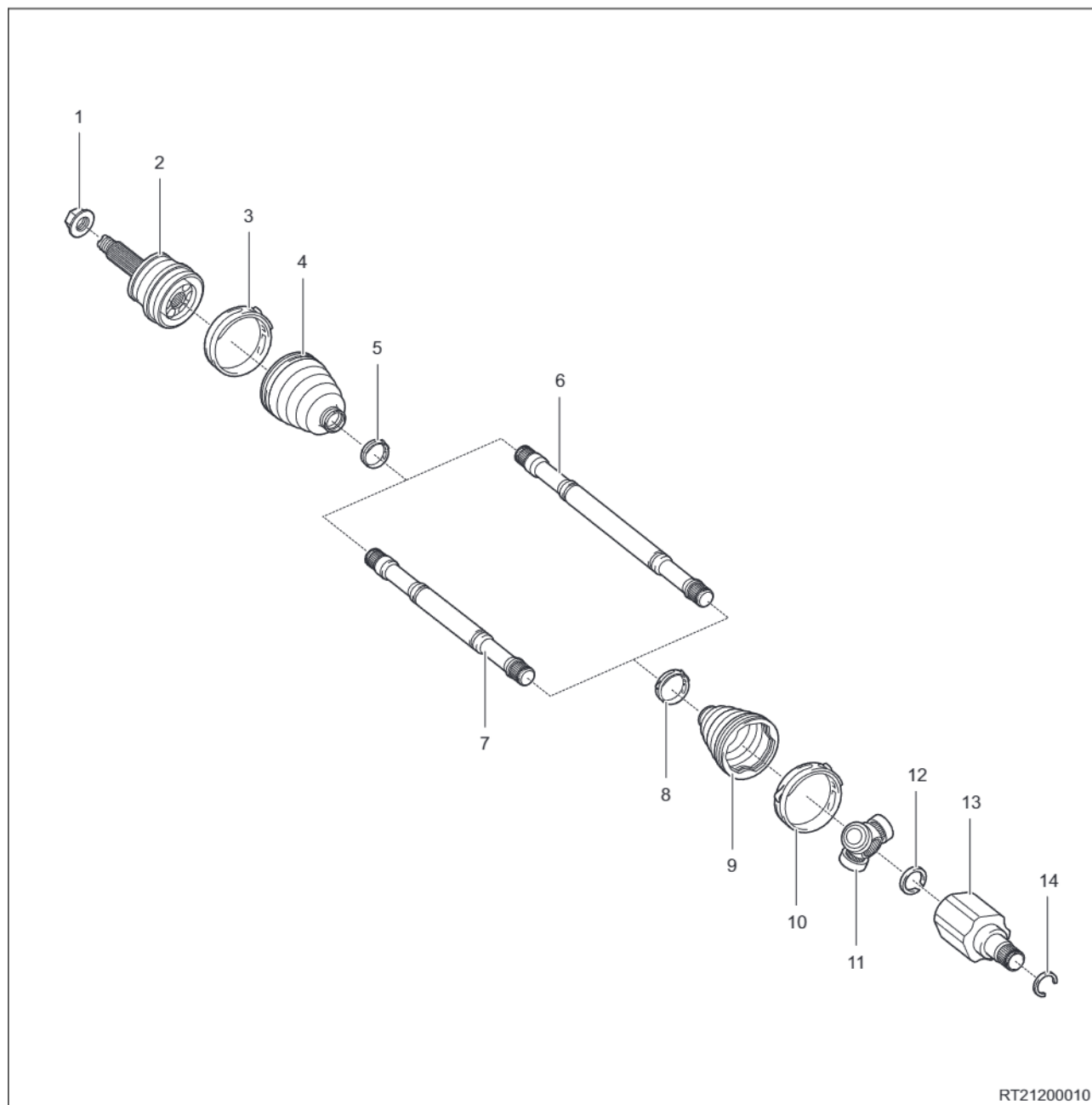

DRIVE SHAFT

GENERAL INFORMATION	20-3	Inner Ball Cage	20-8
Description	20-3	Disassembly	20-8
Operation	20-4	Inspection	20-9
Specifications	20-4	Assembly	20-10
ON-VEHICLE SERVICE	20-5	Outer Ball Cage	20-11
Drive Shaft Assembly	20-5	Disassembly	20-11
Removal	20-5	Inspection	20-12
Installation	20-7	Assembly	20-12

GENERAL INFORMATION

Description



RT21200010

1 - Nut	2 - Outer Ball Cage
3 - Outer Dust Boot Clamp	4 - Outer Dust Boot
5 - Outer Dust Boot Clamp	6 - Right Drive Shaft
7 - Left Drive Shaft	8 - Inner Dust Boot Clamp
9 - Inner Dust Boot	10 - Inner Dust Boot Clamp
11 - Tripod	12 - Positioning Snap Spring
13 - Inner Ball Cage	14 - Set Ring

Operation

Drive shaft, which is a solid shaft, transmits torque between differential and drive wheels. Generally, the inner end of drive shaft is connected with drive shaft gear by spline, and the outer end is connected to wheel hub. The drive shaft transmits torque from differential to wheels, thus rotating the wheels to run vehicle.

Specifications

Torque Specifications

Description	Torque (N·m)
Drive Shaft Fixing Nut	300 ± 20
Coupling Nut Between Steering Knuckle and Control Arm Ball Pin	180 ± 10
Coupling Bolt Between Front Left Wheel Speed Sensor and Front Left Steering Knuckle Assembly	10 ± 1

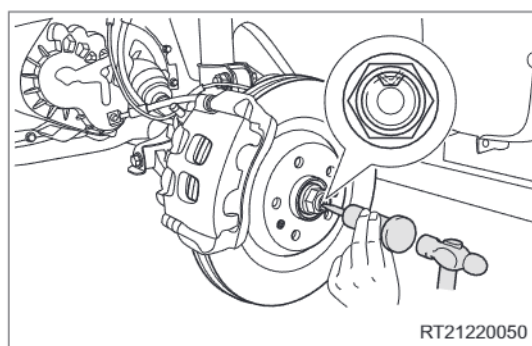
ON-VEHICLE SERVICE

Drive Shaft Assembly

Removal

HINT:

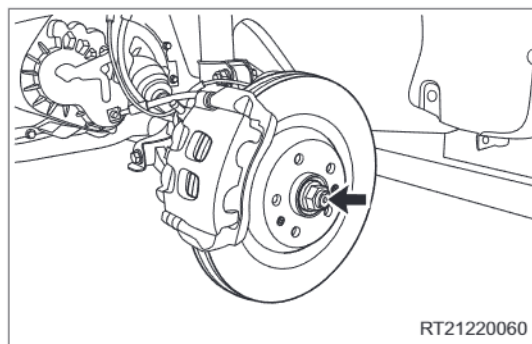
- Use the same procedures for the right side and left side.
 - Procedures listed below are for the left side.
1. Turn off all the electrical equipment and ignition switch.
 2. Disconnect the negative battery cable.
 3. Remove the front wheel (See page 24-9).
 4. Drain the transmission oil (See page 17-14).
 5. Remove the fixing nut from front axle left drive shaft.
 - a. Using a nut chisel and a hammer, loosen the staked part of nut.



CAUTION

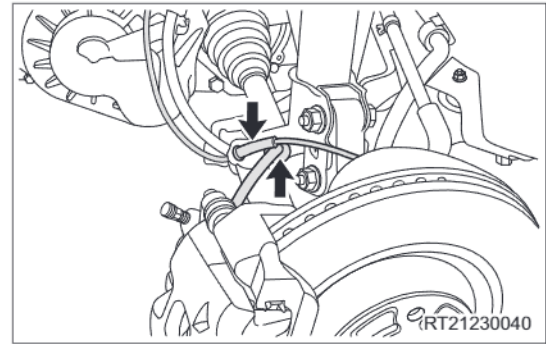
- Loosen the staked part of nut completely, otherwise it will damage the thread of drive shaft.

- b. While applying brake, remove the drive shaft fixing nut.
(Tightening torque: 300 ± 20 N·m)

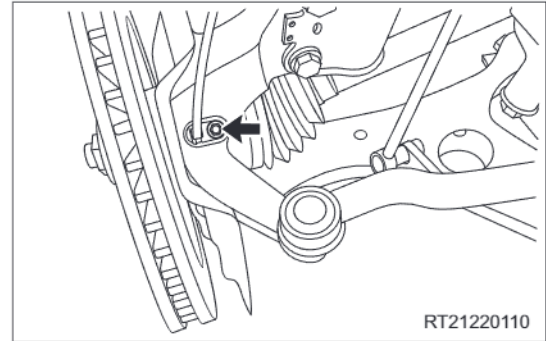


6. Remove the drive shaft.

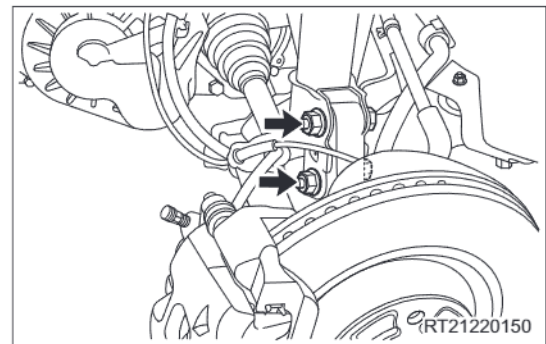
- a. Disengage the front left wheel speed sensor wire harness and front left brake hose assembly (arrow) from front left shock absorber assembly.



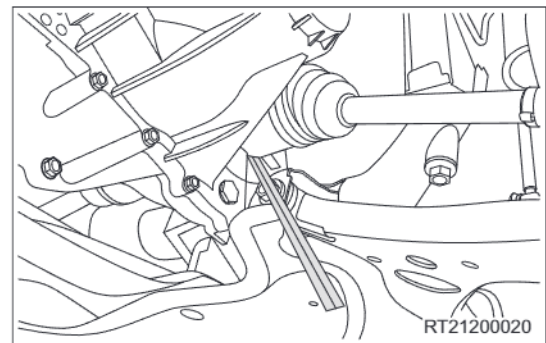
- b. Remove the coupling bolt (arrow) between front left wheel speed sensor and front left steering knuckle assembly, and disengage the front left wheel speed sensor carefully.
(Tightening torque: $10 \pm 1 \text{ N}\cdot\text{m}$)



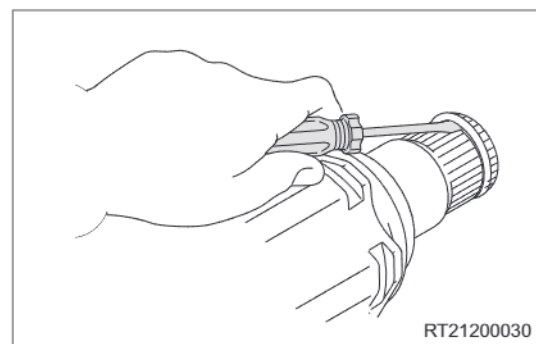
- c. Remove the coupling nuts and coupling bolts between front left steering knuckle and shock absorber.
(Tightening torque: $180 \pm 10 \text{ N}\cdot\text{m}$)



- d. Using a crowbar, pry out the drive shaft.



- e. Remove the set ring.



Installation

Installation is in the reverse order of removal.

CAUTION

- DO NOT damage the constant velocity universal joint dust boot.
- DO NOT use excessive force to pull the drive shaft to prevent the constant velocity universal joint from dropping.
- Use crowbar carefully to prevent damage to oil seal.
- Adjust the wheel alignment if necessary.

Inner Ball Cage

Disassembly

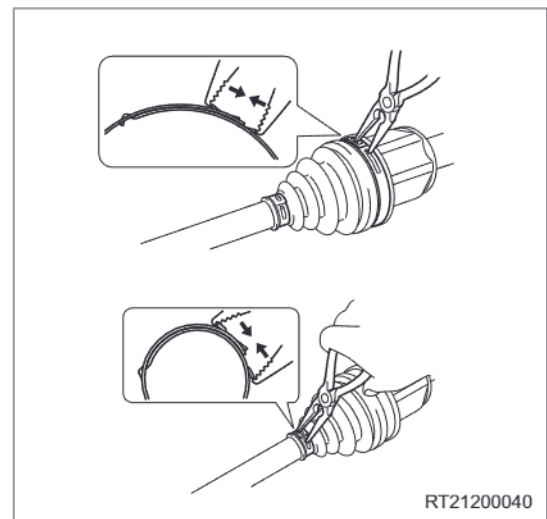
HINT:

Use the same disassembly and assembly procedures for left and right drive shaft assemblies.

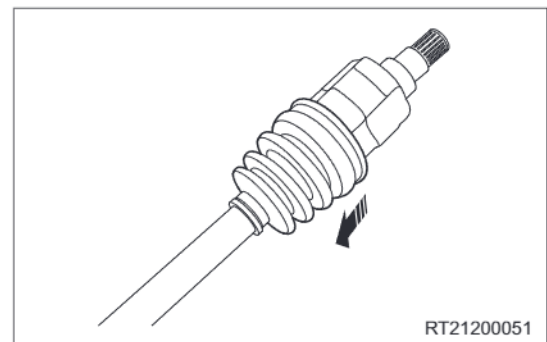
CAUTION

- DO NOT put matchmarks on the rotating surface of rotary drum.
- Operate carefully to prevent the dust boot from being damaged.

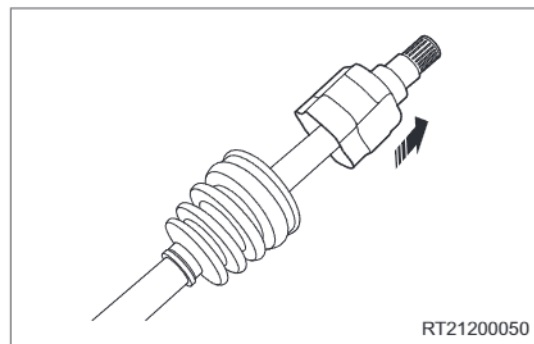
1. Remove the drive shaft assembly ([See page 20-5](#)).
2. Remove the inner ball cage dust boot clamp.
 - a. Using needle nose pliers, remove the inner ball cage dust boot clamps.



3. Remove the inner ball cage.
 - a. Separate the dust boot from inner ball cage in the direction of arrow.

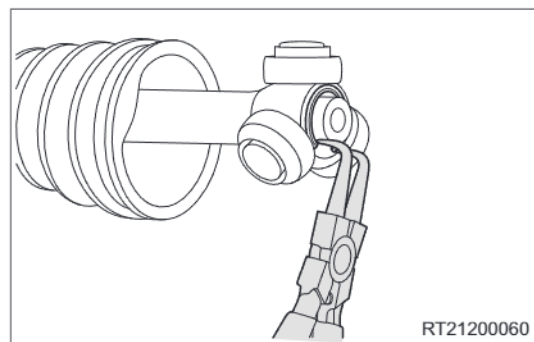


- b. Remove the inner ball cage in the direction of arrow, and place it on a piece of clean cloth.

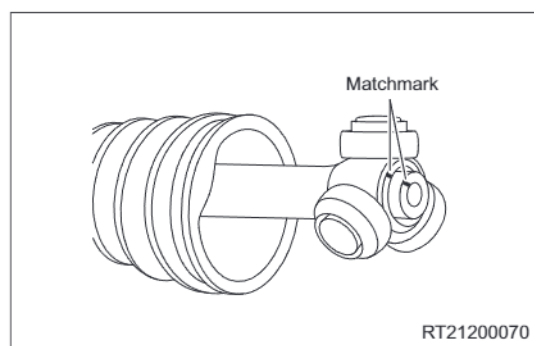


4. Remove the tripod.

- a. Using snap spring calipers, remove the positioning snap spring of tripod.

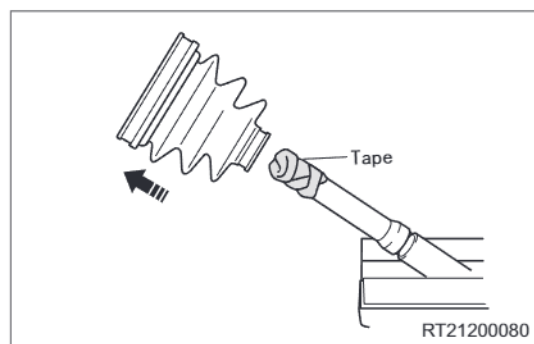


- b. Put matchmarks on the tripod and drive shaft, and remove the tripod.



5. Remove the dust boot.

- a. Wrap tape on the spline of drive shaft, and remove the dust boot.



20

Inspection

1. Check if spline of drive shaft is in good condition. If it is deformed or damaged, replace it.
2. Check if dust boot is in good condition. If it is scratched or broken, replace it.
3. Check if positioning snap spring of tripod is deformed. If it is deformed, replace it.

Assembly

CAUTION

- Refill grease during assembly.
- Operate carefully to prevent the dust boot from being damaged.

Assembly is in the reverse order of disassembly.

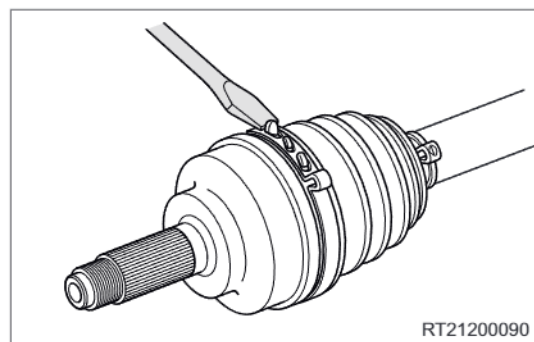
Outer Ball Cage

Disassembly

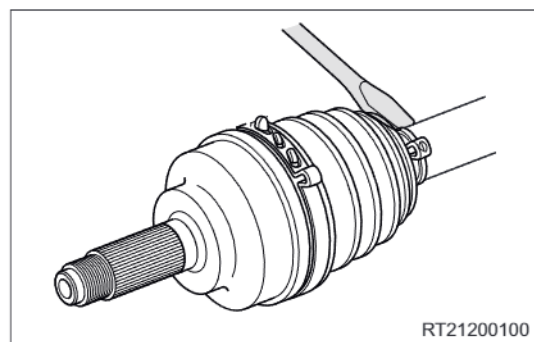
HINT:

Use the same disassembly and assembly procedures for left and right drive shaft assemblies.

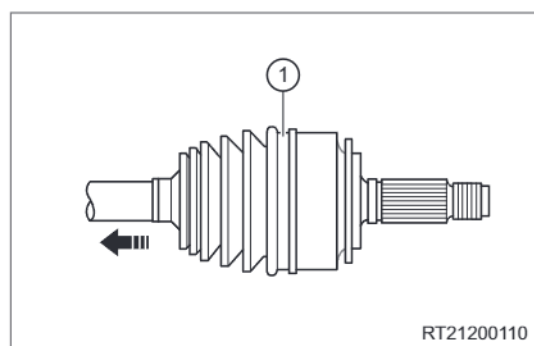
1. Remove the drive shaft assembly (See page 20-5).
2. Remove the outer ball cage dust boot outer clamp.
 - a. Using a screwdriver, pry out the striker of outer ball cage dust boot outer clamp and remove the outer ball cage dust boot outer clamp.



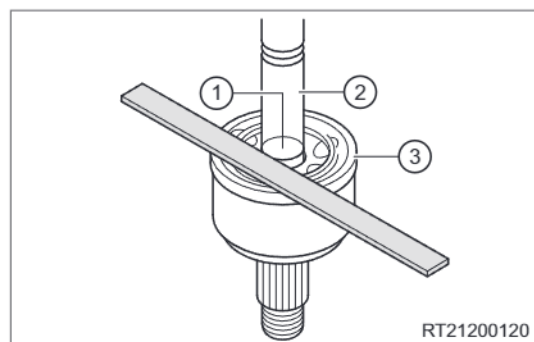
3. Remove the outer ball cage dust boot inner clamp.
 - a. Using a screwdriver, pry out the striker of outer ball cage dust boot inner clamp and remove the outer ball cage dust boot inner clamp.



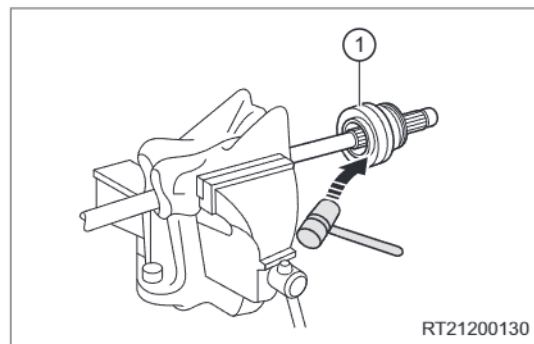
4. Remove the outer ball cage.
 - a. Slide the outer dust boot (1) carefully into the inner ball cage side in the direction of arrow.



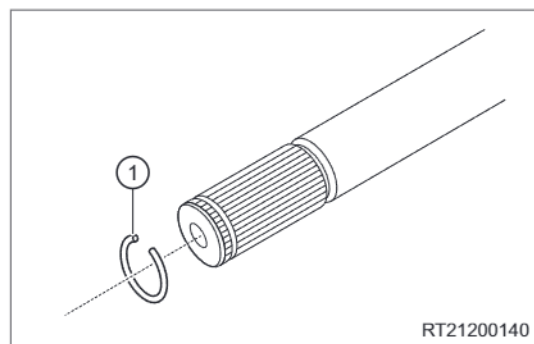
- b. Put a matchmark (1) on the area with the same height as drive shaft assembly (2) and edge of outer ball cage (3) for correct installation.



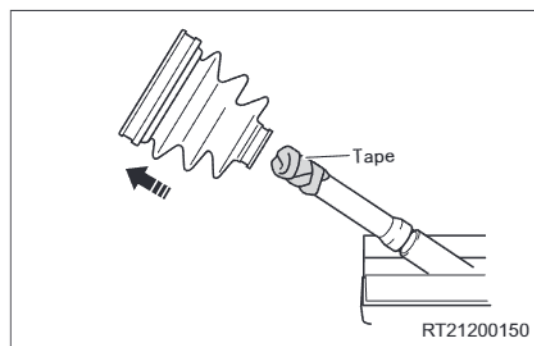
- c. Wrap the drive shaft assembly with a piece of cloth and put it onto a vise. Secure the vise to prevent the drive shaft assembly from shaking. Tap the outer ball cage (1) forcibly with a hammer, and remove the outer ball cage (1).



5. Remove the retaining ring (1).



6. Remove the outer ball cage dust boot.
- Wrap tape on the spline of drive shaft, and remove the dust boot.



- Remove the tape.

Inspection

- Check if spline of drive shaft is in good condition. If it is deformed or damaged, replace it.
- Check if dust boot is in good condition. If it is scratched or broken, replace it.

20

Assembly

CAUTION

- Refill grease during assembly.
- Install it with new clamps.
- Operate carefully to prevent the dust boot from being damaged.

Assembly is in the reverse order of disassembly.

