Exploded View"](#) (without VDC), [BRC-177, "FRONT WHEEL SENSOR : Exploded View"](#) (with VDC).  
38. Use the following torque range for tightening the wheel hub lock nut.

 : 180 – 185 N·m (18.4 – 18.8 kg·m, 133 – 136 ft·lb)

**CAUTION:**

- Since the drive shaft is assembled by press-fitting, use the tightening torque range for the wheel hub lock nut.
- Be sure to use torque wrench to tighten the wheel hub lock nut. Never use a power tool.

**NOTE:**

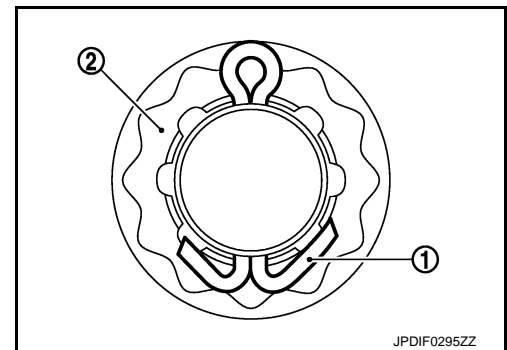
Wheel hub lock nut tightening torque does not over torque for avoiding axle noise, and does not less than torque for avoiding looseness.

39. When installing a cotter pin (1) and adjusting cap (2), securely bend the basal portion to prevent rattles.

**CAUTION:**

**Never reuse cotter pin.**

40. Install tires to vehicle.

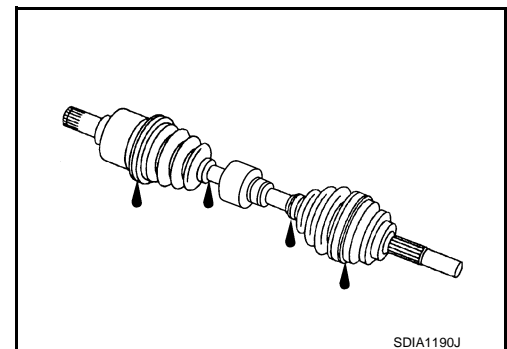


INFOID:000000008282552

## Inspection

### INSPECTION AFTER REMOVAL

- Move joint up/down, left/right, and in the axial directions. Check for motion that is not smooth and for significant looseness.
- Check boot for cracks, damage, and leakage of grease.
- Disassemble drive shaft and exchange malfunctioning part if there is a non-standard condition.



### INSPECTION AFTER DISASSEMBLY

#### Shaft

Check shaft for runout, cracks, or other damage. Replace if there are.

#### Dynamic Damper

A  
B  
C  
FAX  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

## FRONT DRIVE SHAFT BOOT

< REMOVAL AND INSTALLATION >

[2WD]

Check damper for cracks or wear. Replace if necessary.

Joint Sub-Assembly (Wheel Side)

Check the following:

- Joint sub-assembly for rough rotation and excessive axial looseness
- The inside of the joint sub-assembly for entry of foreign material
- Joint sub-assembly for compression scars, cracks, and fractures inside of joint sub-assembly

Replace joint sub-assembly if there are any non-standard conditions of components.

Housing and Spider assembly (Transaxle Side)

Replace housing and spider assembly if there is scratching or wear of housing roller contact surface or spider roller contact surface.

**NOTE:**

Housing and spider assembly are used in a set.

Support Bearing (Right Side)

Make sure wheel bearing rolls freely and is free from noise, cracks, pitting or wear. Replace support bearing if there are any non-standard conditions.

Support Bearing Bracket (Right Side)

Check for bending, cracks, or damage. Replace support bearing bracket if there are any non-standard conditions.

# FRONT DRIVE SHAFT

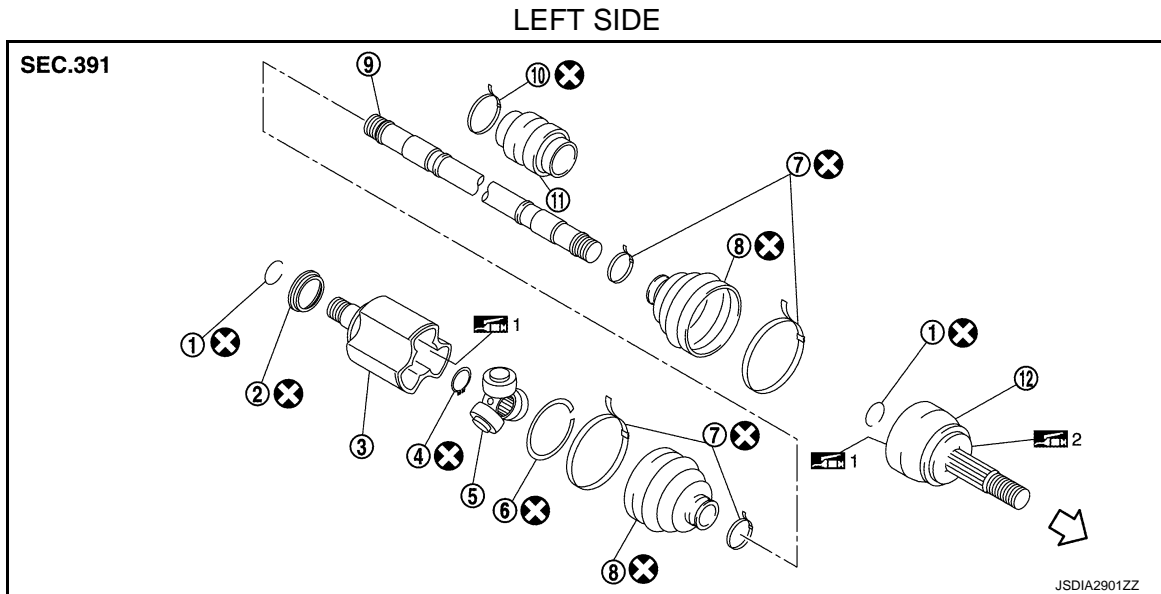
< REMOVAL AND INSTALLATION >

[2WD]

## FRONT DRIVE SHAFT

Exploded View

INFOID:000000008282553



- |                  |                    |                        |
|------------------|--------------------|------------------------|
| 1. Circular clip | 2. Dust shield     | 3. Housing             |
| 4. Snap ring     | 5. Spider assembly | 6. Stopper ring        |
| 7. Boot band     | 8. Boot            | 9. Shaft               |
| 10. Damper band  | 11. Dynamic damper | 12. Joint sub-assembly |

↔ : Wheel side

1: Fill NISSAN Genuine grease or equivalent.

2: Apply paste [service parts (440037S000)].

Refer to [GI-4, "Components"](#) for symbols not described on the above.

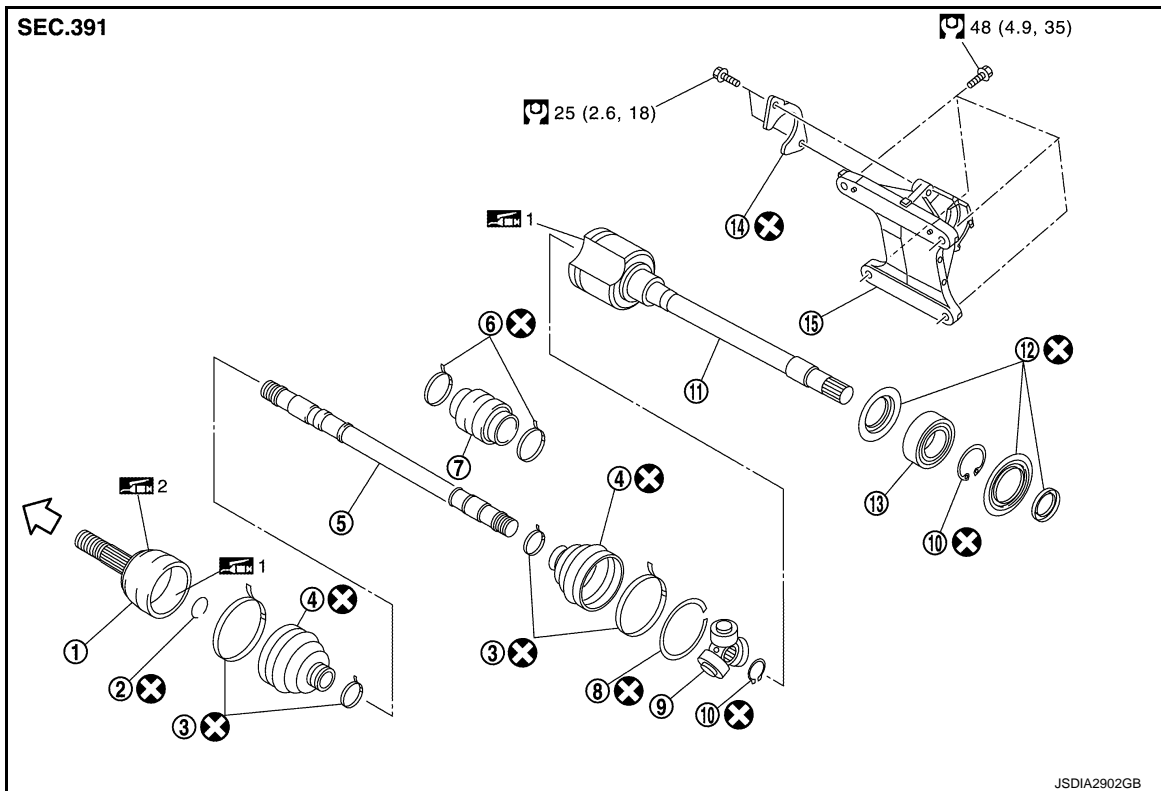
A  
B  
C  
FAX  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

# FRONT DRIVE SHAFT

< REMOVAL AND INSTALLATION >

[2WD]

RIGHT SIDE



- |                       |                  |                             |
|-----------------------|------------------|-----------------------------|
| 1. Joint sub-assembly | 2. Circular clip | 3. Boot band                |
| 4. Boot               | 5. Shaft         | 6. Damper band              |
| 7. Dynamic damper     | 8. Stopper ring  | 9. Spider assembly          |
| 10. Snap ring         | 11. Housing      | 12. Dust shield             |
| 13. Support bearing   | 14. Retainer     | 15. Support bearing bracket |

← : Wheel side

1: Fill NISSAN Genuine grease or equivalent.

2: Apply paste [service parts (440037S000)].

Refer to [GI-4, "Components"](#) for symbols not described on the above.

## Removal and Installation

INFOID:000000008282554

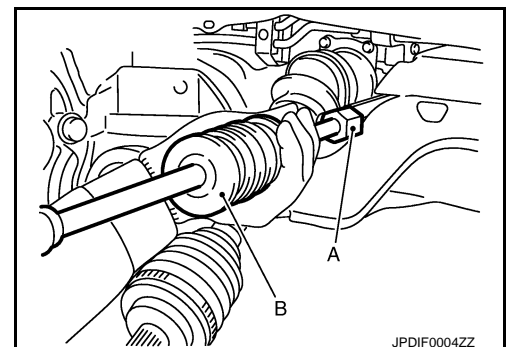
### REMOVAL

Left Side

- Refer to the procedure from 1 to 12 in [FAX-13, "Replacement"](#).
- Remove drive shaft from transaxle assembly.
  - Use the drive shaft attachment (A) [SST: KV40107500 ( )] and a sliding hammer (B) while inserting tip of the drive shaft attachment between housing and transaxle assembly.

**CAUTION:**

  - Never place drive shaft joint at an extreme angle when removing drive shaft. Also be careful not to overextend slide joint.
  - Confirm that the circular clip is attached to the drive shaft.



Right Side

- Refer to the procedure from 1 to 12 in [FAX-13, "Replacement"](#).

# FRONT DRIVE SHAFT

[2WD]

## < REMOVAL AND INSTALLATION >

2. Remove retainer mounting bolts and retainer.
  3. If necessary, remove the support bearing bracket mounting bolts and the support bearing bracket.
  4. Remove drive shaft from transaxle assembly.
    - Use the drive shaft attachment [SST: KV40107500 ( — )] and a sliding hammer while inserting tip of the drive shaft attachment between housing and transaxle assembly.
- CAUTION:**  
Never place drive shaft joint at an extreme angle when removing drive shaft. Also be careful not to overextend slide joint.

## INSTALLATION

Left Side

Note the following, and install in the reverse order of removal.

**CAUTION:**

Always replace differential side oil seal with new one when installing drive shaft. Refer to [TM-197, "2WD : Exploded View"](#).

- Place the protector (A) [SST: KV38107900 ( — )] onto transaxle assembly to prevent damage to the oil seal while inserting drive shaft. Slide drive shaft sliding joint and tap with a hammer to install securely.

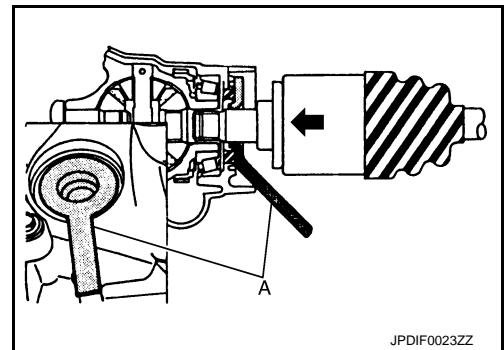
**CAUTION:**

Check that circular clip is completely engaged.

- Clean the matching surface of wheel hub lock nut and wheel hub and bearing assembly.

**CAUTION:**

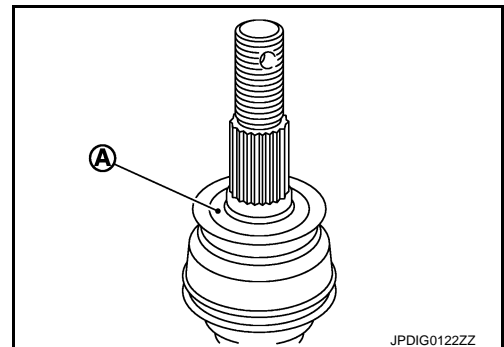
Never apply lubricating oil to these matching surface.



- Clean the matching surface of drive shaft and wheel hub and bearing assembly. And then apply paste [service parts (440037S000)] to surface (A) of joint sub-assembly of drive shaft.


**CAUTION:**

Apply paste to cover entire flat surface of joint sub-assembly of drive shaft.



**Amount paste : 1.0 – 3.0 g (0.04 – 0.10 oz)**

- Use the following torque range for tightening the wheel hub lock nut.

 : 180 – 185 N·m (18.4 – 18.8 kg·m, 133 – 136 ft·lb)

**CAUTION:**

- Since the drive shaft is assembled by press-fitting, use the tightening torque range for the wheel hub lock nut.
- Be sure to use torque wrench to tighten the wheel hub lock nut. Never use a power tool.
- Never reuse wheel hub lock nut.

**NOTE:**

Wheel hub lock nut tightening torque does not over torque for avoiding axle noise, and does not less than torque for avoiding looseness.

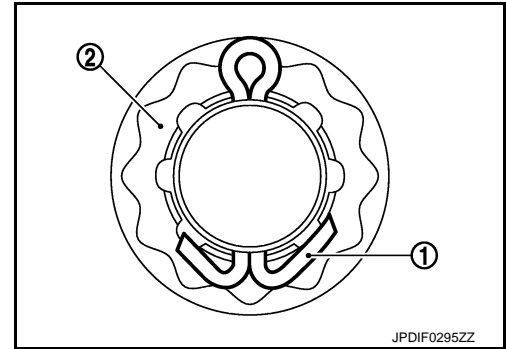
- Align the matching marks that have been made during removal when reusing the disc rotor.

# FRONT DRIVE SHAFT

[2WD]

## < REMOVAL AND INSTALLATION >

- When installing a cotter pin (1) and adjusting cap (2), securely bend the basal portion to prevent rattles.
- CAUTION:**  
**Never reuse cotter pin.**
- Perform the final tightening of each of parts under unladen conditions, which were removed when removing wheel hub and bearing assembly and steering knuckle.



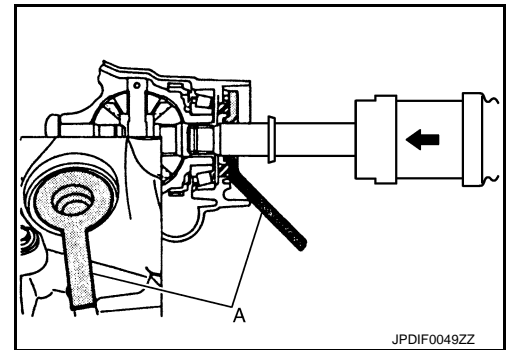
### Right Side

Note the following, and install in the reverse order of removal.

**CAUTION:**

**Always replace differential side oil seal with new one when installing drive shaft. Refer to [TM-197](#), "[2WD : Exploded View](#)".**

- Place the protector (A) [SST: KV38107900 ( — )] onto transaxle assembly to prevent damage to the oil seal while inserting drive shaft. Slide drive shaft sliding joint and tap with a hammer to install securely.



- When installing support bearing bracket (1).
  - (Temporarily) tighten mounting bolts in the order of (A), (B).
  - Set retainer (2) so that notch (C) becomes upper side. (Temporarily) tighten mounting bolts in the order of (a), (b).

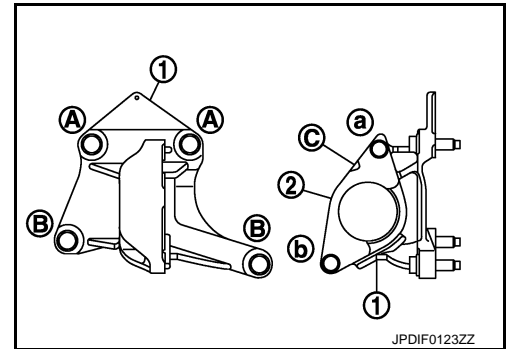
**CAUTION:**

**Never reuse retainer.**

- Clean the matching surface of wheel hub lock nut and wheel hub and bearing assembly.

**CAUTION:**

**Never apply lubricating oil to these matching surface.**




- Clean the matching surface of drive shaft and wheel hub and bearing assembly. And then apply paste [service parts (440037S000)] to surface (A) of joint sub-assembly of drive shaft.

**CAUTION:**

**Apply paste to cover entire flat surface of joint sub-assembly of drive shaft.**

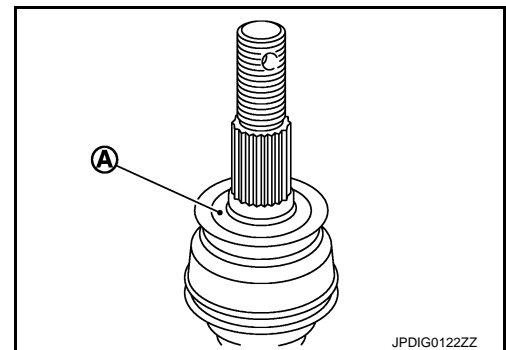
**Amount paste : 1.0 – 3.0 g (0.04 – 0.10 oz)**

- Use the following torque range for tightening the wheel hub lock nut.

 : **180 – 185 N·m (18.4 – 18.8 kg-m, 133 – 136 ft-lb)**

**CAUTION:**

- Since the drive shaft is assembled by press-fitting, use the tightening torque range for the wheel hub lock nut.
- Be sure to use torque wrench to tighten the wheel hub lock nut. Never use a power tool.
- Never reuse wheel hub lock nut.



# FRONT DRIVE SHAFT

< REMOVAL AND INSTALLATION >

[2WD]

## NOTE:

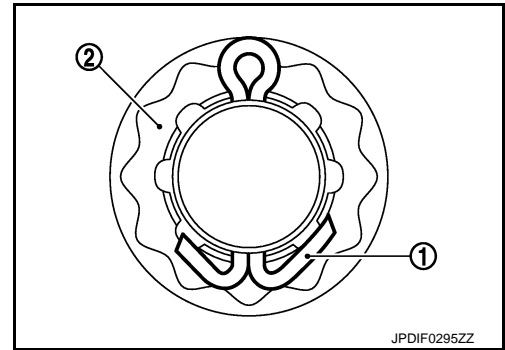
Wheel hub lock nut tightening torque does not over torque for avoiding axle noise, and does not less than torque for avoiding looseness.

- Align the matching marks that have been made during removal when reusing the disc rotor.
- When installing a cotter pin (1) and adjusting cap (2), securely bend the basal portion to prevent rattles.

## CAUTION:

**Never reuse cotter pin.**

- Perform the final tightening of each of parts under unladen conditions, which were removed when removing wheel hub and bearing assembly and steering knuckle.



JPDIF0295ZZ

INFOID:000000008282555

## Disassembly and Assembly

### DISASSEMBLY

Transaxle Assembly Side

1. Fix shaft with a vise.

#### CAUTION:

**Protect shaft using aluminum or copper plates when fixing with a vise.**

2. Remove boot bands, and then remove boot from housing.
3. Remove stopper ring.
4. Put matching marks on housing and shaft, and then pull out housing from shaft.

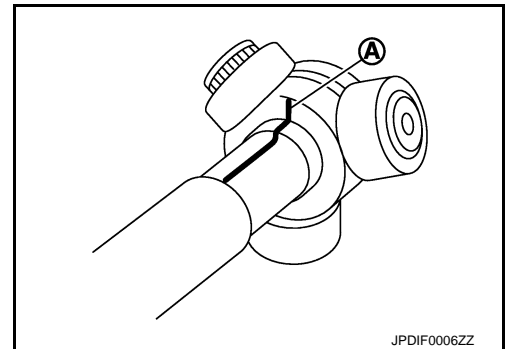
#### CAUTION:

**Use paint or an equivalent for matching marks. Never scratch the surfaces.**

5. Put matching marks (A) on the spider assembly and shaft.

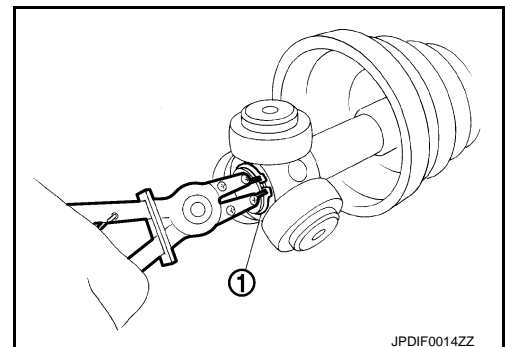
#### CAUTION:

**Use paint or an equivalent for matching marks. Never scratch the surfaces.**



JPDIF0006ZZ

6. Remove snap ring (1), and then remove spider assembly from shaft.
7. Remove boot from shaft.
8. Remove circular clip from housing (left side).
9. Remove dust shield from housing.
10. Clean old grease on housing with paper waste.



JPDIF0014ZZ

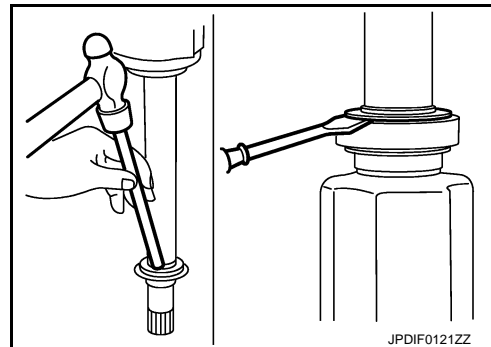
Support Bearing

# FRONT DRIVE SHAFT

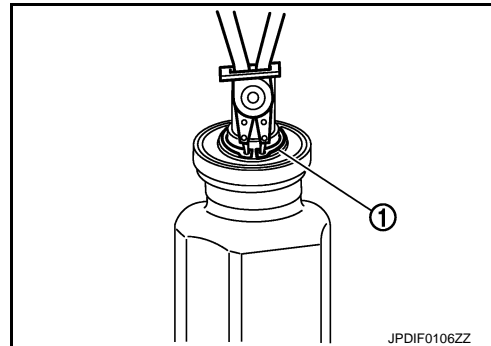
## < REMOVAL AND INSTALLATION >

[2WD]

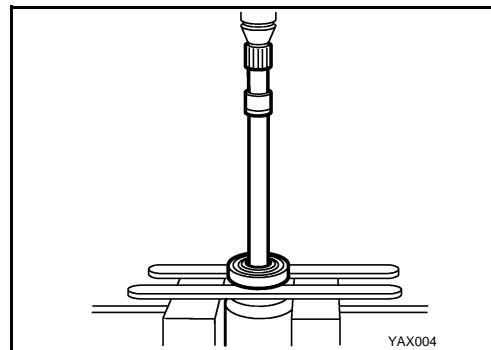
1. Remove dust shield from housing.



2. Remove snap ring (1).



3. Press out support bearing from housing.
4. Remove dust shield.



### Dynamic Damper

Remove damper bands, then remove dynamic damper from shaft.

### Wheel Side

1. Fix shaft with a vise.

#### **CAUTION:**

**Protect shaft using aluminum or copper plates when fixing with a vise.**

2. Remove boot bands, and then remove boot from joint sub-assembly.
3. Screw the drive shaft puller (A) 30 mm (1.18 in) or more into the thread of joint sub-assembly, and pull joint sub-assembly with a sliding hammer (B) from shaft.

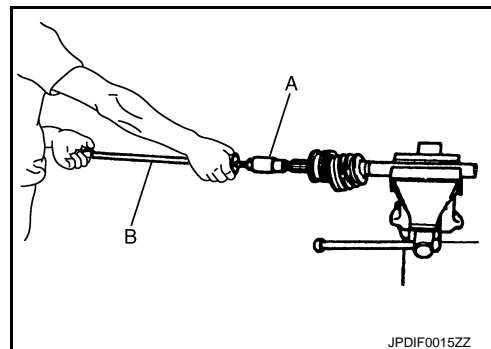
#### **CAUTION:**

- If joint sub-assembly cannot be removed after five or more unsuccessful attempts, replace shaft and joint sub-assembly as a set.
- Align sliding hammer and drive shaft and remove them by pulling forcibly.

4. Remove circular clip from shaft.

5. Remove boot from shaft.

6. Clean old grease on joint sub-assembly with paper waste while rotating ball cage.



## ASSEMBLY



# FRONT DRIVE SHAFT

## < REMOVAL AND INSTALLATION >

[2WD]

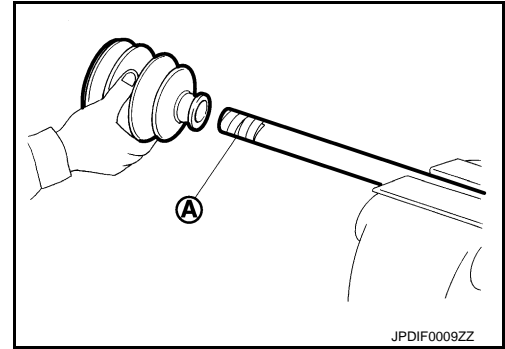
### Transaxle Assembly Side

1. Wrap serration on shaft with tape (A) to protect boot from damage. Install new boot and boot bands to shaft.

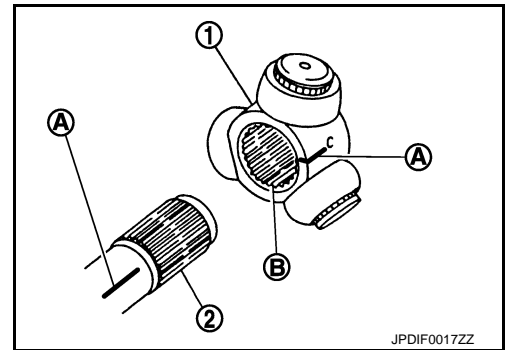
**CAUTION:**

**Never reuse boot and boot band.**

2. Remove the tape wrapped around the serration on shaft.



3. To install the spider assembly (1), align it with the matching marks (A) on the shaft (2) put during the removal, and direct the serration mounting surface (B) to the shaft.

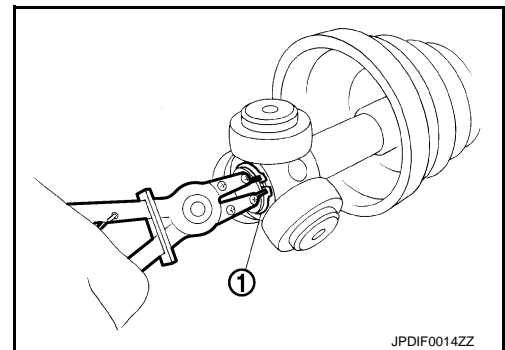


4. Secure spider assembly onto shaft with snap ring (1).

**CAUTION:**

**Never reuse snap ring.**

5. Apply the appropriate amount of grease to spider assembly and sliding surface.
6. Assemble the housing onto spider assembly, and apply the specified amount of grease.



**Standard**

**Grease amount** : Refer to [FAX-28, "Drive Shaft"](#).

7. Align matching marks put during the removal of housing.
8. Install stopper ring.

**CAUTION:**

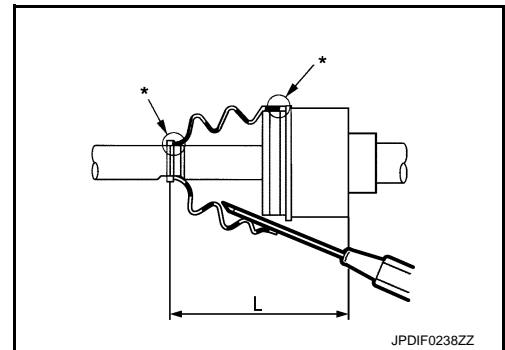
**Never reuse stopper ring.**

9. Install boot securely into grooves (indicated by "\*" marks) shown in the figure.

**CAUTION:**

**If grease adheres to the boot mounting surface (indicated "\*" mark) on shaft or housing, boot may be removed. Remove all grease from the boot mounting surface.**

10. To prevent the deformation of the boot, adjust the boot installation length (L) to the value shown below by inserting the suitable tool into the inside of boot from the large diameter side of boot and discharging inside air.



**Standard**

**Boots installed length (L)** : Refer to [FAX-28, "Drive Shaft"](#).

**CAUTION:**

- If the boot installation length is outside the standard, it may cause breakage of boot.
- Be careful not to touch the inside of the boot with the tip of tool.

A  
B  
C  
FAX  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

# FRONT DRIVE SHAFT

[2WD]

## < REMOVAL AND INSTALLATION >

11. Install new boot bands securely as shown in the figure.

**CAUTION:**

**Never reuse boot band.**

12. Secure housing and shaft, and then make sure that they are in the correct position when rotating boot. Reinstall them with new boot bands when the mounting positions become incorrect.

13. Install dust shield to housing (left side).

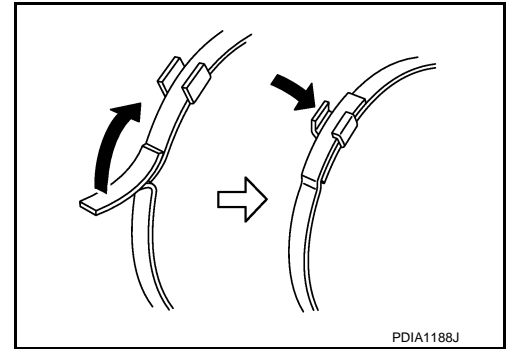
**CAUTION:**

**Never reuse dust shield.**

14. Install circular clip to housing (left side).

**CAUTION:**

**Never reuse circular clip.**



### Support Bearing

1. Install dust shield on housing.

**CAUTION:**

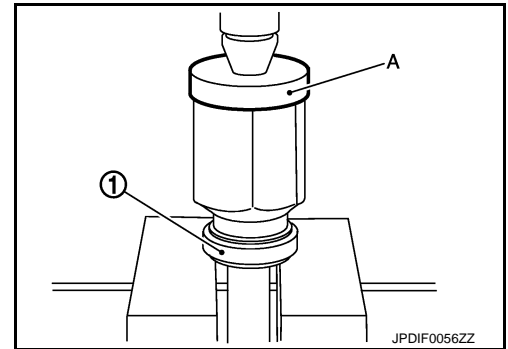
**Never reuse dust shield.**

2. Press support bearing (1) onto housing to using the suitable tool (A).

3. Install snap ring.

**CAUTION:**

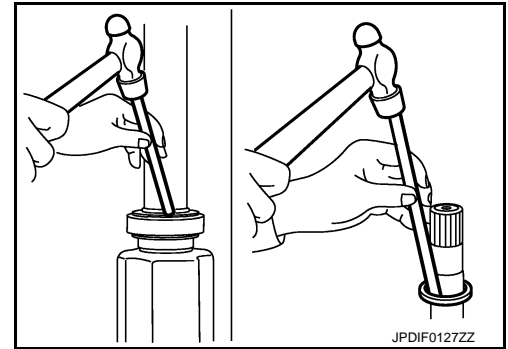
**Never reuse snap ring.**



4. Install dust shields.

**CAUTION:**

**Never reuse dust shields.**



### Dynamic Damper

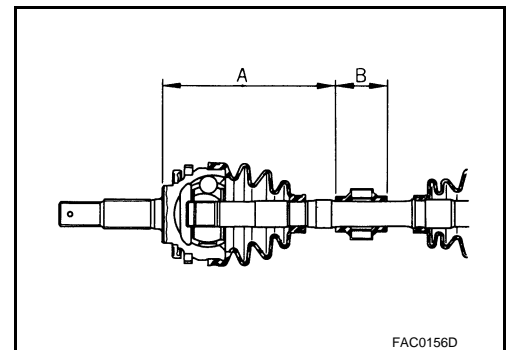
Secure dynamic damper with bands in the following specified position when installing.

**CAUTION:**

**Never reuse bands.**

**Standard**

**Demission** : [FAX-28, "Drive Shaft"](#).



### Wheel Side

For further details, refer to the installation procedure of ["FAX-13, "Replacement" for the drive shaft boot.](#)

## Inspection

INFOID:000000008282556

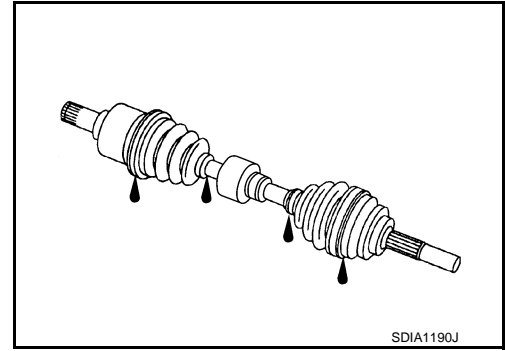
## INSPECTION AFTER REMOVAL

# FRONT DRIVE SHAFT

[2WD]

## < REMOVAL AND INSTALLATION >

- Move joint up/down, left/right, and in the axial directions. Check for motion that is not smooth and for significant looseness.
- Check boot for cracks, damage, and leakage of grease.
- Disassemble drive shaft and exchange malfunctioning part if there is a non-standard condition.



## INSPECTION AFTER DISASSEMBLY

### Shaft

Check shaft for runout, cracks, or other damage. Replace if there are.

### Dynamic Damper

Check damper for cracks or wear. Replace if necessary.

### Joint Sub-Assembly (Wheel Side)

Check the following:

- Joint sub-assembly for rough rotation and excessive axial looseness
- The inside of the joint sub-assembly for entry of foreign material
- Joint sub-assembly for compression scars, cracks, and fractures inside of joint sub-assembly

Replace joint sub-assembly if there are any non-standard conditions of components.

### Housing and Spider assembly (Transaxle Side)

Replace housing and spider assembly if there is scratching or wear of housing roller contact surface or spider roller contact surface.

### **NOTE:**

Housing and spider assembly are used in a set.

### Support Bearing (Right Side)

Make sure wheel bearing rolls freely and is free from noise, cracks, pitting or wear. Replace support bearing if there are any non-standard conditions.

### Support Bearing Bracket (Right Side)

Check for bending, cracks, or damage. Replace support bearing bracket if there are any non-standard conditions.

A  
B  
C  
FAX  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

# SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[2WD]

## SERVICE DATA AND SPECIFICATIONS (SDS)

### SERVICE DATA AND SPECIFICATIONS (SDS)

#### Wheel Bearing

INFOID:000000008282557

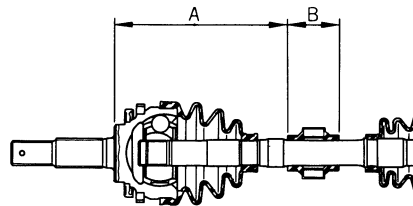
Item	Standard
Axial end play	0.05 mm (0.002 in) or less

#### Drive Shaft

INFOID:000000008282558

Item		Standard	
Joint		Wheel side	Transaxle assembly side
Grease quantity	Left side	115 – 135 g (4.06 – 4.76 oz)	200 – 220 g (7.05 – 7.76 oz)
	Right side		
Boots installed length (L)	Left side	133.5 mm (5.26 in)	165.6 mm (6.52 in)
	Right side		

Item		Standard	
Dynamic damper		A	B
Dimension	Left side	207 – 213 mm (8.15 – 8.39 in)	70 mm (2.76 in)
	Right side		



FAC0156D



## PRECAUTION

### PRECAUTIONS

#### FOR USA AND CANADA

#### FOR USA AND CANADA : Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:000000008282560

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 seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted.

Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

**WARNING:**

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that 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 "SRS AIR BAG".
- Never 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:**

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never 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 3 minutes before performing any service.

#### FOR USA AND CANADA : Precautions for Drive Shaft

INFOID:000000008282561

- Observe the following precautions when disassembling and assembling drive shaft.
- Never disassemble joint sub-assembly because it is non-overhaul parts.
- Perform work in a location which is as dust-free as possible.
- Clean the parts, before disassembling and assembling.
- Prevent the entry of foreign objects during disassembly of the service location.
- Reassemble disassembled parts carefully in the correct order. If work is interrupted, a clean cover must be placed over parts.
- Use paper waste. Fabric shop cloths must not be used because of the danger of lint adhering to parts.
- Clean disassembled parts (except for rubber parts) with kerosene which shall be removed by blowing with air or wiping with paper waste.

#### FOR MEXICO

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

INFOID:000000008282562

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. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

**WARNING:**

# PRECAUTIONS

[AWD]

< PRECAUTION >

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer. A
- 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 "SRS AIR BAG". B
- Never 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. C

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

### **WARNING:**

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never 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. E
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service. F

## FOR MEXICO : Precautions for Drive Shaft

INFOID:000000008282563

- Observe the following precautions when disassembling and assembling drive shaft. G
- Never disassemble joint sub-assembly because it is non-overhaul parts.
- Perform work in a location which is as dust-free as possible.
- Clean the parts, before disassembling and assembling. H
- Prevent the entry of foreign objects during disassembly of the service location.
- Reassemble disassembled parts carefully in the correct order. If work is interrupted, a clean cover must be placed over parts. I
- Use paper waste. Fabric shop cloths must not be used because of the danger of lint adhering to parts.
- Clean disassembled parts (except for rubber parts) with kerosene which shall be removed by blowing with air or wiping with paper waste. J

FAX

E

F

G

H

I

J

K

L

M

N

O

P

# PREPARATION

[AWD]

< PREPARATION >

## PREPARATION

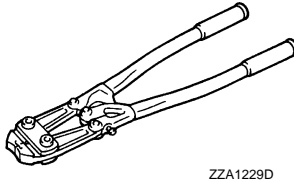
### PREPARATION

#### Special Service Tool

INFOID:000000008282564

The actual shapes of Kent-More tools may differ from those of special service tools illustrated here.

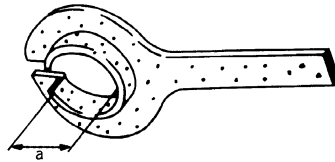
Tool number (Kent-More No.) Tool name	Description
KV40107300 ( — ) Boot band crimping tool	Installing boot band
KV40107500 ( — ) Drive shaft attachment	Removing drive shaft
KV38107900 ( — ) Protector a: 32 mm (1.26 in) dia.	Installing drive shaft



ZZA1229D



ZZA1230D

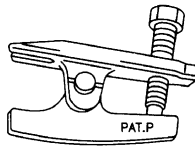


PDIA1183J

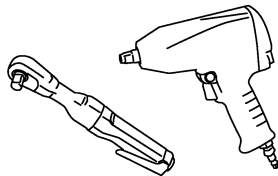
#### Commercial Service Tool

INFOID:000000008282565

Tool name	Description
Ball joint remover	Removing hub bolt
Power tool	Loosening bolts and nuts



NT146



PBIC0190E



# FRONT WHEEL HUB AND KNUCKLE

< PERIODIC MAINTENANCE >

[AWD]

## PERIODIC MAINTENANCE

### FRONT WHEEL HUB AND KNUCKLE

#### Inspection

INFOID:000000008282566

#### MOUNTING INSPECTION

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

#### WHEEL BEARING INSPECTION

- Move wheel hub and bearing assembly in the axial direction by hand. Make sure there is no looseness of wheel bearing.

#### Standard

**Axial end play** : Refer to [FAX-54, "Wheel Bearing"](#).

- Rotate wheel hub and make sure there is no unusual noise or other irregular conditions. If there is any of irregular conditions, replace wheel hub and bearing assembly.

A  
B  
C  
FAX  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

## FRONT DRIVE SHAFT

< PERIODIC MAINTENANCE >

[AWD]

---

### FRONT DRIVE SHAFT

#### Inspection

INFOID:000000008282567

- Check drive shaft mounting point and joint for looseness and other damage.
- Check boot for cracks and other damage.

**CAUTION:**

**Replace entire drive shaft assembly when noise or vibration occurs from drive shaft.**

# FRONT WHEEL HUB AND KNUCKLE

< REMOVAL AND INSTALLATION >

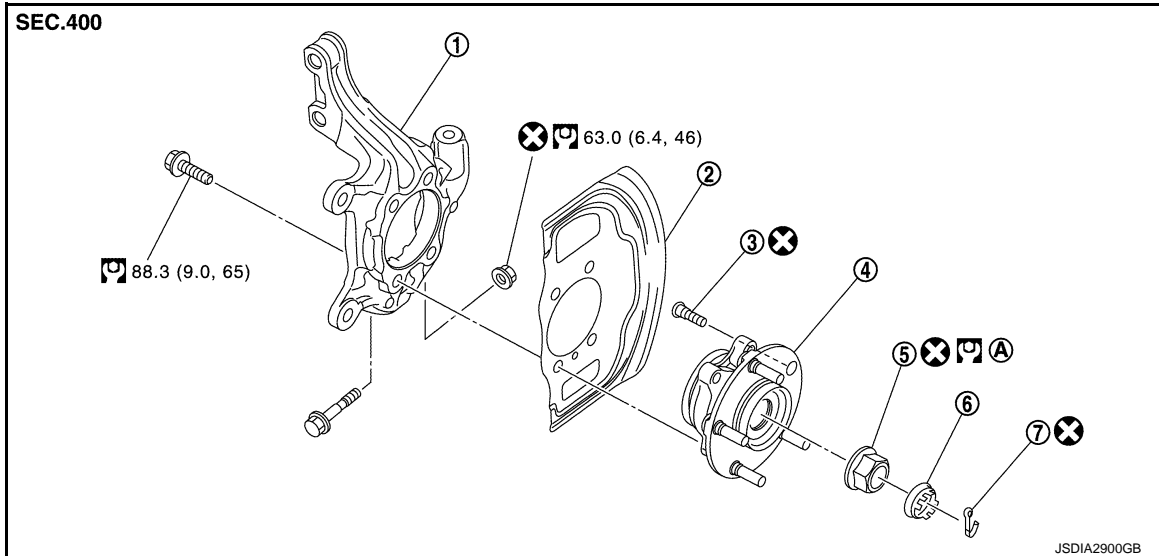
[AWD]

## REMOVAL AND INSTALLATION

### FRONT WHEEL HUB AND KNUCKLE

Exploded View

INFOID:000000008282568



1. Steering knuckle
2. Splash guard
3. Hub bolt
4. Wheel hub and bearing assembly
5. Wheel hub lock nut
6. Adjusting cap
7. Cotter pin

A. Tightening must be done following the installation procedure. Refer to [FAX-35, "Removal and Installation"](#).  
Refer to [GI-4, "Components"](#) for symbols in the figure.

## Removal and Installation

INFOID:000000008282569

### REMOVAL

#### Wheel Hub and Bearing Assembly

1. Remove tires with power tool.
2. Remove wheel sensor from steering knuckle. Refer to [BRC-66, "FRONT WHEEL SENSOR : Exploded View"](#) (without VDC), [BRC-177, "FRONT WHEEL SENSOR : Exploded View"](#) (with VDC).  
**CAUTION:**  
**Never pull on wheel sensor harness.**
3. Remove lock plate from strut assembly. Refer to [BR-21, "FRONT : Exploded View"](#).
4. Remove torque member mounting bolts with power tool. Hang torque member not to interfere with work. Refer to [BR-37, "BRAKE CALIPER ASSEMBLY : Exploded View"](#).  
**CAUTION:**  
**Never depress brake pedal while brake caliper is removed.**
5. Remove disc rotor. Refer to [BR-37, "BRAKE CALIPER ASSEMBLY : Removal and Installation"](#).  
**CAUTION:**
  - Put matching marks on the wheel hub and bearing assembly and the disc rotor before removing the disc rotor.
  - Never drop disc rotor.
6. Remove cotter pin and adjusting cap, and then loosen wheel hub lock nut with power tool.

# FRONT WHEEL HUB AND KNUCKLE

[AWD]

## < REMOVAL AND INSTALLATION >

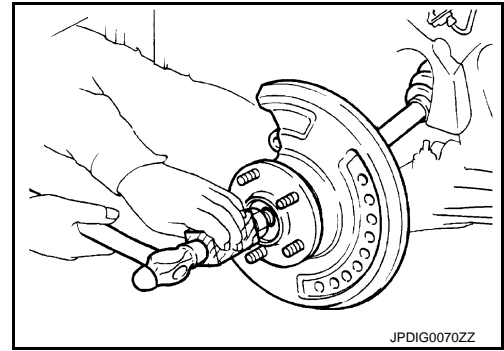
7. Patch wheel hub lock nut with a piece of wood. Hammer the wood to disengage wheel hub and bearing assembly from drive shaft. Remove the wheel hub lock nut.

**CAUTION:**

- Never place drive shaft joint at an extreme angle. Also be careful not to overextend slide joint.
- Never allow drive shaft to hang down without support for housing (or joint sub-assembly), shaft and the other parts.

**NOTE:**

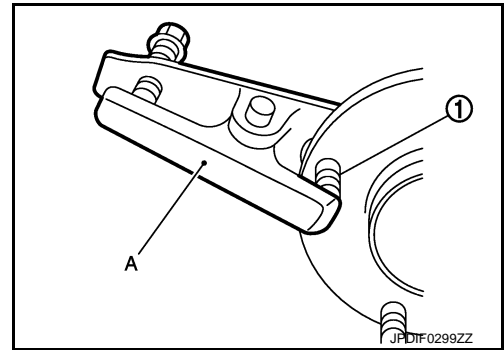
Use suitable puller, if wheel hub and bearing assembly and drive shaft cannot be separated even after performing the above procedure.



8. Remove wheel hub and bearing assembly.
9. Remove hub bolts (1) from wheel hub and bearing assembly, using the ball joint remover (A) (commercial service tool).

**CAUTION:**

- Remove hub bolt only when necessary.
- Never hammer the hub bolt to avoid impact to the wheel hub and bearing assembly.
- Pull out the hub bolt in a direction perpendicular to the wheel hub and bearing assembly.



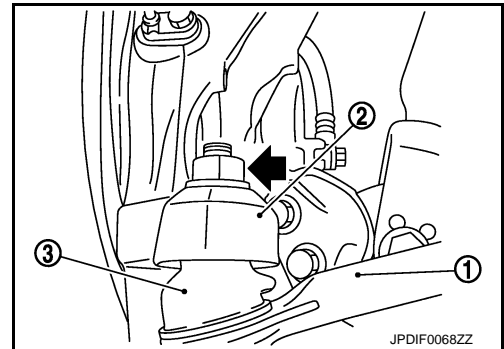
### Steering Knuckle

1. Remove wheel hub and bearing assembly, and then remove splash guard.
2. Remove transverse link from steering knuckle.
3. Remove steering knuckle from strut assembly.
4. Loosen the nut (←) of steering outer socket.
5. Remove steering outer socket (1) from steering knuckle (2) using the ball joint remover so as not to damage ball joint boot (3).

**CAUTION:**

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

6. Remove steering knuckle from vehicle.



### INSTALLATION

Note the following, and install in the reverse order of the removal.

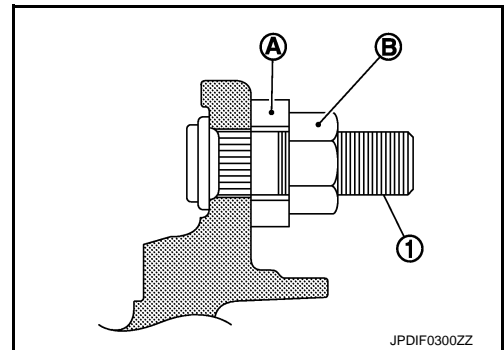
- Place a washer (A) as shown in the figure to install the hub bolts (1) by using the tightening force of the nut (B).

**CAUTION:**

- Check that there is no clearance between wheel hub and bearing assembly, and hub bolt.
- Never reuse hub bolt.
- Never reuse steering knuckle and transverse link fixing nut.
- Clean the matching surface of wheel hub lock nut and wheel hub and bearing assembly.

**CAUTION:**

Never apply lubricating oil to these matching surface.



# FRONT WHEEL HUB AND KNUCKLE

[AWD]

## < REMOVAL AND INSTALLATION >


- Clean the matching surface of drive shaft, wheel hub and bearing assembly. And then apply paste [service parts (440037S000)] to surface (A) of joint sub-assembly of drive shaft.

**CAUTION:**

Apply paste to cover entire flat surface of joint sub-assembly of drive shaft.

**Amount paste : 1.0 – 3.0 g (0.04 – 0.10 oz)**

- Use the following torque range for tightening the wheel hub lock nut.

 : 180 – 185 N·m (18.4 – 18.8 kg·m, 133 – 136 ft·lb)

**CAUTION:**

- Since the drive shaft is assembled by press-fitting, use the tightening torque range for the wheel hub lock nut.
- Be sure to use torque wrench to tighten the wheel hub lock nut. Never use a power tool.
- Never reuse wheel hub lock nut.

**NOTE:**

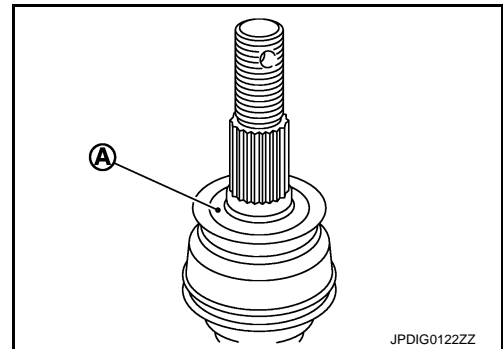
Wheel hub lock nut tightening torque does not over torque for avoiding axle noise, and does not less than torque for avoiding looseness.

- Align the matching marks that have been made during removal when reusing the disc rotor.
- When installing a cotter pin (1) and adjusting cap (2), securely bend the basal portion to prevent rattles.

**CAUTION:**

Never reuse cotter pin.

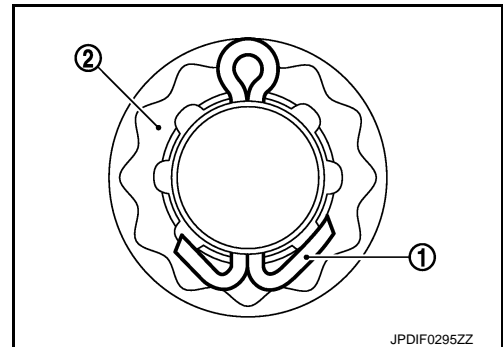
- Perform the final tightening of each of parts under unladen conditions, which were removed when removing wheel hub and bearing assembly and steering knuckle.



A  
B  
C

FAX

E  
F  
G



H  
I  
J

## Inspection

INFOID:000000008282570

### INSPECTION AFTER REMOVAL

Check components for deformation, cracks, and other damage. Replace if there are.

#### Ball Joint Inspection

Check boots of transverse link and steering outer socket ball joint for breakage, axial play, and torque. Refer to [FSU-14. "Inspection"](#) and [ST-15. "Inspection"](#).

### INSPECTION AFTER INSTALLATION

1. Check the wheel alignment. Refer to [FSU-7. "Inspection"](#).
2. Adjust neutral position of steering angle sensor. Refer to [BRC-76. "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement"](#) (with VDC).

K  
L  
M  
N  
O  
P

# FRONT DRIVE SHAFT BOOT

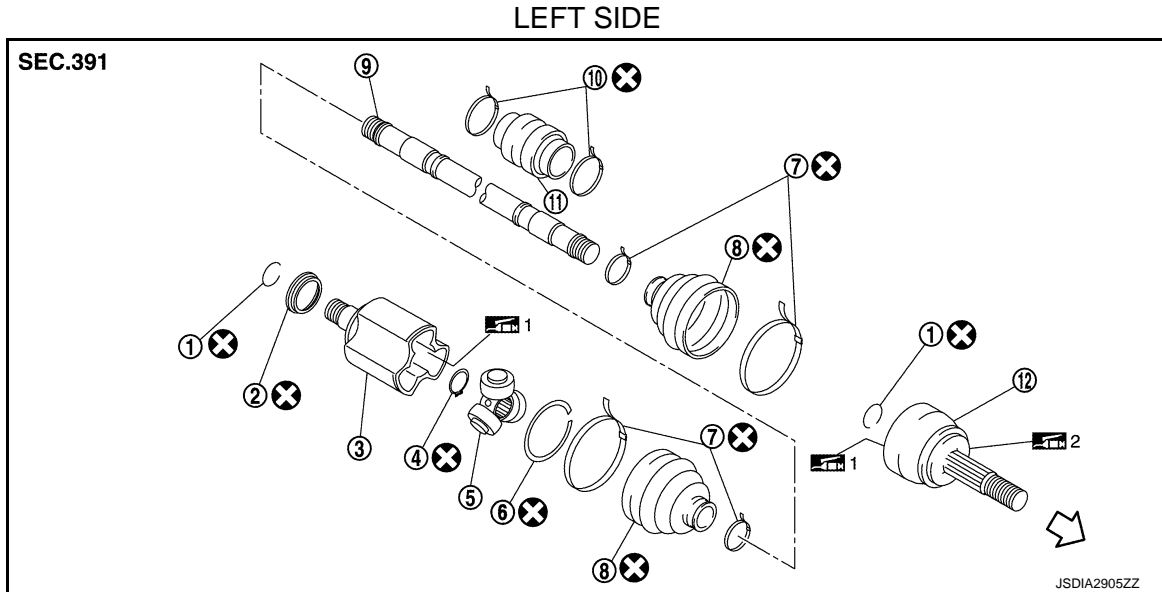
< REMOVAL AND INSTALLATION >

[AWD]

## FRONT DRIVE SHAFT BOOT


Exploded View


INFOID:000000008282571



- |                  |                    |                        |
|------------------|--------------------|------------------------|
| 1. Circular clip | 2. Dust shield     | 3. Housing             |
| 4. Snap ring     | 5. Spider assembly | 6. Stopper ring        |
| 7. Boot band     | 8. Boot            | 9. Shaft               |
| 10. Damper band  | 11. Dynamic damper | 12. Joint sub-assembly |

⇐ : Wheel side

 1: Fill NISSAN Genuine grease or equivalent.

 2: Apply paste [service parts (440037S000)].

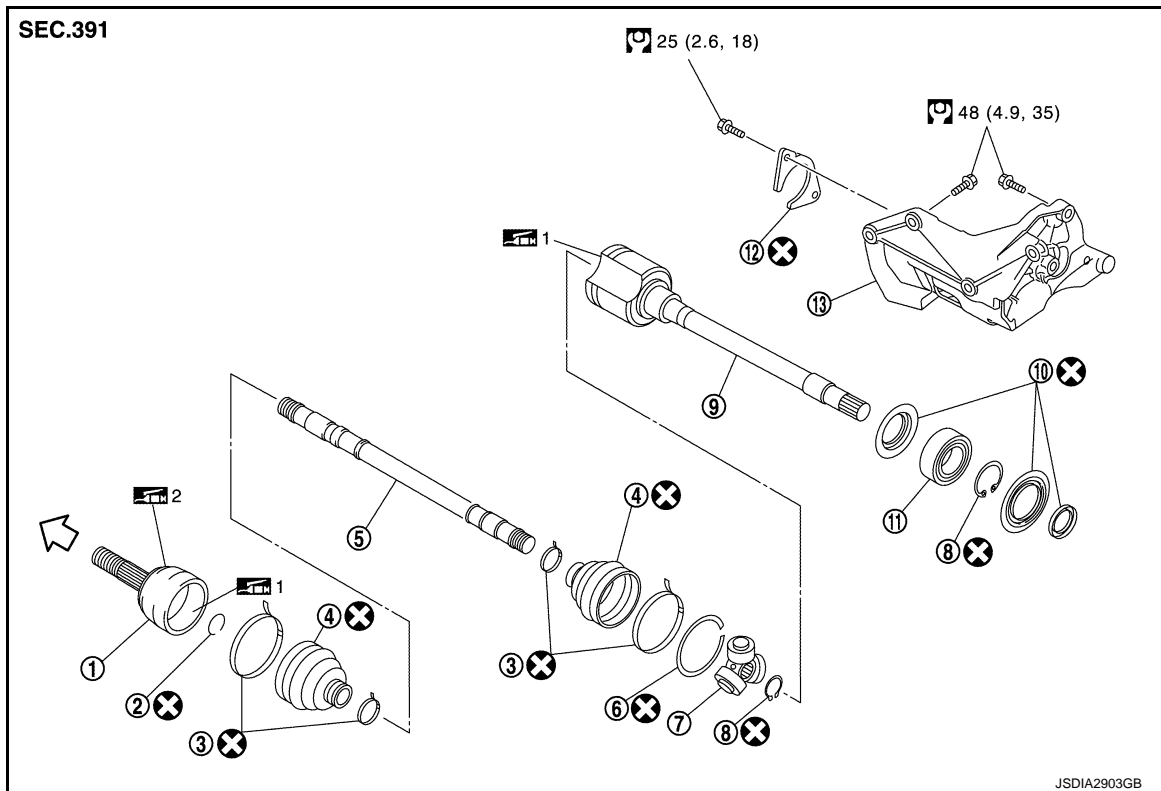
Refer to [GI-4, "Components"](#) for symbols not described on the above.

# FRONT DRIVE SHAFT BOOT

< REMOVAL AND INSTALLATION >

[AWD]

RIGHT SIDE



- |                             |                     |                 |
|-----------------------------|---------------------|-----------------|
| 1. Joint sub-assembly       | 2. Circular clip    | 3. Boot band    |
| 4. Boot                     | 5. Shaft            | 6. Stopper ring |
| 7. Spider assembly          | 8. Snap ring        | 9. Housing      |
| 10. Dust shield             | 11. Support bearing | 12. Retainer    |
| 13. Support bearing bracket |                     |                 |

← : Wheel side

1: Fill NISSAN Genuine grease or equivalent.

2: Apply paste [service parts (440037S000)].

Refer to [GI-4, "Components"](#) for symbols not described on the above.

## Replacement

INFOID:000000008282572

### WHEEL SIDE

- Remove tires with power tool.
- Remove wheel sensor from steering knuckle. Refer to [BRC-66, "FRONT WHEEL SENSOR : Exploded View"](#) (without VDC), [BRC-177, "FRONT WHEEL SENSOR : Exploded View"](#) (with VDC).  
**CAUTION:**  
**Never pull on wheel sensor harness.**
- Remove lock plate from strut assembly. Refer to [BR-21, "FRONT : Exploded View"](#)
- Remove torque member mounting bolts with power tool. Hang torque member not to interfere with work. Refer to [BR-37, "BRAKE CALIPER ASSEMBLY : Exploded View"](#).  
**CAUTION:**  
**Never depress brake pedal while brake caliper is removed.**
- Remove disc rotor. Refer to [BR-37, "BRAKE CALIPER ASSEMBLY : Removal and Installation"](#).  
**CAUTION:**
  - Put matching marks on the wheel hub and bearing assembly and the disc rotor before removing the disc rotor.
  - Never drop disc rotor.
- Remove cotter pin and adjusting cap, and then loosen wheel hub lock nut. Refer to [FAX-35, "Removal and Installation"](#).

# FRONT DRIVE SHAFT BOOT

[AWD]

## < REMOVAL AND INSTALLATION >

7. Patch wheel hub lock nut with a piece of wood. Hammer the wood to disengage wheel hub and bearing assembly from drive shaft.

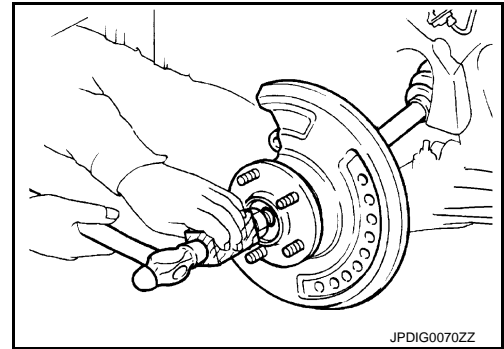
**CAUTION:**

- Never place drive shaft joint at an extreme angle. Also be careful not to overextend slide joint.
- Never allow drive shaft to hang down without support for housing (or joint sub-assembly), shaft and the other parts.

**NOTE:**

Use suitable puller if wheel hub and drive shaft cannot be separated even after performing the above procedure.

8. Remove the wheel hub lock nut.  
9. Remove transverse link from steering knuckle.

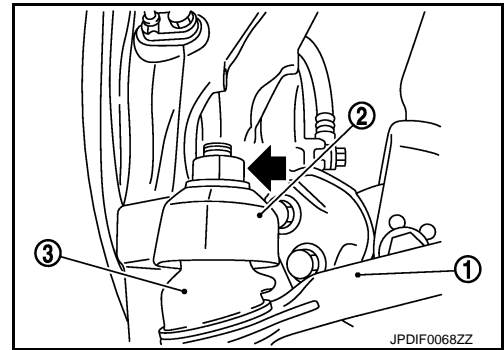


10. Loosen the nut (←) of steering outer socket.  
11. Remove steering outer socket (1) from steering knuckle (2) using the ball joint remover so as not to damage ball joint boot (3).

**CAUTION:**

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

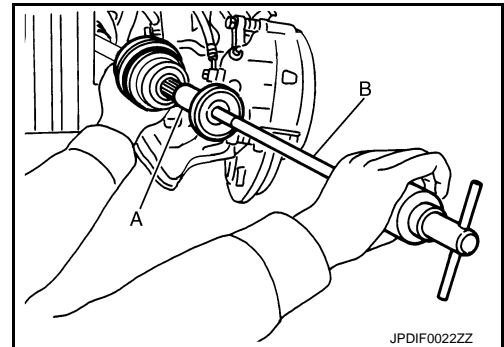
12. Remove drive shaft from wheel hub and bearing assembly.  
13. Remove boot bands, and then remove boot from joint sub-assembly.



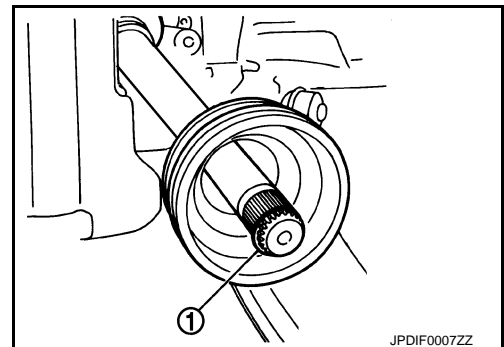
14. Screw a drive shaft puller (A) into joint sub-assembly screw part to a length of 30 mm (1.18 in) or more. Support drive shaft with one hand and pull out joint sub-assembly with a sliding hammer (B) from shaft.

**CAUTION:**

- Align a sliding hammer and drive shaft and remove them by pulling firmly and uniformly.
- If joint sub-assembly cannot be pulled out, try after removing drive shaft from vehicle.



15. Remove circular clip (1) from shaft.  
16. Remove boot from shaft.  
17. Clean the old grease on joint sub-assembly with paper waste.





# FRONT DRIVE SHAFT BOOT

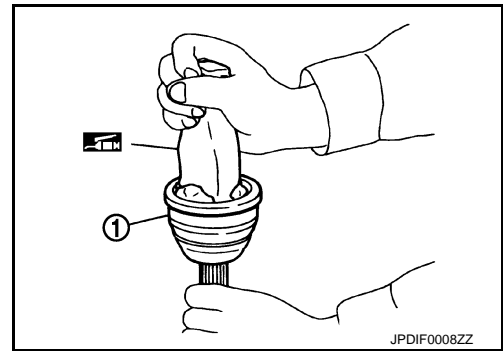
[AWD]

## < REMOVAL AND INSTALLATION >

18. Fill serration slot joint sub-assembly (1) with NISSAN genuine grease or equivalent until the serration slot and ball groove become full to the brim.

**CAUTION:**

After applying grease, use a paper waste to wipe off old grease that has oozed out.

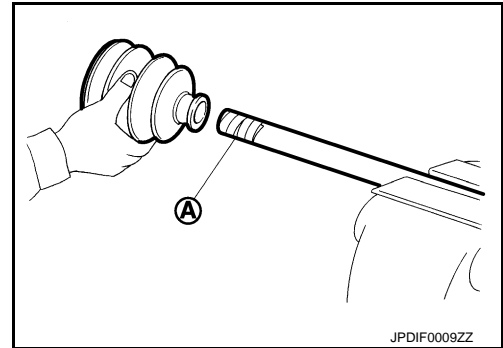


19. Wrap serration on shaft with tape (A) to protect the boot from damage. Install boot and boot bands to shaft.

**CAUTION:**

Never reuse boot and boot band.

20. Remove the tape wrapped around the serration on shaft.



21. Position the circular clip (1) on groove at the shaft edge.

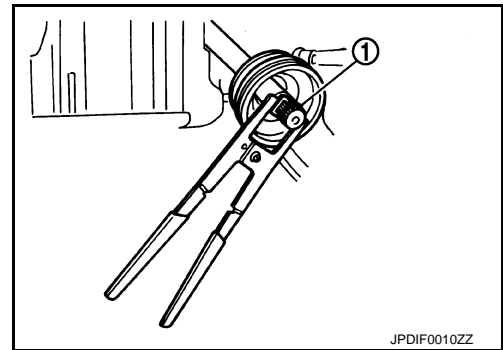
**CAUTION:**

Never reuse circular clip.

**NOTE:**

Drive joint inserter is recommended when installing circular clip.

22. Align both center axes of the shaft edge and joint sub-assembly. Then assemble shaft with joint sub-assembly holding circular clip.



23. Install joint sub-assembly (1) to shaft using plastic hammer.

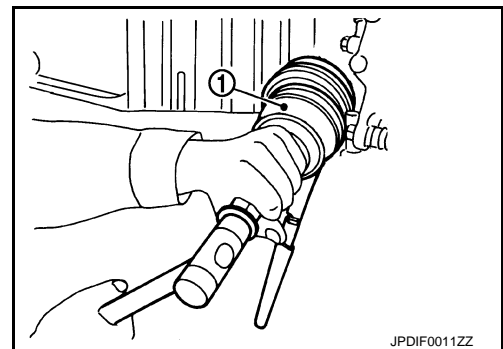
**CAUTION:**

Confirm that joint sub-assembly is correctly engaged while rotating drive shaft.

24. Fill into the boot inside with the specified amount of grease from large diameter side of boot.

**Standard**

**Grease amount** : Refer to [FAX-54, "Drive Shaft"](#).



A  
B  
C  
FAX  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

# FRONT DRIVE SHAFT BOOT

[AWD]

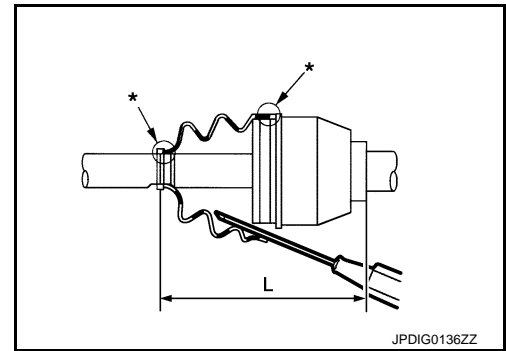
## < REMOVAL AND INSTALLATION >

25. Install the boot securely into grooves (indicated by “\*” marks) shown in the figure.

**CAUTION:**

If grease adheres to the boot mounting surface (indicated “\*” mark) on the shaft or joint sub-assembly, boot may be removed. Remove all grease from the boot mounting surface.

26. To prevent the deformation of the boot, adjust the boot installation length (L) to the specified value shown below by inserting the suitable tool into inside of the boot from the large diameter side of the boot and discharging the inside air.



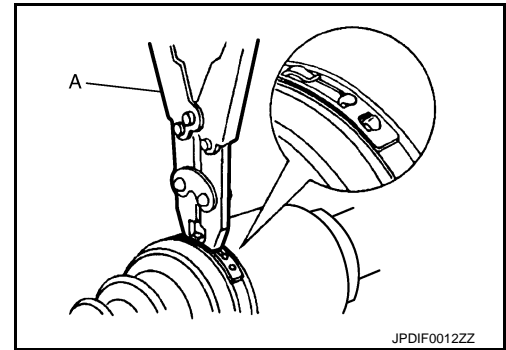
**Standard**

Boots installed : Refer to [FAX-54, "Drive Shaft"](#).  
length (L)

**CAUTION:**

- If the boot installation length is outside the standard, it may cause breakage of boot.
- Be careful not to touch the inside of the boot with a tip of tool.

27. Secure the large and small ends of the boot with boot bands using the boot band crimping tool (A) [SST: KV40107300 ( — )].



**NOTE:**

Secure boot band so that dimension (M) meets the specification as shown in the figure.

**Dimension (M) : 1.0 – 4.0 mm (0.039 – 0.157 in)**

28. Check that displacement does not occur when boot is rotated with the joint sub-assembly and shaft fixed.

**CAUTION:**

- Reinstall them using boot bands when boot installation positions become incorrect.
- Never reuse boot band.

29. Clean the matching surface of wheel hub lock nut and wheel hub and bearing assembly.

**CAUTION:**

Never apply lubricating oil to these matching surface.

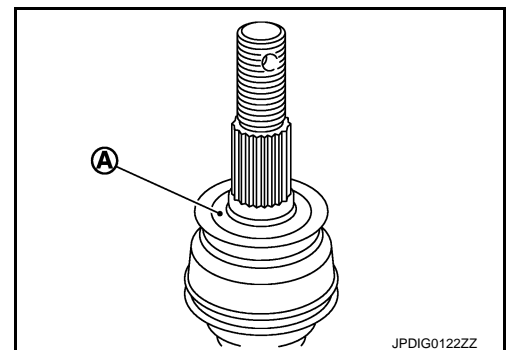
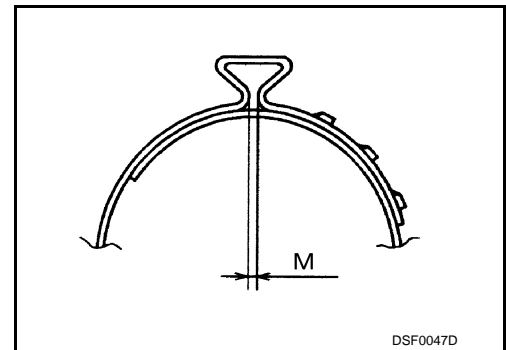
30. Clean the matching surface of drive shaft, wheel hub and bearing assembly. And then apply paste [service parts (440037S000)] to surface (A) of joint sub-assembly of drive shaft.

**CAUTION:**

Apply paste to cover entire flat surface of joint sub-assembly of drive shaft.

**Amount paste : 1.0 – 3.0 g (0.04 – 0.10 oz)**

31. Insert drive shaft to wheel hub and bearing assembly, and then temporarily tighten wheel hub lock nut.



# FRONT DRIVE SHAFT BOOT

[AWD]

## < REMOVAL AND INSTALLATION >

### CAUTION:


- Be sure to use torque wrench to tighten the wheel hub lock nut. Never use a power tool.
- Never reuse wheel hub lock nut.

32. Install transverse link to steering knuckle. Refer to [FAX-35, "Exploded View"](#).
33. Install steering outer socket to steering knuckle. Refer to [ST-13, "Exploded View"](#).
34. Install disc rotor. Refer to [BR-37, "BRAKE CALIPER ASSEMBLY : Removal and Installation"](#).

### CAUTION:

Align the matching marks made during removal when reusing the disc rotor.

35. Install torque member to steering knuckle. Refer to [BR-37, "BRAKE CALIPER ASSEMBLY : Exploded View"](#).
36. Install lock plate to strut assembly. Refer to [BR-21, "FRONT : Exploded View"](#).
37. Install wheel sensor to steering knuckle. Refer to [BRC-66, "FRONT WHEEL SENSOR : Exploded View"](#) (without VDC), [BRC-177, "FRONT WHEEL SENSOR : Exploded View"](#) (with VDC).
38. Use the following torque range for tightening the wheel hub lock nut.

 : 180 – 185 N·m (18.4 – 18.8 kg·m, 133 – 136 ft·lb)

### CAUTION:

- Since the drive shaft is assembled by press-fitting, use the tightening torque range for the wheel hub lock nut.
- Be sure to use torque wrench to tighten the wheel hub lock nut. Never use a power tool.

### NOTE:

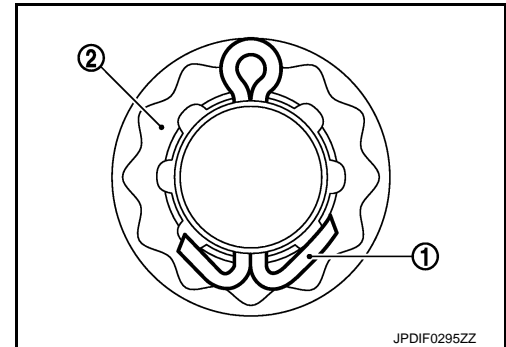
Wheel hub lock nut tightening torque does not over torque for avoiding axle noise, and does not less than torque for avoiding looseness.

39. When installing a cotter pin (1) and adjusting cap (2), securely bend the basal portion to prevent rattles.

### CAUTION:

Never reuse cotter pin.

40. Install tires to vehicle.

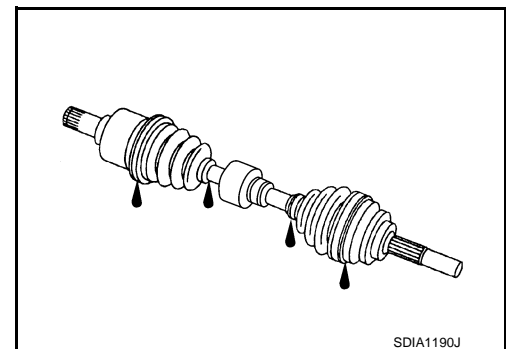


INFOID:000000008282573

## Inspection

### INSPECTION AFTER REMOVAL

- Move joint up/down, left/right, and in the axial directions. Check for motion that is not smooth and for significant looseness.
- Check boot for cracks, damage, and leakage of grease.
- Disassemble drive shaft and exchange malfunctioning part if there is a non-standard condition.



### INSPECTION AFTER DISASSEMBLY

#### Shaft

Check shaft for runout, cracks, or other damage. Replace if there are.

#### Dynamic Damper

## FRONT DRIVE SHAFT BOOT

< REMOVAL AND INSTALLATION >

[AWD]

Check damper for cracks or wear. Replace if necessary.

Joint Sub-Assembly (Wheel Side)

Check the following:

- Joint sub-assembly for rough rotation and excessive axial looseness
- The inside of the joint sub-assembly for entry of foreign material
- Joint sub-assembly for compression scars, cracks, and fractures inside of joint sub-assembly

Replace joint sub-assembly if there are any non-standard conditions of components.

Housing and Spider assembly (Transaxle Side)

Replace housing and spider assembly if there is scratching or wear of housing roller contact surface or spider roller contact surface.

**NOTE:**

Housing and spider assembly are used in a set.

Support Bearing (Right Side)

Make sure wheel bearing rolls freely and is free from noise, cracks, pitting or wear. Replace support bearing if there are any non-standard conditions.

Support Bearing Bracket (Right Side)

Check for bending, cracks, or damage. Replace support bearing bracket if there are any non-standard conditions.

# FRONT DRIVE SHAFT

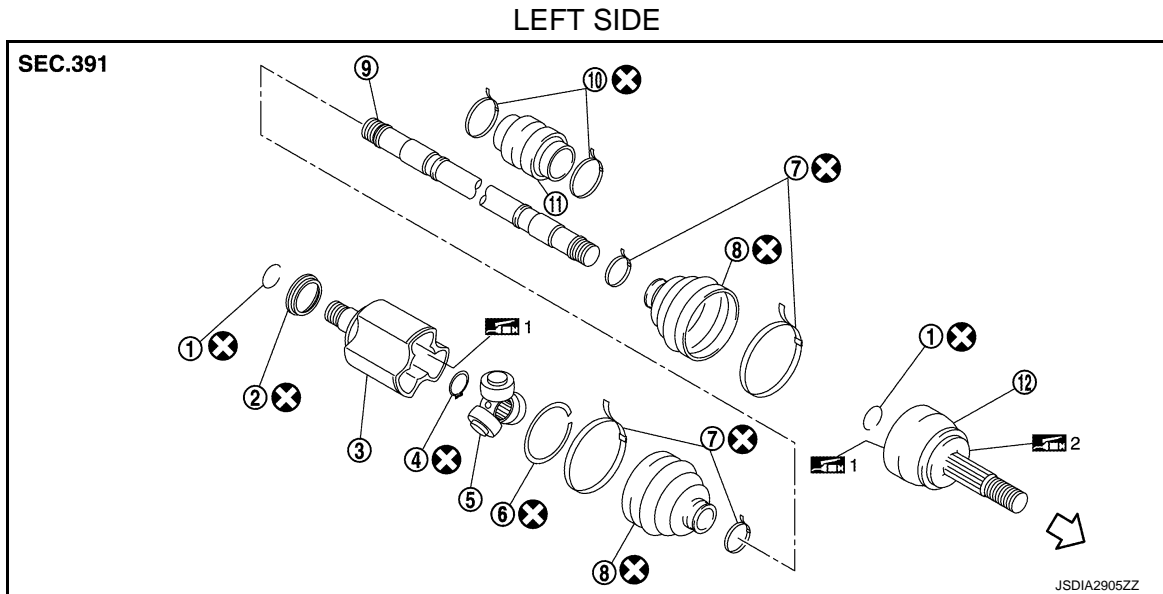
< REMOVAL AND INSTALLATION >

[AWD]

## FRONT DRIVE SHAFT

Exploded View

INFOID:000000008282574



- |                  |                    |                        |
|------------------|--------------------|------------------------|
| 1. Circular clip | 2. Dust shield     | 3. Housing             |
| 4. Snap ring     | 5. Spider assembly | 6. Stopper ring        |
| 7. Boot band     | 8. Boot            | 9. Shaft               |
| 10. Damper band  | 11. Dynamic damper | 12. Joint sub-assembly |

↔ : Wheel side

1: Fill NISSAN Genuine grease or equivalent.

2: Apply paste [service parts (440037S000)].

Refer to [GI-4, "Components"](#) for symbols not described on the above.

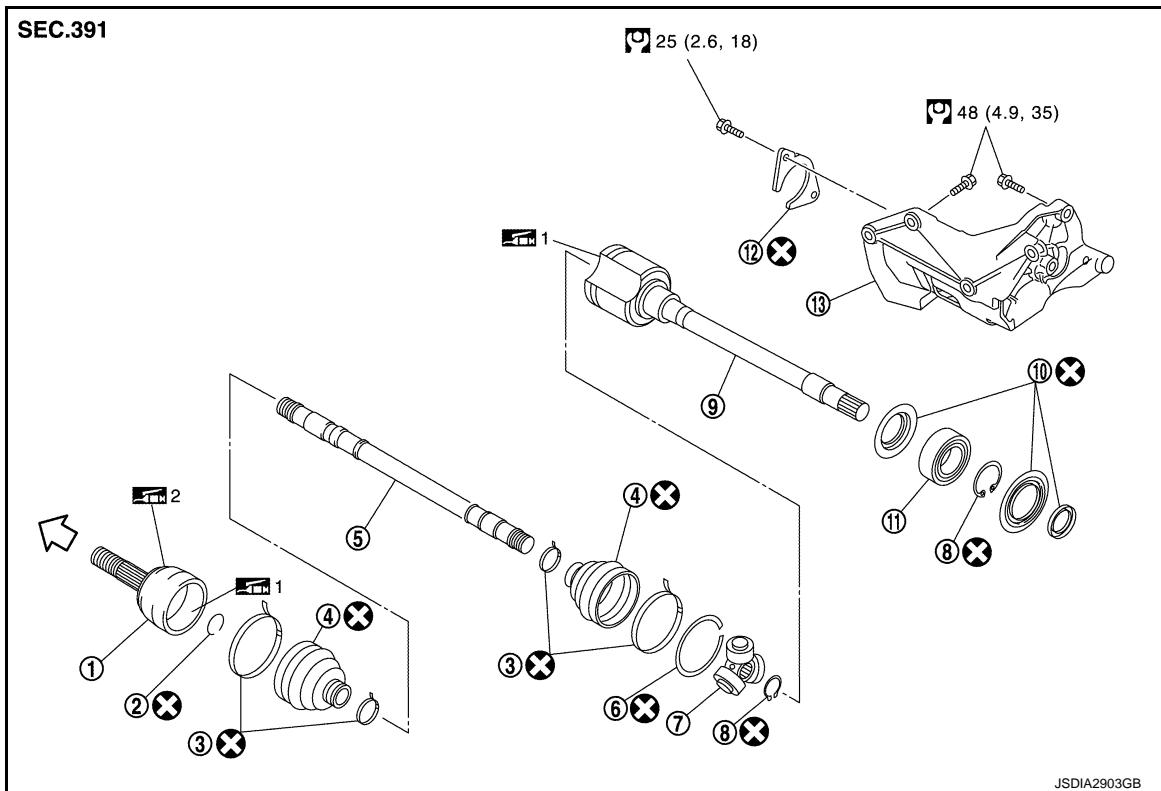
A  
B  
C  
FAX  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

# FRONT DRIVE SHAFT

< REMOVAL AND INSTALLATION >

[AWD]

RIGHT SIDE



- |                             |                     |                 |
|-----------------------------|---------------------|-----------------|
| 1. Joint sub-assembly       | 2. Circular clip    | 3. Boot band    |
| 4. Boot                     | 5. Shaft            | 6. Stopper ring |
| 7. Spider assembly          | 8. Snap ring        | 9. Housing      |
| 10. Dust shield             | 11. Support bearing | 12. Retainer    |
| 13. Support bearing bracket |                     |                 |

← : Wheel side

1: Fill NISSAN Genuine grease or equivalent.

2: Apply paste [service parts (440037S000)].

Refer to [GI-4, "Components"](#) for symbols not described on the above.

## Removal and Installation

INFOID:000000008282575

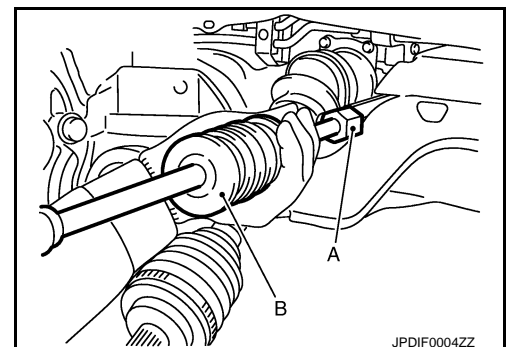
### REMOVAL

Left Side

- Refer to the procedure from 1 to 12 in [FAX-39, "Replacement"](#).
- Remove drive shaft from transaxle assembly.
  - Use the drive shaft attachment (A) [SST: KV40107500 ( — )] and a sliding hammer (B) while inserting tip of the drive shaft attachment between housing and transaxle assembly.

#### CAUTION:

- Never place drive shaft joint at an extreme angle when removing drive shaft. Also be careful not to overextend slide joint.
- Confirm that the circular clip is attached to the drive shaft.



Right Side

- Refer to the procedure from 1 to 12 in [FAX-39, "Replacement"](#).

# FRONT DRIVE SHAFT

[AWD]

## < REMOVAL AND INSTALLATION >

2. Remove retainer mounting bolts and retainer.
  3. If necessary, remove the support bearing bracket mounting bolts and the support bearing bracket.
  4. Remove drive shaft from transaxle assembly.
    - Use the drive shaft attachment [SST: KV40107500 ( — )] and a sliding hammer while inserting tip of the drive shaft attachment between housing and transaxle assembly.
- CAUTION:**  
Never place drive shaft joint at an extreme angle when removing drive shaft. Also be careful not to overextend slide joint.

## INSTALLATION

Left Side

Note the following, and install in the reverse order of removal.

**CAUTION:**

Always replace differential side oil seal with new one when installing drive shaft. Refer to [TM-198](#), "[AWD : Exploded View](#)".

- Place the protector (A) [SST: KV38107900 ( — )] onto transaxle assembly to prevent damage to the oil seal while inserting drive shaft. Slide drive shaft sliding joint and tap with a hammer to install securely.

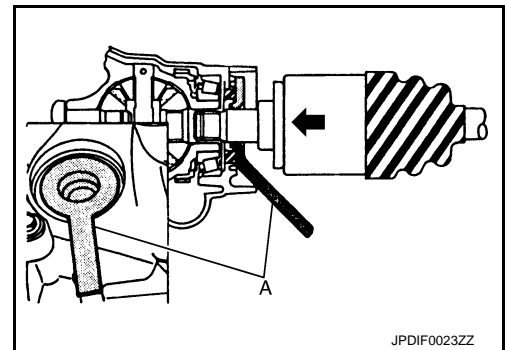
**CAUTION:**

Check that circular clip is completely engaged.

- Clean the matching surface of wheel hub lock nut and wheel hub and bearing assembly.

**CAUTION:**

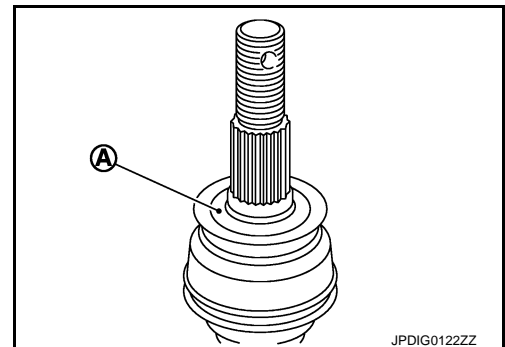
Never apply lubricating oil to these matching surface.



- Clean the matching surface of drive shaft and wheel hub and bearing assembly. And then apply paste [service parts (440037S000)] to surface (A) of joint sub-assembly of drive shaft.


**CAUTION:**

Apply paste to cover entire flat surface of joint sub-assembly of drive shaft.



**Amount paste : 1.0 – 3.0 g (0.04 – 0.10 oz)**

- Use the following torque range for tightening the wheel hub lock nut.

 : 180 – 185 N·m (18.4 – 18.8 kg·m, 133 – 136 ft·lb)

**CAUTION:**

- Since the drive shaft is assembled by press-fitting, use the tightening torque range for the wheel hub lock nut.
- Be sure to use torque wrench to tighten the wheel hub lock nut. Never use a power tool.
- Never reuse wheel hub lock nut.

**NOTE:**

Wheel hub lock nut tightening torque does not over torque for avoiding axle noise, and does not less than torque for avoiding looseness.

- Align the matching marks that have been made during removal when reusing the disc rotor.

# FRONT DRIVE SHAFT

[AWD]

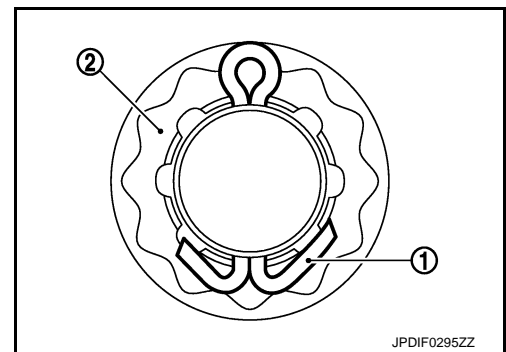
## < REMOVAL AND INSTALLATION >

- When installing a cotter pin (1) and adjusting cap (2), securely bend the basal portion to prevent rattles.

**CAUTION:**

**Never reuse cotter pin.**

- Perform the final tightening of each of parts under unladen conditions, which were removed when removing wheel hub and bearing assembly and steering knuckle.



JPDIF0295ZZ

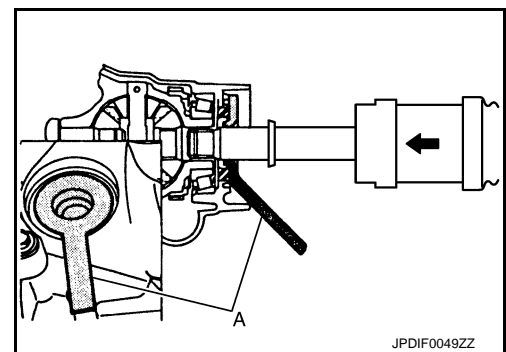
Right Side

Note the following, and install in the reverse order of removal.

**CAUTION:**

**Always replace differential side oil seal with new one when installing drive shaft. Refer to [TM-198](#), "[AWD : Exploded View](#)".**

- Place the protector (A) [SST: KV38107900 ( — )] onto transaxle assembly to prevent damage to the oil seal while inserting drive shaft. Slide drive shaft sliding joint and tap with a hammer to install securely.



JPDIF0049ZZ

- When installing support bearing bracket (1).
  - Temporarily tighten mounting bolts in the order of (A).
  - Tighten mounting bolts in the order of (B), (C), (D), (E), (A).
  - Set retainer (2) so that notch (F) becomes upper side. (Temporarily) tighten mounting bolts in the order of (G), (H).

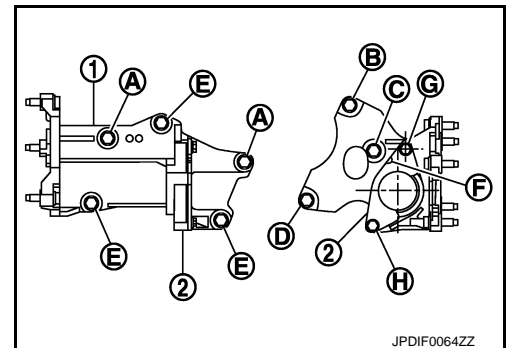
**CAUTION:**

**Never reuse retainer.**

- Clean the matching surface of wheel hub lock nut and wheel hub and bearing assembly.

**CAUTION:**

**Never apply lubricating oil to these matching surface.**



JPDIF0064ZZ


- Clean the matching surface of drive shaft and wheel hub and bearing assembly. And then apply paste [service parts (440037S000)] to surface (A) of joint sub-assembly of drive shaft.

**CAUTION:**

**Apply paste to cover entire flat surface of joint sub-assembly of drive shaft.**

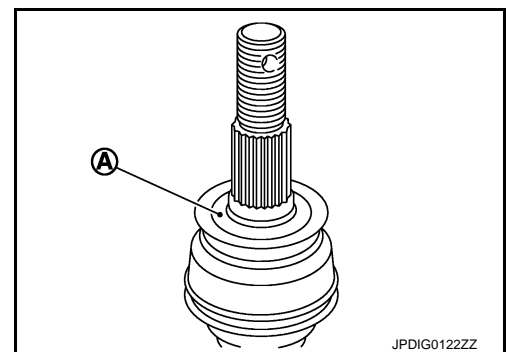
**Amount paste : 1.0 – 3.0 g (0.04 – 0.10 oz)**

- Use the following torque range for tightening the wheel hub lock nut.

 : **180 – 185 N·m (18.4 – 18.8 kg-m, 133 – 136 ft-lb)**

**CAUTION:**

- Since the drive shaft is assembled by press-fitting, use the tightening torque range for the wheel hub lock nut.
- Be sure to use torque wrench to tighten the wheel hub lock nut. Never use a power tool.
- Never reuse wheel hub lock nut.



JPDIG0122ZZ



# FRONT DRIVE SHAFT

< REMOVAL AND INSTALLATION >

[AWD]

## NOTE:

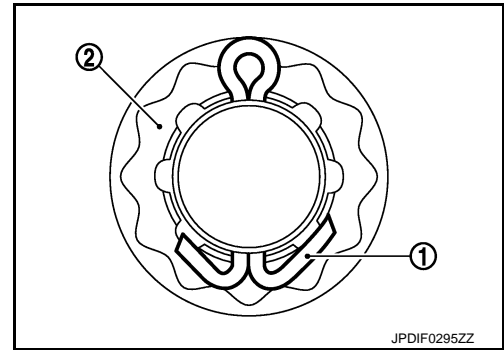
Wheel hub lock nut tightening torque does not over torque for avoiding axle noise, and does not less than torque for avoiding looseness.

- Align the matching marks that have been made during removal when reusing the disc rotor.
- When installing a cotter pin (1) and adjusting cap (2), securely bend the basal portion to prevent rattles.

## CAUTION:

**Never reuse cotter pin.**

- Perform the final tightening of each of parts under unladen conditions, which were removed when removing wheel hub and bearing assembly and steering knuckle.



JPDIF0295ZZ

INFOID:000000008282576

## Disassembly and Assembly

### DISASSEMBLY

Transaxle Assembly Side

1. Fix shaft with a vise.

#### CAUTION:

**Protect shaft using aluminum or copper plates when fixing with a vise.**

2. Remove boot bands, and then remove boot from housing.
3. Remove stopper ring.
4. Put matching marks on housing and shaft, and then pull out housing from shaft.

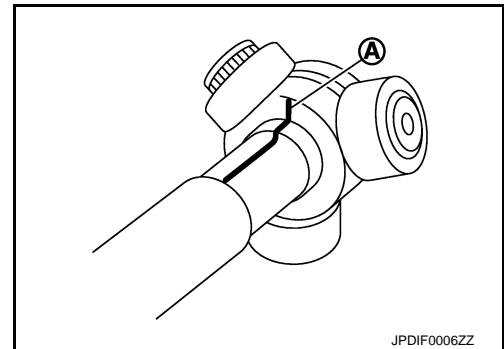
#### CAUTION:

**Use paint or an equivalent for matching marks. Never scratch the surfaces.**

5. Put matching marks (A) on the spider assembly and shaft.

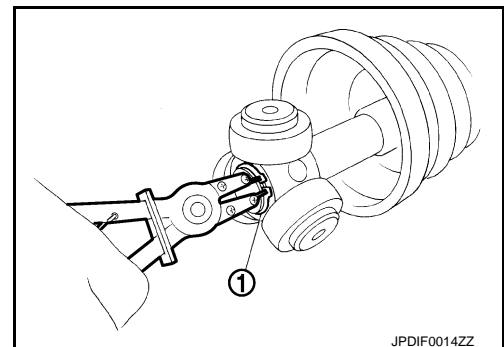
#### CAUTION:

**Use paint or an equivalent for matching marks. Never scratch the surfaces.**



JPDIF0006ZZ

6. Remove snap ring (1), and then remove spider assembly from shaft.
7. Remove boot from shaft.
8. Remove circular clip from housing (left side).
9. Remove dust shield from housing.
10. Clean old grease on housing with paper waste.



JPDIF0014ZZ

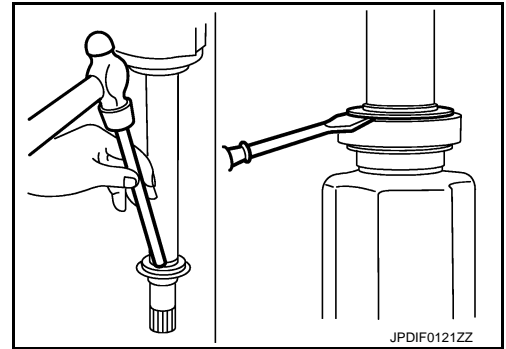
Support Bearing

# FRONT DRIVE SHAFT

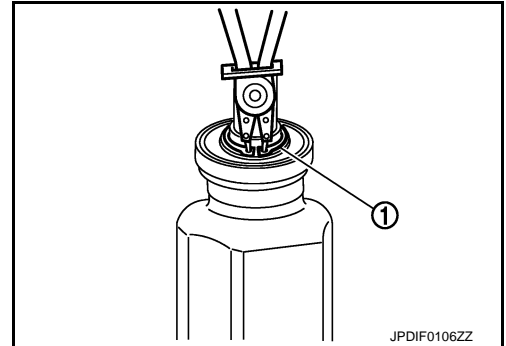
[AWD]

## < REMOVAL AND INSTALLATION >

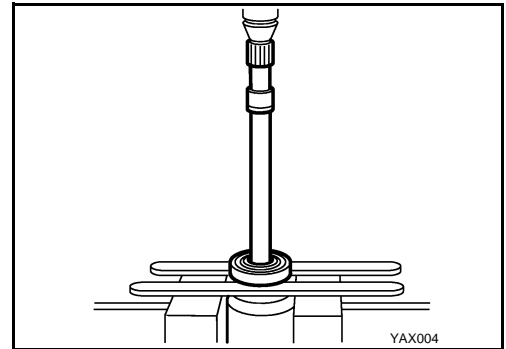
1. Remove dust shield from housing.



2. Remove snap ring (1).



3. Press out support bearing from housing.
4. Remove dust shield.



### Dynamic Damper

Remove damper bands, then remove dynamic damper from shaft.

### Wheel Side

1. Fix shaft with a vise.

#### **CAUTION:**

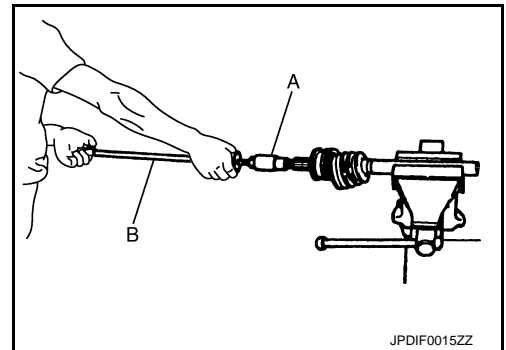
**Protect shaft using aluminum or copper plates when fixing with a vise.**

2. Remove boot bands, and then remove boot from joint sub-assembly.
3. Screw the drive shaft puller (A) 30 mm (1.18 in) or more into the thread of joint sub-assembly, and pull joint sub-assembly with a sliding hammer (B) from shaft.

#### **CAUTION:**

- If joint sub-assembly cannot be removed after five or more unsuccessful attempts, replace shaft and joint sub-assembly as a set.
- Align sliding hammer and drive shaft and remove them by pulling forcibly.

4. Remove circular clip from shaft.
5. Remove boot from shaft.
6. Clean old grease on joint sub-assembly with paper waste while rotating ball cage.



## ASSEMBLY

# FRONT DRIVE SHAFT

[AWD]

## < REMOVAL AND INSTALLATION >

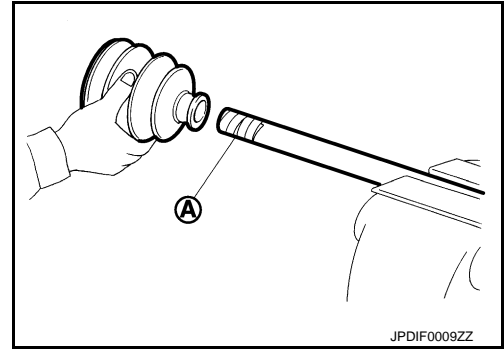
### Transaxle Assembly Side

1. Wrap serration on shaft with tape (A) to protect boot from damage. Install new boot and boot bands to shaft.

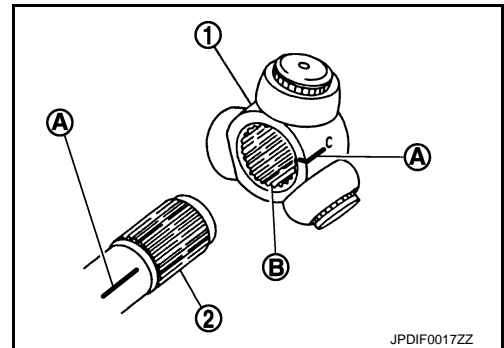
**CAUTION:**

**Never reuse boot and boot band.**

2. Remove the tape wrapped around the serration on shaft.



3. To install the spider assembly (1), align it with the matching marks (A) on the shaft (2) put during the removal, and direct the serration mounting surface (B) to the shaft.

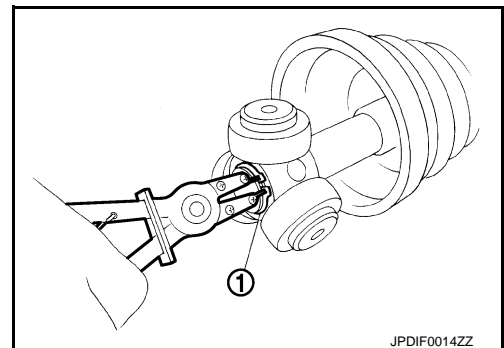


4. Secure spider assembly onto shaft with snap ring (1).

**CAUTION:**

**Never reuse snap ring.**

5. Apply the appropriate amount of grease to spider assembly and sliding surface.
6. Assemble the housing onto spider assembly, and apply the specified amount of grease.



**Standard**

**Grease amount** : Refer to [FAX-54, "Drive Shaft"](#).

7. Align matching marks put during the removal of housing.
8. Install stopper ring.

**CAUTION:**

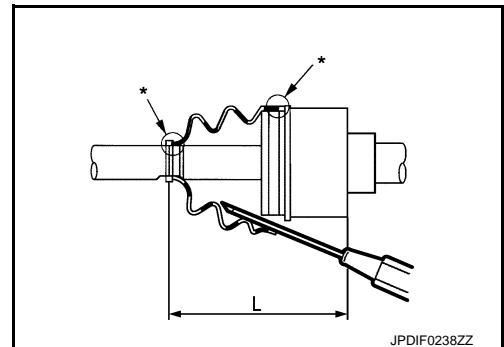
**Never reuse stopper ring.**

9. Install boot securely into grooves (indicated by "\*" marks) shown in the figure.

**CAUTION:**

**If grease adheres to the boot mounting surface (indicated "\*" mark) on shaft or housing, boot may be removed. Remove all grease from the boot mounting surface.**

10. To prevent the deformation of the boot, adjust the boot installation length (L) to the value shown below by inserting the suitable tool into the inside of boot from the large diameter side of boot and discharging inside air.



**Standard**

**Boots installed length (L)** : Refer to [FAX-54, "Drive Shaft"](#).

**CAUTION:**

- If the boot installation length is outside the standard, it may cause breakage of boot.
- Be careful not to touch the inside of the boot with the tip of tool.

A  
B  
C  
FAX  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

# FRONT DRIVE SHAFT

[AWD]

## < REMOVAL AND INSTALLATION >

11. Install new boot bands securely as shown in the figure.

**CAUTION:**

**Never reuse boot band.**

12. Secure housing and shaft, and then make sure that they are in the correct position when rotating boot. Install them with new boot band when the mounting positions become incorrect.

13. Install dust shield (left side).

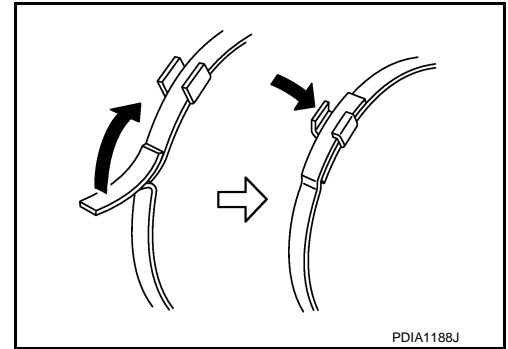
**CAUTION:**

**Never reuse dust shield.**

14. Install circular clip to housing (left side).

**CAUTION:**

**Never reuse circular clip.**



### Support Bearing

1. Install dust shield on housing.

**CAUTION:**

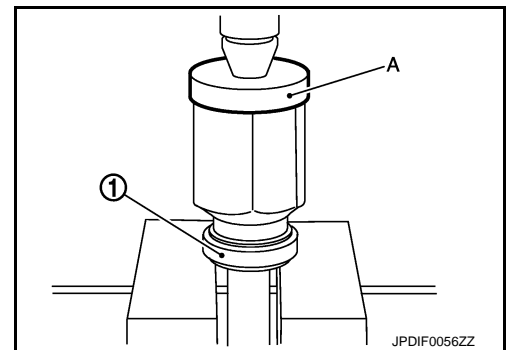
**Never reuse dust shield.**

2. Press support bearing (1) onto housing to using the suitable tool (A).

3. Install snap ring.

**CAUTION:**

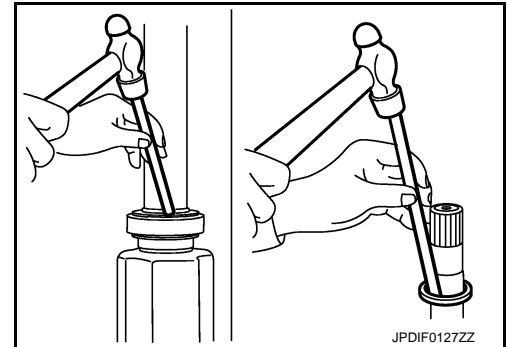
**Never reuse snap ring.**



4. Install dust shields.

**CAUTION:**

**Never reuse dust shields.**



### Dynamic Damper

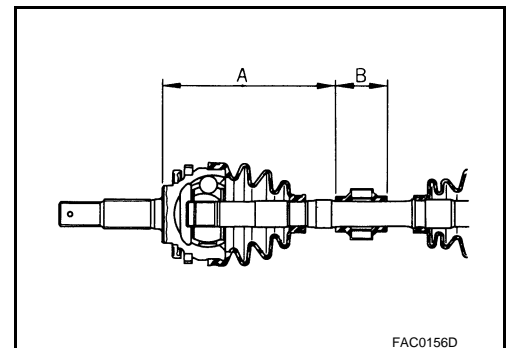
Secure dynamic damper with bands in the following specified position when installing.

**CAUTION:**

**Never reuse bands.**

**Standard**

**Demission** : [FAX-54, "Drive Shaft"](#).



### Wheel Side

For further details, refer to the installation procedure of ["FAX-39, "Replacement" for the drive shaft boot.](#)

## Inspection

INFOID:000000008282577

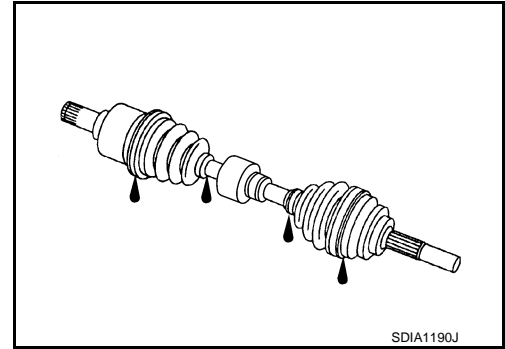
## INSPECTION AFTER REMOVAL

# FRONT DRIVE SHAFT

[AWD]

## < REMOVAL AND INSTALLATION >

- Move joint up/down, left/right, and in the axial directions. Check for motion that is not smooth and for significant looseness.
- Check boot for cracks, damage, and leakage of grease.
- Disassemble drive shaft and exchange malfunctioning part if there is a non-standard condition.



A  
B  
C

FAX

## INSPECTION AFTER DISASSEMBLY

### Shaft

Check shaft for runout, cracks, or other damage. Replace if there are.

### Dynamic Damper

Check damper for cracks or wear. Replace if necessary.

### Joint Sub-Assembly (Wheel Side)

Check the following:

- Joint sub-assembly for rough rotation and excessive axial looseness
- The inside of the joint sub-assembly for entry of foreign material
- Joint sub-assembly for compression scars, cracks, and fractures inside of joint sub-assembly

Replace joint sub-assembly if there are any non-standard conditions of components.

### Housing and Spider assembly (Transaxle Side)

Replace housing and spider assembly if there is scratching or wear of housing roller contact surface or spider roller contact surface.

### NOTE:

Housing and spider assembly are used in a set.

### Support Bearing (Right Side)

Make sure wheel bearing rolls freely and is free from noise, cracks, pitting or wear. Replace support bearing if there are any non-standard conditions.

### Support Bearing Bracket (Right Side)

Check for bending, cracks, or damage. Replace support bearing bracket if there are any non-standard conditions.

E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

# SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[AWD]

## SERVICE DATA AND SPECIFICATIONS (SDS)

### SERVICE DATA AND SPECIFICATIONS (SDS)

#### Wheel Bearing

INFOID:000000008282578

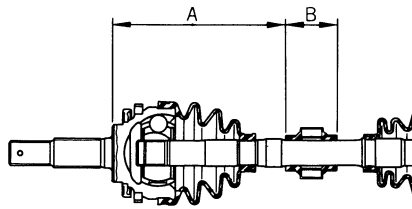
Item	Standard
Axial end play	0.05 mm (0.002 in) or less

#### Drive Shaft

INFOID:000000008282579

Item		Standard	
Joint		Wheel side	Transaxle assembly side
Grease quantity	Left side	115 – 135 g (4.06 – 4.76 oz)	200 – 220 g (7.05 – 7.76 oz)
	Right side		
Boots installed length (L)	Left side	133.5 mm (5.26 in)	165.6 mm (6.52 in)
	Right side		

Item		Standard	
Dynamic damper		A	B
Dimension	Left side	207 – 213 mm (8.15 – 8.39 in)	70 mm (2.76 in)



FAC0156D