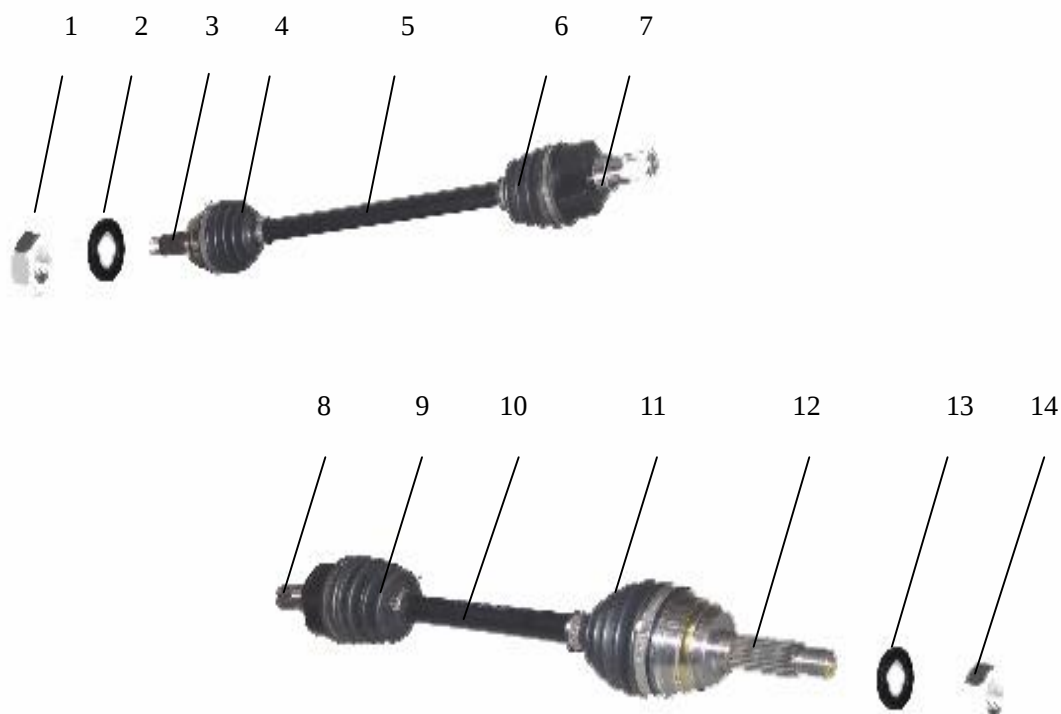


3. DRIVE SHAFT

The double constant velocity universal joint without centering unit, a kind of drive shaft, is used in the vehicles with manual transmission.

GENERAL INTRODUCTION

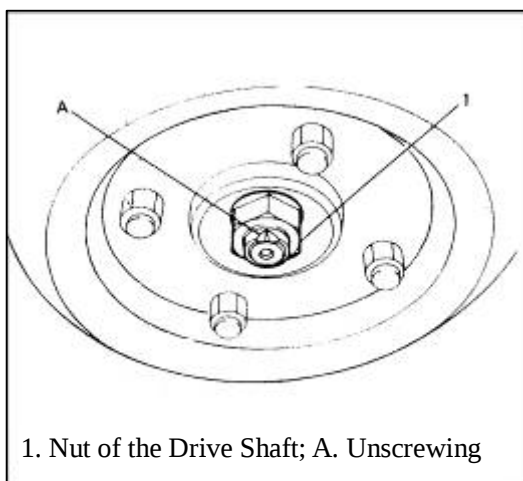
A Rzeppa Constant Velocity Joint is used for the front drive shaft of wheel, while the double constant velocity universal joint without centering unit is used for the differential.



3-1. DISASSEMBLY

1. Disassembly of drive shaft at left side

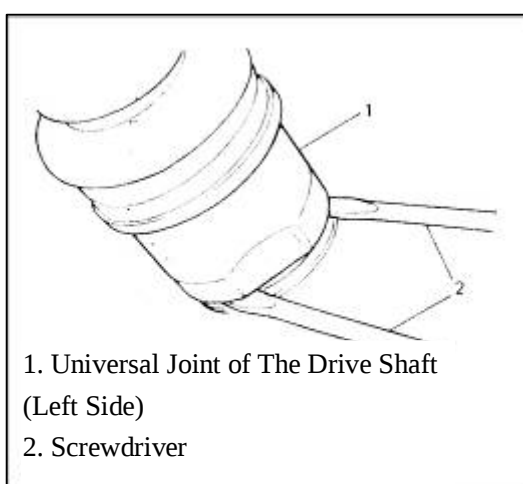
- 1) Unscrew on the ground, remove the nut and the washer of the drive shaft.



- 2) On the riser:

- ① Drain the gear oil out of the transmission.

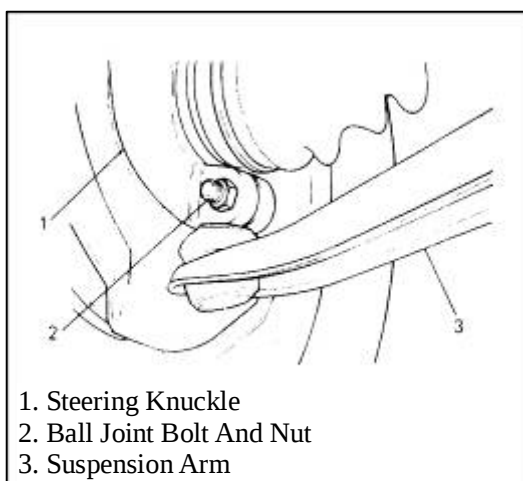
- ② Pry out the universal joint at drive shaft with a large-size screwdriver in order to detach the clamp from universal joint spline at differential.

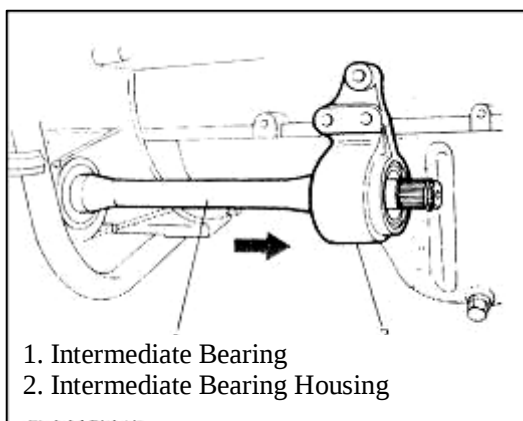
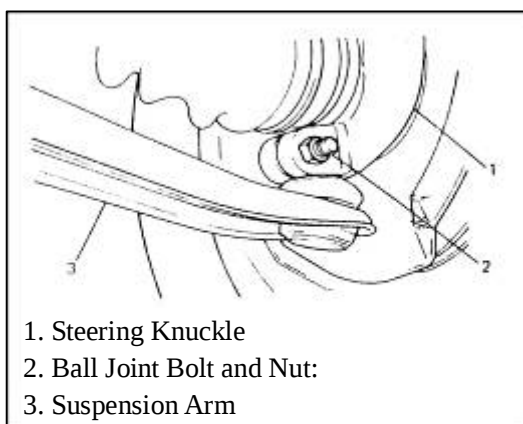
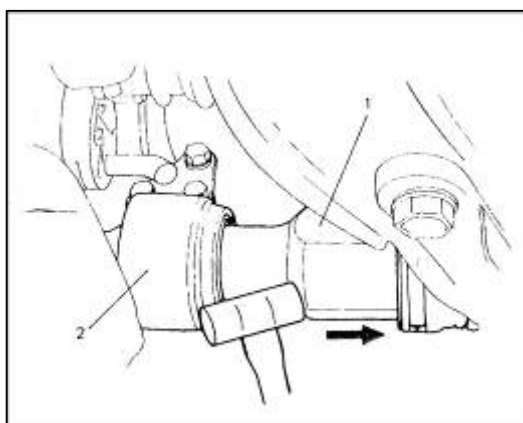
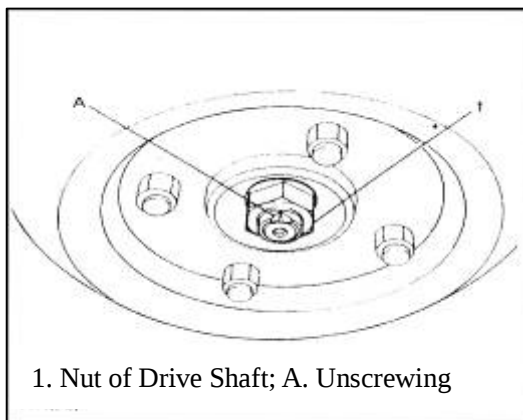


- 3) To disassemble the drive shaft assembly, pull out the inner universal joint at differential, then pull out the universal joint at wheel from the steering knuckle.

Note:

When disassembling the drive shaft assembly, you should not make the dust boot to hit or scrape other parts to avoid cracking.





2. Disassembly of drive shaft at right side

1) Unscrew on the ground and remove the nut and washer of drive shaft.

2) On the riser:

① Strike the universal joint at drive shaft with a plastic hammer in order to detach the clamp from universal joint spline at differential.

② Disconnect the stabilizer bar joint with the suspension arm.

③ Remove the ball joint bolt and nut, then disconnect the suspension arm and the steering knuckle.

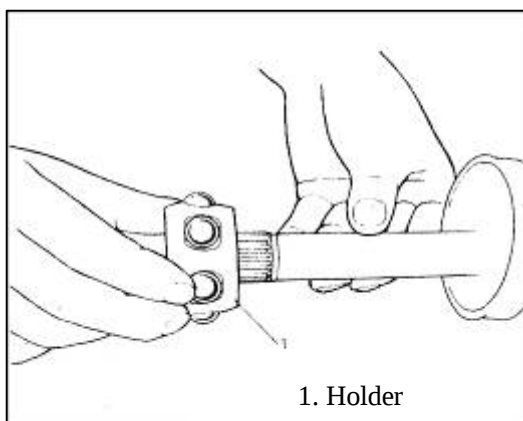
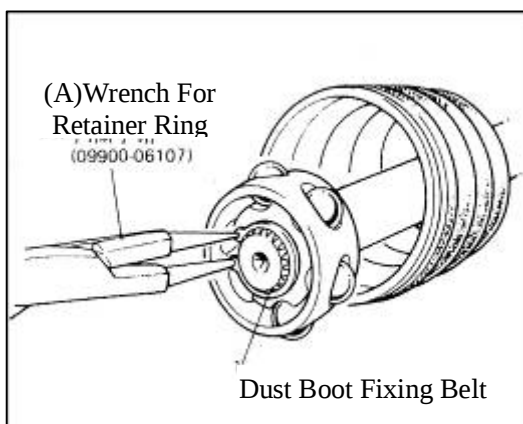
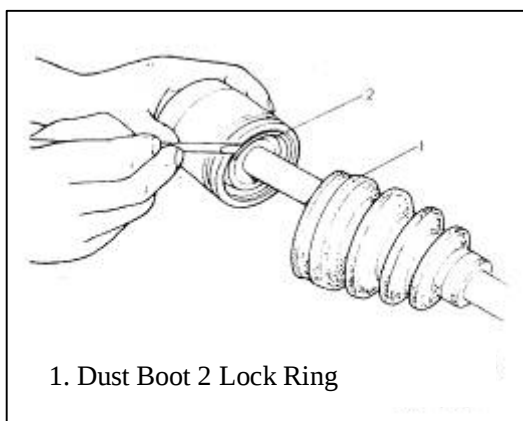
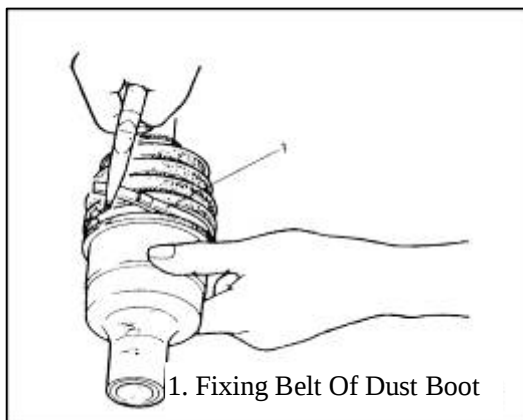
④ In order to disassemble the drive shaft assembly, pull out the inner universal joint from the intermediate shaft and pull out the wheel universal joint from the universal joint.

Note:

When disassembling the drive shaft assembly, you should not make the dust boot to hit or scrape other parts to avoid cracking.

⑤ Drain the transmission oil (if done, turn to next step).

⑥ Loosen the bolt of intermediate bearing housing and remove the intermediate shaft from the gear at differential.



3. Disassembly of the drive shaft

1) Remove the fixing belt of dust boot from the universal joint at differential.

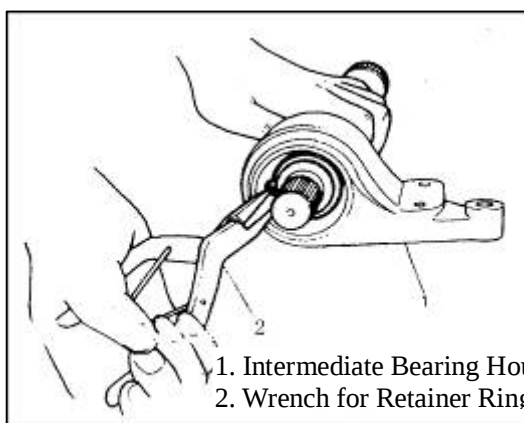
2) Slip the dust boot to the shaft middle, remove the clamp from the bell-shaped housing and draw out the shaft through the bell-shaped housing.

3) Wipe off the grease and remove the retainer ring of fixing holder with special tool (A).

4) Pull out the holder and the dust boot from the shaft.

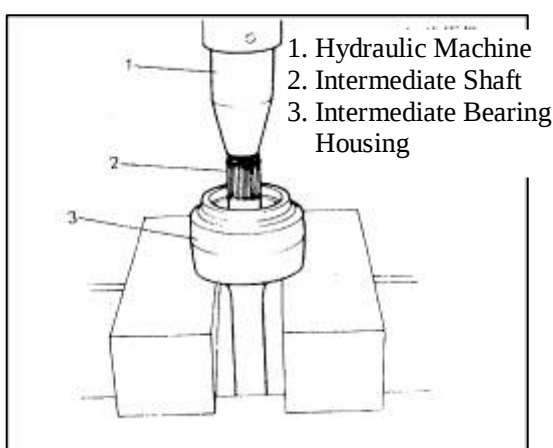
Note:

The universal joint at wheel cannot be disassembled and replace the whole assembly if any abnormality is found on universal joint.

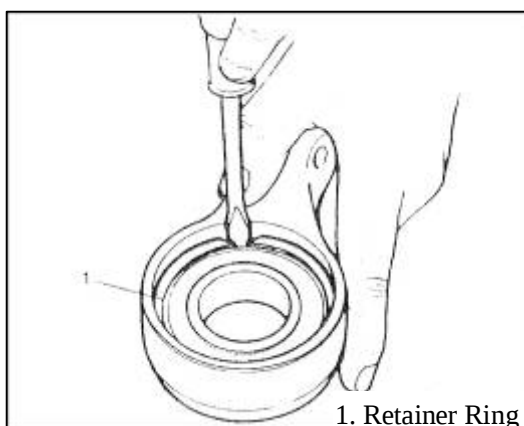


4. Disassembly of the intermediate shaft and its bearing housing

- 1) Remove the right oil seal from the bearing housing of the intermediate shaft.
- 2) Remove the retainer ring.



- 3) Press out the intermediate shaft with oil-hydraulic press from the intermediate bearing housing.



- 4) Remove the left oil seal from the intermediate bearing housing.
- 5) Remove the retainer ring from the bearing housing.
- 6) Remove the intermediate bearing from the intermediate bearing housing.

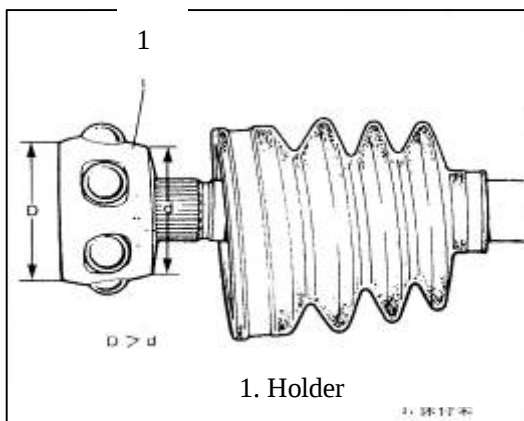
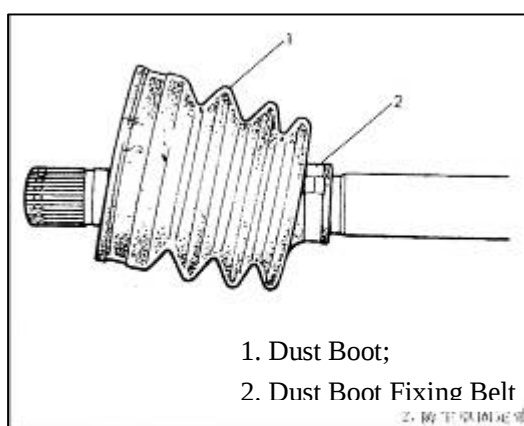
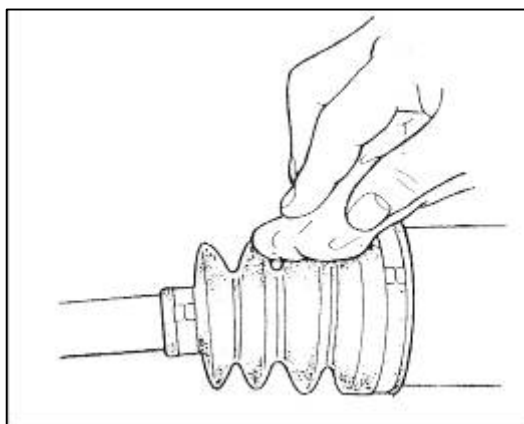
Inspection

- Inspect the dust boot for crack or aging, if necessary, replace it.
- Inspect the retainer ring, the pliers and the fixing belt of dust boot for crack or deformation, if necessary, replace it.

3-2 ASSEMBLY

1. Assembly of drive shaft

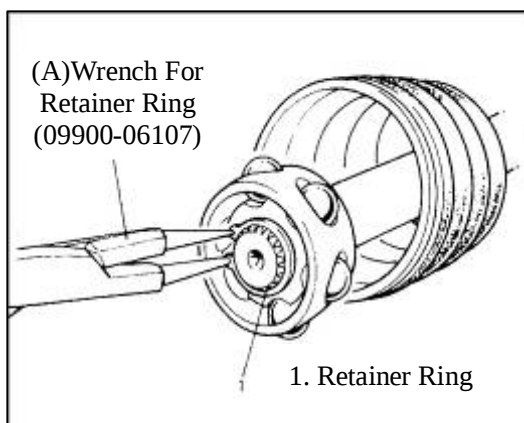
- 1) Clean the removed parts (except the dust boot), then blow them dry with compressed air.
- 2) Clean the dust boot with cloth. Do not clean the dust boot with degreasing agent (such as gasoline or kerosene etc.) because the degreasing agent may cause the dust boot aging.
- 3) Install the dust boot to the shaft until its minimum end can be embedded to the shaft groove, then fix with fixing belt.



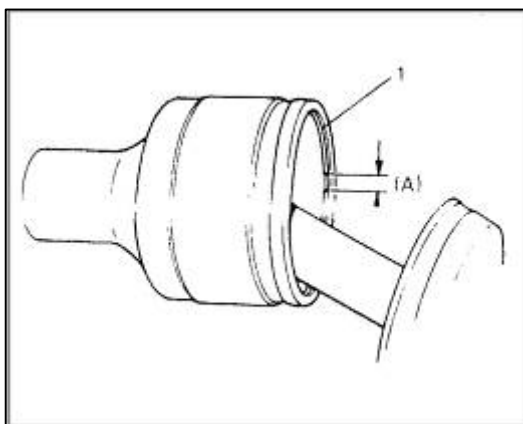
- 4) Mount the holder to the shaft.

Note:

The small end should be toward to the shaft end when mounting the holder.



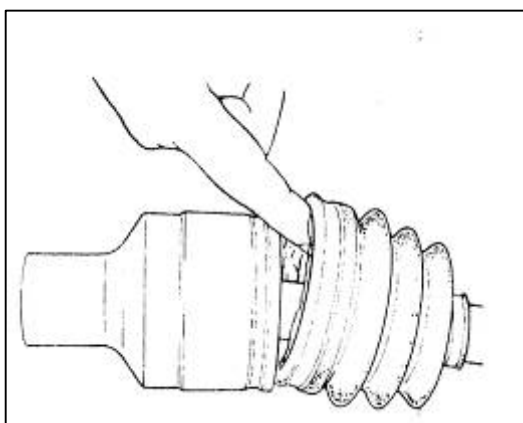
- 5) Install the retainer ring with special tool (A).



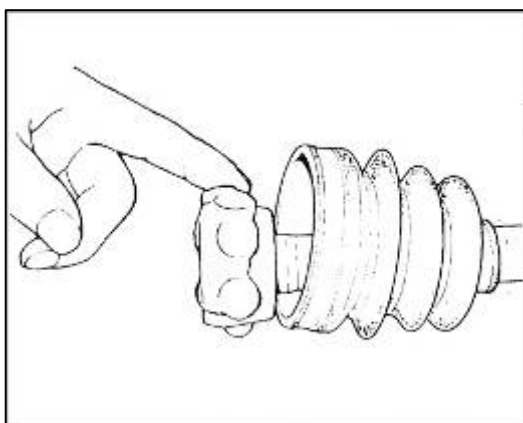
- 6) The whole surface of the holder is spread with 30~40g Suzuki high-grade grease (the grease for constant universal joint)
- 7) Install the holder into the bell-shaped housing, and then install the clamp into the groove of the bell-shaped housing.

Note:

Do not align the clamp opening (A) with the steel ball when mounting the clamp.

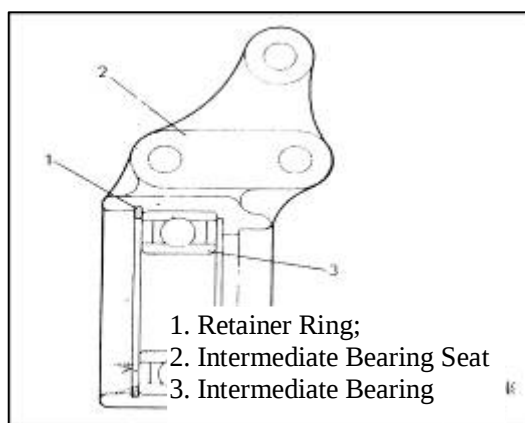
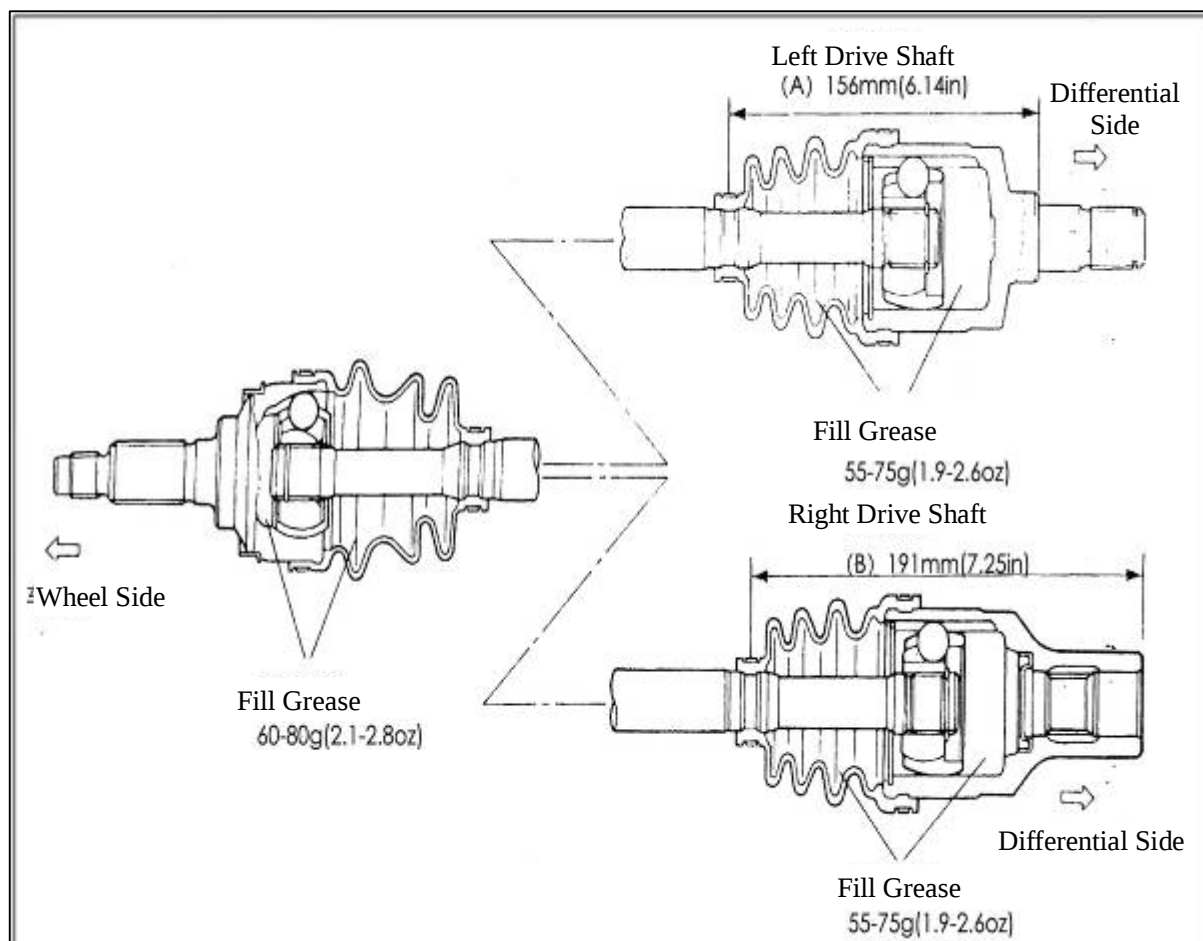


- 8) Put 23 ~ 35g Suzuki grease H into the inner open space of the bell-shaped housing, then install the dust boot.



After installing the dust boot, insert a screwdriver into the dust boot at bell-shaped housing for air ventilation and equal atmosphere pressure between inner and outer of dust boot.

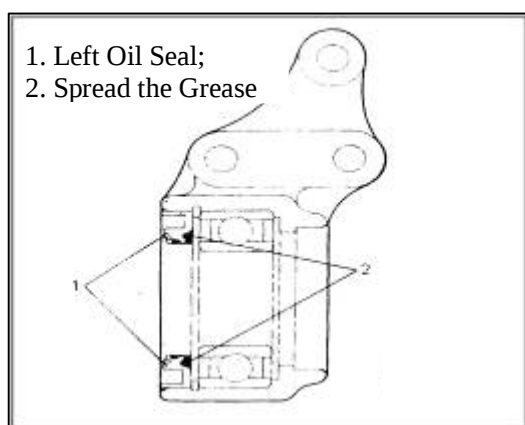
- 9) Mount the dust boot on the bell-shaped housing with the fixing belt. Adjustment is needed to get the measured value (A) and (B) to meet the requirement of the following diagram.



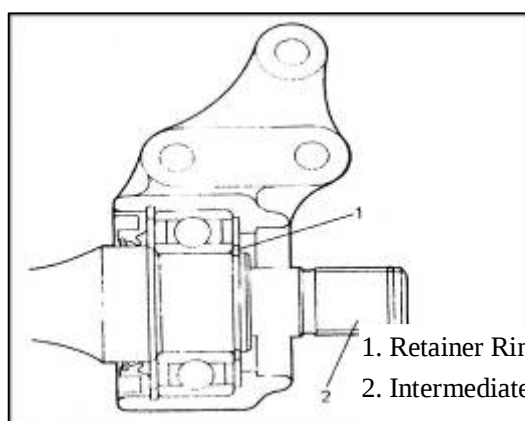
2. Assembly of intermediate shaft and bearing housing

The installing steps of intermediate shaft are reverse to those for removal. And pay attention to the following points:

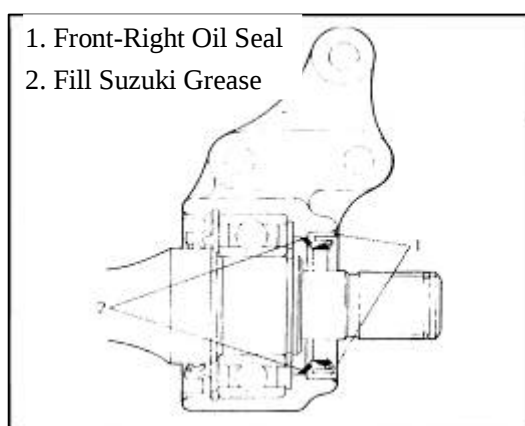
- When installing the retainer ring of the bearing housing, make sure that it is fixed tightly in the groove as the diagram.



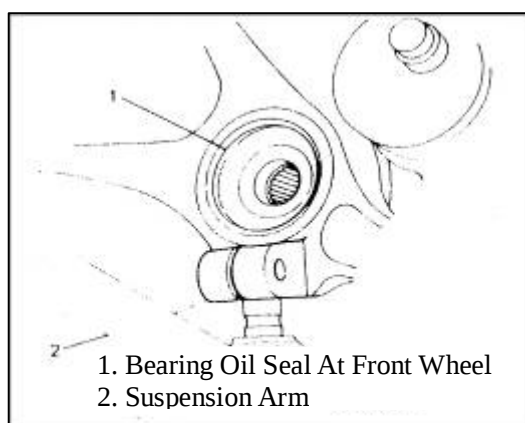
- When installing the left oil seal, you should refer to the diagram on the left for right mounting direction.



- Press the intermediate shaft from the left oil seal and mount the retainer ring in the groove stably.



- When installing the right oil seal, pay attention to refer to the diagram on the left for right mounting direction.



3. Installation of drive shaft

The installing steps of drive shaft assembly are reverse to those for removal. And pay attention to the following points:

- 1) Wipe clean the front-wheel oil seal, then spread grease, and replace the oil seal if necessary.
- 2) First mount the universal joint at wheel onto the steering knuckle, and then install the double universal joint without



centering unit to the differential.

- 3) Spread the sealing glue on the drain plug of manual transmission.
- 4) Fill oil in the transmission as specified.

Note:

- When installing the driveshaft, be careful not to damage the oil seal or the dust boot.
- Do not hit the dust boot of universal joint with hammer, but disassemble or assemble universal joint manually.
- Make sure the universal joint at differential is inserted in the right place, and the clamp in its original place.

4. Specified values for torques

Fasteners		Torque		
		N.m	Kg.m	lb.ft
Drain plug	Manual transmission	25~30	2.5~3.0	18.5~21.5
	Automatic transmission	18~23	1.8~2.3	13.5~16.5
Oil level, filling plug	Manual transmission	36~54	3.6~5.4	26.5~39.0
Ball joint bolt and nut		50~70	5.0~7.0	36.5~50.5
Nut of drive shaft		150~200	15.0~20.0	108.5~ 144.5
Bolts of intermediate bearing housing		40~60	4.0~6.0	29.0~43.0
Connecting nuts of stabilizer bar		18~28	1.8~2.8	13.5~20.0

Requiring materials for maintenance

Materials	Suzuki products recommended	Parts for use
Lithium grease	Suzuki grease A (99000-25010)	Oil seal lip



Sealing glue	Suzuki glue 1215 (99000-31110)	Drain plug of manual transmission
grease	Suzuki grease (99000-25120)	Universal joint of the drive shaft