

SECTION **FAX**
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PRECAUTION**PRECAUTIONS****Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"**

INFOID:000000001208609

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the "SRS AIRBAG" and "SEAT BELT" 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 "SRS AIRBAG".
- 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:000000001208610

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:000000001208565

CAUTION:

Note the following precautions when disassembling and assembling drive shaft.

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

PRECAUTIONS

< PRECAUTION >

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- 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 >

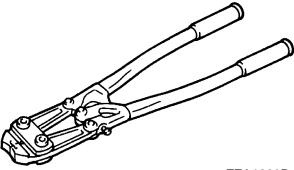

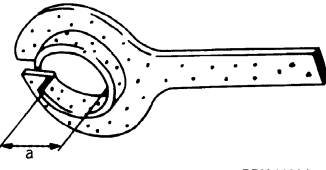
[2WD]

PREPARATION

PREPARATION

Special Service Tool

INFOID:000000001208566

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.  PDIA1183J	Installing drive shaft

FRONT WHEEL HUB AND KNUCKLE

< ON-VEHICLE MAINTENANCE >

[2WD]

ON-VEHICLE MAINTENANCE

FRONT WHEEL HUB AND KNUCKLE

Inspection

INFOID:000000001208568

MOUNTING INSPECTION

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

WHEEL BEARING INSPECTION

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

Standard

Axial end play : Refer to [FAX-34, "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.

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FRONT DRIVE SHAFT

< ON-VEHICLE MAINTENANCE >

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FRONT DRIVE SHAFT

Inspection

INFOID:000000001208569

- 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 >

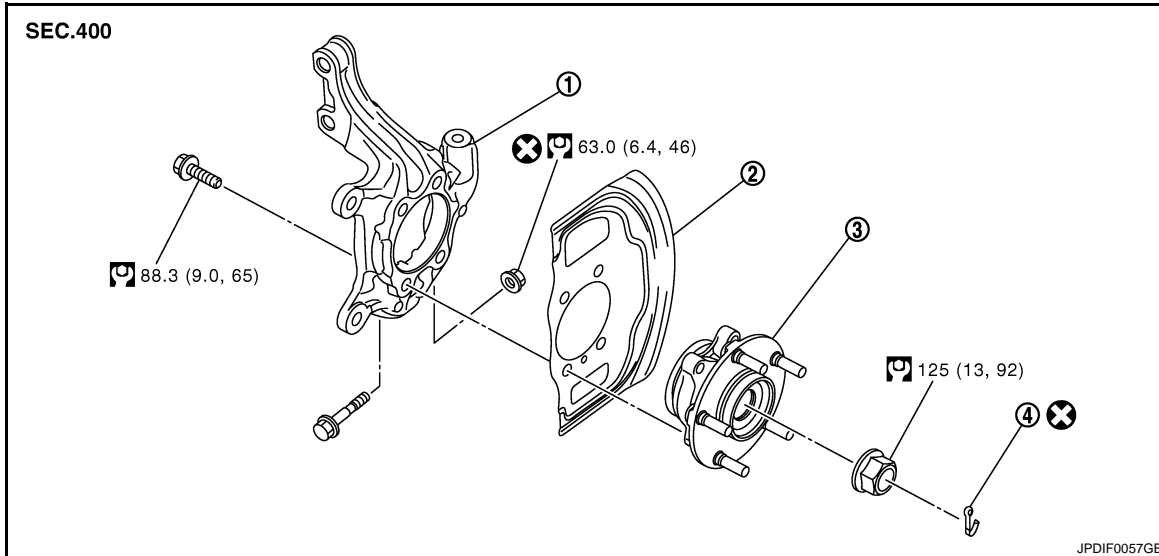
[2WD]

ON-VEHICLE REPAIR

FRONT WHEEL HUB AND KNUCKLE

Exploded View

INFOID:000000001208570



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:000000001208571

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"](#) (without ESP), [BRC-198, "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 \(WITHOUT ESP\) : Exploded View"](#) (LHD without ESP), [BR-22, "FRONT \(WITH ESP\) : Exploded View"](#) (LHD with ESP), [BR-69, "FRONT \(WITHOUT ESP\) : Exploded View"](#) (RHD without ESP), [BR-72, "FRONT \(WITH ESP\) : Exploded View"](#) (RHD with ESP).

4. Remove torque member mounting bolts. Hang torque member not to interfere with work. Refer to [BR-42, "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (LHD), [BR-89, "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (RHD).

CAUTION:

Never depress brake pedal while brake caliper is removed.

5. Remove disc rotor.

CAUTION:

 - Put matching marks on the wheel hub and bearing assembly and the disc rotor before removing the disc rotor.
 - Never drop disc rotor.
6. Remove cotter pin, and then loosen hub lock nut.

FRONT WHEEL HUB AND KNUCKLE

[2WD]

< ON-VEHICLE REPAIR >

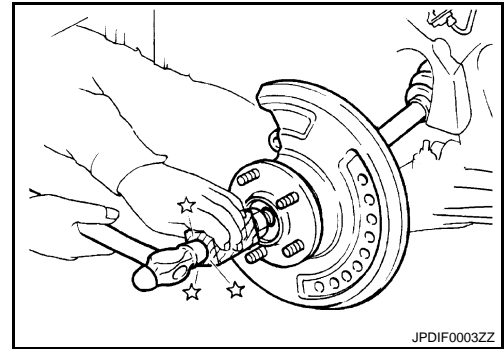
7. Patch hub lock nut with a piece of wood. Hammer the wood to disengage wheel hub and bearing assembly from drive shaft. Remove the hub lock nut.

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.

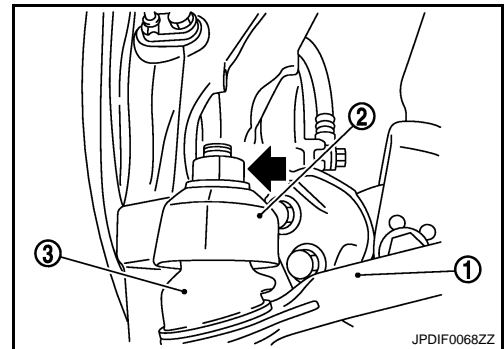
Steering Knuckle

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

CAUTION:

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

6. Remove steering knuckle from vehicle.



INSTALLATION

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

CAUTION:

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

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

Inspection

INFOID:000000001208572

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]

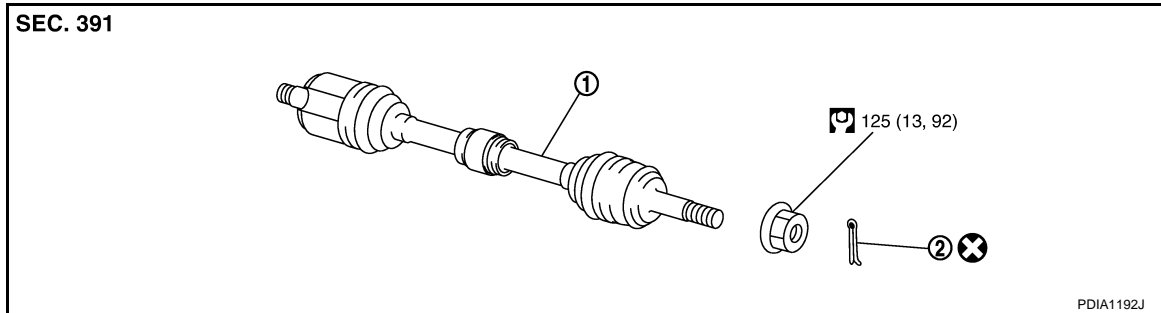
FRONT DRIVE SHAFT BOOT

Exploded View

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REMOVAL

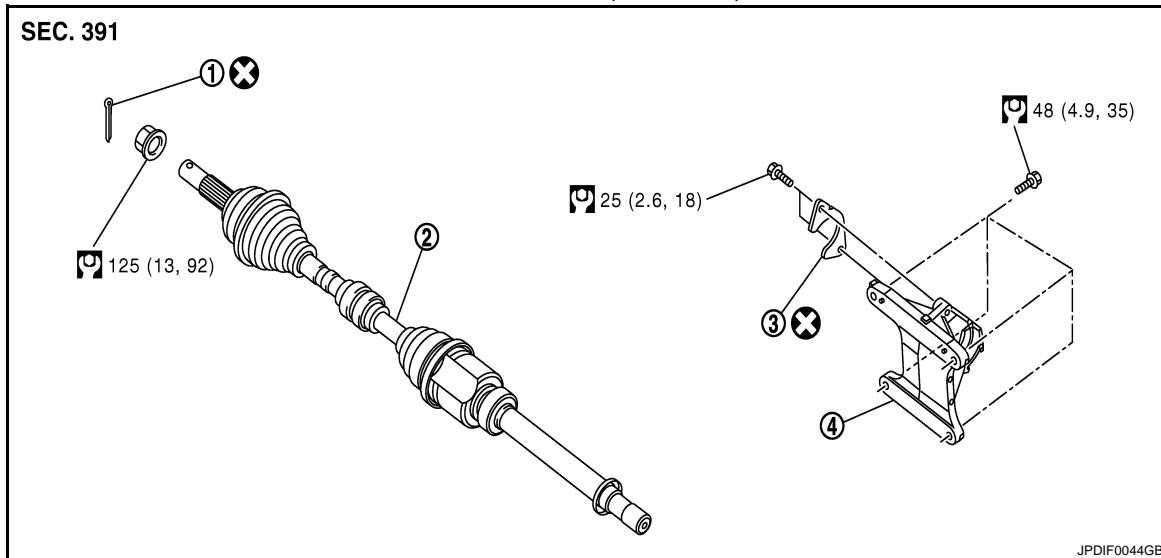
LEFT SIDE



1. Drive shaft
2. Cotter pin

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

RIGHT SIDE (MR20DE)



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

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

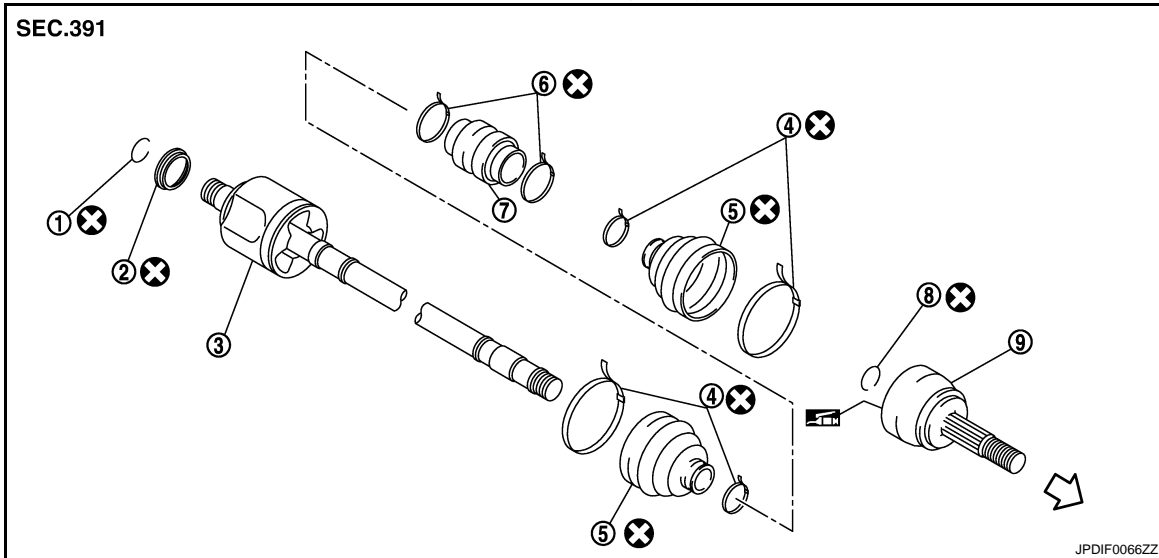
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FRONT DRIVE SHAFT BOOT

< ON-VEHICLE REPAIR >

[2WD]

LEFT SIDE (M9R)



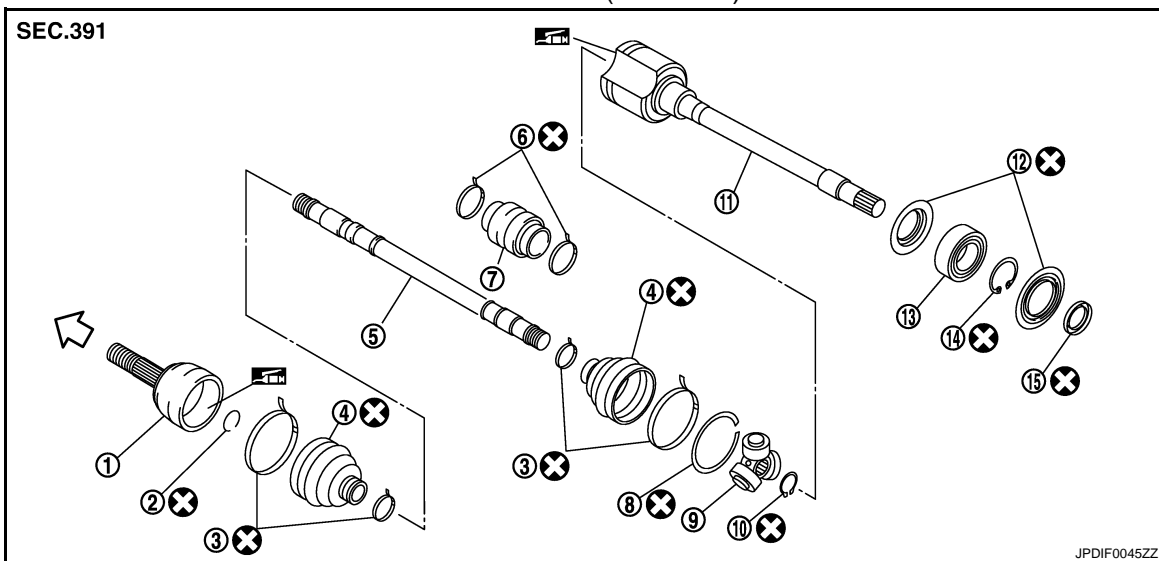
- | | | |
|-------------------|------------------|-----------------------|
| 1. Circular clip | 2. Dust shield | 3. Housing assembly |
| 4. Boot band | 5. Boot | 6. Damper band |
| 7. Dynamic damper | 8. Circular clip | 9. Joint sub-assembly |

← : Wheel side

: Fill NISSAN Genuine grease or equivalent.

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

RIGHT SIDE (MR20DE)



- | | | |
|-----------------------|------------------|--------------------|
| 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.

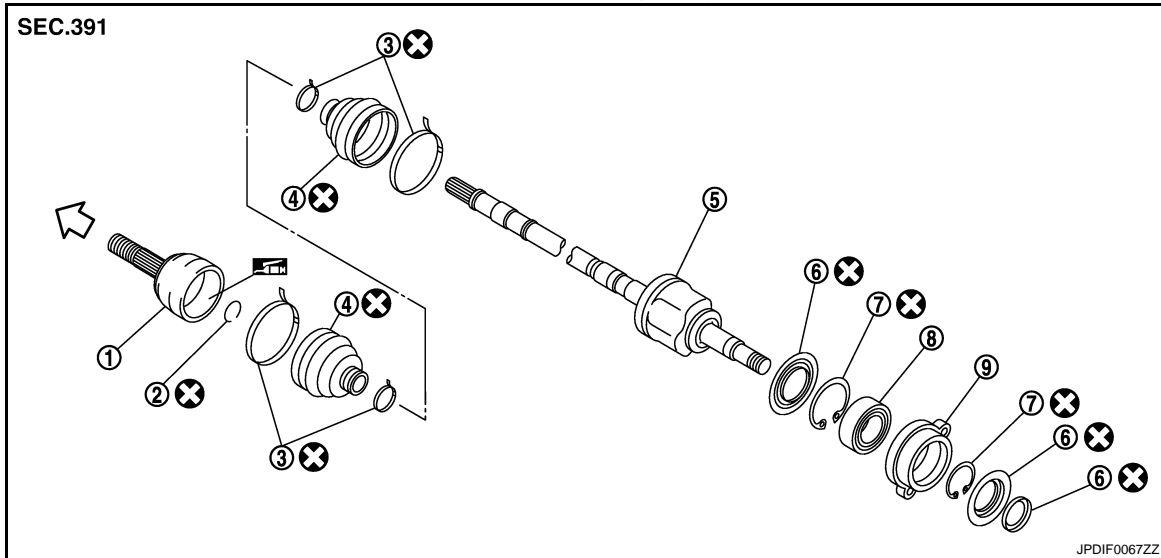
Refer to [GI-4. "Components"](#) for symbols not described on the above.

FRONT DRIVE SHAFT BOOT

< ON-VEHICLE REPAIR >


[2WD]

RIGHT SIDE (M9R)



- | | | |
|-----------------------|---------------------|----------------|
| 1. Joint sub-assembly | 2. Circular clip | 3. Boot band |
| 4. Boot | 5. Housing assembly | 6. Dust shield |
| 7. Snap ring | 8. Support bearing | 9. Retainer |

↶ : Wheel side

 : Fill NISSAN Genuine grease or equivalent.

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

Replacement

INFOID:000000001208574

WHEEL SIDE

1. Remove tires from vehicle.
2. Remove wheel sensor from steering knuckle. Refer to [BRC-67. "FRONT WHEEL SENSOR : Exploded View"](#) (without ESP), [BRC-198. "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 \(WITHOUT ESP\) : Exploded View"](#) (LHD without ESP), [BR-22. "FRONT \(WITH ESP\) : Exploded View"](#) (LHD with ESP), [BR-69. "FRONT \(WITHOUT ESP\) : Exploded View"](#) (RHD without ESP), [BR-72. "FRONT \(WITH ESP\) : Exploded View"](#) (RHD with ESP).
4. Remove torque member mounting bolts. Hang torque member not to interfere with work. Refer to [BR-42. "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (LHD), [BR-89. "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (RHD).
CAUTION:
Never depress brake pedal while brake caliper is removed.
5. Remove disc rotor.
CAUTION:
 - Put matching marks on the wheel hub and bearing assembly and the disc rotor before removing the disc rotor.
 - Never drop disc rotor.
6. Remove cotter pin, and then loosen hub lock nut.

FRONT DRIVE SHAFT BOOT

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

8. Remove transverse link from steering knuckle.

9. Loosen the nut of steering outer socket.

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

CAUTION:

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

11. Remove drive shaft from wheel hub and bearing assembly.

12. Remove boot bands, and then remove boot from joint sub-assembly.

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.

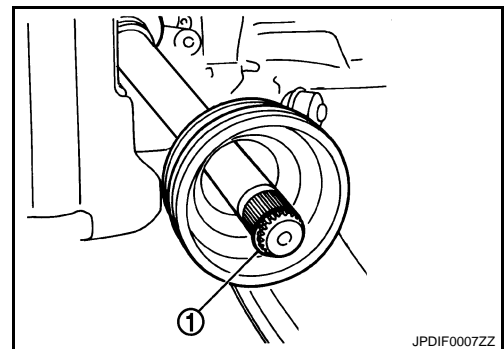
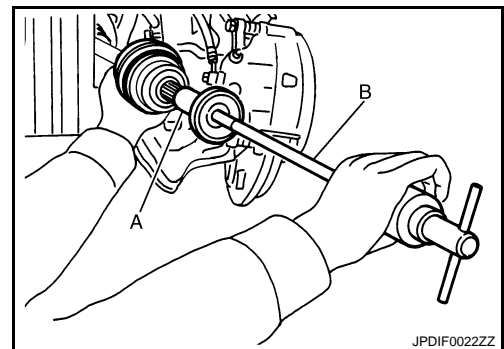
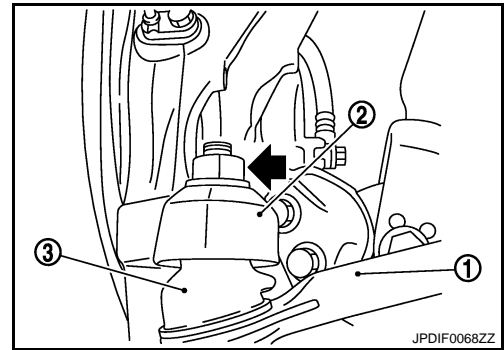
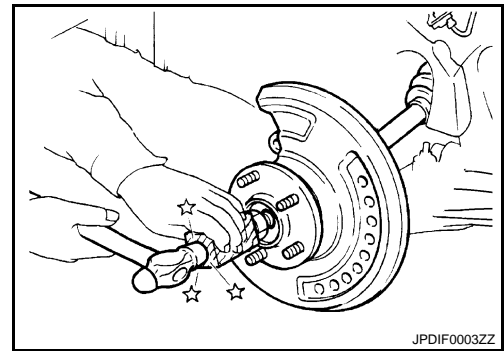
CAUTION:

- 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 (MR20DE) or housing assembly (M9R).

15. Remove boot from shaft.

16. Clean the old grease on joint sub-assembly with paper towels.



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FRONT DRIVE SHAFT BOOT

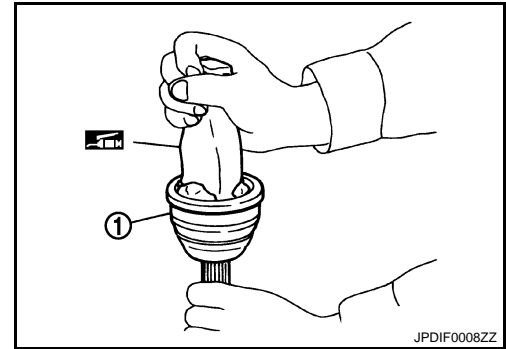
< ON-VEHICLE REPAIR >

[2WD]

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.

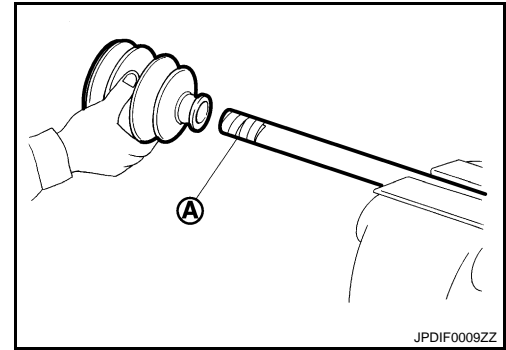


18. Wrap serration on shaft (MR20DE) or housing assembly (M9R) with tape (A) to protect the boot from damage. Install boot and boot bands to shaft.

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.

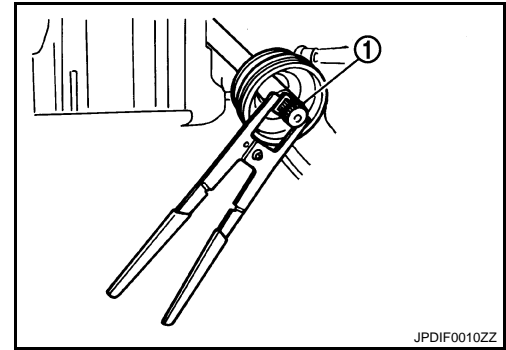
CAUTION:

Never reuse circular clip.

NOTE:

Drive joint inserter is recommended when installing circular clip.

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

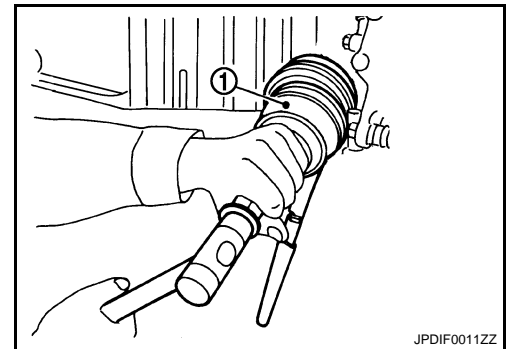


22. Install joint sub-assembly (1) to shaft (MR20DE) or housing assembly (M9R) using plastic hammer.

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-34, "Drive Shaft"](#).

FRONT DRIVE SHAFT BOOT

< ON-VEHICLE REPAIR >

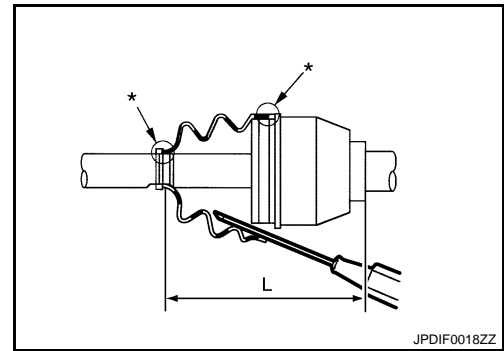
[2WD]

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.



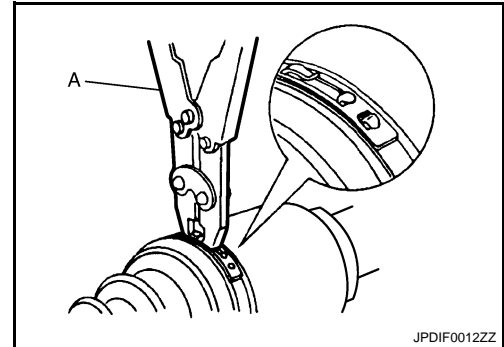
Standard

Boots installed length (L) : Refer to FAX-34, "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).



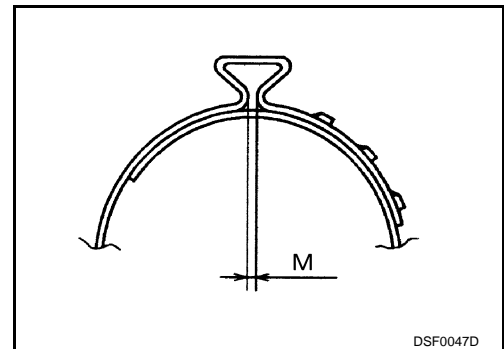
NOTE:

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.

29. Install transverse to steering knuckle. Refer to [ST-13, "Exploded View"](#).

30. Install steering outer socket to steering knuckle. Refer to [ST-13, "Exploded View"](#).

31. Install disc rotor.

CAUTION:

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

32. Install torque member to steering knuckle. Refer to [BR-42, "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (LHD), [BR-89, "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (RHD).

33. Install lock plate to strut assembly. Refer to [BR-19, "FRONT \(WITHOUT ESP\) : Exploded View"](#) (LHD without ESP), [BR-22, "FRONT \(WITH ESP\) : Exploded View"](#) (LHD with ESP), [BR-69, "FRONT \(WITHOUT ESP\) : Exploded View"](#) (RHD without ESP), [BR-72, "FRONT \(WITH ESP\) : Exploded View"](#) (RHD with ESP).

34. Install wheel sensor to steering knuckle. Refer to [BRC-67, "FRONT WHEEL SENSOR : Exploded View"](#) (without ESP), [BRC-198, "FRONT WHEEL SENSOR : Exploded View"](#) (with ESP).

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FRONT DRIVE SHAFT BOOT

< ON-VEHICLE REPAIR >

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35. Tighten the hub lock nut to the specified torque.

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

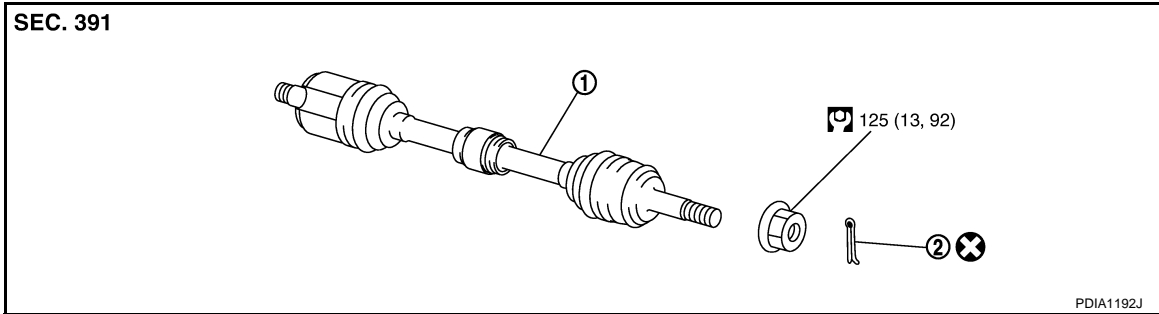
MR20DE

MR20DE : Exploded View

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REMOVAL

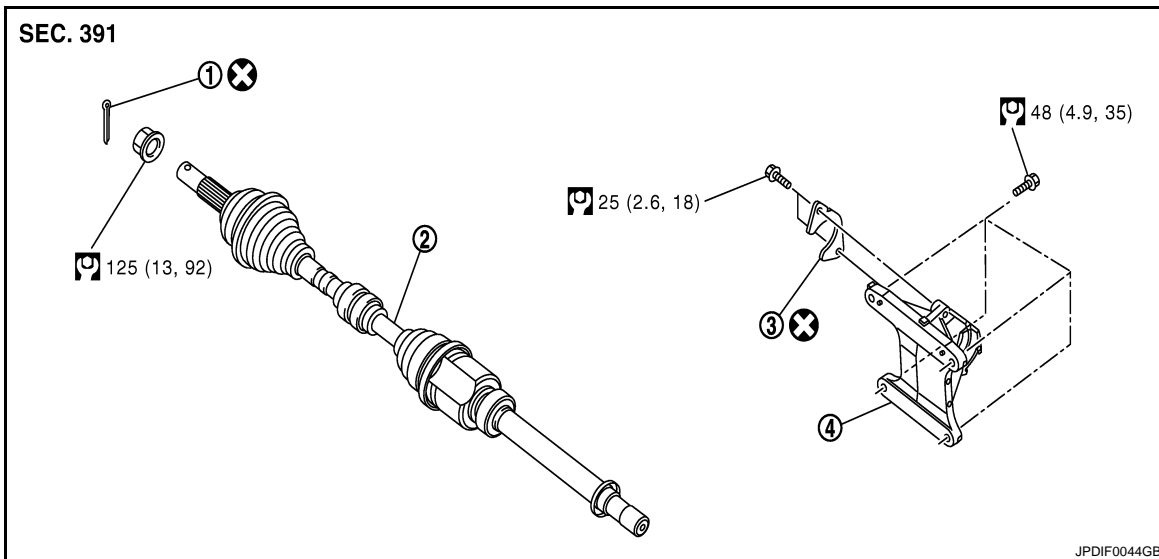
LEFT SIDE



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

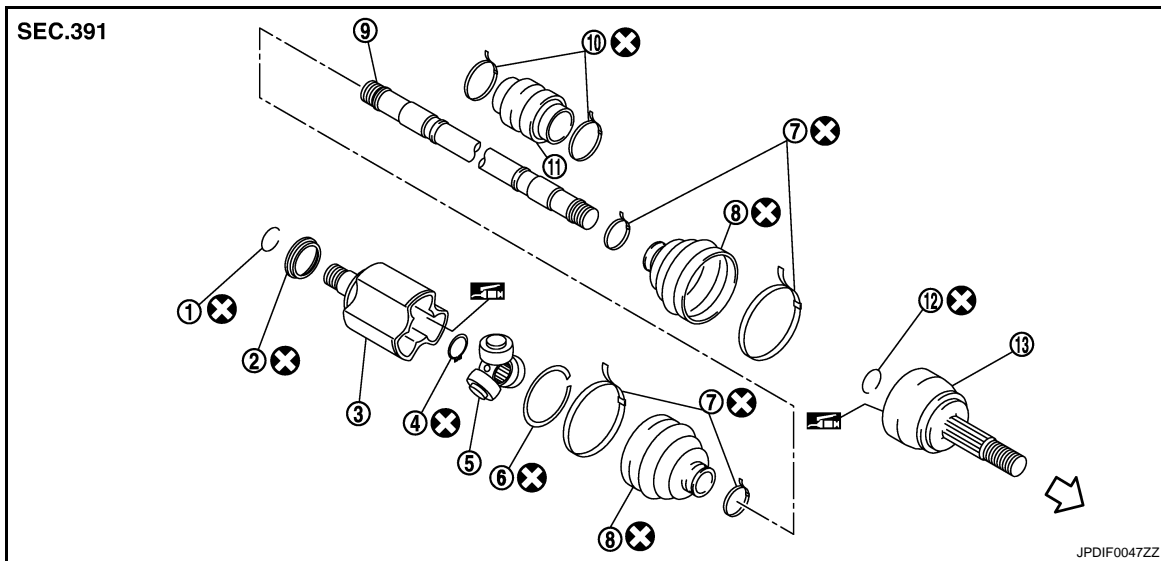
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FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[2WD]

LEFT SIDE



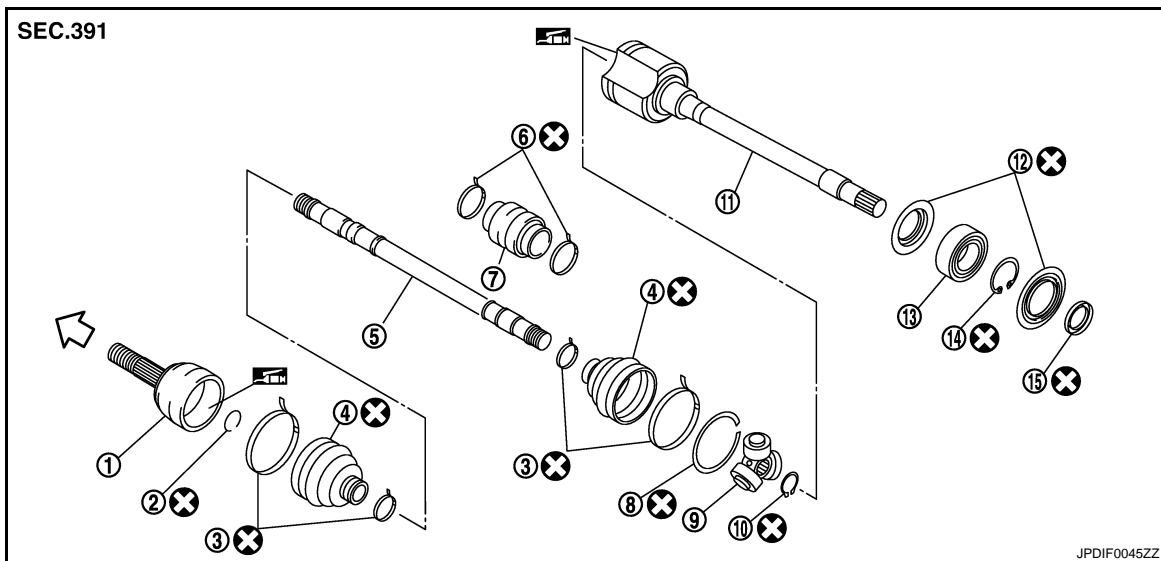
- | | | |
|------------------------|--------------------|-------------------|
| 1. Circular clip | 2. Dust shield | 3. Housing |
| 4. Snap ring | 5. Spider assembly | 6. Stopper ring |
| 7. Boot band | 8. Boot | 9. Shaft |
| 10. Damper band | 11. Dynamic damper | 12. Circular clip |
| 13. Joint sub-assembly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

↔ : 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 : Removal and Installation

INFOID:000000001208580

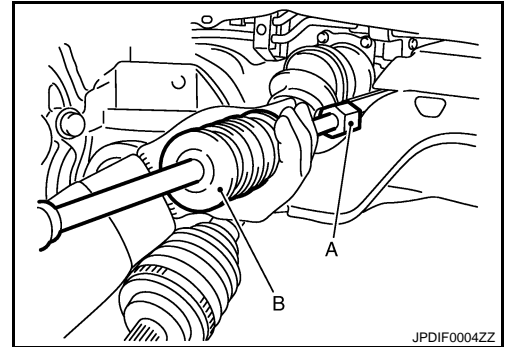
REMOVAL

Left Side

1. Refer to the procedure from 1 to 11 in [FAX-14. "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-14. "Replacement"](#).
2. Remove plate mounting bolts and plate.
3. If necessary, remove the support bearing bracket mounting bolts and the support bearing bracket.
4. Remove drive shaft from transaxle assembly.
 - Use the drive shaft attachment (SST: KV40107500) and a sliding hammer while inserting tip of the drive shaft attachment between housing and transaxle assembly.

CAUTION:

Never place drive shaft joint at an extreme angle when removing drive shaft. Also be careful not to overextend slide joint.

INSTALLATION

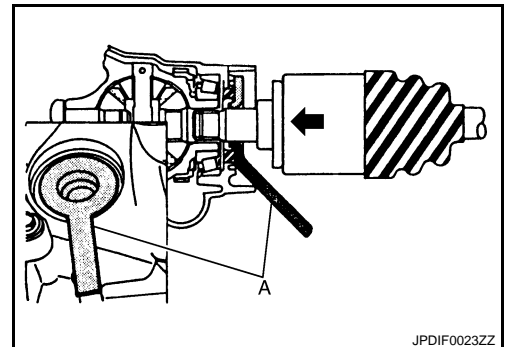
Left Side

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

- 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:

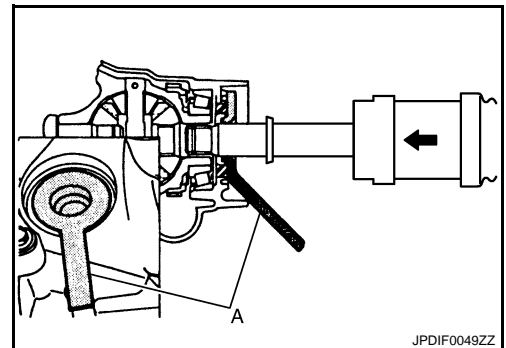
Make sure that circular clip is completely engaged.



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.



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FRONT DRIVE SHAFT

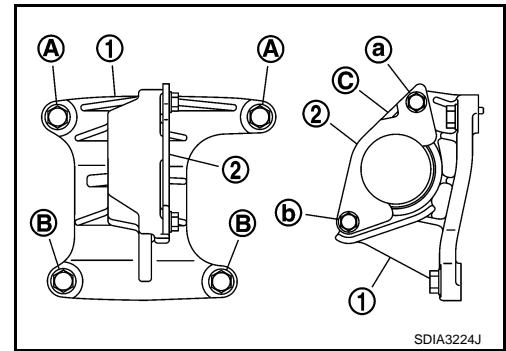
< ON-VEHICLE REPAIR >

[2WD]

- 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 : Disassembly and Assembly

INFOID:000000001208581

DISASSEMBLY

Transaxle Assembly Side

1. Fix shaft with a vise.

CAUTION:

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

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

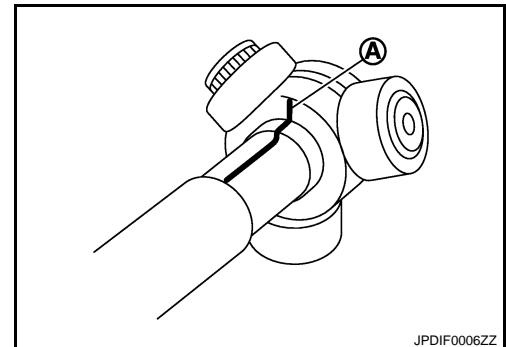
CAUTION:

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

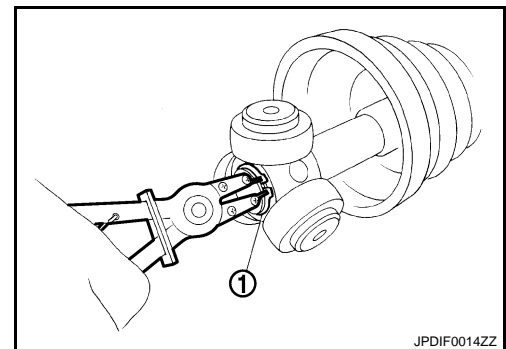
5. Put matching marks (A) on the spider assembly and shaft.

CAUTION:

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



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



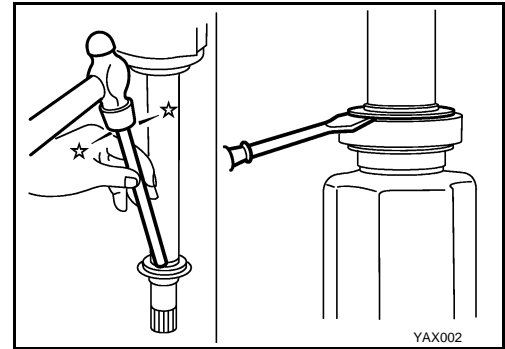
Support Bearing

FRONT DRIVE SHAFT

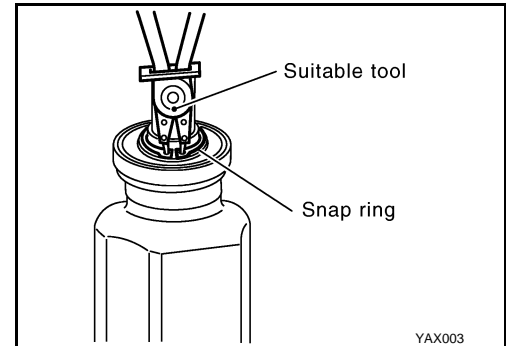
< ON-VEHICLE REPAIR >

[2WD]

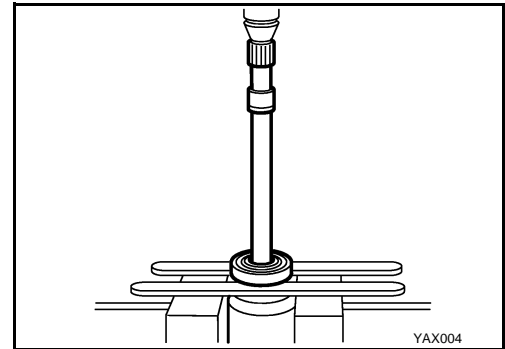
1. Remove dust shield from housing.



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:

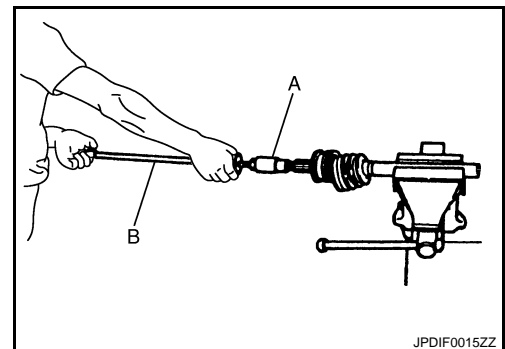
Protect shaft using aluminum or copper plates when fixing with a vise.

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 >

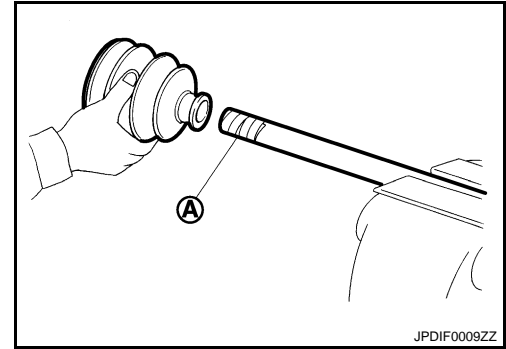
Transaxle Assembly Side

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

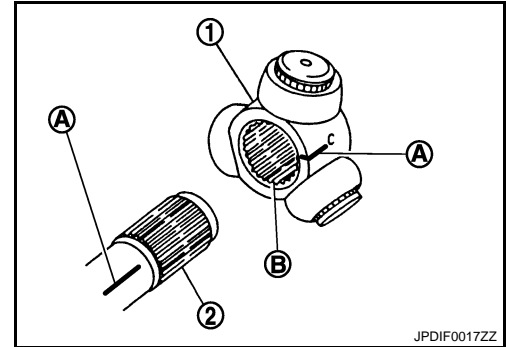
CAUTION:

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.

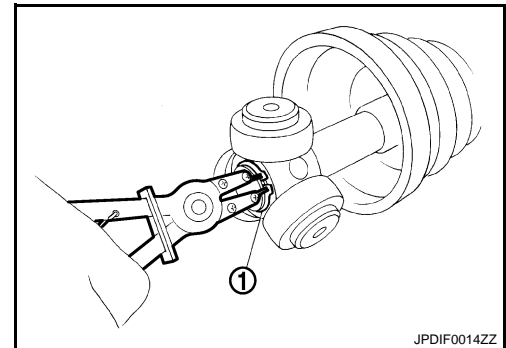


4. Secure spider assembly onto shaft with snap ring (1).

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-34. "Drive Shaft"](#).

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

CAUTION:

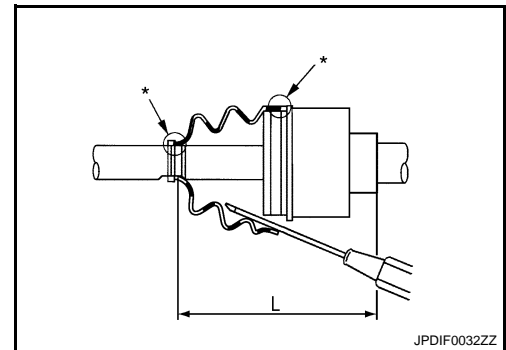
Never reuse stopper ring.

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-34. "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

[2WD]

< ON-VEHICLE REPAIR >

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

CAUTION:

Never reuse boot band.

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

13. Install dust shield (left side).

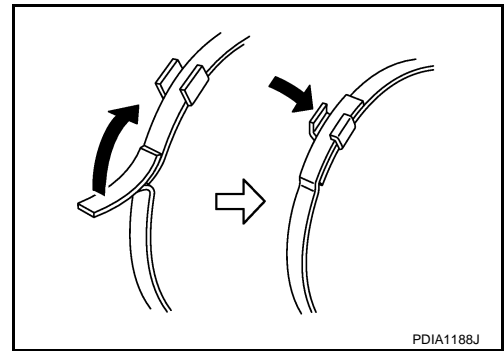
CAUTION:

Never reuse dust shield.

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

CAUTION:

Never reuse circular clip.



A

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FAX

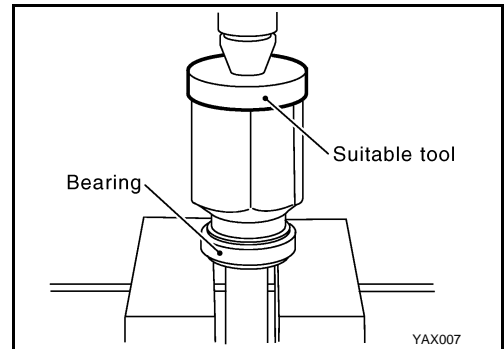
Support Bearing

1. Install dust shield on housing.

CAUTION:

Never reuse dust shield.

2. Press support bearing onto housing.



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3. Install snap ring.

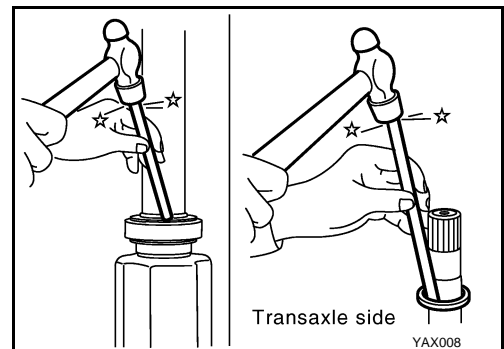
CAUTION:

Never reuse snap ring.

4. Install dust shields.

CAUTION:

Never reuse dust shields.



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L

M

Dynamic Damper

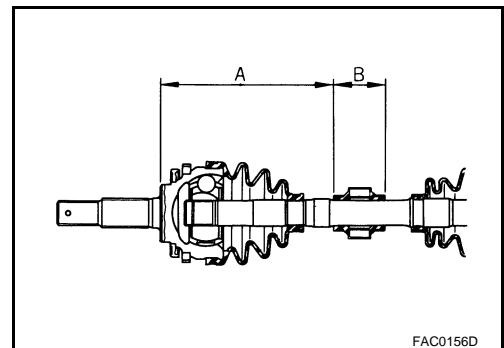
Secure dynamic damper with bands in the following specified position when removing.

CAUTION:

Never reuse bands.

Standard

Demission : [FAX-34, "Drive Shaft"](#).



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Wheel Side

For further details, refer to the installation procedure of "[FAX-14, "Replacement"](#)" for the drive shaft boot.

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

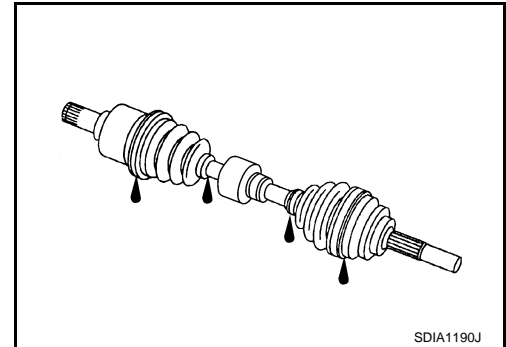
[2WD]

MR20DE : Inspection

INFOID:000000001208582

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.

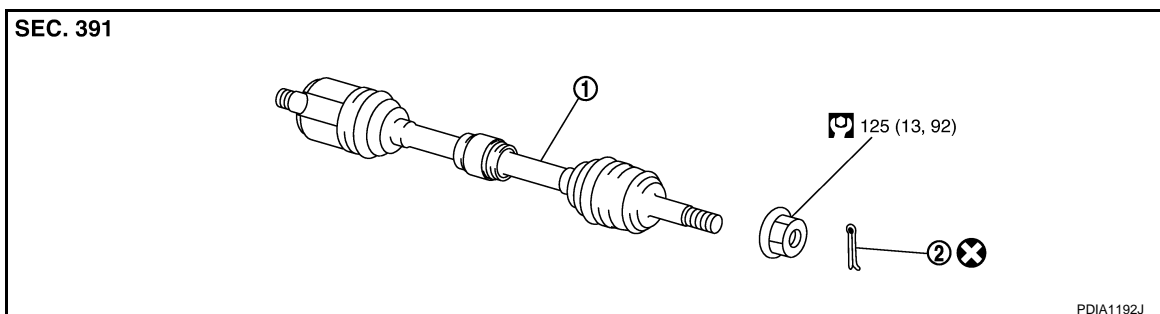
M9R

M9R : Exploded View

INFOID:000000001208583

REMOVAL

LEFT SIDE



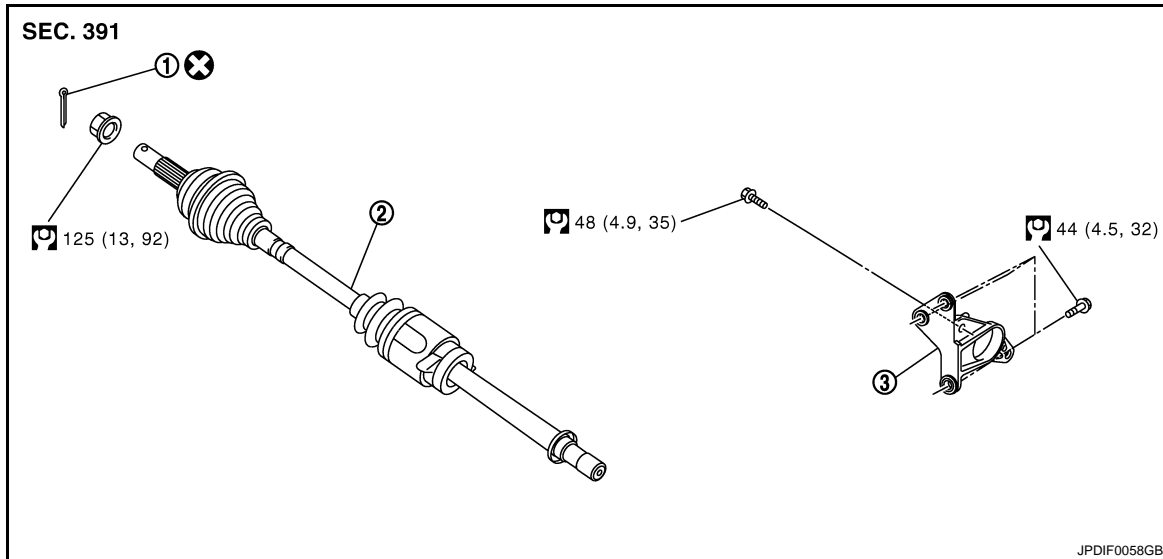
FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[2WD]

1. Drive shaft
 2. Cotter pin
- Refer to [GI-4, "Components"](#) for symbols in the figure.

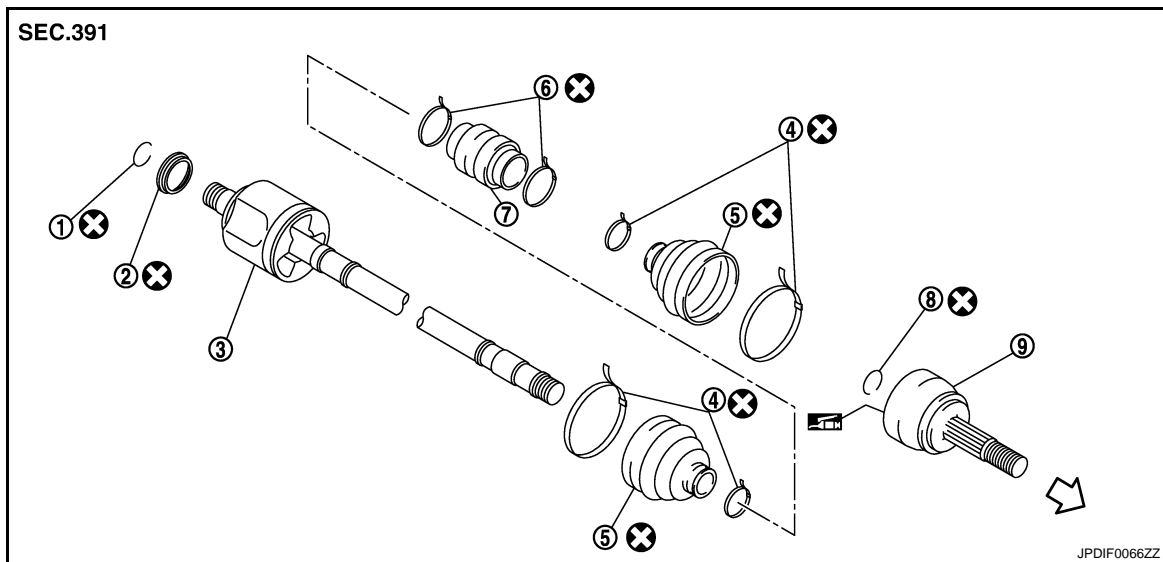
RIGHT SIDE



1. Cotter pin
 2. Drive shaft
 3. Support bearing bracket
- Refer to [GI-4, "Components"](#) for symbols in the figure.

DISASSEMBLY

LEFT SIDE



1. Circular clip
2. Dust shield
3. Housing assembly
4. Boot band
5. Boot
6. Damper band
7. Dynamic damper
8. Circular clip
9. Joint sub-assembly

↔ : Wheel side

: Fill NISSAN Genuine grease or equivalent.

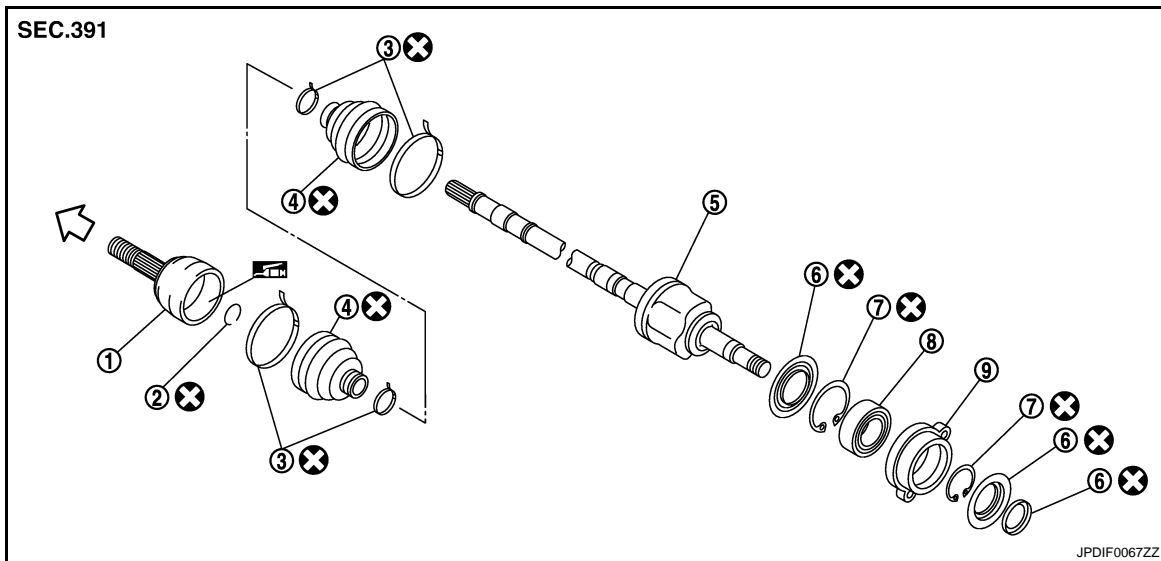
Refer to [GI-4, "Components"](#) for symbols not described on the above.

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[2WD]

RIGHT SIDE



- | | | |
|-----------------------|---------------------|----------------|
| 1. Joint sub-assembly | 2. Circular clip | 3. Boot band |
| 4. Boot | 5. Housing assembly | 6. Dust shield |
| 7. Snap ring | 8. Support bearing | 9. Retainer |

↔ : Wheel side

: Fill NISSAN Genuine grease or equivalent.

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

M9R : Removal and Installation

INFOID:000000001208584

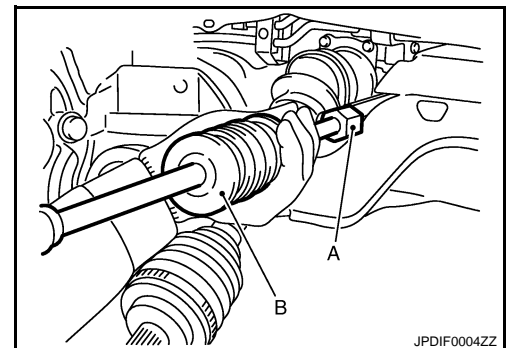
REMOVAL

Left Side

- Refer to the procedure from 1 to 11 in [FAX-14, "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-14, "Replacement"](#).
- Remove support bearing housing mounting bolts.
- 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.

INSTALLATION

Left Side

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

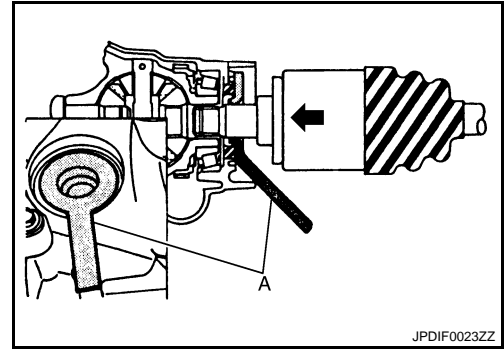
[2WD]

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.



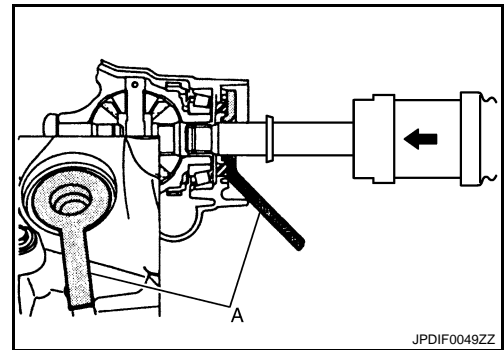
A
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C

FAX

Right Side

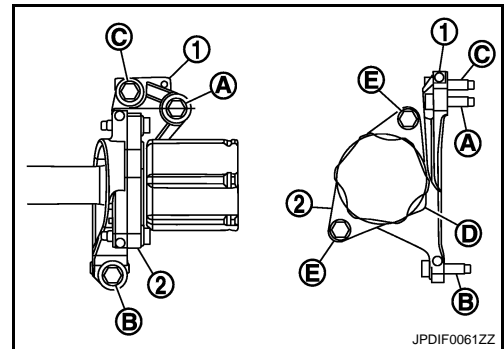
Note the following, and install in the reverse order of removal.

- 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.



E
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- When installing support bearing bracket (1).
 - Temporarily tighten mounting bolts (A), (B).
 - Tighten mounting bolts in the order (C), (A), (B).
 - Set support bearing housing (2) so that protrusion (D) become vehicle front side, tighten mounting bolt (E).



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M9R : Disassembly and Assembly

INFOID:000000001208585

DISASSEMBLY

Transaxle Side

1. Housing on the side of transaxle cannot be disassembled. When removing boot, perform procedure 1 to 5 on the wheel side first. And then remove dynamic damper and band (left side).
2. Remove boot bands, then remove boots from housing assembly, and remove boot from shaft after the above service.
3. Remove dust shield from housing assembly.
4. Remove circular clip from housing assembly (left side).
5. Clean old grease on housing assembly with paper towels.

Support Bearing

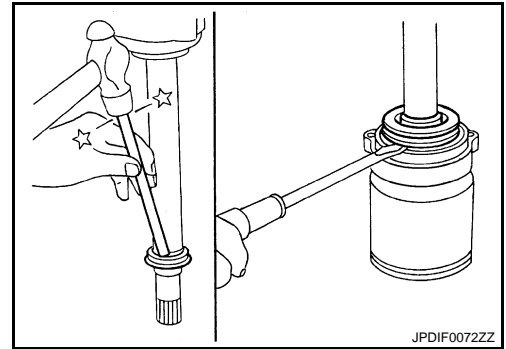
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FRONT DRIVE SHAFT

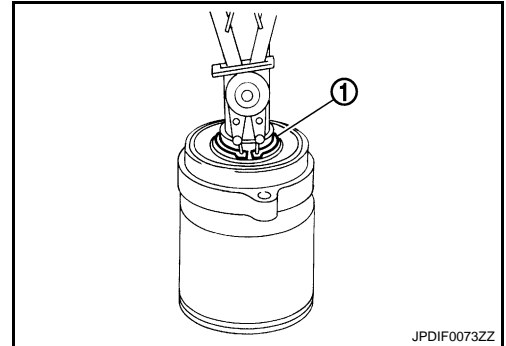
< ON-VEHICLE REPAIR >

[2WD]

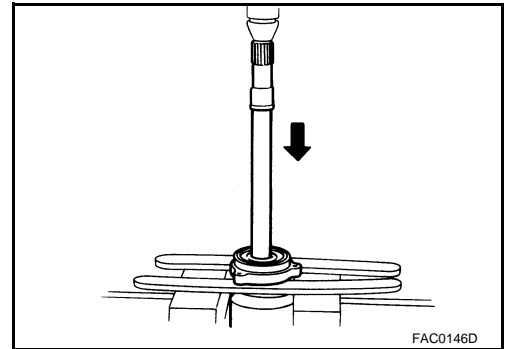
1. Remove dust shields from housing assembly.



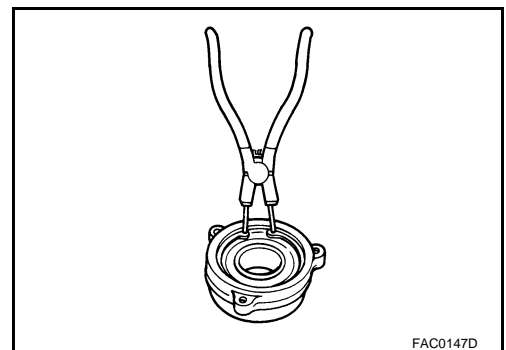
2. Remove snap ring (1).



3. Press out retainer and support bearing from housing assembly.



4. Remove snap ring.
5. Remove support bearing from retainer.



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 >

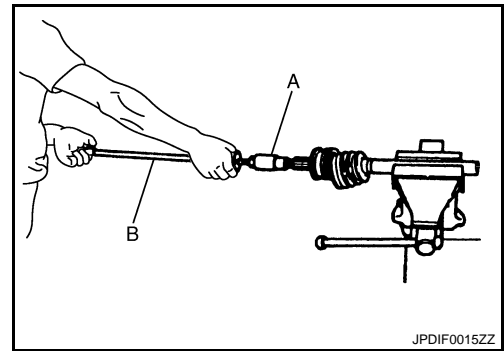
[2WD]

- 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.

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



JPDIF0015ZZ

A
B
C

FAX

ASSEMBLY

Transaxle Assembly Side

- Wrap serration on housing assembly with tape to protect boot from damage. Install new boot and boot bands to housing assembly.

CAUTION:

Never reuse boot and boot band.

- Remove the tape wrapped around the serration on housing assembly.
- Apply specified amount grease to the housing assembly.

Standard

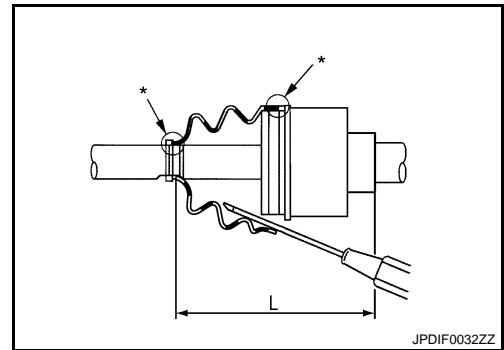
Grease amount : Refer to [FAX-34, "Drive Shaft"](#).

- 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.



JPDIF0032ZZ

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L

Standard

Boots installed length (L) : Refer to [FAX-34, "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.

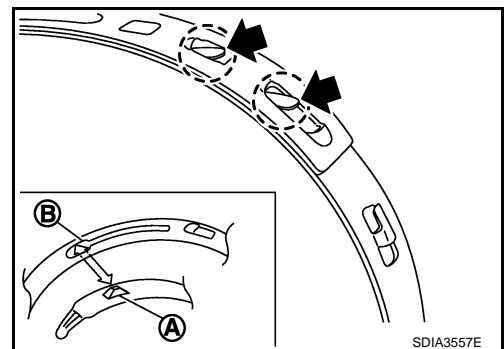
CAUTION:

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.



SDIA3557E

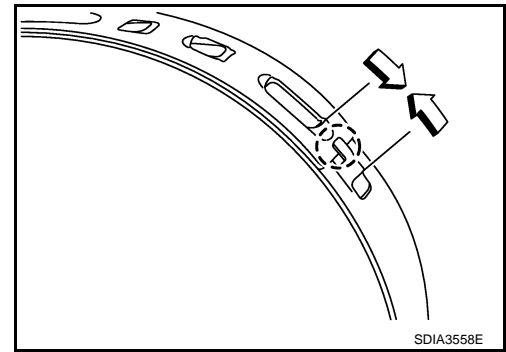
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FRONT DRIVE SHAFT

[2WD]

< ON-VEHICLE REPAIR >

8. Pinch projection on the band with suitable pliers to tighten band.
9. Insert tip of band below end of the pawl.
10. 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.



11. Install dust shield.

CAUTION:
Never reuse dust shield.

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

CAUTION:
Never reuse circular clip.

Support Bearing

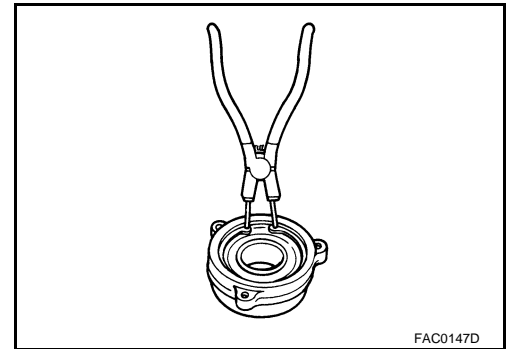
1. Install dust shield on housing assembly.

CAUTION:
Never reuse dust shield.

2. Install support bearing into retainer.

3. Install snap ring to retainer.

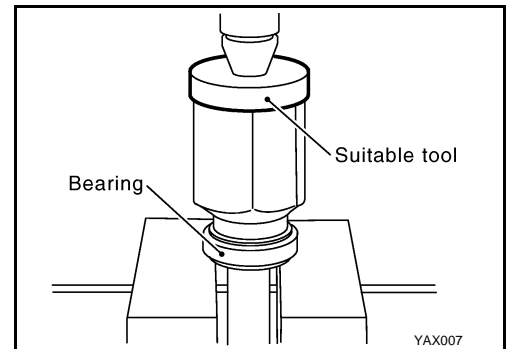
CAUTION:
Never reuse snap ring.



4. Install retainer and support bearing to housing assembly.

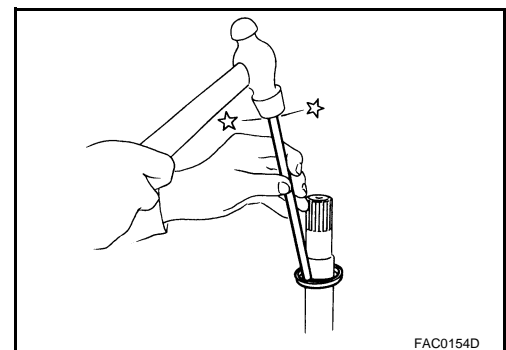
5. Install snap ring.

CAUTION:
Never reuse snap ring.



6. Install dust shields.

CAUTION:
Never reuse dust shields.



Dynamic Damper

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[2WD]

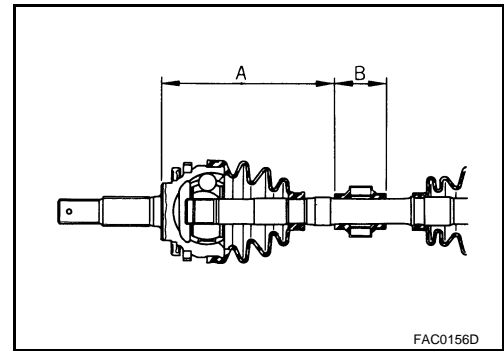
Secure dynamic damper with bands in the following specified position when removing.

CAUTION:

Never reuse bands.

Standard

Demission : [FAX-34, "Drive Shaft"](#).



Wheel Side

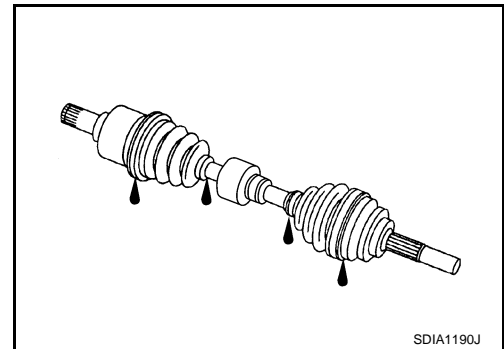
For further details, refer to the installation procedure of "[FAX-14, "Replacement"](#)" for the drive shaft boot.

M9R : Inspection

INFOID:000000001208775

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:000000001208587

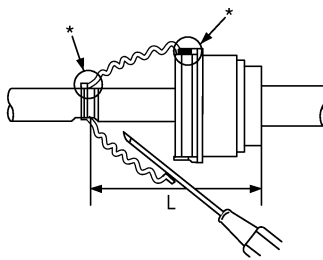
Axial end play	0.05 mm (0.002 in) or less
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Drive Shaft

INFOID:000000001208588

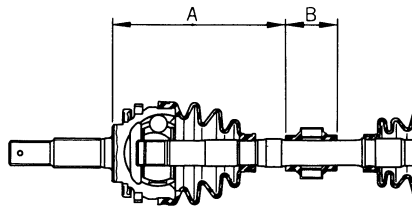
MR20DE

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



JPDIF0031ZZ

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



FAC0156D

M9R

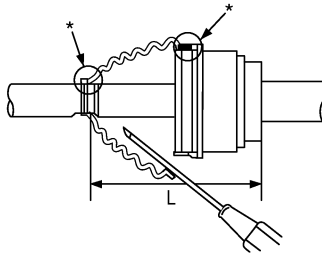
Joint		Wheel side	Transaxle assembly side
Grease quantity	Left side	175 – 205 g (6.17 – 7.23 oz)	165 – 175 g (5.82 – 6.17 oz)
	Right side		

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

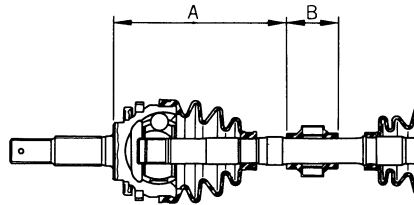
[2WD]

Boots installed length (L)	Left side	164.0 mm (6.46 in)	173.0 mm (6.81 in)
	Right side		



JPDIF0031ZZ

Dynamic damper		A	B
Dimension	Left side	229.5 – 235.5 mm (9.04 – 9.27 in)	70 mm (2.76 in)



FAC0156D

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

< SYMPTOM DIAGNOSIS >

[4WD]

SYMPTOM DIAGNOSIS

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

INFOID:000000001208624

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

Reference page															
Possible cause and SUSPECTED PARTS															
Symptom	DRIVE SHAFT	Excessive joint angle	Joint sliding resistance	Imbalance	Improper installation, looseness	Parts interference	Wheel bearing damage	FRONT AXLE AND FRONT SUSPENSION	FRONT AXLE	TIRE	ROAD WHEEL	DRIVE SHAFT	BRAKE	STEERING	
		Noise	×	×				×	×	×	×	×		×	×
		Shake	×		×			×	×	×	×	×		×	×
		Noise				×	×	×	×		×	×	×	×	×
		Shake				×	×	×	×		×	×	×	×	×
		Vibration				×	×	×	×		×		×		×
		Shimmy				×	×		×		×	×		×	×
		Judder				×			×		×	×		×	×
	Poor quality ride or handling				×	×		×		×	×				

×: Applicable

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

INFOID:000000001208625

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the "SRS AIRBAG" and "SEAT BELT" 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 "SRS AIRBAG".
- 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:000000001208626

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:000000001208627

CAUTION:

Note the following precautions when disassembling and assembling drive shaft.

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

PRECAUTIONS

< PRECAUTION >

[4WD]

-
- 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.

PREPARATION

< PREPARATION >

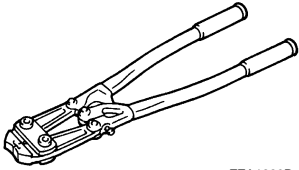

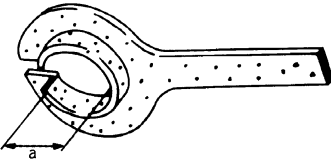
[4WD]

PREPARATION

PREPARATION

Special Service Tool

INFOID:000000001208628

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.  PDIA1183J	Installing drive shaft

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FAX

ON-VEHICLE MAINTENANCE

FRONT WHEEL HUB AND KNUCKLE

Inspection

INFOID:000000001208642

MOUNTING INSPECTION

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

WHEEL BEARING INSPECTION

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

Standard

Axial end play : Refer to [FAX-76, "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:000000001208643

- 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.

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FRONT WHEEL HUB AND KNUCKLE

< ON-VEHICLE REPAIR >

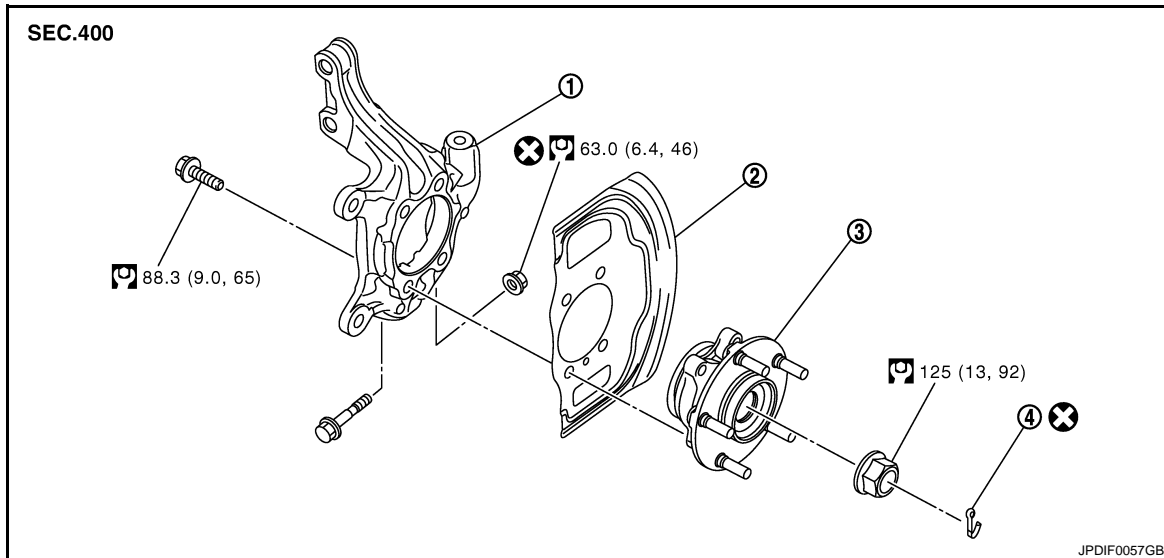
[4WD]

ON-VEHICLE REPAIR

FRONT WHEEL HUB AND KNUCKLE

Exploded View

INFOID:000000001208629



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:000000001208630

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"](#) (without ESP), [BRC-198, "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 \(WITHOUT ESP\) : Exploded View"](#) (LHD without ESP), [BR-22, "FRONT \(WITH ESP\) : Exploded View"](#) (LHD with ESP), [BR-69, "FRONT \(WITHOUT ESP\) : Exploded View"](#) (RHD without ESP), [BR-72, "FRONT \(WITH ESP\) : Exploded View"](#) (RHD with ESP).

4. Remove torque member mounting bolts. Hang torque member not to interfere with work. Refer to [BR-42, "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (LHD), [BR-89, "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (RHD).

CAUTION:

Never depress brake pedal while brake caliper is removed.

5. Remove disc rotor.

CAUTION:

- Put matching marks on the wheel hub and bearing assembly and the disc rotor before removing the disc rotor.
- Never drop disc rotor.

6. Remove cotter pin, and then loosen hub lock nut.

FRONT WHEEL HUB AND KNUCKLE

[4WD]

< ON-VEHICLE REPAIR >

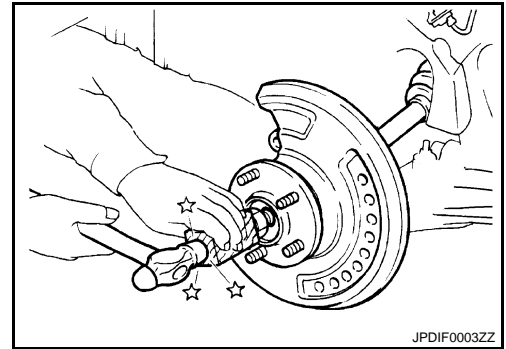
7. Patch hub lock nut with a piece of wood. Hammer the wood to disengage wheel hub and bearing assembly from drive shaft. Remove the hub lock nut.

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.

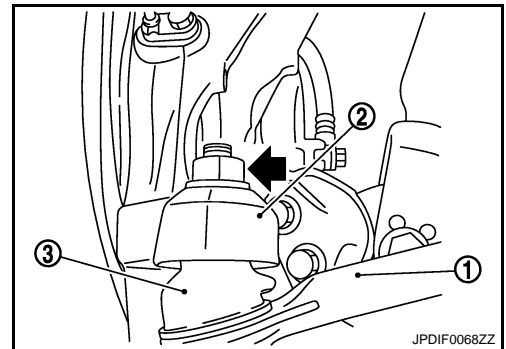
Steering Knuckle

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

CAUTION:

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

6. Remove steering knuckle from vehicle.



INSTALLATION

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

CAUTION:

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

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

Inspection

INFOID:000000001208631

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-13, "Exploded View"](#).

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).

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FRONT DRIVE SHAFT BOOT

< ON-VEHICLE REPAIR >

[4WD]

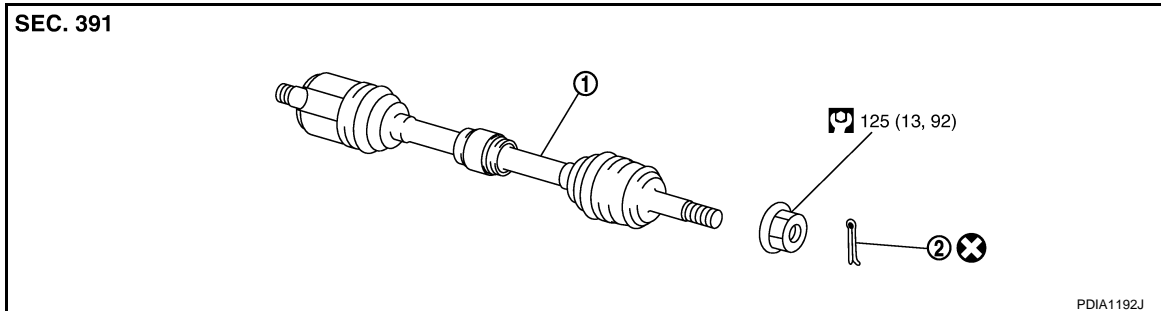
FRONT DRIVE SHAFT BOOT

Exploded View

INFOID:000000001208632

REMOVAL

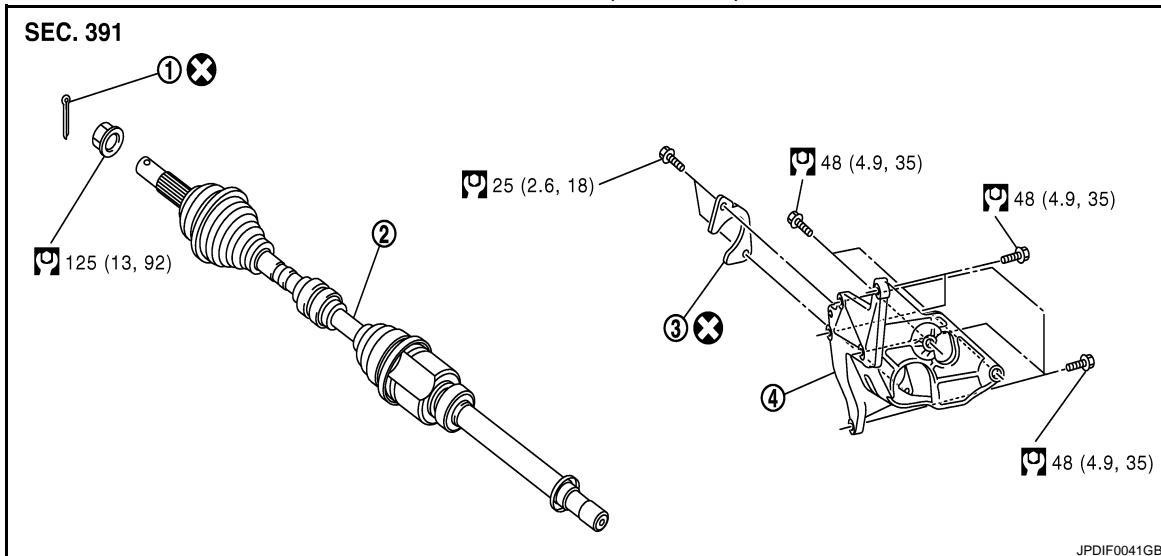
LEFT SIDE



1. Drive shaft
2. Cotter pin

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

RIGHT SIDE (MR20DE)



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

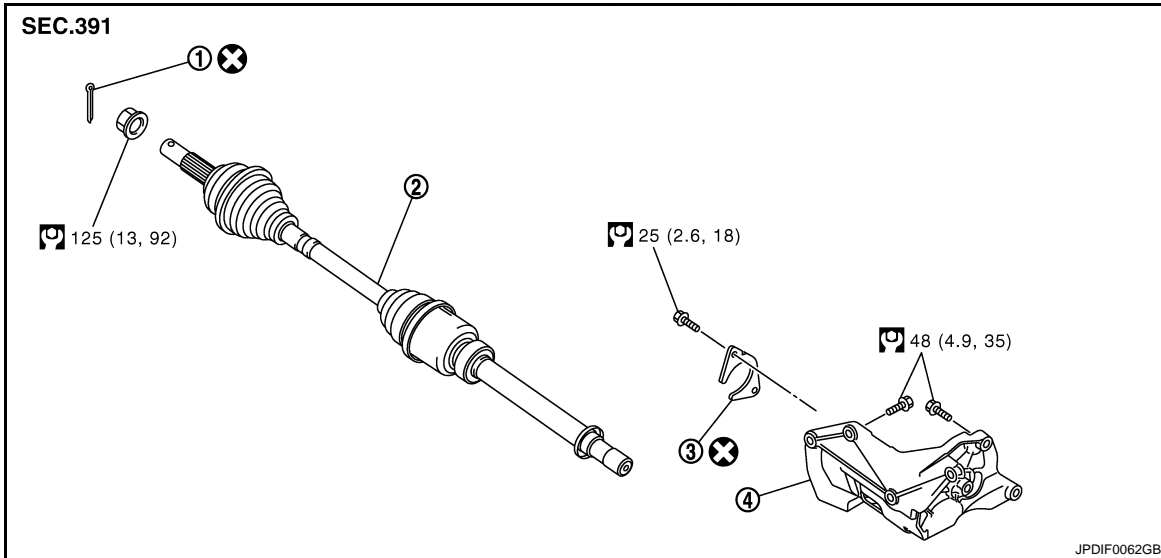
Refer to [GI-4, "Components"](#) for symbols in the figure.

FRONT DRIVE SHAFT BOOT

< ON-VEHICLE REPAIR >

[4WD]

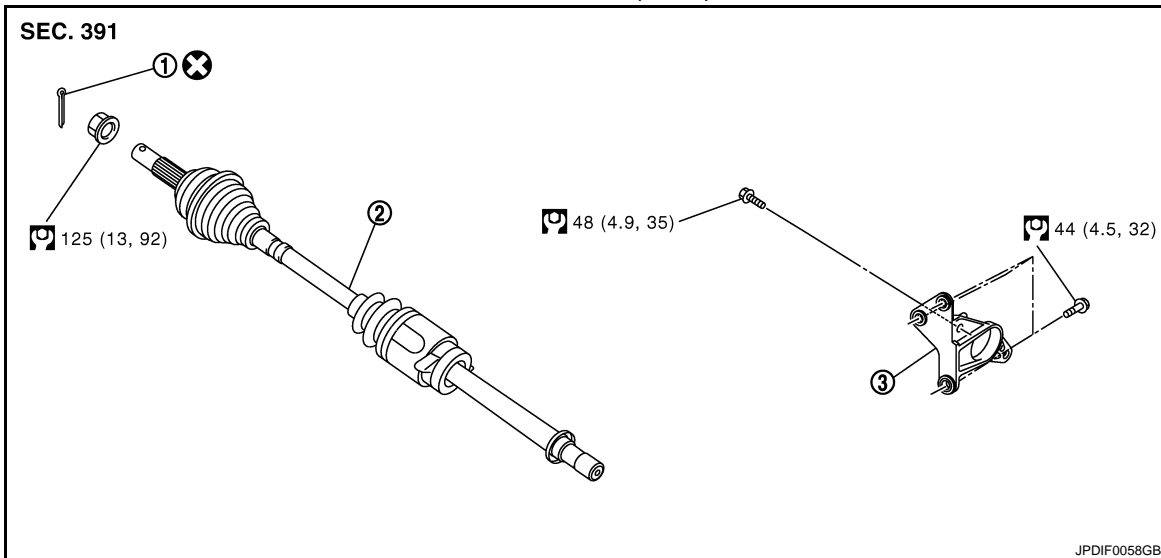
RIGHT SIDE (QR25DE)



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

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

RIGHT SIDE (M9R)



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

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

DISASSEMBLY

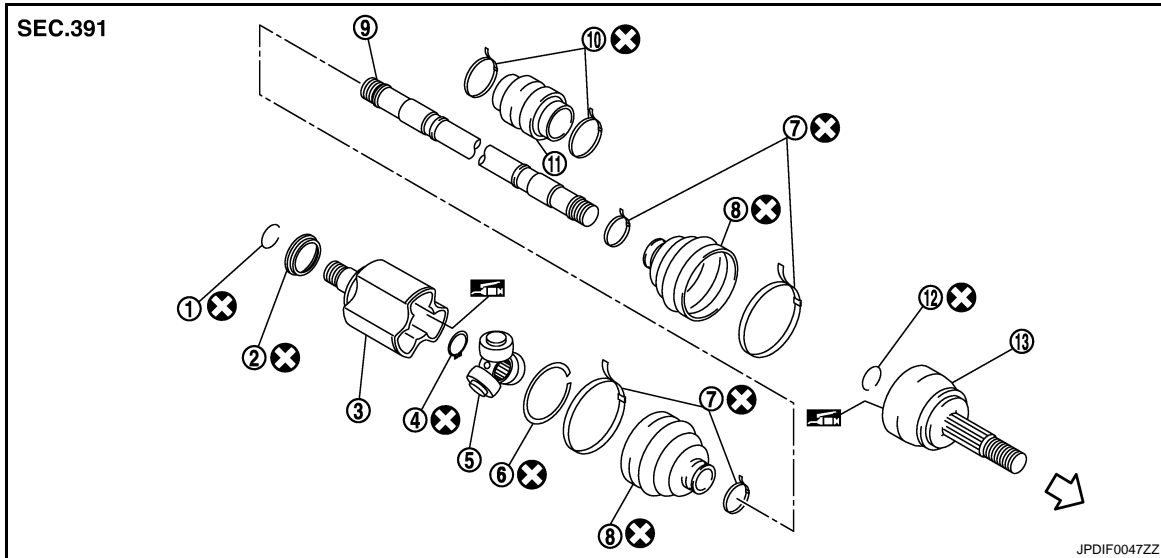
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FRONT DRIVE SHAFT BOOT

< ON-VEHICLE REPAIR >

[4WD]

LEFT SIDE (MR20DE AND QR25DE)



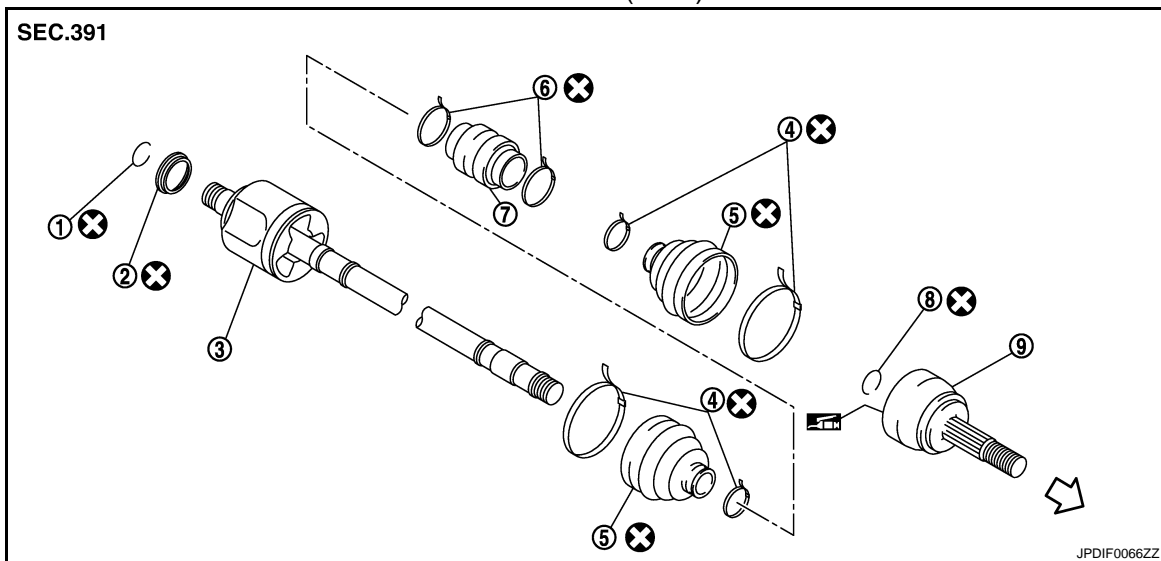
- | | | |
|--------------------------|-----------------------------|-------------------|
| 1. Circular clip | 2. Dust shield | 3. Housing |
| 4. Snap ring | 5. Spider assembly | 6. Stopper ring |
| 7. Boot band | 8. Boot | 9. Shaft |
| 10. Damper band (QR25DE) | 11. Dynamic damper (QR25DE) | 12. Circular 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.

LEFT SIDE (M9R)



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|-------------------|------------------|-----------------------|
| 1. Circular clip | 2. Dust shield | 3. Housing assembly |
| 4. Boot band | 5. Boot | 6. Damper band |
| 7. Dynamic damper | 8. Circular clip | 9. Joint sub-assembly |

↶ : Wheel side

: Fill NISSAN Genuine grease or equivalent.

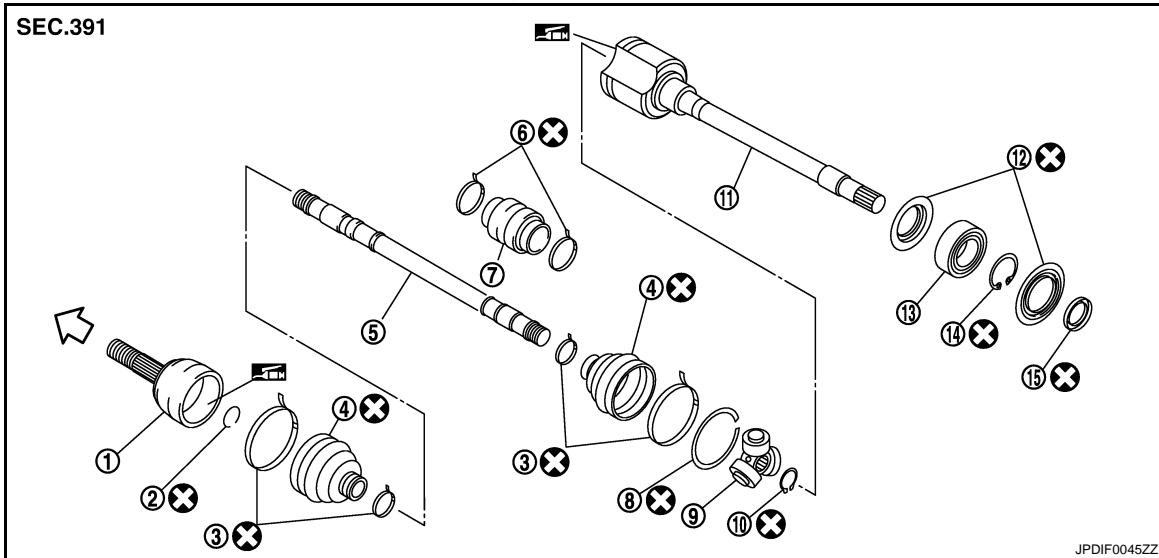
Refer to [GI-4. "Components"](#) for symbols not described on the above.

FRONT DRIVE SHAFT BOOT

< ON-VEHICLE REPAIR >

[4WD]

RIGHT SIDE (MR20DE AND QR25DE)



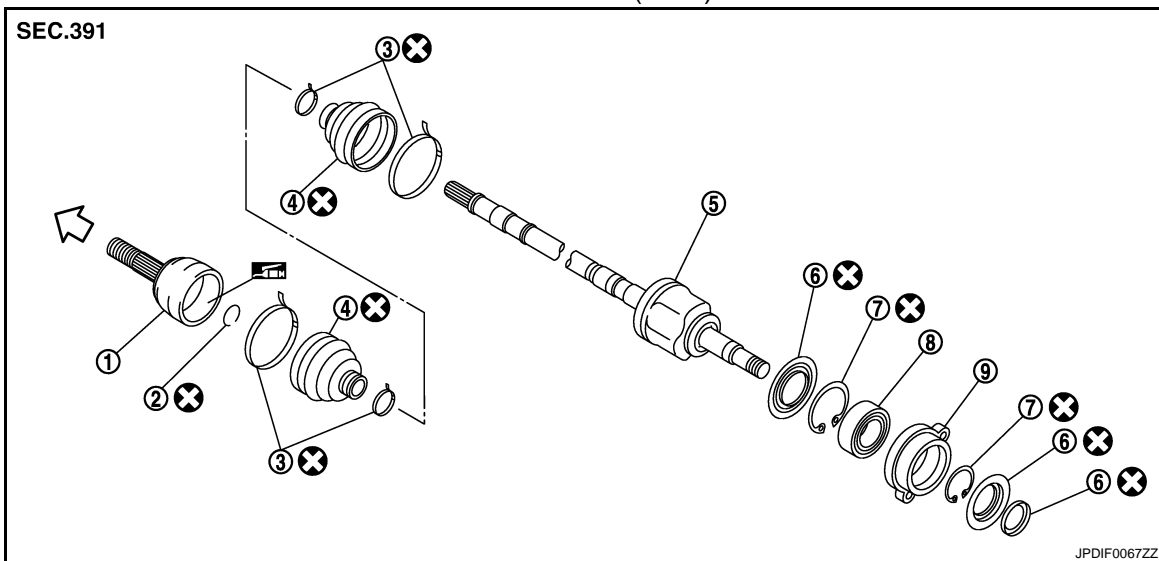
- | | | |
|----------------------------|------------------|-------------------------|
| 1. Joint sub-assembly | 2. Circular clip | 3. Boot band |
| 4. Boot | 5. Shaft | 6. Damper band (MR20DE) |
| 7. Dynamic damper (MR20DE) | 8. Stopper ring | 9. Spider assembly |
| 10. Snap ring | 11. Housing | 12. 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.

RIGHT SIDE (M9R)



- | | | |
|-----------------------|---------------------|----------------|
| 1. Joint sub-assembly | 2. Circular clip | 3. Boot band |
| 4. Boot | 5. Housing assembly | 6. Dust shield |
| 7. Snap ring | 8. Support bearing | 9. Retainer |

↶ : Wheel side

: Fill NISSAN Genuine grease or equivalent.

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

FRONT DRIVE SHAFT BOOT

< ON-VEHICLE REPAIR >

[4WD]

Replacement

INFOID:000000001208633

WHEEL SIDE

1. Remove tires from vehicle.
2. Remove wheel sensor from steering knuckle. Refer to [BRC-67, "FRONT WHEEL SENSOR : Exploded View"](#) (without ESP), [BRC-198, "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 \(WITHOUT ESP\) : Exploded View"](#) (LHD without ESP), [BR-22, "FRONT \(WITH ESP\) : Exploded View"](#) (LHD with ESP), [BR-69, "FRONT \(WITHOUT ESP\) : Exploded View"](#) (RHD without ESP), [BR-72, "FRONT \(WITH ESP\) : Exploded View"](#) (RHD with ESP).
4. Remove torque member mounting bolts. Hang torque member not to interfere with work. Refer to [BR-42, "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (LHD), [BR-89, "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (RHD).

CAUTION:

Never depress brake pedal while brake caliper is removed.

5. Remove disc rotor.
 - CAUTION:**
 - Put matching marks on the wheel hub and bearing assembly and the disc rotor before removing the disc rotor.
 - Never drop disc rotor.
6. Remove cotter pin, and 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.

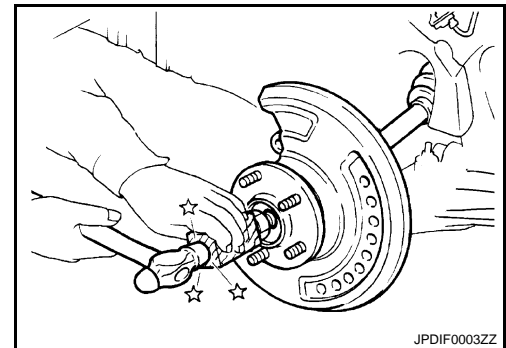
CAUTION:

- 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 transverse link from steering knuckle.

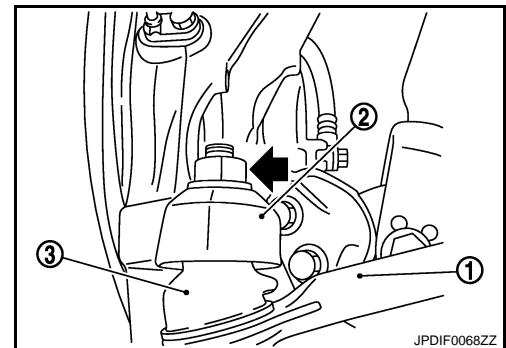


9. Loosen the nut of steering outer socket.
10. Remove steering outer socket (1) from steering knuckle (2) using the ball joint remover so as not to damage ball joint boot (3).

CAUTION:

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

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

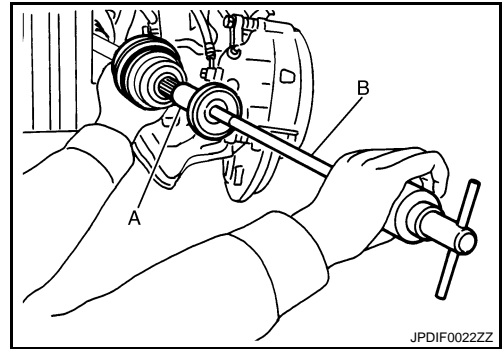
[4WD]

< ON-VEHICLE REPAIR >

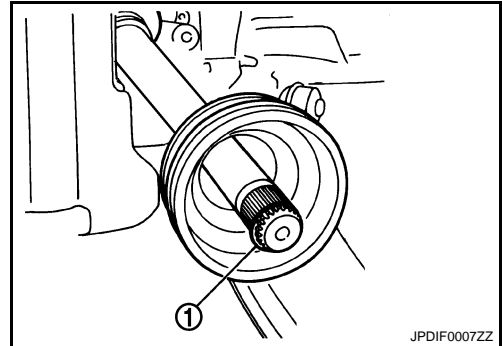
13. Screw a drive shaft puller (A) into joint sub-assembly screw part to a length of 30 mm (1.18 in) or more. Support drive shaft with one hand and pull out joint sub-assembly with a sliding hammer (B) from shaft.

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.



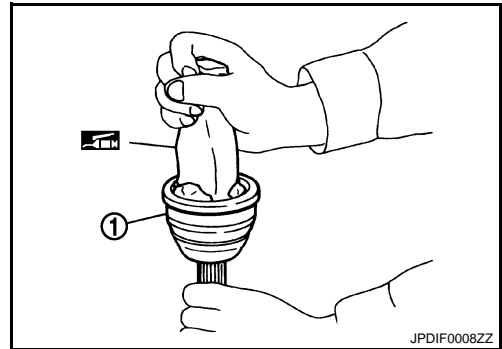
14. Remove circular clip (1) from shaft (MR20DE and QR25DE) or housing assembly (M9R).
15. Remove boot from shaft.
16. Clean the old grease on joint sub-assembly with paper towels.



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.

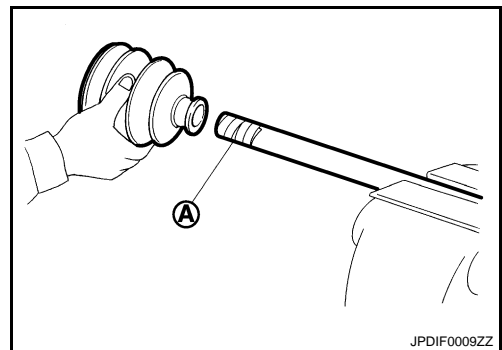


18. Wrap serration on shaft (MR20DE and QR25DE) or housing assembly (M9R) with tape (A) to protect the boot from damage. Install boot and boot bands to shaft.

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.

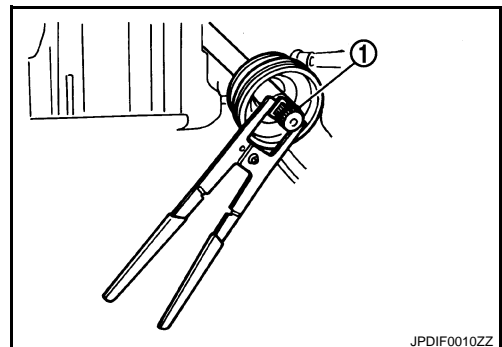
CAUTION:

Never reuse circular clip.

NOTE:

Drive joint inserter is recommended when installing circular clip.

21. Align both center axles of the shaft edge and joint sub-assembly. Then assemble shaft with circular clip joint sub-assembly.



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FRONT DRIVE SHAFT BOOT

< ON-VEHICLE REPAIR >

[4WD]

22. Install joint sub-assembly (1) to shaft (MR20DE and QR25DE) or housing assembly (M9R) using plastic hammer.

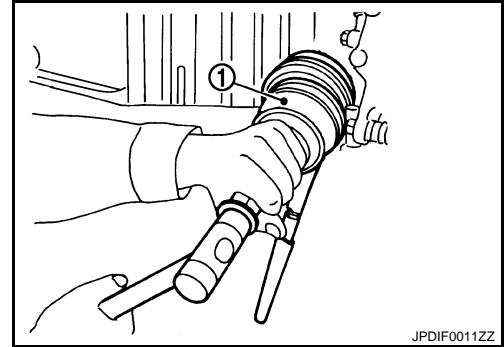
CAUTION:

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-76, "Drive Shaft"](#).



JPDIF0011ZZ

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

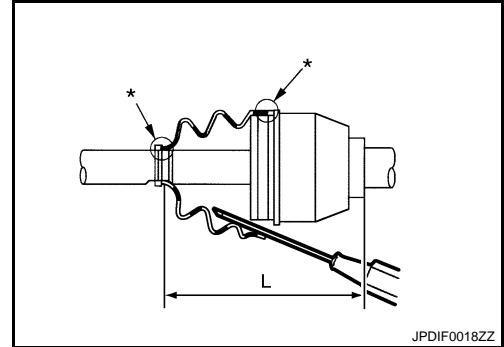
CAUTION:

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-76, "Drive Shaft"](#).

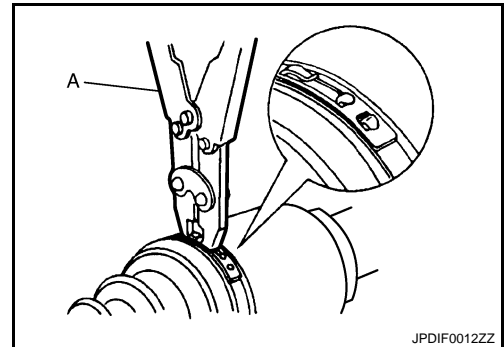


JPDIF0018ZZ

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).



JPDIF0012ZZ

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)

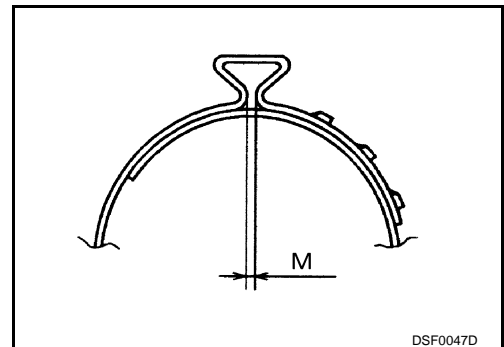
27. Secure joint sub-assembly and shaft, and then make sure that they are in the correct position when rotating boot. Install them with boot band when boot installation positions become incorrect.

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.

29. Install transverse to steering knuckle. Refer to [FSU-13, "Exploded View"](#).



DSF0047D

FRONT DRIVE SHAFT BOOT

[4WD]

< ON-VEHICLE REPAIR >

30. Install steering outer socket to steering knuckle. Refer to [ST-13, "Exploded View"](#).
31. Install disc rotor.
CAUTION:
Align the matching marks made during removal when reusing the disc rotor.
32. Install torque member to steering knuckle. Refer to [BR-42, "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (LHD), [BR-89, "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (RHD).
33. Install lock plate to strut assembly. Refer to [BR-19, "FRONT \(WITHOUT ESP\) : Exploded View"](#) (LHD without ESP), [BR-22, "FRONT \(WITH ESP\) : Exploded View"](#) (LHD with ESP), [BR-69, "FRONT \(WITHOUT ESP\) : Exploded View"](#) (RHD without ESP), [BR-72, "FRONT \(WITH ESP\) : Exploded View"](#) (RHD with ESP).
34. Install wheel sensor to steering knuckle. Refer to [BRC-67, "FRONT WHEEL SENSOR : Exploded View"](#) (without ESP), [BRC-198, "FRONT WHEEL SENSOR : Exploded View"](#) (with ESP).
35. Tighten the hub lock nut to the specified torque.
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.

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FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[4WD]

FRONT DRIVE SHAFT

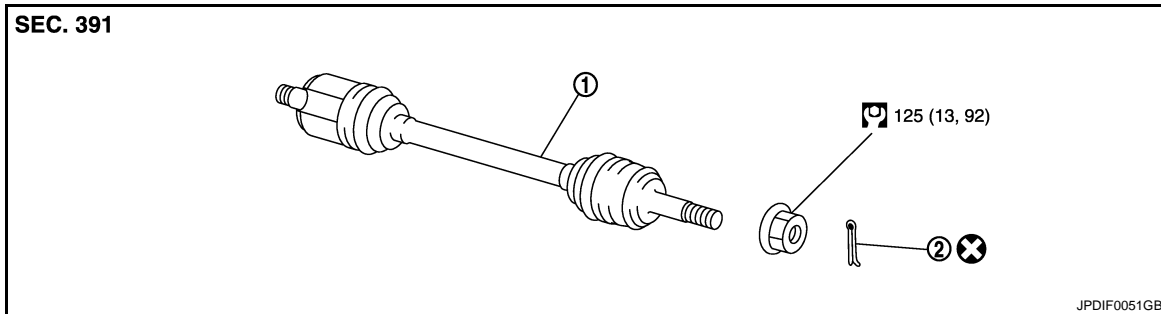
MR20DE

MR20DE : Exploded View

INFOID:000000001208634

REMOVAL

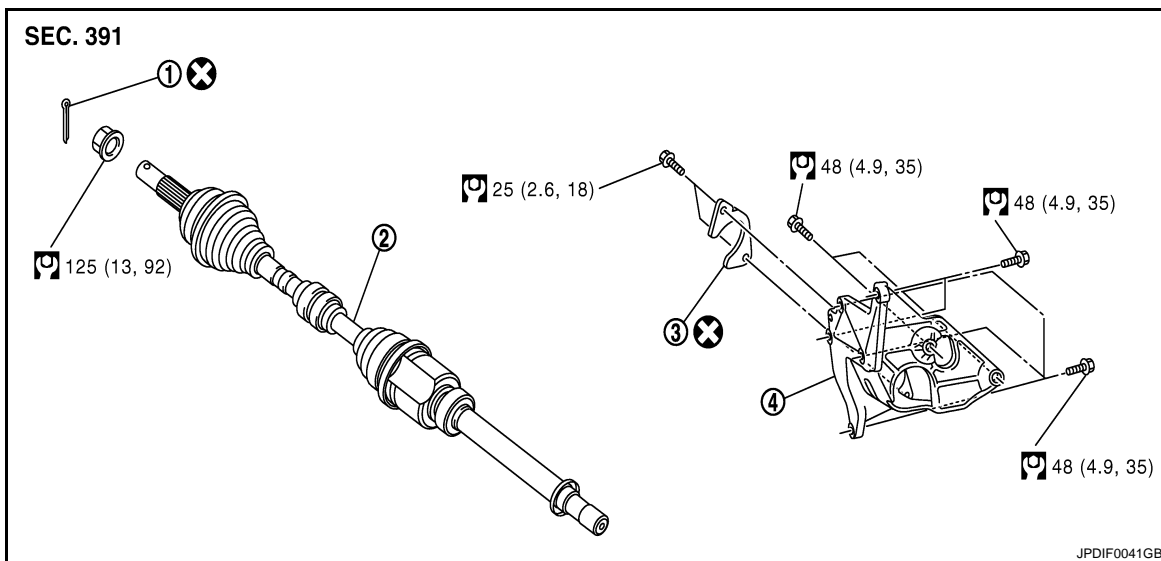
LEFT SIDE



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.

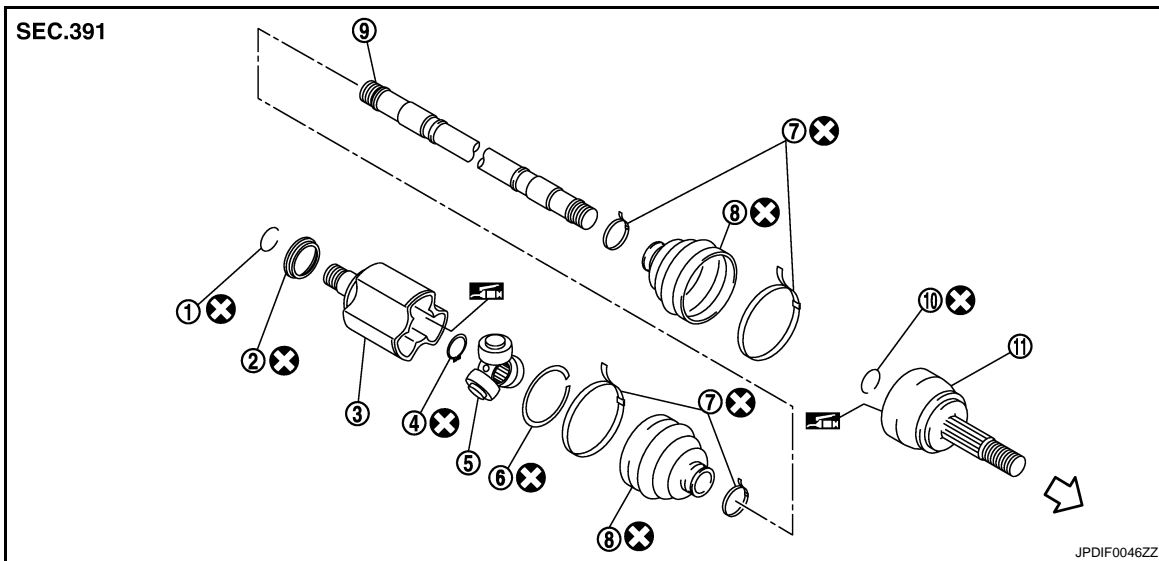
DISASSEMBLY

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[4WD]

LEFT SIDE



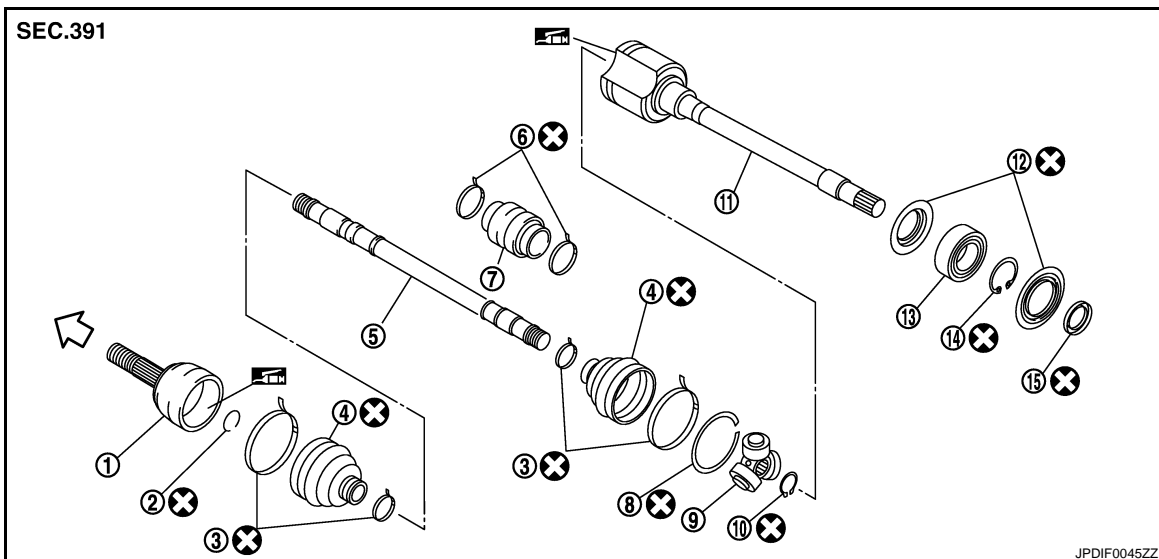
- | | | |
|-------------------|------------------------|-----------------|
| 1. Circular clip | 2. Dust shield | 3. Housing |
| 4. Snap ring | 5. Spider assembly | 6. Stopper ring |
| 7. Boot band | 8. Boot | 9. Shaft |
| 10. Circular clip | 11. Joint sub-assembly | |

⇐ : 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.

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FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[4WD]

MR20DE : Removal and Installation

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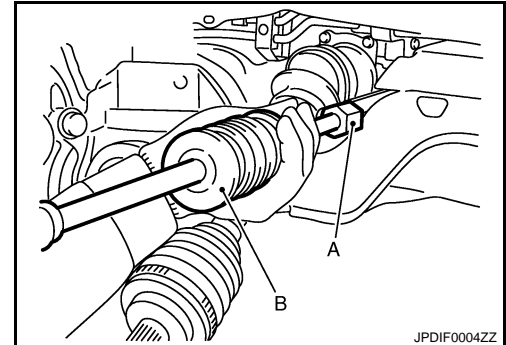
REMOVAL

Left Side

1. Refer to the procedure from 1 to 11 in [FAX-48, "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-48, "Replacement"](#).
2. Remove exhaust manifold stay. Refer to [EM-30, "Exploded View"](#).
3. Remove plate mounting bolts and plate.
4. If necessary, remove the support bearing bracket mounting bolts and the support bearing bracket.
5. 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.

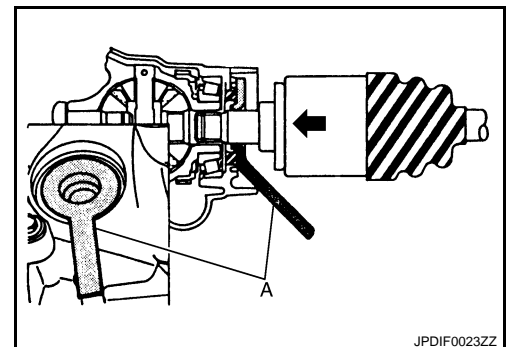
CAUTION:

Always replace differential side oil seal with new one when installing drive shaft. Refer to [TM-533, "MR20DE : 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:

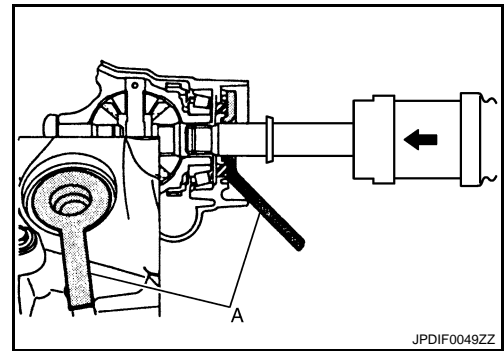
Always replace differential side oil seal with new one when installing drive shaft. Refer to [TM-533, "MR20DE : Exploded View"](#) (CVT).

FRONT DRIVE SHAFT

[4WD]

< ON-VEHICLE REPAIR >

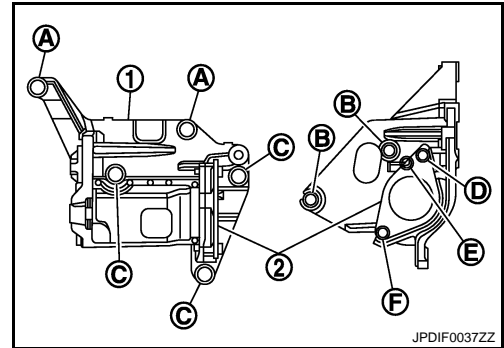
- Place the protector (A) (SST: KV38107900) onto transaxle assembly to prevent damage to the oil seal while inserting drive shaft. Slide drive shaft sliding joint and tap with a hammer to install securely.



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

CAUTION:

Never reuse plate.



MR20DE : Disassembly and Assembly

INFOID:000000001208636

DISASSEMBLY

Transaxle Assembly Side

1. Fix shaft with a vise.

CAUTION:

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

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

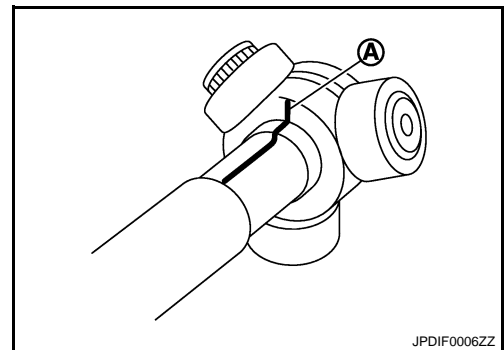
CAUTION:

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

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

CAUTION:

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

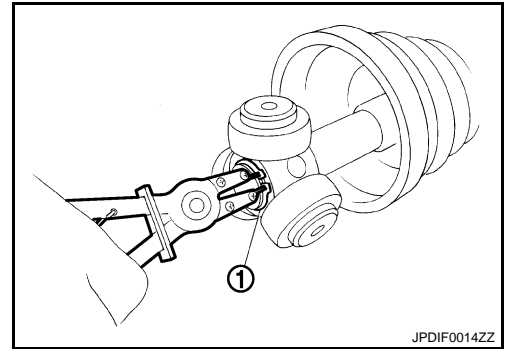


FRONT DRIVE SHAFT

[4WD]

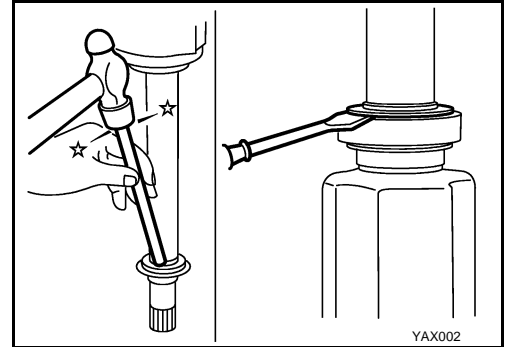
< ON-VEHICLE REPAIR >

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

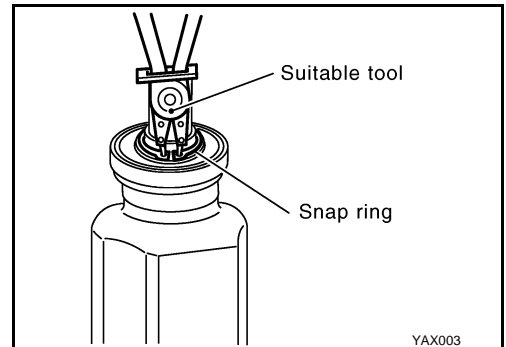


Support Bearing

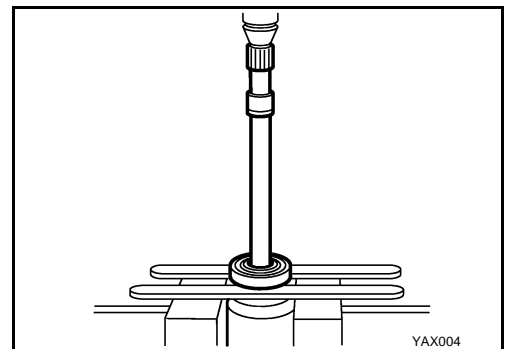
1. Remove dust shield from housing.



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]

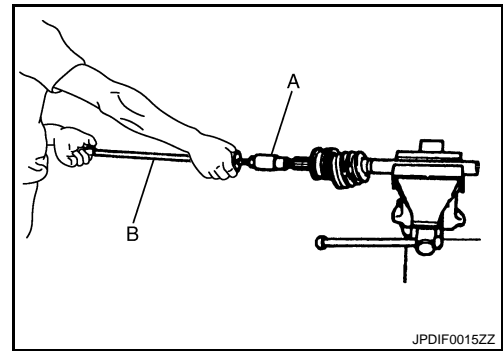
< ON-VEHICLE REPAIR >

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.



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ASSEMBLY

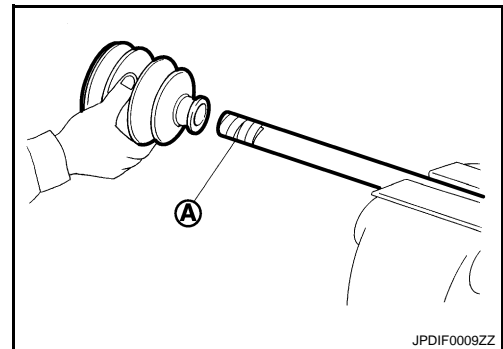
Transaxle Assembly Side

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.



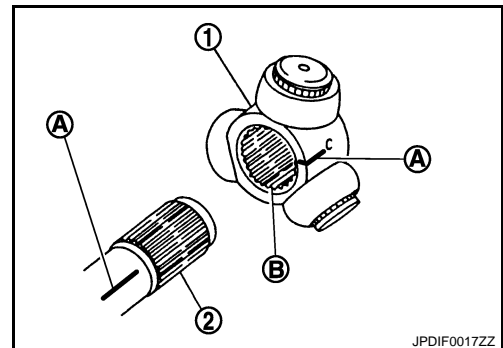
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3. To install the spider assembly (1), align it with the matching marks (A) on the shaft (2) during the removal, and direct the serration mounting surface (B) to the shaft.



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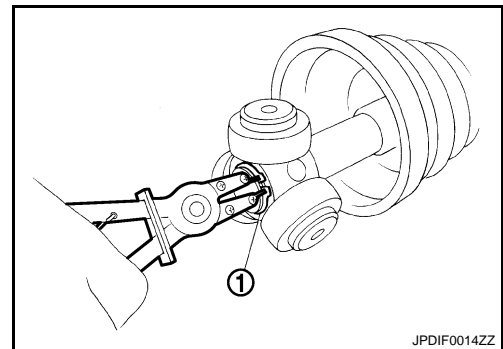
L

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.



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Standard

Grease amount : Refer to [FAX-76, "Drive Shaft"](#).

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

CAUTION:

Never reuse stopper ring.

P

FRONT DRIVE SHAFT

[4WD]

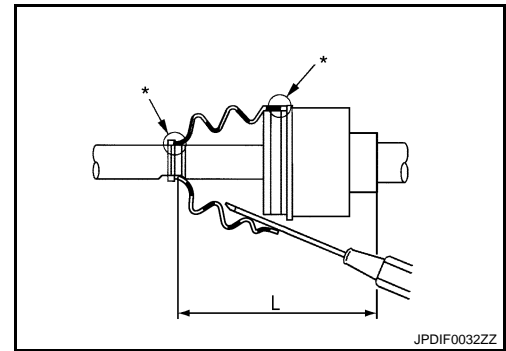
< ON-VEHICLE REPAIR >

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-76, "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 as shown in the figure.

CAUTION:

Never reuse boot band.

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

13. Install dust shield (left side).

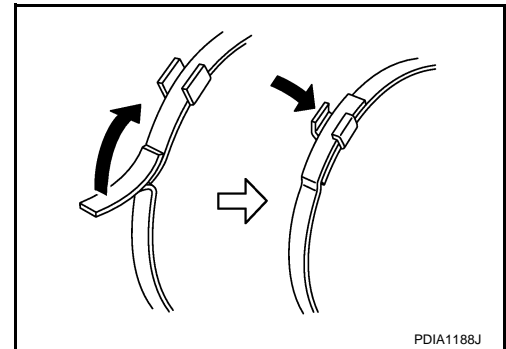
CAUTION:

Never reuse dust shield.

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

CAUTION:

Never reuse circular clip.



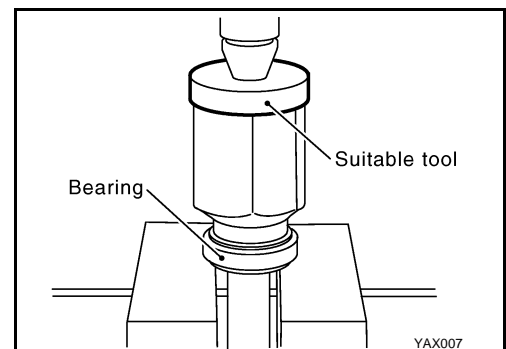
Support Bearing

1. Install dust shield on housing.

CAUTION:

Never reuse dust shield.

2. Press support bearing onto housing.



3. Install snap ring.

CAUTION:

Never reuse snap ring.

FRONT DRIVE SHAFT

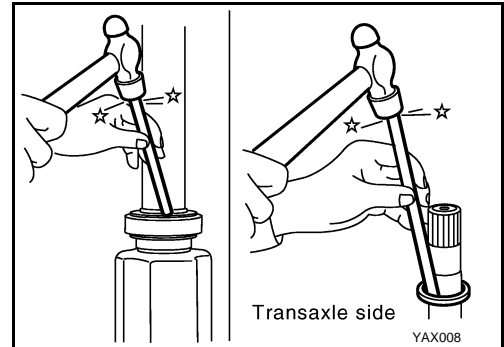
[4WD]

< ON-VEHICLE REPAIR >

4. Install dust shields.

CAUTION:

Never reuse dust shields.



Dynamic Damper

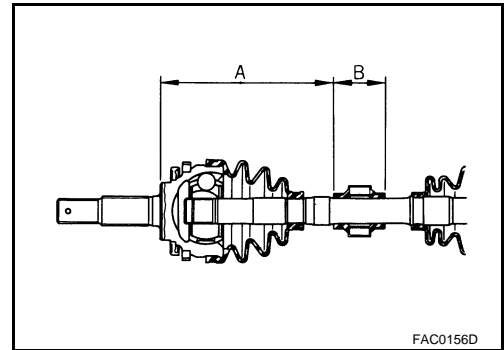
Secure dynamic damper with bands in the following specified position when removing.

CAUTION:

Never reuse bands.

Standard

Demission : [FAX-76. "Drive Shaft"](#).



Wheel Side

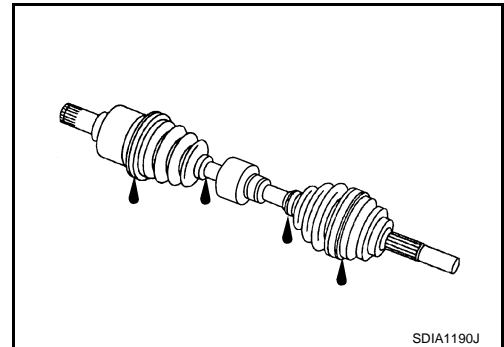
For further details, refer to the installation procedure of "[FAX-48. "Replacement"](#)" for the drive shaft boot.

MR20DE : Inspection

INFOID:000000001208637

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.

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FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[4WD]

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.

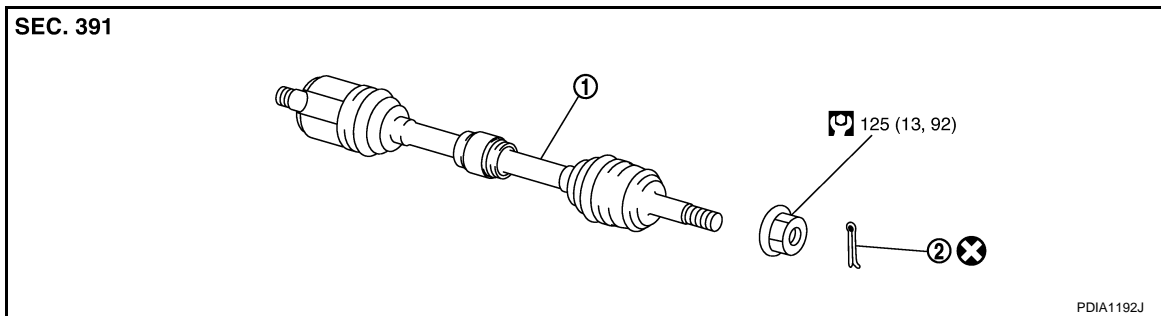
QR25DE

QR25DE : Exploded View

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REMOVAL

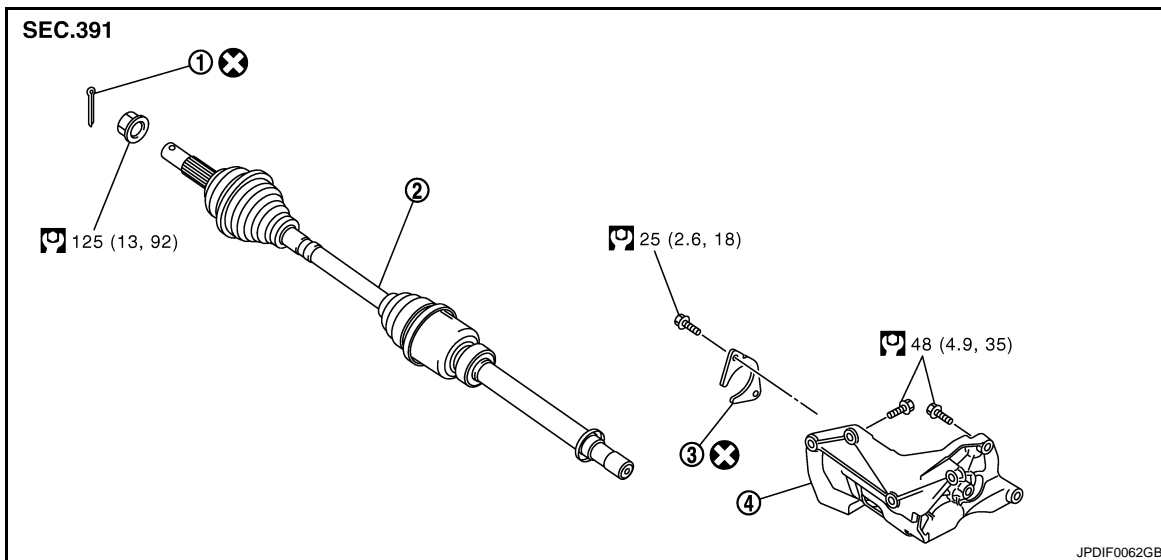
LEFT SIDE



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.

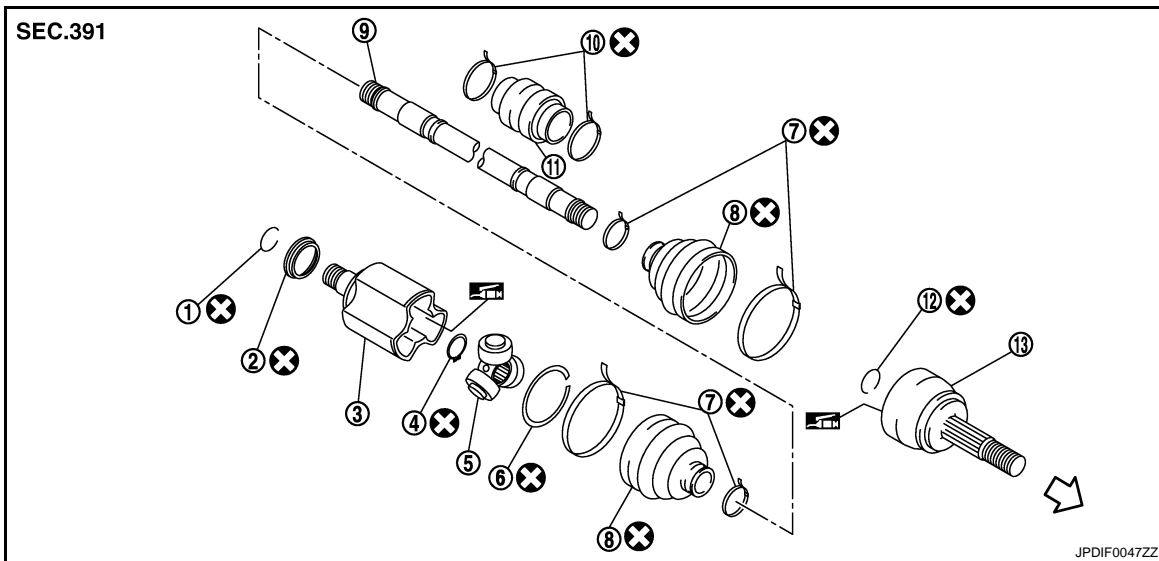
DISASSEMBLY

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[4WD]

LEFT SIDE



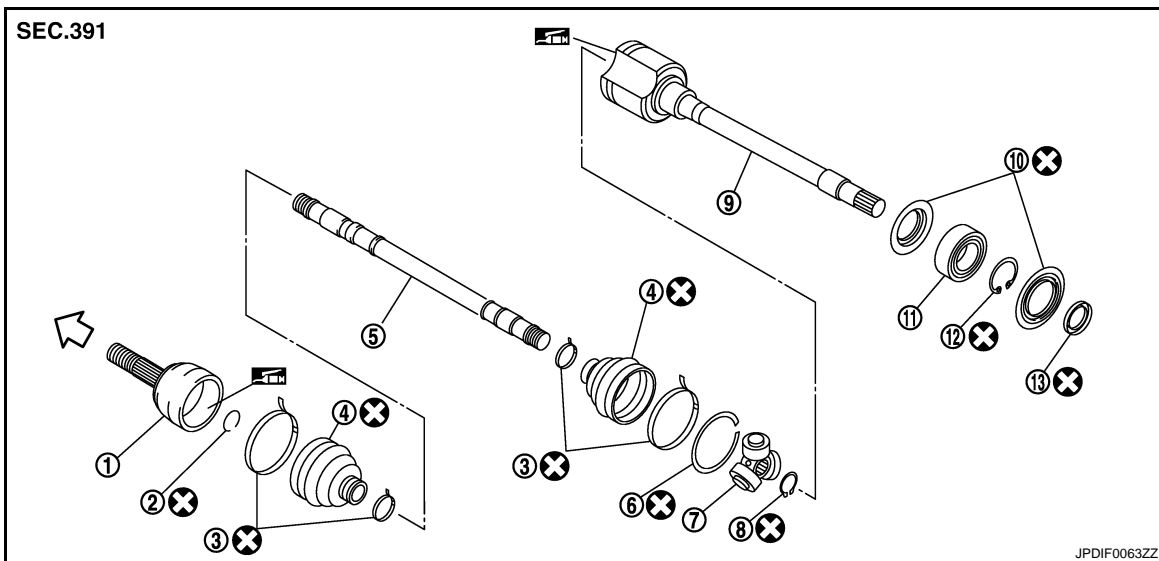
- | | | |
|------------------------|--------------------|-------------------|
| 1. Circular clip | 2. Dust shield | 3. Housing |
| 4. Snap ring | 5. Spider assembly | 6. Stopper ring |
| 7. Boot band | 8. Boot | 9. Shaft |
| 10. Damper band | 11. Dynamic damper | 12. Circular clip |
| 13. Joint sub-assembly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

↔ : Wheel side

: Fill NISSAN Genuine grease or equivalent.

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

RIGHT SIDE



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

↔ : Wheel side

: Fill NISSAN Genuine grease or equivalent.

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

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FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[4WD]

QR25DE : Removal and Installation

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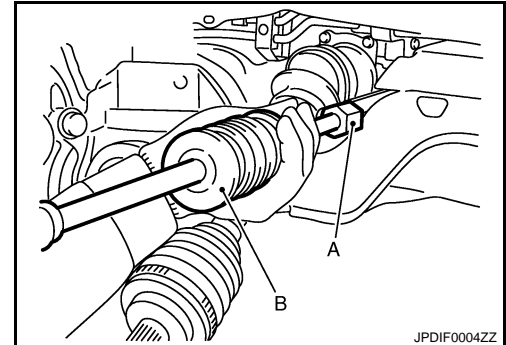
REMOVAL

Left Side

1. Refer to the procedure from 1 to 11 in [FAX-48. "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-48. "Replacement"](#).
2. Remove plate mounting bolts and plate.
3. If necessary, remove the support bearing bracket mounting bolts and the support bearing bracket.
4. Remove drive shaft from transaxle assembly.
 - Use the drive shaft attachment (SST: KV40107500) and a sliding hammer while inserting tip of the drive shaft attachment between housing and transaxle assembly.

CAUTION:

Never place drive shaft joint at an extreme angle when removing drive shaft. Also be careful not to overextend slide joint.

INSTALLATION

Left Side

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

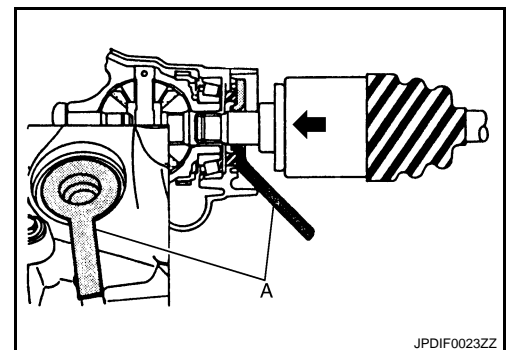
CAUTION:

Always replace differential side oil seal with new one when installing drive shaft. Refer to [TM-534. "QR25DE : 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:

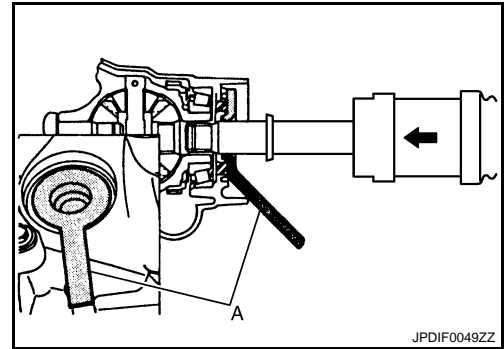
Always replace differential side oil seal with new one when installing drive shaft. Refer to [TM-534. "QR25DE : Exploded View"](#) (CVT).

FRONT DRIVE SHAFT

[4WD]

< ON-VEHICLE REPAIR >

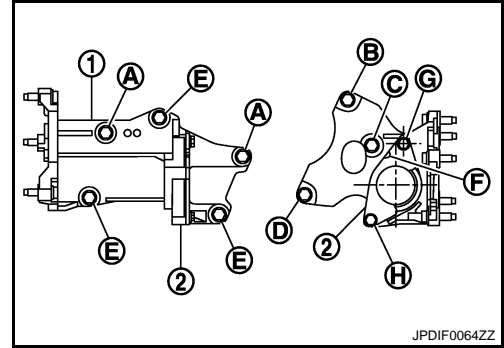
- Place the protector (A) (SST: KV38107900) onto transaxle assembly to prevent damage to the oil seal while inserting drive shaft. Slide drive shaft sliding joint and tap with a hammer to install securely.



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

CAUTION:

Never reuse plate.



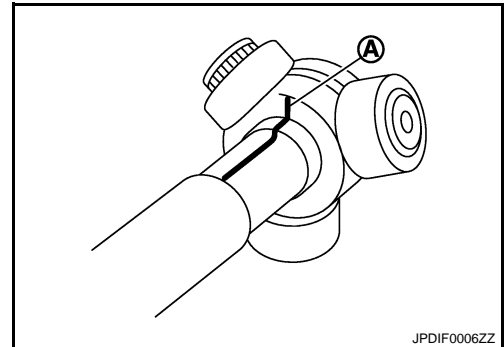
QR25DE : Disassembly and Assembly

INFOID:000000001208853

DISASSEMBLY

Transaxle Assembly Side

1. Fix shaft with a vise.
 - CAUTION:**
Protect shaft using aluminum or copper plates when fixing with a vise.
2. Remove boot bands, and then remove boot from housing.
3. Remove stopper ring.
4. Put matching marks on housing and shaft, and then pull out housing from shaft.
 - CAUTION:**
Use paint or an equivalent for matching marks. Never scratch the surfaces.
5. Put matching marks (A) on the spider assembly and shaft.
 - CAUTION:**
Use paint or an equivalent for matching marks. Never scratch the surfaces.

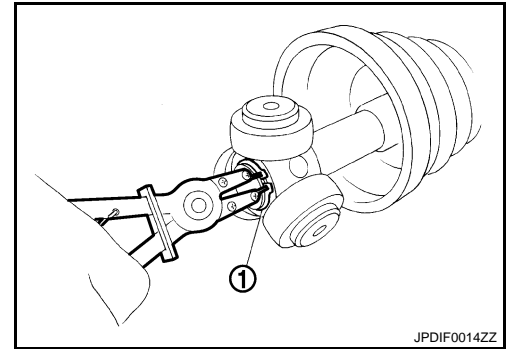


FRONT DRIVE SHAFT

[4WD]

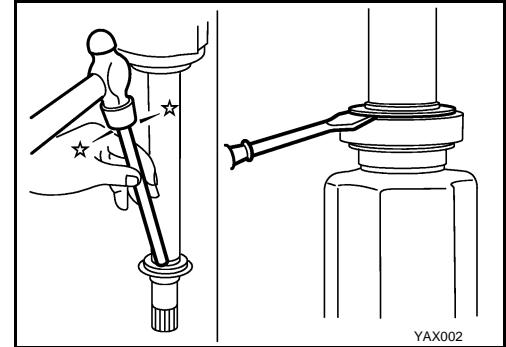
< ON-VEHICLE REPAIR >

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

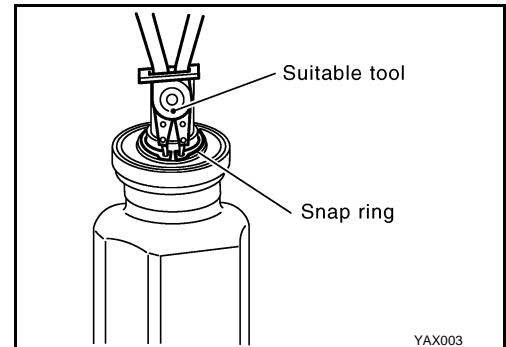


Support Bearing

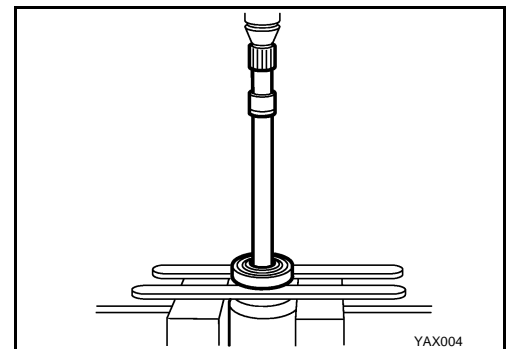
1. Remove dust shield from housing.



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]

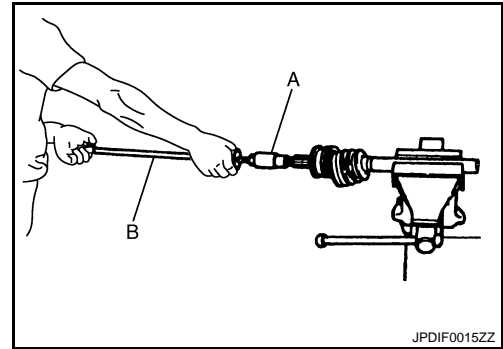
< ON-VEHICLE REPAIR >

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.



A

B

C

FAX

ASSEMBLY

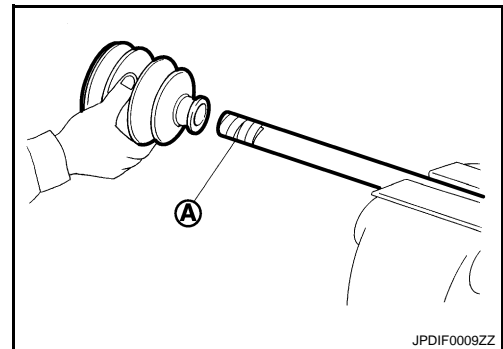
Transaxle Assembly Side

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.



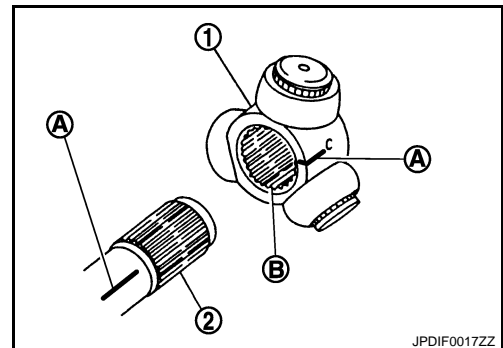
E

F

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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.



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K

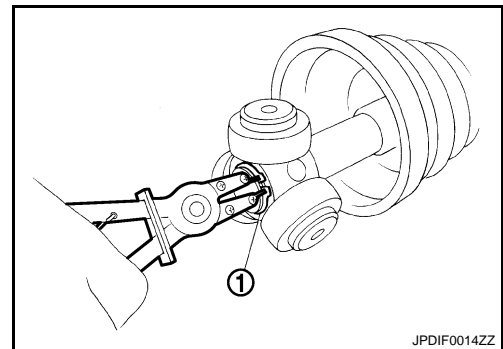
L

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.



M

N

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Standard

Grease amount : Refer to **FAX-76. "Drive Shaft"**.

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

CAUTION:

Never reuse stopper ring.

P

FRONT DRIVE SHAFT

[4WD]

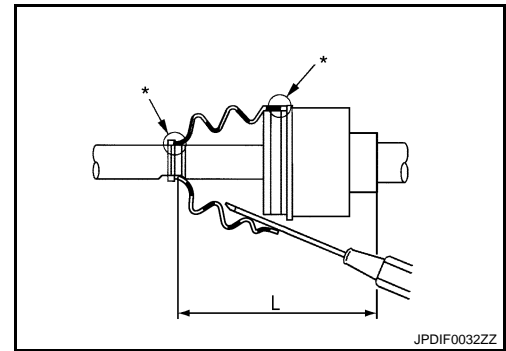
< ON-VEHICLE REPAIR >

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-76, "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 as shown in the figure.

CAUTION:

Never reuse boot band.

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

13. Install dust shield (left side).

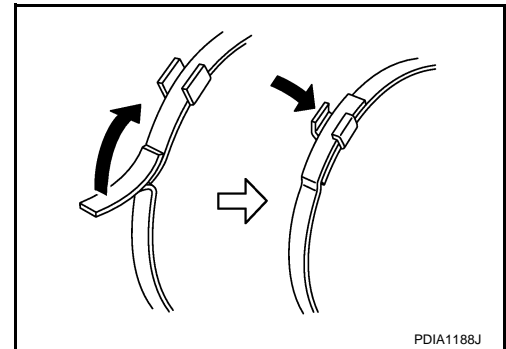
CAUTION:

Never reuse dust shield.

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

CAUTION:

Never reuse circular clip.



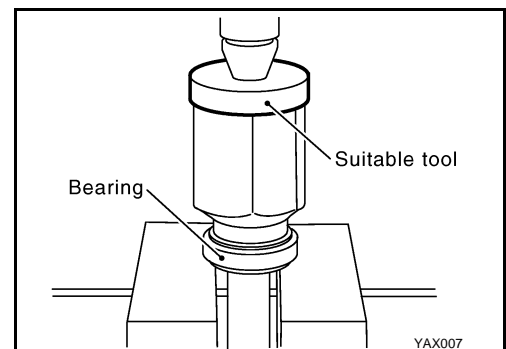
Support Bearing

1. Install dust shield on housing.

CAUTION:

Never reuse dust shield.

2. Press support bearing onto housing.



3. Install snap ring.

CAUTION:

Never reuse snap ring.

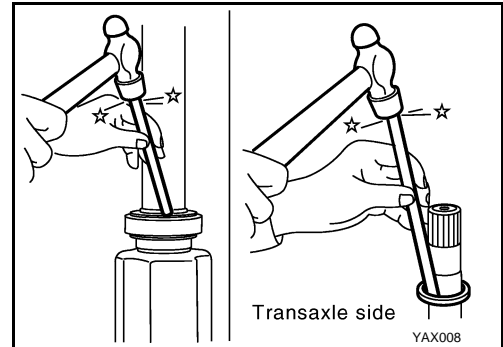
FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[4WD]

4. Install dust shields.

CAUTION:
Never reuse dust shields.



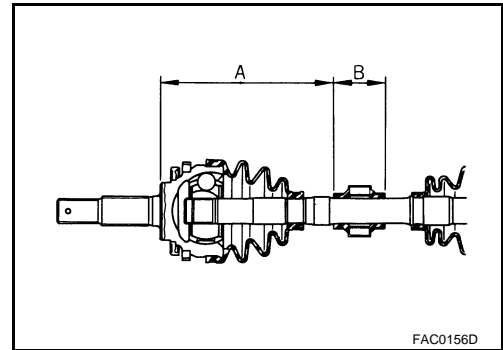
Dynamic Damper

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

CAUTION:
Never reuse bands.

Standard

Demission : [FAX-76. "Drive Shaft"](#).



Wheel Side

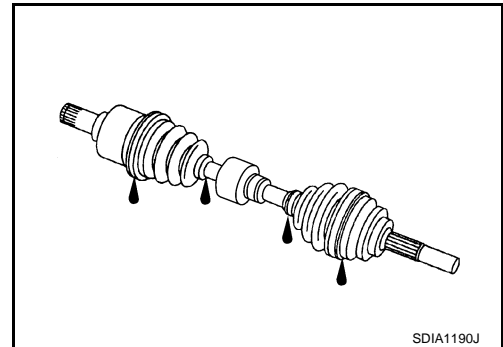
For further details, refer to the installation procedure of "[FAX-48. "Replacement"](#)" for the drive shaft boot.

QR25DE : Inspection

INFOID:000000001208641

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.

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FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[4WD]

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.

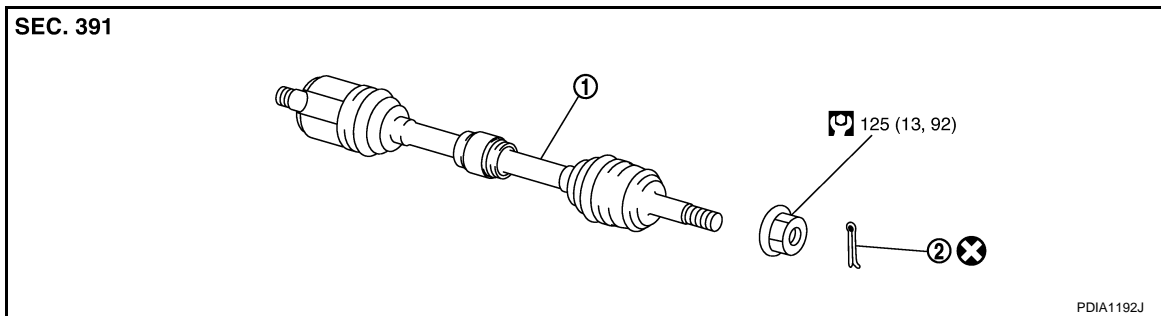
M9R

M9R : Exploded View

INFOID:000000001208863

REMOVAL

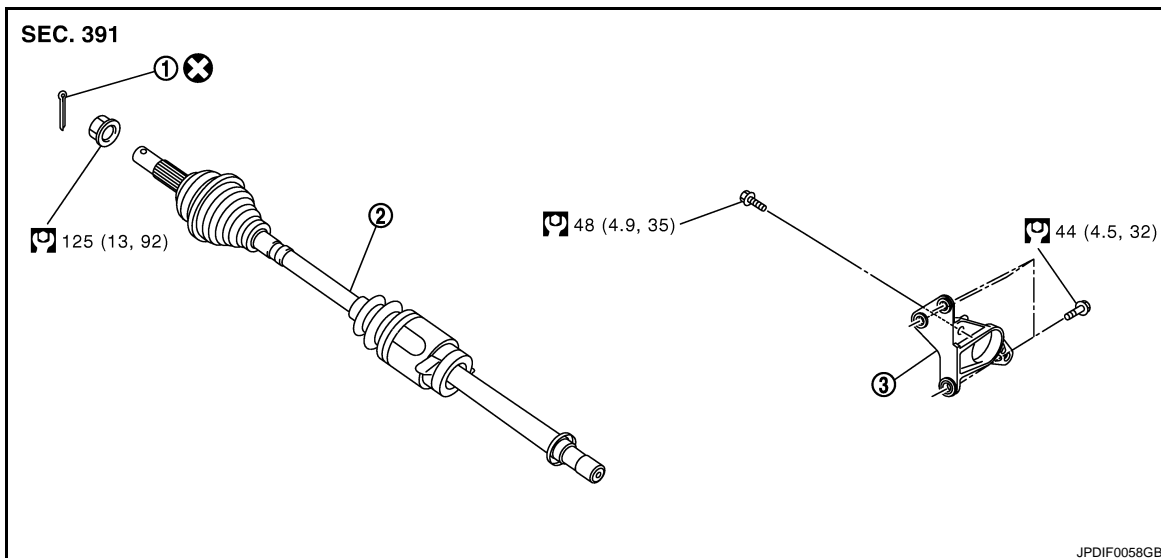
LEFT SIDE



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. Support bearing bracket

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

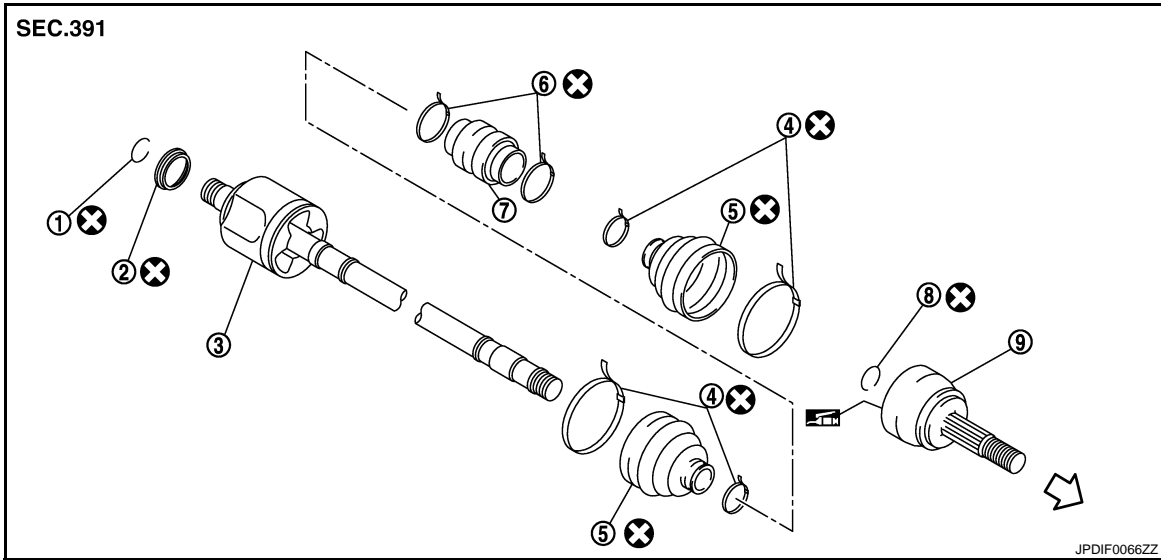
DISASSEMBLY

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

[4WD]

LEFT SIDE



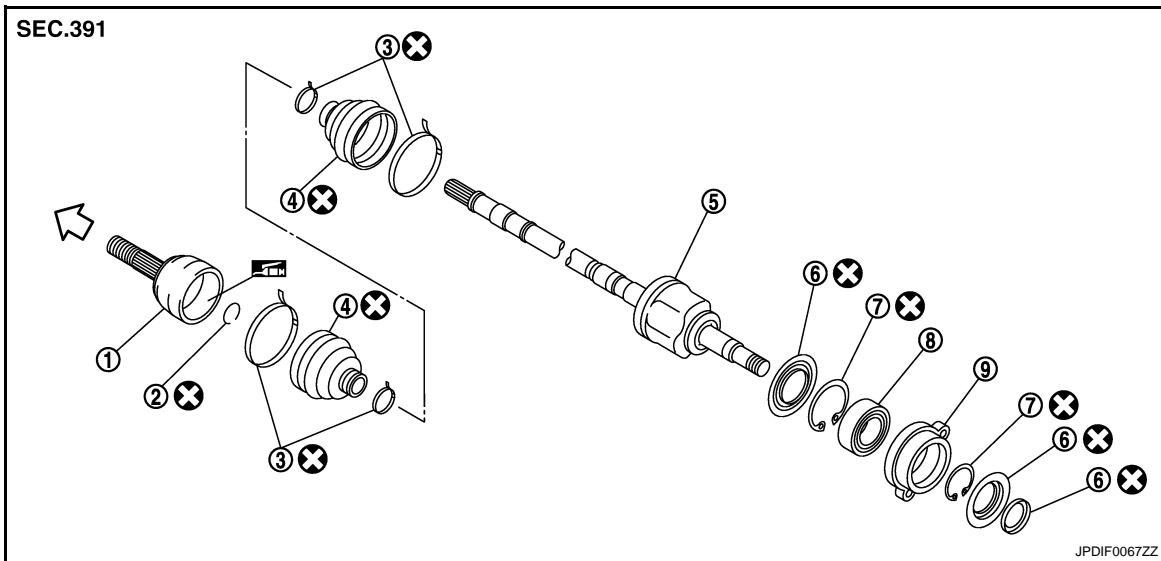
- | | | |
|-------------------|------------------|-----------------------|
| 1. Circular clip | 2. Dust shield | 3. Housing assembly |
| 4. Boot band | 5. Boot | 6. Damper band |
| 7. Dynamic damper | 8. Circular clip | 9. Joint sub-assembly |

⇨ : 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. Housing assembly | 6. Dust shield |
| 7. Snap ring | 8. Support bearing | 9. Retainer |

⇨ : Wheel side

: Fill NISSAN Genuine grease or equivalent.

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

M9R : Removal and Installation

INFOID:000000001208864

REMOVAL

Left Side

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FRONT DRIVE SHAFT

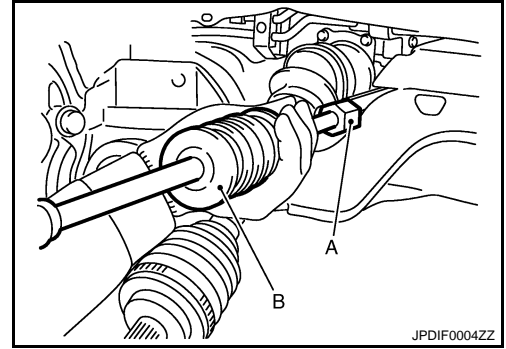
[4WD]

< ON-VEHICLE REPAIR >

1. Refer to the procedure from 1 to 11 in [FAX-48. "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-48. "Replacement"](#).
2. Remove support bearing housing mounting bolts.
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

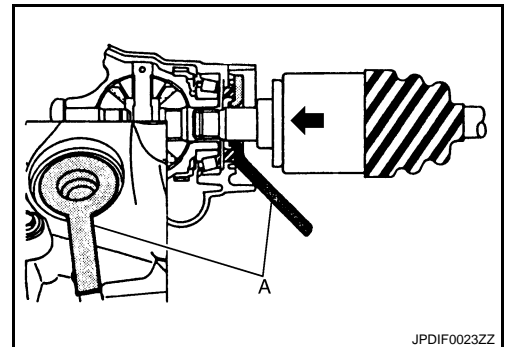
Left Side

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:

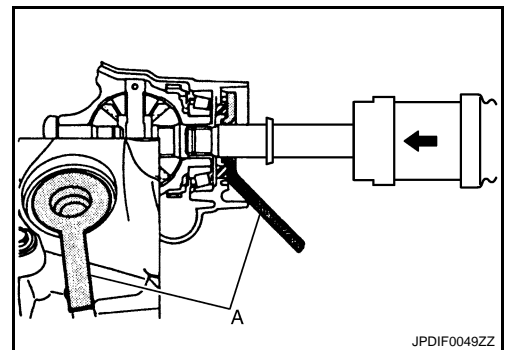
Make sure that circular clip is completely engaged.



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.

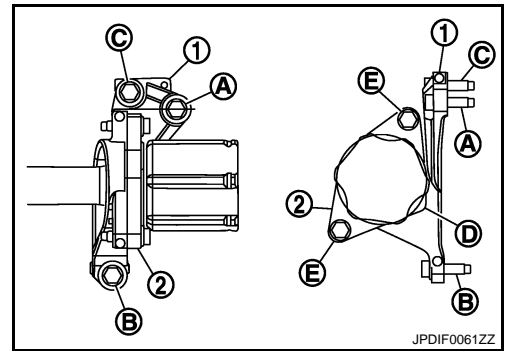


FRONT DRIVE SHAFT

[4WD]

< ON-VEHICLE REPAIR >

- When installing support bearing bracket (1).
- Temporarily tighten mounting bolts (A), (B).
- Tighten mounting bolts in the order (C), (A), (B).
- Set support bearing housing (2) so that protrusion (D) become vehicle front side, tighten mounting bolt (E).



M9R : Disassembly and Assembly

INFOID:000000001208866

FAX

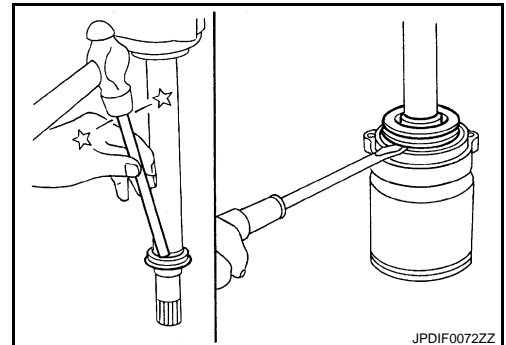
DISASSEMBLY

Transaxle Side

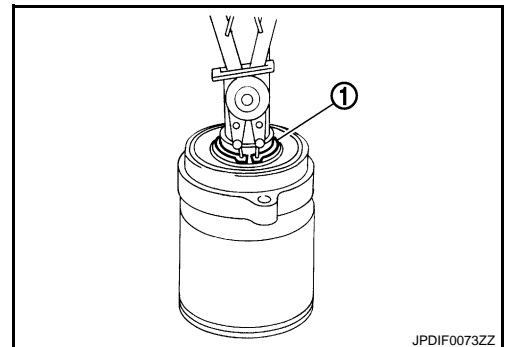
1. Housing on the side of transaxle cannot be disassembled. When removing boot, perform procedure 1 to 5 on the wheel side first. And then remove dynamic damper and band (left side).
2. Remove boot bands, then remove boots from housing assembly, and remove boot from shaft after the above service.
3. Remove dust shield from housing assembly.
4. Remove circular clip from housing assembly (left side).
5. Clean old grease on housing assembly with paper towels.

Support Bearing

1. Remove dust shields from housing assembly.



2. Remove snap ring (1).

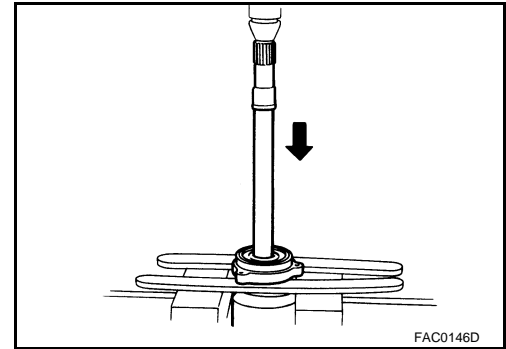


FRONT DRIVE SHAFT

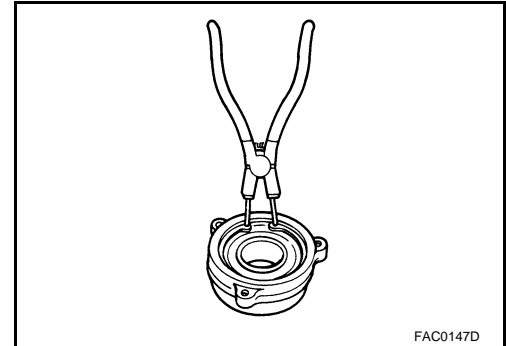
< ON-VEHICLE REPAIR >

[4WD]

3. Press out retainer and support bearing from housing assembly.



4. Remove snap ring.
5. Remove support bearing from retainer.



Dynamic Damper

Remove damper bands, then remove dynamic damper from shaft.

Wheel Side

1. Fix shaft with a vise.

CAUTION:

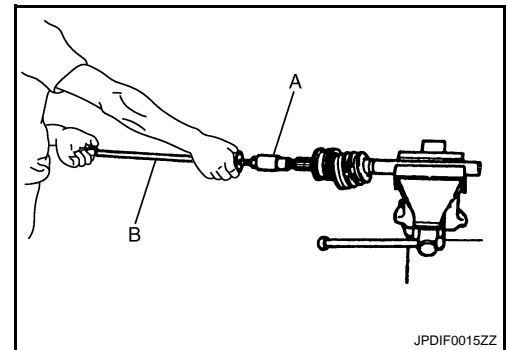
Protect shaft using aluminum or copper plates when fixing with a vise.

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

Transaxle Assembly Side

1. Wrap serration on housing assembly with tape to protect boot from damage. Install new boot and boot bands to housing assembly.

CAUTION:

Never reuse boot and boot band.

2. Remove the tape wrapped around the serration on housing assembly.
3. Apply specified amount grease to the housing assembly.

Standard

Grease amount : Refer to [FAX-76, "Drive Shaft"](#).

FRONT DRIVE SHAFT

< ON-VEHICLE REPAIR >

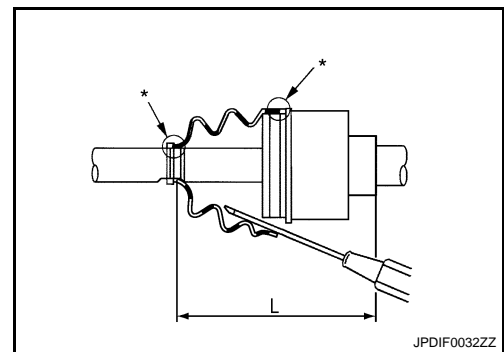
[4WD]

4. 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.

5. 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-76, "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.

6. Install new larger and smaller boot bands securely.

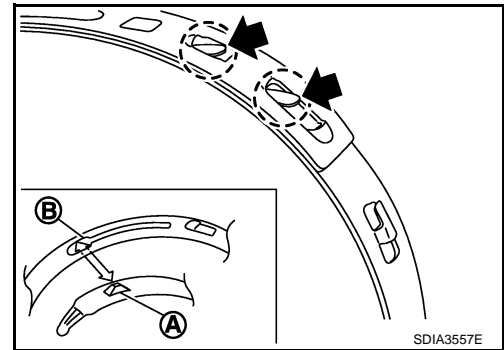
CAUTION:

Never reuse boot band.

7. 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.



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

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

10. 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.

11. Install dust shield.

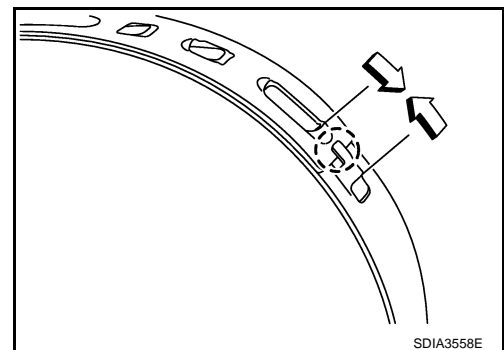
CAUTION:

Never reuse dust shield.

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

CAUTION:

Never reuse circular clip.



Support Bearing

1. Install dust shield on housing assembly.

CAUTION:

Never reuse dust shield.

2. Install support bearing into retainer.

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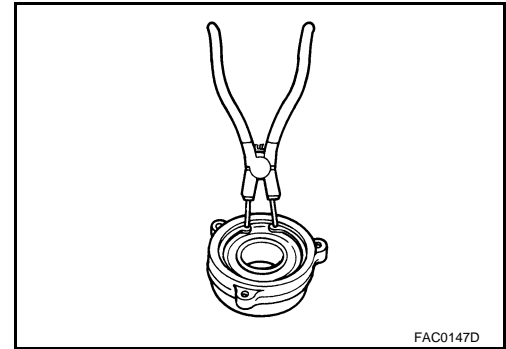
FRONT DRIVE SHAFT

[4WD]

< ON-VEHICLE REPAIR >

3. Install snap ring to retainer.

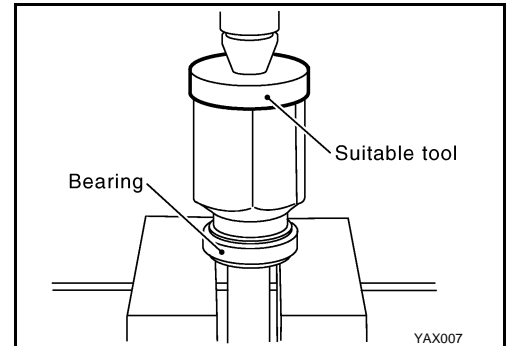
CAUTION:
Never reuse snap ring.



4. Install retainer and support bearing to housing assembly.

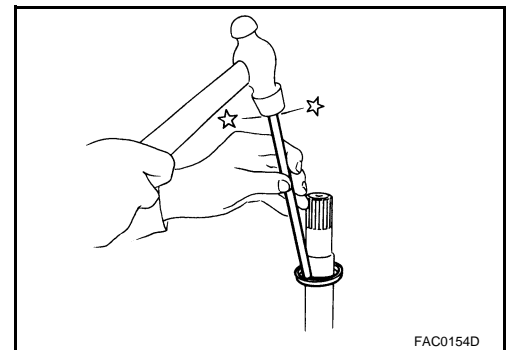
5. Install snap ring.

CAUTION:
Never reuse snap ring.



6. Install dust shields.

CAUTION:
Never reuse dust shields.



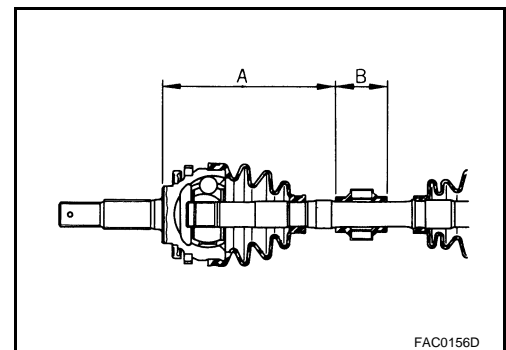
Dynamic Damper

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

CAUTION:
Never reuse bands.

Standard

Demission : [FAX-76, "Drive Shaft"](#).



Wheel Side

For further details, refer to the installation procedure of "[FAX-48, "Replacement"](#)" for the drive shaft boot.

M9R : Inspection

INFOID:000000001208647

INSPECTION AFTER REMOVAL

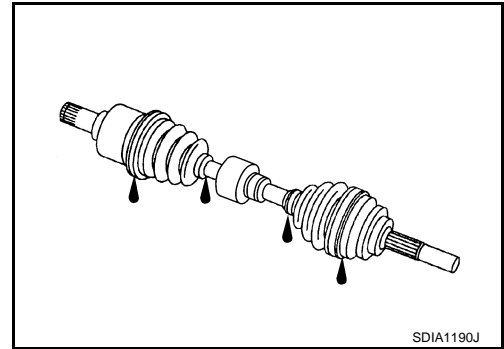
- Move joint up/down, left/right, and in the axial directions. Check for motion that is not smooth and for significant looseness.

FRONT DRIVE SHAFT

[4WD]

< ON-VEHICLE REPAIR >

- 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.

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FAX

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SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[4WD]

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Wheel Bearing

INFOID:000000001208606

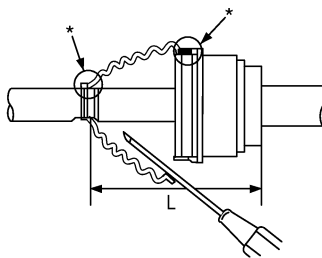
Axial end play	0.05 mm (0.002 in) or less
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Drive Shaft

INFOID:000000001208607

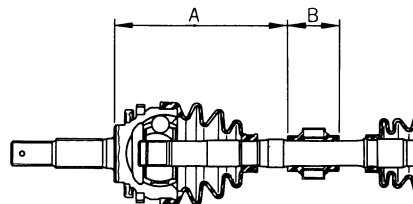
MR20DE (M/T)

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



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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MR20DE (CVT)

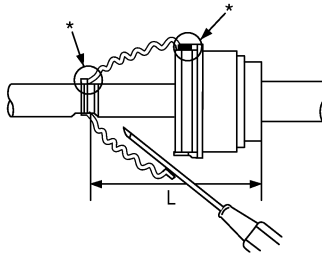
Joint		Wheel side	Transaxle assembly side
Grease quantity	Left side	115 – 135 g (4.06 – 4.76 oz)	200 – 220 g (7.05 – 7.76 oz)
	Right side		

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

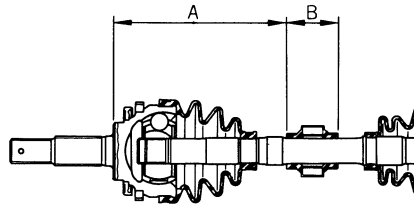
[4WD]

Boots installed length (L)	Left side	133.5 mm (5.26 in)	165.6 mm (6.52 in)
	Right side		



JPDIF0031ZZ

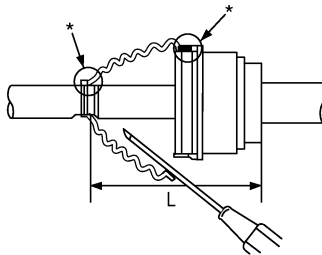
Dynamic damper		A	B
Dimension	Right side	238 – 242 mm (9.37 – 9.53 in)	70 mm (2.76 in)



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QR25DE (M/T)

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)	161.1 mm (6.34 in)
	Right side		



JPDIF0031ZZ

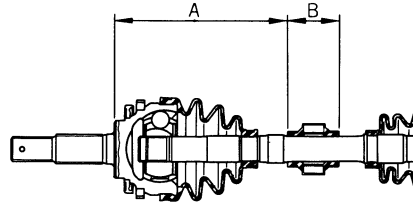
Dynamic damper		A	B
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SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[4WD]

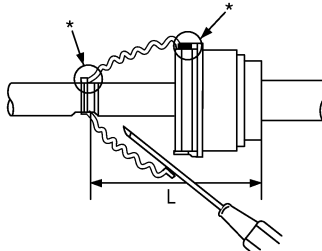
Dimension	Left side	192.5 – 198.5 mm (7.58 – 7.81 in)	70 mm (2.76 in)
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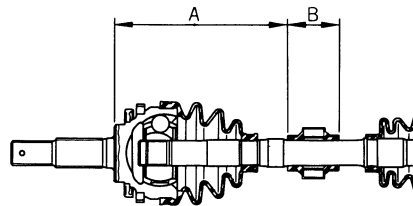
QR25DE (CVT)

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



JPDIF0031ZZ

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



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M9R (M/T)

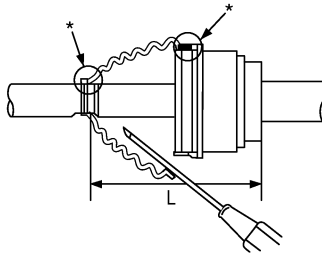
Joint		Wheel side	Transaxle assembly side
Grease quantity	Left side	175 – 205 g (6.17 – 7.23 oz)	165 – 175 g (5.82 – 6.17 oz)
	Right side		

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

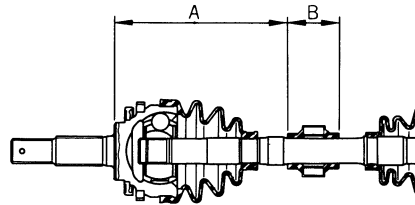
[4WD]

Boots installed length (L)	Left side	164.0 mm (6.46 in)	173.0 mm (6.81 in)
	Right side		



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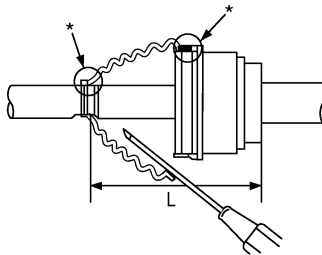
Dynamic damper		A	B
Dimension	Left side	194 – 200 mm (7.64 – 7.87 in)	70 mm (2.76 in)



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M9R (A/T)

Joint		Wheel side	Transaxle assembly side
Grease quantity	Left side	175 – 205 g (6.17 – 7.23 oz)	165 – 175 g (5.82 – 6.17 oz)
	Right side		
Boots installed length (L)	Left side	164.0 mm (6.46 in)	173.0 mm (6.81 in)
	Right side		



JPDIF0031ZZ

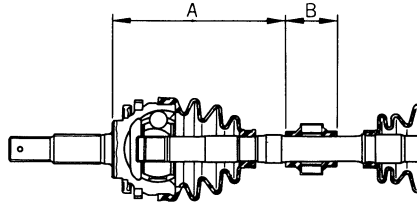
Dynamic damper		A	B
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SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[4WD]

Dimension	Left side	236.8 – 241.3 mm (9.32 – 9.50 in)	70 mm (2.76 in)
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