

SECTION FAX

FRONT AXLE

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FAX

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NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

< SYMPTOM DIAGNOSIS >

[2WD]

SYMPTOM DIAGNOSIS

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

INFOID:000000000970471

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

Reference page			—	FAX-22	—	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	TIRES	ROAD WHEELS	DRIVE SHAFT	BRAKES	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
		Poor quality ride or handling				x	x		x		x	x			

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FAX

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PRECAUTION

PRECAUTIONS

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

INFOID:000000000970472

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 SRC and SB section of this Service Manual.

WARNING:

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

Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:0000000001099647

NOTE:

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYSTEM).
- Remove and install all control units after disconnecting both battery cables with the ignition knob in the "LOCK" position.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work. If DTC is detected, perform trouble diagnosis according to self-diagnostic results.

For models equipped with the Intelligent Key system and NATS, an electrically controlled steering lock mechanism is adopted on the key cylinder.

For this reason, if the battery is disconnected or if the battery is discharged, the steering wheel will lock and steering wheel rotation will become impossible.

If steering wheel rotation is required when battery power is interrupted, follow the procedure below before starting the repair operation.

OPERATION PROCEDURE

1. Connect both battery cables.

NOTE:

Supply power using jumper cables if battery is discharged.

2. Use the Intelligent Key or mechanical key to turn the ignition switch to the "ACC" position. At this time, the steering lock will be released.
3. Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
4. Perform the necessary repair operation.
5. When the repair work is completed, return the ignition switch to the "LOCK" position before connecting the battery cables. (At this time, the steering lock mechanism will engage.)
6. Perform a self-diagnosis check of all control units using CONSULT-III.

Precautions for Drive Shaft

INFOID:000000000970475

CAUTION:

Note the following precautions when disassembling and assembling drive shaft.

- Joint sub-assembly does not disassemble because it is non-overhaul parts.

PRECAUTIONS

< PRECAUTION >

[2WD]

- Perform work in a dust-free location.
- Before disassembling and assembling, clean the parts.
- Prevent the entry of foreign objects during disassembly of the service location.
- Disassembled parts must be carefully reassembled in the correct order. If work is interrupted, a clean cover must be placed over parts.
- Paper shop cloths must be used. Fabric shop cloths must not be used because of the danger of lint adhering to parts.
- Disassembled parts (except for rubber parts) should be cleaned with kerosene which shall be removed by blowing with air or wiping with paper shop cloths.

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PREPARATION

< PREPARATION >

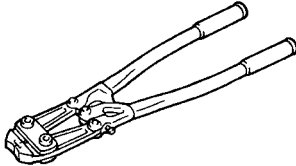
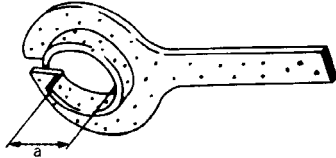
[2WD]

PREPARATION

PREPARATION

Special Service Tool

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Tool number Tool name	Description
KV40107300 Boot band crimping tool  ZZA1229D	Installing boot band
KV40107500 Drive shaft attachment  ZZA1230D	Removing drive shaft
KV38107900 Protector a: 32 mm (1.26 in) dia.  PDIA183J	Installing drive shaft

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FRONT WHEEL HUB AND KNUCKLE

< ON-VEHICLE MAINTENANCE >

[2WD]

ON-VEHICLE MAINTENANCE

FRONT WHEEL HUB AND KNUCKLE

Exploded View

INFOID:000000000970478

Refer to [FAX-9, "Exploded View"](#).

Inspection

INFOID:000000000970479

MOUNTING INSPECTION

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

FAX

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-40, "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.

FRONT DRIVE SHAFT

Inspection

INFOID:000000000970480

- 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 occur from drive shaft.

FRONT WHEEL HUB AND KNUCKLE

< ON-VEHICLE REPAIR >

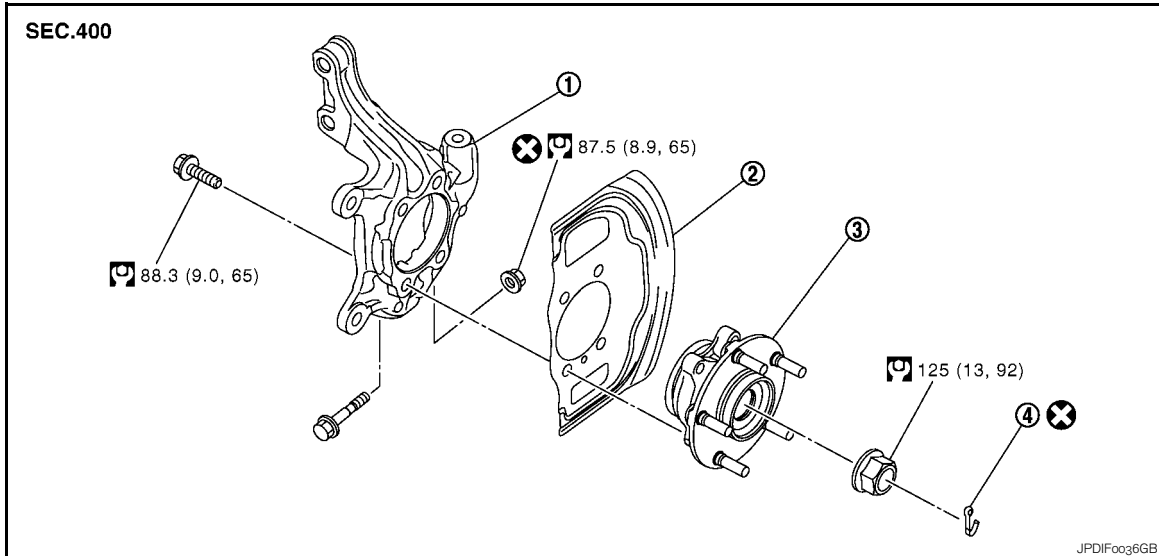
[2WD]

ON-VEHICLE REPAIR

FRONT WHEEL HUB AND KNUCKLE

Exploded View

INFOID:000000000970481



1. Steering knuckle
2. Splash guard
3. Wheel hub and bearing assembly
4. Cotter pin

Refer to [GI-4, "Components"](#) for symbols in the figure.

Removal and Installation

INFOID:000000000970482

REMOVAL

Wheel Hub and Bearing Assembly

1. Remove tires from vehicle.
2. Remove wheel sensor from steering knuckle. Refer to [BRC-67, "FRONT WHEEL SENSOR : Exploded View"](#) (with ABS), [BRC-172, "FRONT WHEEL SENSOR : Exploded View"](#) (with ESP).
- CAUTION:**
Never pull on wheel sensor harness.
3. Remove lock plate from strut assembly. Refer to [BR-19, "FRONT BRAKE \(WITH ABS\) : Exploded View"](#) (LHD with ABS), [BR-21, "FRONT BRAKE \(WITH ESP\) : Exploded View"](#) (LHD with ESP), [BR-63, "FRONT BRAKE \(WITH ABS\) : Exploded View"](#) (RHD with ABS), [BR-65, "FRONT BRAKE \(WITH ESP\) : Exploded View"](#) (RHD with ESP).
4. Remove torque member mounting bolts. Hang torque member not to interfere with work. Refer to [BR-37, "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (LHD), [BR-81, "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (RHD).
- CAUTION:**
Never depress brake pedal while brake caliper is removed.
5. Remove disc rotor.
6. Remove cotter pin, and then loosen hub lock nut.

FRONT WHEEL HUB AND KNUCKLE

< ON-VEHICLE REPAIR >

[2WD]

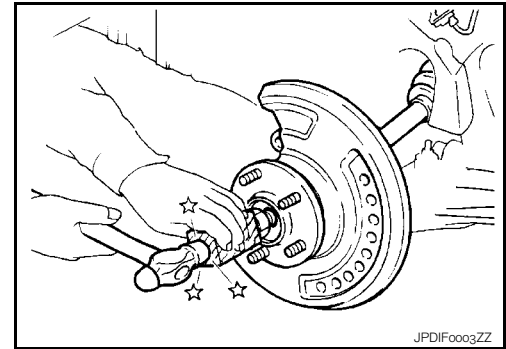
7. Patch hub lock nut with a piece of wood. Hammer the wood to disengage wheel hub and bearing assembly from drive shaft. Remove the hub lock nut.

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.

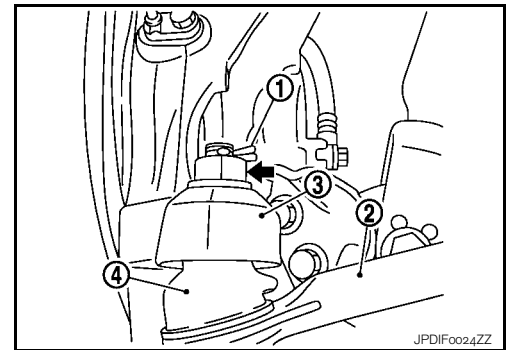
Steering Knuckle

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

CAUTION:

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

4. Remove transverse link from steering knuckle.
5. Remove steering knuckle from strut assembly.
6. Remove steering knuckle from vehicle.



INSTALLATION

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

- Under unladen conditions perform the final tightening of each parts removed when removing wheel hub and bearing assembly and steering knuckle.

Inspection

INFOID:000000000970483

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-6. "Inspection"](#) and [ST-16. "Inspection"](#).

INSPECTION AFTER INSTALLATION

- Check the wheel alignment. Refer to [FSU-7. "Wheel Alignment Inspection"](#).
- Adjust neutral position of steering angle sensor after checking the wheel alignment. Refer to [BRC-78. "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement"](#) (with ESP).

FRONT DRIVE SHAFT BOOT

< ON-VEHICLE REPAIR >

[2WD]

FRONT DRIVE SHAFT BOOT

Exploded View

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Refer to [FAX-15. "HR16DE MODELS : Exploded View"](#) (HR16DE models), [FAX-22. "MR20DE MODELS : Exploded View"](#) (MR20DE models), [FAX-31. "K9K MODELS : Exploded View"](#) (K9K models).

Replacement

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WHEEL SIDE

1. Remove tires from vehicle.
2. Remove wheel sensor from steering knuckle. Refer to [BRC-67. "FRONT WHEEL SENSOR : Exploded View"](#) (with ABS), [BRC-172. "FRONT WHEEL SENSOR : Exploded View"](#) (with ESP).

CAUTION:

Never pull on wheel sensor harness.

3. Remove lock plate from strut assembly. Refer to [BR-19. "FRONT BRAKE \(WITH ABS\) : Exploded View"](#) (LHD with ABS), [BR-21. "FRONT BRAKE \(WITH ESP\) : Exploded View"](#) (LHD with ESP), [BR-63. "FRONT BRAKE \(WITH ABS\) : Exploded View"](#) (RHD with ABS), [BR-65. "FRONT BRAKE \(WITH ESP\) : Exploded View"](#) (RHD with ESP).
4. Remove torque member mounting bolts. Hang torque member not to interfere with work. Refer to [BR-37. "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (LHD), [BR-81. "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (RHD).

CAUTION:

Never depress brake pedal while brake caliper is removed.

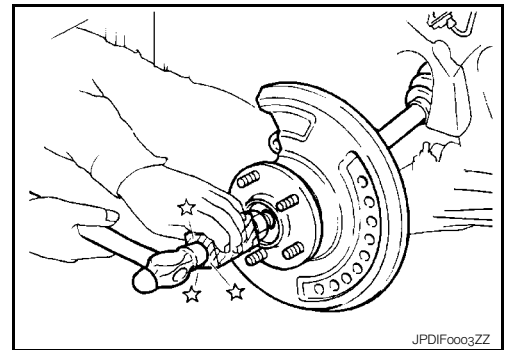
5. Remove disc rotor.
6. Remove cotter pin, and then loosen hub lock nut.
7. Patch hub lock nut with a piece of wood. Hammer the wood to disengage wheel hub and bearing assembly from drive shaft. Remove the hub lock nut.

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 drive shaft cannot be separated even after performing the above procedure.

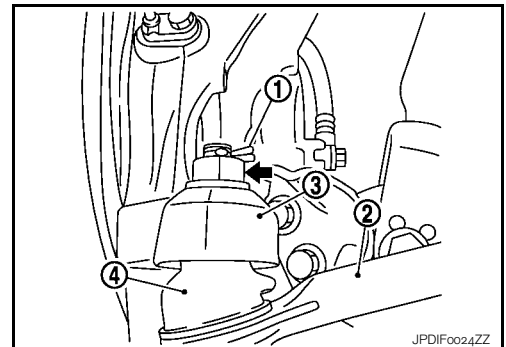


8. Remove cotter pin (1) of steering outer socket, and then loosen the nut.
9. Remove steering outer socket (2) from steering knuckle (3) so as not to damage ball joint boot (4) using the ball joint remover.

CAUTION:

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

10. Remove transverse link from steering knuckle.
11. Remove drive shaft from wheel hub and bearing assembly.
12. Remove boot bands, and then remove boot from joint sub-assembly.



FRONT DRIVE SHAFT BOOT

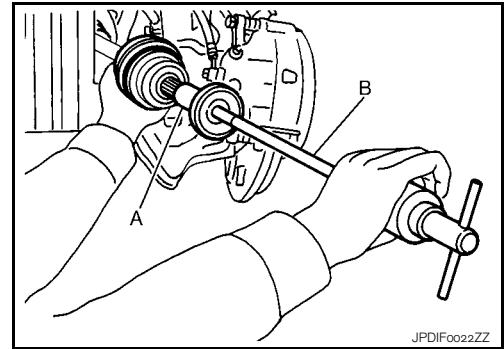
< ON-VEHICLE REPAIR >

[2WD]

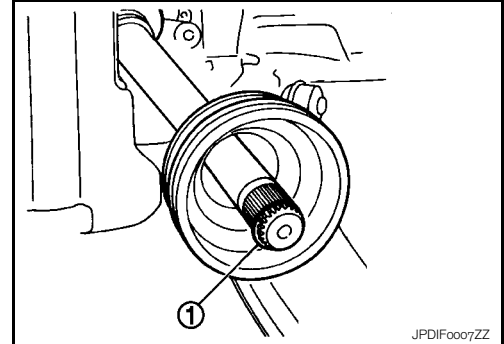
13. Screw a drive shaft puller (A) into joint sub-assembly screw part to a length of 30 mm (1.18 in) or more. Support drive shaft with one hand and pull out joint sub-assembly with a sliding hammer (B) from shaft.

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.



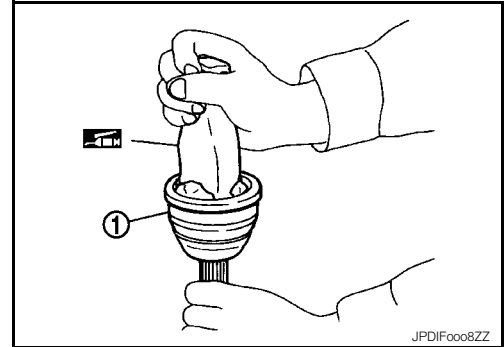
14. Remove circular clip (1) from shaft.
15. Remove boot from shaft.
16. Clean the old grease on joint sub-assembly with paper towels.



17. 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 shop cloth to wipe off old grease that has oozed out.

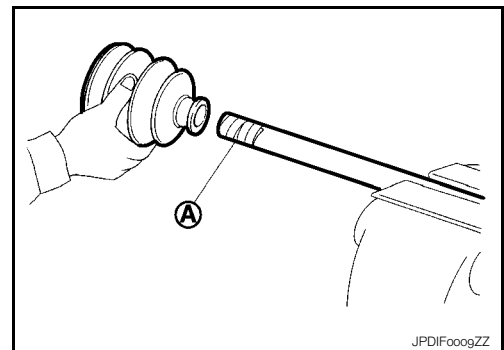


18. Wrap serration on shaft with tape (A) to protect the boot from damage. Install boot and boot bands to shaft.

CAUTION:

Never reuse boot and boot band.

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



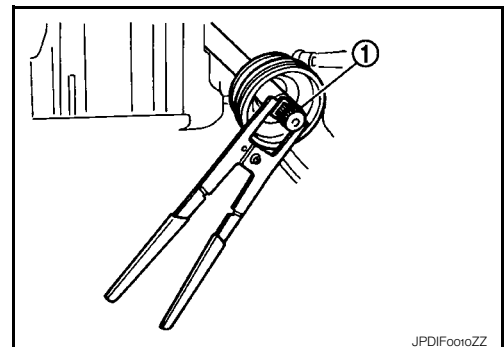
20. Position the circular clip (1) on groove at the shaft edge.

CAUTION:

Never reuse circular clip.

NOTE:

Drive joint inserter is recommended when installing circular clip.



FRONT DRIVE SHAFT BOOT

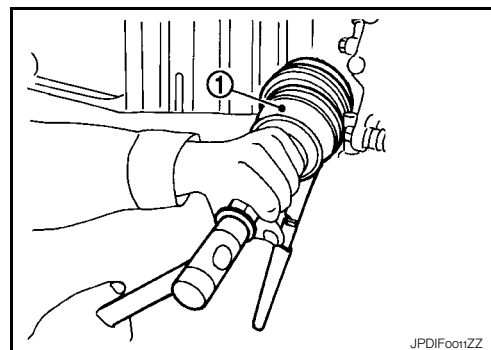
< ON-VEHICLE REPAIR >

[2WD]

21. Align both center axes of the shaft edge and joint sub-assembly. Then assemble shaft with circular clip joint sub-assembly.
22. Install joint sub-assembly (1) to shaft using plastic hammer.
CAUTION:
Confirm that joint sub-assembly is correctly engaged while rotating drive shaft.
23. Apply the balance of the specified amount of grease into the boot inside from large diameter side of boot.

Standard

Grease amount : Refer to [FAX-40, "Drive Shaft"](#).



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

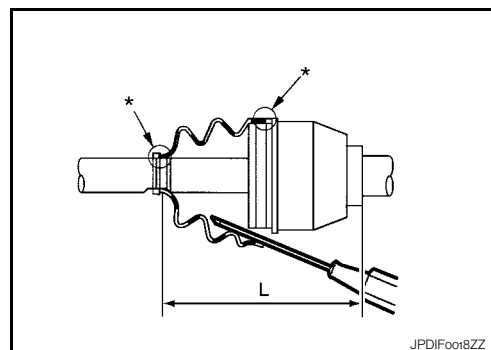
CAUTION:

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

25. To prevent from the deformation of the boot, adjust the boot installation length to the specified value shown below (L) 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-40, "Drive Shaft"](#).

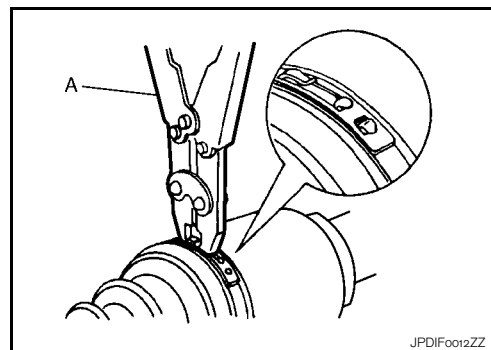


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CAUTION:

- If the boot mounting length exceeds the standard, it may cause breakage in the boot.
- Be careful not to touch the inside of the boot with a tip of tool.

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



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NOTE:

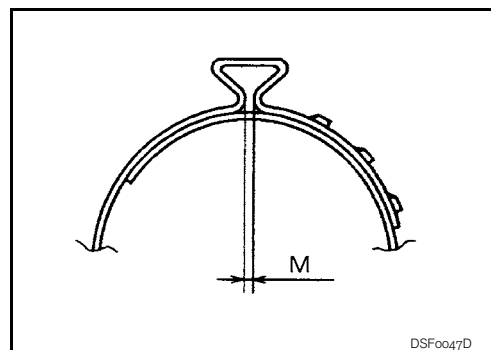
Secure boot band so that dimension (M) meets the specification as shown in the figure.

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

27. Secure joint sub-assembly and shaft, and then make sure that they are in the correct position when rotating boot. Install them with boot band when boot installation positions become incorrect.
28. Insert drive shaft to wheel hub and bearing assembly, and then temporarily tighten hub lock nut.

CAUTION:

The drive shaft is press-fit. When assembling the shaft, never press it, but pull it until fully seated by tightening the hub lock nut.



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FRONT DRIVE SHAFT BOOT

< ON-VEHICLE REPAIR >

[2WD]

29. Install transverse to steering knuckle. Refer to [FSU-12, "Exploded View"](#).
30. Install steering outer socket to steering knuckle. Refer to [ST-13, "Exploded View"](#).
31. Install disc rotor.
32. Install torque member to steering knuckle. Refer to [BR-37, "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (LHD), [BR-81, "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (RHD).
33. Install lock plate to strut assembly. Refer to [BR-19, "FRONT BRAKE \(WITH ABS\) : Exploded View"](#) (LHD with ABS), [BR-21, "FRONT BRAKE \(WITH ESP\) : Exploded View"](#) (LHD with ESP), [BR-63, "FRONT BRAKE \(WITH ABS\) : Exploded View"](#) (RHD with ABS), [BR-65, "FRONT BRAKE \(WITH ESP\) : Exploded View"](#) (RHD with ESP).
34. Install wheel sensor to steering knuckle. Refer to [BRC-67, "FRONT WHEEL SENSOR : Exploded View"](#) (with ABS), [BRC-172, "FRONT WHEEL SENSOR : Exploded View"](#) (with ESP).
35. Tighten the hub lock nut to the specified torque. Refer to [FAX-7, "Exploded View"](#).
36. Install cotter pin.
CAUTION:
 - **Never reuse cotter pin.**
 - **Bend cotter pin at the root sufficiently to prevent any looseness.**
37. Install tires to vehicle.

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[2WD]

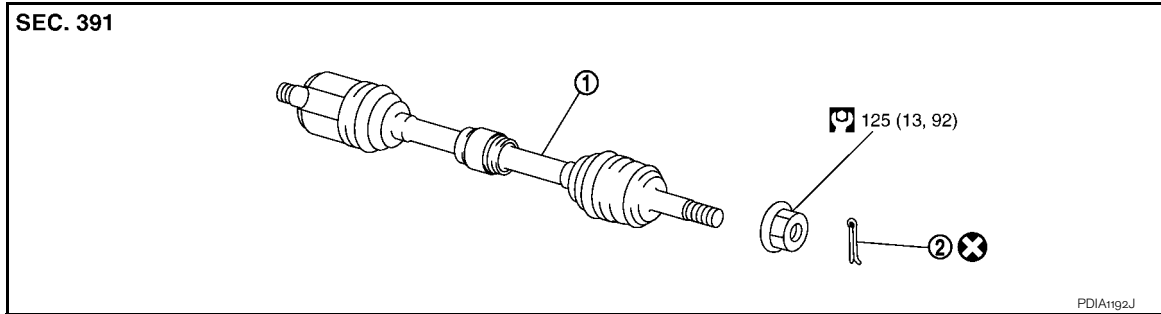
FRONT DRIVE SHAFT HR16DE MODELS

HR16DE MODELS : Exploded View

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REMOVAL

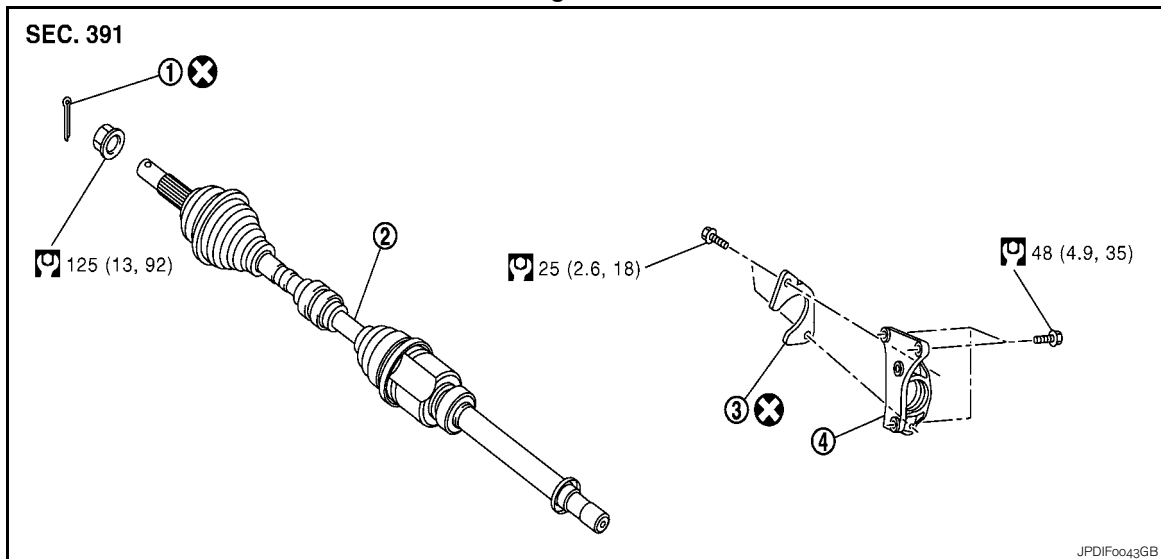
Left side



1. Drive shaft
2. Cotter pin

Refer to [GI-4, "Components"](#) for symbols in the figure.

Right side



1. Cotter pin
2. Drive shaft
3. Plate
4. Support bearing bracket

Refer to [GI-4, "Components"](#) for symbols in the figure.

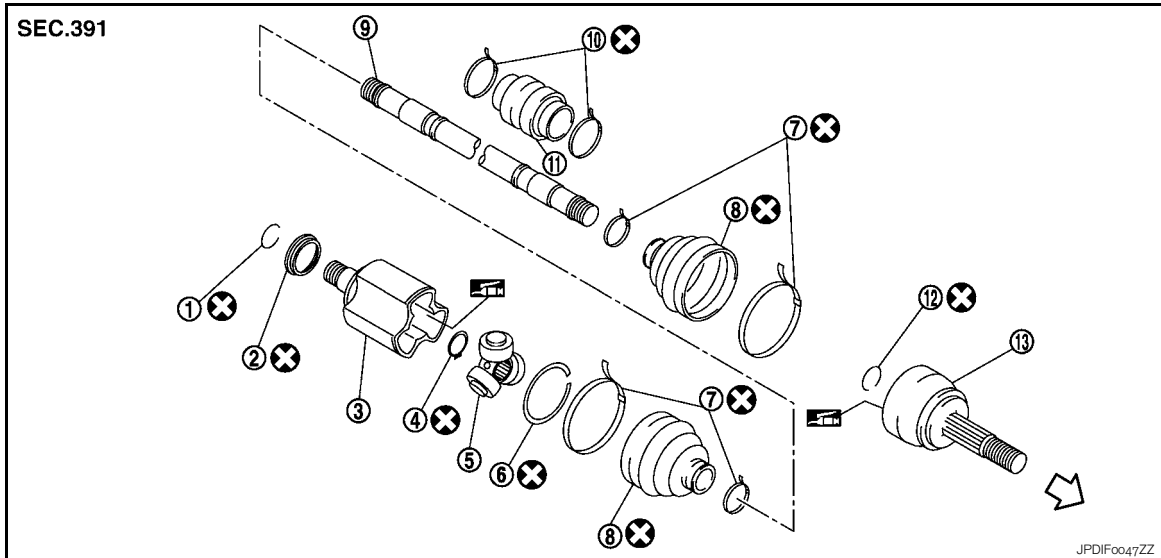
DISASSEMBLY

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[2WD]

Left side



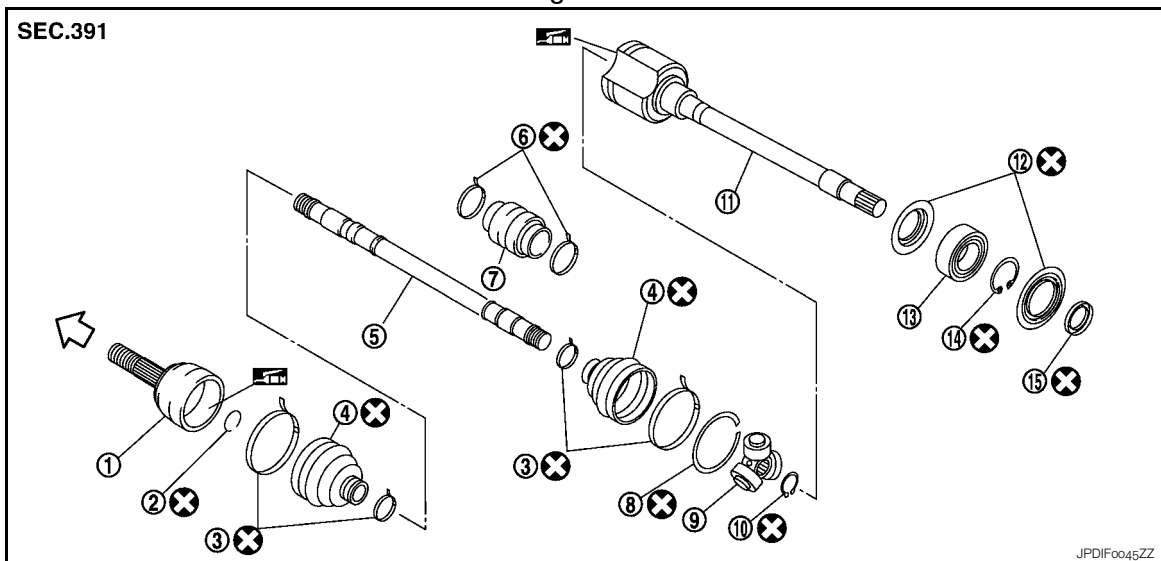
- | | | |
|------------------------|--------------------|-------------------|
| 1. Circular clip | 2. Dust shield | 3. Housing |
| 4. Snap ring | 5. Spider assembly | 6. Stopper ring |
| 7. Boot band | 8. Boot | 9. Shaft |
| 10. Damper band | 11. Dynamic damper | 12. Circular clip |
| 13. Joint sub-assembly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

← : Wheel side

: Fill NISSAN Genuine grease or equivalent.

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

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. Snap ring | 15. Dust shield |

← : Wheel side

: Fill NISSAN Genuine grease or equivalent.

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

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[2WD]

HR16DE MODELS : Removal and Installation

INFOID:000000000970487

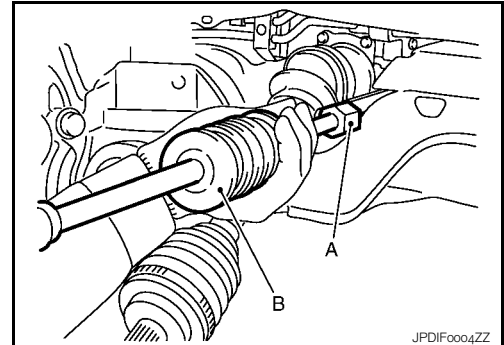
REMOVAL

Left Side

1. Refer to the procedure from 1 to 11 in [FAX-11. "Replacement"](#).
2. 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.



Right Side

1. Refer to the procedure from 1 to 11 in [FAX-11. "Replacement"](#).
2. Remove plate bolts and plate.
3. If necessary, remove the support bearing bracket 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

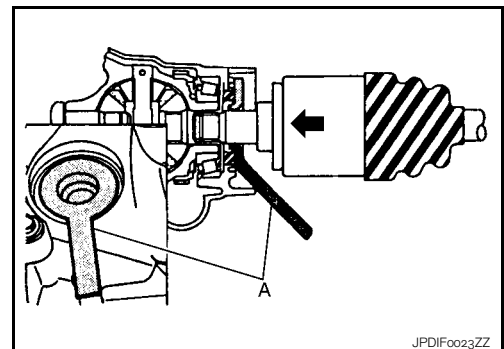
Left Side

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

- 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:

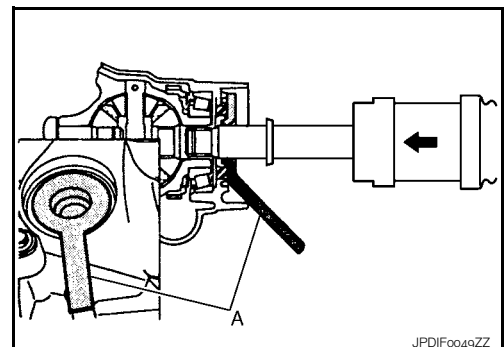
Make sure that circular clip is completely engaged.



Right Side

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

- 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.



FRONT DRIVE SHAFT

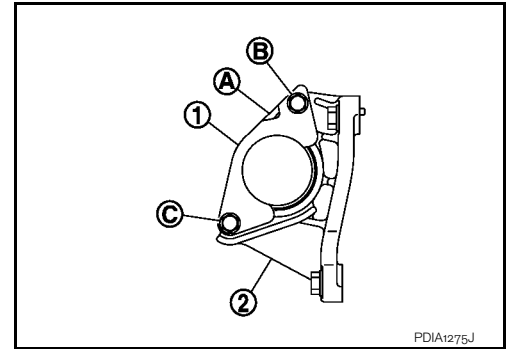
< ON-VEHICLE REPAIR >

[2WD]

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

CAUTION:

Never reuse plate.



HR16DE MODELS : Disassembly and Assembly

INFOID:000000000970488

DISASSEMBLY

Transaxle Assembly Side

- Fix shaft with a vise.

CAUTION:

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

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

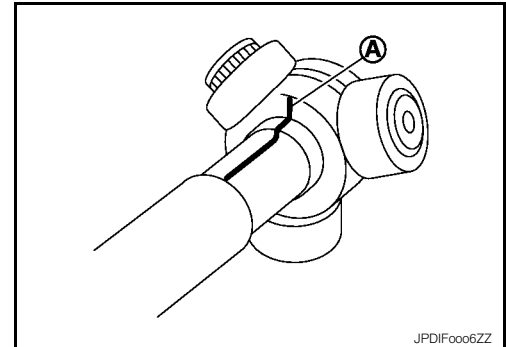
CAUTION:

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

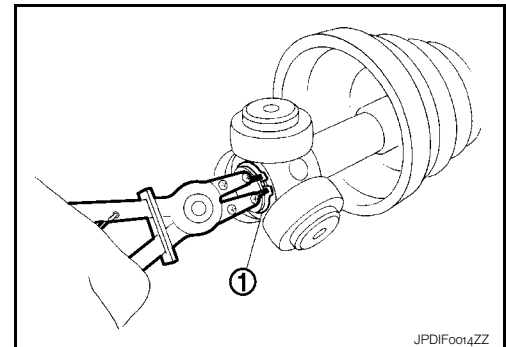
- Put matching marks (A) on the spider assembly and shaft.

CAUTION:

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



- Remove snap ring (1), and then remove spider assembly from shaft.
- Remove boot from shaft.
- Remove circular clip from shaft (left side).
- Remove dust shield from housing.
- Clean old grease on housing with paper towels.



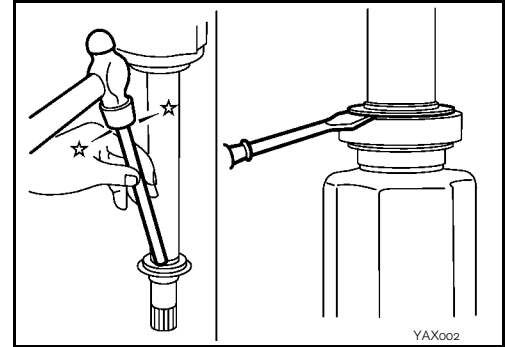
Support Bearing

FRONT DRIVE SHAFT

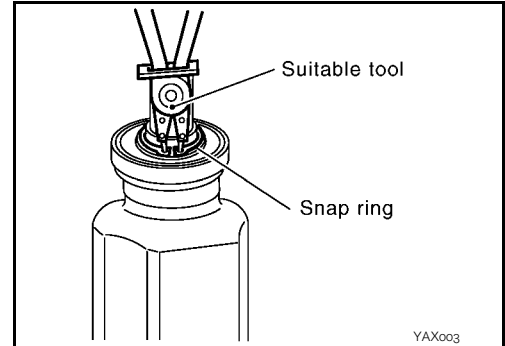
< ON-VEHICLE REPAIR >

[2WD]

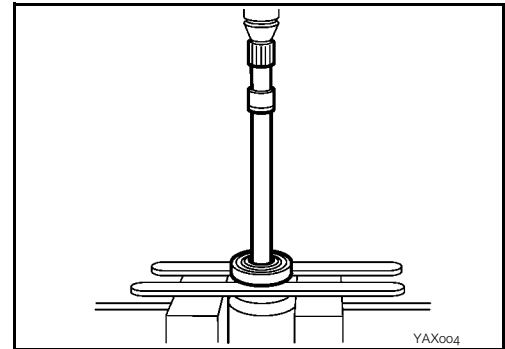
1. Remove dust shield from housing.



2. Remove snap ring.



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:

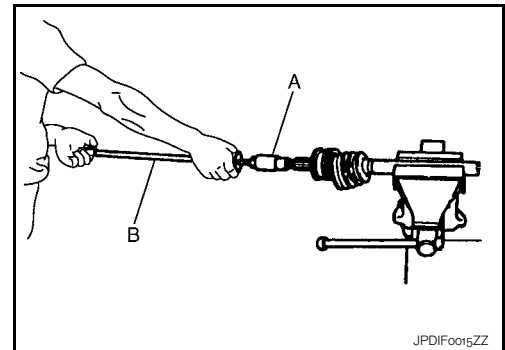
Protect shaft using aluminum or copper plates when fixing with a vise.

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 directory.

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



ASSEMBLY

FRONT DRIVE SHAFT

[2WD]

< ON-VEHICLE REPAIR >

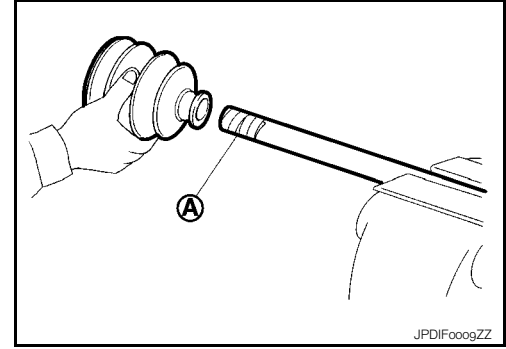
Transaxle Assembly Side

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

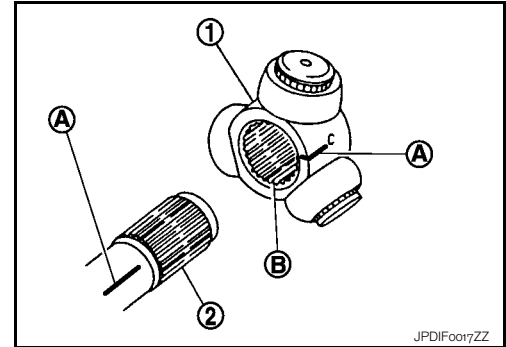
CAUTION:

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) during the removal, and direct the serration mounting surface (B) to the shaft.

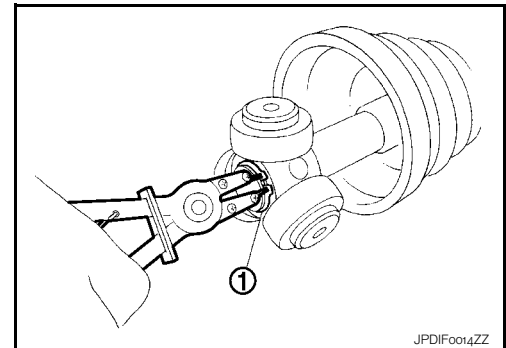


4. Secure spider assembly onto shaft with snap ring (1).

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 balance of the specified amount grease.



Standard

Grease amount : Refer to [FAX-40, "Drive Shaft"](#).

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

CAUTION:

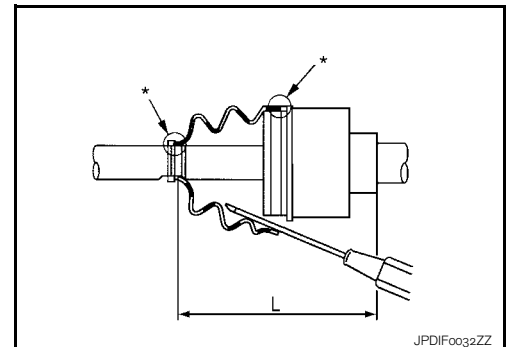
Never reuse stopper ring.

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

CAUTION:

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

10. To prevent from deformation of the boot, adjust the boot installation length to the value shown below (L) 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-40, "Drive Shaft"](#).

CAUTION:

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

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[2WD]

11. Install new larger and smaller boot bands securely.

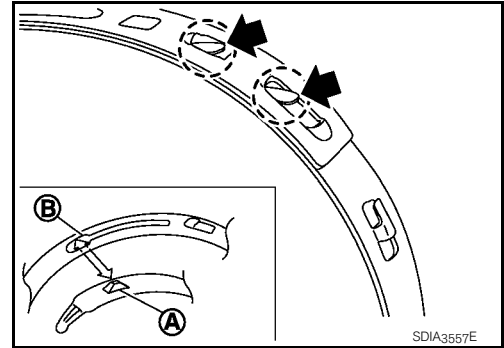
CAUTION:

Never reuse boot band.

12. Put boot band in the groove on drive shaft boot. Then fit pawls (↔) into holes to temporary installation.

NOTE:

For the large diameter side, fit projection (A) and guide slit (B) at first.



13. Pinch projection on the band with suitable pliers to tighten band.

14. Insert tip of band below end of the pawl.

15. 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.

16. Install circular clip to shaft (left side).

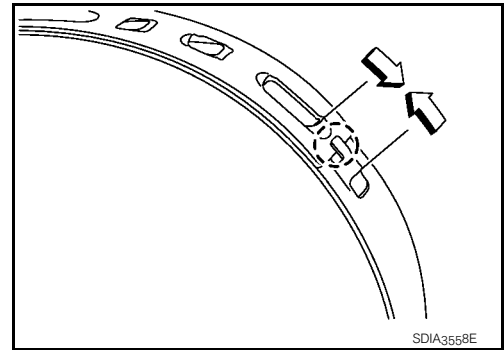
CAUTION:

Never reuse circular clip.

17. Install dust shield (left side).

CAUTION:

Never reuse dust shield.



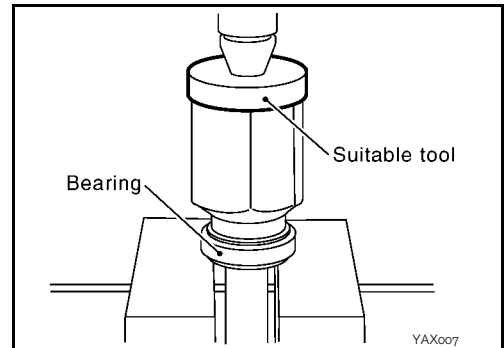
Support Bearing

1. Install dust shield on housing.

CAUTION:

Never reuse dust shield.

2. Press support bearing onto housing.



3. Install snap ring.

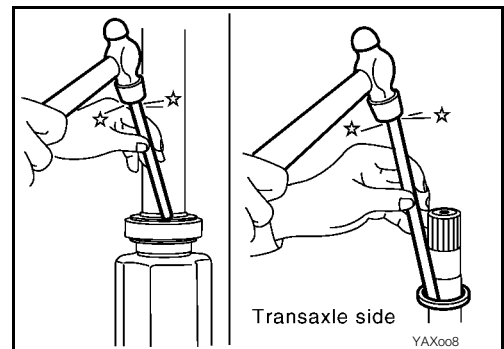
CAUTION:

Never reuse snap ring.

4. Install dust shields.

CAUTION:

Never reuse dust shields.



Dynamic Damper

A

B

C

FAX

E

F

G

H

I

J

K

L

M

N

O

P

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[2WD]

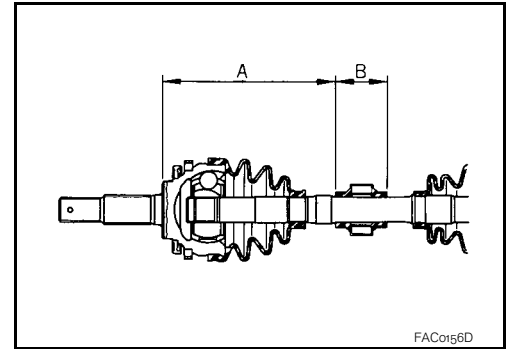
Secure dynamic damper with bands in the following specified position when removing.

CAUTION:

Never reuse bands.

Standard

Demission : [FAX-40, "Drive Shaft"](#).



Wheel Side

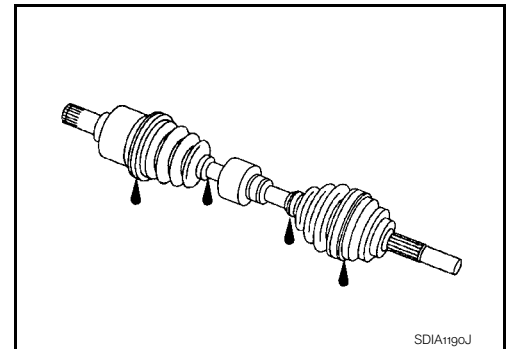
For further details, refer to the installation procedure of "[FAX-11, "Replacement"](#)" for the drive shaft boot.

HR16DE MODELS : Inspection

INFOID:000000000970489

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

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.

MR20DE MODELS

MR20DE MODELS : Exploded View

INFOID:0000000001080661

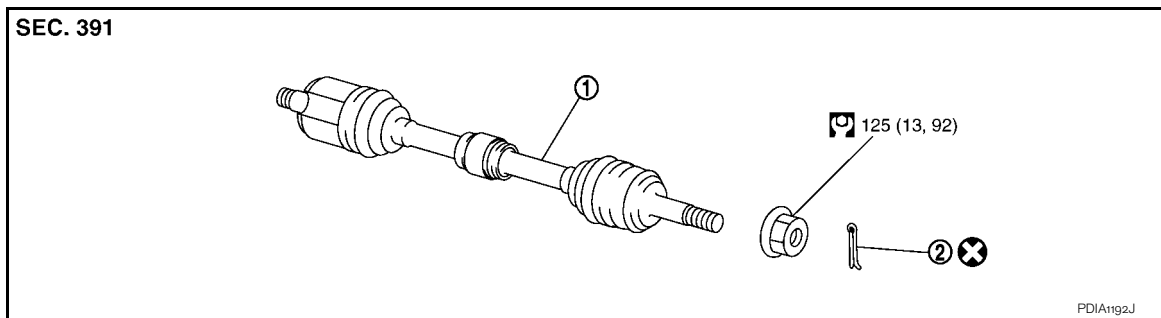
FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[2WD]

REMOVAL

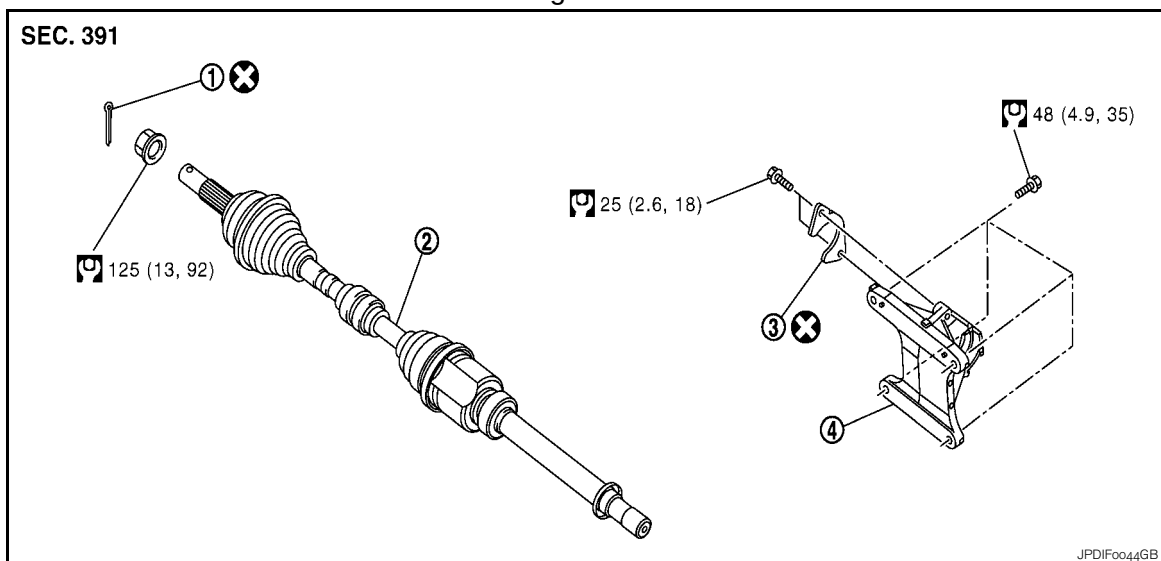
Left side



1. Drive shaft
2. Cotter pin

Refer to [GI-4, "Components"](#) for symbols in the figure.

Right side



1. Cotter pin
2. Drive shaft
3. Plate
4. Support bearing bracket

Refer to [GI-4, "Components"](#) for symbols in the figure.

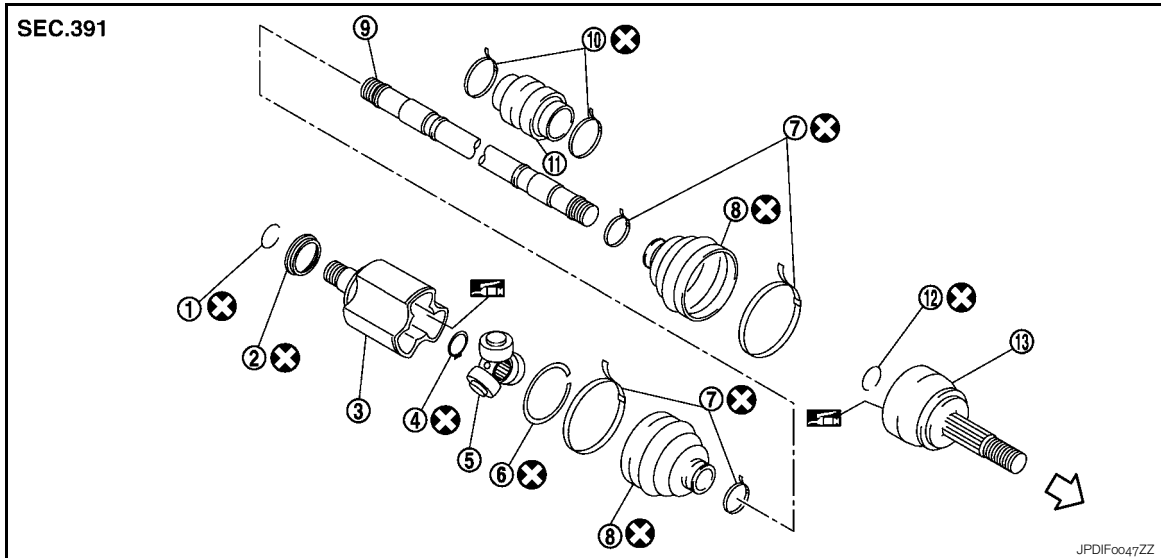
DISASSEMBLY

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[2WD]

Left side



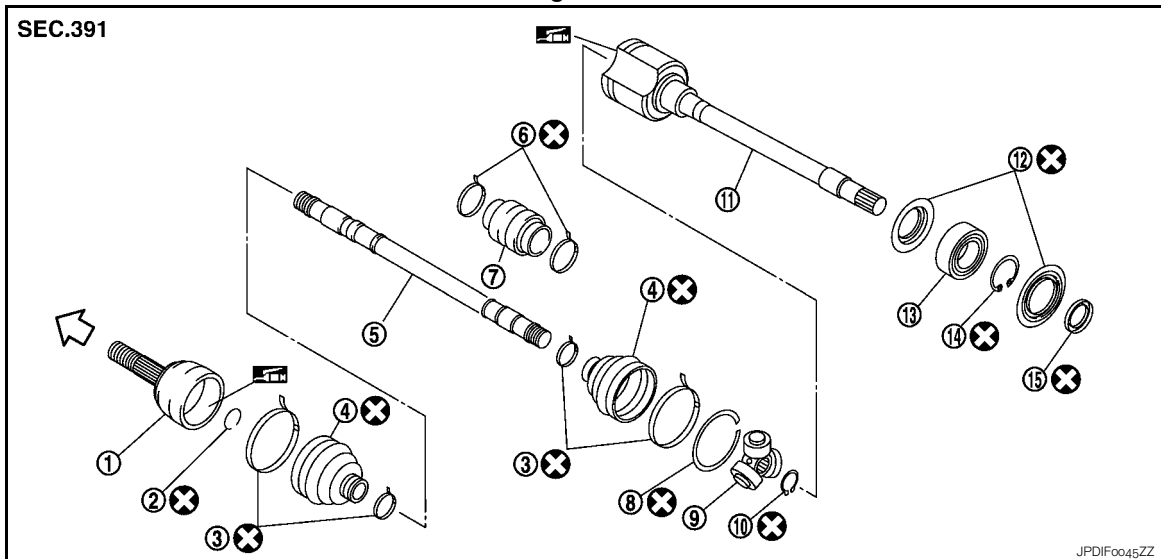
- | | | |
|------------------------|--------------------|-------------------|
| 1. Circular clip | 2. Dust shield | 3. Housing |
| 4. Snap ring | 5. Spider assembly | 6. Stopper ring |
| 7. Boot band | 8. Boot | 9. Shaft |
| 10. Damper band | 11. Dynamic damper | 12. Circular clip |
| 13. Joint sub-assembly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

← : Wheel side

: Fill NISSAN Genuine grease or equivalent.

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

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. Snap ring | 15. Dust shield |

← : Wheel side

: Fill NISSAN Genuine grease or equivalent.

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

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[2WD]

MR20DE MODELS : Removal and Installation

INFOID:000000001070380

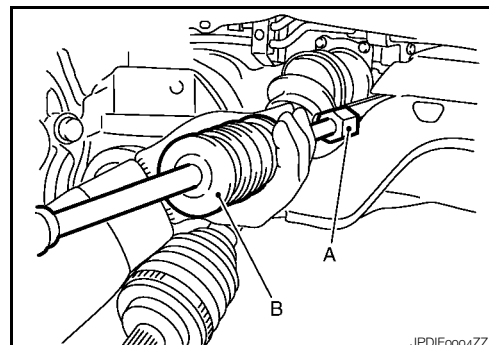
REMOVAL

Left Side

1. Refer to the procedure from 1 to 11 in [FAX-11. "Replacement"](#).
2. 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.



Right Side

1. Refer to the procedure from 1 to 11 in [FAX-11. "Replacement"](#).
2. Remove plate bolts and plate.
3. If necessary, remove the support bearing bracket 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.

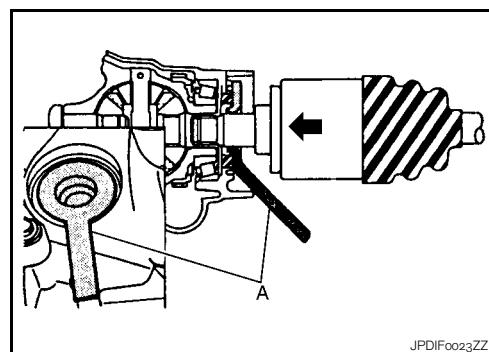
CAUTION:

Always replace differential side oil seal with new one when installing drive shaft. Refer to [TM-341. "2WD : Exploded View" \(CVT\)](#).

- 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:

Make sure that circular clip is completely engaged.



Right Side

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

CAUTION:

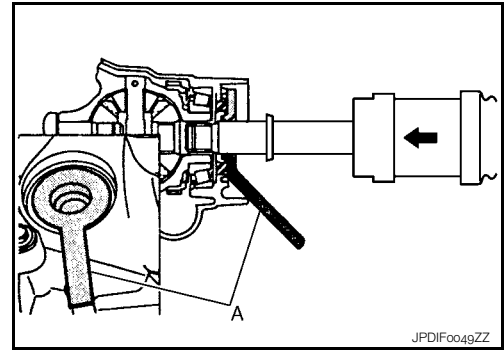
Always replace differential side oil seal with new one when installing drive shaft. Refer to [TM-341. "2WD : Exploded View" \(CVT\)](#).

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[2WD]

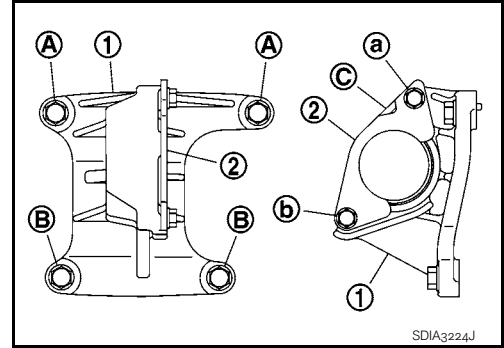
- Place the protector (A) (SST:KV38107900) onto transaxle assembly to prevent damage to the oil seal while inserting drive shaft. Slide drive shaft sliding joint and tap with a hammer to install securely.



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

CAUTION:

Never reuse plate.



MR20DE MODELS : Disassembly and Assembly

INFOID:000000001070381

DISASSEMBLY

Transaxle Assembly Side

- Fix shaft with a vise.

CAUTION:

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

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

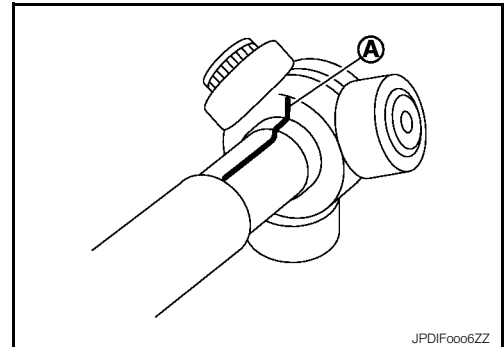
CAUTION:

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

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

CAUTION:

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

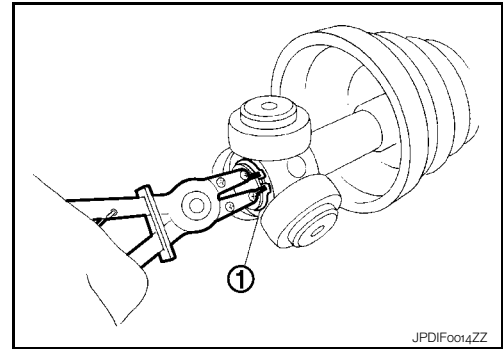


FRONT DRIVE SHAFT

[2WD]

< ON-VEHICLE REPAIR >

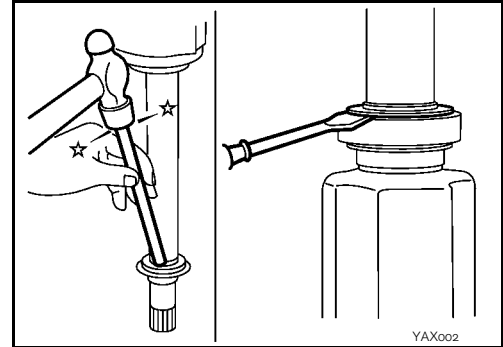
6. Remove snap ring (1), and then remove spider assembly from shaft.
7. Remove boot from shaft.
8. Remove circular clip from shaft (left side).
9. Remove dust shield from housing.
10. Clean old grease on housing with paper towels.



JPDIF0014ZZ

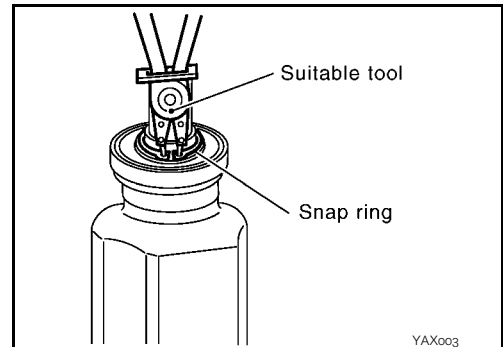
Support Bearing

1. Remove dust shield from housing.



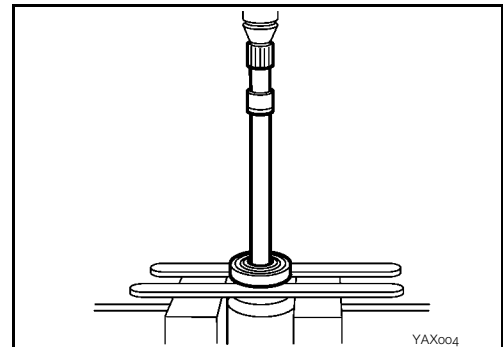
YAX002

2. Remove snap ring.



YAX003

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



YAX004

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.

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

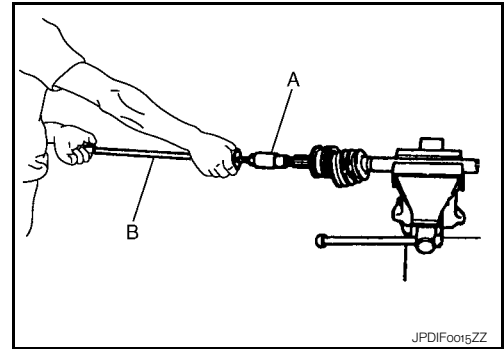
[2WD]

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 directory.

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



ASSEMBLY

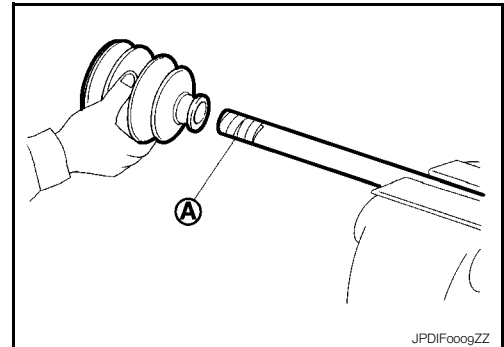
Transaxle Assembly Side

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

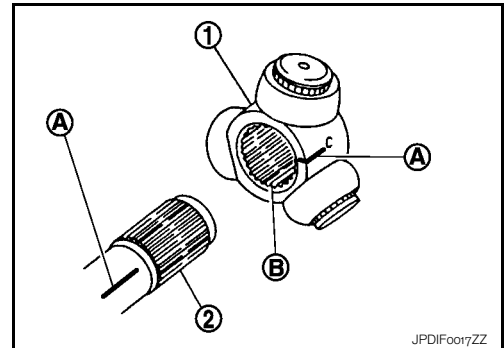
CAUTION:

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) 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 balance of the specified amount grease.

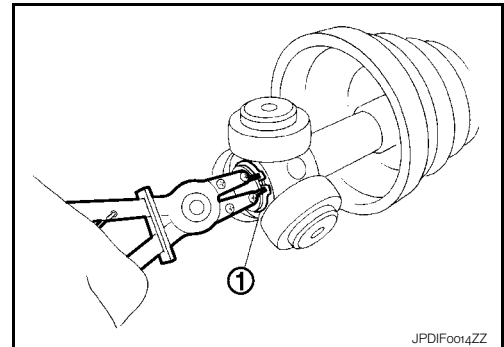
Standard

Grease amount : Refer to [FAX-40, "Drive Shaft"](#).

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

CAUTION:

Never reuse stopper ring.



FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

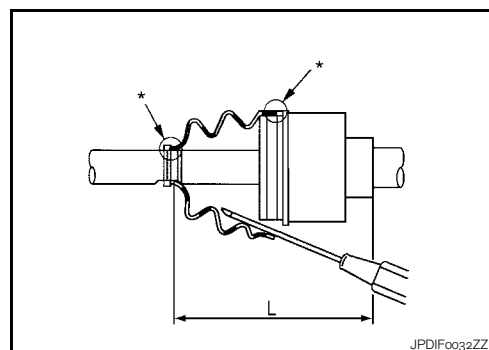
[2WD]

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

CAUTION:

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

- To prevent from deformation of the boot, adjust the boot installation length to the value shown below (L) 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-40, "Drive Shaft"](#).

CAUTION:

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

- Install new larger and smaller boot bands securely.

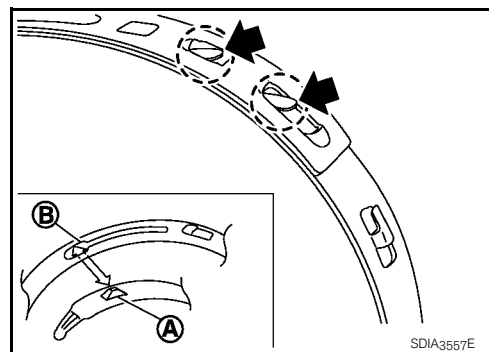
CAUTION:

Never reuse boot band.

- Put boot band in the groove on drive shaft boot. Then fit pawls (➡) into holes to temporary installation.

NOTE:

For the large diameter side, fit projection (A) and guide slit (B) at first.



- Pinch projection on the band with suitable pliers to tighten band.
- Insert tip of band below end of the pawl.
- 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.
- Install circular clip to shaft (left side).

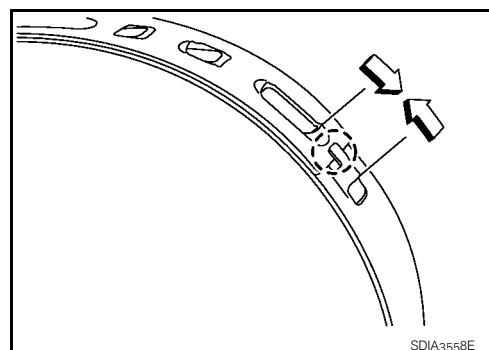
CAUTION:

Never reuse circular clip.

- Install dust shield (left side).

CAUTION:

Never reuse dust shield.



Support Bearing

- Install dust shield on housing.

CAUTION:

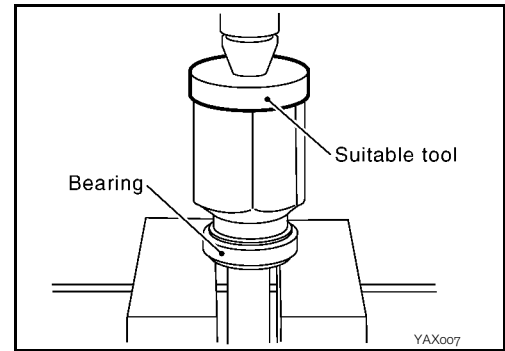
Never reuse dust shield.

FRONT DRIVE SHAFT

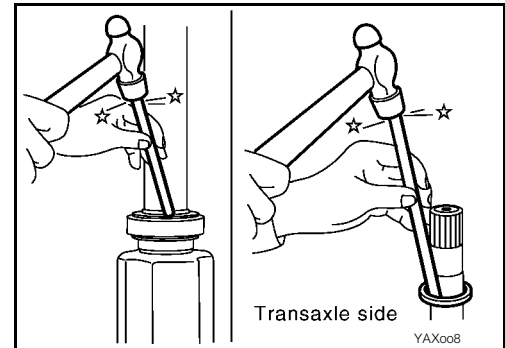
< ON-VEHICLE REPAIR >

[2WD]

2. Press support bearing onto housing.



3. Install snap ring.
CAUTION:
Never reuse snap ring.
4. Install dust shields.
CAUTION:
Never reuse dust shields.



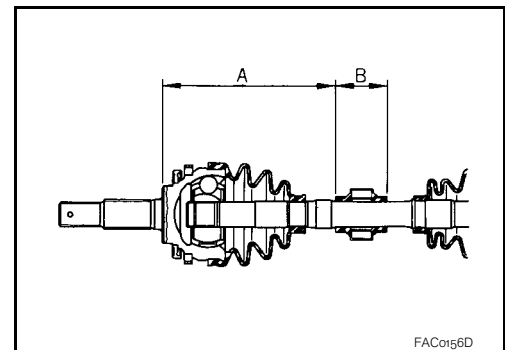
Dynamic Damper

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

CAUTION:
Never reuse bands.

Standard

Demission : [FAX-40, "Drive Shaft"](#).



Wheel Side

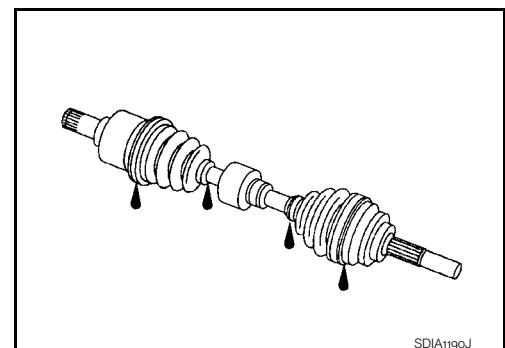
For further details, refer to the installation procedure of "[FAX-11, "Replacement"](#)" for the drive shaft boot.

MR20DE MODELS : Inspection

INFOID:000000001070382

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.



FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[2WD]

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)

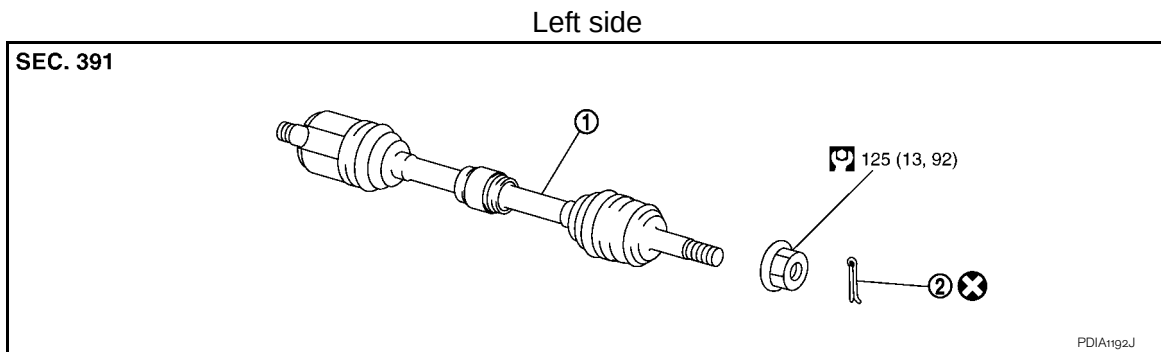
Check for bending, cracks, or damage. Replace support bearing bracket if there are any non-standard conditions.

K9K MODELS

K9K MODELS : Exploded View

INFOID:000000001070383

REMOVAL



1. Drive shaft

2. Cotter pin

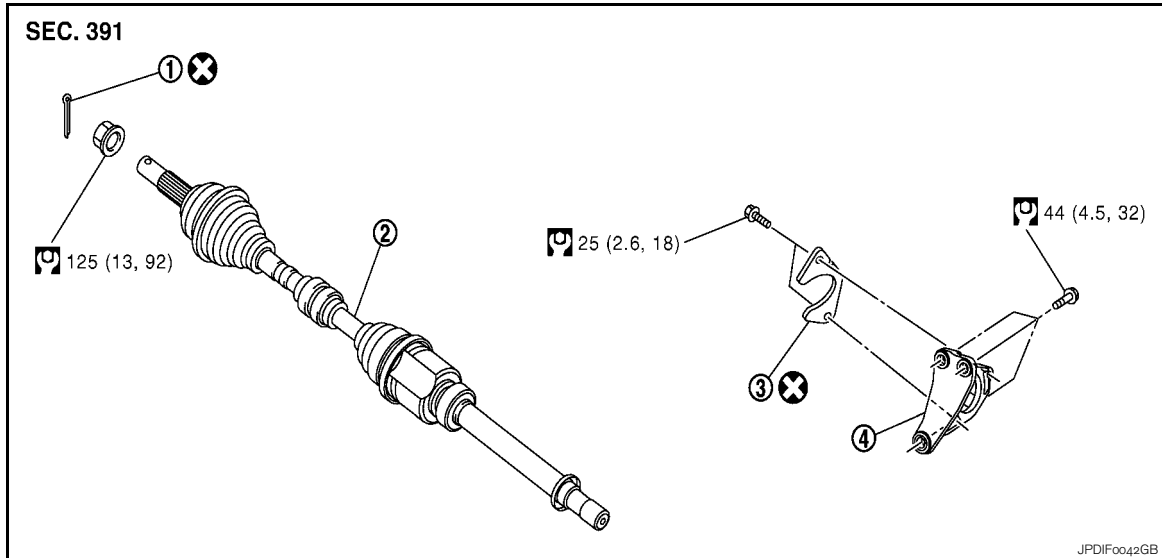
Refer to [GI-4, "Components"](#) for symbols in the figure.

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[2WD]

Right side

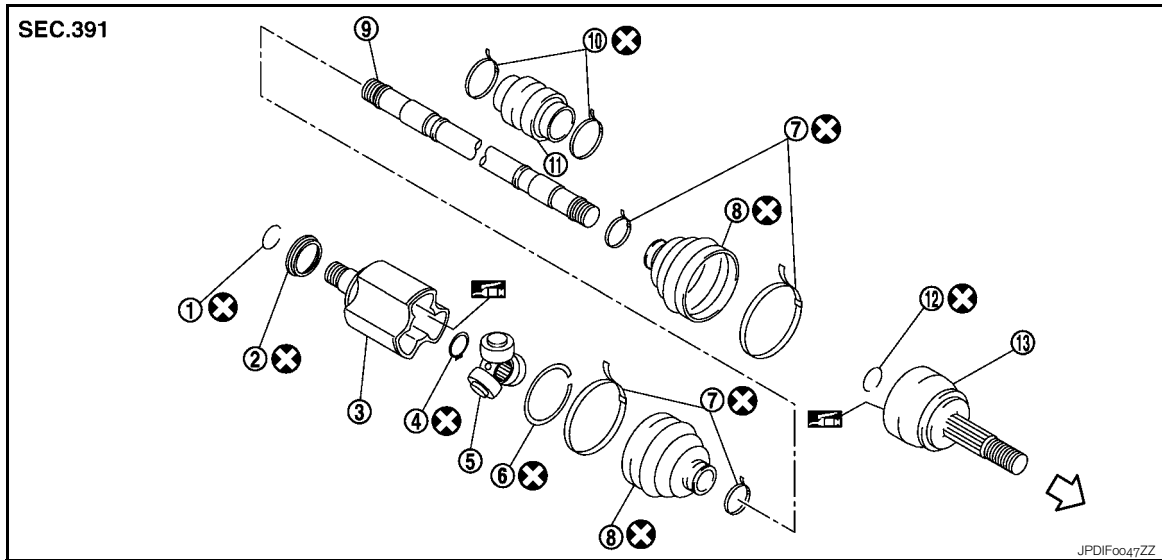


- | | | |
|----------------------------|----------------|----------|
| 1. Cotter pin | 2. Drive shaft | 3. Plate |
| 4. Support bearing bracket | | |

Refer to [GI-4, "Components"](#) for symbols in the figure.

DISASSEMBLY

Left side



- | | | |
|------------------------|--------------------|-------------------|
| 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. Circular clip |
| 13. Joint sub-assembly | | |

⇐ : Wheel side

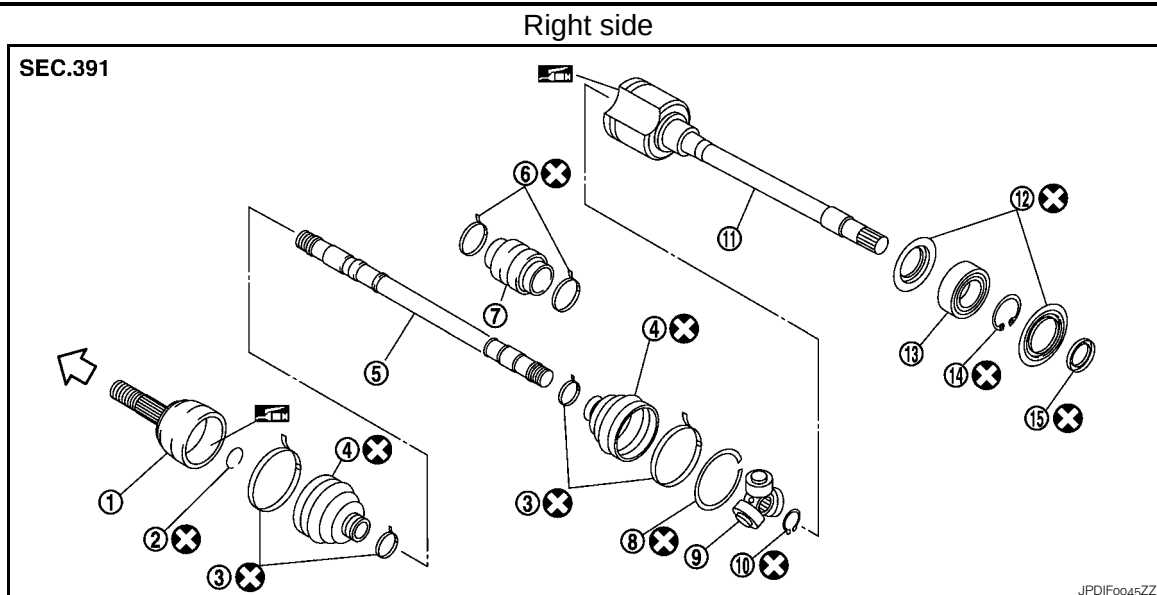
: Fill NISSAN Genuine grease or equivalent.

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

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[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. Snap ring | 15. Dust shield |

↩ : Wheel side

: Fill NISSAN Genuine grease or equivalent.

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

K9K MODELS : Removal and Installation

INFOID:000000001070384

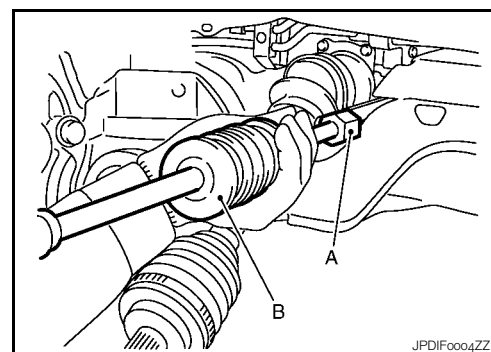
REMOVAL

Left Side

- Refer to the procedure from 1 to 11 in [FAX-11, "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.



Right Side

- Refer to the procedure from 1 to 11 in [FAX-11, "Replacement"](#).
 - Remove plate bolts and plate.
 - If necessary, remove the support bearing bracket bolts and the support bearing bracket.
 - 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.

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[2WD]

INSTALLATION

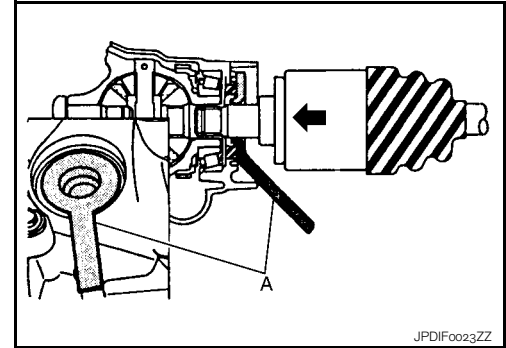
Left Side

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

- 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:

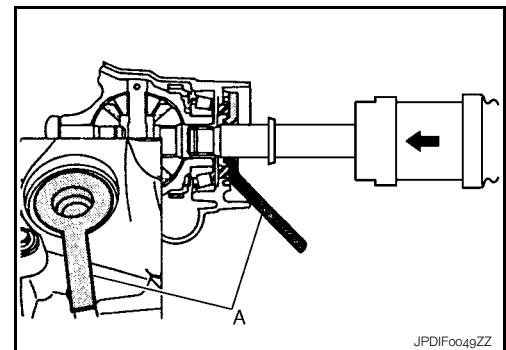
Make sure that circular clip is completely engaged.



Right Side

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

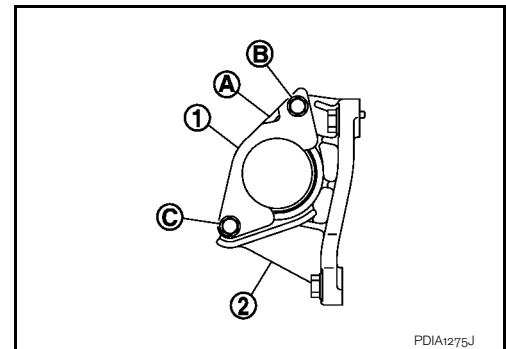
- Place the protector (A) (SST:KV38107900) onto transaxle assembly to prevent damage to the oil seal while inserting drive shaft. Slide drive shaft sliding joint and tap with a hammer to install securely.



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

CAUTION:

Never reuse plate.



K9K MODELS : Disassembly and Assembly

INFOID:0000000001070385

DISASSEMBLY

Transaxle Assembly Side

- Fix shaft with a vise.

CAUTION:

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

- Remove boot bands, and then remove boot from housing.
- Remove stopper ring.
- 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.

FRONT DRIVE SHAFT

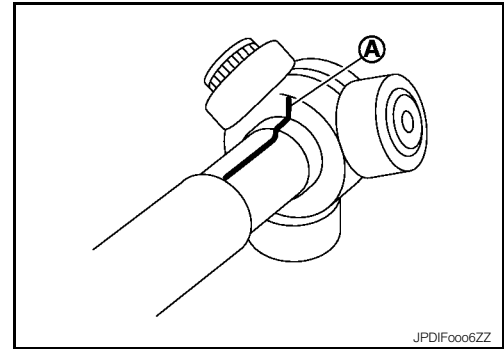
< ON-VEHICLE REPAIR >

[2WD]

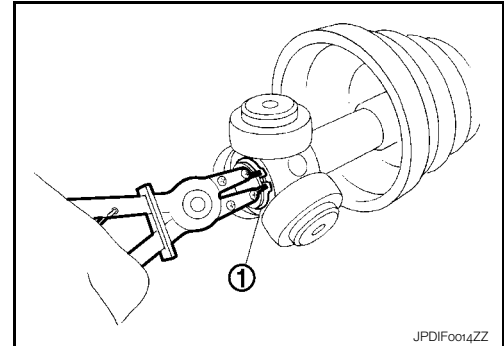
5. Put matching marks (A) on the spider assembly and shaft.

CAUTION:

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

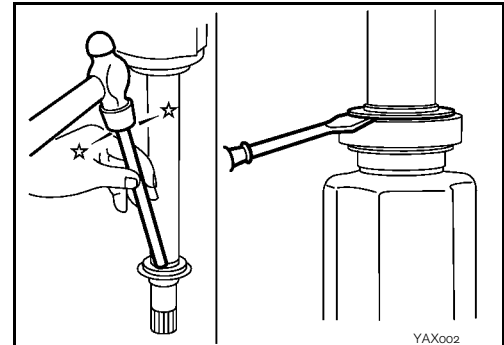


6. Remove snap ring (1), and then remove spider assembly from shaft.
7. Remove boot from shaft.
8. Remove circular clip from shaft (left side).
9. Remove dust shield from housing.
10. Clean old grease on housing with paper towels.

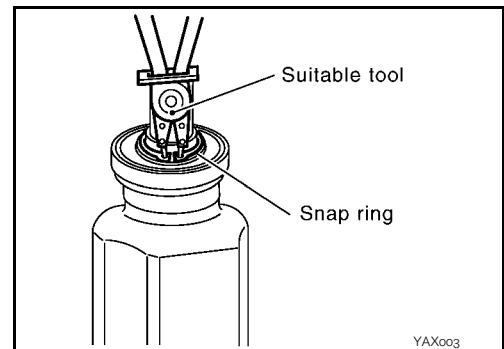


Support Bearing

1. Remove dust shield from housing.



2. Remove snap ring.

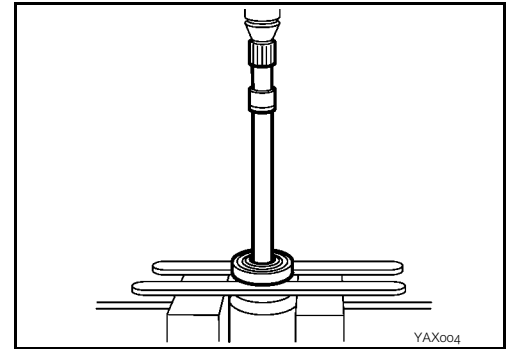


FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[2WD]

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:

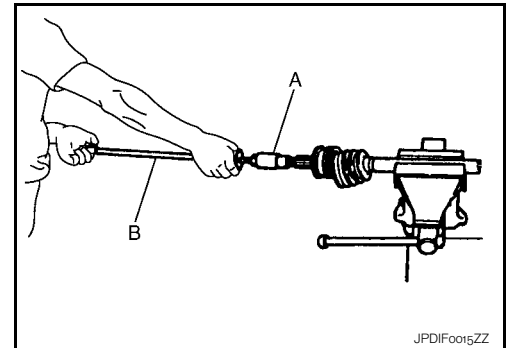
Protect shaft using aluminum or copper plates when fixing with a vise.

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 directly.

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



ASSEMBLY

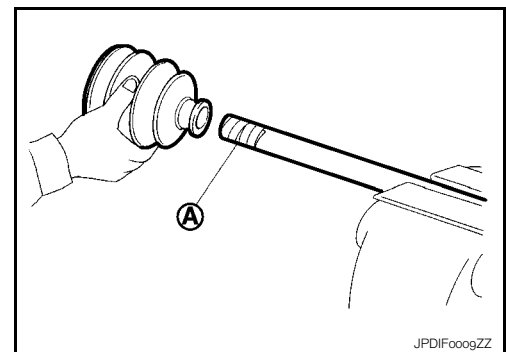
Transaxle Assembly Side

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

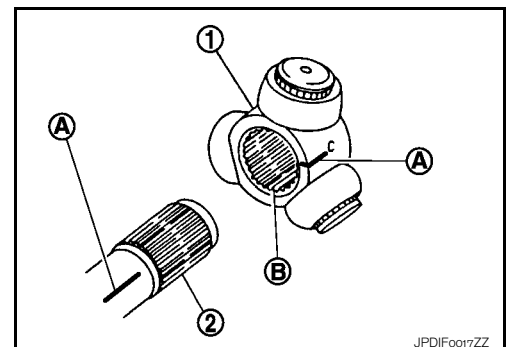
CAUTION:

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) during the removal, and direct the serration mounting surface (B) to the shaft.



FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[2WD]

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 balance of the specified amount grease.

Standard

Grease amount : Refer to [FAX-40, "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 (with "*" mark) on shaft or housing, boot may be removed. Remove all grease from the surface.

10. To prevent from deformation of the boot, adjust the boot installation length to the value shown below (L) 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-40, "Drive Shaft"](#).

CAUTION:

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

11. Install new larger and smaller boot bands securely.

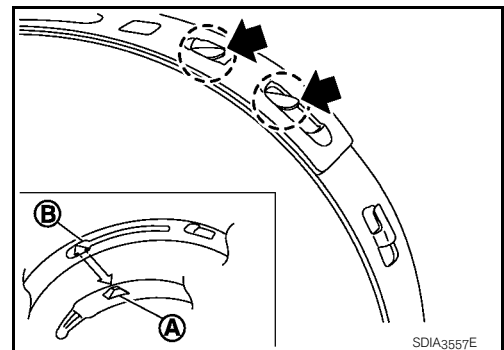
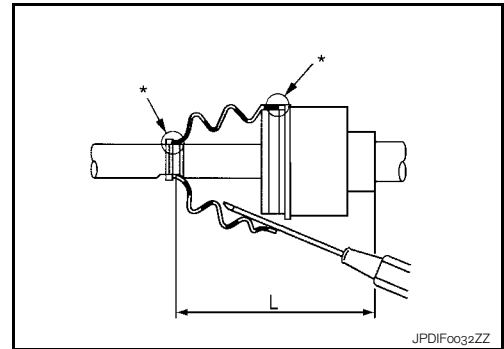
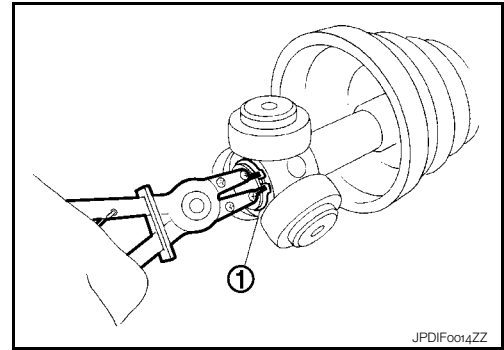
CAUTION:

Never reuse boot band.

12. Put boot band in the groove on drive shaft boot. Then fit pawls (➡) into holes to temporary installation.

NOTE:

For the large diameter side, fit projection (A) and guide slit (B) at first.



FRONT DRIVE SHAFT

[2WD]

< ON-VEHICLE REPAIR >

13. Pinch projection on the band with suitable pliers to tighten band.
14. Insert tip of band below end of the pawl.
15. 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.
16. Install circular clip to shaft (left side).

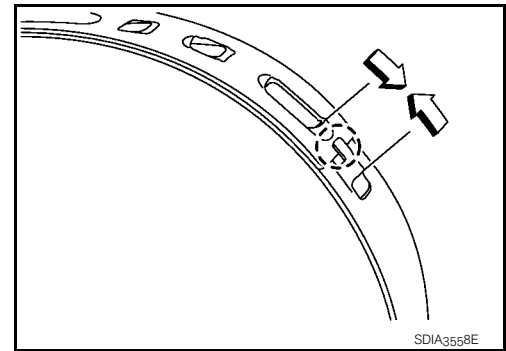
CAUTION:

Never reuse circular clip.

17. Install dust shield (left side).

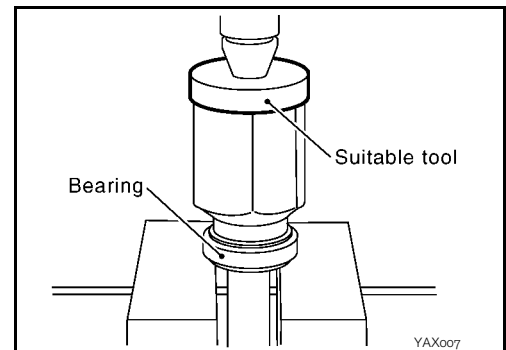
CAUTION:

Never reuse dust shield.

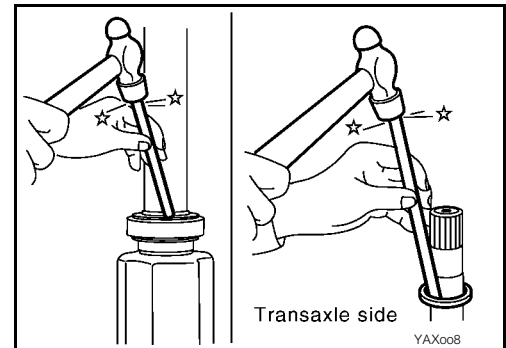


Support Bearing

1. Install dust shield on housing.
CAUTION:
Never reuse dust shield.
2. Press support bearing onto housing.



3. Install snap ring.
CAUTION:
Never reuse snap ring.
4. Install dust shields.
CAUTION:
Never reuse dust shields.



Dynamic Damper

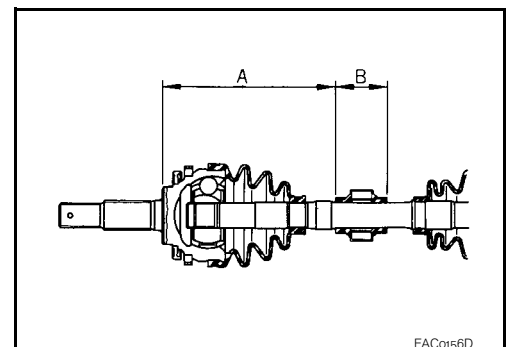
Secure dynamic damper with bands in the following specified position when removing.

CAUTION:

Never reuse bands.

Standard

Demission : [FAX-40, "Drive Shaft"](#).



Wheel Side

For further details, refer to the installation procedure of "[FAX-11, "Replacement"](#)" for the drive shaft boot.

K9K MODELS : Inspection

INFOID:000000001070386

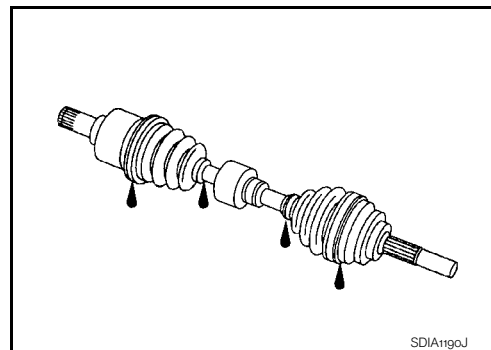
FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[2WD]

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

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.

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[2WD]

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Wheel Bearing

INFOID:000000000970490

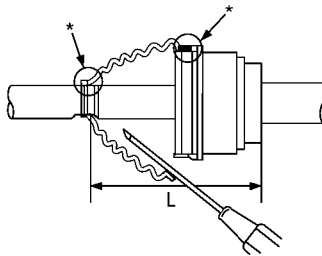
Axial end play	0.05 mm (0.002 in) or less
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Drive Shaft

INFOID:000000000970491

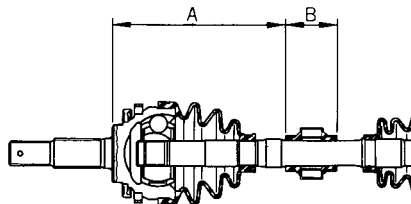
HR16DE

Joint		Wheel side	Transaxle assembly side
Grease quantity	Left side	100 – 120 g (3.53 – 4.23 oz)	155 – 175 g (5.47 – 6.17 oz)
	Right side		
Boots installed length (L)	Left side	131 mm (5.16 in)	172.4 mm (6.79 in)
	Right side		



JPDIF0031ZZ

Dynamic damper		A	B
Dimension	Left side	287 – 291 mm (11.30 – 11.46 in)	70 mm (2.76 in)
	Right side		



FAC0156D

MR20DE

M/T models

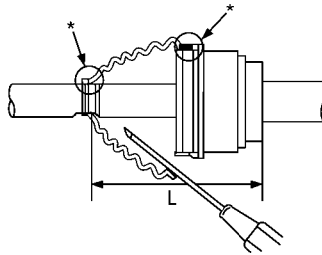
Joint		Wheel side	Transaxle assembly side
Grease quantity	Left side	115 – 135 g (4.06 – 4.76 oz)	95 – 105 g (3.35 – 3.70 oz)
	Right side		113 – 123 g (3.99 – 4.34 oz)

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

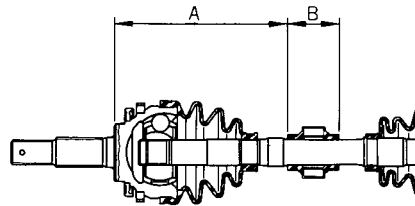
[2WD]

Boots installed length (L)	Left side	133.5 mm (5.26 in)	185.6 mm (7.31 in)
	Right side		177.6 mm (6.99 in)



JPDIFoog1ZZ

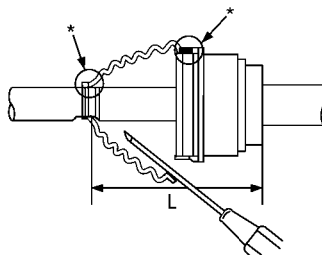
Dynamic damper		A	B
Dimension	Left side	269 – 273 mm (10.59 – 10.75 in)	70 mm (2.76 in)
	Right side		



FACot56D

CVT models

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)	185.6 mm (7.31 in)
	Right side		177.6 mm (6.99 in)



JPDIFoog1ZZ

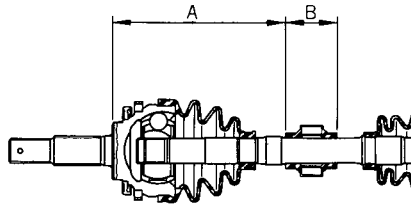
Dynamic damper		A	B
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SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[2WD]

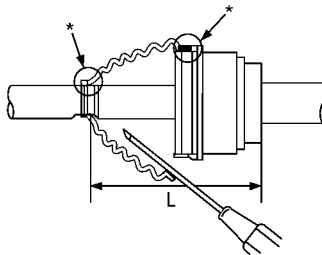
Dimension	Left side	282 – 286 mm (11.10 – 11.26 in)	70 mm (2.76 in)
	Right side		



FAC0156D

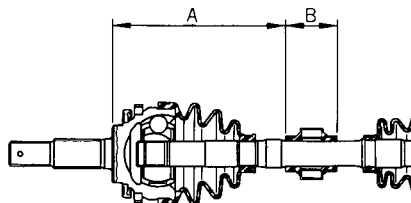
K9K

Joint		Wheel side	Transaxle assembly side
Grease quantity	Left side	115 – 135 g (4.06 – 4.76 oz)	215 – 235 g (7.58 – 8.29 oz)
	Right side		
Boots installed length (L)	Left side	133.5 mm (5.26 in)	186.3 mm (7.33 in)
	Right side		173.1 mm (6.81 in)



JPDIF0031ZZ

Dynamic damper		A	B
Dimension	Left side	281 – 285 mm (11.06 – 11.22 in)	70 mm (2.76 in)
	Right side		



FAC0156D

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

< SYMPTOM DIAGNOSIS >

[4WD]

SYMPTOM DIAGNOSIS

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

INFOID:000000001080607

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

Reference page			—	FAX-62	—	FAX-49	—	FAX-47	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	TIRES	ROAD WHEELS	DRIVE SHAFT	BRAKES	STEERING
Symptom	DRIVE SHAFT	Noise	×	×				×	×	×	×	×		×	×
		Shake	×		×			×	×	×	×	×		×	×
	FRONT AXLE	Noise				×	×	×	×		×	×	×	×	×
		Shake				×	×	×	×		×	×	×	×	×
		Vibration				×	×	×	×		×		×		×
		Shimmy				×	×		×		×	×		×	×
		Judder				×			×		×	×		×	×
		Poor quality ride or handling				×	×		×		×	×			

×: Applicable

A
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J
K
L
M
N
O
P

FAX

cardiagn.com

PRECAUTION

PRECAUTIONS

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

INFOID:000000001080608

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 SRC and SB section of this Service Manual.

WARNING:

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

Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:000000001099698

NOTE:

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYSTEM).
- Remove and install all control units after disconnecting both battery cables with the ignition knob in the "LOCK" position.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work. If DTC is detected, perform trouble diagnosis according to self-diagnostic results.

For models equipped with the Intelligent Key system and NATS, an electrically controlled steering lock mechanism is adopted on the key cylinder.

For this reason, if the battery is disconnected or if the battery is discharged, the steering wheel will lock and steering wheel rotation will become impossible.

If steering wheel rotation is required when battery power is interrupted, follow the procedure below before starting the repair operation.

OPERATION PROCEDURE

1. Connect both battery cables.

NOTE:

Supply power using jumper cables if battery is discharged.

2. Use the Intelligent Key or mechanical key to turn the ignition switch to the "ACC" position. At this time, the steering lock will be released.
3. Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
4. Perform the necessary repair operation.
5. When the repair work is completed, return the ignition switch to the "LOCK" position before connecting the battery cables. (At this time, the steering lock mechanism will engage.)
6. Perform a self-diagnosis check of all control units using CONSULT-III.

Precautions for Drive Shaft

INFOID:000000001117164

CAUTION:

Note the following precautions when disassembling and assembling drive shaft.

- Joint sub-assembly does not disassemble because it is non-overhaul parts.

PRECAUTIONS

< PRECAUTION >

[4WD]

- Perform work in a dust-free location.
- Before disassembling and assembling, clean the parts.
- Prevent the entry of foreign objects during disassembly of the service location.
- Disassembled parts must be carefully reassembled in the correct order. If work is interrupted, a clean cover must be placed over parts.
- Paper shop cloths must be used. Fabric shop cloths must not be used because of the danger of lint adhering to parts.
- Disassembled parts (except for rubber parts) should be cleaned with kerosene which shall be removed by blowing with air or wiping with paper shop cloths.

A

B

C

FAX

E

F

G

H

I

J

K

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M

N

O

P

PREPARATION

< PREPARATION >

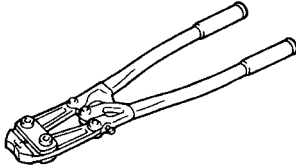
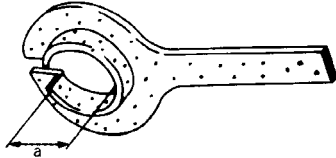
[4WD]

PREPARATION

PREPARATION

Special Service Tool

INFOID:000000001080612

Tool number Tool name	Description
KV40107300 Boot band crimping tool  ZZA1229D	Installing boot band
KV40107500 Drive shaft attachment  ZZA1230D	Removing drive shaft
KV38107900 Protector a: 32 mm (1.26 in) dia.  PDIA183J	Installing drive shaft

cardiagn.com

FRONT WHEEL HUB AND KNUCKLE

< ON-VEHICLE MAINTENANCE >

[4WD]

ON-VEHICLE MAINTENANCE

FRONT WHEEL HUB AND KNUCKLE

Exploded View

INFOID:0000000001080613

Refer to [FAX-49, "Exploded View"](#).

Inspection

INFOID:0000000001080614

MOUNTING INSPECTION

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

FAX

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-64, "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.

FRONT DRIVE SHAFT

< ON-VEHICLE MAINTENANCE >

[4WD]

FRONT DRIVE SHAFT

Inspection

INFOID:0000000001110135

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

CAUTION:

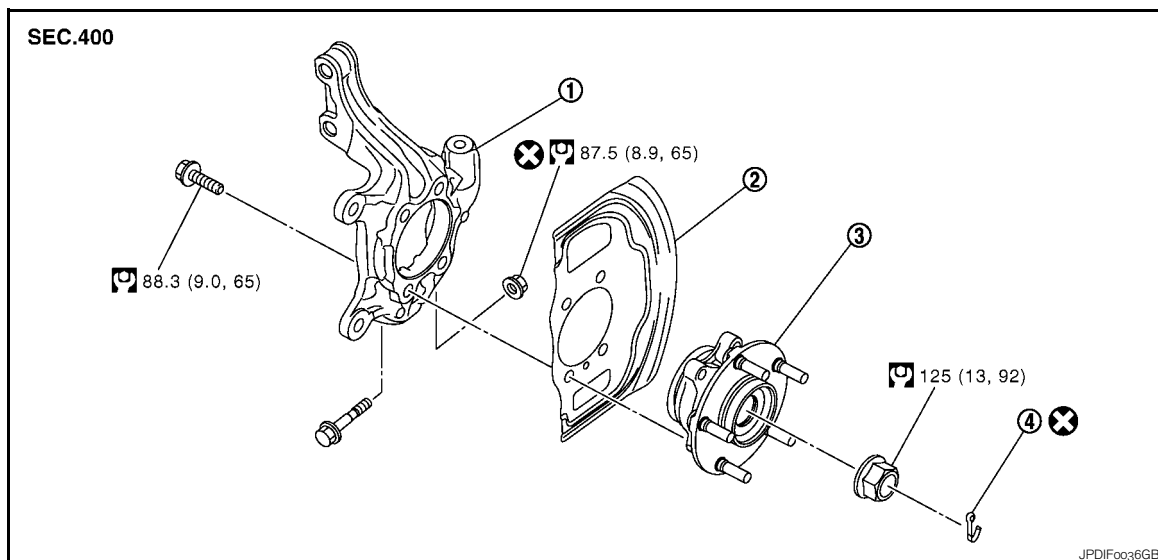
Replace entire drive shaft assembly when noise or vibration occur from drive shaft.

ON-VEHICLE REPAIR

FRONT WHEEL HUB AND KNUCKLE

Exploded View

INFOID:000000001080616



1. Steering knuckle
2. Splash guard
3. Wheel hub and bearing assembly
4. Cotter pin

Refer to [GI-4, "Components"](#) for symbols in the figure.

Removal and Installation

INFOID:000000001080660

REMOVAL

Wheel Hub and Bearing Assembly

1. Remove tires from vehicle.
2. Remove wheel sensor from steering knuckle. Refer to [BRC-67, "FRONT WHEEL SENSOR : Exploded View"](#) (with ABS), [BRC-172, "FRONT WHEEL SENSOR : Exploded View"](#) (with ESP).
CAUTION:
Never pull on wheel sensor harness.
3. Remove lock plate from strut assembly. Refer to [BR-19, "FRONT BRAKE \(WITH ABS\) : Exploded View"](#) (LHD with ABS), [BR-63, "FRONT BRAKE \(WITH ABS\) : Exploded View"](#) (LHD with ESP), [BR-63, "FRONT BRAKE \(WITH ABS\) : Exploded View"](#) (RHD with ABS), [BR-65, "FRONT BRAKE \(WITH ESP\) : Exploded View"](#) (RHD with ESP).
4. Remove torque member mounting bolts. Hang torque member not to interfere with work. Refer to [BR-37, "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (LHD), [BR-81, "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (RHD).
CAUTION:
Never depress brake pedal while brake caliper is removed.
5. Remove disc rotor.
6. Remove cotter pin, and then loosen hub lock nut.

FRONT WHEEL HUB AND KNUCKLE

[4WD]

< ON-VEHICLE REPAIR >

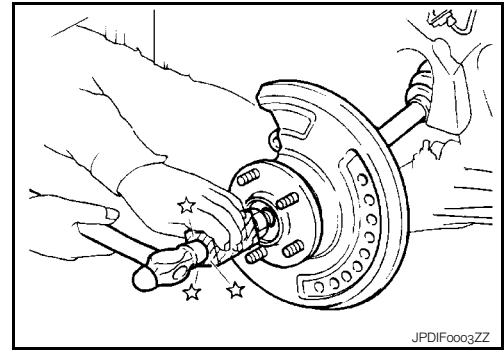
7. Patch hub lock nut with a piece of wood. Hammer the wood to disengage wheel hub and bearing assembly from drive shaft. Remove the hub lock nut.

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.

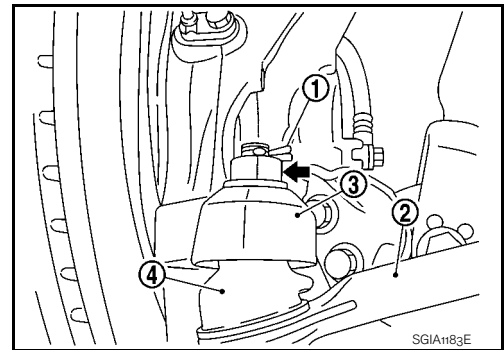
Steering Knuckle

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

CAUTION:

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

4. Remove transverse link from steering knuckle.
5. Remove steering knuckle from strut assembly.
6. Remove steering knuckle from vehicle.



INSTALLATION

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

- Under unladen conditions perform the final tightening of each parts removed when removing wheel hub and bearing assembly and steering knuckle.

Inspection

INFOID:0000000001080618

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-6. "Inspection"](#) and [ST-16. "Inspection"](#).

INSPECTION AFTER INSTALLATION

- Check the wheel alignment. Refer to [FSU-7. "Wheel Alignment Inspection"](#).
- Adjust neutral position of steering angle sensor after checking the wheel alignment. Refer to [BRC-78. "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement"](#) (with ESP).

FRONT DRIVE SHAFT BOOT

< ON-VEHICLE REPAIR >

[4WD]

FRONT DRIVE SHAFT BOOT

Exploded View

INFOID:000000001080619

Refer to [FAX-55, "Exploded View"](#).

Replacement

INFOID:000000001080620

WHEEL SIDE

1. Remove tires from vehicle.
2. Remove wheel sensor from steering knuckle. Refer to [BRC-67, "FRONT WHEEL SENSOR : Exploded View"](#) (with ABS), [BRC-172, "FRONT WHEEL SENSOR : Exploded View"](#) (with ESP).

CAUTION:

Never pull on wheel sensor harness.

3. Remove lock plate from strut assembly. Refer to [BR-19, "FRONT BRAKE \(WITH ABS\) : Exploded View"](#) (LHD with ABS), [BR-63, "FRONT BRAKE \(WITH ABS\) : Exploded View"](#) (LHD with ESP), [BR-63, "FRONT BRAKE \(WITH ABS\) : Exploded View"](#) (RHD with ABS), [BR-65, "FRONT BRAKE \(WITH ESP\) : Exploded View"](#) (RHD with ESP).
4. Remove torque member mounting bolts. Hang torque member not to interfere with work. Refer to [BR-37, "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (LHD), [BR-81, "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (RHD).

CAUTION:

Never depress brake pedal while brake caliper is removed.

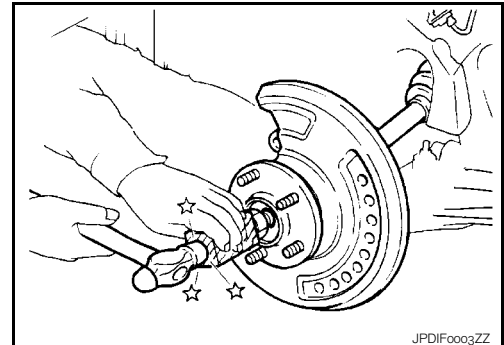
5. Remove disc rotor.
6. Remove cotter pin, and then loosen hub lock nut.
7. Patch hub lock nut with a piece of wood. Hammer the wood to disengage wheel hub and bearing assembly from drive shaft. Remove the hub lock nut.

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 drive shaft cannot be separated even after performing the above procedure.

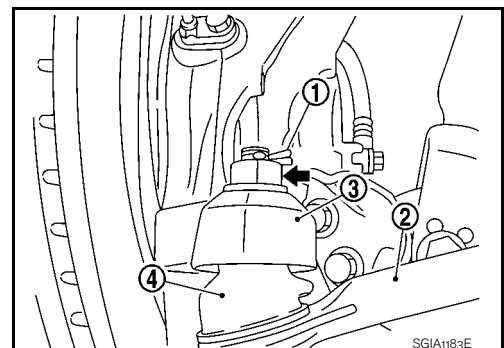


8. Remove cotter pin (1) of steering outer socket, and then loosen the nut.
9. Remove steering outer socket (2) from steering knuckle (3) so as not to damage ball joint boot (4) using the ball joint remover.

CAUTION:

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

10. Remove transverse link from steering knuckle.
11. Remove drive shaft from wheel hub and bearing assembly.
12. Remove boot bands, and then remove boot from joint sub-assembly.



FRONT DRIVE SHAFT BOOT

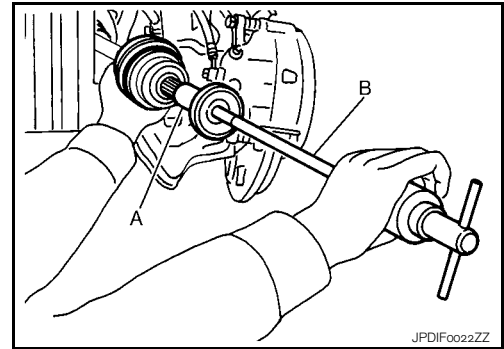
< ON-VEHICLE REPAIR >

[4WD]

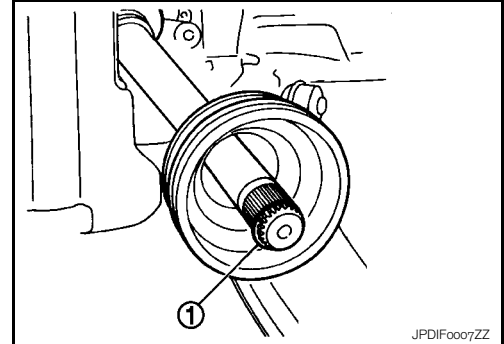
13. Screw a drive shaft puller (A) into joint sub-assembly screw part to a length of 30 mm (1.18 in) or more. Support drive shaft with one hand and pull out joint sub-assembly with a sliding hammer (B) from shaft.

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.



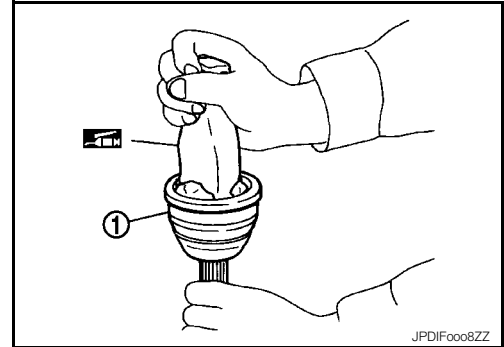
14. Remove circular clip (1) from shaft.
15. Remove boot from shaft.
16. Clean the old grease on joint sub-assembly with paper towels.



17. 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 shop cloth to wipe off old grease that has oozed out.

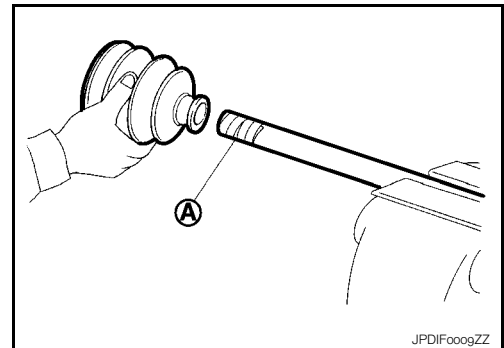


18. Wrap serration on shaft with tape (A) to protect the boot from damage. Install boot and boot bands to shaft.

CAUTION:

Never reuse boot and boot band.

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



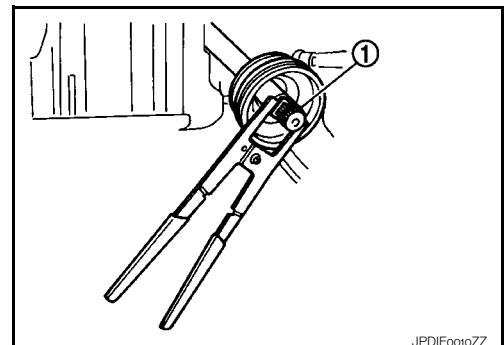
20. Position the circular clip (1) on groove at the shaft edge.

CAUTION:

Never reuse circular clip.

NOTE:

Drive joint inserter is recommended when installing circular clip.



FRONT DRIVE SHAFT BOOT

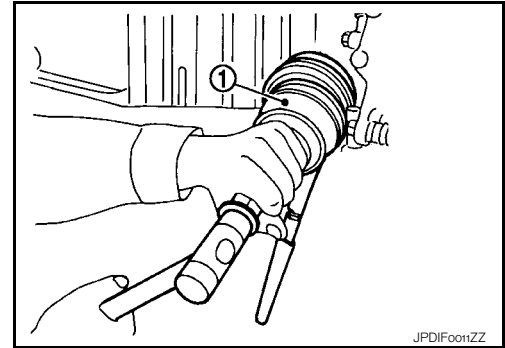
< ON-VEHICLE REPAIR >

[4WD]

21. Align both center axes of the shaft edge and joint sub-assembly. Then assemble shaft with circular clip joint sub-assembly.
22. Install joint sub-assembly (1) to shaft using plastic hammer.
CAUTION:
Confirm that joint sub-assembly is correctly engaged while rotating drive shaft.
23. Apply the balance of the specified amount of grease into the boot inside from large diameter side of boot.

Standard

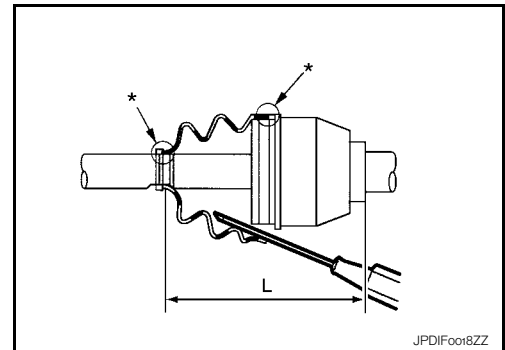
Grease amount : Refer to [FAX-64, "Drive Shaft"](#).



24. Install the boot securely into grooves (indicated by "*" marks) shown in the figure.
CAUTION:
If grease adheres to the boot mounting surface (with "*" mark) on the shaft or joint sub-assembly, boot may be removed. Remove all grease from the surface.
25. To prevent from the deformation of the boot, adjust the boot installation length to the specified value shown below (L) by inserting the suitable tool into inside of the boot from the large diameter side of the boot and discharging the inside air.

Standard

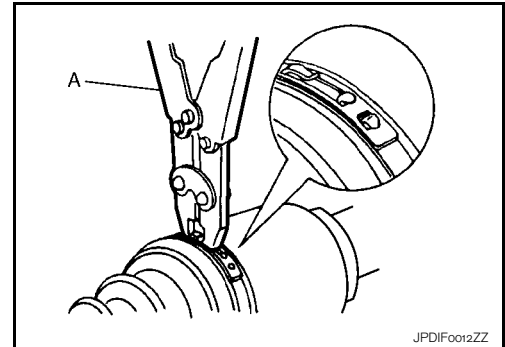
Boots installed length (L) : Refer to [FAX-64, "Drive Shaft"](#).



CAUTION:

- If the boot mounting length exceeds the standard, it may cause breakage in the boot.
- Be careful not to touch the inside of the boot with a tip of tool.

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



NOTE:

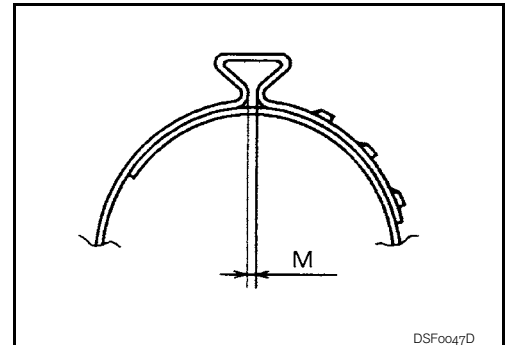
Secure boot band so that dimension (M) meets the specification as shown in the figure.

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

27. Secure joint sub-assembly and shaft, and then make sure that they are in the correct position when rotating boot. Install them with boot band when boot installation positions become incorrect.
28. Insert drive shaft to wheel hub and bearing assembly, and then temporarily tighten hub lock nut.

CAUTION:

The drive shaft is press-fit. When assembling the shaft, never press it, but pull it until fully seated by tightening the hub lock nut.



FRONT DRIVE SHAFT BOOT

< ON-VEHICLE REPAIR >

[4WD]

29. Install transverse to steering knuckle. Refer to [FSU-12, "Exploded View"](#).
30. Install steering outer socket to steering knuckle. Refer to [ST-13, "Exploded View"](#).
31. Install disc rotor.
32. Install torque member to steering knuckle. Refer to [BR-37, "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (LHD), [BR-81, "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (RHD).
33. Install lock plate to strut assembly. Refer to [BR-19, "FRONT BRAKE \(WITH ABS\) : Exploded View"](#) (LHD with ABS), [BR-21, "FRONT BRAKE \(WITH ESP\) : Exploded View"](#) (LHD with ESP), [BR-63, "FRONT BRAKE \(WITH ABS\) : Exploded View"](#) (RHD with ABS), [BR-65, "FRONT BRAKE \(WITH ESP\) : Exploded View"](#) (RHD with ESP).
34. Install wheel sensor to steering knuckle. Refer to [BRC-67, "FRONT WHEEL SENSOR : Exploded View"](#) (with ABS), [BRC-172, "FRONT WHEEL SENSOR : Exploded View"](#) (with ESP).
35. Tighten the hub lock nut to the specified torque. Refer to [FAX-47, "Exploded View"](#).
36. Install cotter pin.
CAUTION:
 - **Never reuse cotter pin.**
 - **Bend cotter pin at the root sufficiently to prevent any looseness.**
37. Install tires to vehicle.

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[4WD]

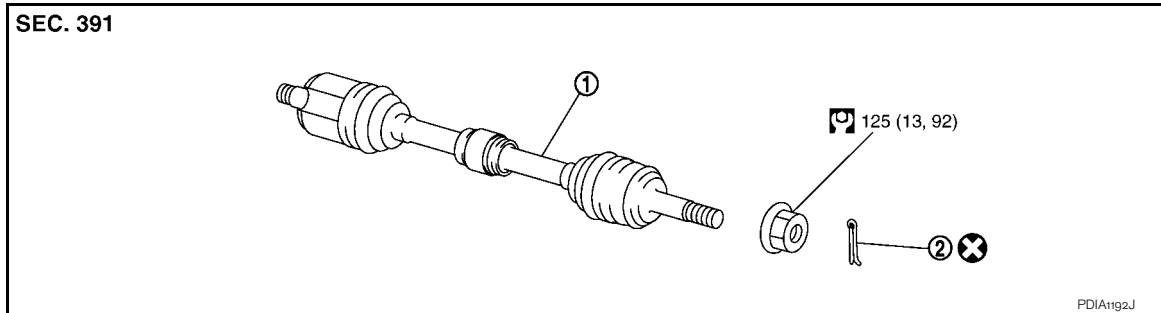
FRONT DRIVE SHAFT

Exploded View

INFOID:000000001080625

REMOVAL

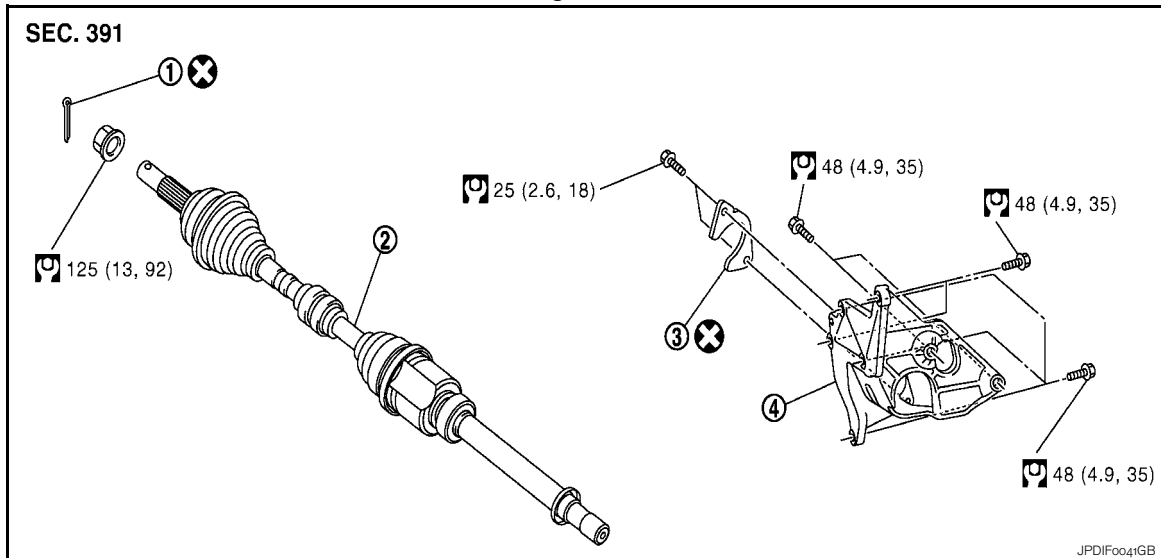
Left side



1. Drive shaft
2. Cotter pin

Refer to [GI-4, "Components"](#) for symbols in the figure.

Right side



1. Cotter pin
2. Drive shaft
3. Plate
4. Support bearing bracket

Refer to [GI-4, "Components"](#) symbols in the figure.

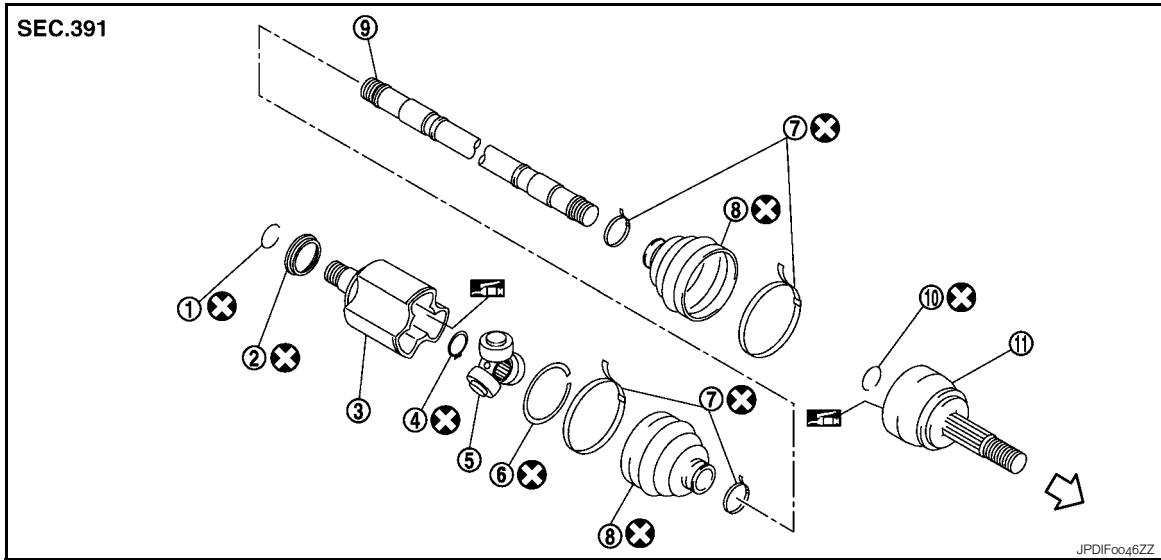
DISASSEMBLY

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[4WD]

Left side



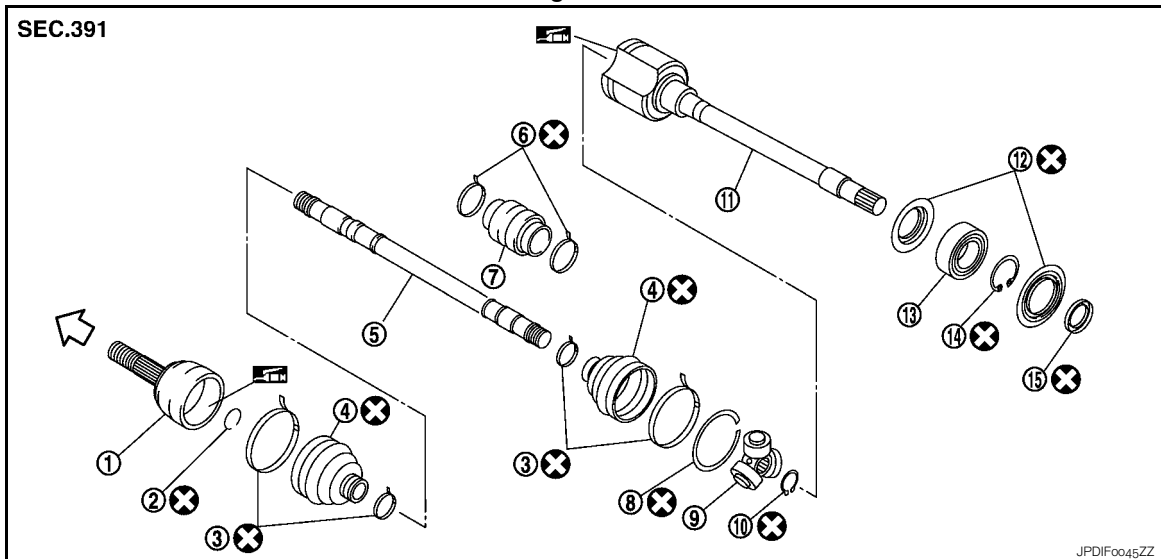
- | | | |
|-------------------|------------------------|-----------------|
| 1. Circular clip | 2. Dust shield | 3. Housing |
| 4. Snap ring | 5. Spider assembly | 6. Stopper ring |
| 7. Boot band | 8. Boot | 9. Shaft |
| 10. Circular clip | 11. Joint sub-assembly | |

⇐ : Wheel side

 : Fill NISSAN Genuine grease or equivalent.

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

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. Snap ring | 15. Dust shield |

⇐ : Wheel side

 : Fill NISSAN Genuine grease or equivalent.

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

Removal and Installation

INFOID:000000001080679

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[4WD]

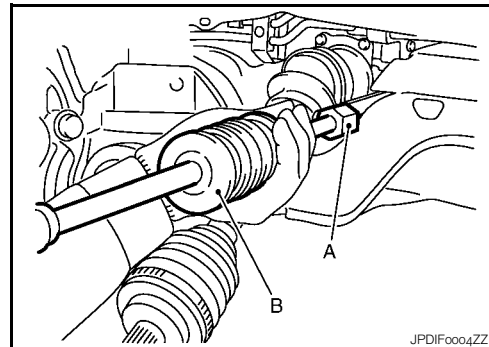
REMOVAL

Left Side

1. Refer to the procedure from 1 to 11 in [FAX-11, "Replacement"](#).
2. 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.



Right Side

1. Refer to the procedure from 1 to 11 in [FAX-11, "Replacement"](#).
2. Remove plate bolts and plate.
3. If necessary, remove the support bearing bracket 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.

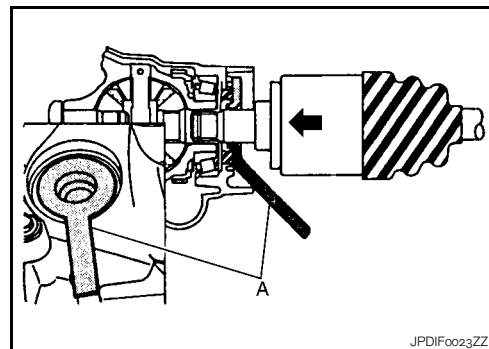
CAUTION:

Always replace differential side oil seal with new one when installing drive shaft. Refer to [TM-342, "4WD : Exploded View"](#) (CVT).

- 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:

Make sure that circular clip is completely engaged.



Right Side

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

CAUTION:

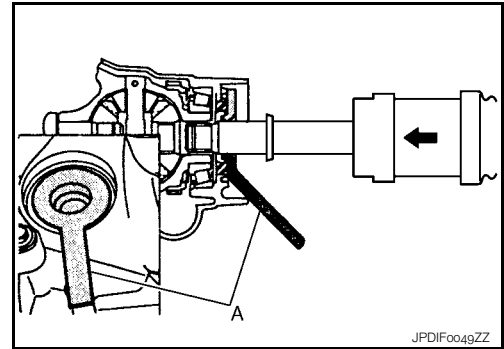
Always replace differential side oil seal with new one when installing drive shaft. Refer to [TM-342, "4WD : Exploded View"](#) (CVT).

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[4WD]

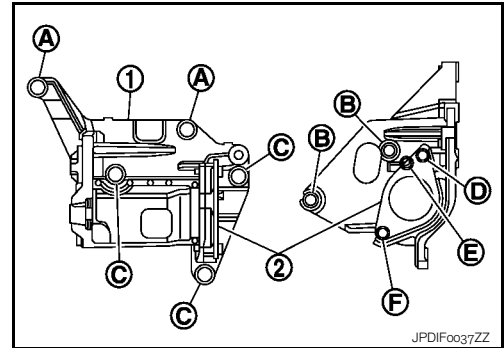
- Place the protector (A) (SST:KV38107900) onto transaxle assembly to prevent damage to the oil seal while inserting drive shaft. Slide drive shaft sliding joint and tap with a hammer to install securely.



- When installing support bearing bracket (1).
- Temporarily tighten mounting bolts from (A to C) in the order shown below.
- Set plate (2) so that notch (E) becomes upper side. (Temporarily) tighten mounting bolts in the order of (D), (F).

CAUTION:

Never reuse plate.



Disassembly and Assembly

INFOID:000000001080627

DISASSEMBLY

Transaxle Assembly Side

- Fix shaft with a vise.

CAUTION:

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

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

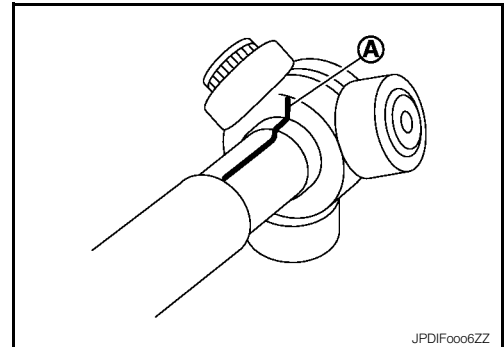
CAUTION:

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

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

CAUTION:

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

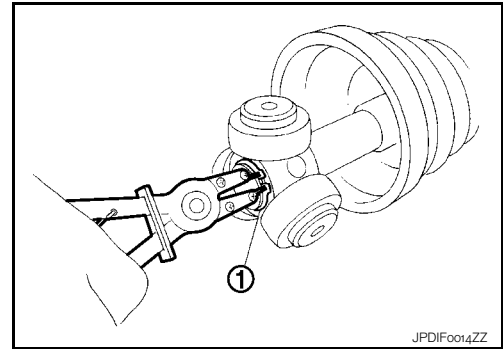


FRONT DRIVE SHAFT

[4WD]

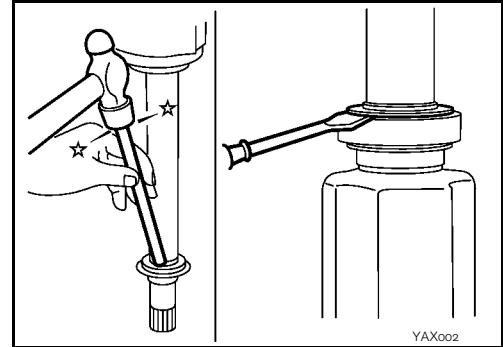
< ON-VEHICLE REPAIR >

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

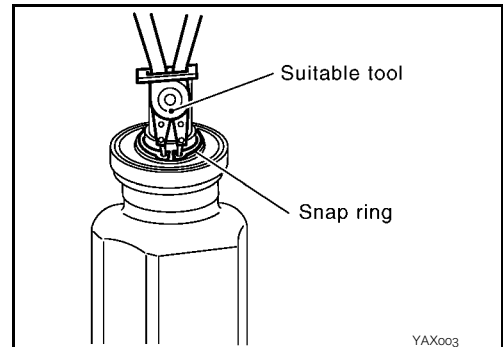


Support Bearing

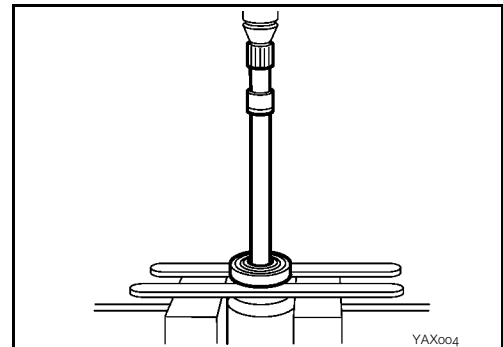
1. Remove dust shield from housing.



2. Remove snap ring.



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.

FRONT DRIVE SHAFT

[4WD]

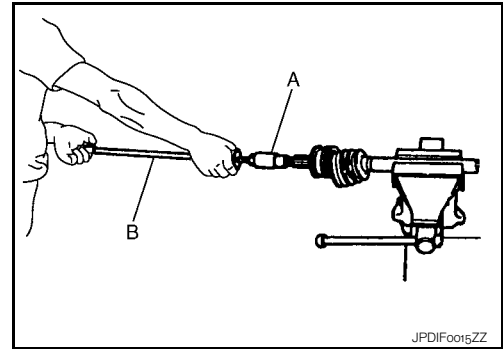
< ON-VEHICLE REPAIR >

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 directory.

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



ASSEMBLY

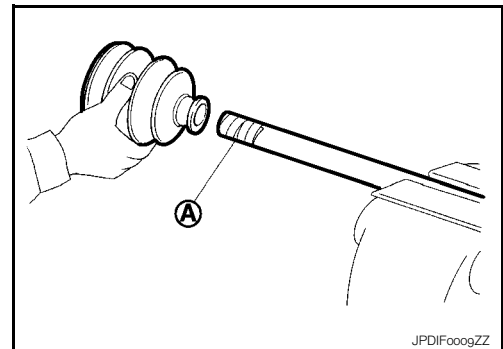
Transaxle Assembly Side

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

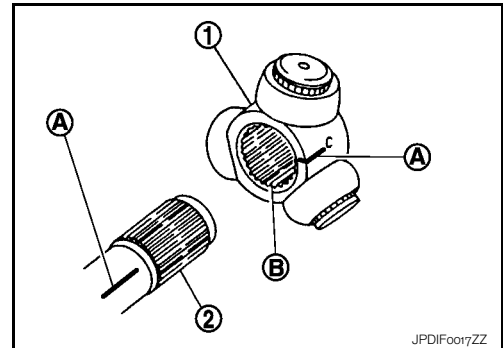
CAUTION:

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) 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 balance of the specified amount grease.

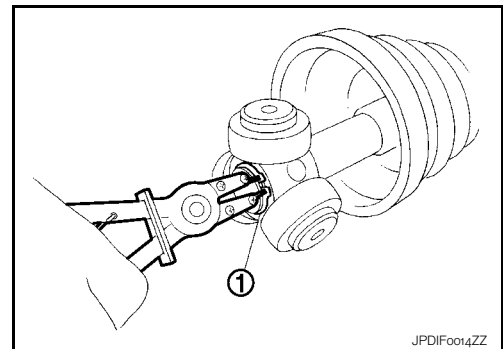
Standard

Grease amount : Refer to [FAX-64, "Drive Shaft"](#).

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

CAUTION:

Never reuse stopper ring.



FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

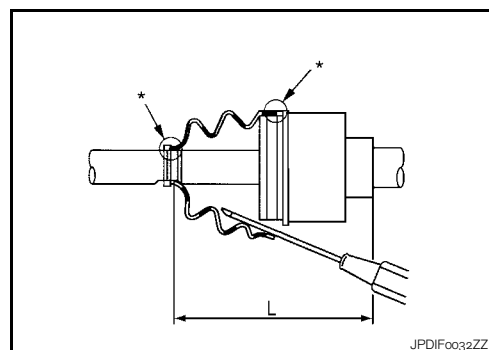
[4WD]

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

CAUTION:

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

10. To prevent from deformation of the boot, adjust the boot installation length to the value shown below (L) 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-64, "Drive Shaft"](#).

CAUTION:

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

11. Install new larger and smaller boot bands securely.

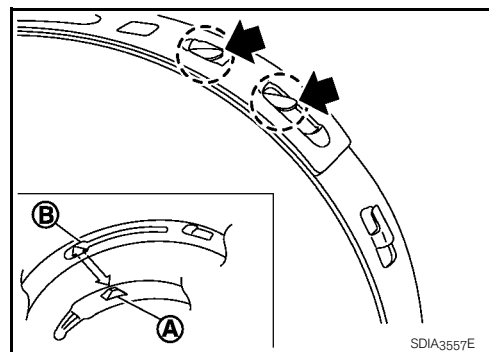
CAUTION:

Never reuse boot band.

12. Put boot band in the groove on drive shaft boot. Then fit pawls (➡) into holes to temporary installation.

NOTE:

For the large diameter side, fit projection (A) and guide slit (B) at first.



13. Pinch projection on the band with suitable pliers to tighten band.
14. Insert tip of band below end of the pawl.
15. 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.
16. Install circular clip to shaft (left side).

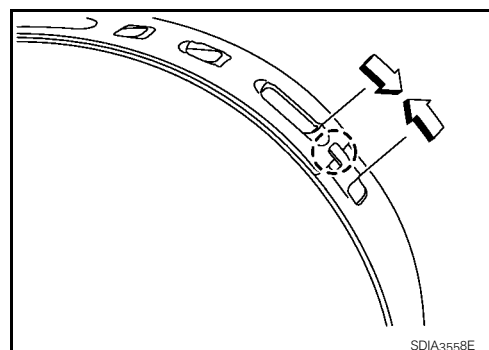
CAUTION:

Never reuse circular clip.

17. Install dust shield (left side).

CAUTION:

Never reuse dust shield.



Support Bearing

1. Install dust shield on housing.

CAUTION:

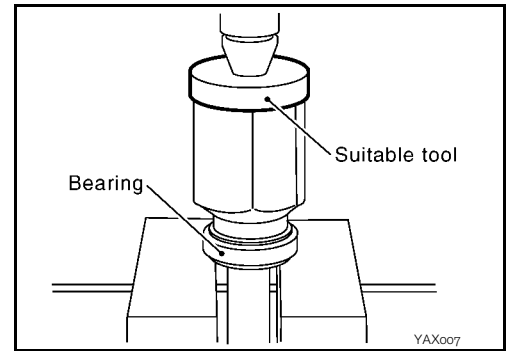
Never reuse dust shield.

FRONT DRIVE SHAFT

[4WD]

< ON-VEHICLE REPAIR >

2. Press support bearing onto housing.

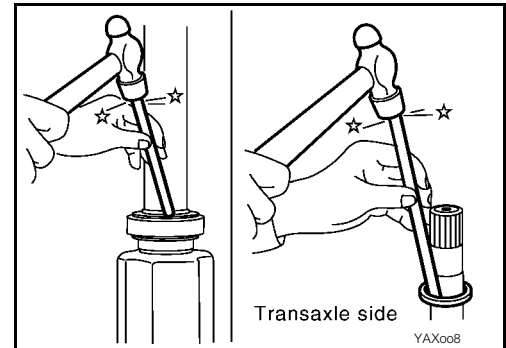


3. Install snap ring.

CAUTION:
Never reuse snap ring.

4. Install dust shields.

CAUTION:
Never reuse dust shields.



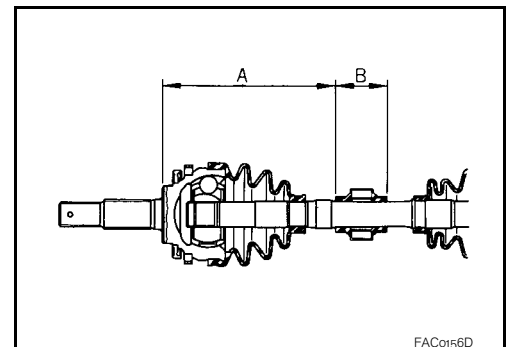
Dynamic Damper

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

CAUTION:
Never reuse bands.

Standard

Demission : [FAX-64, "Drive Shaft"](#).



Wheel Side

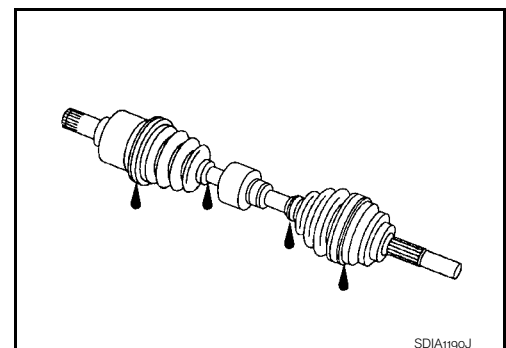
For further details, refer to the installation procedure of "[FAX-51, "Replacement"](#)" for the drive shaft boot.

Inspection

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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.



FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[4WD]

INSPECTION AFTER DISASSEMBLY

Shaft

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

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.

Dynamic Damper (Right Side)

Check damper for cracks or wear. Replace as necessary.

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)

[4WD]

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Wheel Bearing

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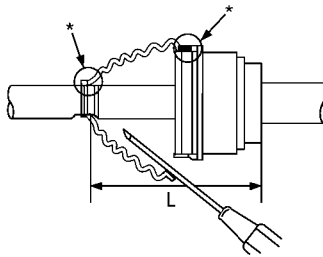
Axial end play	0.05 mm (0.002 in) or less
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Drive Shaft

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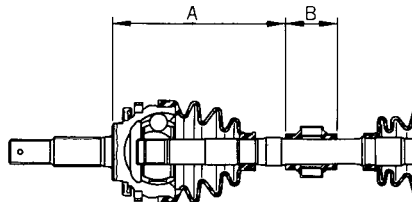
M/T MODELS

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)	189.6 mm (7.46 in)
	Right side		177.6 mm (6.99 in)



JPDIF0031ZZ

Dynamic damper		A	B
Dimension	Right side	219 – 223 mm (8.62 – 8.78 in)	70 mm (2.76 in)



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CVT MODELS

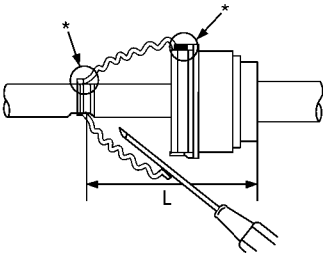
Joint		Wheel side	Transaxle assembly side
Grease quantity	Left side	115 – 135 g (4.06 – 4.76 oz)	200 – 220 g (7.05 – 7.76 oz)
	Right side		

SERVICE DATA AND SPECIFICATIONS (SDS)

[4WD]

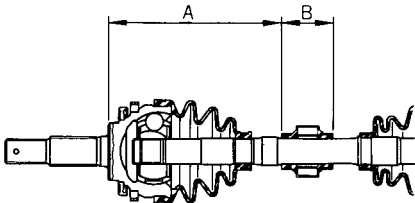
< SERVICE DATA AND SPECIFICATIONS (SDS)

Boots installed length (L)	Left side	133.5 mm (5.26 in)	185.6 mm (7.31 in)
	Right side		177.6 mm (6.99 in)



JPDIFoog1ZZ

Dynamic damper		A	B
Dimension	Right side	239 – 242 mm (9.41 – 9.53 in)	70 mm (2.76 in)



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