



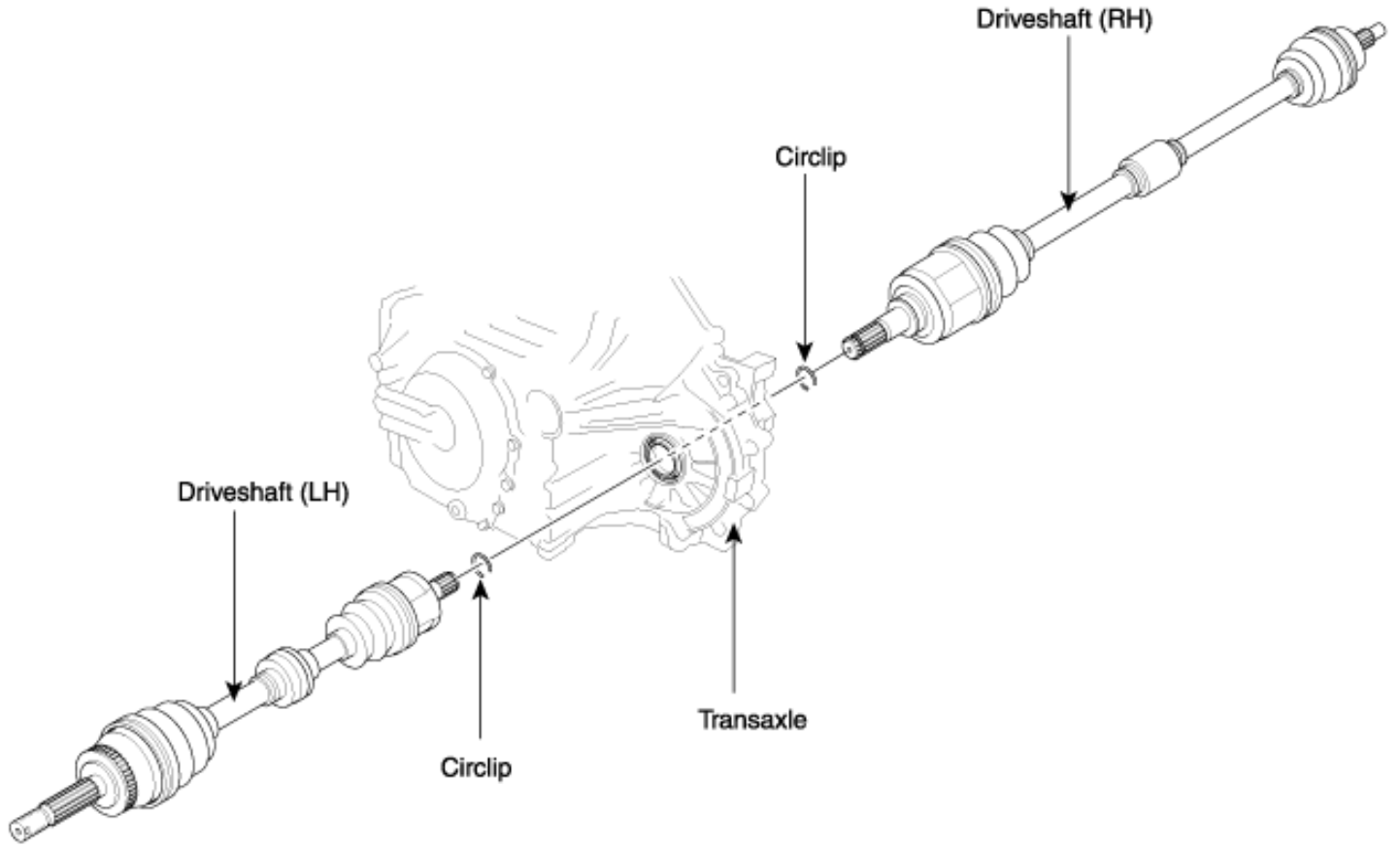
HYUNDAI

Elantra

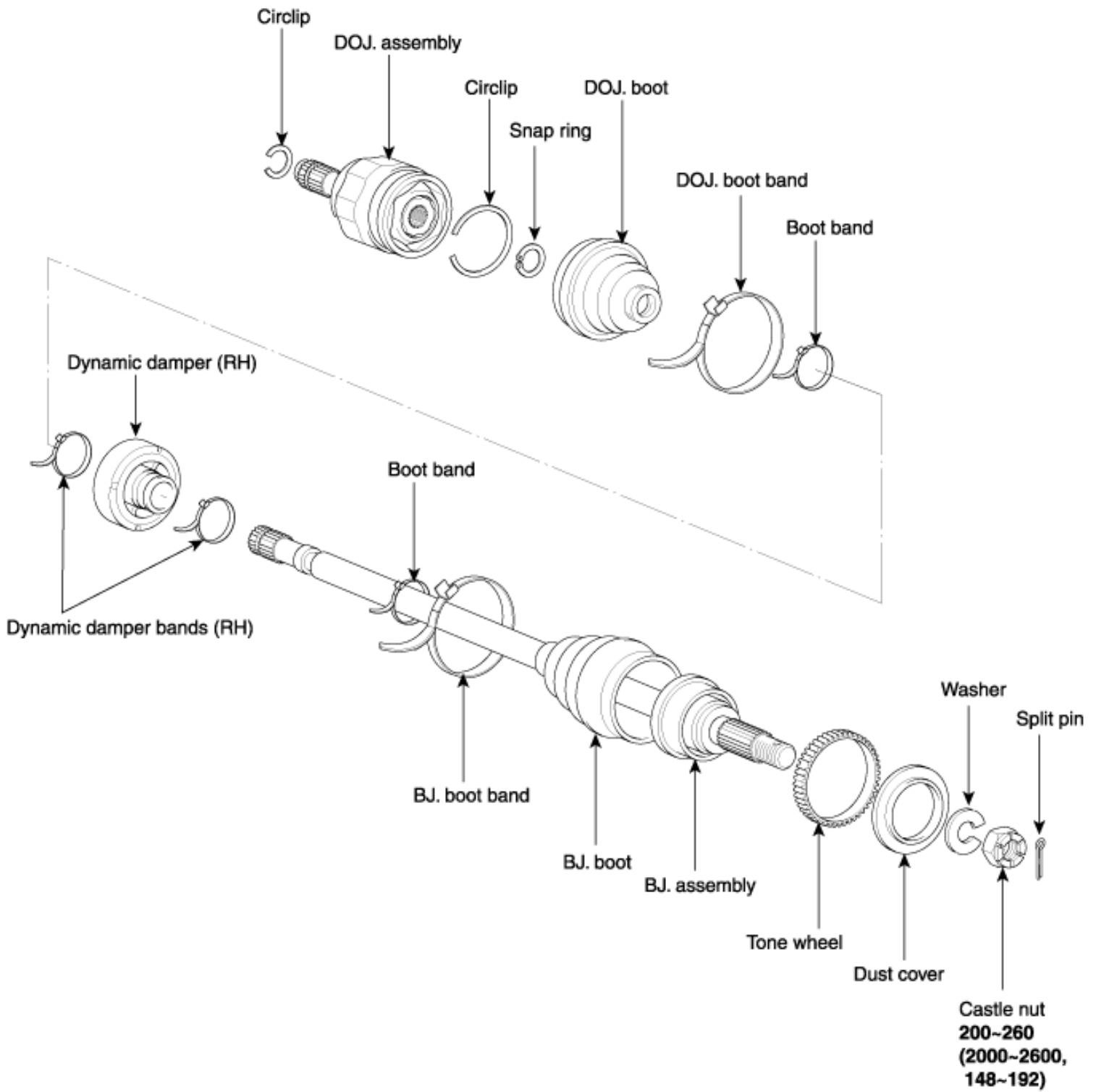


Workshop Manual
2001 - 2006

COMPONENTS

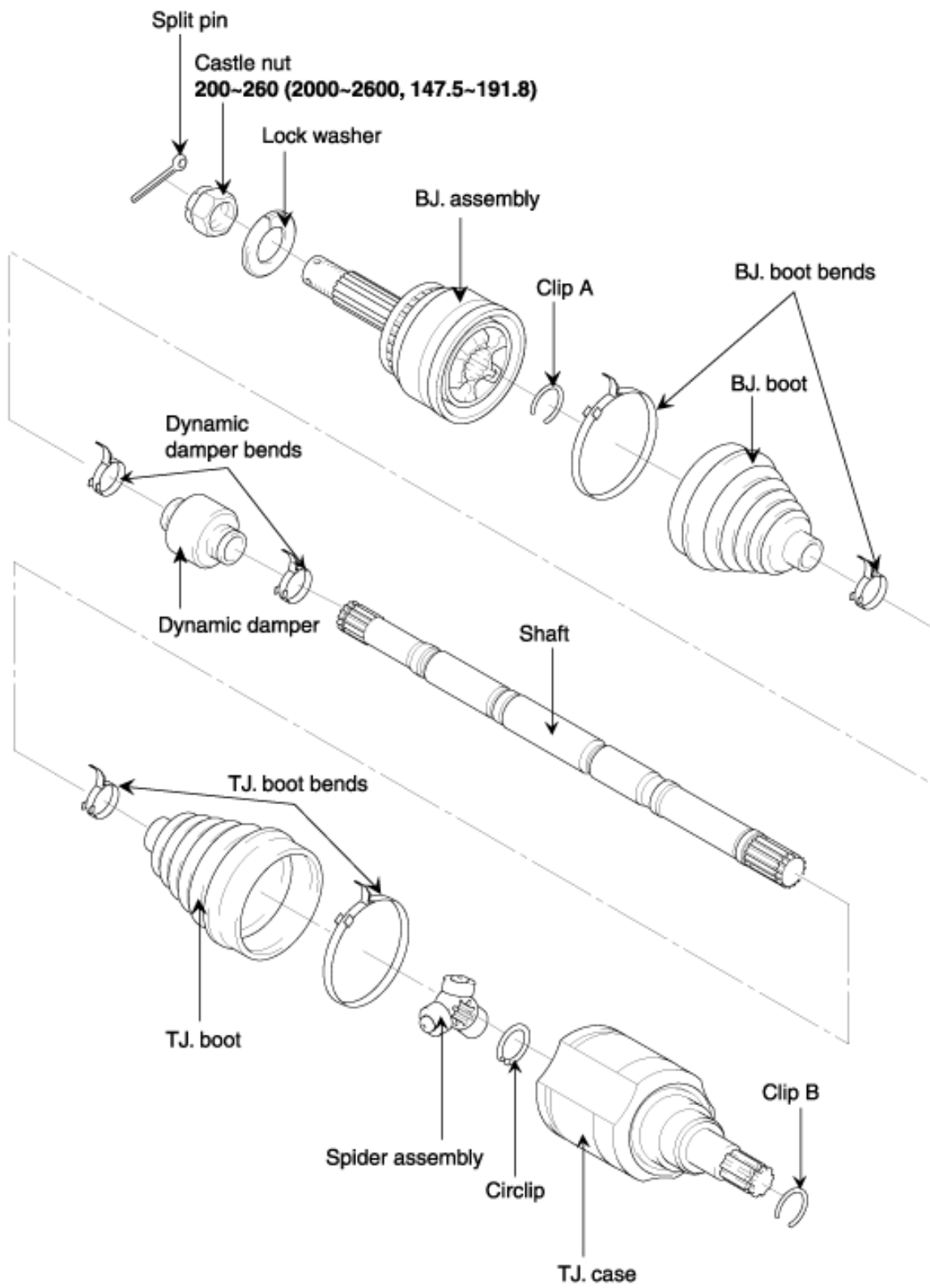


COMPONENTS



TORQUE : Nm (kgf-cm, lb-ft)

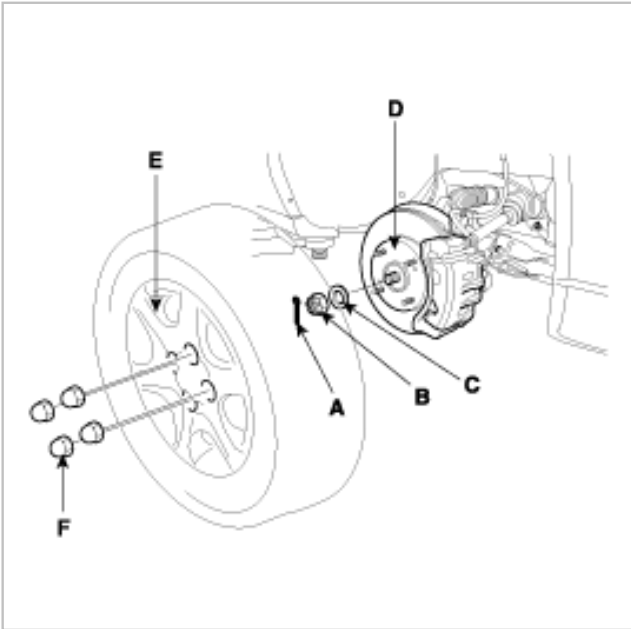
COMPONENTS



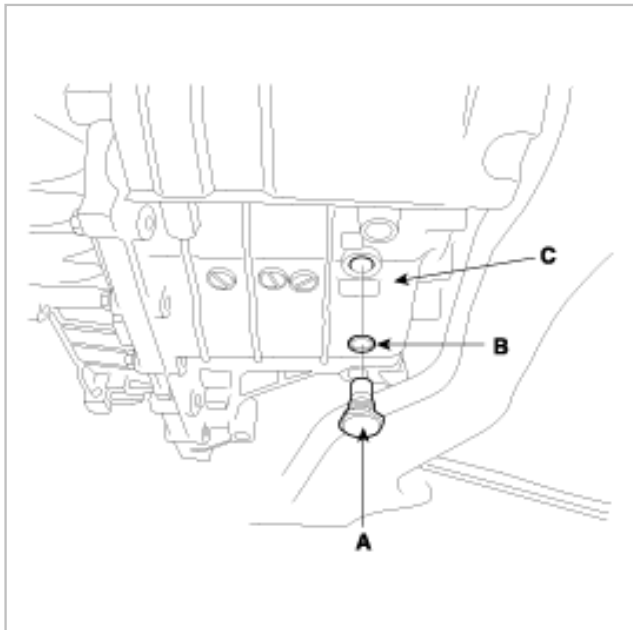
TORQUE : N·m (kgf·cm, lbf·ft)

REMOVAL

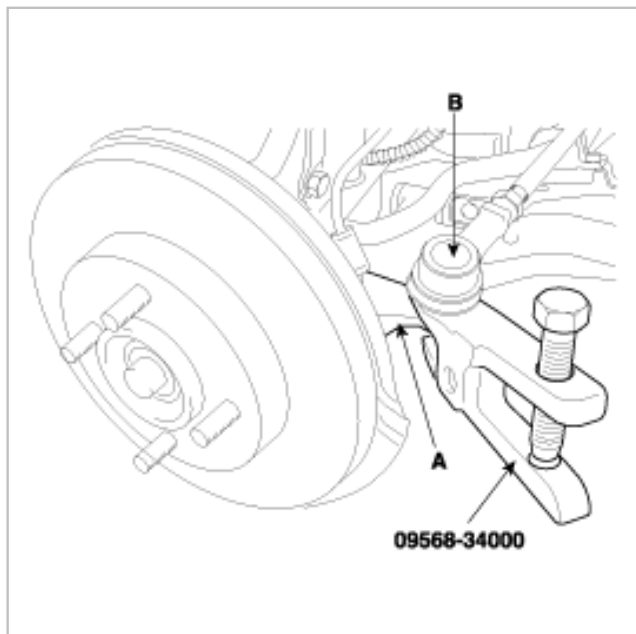
1. Loosen the wheel nuts(F) slightly.
2. Raise the front of the vehicle and support it with safety stands in a proper location.
3. Remove the front wheel and tire(E).
4. Remove the split pin(A), the castle nut(B) and the washer(C) from the front hub(D) under applying the brake.



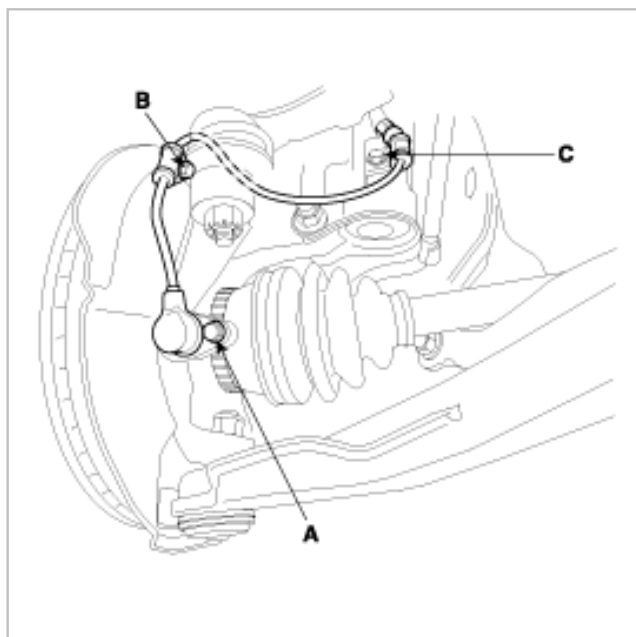
5. Remove the drain plug(A). Drain the transaxle oil.
A. Lay a bottle keeping the gear oil under transaxle.
B. Remove drain plug(A) and washer(B) in the lower part of transaxle(C).



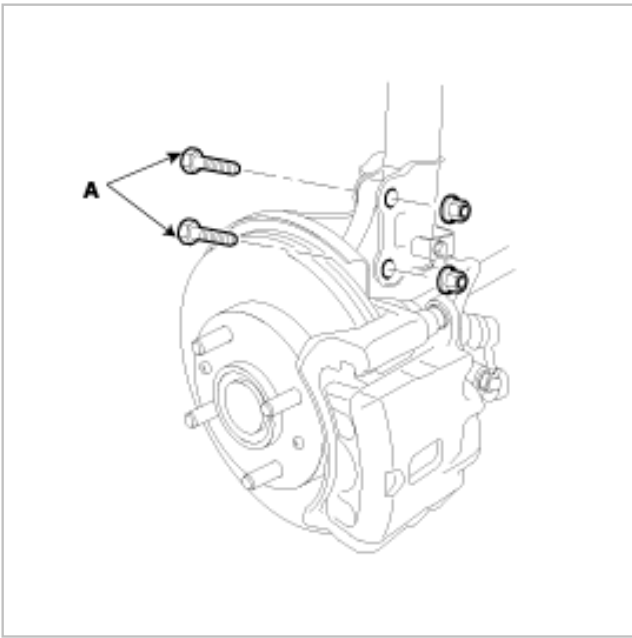
6. Disconnect the tie rod end ball joint(B) from the knuckle(A) using the Special Tool (09568-34000) after removing the split pin and castle nut.



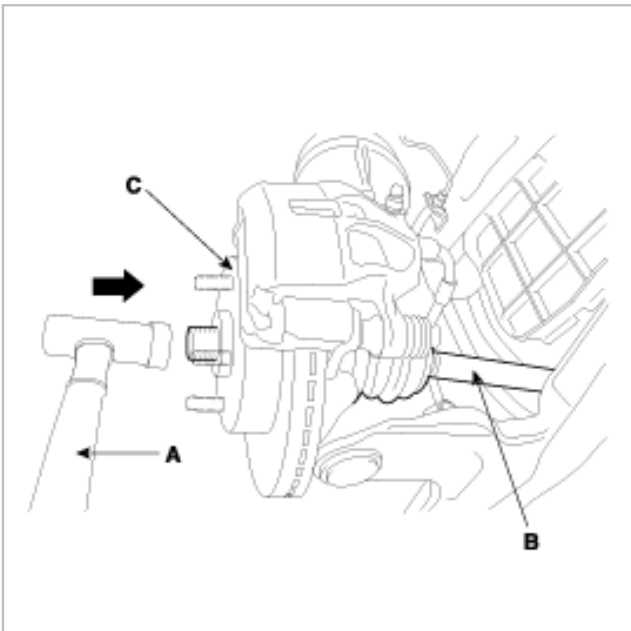
7. Remove the bolts(A,B) connected the knuckle among 3 wheel speed sensor mounting bolts(A,B,C).



8. Remove the vehicle speed sensor from the knuckle.
9. Disconnect the strut upper mounting bolts(A).

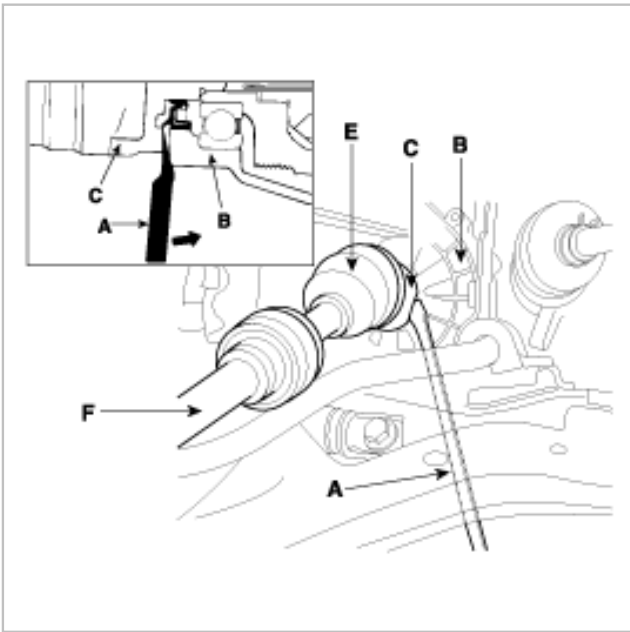


10. Using a plastic hammer(A), disconnect the driveshaft(B) from the axle hub(C).



11. Push the axle hub(C) outward and separate the driveshaft(B) from the axle hub(C).

12. Insert a pry bar(A) between the transaxle case(B) and joint case(C), and separate the driveshaft from the transaxle case(B).



CAUTION

- Use a pry bar(A) being careful not to damage the transaxle and joint.
- Do not insert the pry bar(A) too deep, as this may cause damage to the oil seal. [max. depth : 7mm (0.28 in.)]
- Do not pull the driveshaft by excessive force it may cause components inside the BJ or TJ joint(C) kit to dislodge resulting in a torn boot(E) or a damaged bearing.

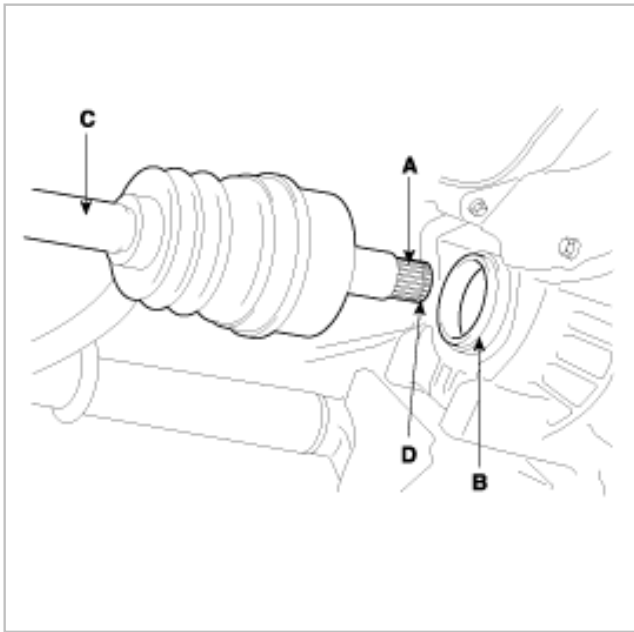
13. Pull out the driveshaft(F) from the transaxle case(B).

CAUTION

- Plug the hole of the transaxle case with the oil seal cap to prevent contamination.
- Support the driveshaft properly.
- Replace the retainer ring whenever the driveshaft is removed from the transaxle case.

INSTALLATION

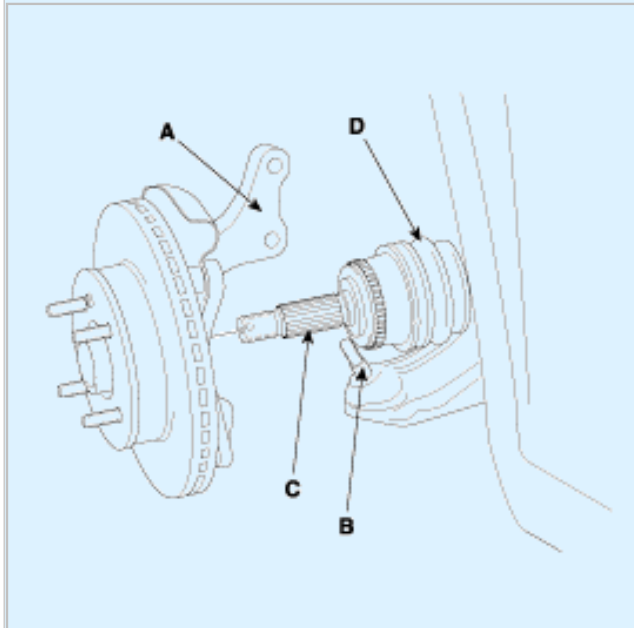
1. Apply gear oil on the driveshaft splines(A) and the contacting surface of differential case oil seal(B).
2. Before installing the driveshaft(C), set the opening side of the circlip(E) facing downward.



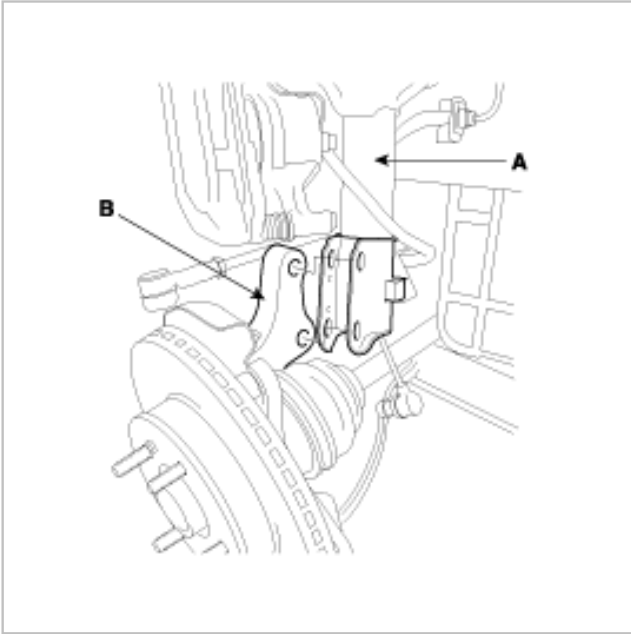
3. After installation, check that the driveshaft cannot be removed by hand.
4. Assemble the dust cover, the hub brake disc and the wheel bearing to the knuckle.
5. Install the BJ. into the knuckle.
6. In practice, the knuckle(A) should be installed in the lower arm ball joint(B) and the BJ.(C) is installed in the knuckle(A).

CAUTION

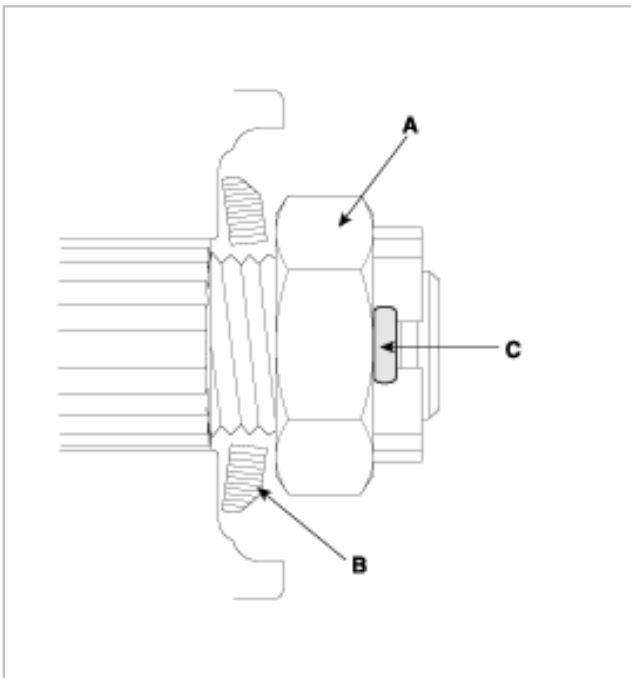
Be careful not to damage the boot(D).



7. Install the knuckle(B) in the strut assembly(A) with the tightening torque(C), 75~90 Nm (750~900 kgf-cm, 54~65 lbf-ft).



8. Install the lower arm in the knuckle with the tightening torque 60~72 Nm (600~720 kgf-cm, 43~52 lbf-ft).
9. After the installation, check on the driveshaft(D) for stability by hand.
10. After installing the washer(B) with convex surface outward, install the castle nut(A) and the split pin(C).

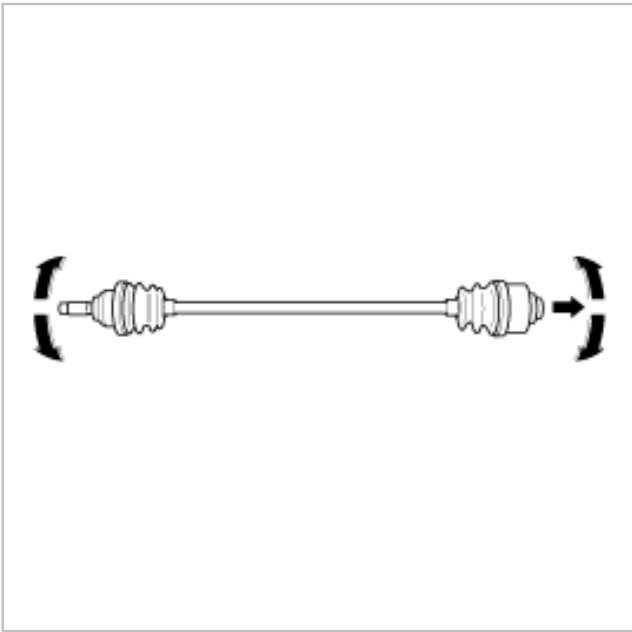


11. Install the wheel and tire.

INSPECTION

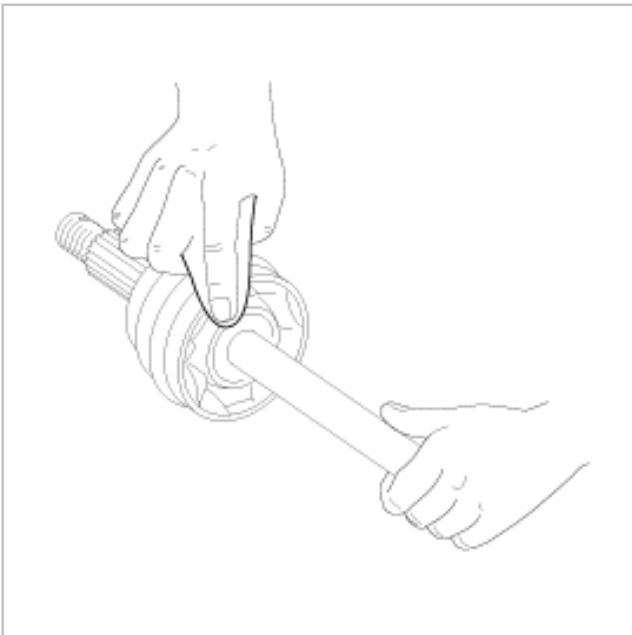
1. Check the driveshaft boots for damage and deterioration.
2. Check the ball joints for wear and damage.
3. Check the splines for wear and damage.

4. Check the dynamic damper for cracks and wear.



INSPECTION

1. Check the driveshaft spline for wear or damage.
2. Check that there is no water or foreign material in the BJ.
3. Check the spider assembly for roller rotation, wear or corrosion.
4. Check the groove inside the TJ. case for wear or corrosion.
5. Check the dynamic damper for damage or cracks.



DISASSEMBLY

DRIVESHAFT (LH)

NOTE

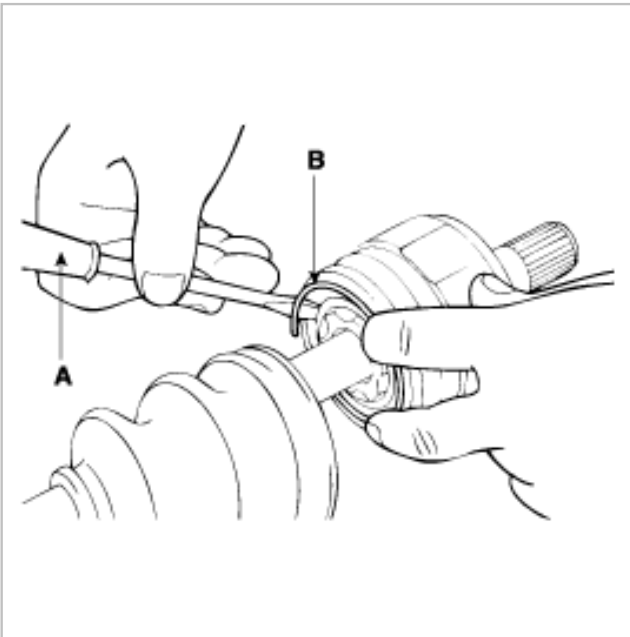
- Do not disassemble the BJ assembly.
- Special grease must be applied to the driveshaft joint. Do not substitute with another type of grease. (refer to 'LUBRICANTS', See page DS-3).
- The boot band should be replaced with a new one.

1. Remove the DOJ. boot bands and pull the DOJ. boot from the DOJ. outer race.
 - A. Using a plier or flat-tipped (-) screwdriver, remove the LH boot band and LH DOJ. boot band from the driveshaft.
 - B. Remove RH boot band and RH DOJ. boot band in the same way of LH removal procedure.

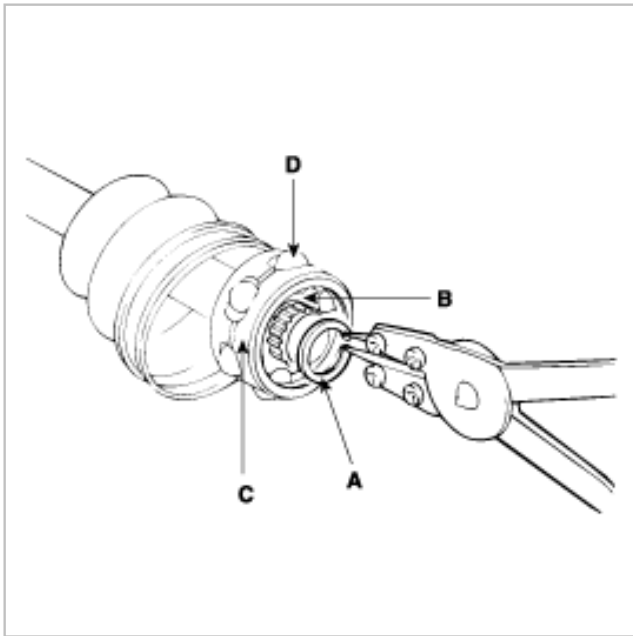
NOTE

Be careful not to damage the boot.

2. Remove the circlip(B) with a flat-tipped (-) screwdriver (A).



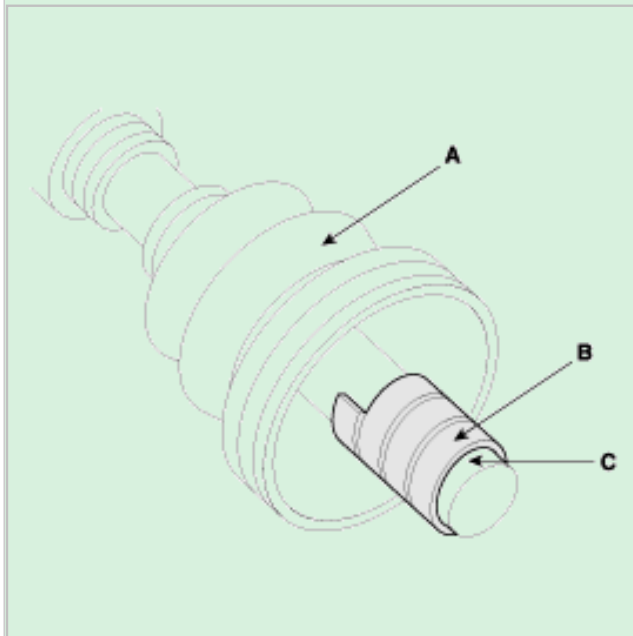
3. Pull out the driveshaft from the DOJ. outer race.
4. Remove the snap ring(A) and take out the inner race(B), cage(C) and balls(D) as an assembly.



5. Clean the inner race, cage and balls without disassembling.
Remove the BJ. boot bands and pull out the DOJ. boot and BJ. boot.

NOTE

If the boot(A) is to be reused, wrap tape(B) around the driveshaft splines(C) to protect the boot(A).



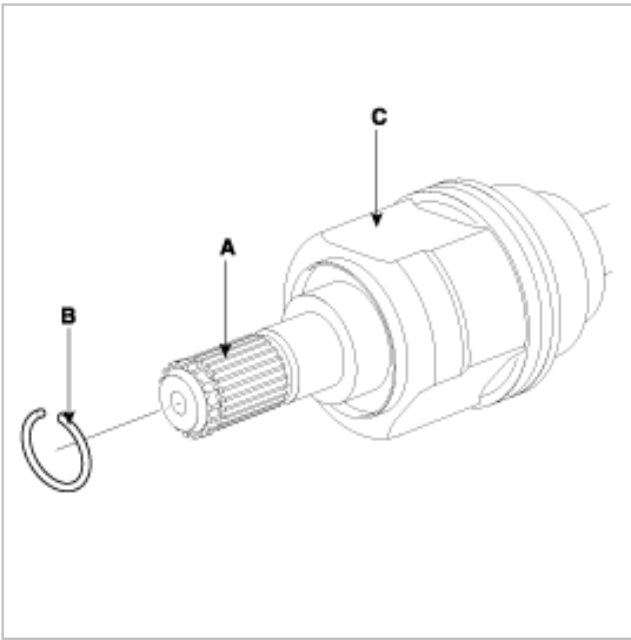
DISASSEMBLY

DRIVESHAFT (LH)

NOTE

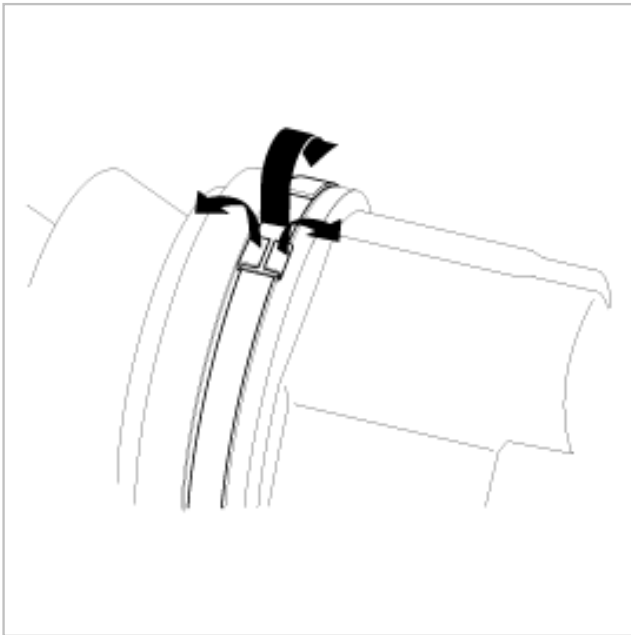
- Do not disassemble the BJ. assembly.
- Special grease must be applied to the driveshaft joint. Do not substitute with another type of grease. (refer to 'LUBRICANTS', See page DS-3)
- The boot band should be replaced with a new one.

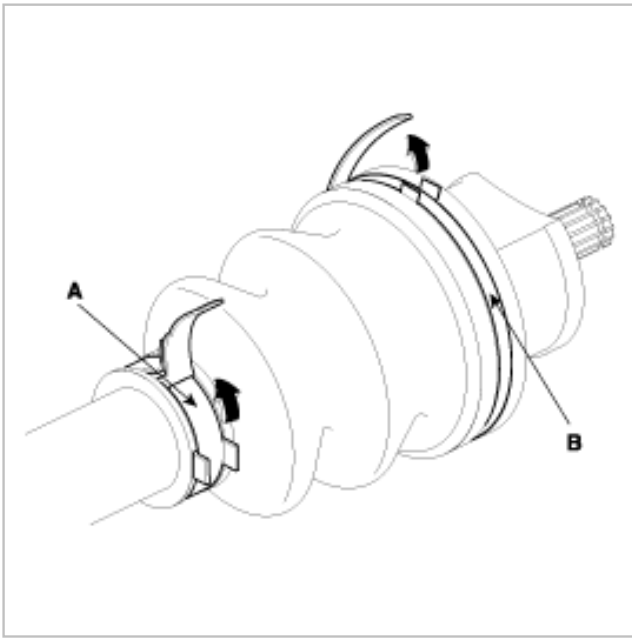
1. Remove the circlip(B) from driveshaft splines(A) of the transaxle side TJ. case(C).



2. Remove the both boot clamps from the transaxle side TJ. case.

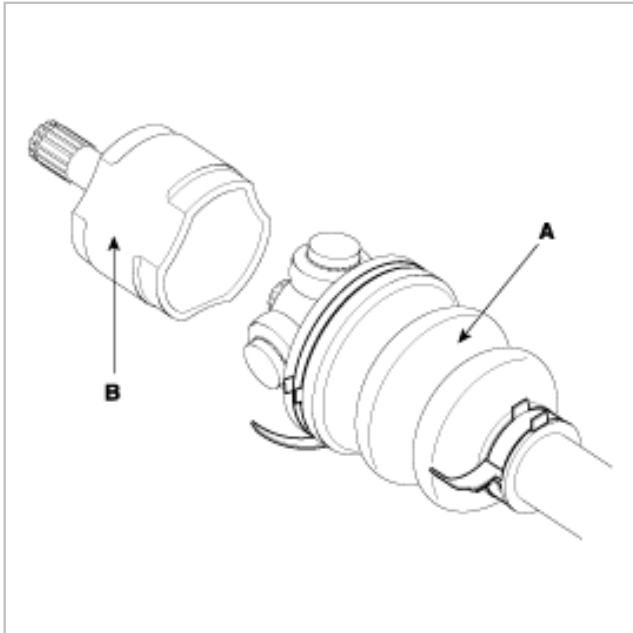
A. Using a plier or flat-tipped (-) screwdriver, remove the both clamps(TJ. boot band(B), boot band(A)) of the transaxle side.





3. Pull out the boot from the transaxle side joint(TJ).

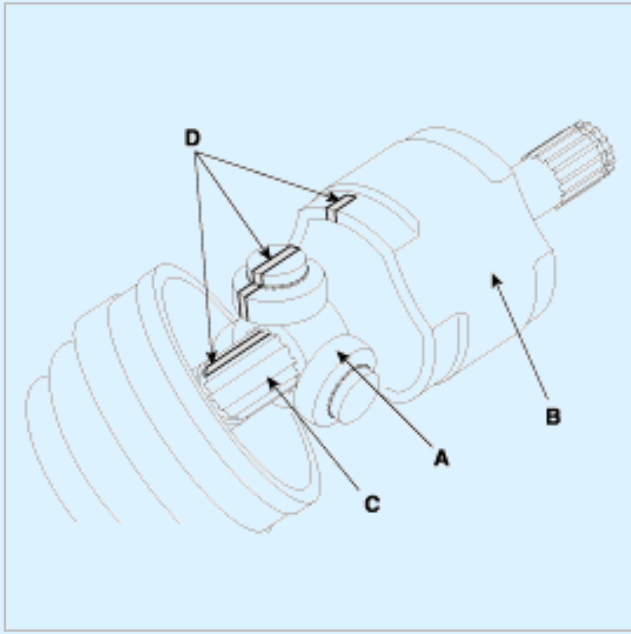
4. While dividing joint(TJ) boot(A) of the transaxle side wipe the grease in TJ. case(B) and collect them respectively.



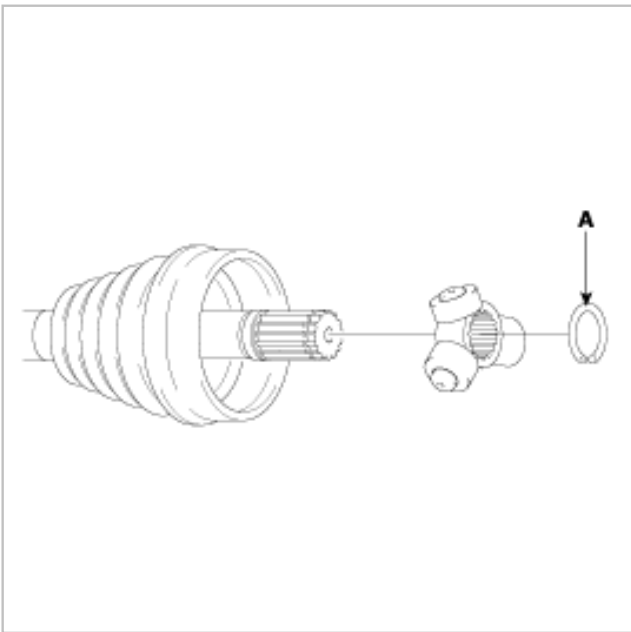
CAUTION

- Be careful not to damage the boot.

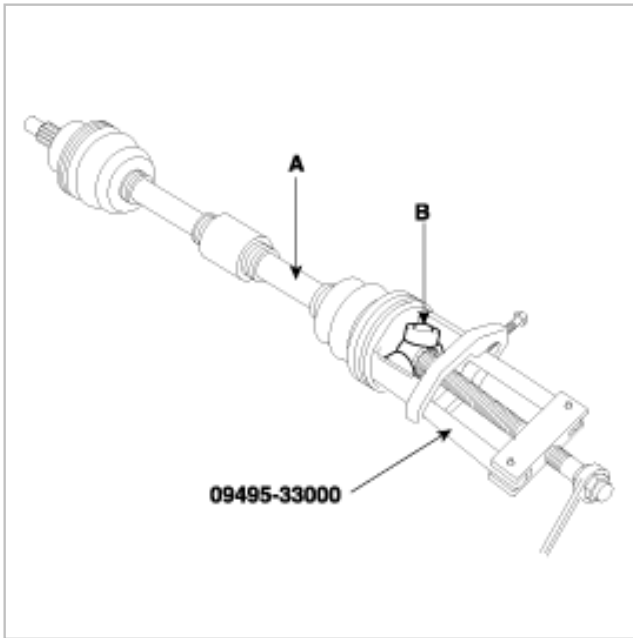
- According to below the illustrated, put marks(D) on roller of spider assembly(A), T.J. case(B) and spline part(C), for providing assembly.



5. Using a plier or flat-tipped (-) screwdriver, remove the circlip(A).



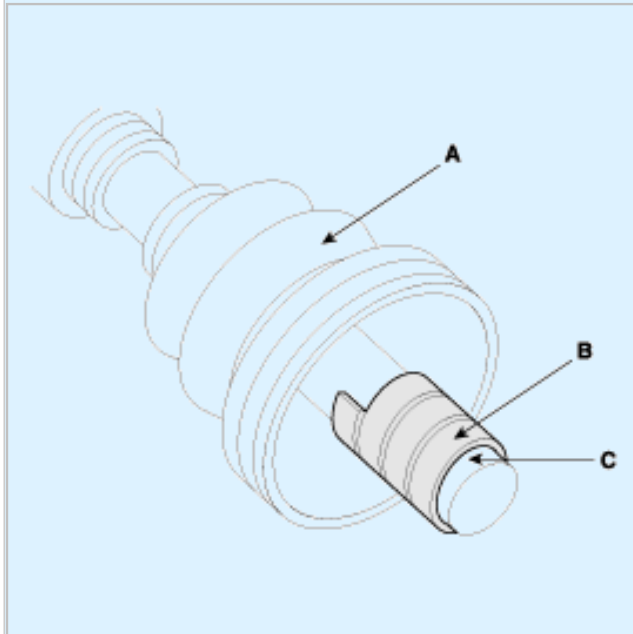
6. Remove the spider assembly(B) from driveshaft(A) by using the Special Tool(09495-33000).



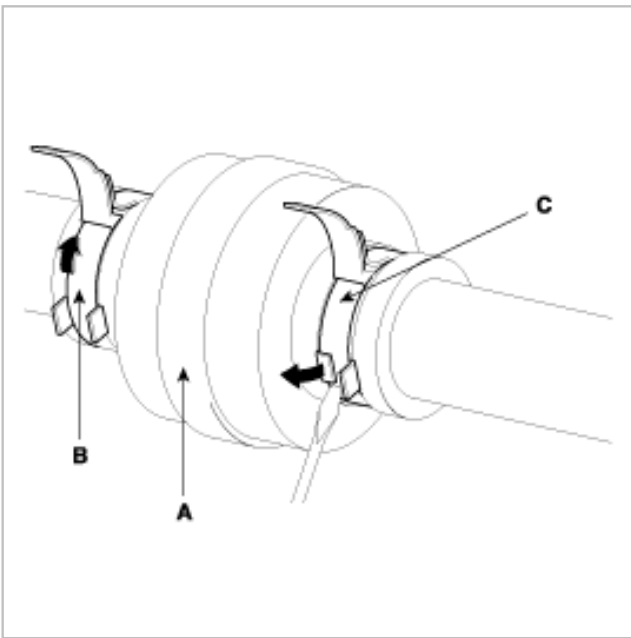
7. Clean the spider assembly.
8. Remove the boot(A), of the transaxle side joint(TJ).

CAUTION

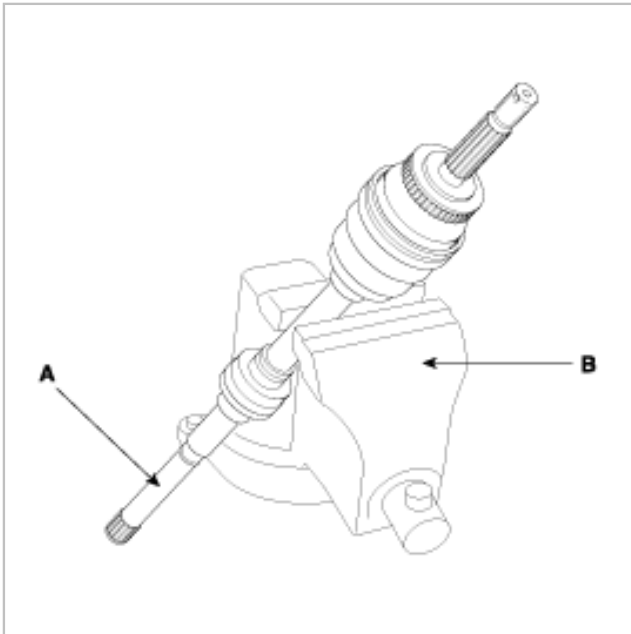
For reusing the boot(A) wrap tape(B) around the driveshaft splines(C) to protect the boot(A).



9. Using a plier or flat-tipped (-) screwdriver, remove the both side of clamps(B,C) of the dynamic damper(A).

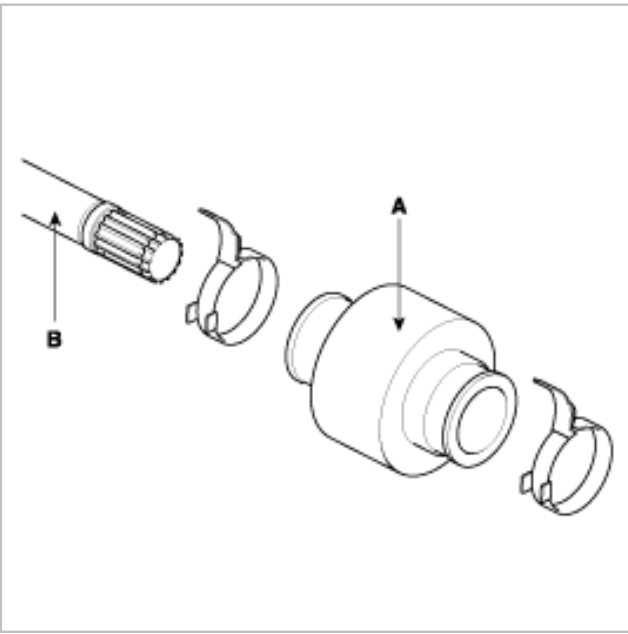


10. Fix the driveshaft(A) with a vice(B) as illustrated.

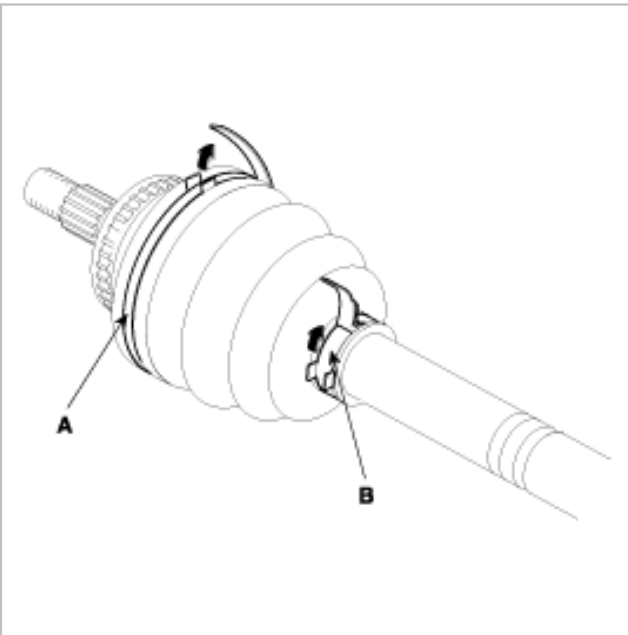


11. Apply soap powder on the shaft to prevent being damaged between the shaft spline and the dynamic damper when the dynamic damper is removed.

12. Saperate the dynamic damper(A) from the shaft(B) carefully.



13. Using a plier or flat-tipped (-) screwdriver, remove the both clamps(A,B) on the side of wheel.



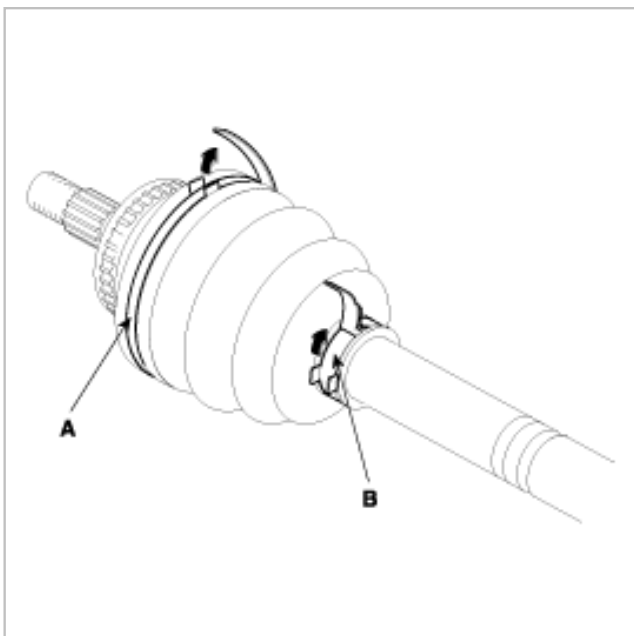
14. Pull out the joint(BJ) on the side of wheel into the transaxle direction.

Be carefull not to damage the boot.

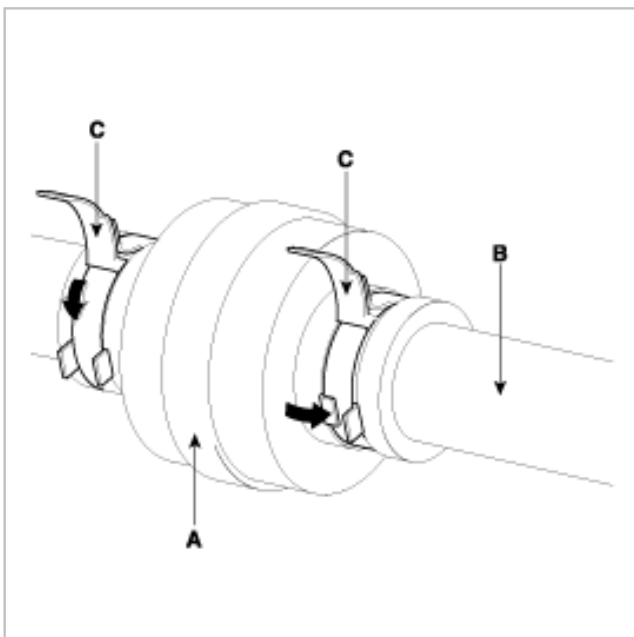
REASSEMBLY

1. Wrap tape around the driveshaft splines (TJ. side) to prevent damage to the boots.
2. Apply grease to the driveshaft and install the boots. (refer to 'LUBRICANTS', See page DS-3)

3. Install the clamps(A,B) to both boots.

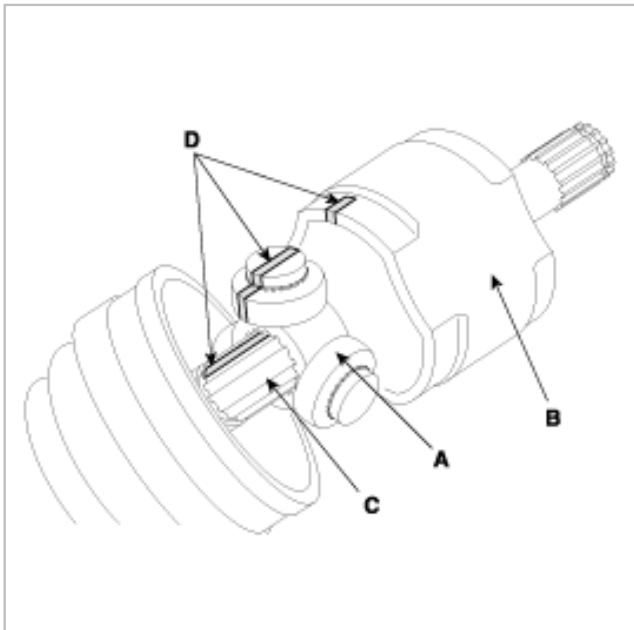
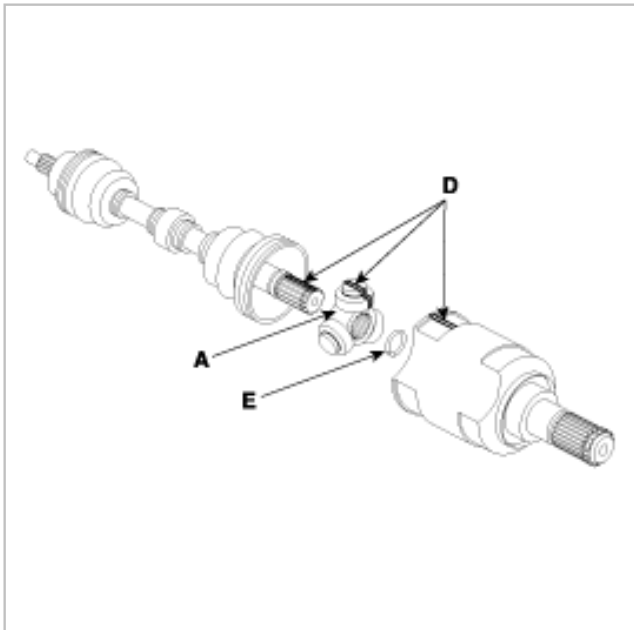


4. To reassemble the dynamic damper(A), keeping the shaft(B) in the straight, tighten the dynamic damper(A) with dynamic bands(C), as the illustration.



5. Install the TJ. boot bands and TJ. boot.

6. Install the spider assembly(A) and the circlip(E) to the spline(C) on the drivershaft. At this time align the marks(D) each other.



7. Add the specified grease to the T.J. as much as wiped away at inspection.
8. Install the boots.
9. Tighten the T.J. boot bands.
10. To control the air in the T.J. boot, keep the specified distance between the boot bands when they are tightened.

Standard value [A] mm(in.)

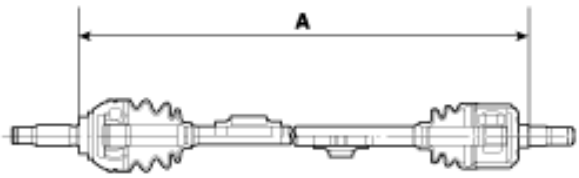
LH : 514.2 ± 2 (20.24 \pm 0.08)

RH : 799.2 ± 2 (31.46 \pm 0.08)

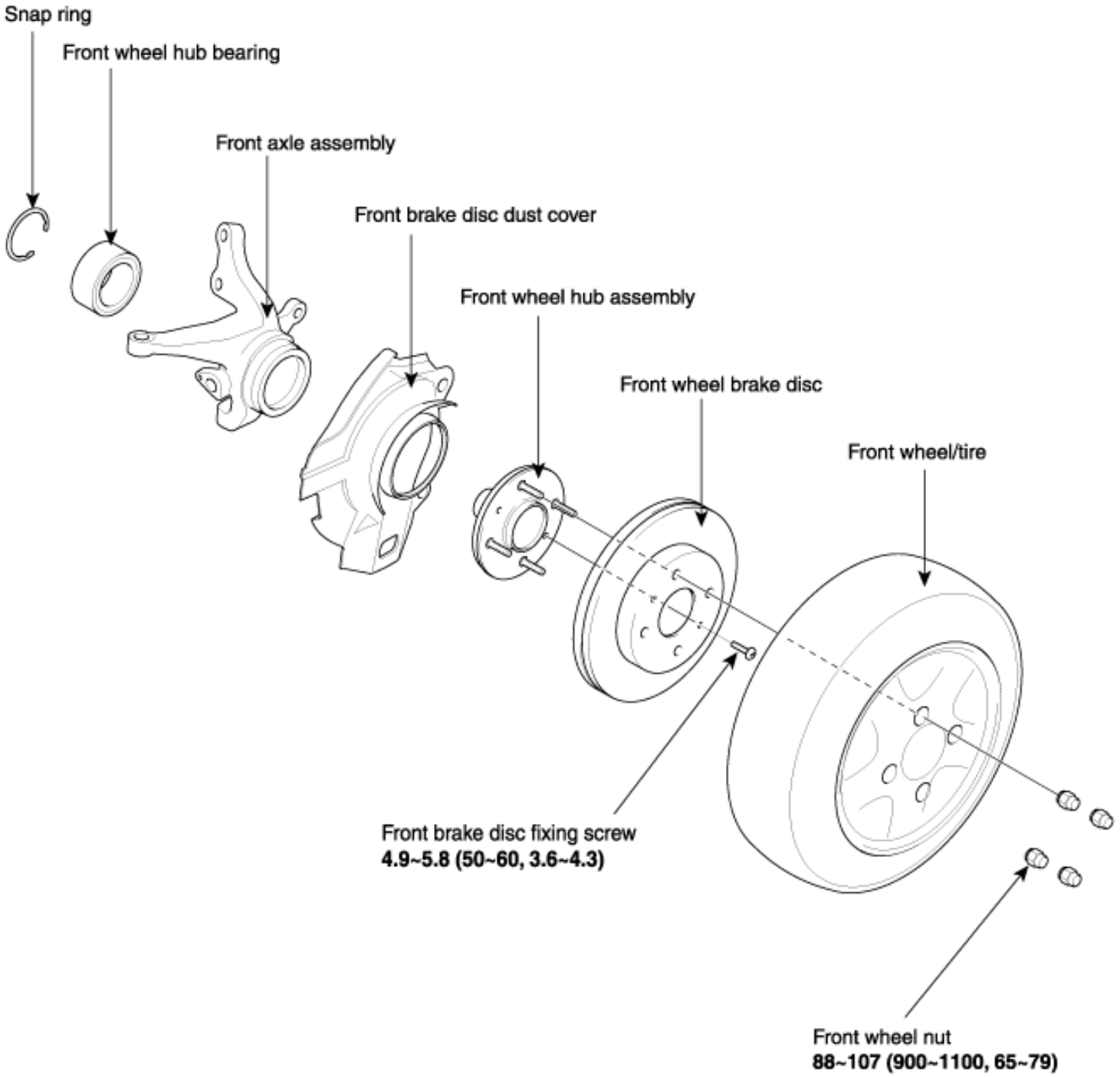
Purchased
from Ebay seller
Reveleus1

Thank-you for purchasing from me, it
is much appreciated.

To contact me please email
suzlever@gmail.com



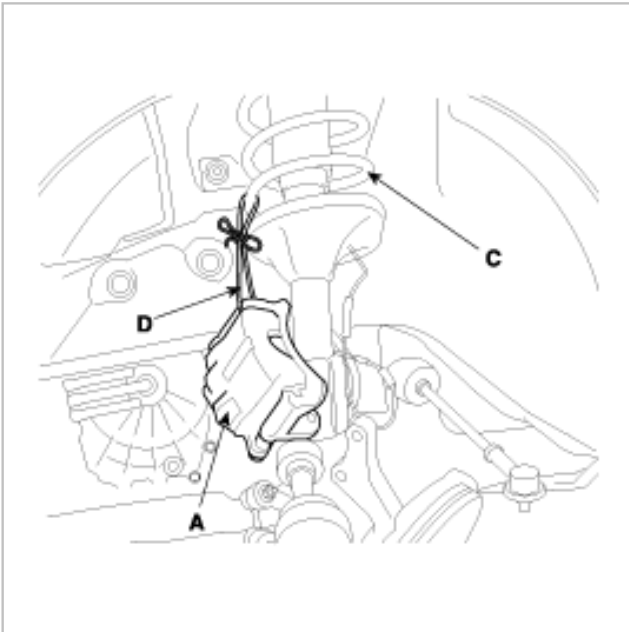
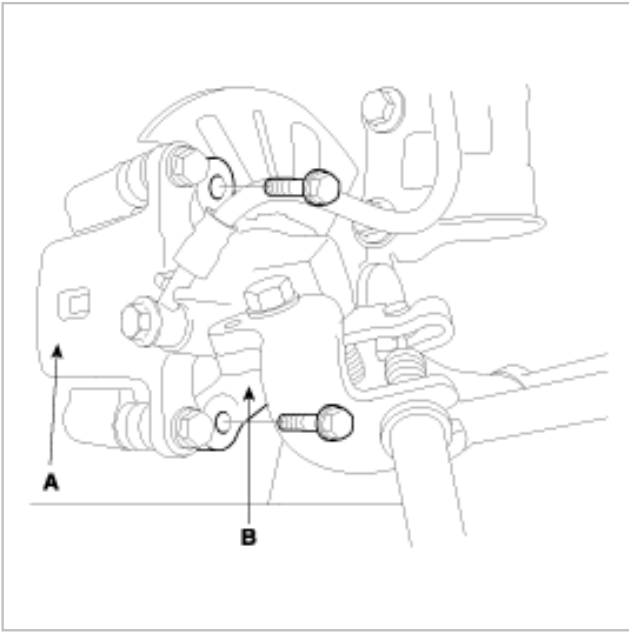
COMPONENTS



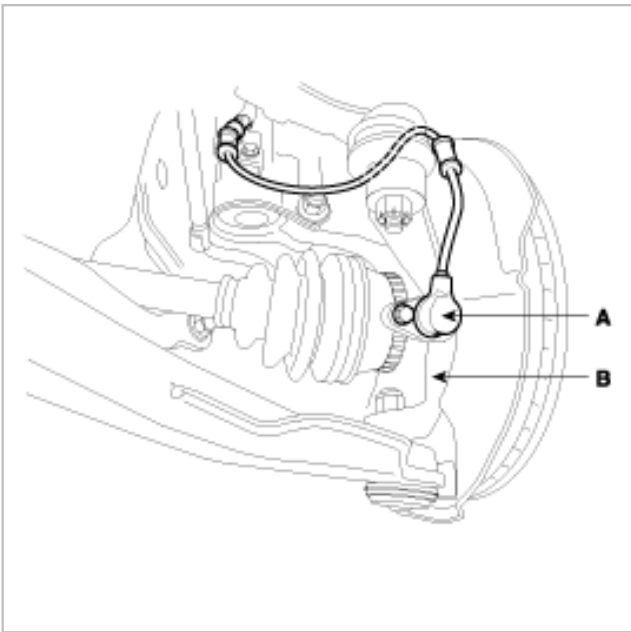
TORQUE : N·m (kgf·cm, lbf·ft)

REMOVAL

1. Remove the front wheel and tire.
2. Remove the split pin, then remove castle nut and washer from the front hub under applying the brake.
3. Remove the caliper(A) from the knuckle(B) and hang the caliper(A) on the front damper(C) with wire(D).



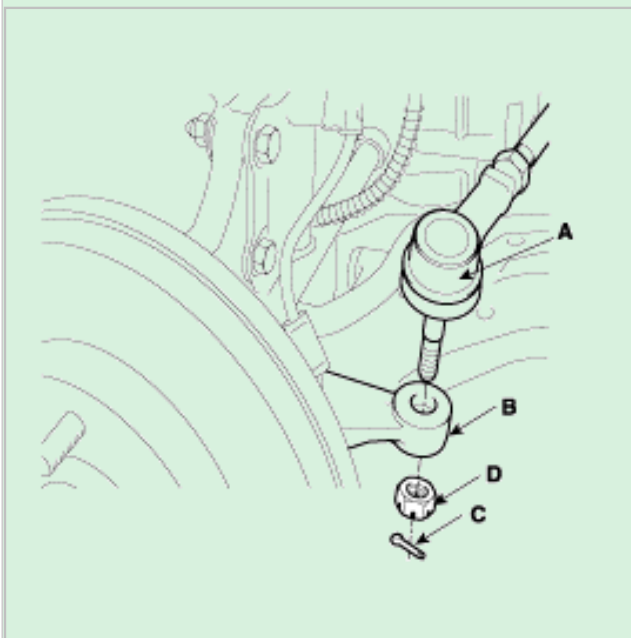
4. Remove the wheel speed sensor(A) from the knuckle(B).



5. Disconnect the tie rod end ball joint(A) from the knuckle(B) using the special tool(09568-34000).

NOTE

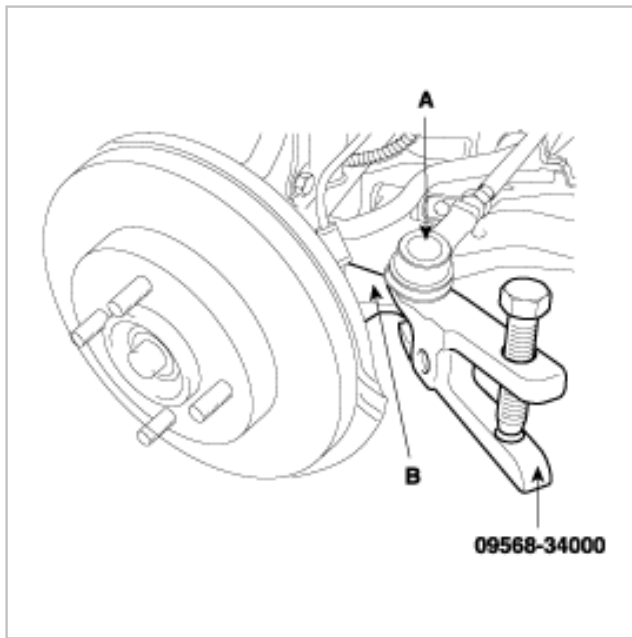
Be sure to tie the special tool (09568-34000) to the near part with cord not to fall.



A. Remove the split pin(C).

B. Remove the castle nut (D).

C. Disconnect the ball joint(A) from knuckle(B) using the special tool (09568-34000).



6. Disconnect the strut assembly from the knuckle.
7. Disconnect the driveshaft from the hub.
8. Remove the hub and knuckle as an assembly.

CAUTION

Be careful not to damage the boot and tone wheel.

INSTALLATION

1. Installation is the reverse of the removal procedures.

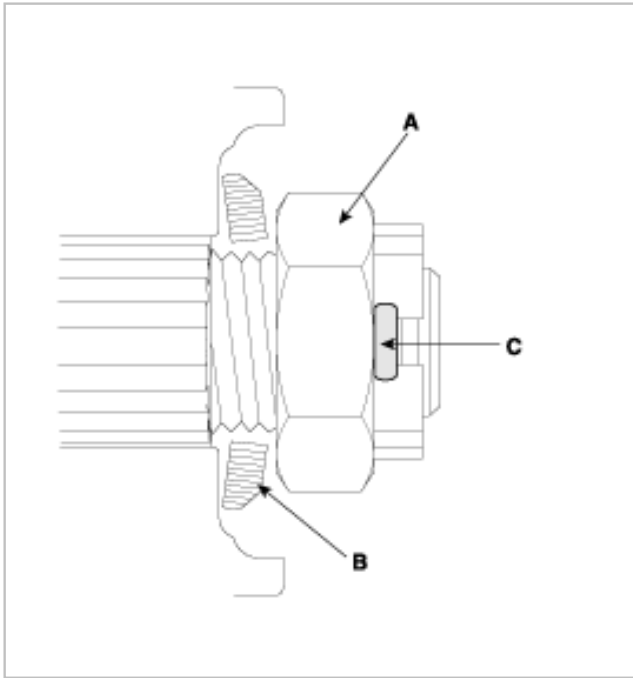
NOTE

Tighten the components below to the specified torque as follows :

Items	Torque Nm (kgf-cm, lbf-ft)
Driveshaft nut	200~260 (2000~2600, 159~192)
Lower arm ball joint to knuckle nut	60~72 (600~720, 44~53)
Knuckle to strut assembly nut	130~150 (1300~1500, 96~111)

2. Install the strut assembly and the driveshaft in the knuckle.
3. Connect the wheel speed sensor.
4. Install the caliper assembly in the hub and knuckle assembly which the brake disc is already installed.
5. Tighten the lower arm ball joint nut.
6. Tighten the tie rod end ball joint nut and insert the split pin(C).

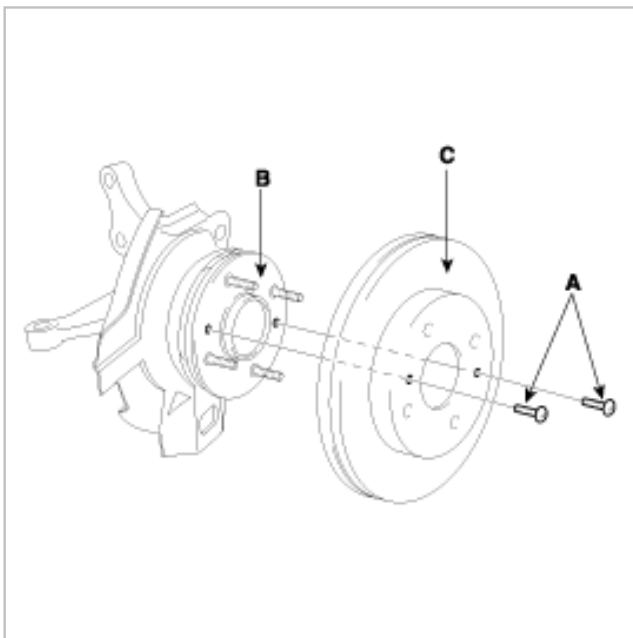
7. Insert the washer(B) and tighten the castle nut(A).
8. Insert the split pin(C).



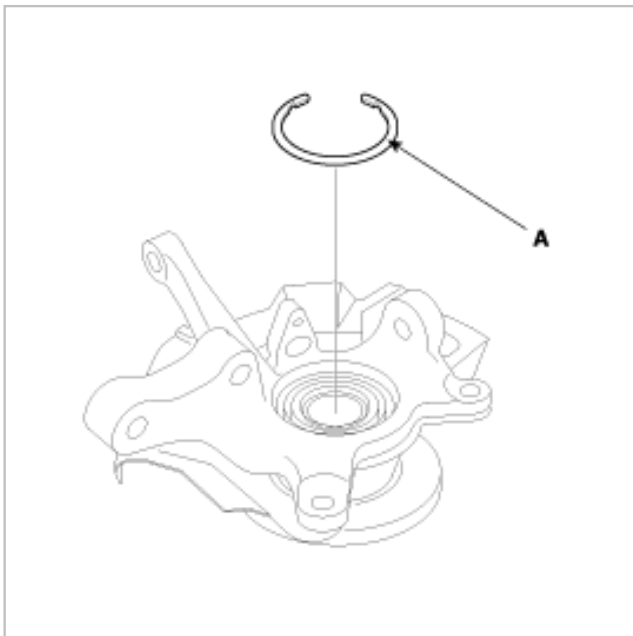
9. Install the wheel and tire and tighten the wheel nuts.

DISASSEMBLY

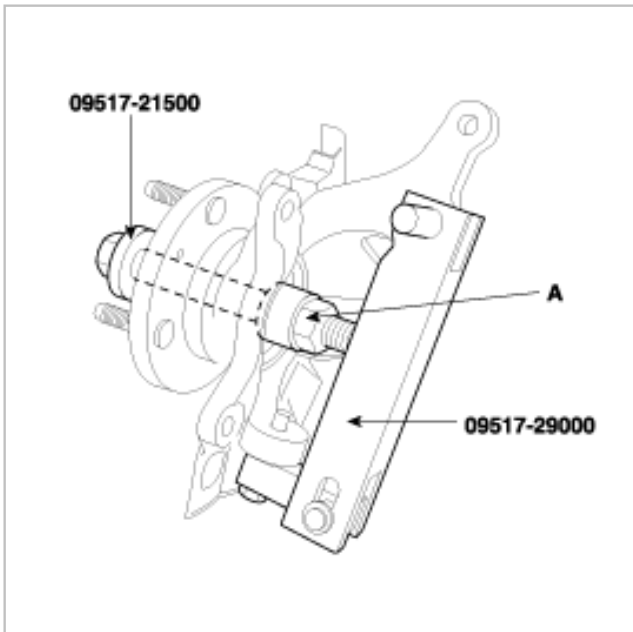
1. After removing the fixed screws(A) mounting the brake disc(C), remove the brake disc(C) from the hub(B).



2. Remove the snap ring(A).



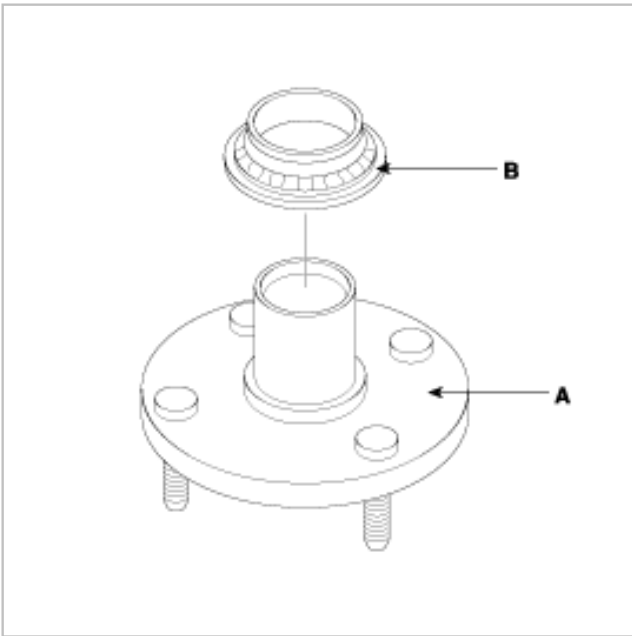
3. Install the special tools(09517-29000, 09517-21500) as shown in illustration below.



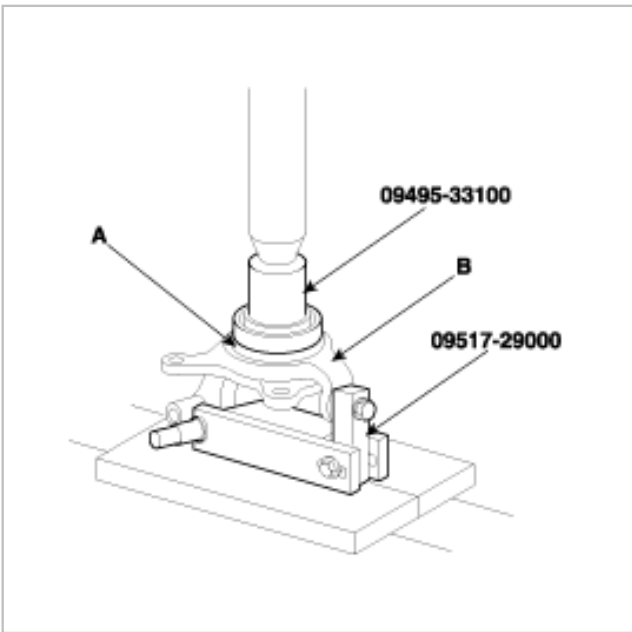
4. Separate the hub from the knuckle by turning nut(A) of the special tool(09517-21500).

5. Remove the special tools(09517-21500, 09517-29000) and dust cover.

6. Remove the bearing inner race(B) from the hub(A) using the special tool (09495-33000).



7. Using the special tools (09495-33100, 09517-29000), remove the wheel bearing outer race(A) from the knuckle (B).



8. Using a plastic hammer, remove the dust cover from the knuckle.

INSPECTION

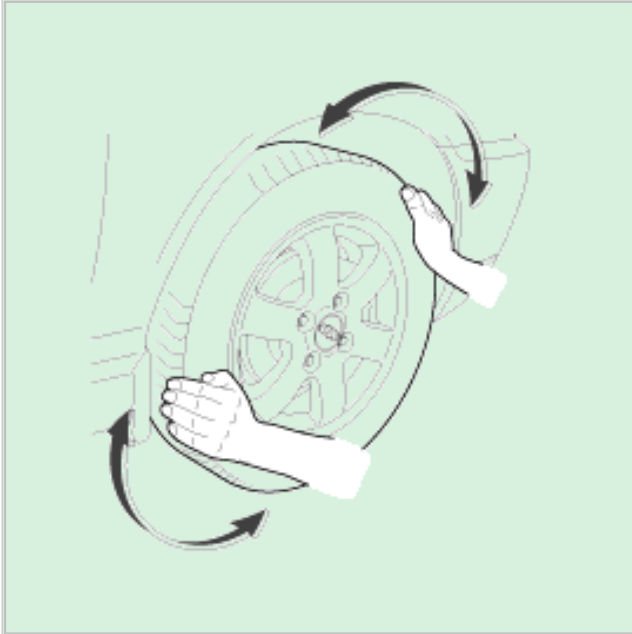
Wheel Bearing Check

1. Raise the vehicle until the front tires are off the floor.
 - Make sure the wheels are in a straight forward position.

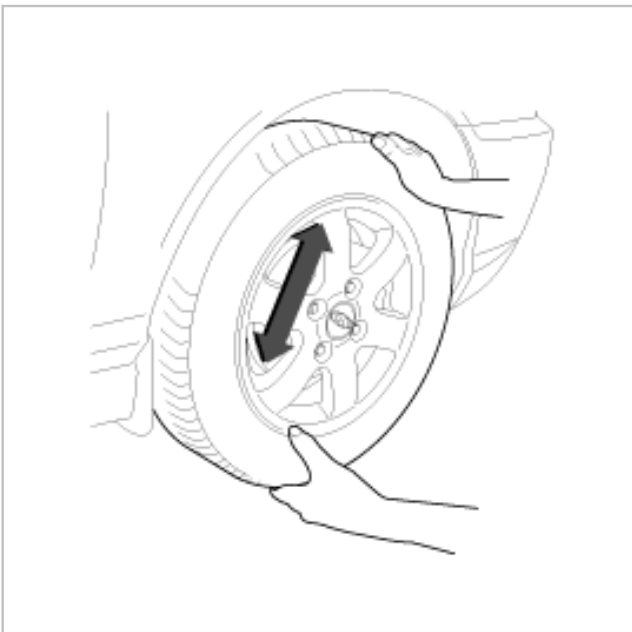
NOTE

Make sure the wheel rotates freely and that the brake pads are retracted sufficiently to allow free movement of the tire and wheel assembly.

Spin the tire by hand to check the wheel bearings for roughness.



2. Grip each front tire at the top and bottom and move the wheel inward and outward while lifting the weight of the tire off the front wheel bearings.



3. If the tire and wheel (hub) is loose on the spindle, does not rotate freely, or has a rough feeling when spun, carry out one of the following.
 - On vehicles with inner and outer bearings, inspect the bearings and races for wear or damage. Adjust or install new bearing and races as necessary.
4. Check the hub for cracks and the splines for wear.

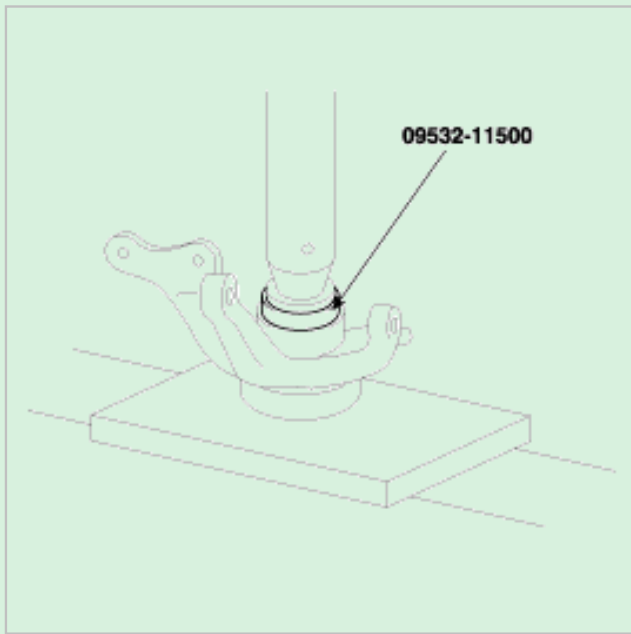
5. Check the brake disc for scoring and damage.
6. Check the knuckle for cracks.
7. Check the bearing for cracks or damage.

REASSEMBLY

1. Apply multi-purpose grease to the contacting surface of the knuckle hub and bearing thinly.
2. Using the Special Tool (09532-11500), press-in the bearing to the knuckle.

NOTE

- Press-in the outer race of the wheel bearing to prevent damage to the bearing assembly.
- When installing a bearing assembly, always use a new one.
- The right and the left bearing must be made in the same company.



3. Using a plastic hammer, install the snap ring and dust cover.
4. Using the Special Tool (09517-21500), press-in the hub to the knuckle.

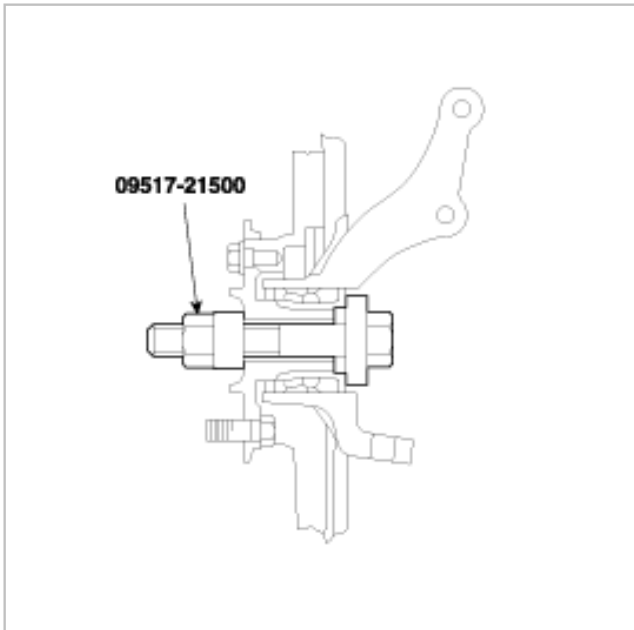
NOTE

Press-in the inner race of the wheel bearing to prevent damage to the bearing assembly.

5. Install the brake disc.
6. Tighten the hub and the knuckle to the specified torque using the Special Tool (09517-21500).

Specified torque Nm (kgf-cm, lbf-ft)

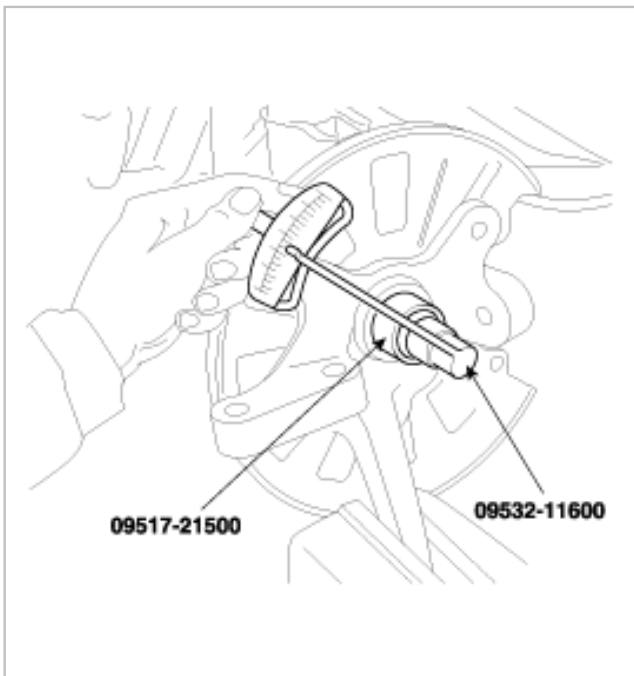
200 ~ 260 (2000 ~ 2600, 159 ~ 192)



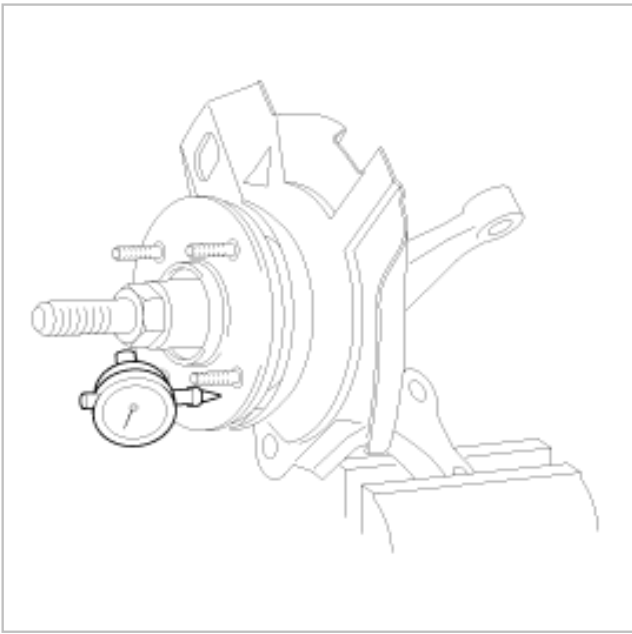
7. Measure the hub bearing starting torque.

Hub bearing starting torque [Limit]

1.8 Nm (18 kgf·cm, 16 lbf·in) or less



8. If the starting torque is 0 Ncm (0 in.lbs.), measure the hub bearing axial play.



9. If the hub axial play exceeds the limit while the nut is tightened to 200~260 Nm (2000~2600kgf·cm, 159~192 lbf·ft), the bearing, hub and knuckle are not installed correctly. Repeat the disassembly and assembly procedure.

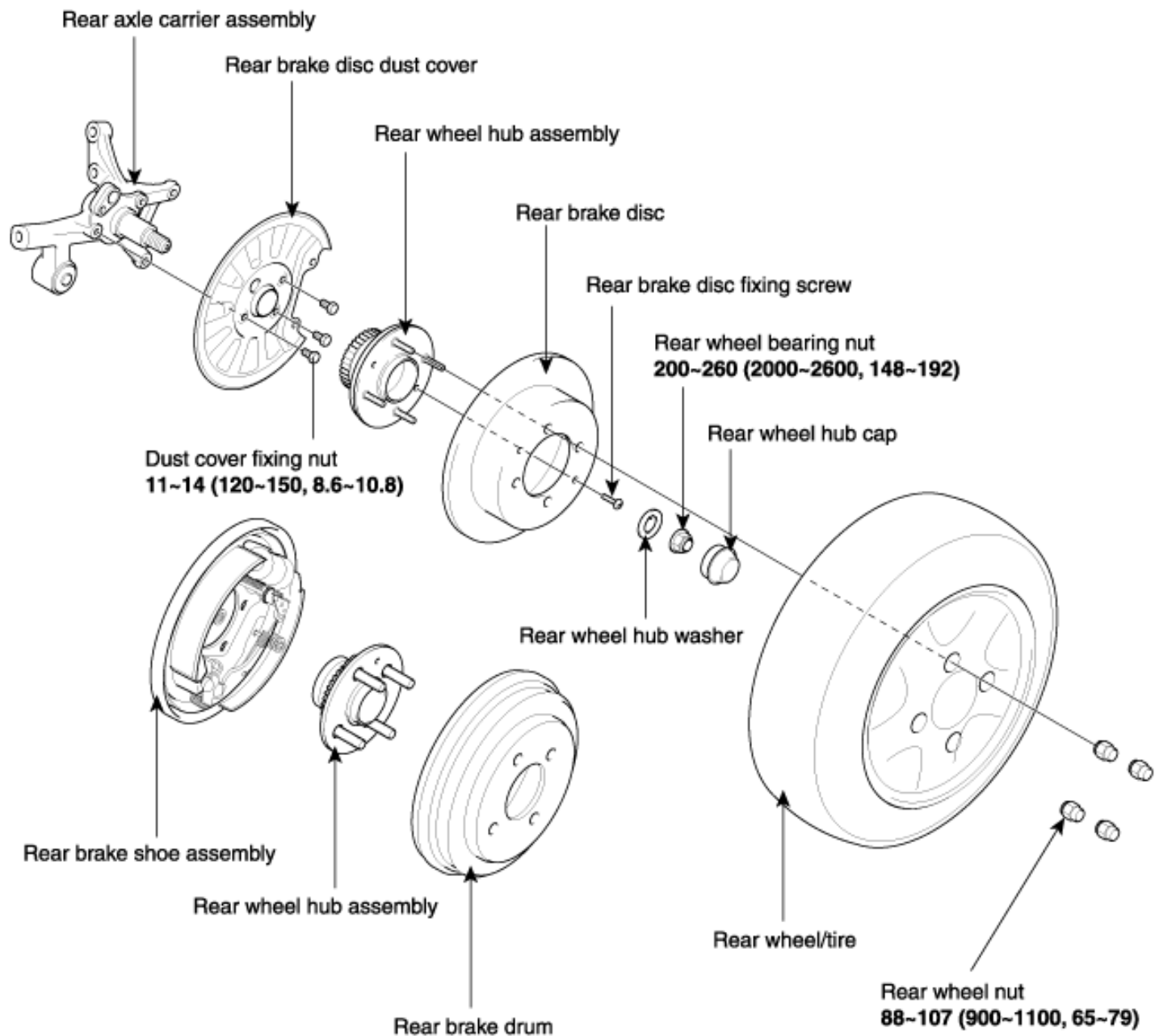
Hub bearing axial play [Limit]

0.008 mm (0.0003 in.) or less

10. Remove the Special Tool.

11. Fix the brake disc with the mounting screws.

COMPONENTS



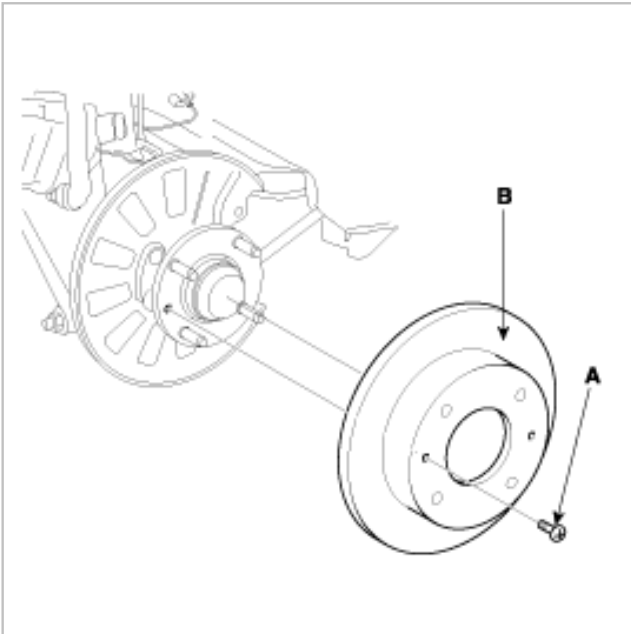
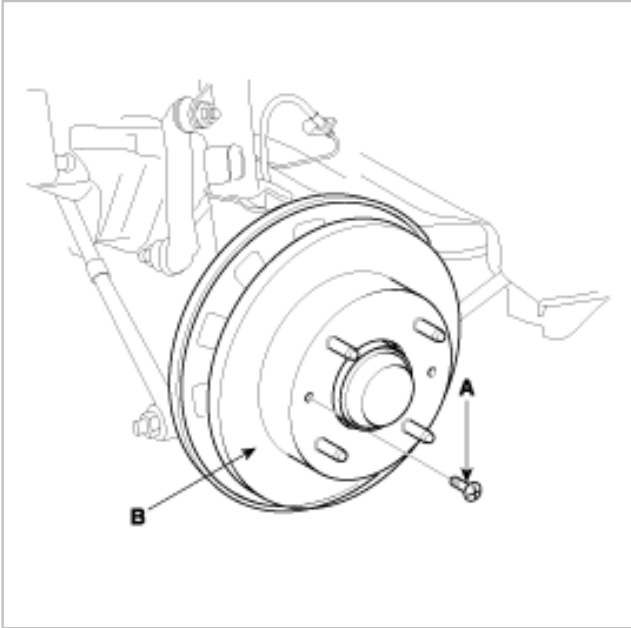
CAUTION

The right and the left bearing must be made in the same company.

TORQUE : N·m (kgf·cm, lbf·ft)

REMOVAL

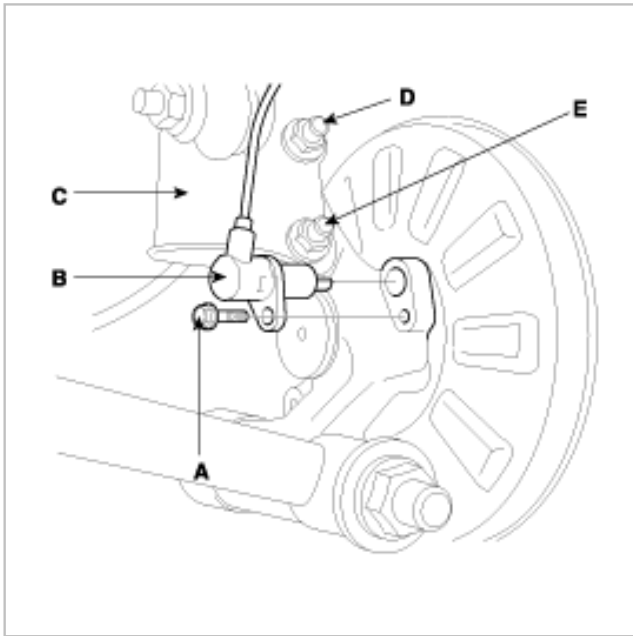
1. Loosen the wheel nuts slightly.
2. Raise rear of the vehicle.
3. Loosen the rear wheel nuts thoroughly and remove the rear wheel and tire.
4. Remove the rear wheel hub cap with a screw driver and a hammer.
5. Remove the rear wheel bearing nut and the rear wheel hub washer.
6. Remove the fixed screw (A) of the brake disc (B), and then remove the brake disc (B).



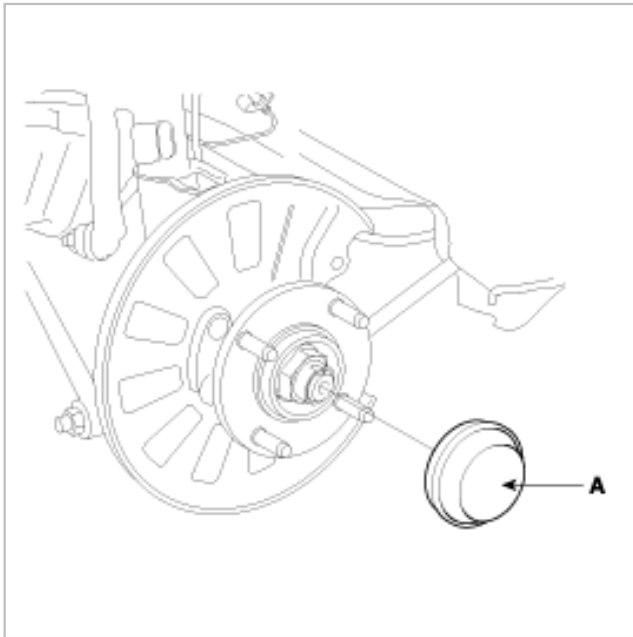
7. Remove the rear wheel speed sensor (for vehicles equipped with Anti-lock Brake System).

8. Remove the bolt(A) and the separate the rear wheel speed sensor(B).

In this case, separate the wheel speed sensor(B) after loosening the lower bolt(E) of two rear strut(C) mounting bolts(D,E).



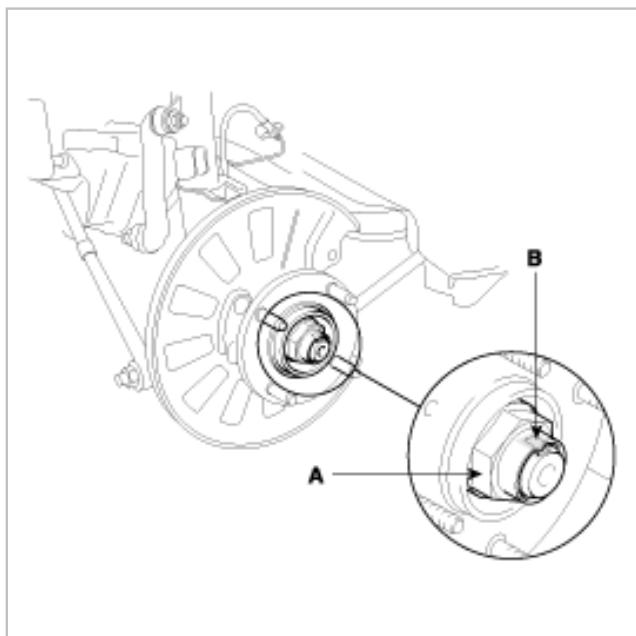
9. Using a flat-tipped screwdriver, remove the wheel hub cap(A).



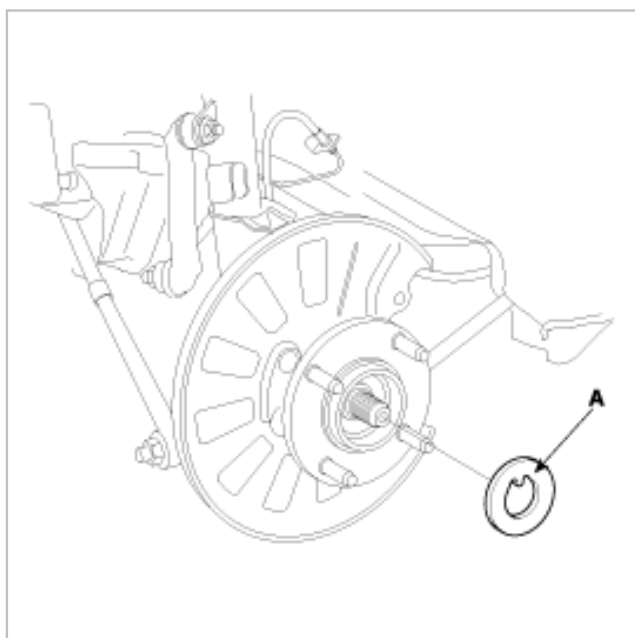
10. Remove the wheel bearing nut(A).

A. Using a flat-tipped (-) screwdriver, spread out the groove(B) on the bearing nut(A).

B. Loosen the wheel bearing nut(A).

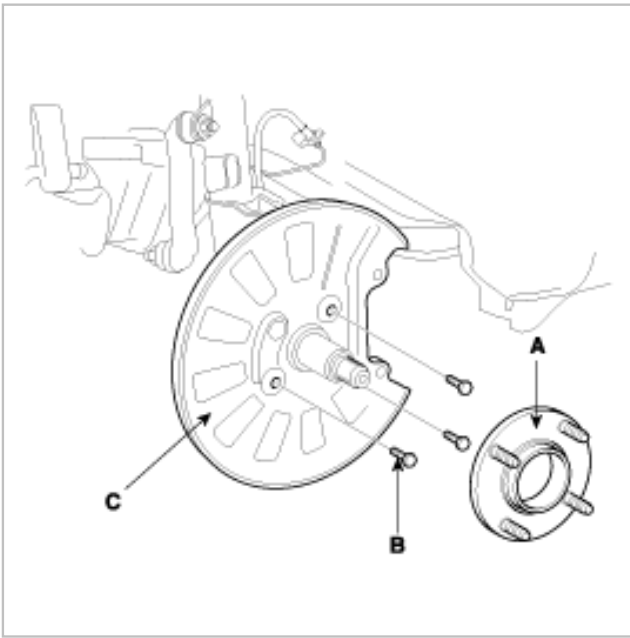


11. Remove the rear wheel hub washer(A).



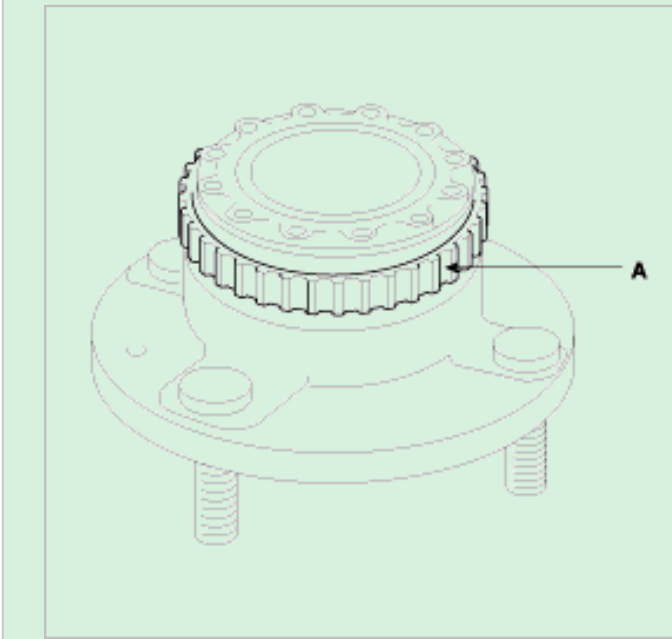
12. Remove the rear wheel hub assembly(A).

Remove the bolts(B) and then remove the dust cover(C).



NOTE

- The rear hub assembly should not be disassembled.
- (For vehicles equipped with ABS)
Care must be taken not to scratch or damage the teeth of the rotor. The rotor must never be dropped. If the teeth of the rotor are chipped, it results in deformation of the rotor. It will make it impossible to detect the wheel rotation speed accurately and to operate the system normally.

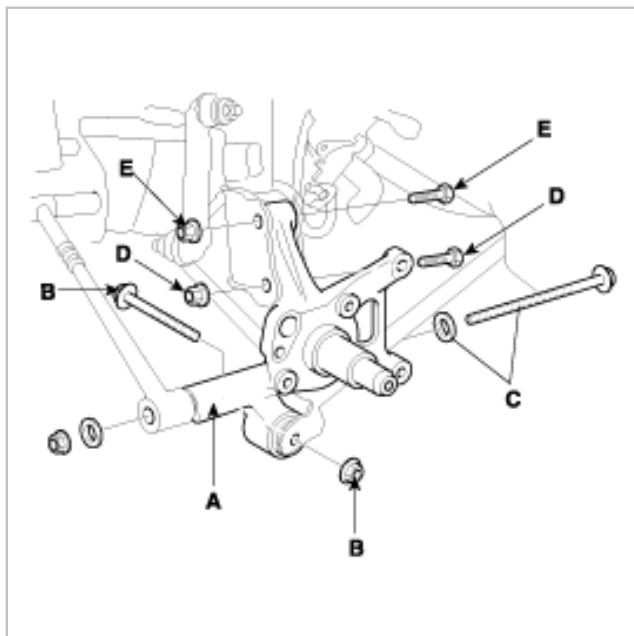


13. Remove the rear dust cover.

14. Remove the rear axle carrier(A).

A. Loosen the 4nuts(B,C,D,E) shown in illustration below.

For the nut D, it may be already loose in removing procedure of the wheel speed sensor.

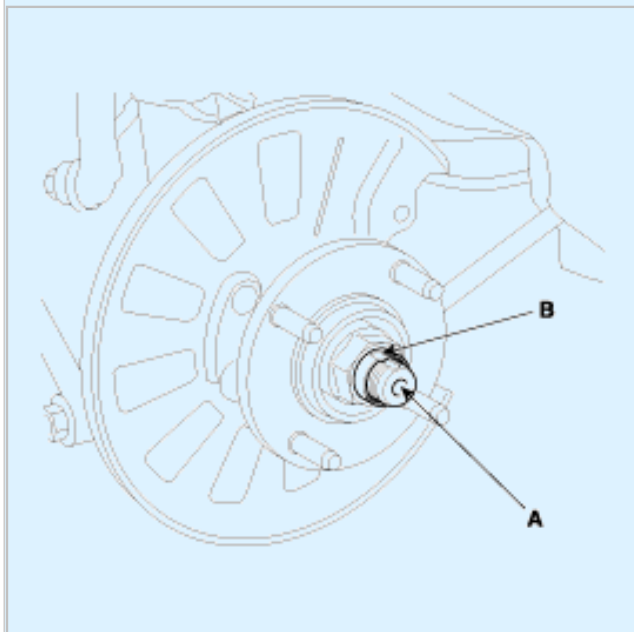


INSTALLATION

1. After tightening the wheel bearing nut, caulk the concave portion(B) of the spindle(A) by crimping the nut.

CAUTION

Replace the wheel bearing nut with new ones after removal.

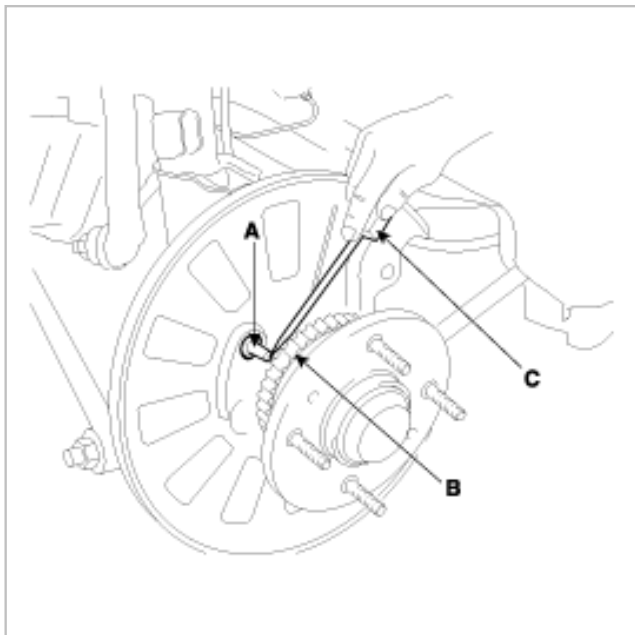


2. Installation of the rear speed sensor(A) (For vehicles equipped with ABS) :

Insert a feeler gauge(C) into the space between the pole piece of the speed sensors(A) and the rotor teeth(B) surface, and then tighten the speed sensors(A) at the position where the clearance at all places is within the standard value.

Standard value

Clearance : 0.2~1.3 mm (0.008~0.051 in.)

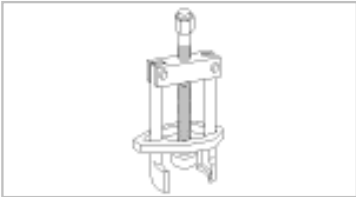
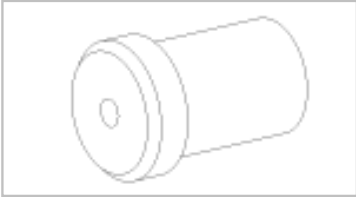
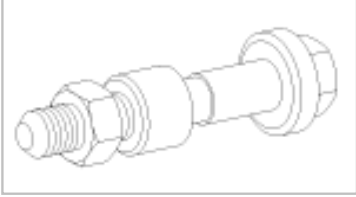
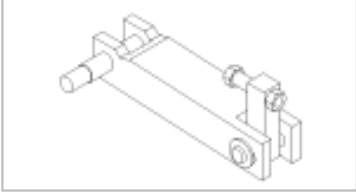
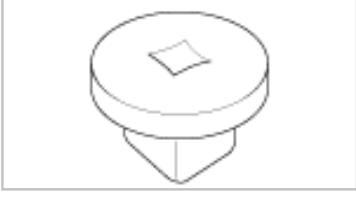
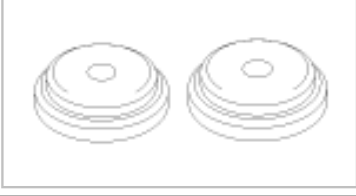



3. Install the hub cap.

INSPECTION

1. Check the oil seal for cracks or damage.
2. Check the rear hub bearing for wear or damage.
3. Check the rear rotor for chipped teeth.
4. Check the rear carrier for cracks.

SPECIAL TOOLS

Tool (Number and Name)	Illustration	Use
09495-33000 Puller		Removal of wheel bearing inner race from a hub.
09495-33100 Center bearing remover and installer		<ol style="list-style-type: none"> 1. Removal of a wheel bearing from a knuckle. (use with 09517-29000) 2. Installation of a hub to a knuckle.
09517-21500 Front hub remover and installer		<ol style="list-style-type: none"> 1. Removal of a front hub from a knuckle. (use with 09517-29000) 2. Measurement of a front wheel bearing pre-load (use with 09532-11600)
09517-29000 Knuckle arm bridge		<ol style="list-style-type: none"> 1. Removal of a front hub from a knuckle. (use with 09517-21500) 2. Removal of a wheel bearing outer race from a knuckle. (use with 09495-33100)
09532-11600 Preload socket		Measurement of a front wheel bearing pre-load. (use with 09517-21500)
09532-31200A Oil seal installer		Installation of a wheel bearing to knuckle.
09568-34000 Ball joint puller		Separation of a lower arm and a tie rod end ball joint.



SPECIFICATIONS

Driveshaft

Engine type	2.0L M/T	2.0L A/T
Outer joint type	B.J. 95	B.J. 92
Inner joint type	D.O.J. 95	T.J. 92
Maximum permissible joint angle		
B.J.	46° or more	45.8° or more
D.O.J.	22° or more	-
T.J.	-	23° or more
Hub end play mm(in.)	0.008 (0.0003) or less	
Wheel bearing starting torque Nm(kgf-cm, lbf-ft)	1.8 (18, 1.6) or less	

B. J. : Birfield Joint

D.O.J. : Double Offset Joint

T. J. : Tripod Joint

M/T : Manual Transaxle

A/T : Automatic Transaxle

TIGHTENING TORQUE

	Nm	kgf-cm	lbf-ft
Castle nut	200 ~ 260	2000 ~ 2600	148 ~ 192
Knuckle to strut assembly nut	110 ~ 130	1100 ~ 1500	79 ~ 108
Lower arm ball joint to knuckle nut	60 ~ 72	600 ~ 720	44 ~ 53
Tie rod end to knuckle	24 ~ 34	240 ~ 340	18 ~ 25
Brake caliper to knuckle	69 ~ 85	690 ~ 850	51 ~ 63
Wheel nut	90 ~ 110	900 ~ 1100	66 ~ 81
Rear hub bearing flange nut	200 ~ 260	2000 ~ 2600	148 ~ 192
Rear brake to rear axle carrier mounting bolt	65 ~ 75	650 ~ 750	48 ~ 55
Rear strut to carrier nut	110 ~ 130	1100 ~ 1300	81 ~ 96
Trailing arm to rear axle carrier mounting nut	130 ~ 150	1300 ~ 1500	94 ~ 108
Rear suspension arm to rear axle carrier mounting nut	160 ~ 180	1600 ~ 1800	118 ~ 133
Brake disc to hub	5 ~ 6	50 ~ 60	3.7 ~ 4.4

CAUTION

Replace self-locking nuts with new ones after removal.

LUBRICANTS

Items	Recommended	Quantity
B.J.95 + D.O.J.95 Type driveshaft (For 2.0L M/T)		

B.J. boot grease	CENTOPLEX 278M/136K CASMOLY BJ ROLLUBE BJ Sunlight SW-2	Joint : 60 ± 3gr. Boot : 55 ± 3gr.
D.O.J. boot grease	AMBLYGON TA 10/2A CASMOLY DOJ DURALUBE DOJ Variant S-R2	Joint : 60 ± 3gr. Boot : 40 ± 3gr.
B.J.92 + T.J.92 Type driveshaft (For 2.0L A/T)		
B.J. boot grease	CENTOPLEX 278M/136K CASMOLY TJ ROLLUBE TJ Sunlight SW-2	Joint : 55 ± 3gr. Boot : 55 ± 3gr.
T.J. boot grease	KLK TJ 41-182 CASMOLY TJ ROLLUBE TJ Oneluber TJ	Joint : 100 ± 3gr. Boot : 45 ± 3gr.



TROUBLESHOOTING

To begin a successful diagnosis, fill out the questions.

DRIVESHAFT CONDITION :	Noise <input type="checkbox"/>	Vibration <input type="checkbox"/>
Balance Weights Missing/Other Visual Defects?	Yes / No	
Maximum Allowable Runout :	_____	
Actual Runout :	Front _____	Middle _____ Rear _____
Two-Piece Driveshaft Runout :	Front _____	Rear _____
Middle Support Bearing :	Loose <input type="checkbox"/>	Damaged <input type="checkbox"/> Worn <input type="checkbox"/> Others _____
Suspect Driveshaft Balanced ?	Yes / No	
Pinion Angle :	Engine Height :	Specification _____ Actual _____
	Pinion Angle :	Specification _____ Actual _____
Driveshaft Angle - Truck :	Specification _____	Actual _____

Once the concern is narrowed down to a symptom/condition, proceed to condition and Symptom Categories below.

Condition and Symptom Categories.

Operation Condition Vehicle is moving

Depends more one how the vehicle is operated

1. Speed related

- Related to vehicle speed

A.Noise occurs at specific vehicle speed. A high pitch noise (whine).

Go to troubleshooting.

B.Loudness proportional to vehicle speed. Low frequency noise at high speeds, noise and loudness increase with speed. Go to Troubleshooting.

2. Acceleration

- Light/moderate acceleration

A.Driveline shudder. Go to Troubleshooting.

3. Cruising speeds

- Driveline vibration. Go to Troubleshooting.

Symptom	Cause	Remedy (See page)
Hub howling or whine - Hub or transfer case	Axle lubricant low	Check the lubricant level. Fill the axle to specification

	Damaged or worn wheel bearings or axle bearings	Check for abnormal wheel bearing play or roughness. Refer to wheel Bearing Check in this section. See page DS-26. Adjust or Install new wheel bearings as necessary. See page DS-23 for front bearings or DS-29 for rear bearings.
Driveline clunk - loud clunk when shifting from reverse to drive	Excessive backlash in the axle or transmission	Carry out a total backlash check
	Loosen suspension components	Inspect the suspension for damage or wear. Repair or Install new components as necessary. See page SS-27, SS-43.
	Broken powertrain mounts	Inspect the powertrain mounts. Install new mounts as necessary.
	Idle speed too high	Check for the correct idle speed
Driveline clunk-occurs as the vehicle starts to move forward following a stop	Worn driveshaft joints with excessive play	Inspect the joints for a worn condition. Install a new driveshaft as necessary. See page DS-8.

Driveline clunk-occurs during acceleration or from cruise to coast/deceleration	Damaged or worn tripod joints	Inspect the joint and boot. Repair or Install a new joint as necessary. See page DS-8.
Quirer-noise from the rear hub, occurs when driving on rugged roads	Cap seperation from the hub bearing	Remove the rear hub check the hub bearing cap. Install a new cap if necessary.
Clicking, popping or grinding-occurs while vehicle is turning	Inadequate or contaminated lubrication in the joints	Check the joint boots and joints for wear or damage. Repair or Install new components as necessary. See page DS-14, 21.
	Another component contacting the driveshaft	Check the driveshafts and the are around the driveshafts. Repair as necessary.
	Brake components	Inspect the front brakes for wear or damage. Repair as necessary. See page BR-25.
	Suspension components	Inspect the lower arm ball joints for wear or damage. Repair as necessary. See page SS-33 for ball joints.

	Damaged or worn wheel bearings	Check for abnormal wheel bearing play or roughness. Refer to wheel bearing check in this section. See page DS-26. Adjust or Install new wheel bearings as necessary. See page DS-26 for front wheel bearings.
Clicking or snapping-occurs when accelerating around a corner	Damaged or worn birfield joints	Inspect the Birfield joints and boots. Repair or Install a new joint as necessary. See page DS-14 or 21.
Buzz-buzzing noise is the same at cruise or coast/deceleration	Damaged or worn tires	Check for abnormal tire wear or damage. Install a new tire as necessary. See page SS-63.
Driveline shudder-occurs during acceleration from a slow speed or stop	Rear axle assembly mispositioned	Check the axle mounts and the rear suspension for damage or wear. Repair as necessary.
	Loose rear axle bolts	Inspect the bolts. Tighten the bolt nuts to specification.

	<p>Damaged or worn front suspension components</p>	<p>Check for a loose stabilizer bar, damaged or loose strut/strut bushings or loose or worn ball joints. Inspect the steering linkage for wear or damage. Repair or Install new components as necessary. See page SS-1.</p>
	<p>Binding the driveshaft joint</p>	<p>Inspect the driveshaft shaft joint for worn, or damaged condition. Install a new driveshaft assembly as necessary. Repair as necessary. See page DS-8.</p>
	<p>Loose rear axle bolts</p>	<p>Inspect the bolts. Tighten the bolts to specification.</p>
<p>Driveline vibration-occurs at cruising speeds</p>	<p>Binding or damaged driveshaft joint</p>	<p>Inspect the driveshaft joint for wear or damage. Install a new driveshaft assembly as necessary. See page DS-8.</p>

Incorrect lateral and radial tire/wheel runout	Inspect the tire and wheels. Measure tire runouts. Repair or Install new components as necessary. See page SS-59.
Incorrectly seated joint in the front wheel hub	Check the Birfield joint for correct seating into the hub. Repair as necessary. See page DS-14, DS-21 for front joints.