General Information

Specification

Engine	T/M	Joint type		Max. permissible angle	
		Outer	Inner	Outer	Inner
Gasoline 2.0	M/T	BJ#95	TJ#95	45°	21°
	A/T	BJ#95	TJ#95	45°	21°
Gasoline 2.4	M/T	BJ#95	TJ#95	45°	21°
	A/T	BJ#95	TJ#95	45°	21°

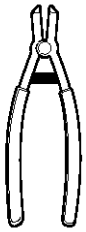
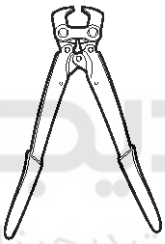
Tightening torque

Item		N.m	kgf.m	lb.ft
Front	Wheel nut	88.2 ~ 107.8	9.0 ~ 11.0	65.0 ~ 79.5
	Driveshaft castle nut	215.7 ~ 254.9	22.0 ~ 26.0	159.1 ~ 188.0
	Strut assembly lower mounting bolt	156.9 ~ 176.5	16.0 ~ 18.0	115.7 ~ 130.2
	Brake caliper mounting bolt	78.4 ~ 98.0	8.0 ~ 10.0	57.8 ~ 72.3
	Wheel speed sensor mounting bolt	6.8 ~ 10.7	0.7 ~ 1.1	5.0 ~ 7.9
	Brake disc mounting bolt	4.9 ~ 5.8	0.5 ~ 0.6	3.6 ~ 4.3
	Lower ball joint mounting bolt	98.0 ~ 117.6	10.0 ~ 12.0	72.3 ~ 86.7
	Tie rod end ball joint nut	34.3 ~ 44.0	3.5 ~ 4.5	25.3 ~ 32.5
Rear	Wheel nut	88.2 ~ 107.8	9.0 ~ 11.0	65.0 ~ 79.5
	Shock absorber upper mounting bolt	137.2 ~ 156.9	14.0 ~ 16.0	101.2 ~ 115.7
	Shock absorber lower mounting nut	137.2 ~ 156.9	14.0 ~ 16.0	101.2 ~ 115.7
	Brake caliper mounting bolt	78.4 ~ 98.0	8.0 ~ 10.0	57.8 ~ 72.3
	Wheel speed sensor mounting bolt	6.8 ~ 10.7	0.7 ~ 1.1	5.0 ~ 7.9
	Brake disc mounting bolt	4.9 ~ 5.8	0.5 ~ 0.6	3.6 ~ 4.3
	Hub assembly mounting bolt	78.4 ~ 88.2	8.0 ~ 9.0	57.8 ~ 65.0
	Upper arm ball joint mounting nut	137.2 ~ 156.9	14.0 ~ 16.0	101.2 ~ 115.7
	Lower arm mounting bolt	137.2 ~ 156.9	14.0 ~ 16.0	101.2 ~ 115.7
	Assist arm ball joint mounting nut	44.1 ~ 53.9	4.5 ~ 5.5	32.5 ~ 39.7
	Trailing arm mounting bolt	44.1 ~ 53.9	4.5 ~ 5.5	32.5 ~ 39.7

Lubricants

Engine		Lubricants	Quantity
Front driveshaft	BJ#95	GRB006 (UREA)	105g
	TJ#95	SH06-VX21(UREA)	145g

Special tools

Tool(Number and Name)	Illustration	Use
09495 - 39100 Band installer	 AILG650A	Installation of hook type boot band.
09495 - 3K000 Band installer	 KINF500C	Installation of ear type boot band

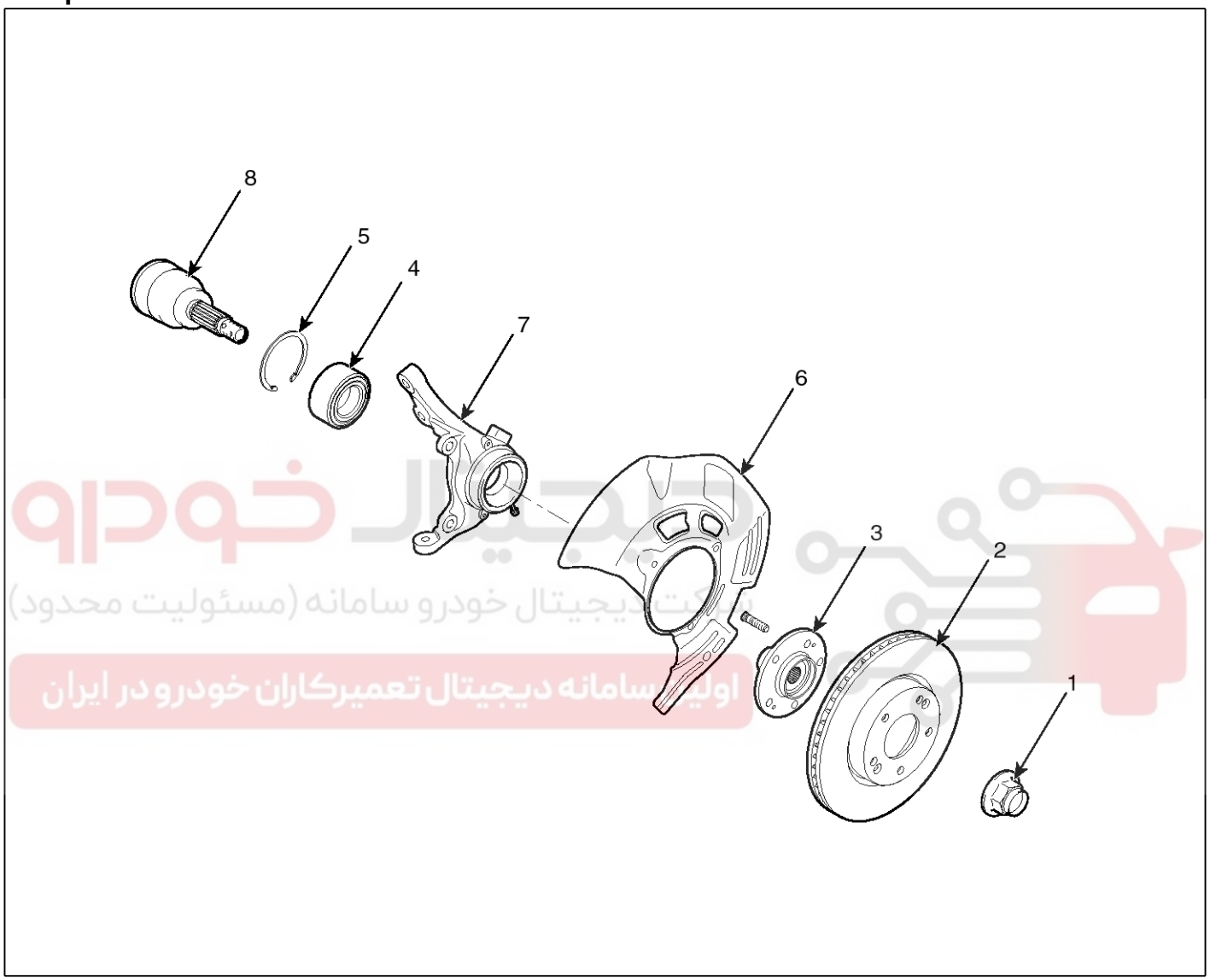
Troubleshooting

Trouble Symptom	Probable cause	Remedy
Vehicle pulls to one side	Scoring of driveshaft ball joint	Replace
	Wear, rattle or scoring of wheel bearing	Replace
	Defective front suspension and steering	Adjustment or Replace
Vibration	Wear, damage or bending of driveshaft	Replace
	Driveshaft rattle and hub serration	Replace
	Wear, rattle or scratching of wheel bearing	Replace
Shimmy	Defective wheel balance	Adjustment or Replace
	Defective front suspension and steering	Adjustment or Replace
Excessive noise	Wear, damage or bending of driveshaft	Replace
	Rattle of driveshaft and worn hub splines	Replace
	Wear, rattle or scoring of wheel bearing	Replace
	Loose hub nut	Adjustment or Replace
	Defective front suspension and steering	Adjustment or Replace

Front Axle Assembly

Front Hub / Knuckle

Components



STFDS1004L

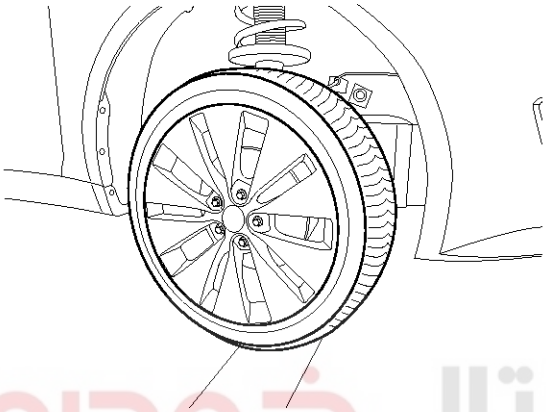
1. Driveshaft nut
2. Brake disc
3. Hub
4. Wheel bearing
5. Snap ring
6. Dust cover
7. Knuckle
8. Driveshaft

Replacement

1. Loosen the wheel nuts slightly.

   Raise the vehicle, and make sure it is securely supported.
2. Remove wheel nuts, front wheel and tire from front hub.

Tightening torque:
88.2 ~ 107.8 N.m (9.0 ~ 11.0 kgf.m, 65.0 ~ 79.5 lb-ft)

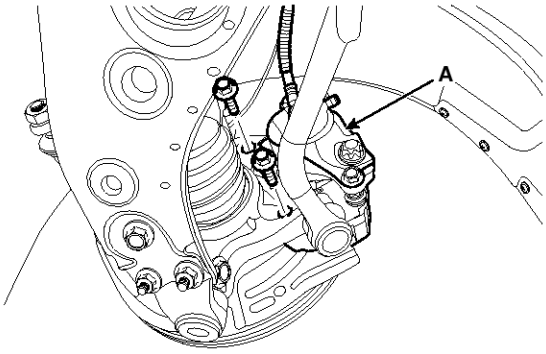


STFDS1026D

⚠CAUTION
Be careful not to damage to the wheel nuts when removing the front wheel and tire.

3. Remove the brake caliper mounting bolts, and then hold the brake caliper assembly (A) with wire.

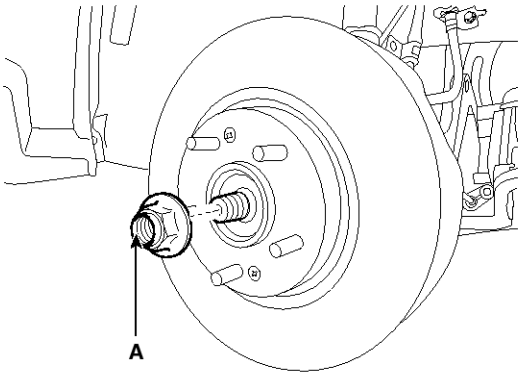
Tightening torque:
78.4 ~ 98.0 N.m (8.0 ~ 10.0 kgf.m, 57.8 ~ 72.3 lb-ft)



STFDS1027D

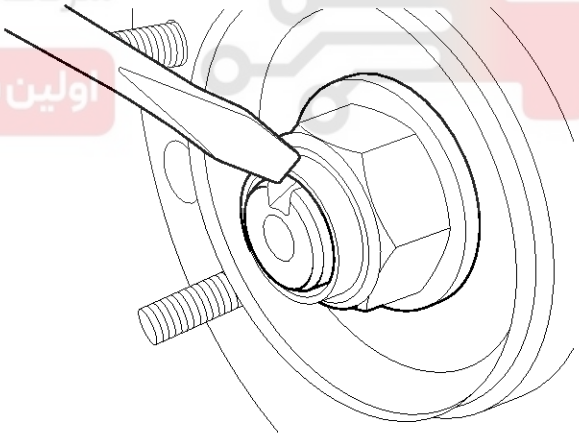
4. Remove driveshaft nut (A) from the front hub when applying the brake.

Tightening torque:
215.7 ~ 254.9 N.m (22.0 ~ 26.0 kgf.m, 159.1 ~ 188.0 lb-ft)



SVGDS0004D

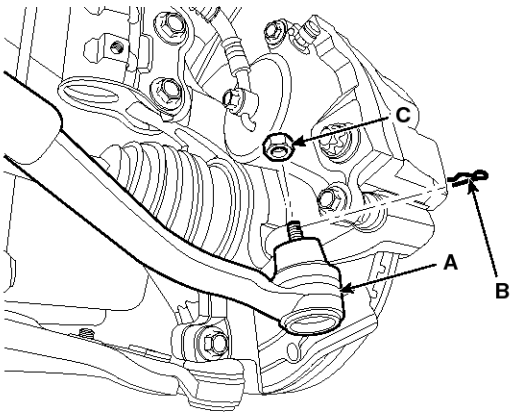
⚠CAUTION
After installation lock nut, stake the lock nut using a chisel and hammer as shown in the illustration below.



SVGDS0005D

5. Remove the tie rod end ball joint (A) from the knuckle.
   1) Remove the split pin (C).
   2) Remove the castle nut (B).

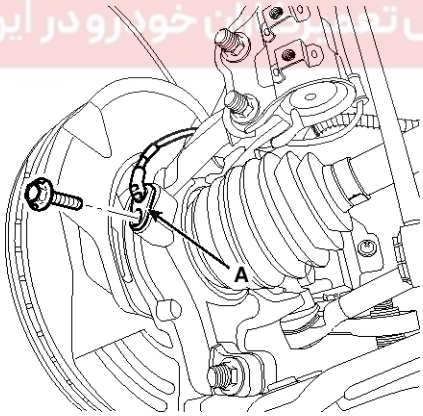
Tightening torque:
34.3 ~ 44.0 N.m (3.5 ~ 4.5 kgf.m, 25.3 ~ 32.5 lb-ft)



STFDS1021D

6. Loosen the mount bolt and then remove the wheel speed sensor (A) from knuckle.

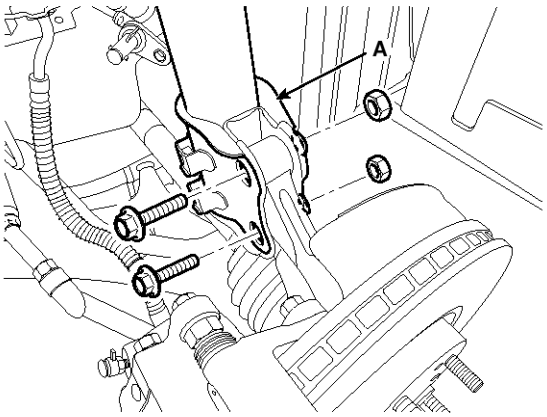
Tightening torque:
6.8 ~ 10.7 N.m (0.7 ~ 1.1 kgf.m, 5.0 ~ 7.9 lb-ft)



STFDS1022D

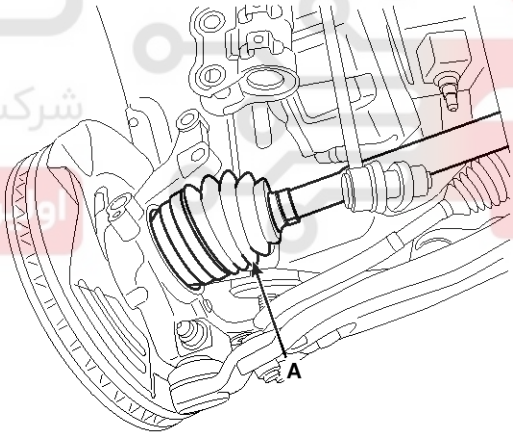
7. Loosen the bolt & nut and then remove the knuckle from the strut assembly (A).

Tightening torque:
156.9 ~ 176.5N.m (16.0 ~ 18.0kgf.m, 115.7 ~ 130.2lb-ft)



STFDS1023D

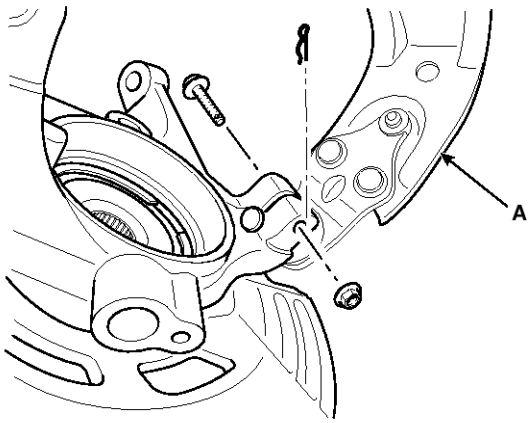
8. Disconnect the driveshaft (A) from the front hub assembly.



STFDS1012D

9. Loosen the bolt & nut and then remove the lower arm (A).

Tightening torque:
98.0 ~ 117.6 N.m (10.0 ~ 12.0 kgf.m, 72.3 ~ 86.7 lb-ft)



STFDS1013D

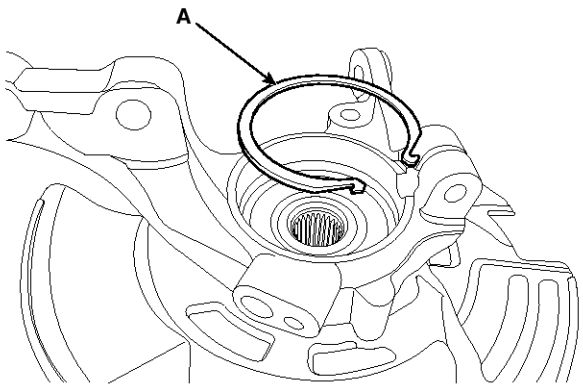
10. Install in the reverse order of removal.

Inspection

1. Check the hub for cracks and the splines for wear.
2. Check the brake disc for scoring and damage.
3. Check the knuckle for cracks
4. Check the bearing for cracks or damage.

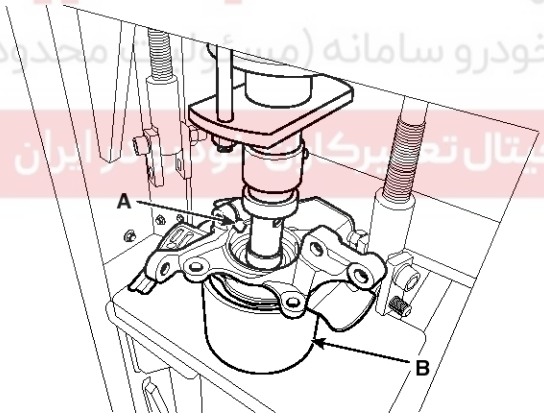
Disassembly

1. Remove the snap ring (A).



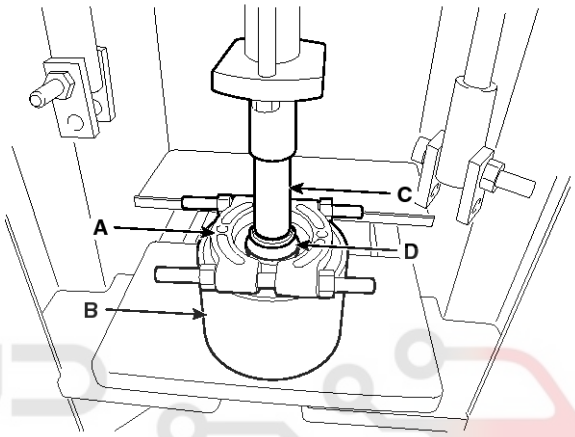
SYFDS0011D

2. Remove the hub assembly from the knuckle assembly.
   1) Install the front knuckle assembly (A) on press.
   2) Lay a suitable adapter (B) upon the hub assembly shaft.



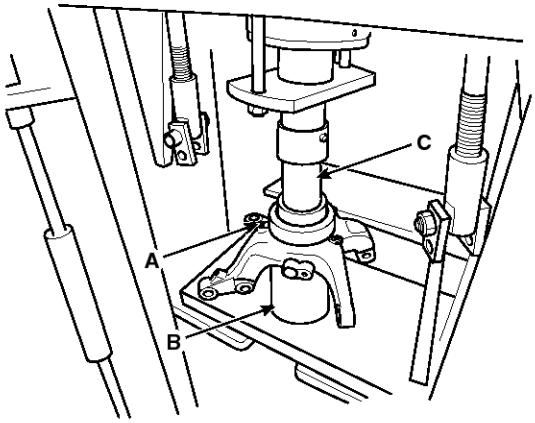
SYFDS0012D

3. Remove the hub bearing inner race from the hub assembly.
   1) Install a suitable tool (A) for removing the hub bearing inner race on the hub assembly.
   2) Lay the hub assembly and tool (A) upon a suitable adapter (B).
   3) Lay a suitable adapter (C) upon the hub assembly shaft.
   4) Remove the hub bearing inner race (D) from the hub assembly by using press.



SUNDS6003D

4. Remove the hub bearing outer race from the knuckle assembly.
   1) Lay the hub assembly (A) upon a suitable adapter (B).
   2) Lay a suitable adapter (C) upon the hub bearing outer race.
   3) Remove the hub bearing outer race from the knuckle assembly by using press.

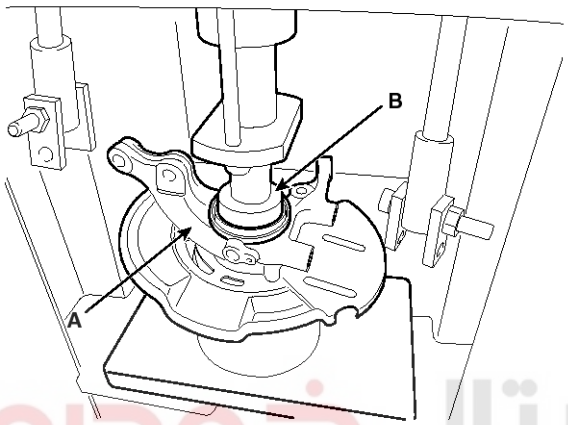


SYFDS0200L

5. Replace hub bearing with a new one.

Reassembly

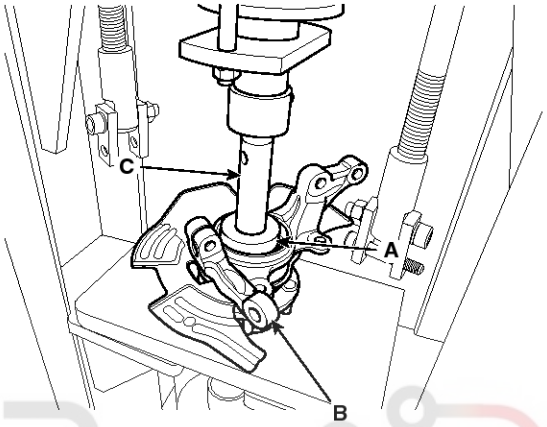
1. Install the hub bearing to the knuckle assembly.
   1) Lay the knuckle assembly (A) on press.
   2) Lay a new hub bearing upon the knuckle assembly (A).
   3) Lay a suitable adapter (B) upon the hub bearing.
   4) Install the hub bearing to the knuckle assembly by using press.



SYFDS0201L

⚠CAUTION
- **Do not press against the inner race of the hub bearing because that can cause damage to the bearing assembly.**
- **Always use a new wheel bearing assembly.**

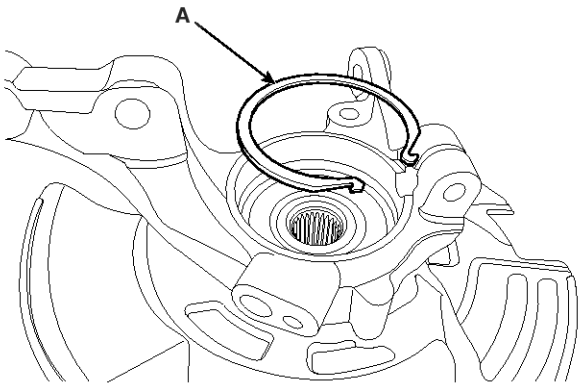
2. Install the hub assembly to the knuckle assembly.
   1) Lay the hub assembly (A) upon a suitable adapter .
   2) Lay the knuckle assembly (B) upon the hub assembly (A).
   3) Lay a suitable adapter (C) upon the hub bearing.
   4) Install the hub assembly (A) to the knuckle assembly (B) by using press.



SYFDS0013D

⚠CAUTION
Do not press against the inner race of the hub bearing because that can cause damage to the bearing assembly.

3. Install the snap ring (A).

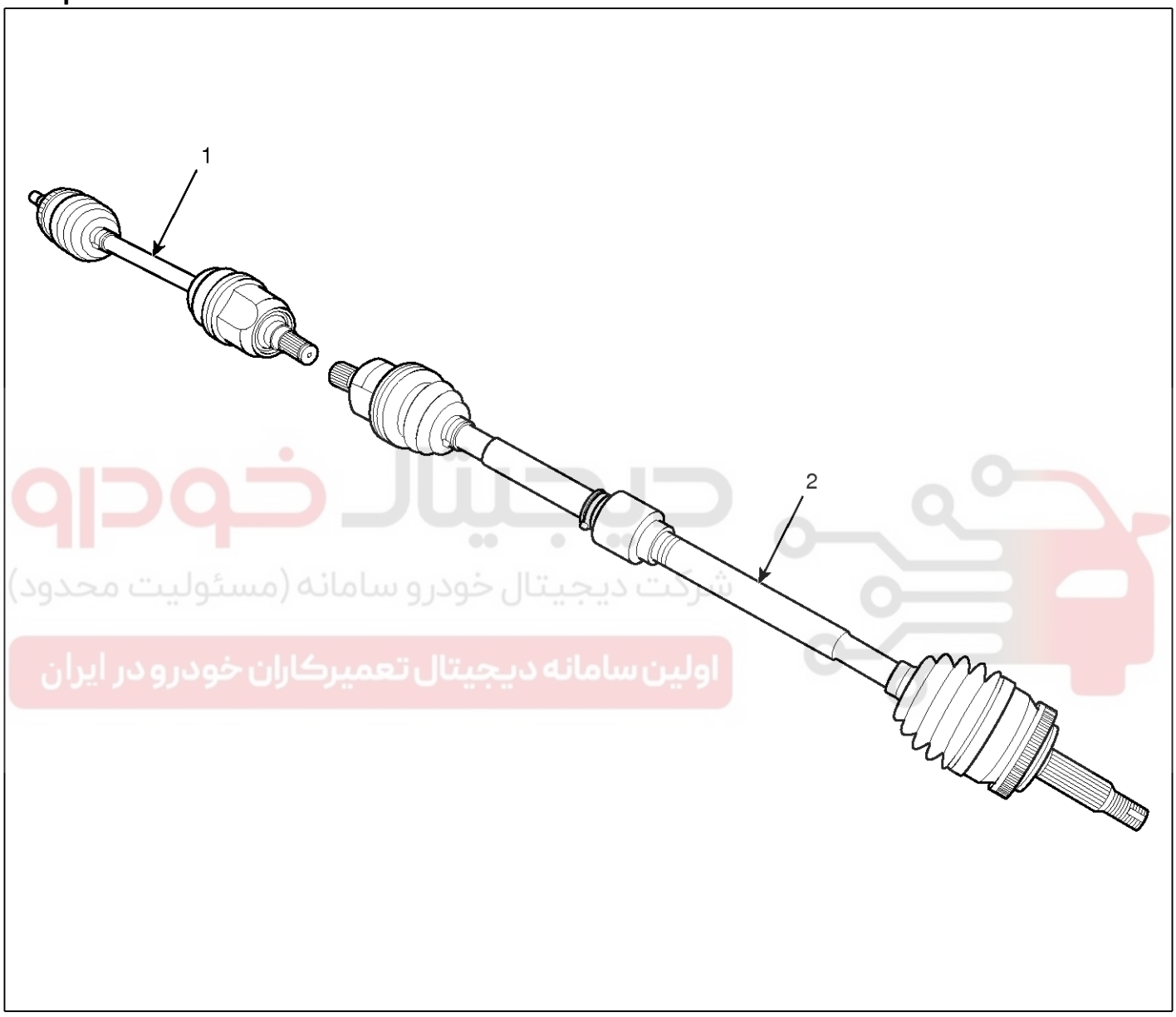


SYFDS0011D

Driveshaft Assembly

Front Driveshaft

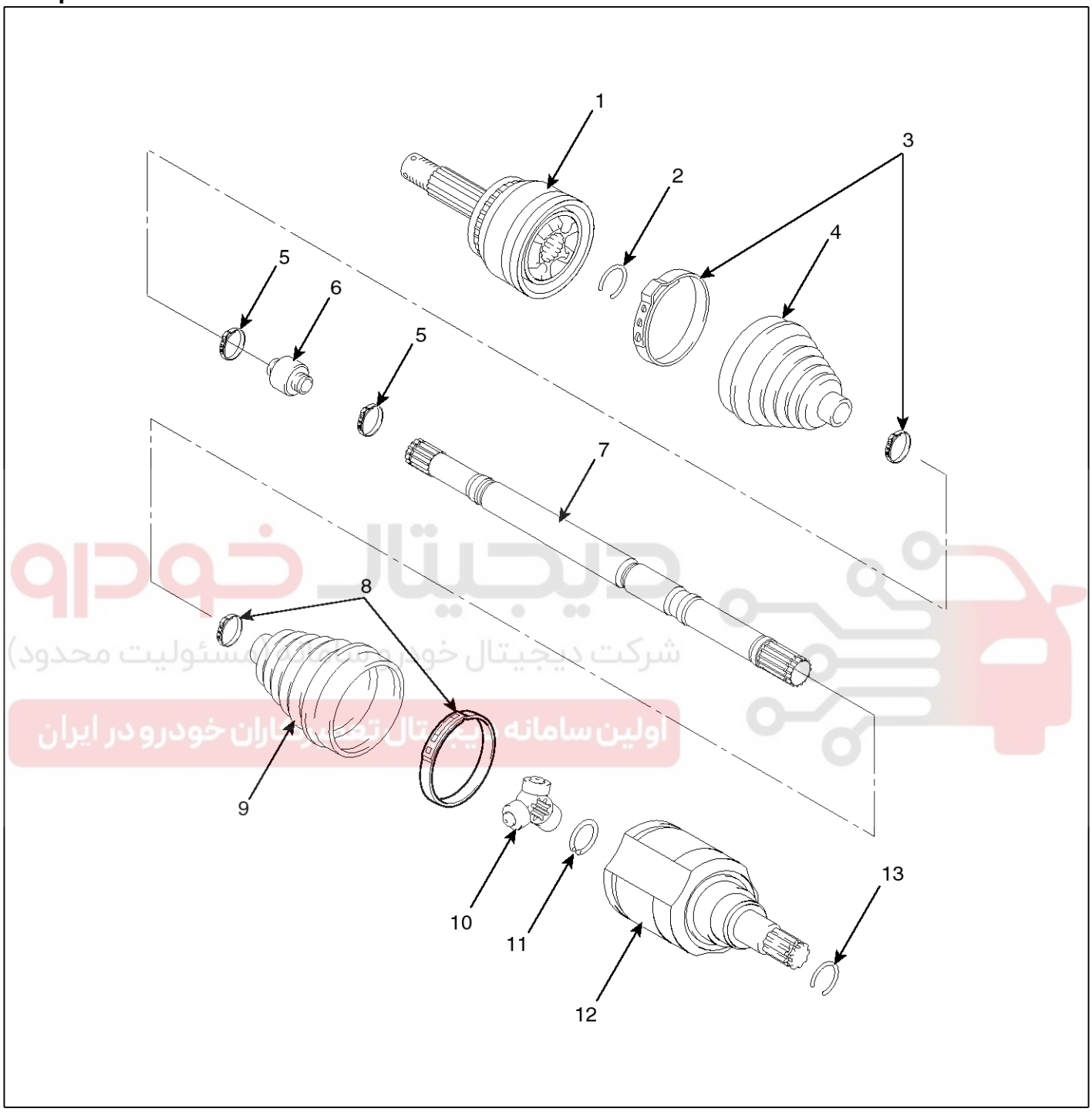
Component location



STFDS1014D

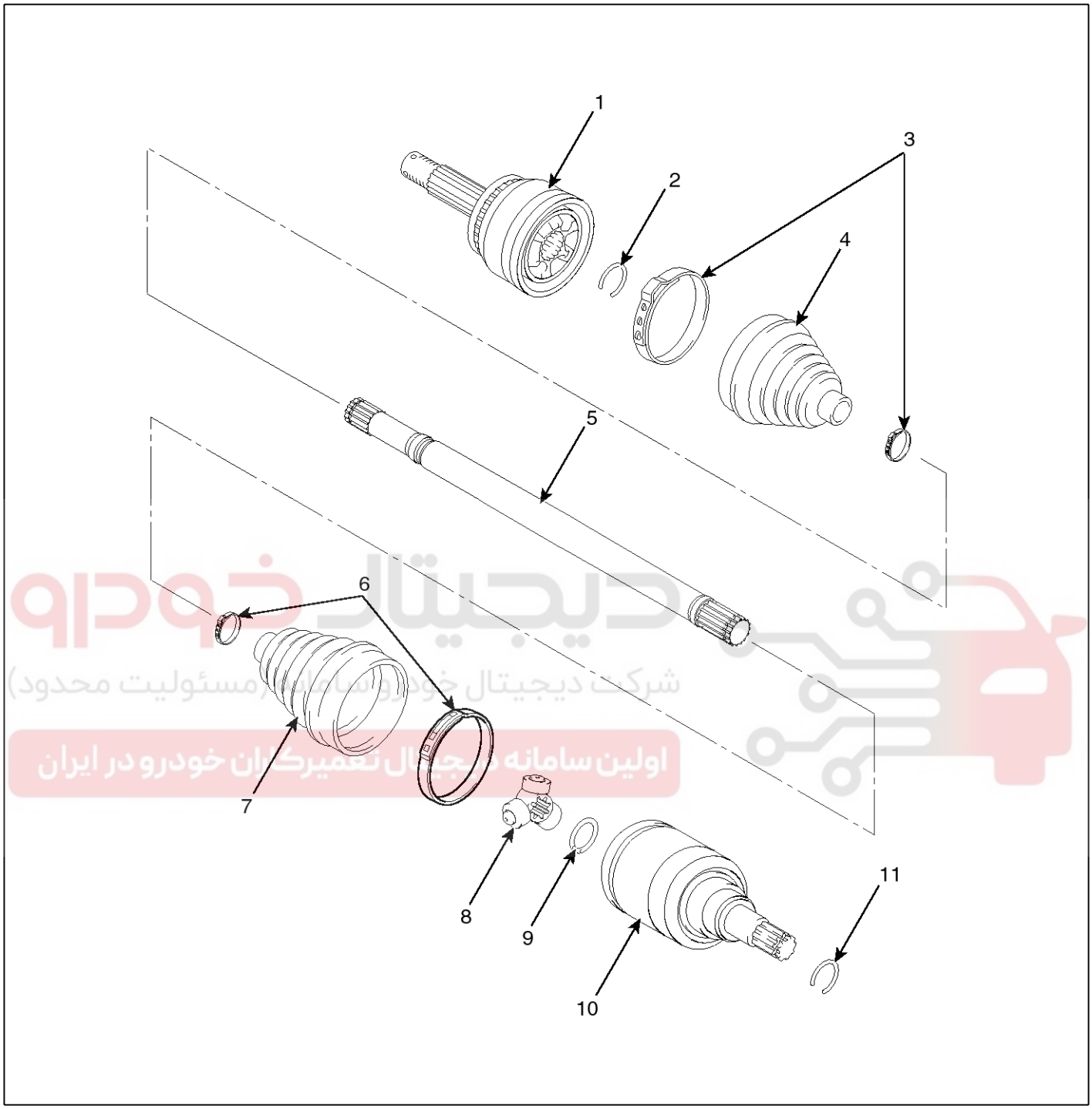
1. Driveshaft (LH)
2. Driveshaft (RH)

Components



STFDS1005L

1. BJ assembly
2. Circlip
3. BJ boot band
4. BJ boot
5. Dynamic damper band
6. Dynamic damper
7. Shaft
8. TJ boot band
9. TJ boot
10. Spider assembly
11. Snap ring
12. TJ case
13. Circlip



STFDS1025D

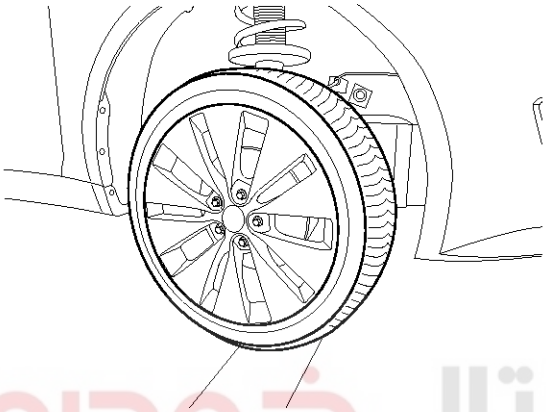
1. BJ assembly
2. Circlip
3. BJ boot band
4. BJ boot
5. Shaft
6. TJ boot band
7. TJ boot
8. Spider assembly
9. Snap ring
10. TJ case
11. Circlip

Replacement

1. Loosen the wheel nuts slightly.

   Raise the vehicle, and make sure it is securely supported.
2. Remove wheel nuts, front wheel and tire from front hub.

Tightening torque:
88.2 ~ 107.8 N.m (9.0 ~ 11.0 kgf.m, 65.0 ~ 79.5 lb-ft)

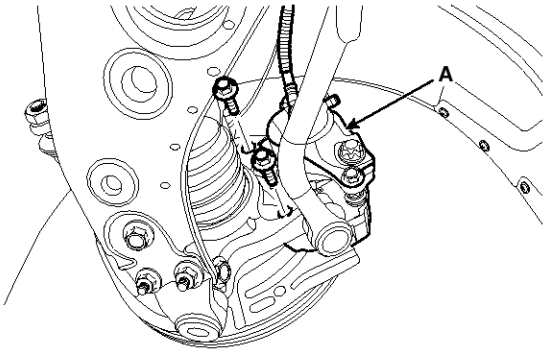


STFDS1026D

⚠CAUTION
Be careful not to damage to the wheel nuts when removing the front wheel and tire.

3. Remove the brake caliper mounting bolts , and then hold the brake caliper assembly (A) with wire.

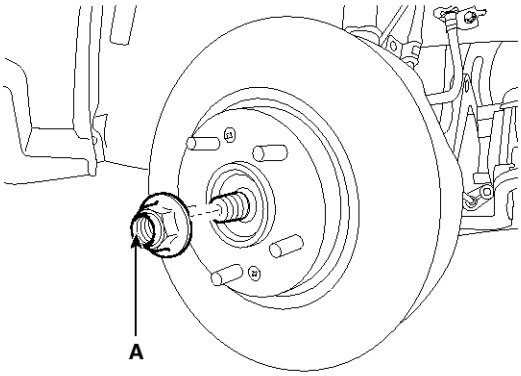
Tightening torque:
78.4 ~ 98.0 N.m (8.0 ~ 10.0 kgf.m, 57.8 ~ 72.3 lb-ft)



STFDS1027D

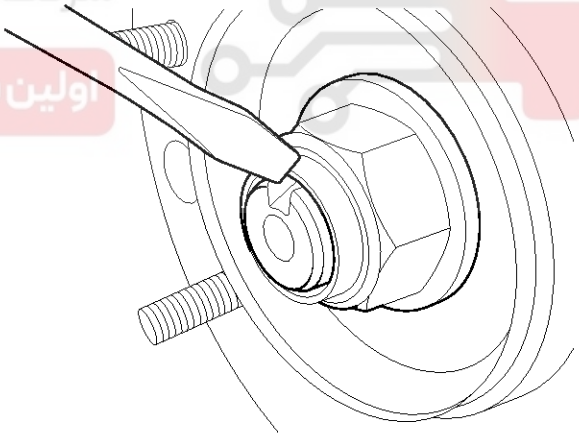
4. Remove driveshaft nut (A) from the front hub when applying the brake.

Tightening torque:
215.7 ~ 254.9 N.m (22.0 ~ 26.0 kgf.m, 159.1 ~ 188.0 lb-ft)



SVGDS0004D

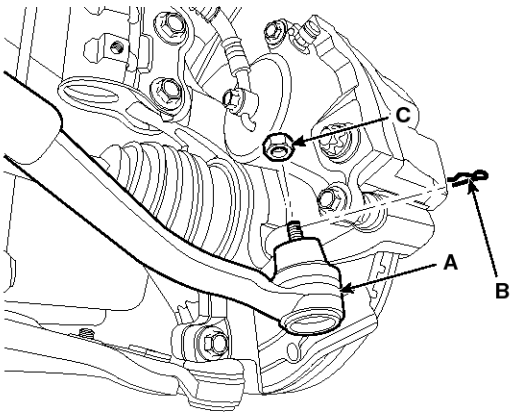
⚠CAUTION
After installation lock nut, stake the lock nut using a chisel and hammer as shown in the illustration below.



SVGDS0005D

5. Remove the tie rod end ball joint (A) from the knuckle.
   1) Remove the split pin (C).
   2) Remove the castle nut (B).

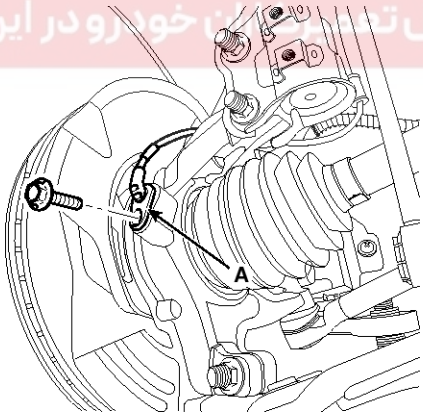
Tightening torque:
34.3 ~ 44.0 N.m (3.5 ~ 3.4 kgf.m, 25.3 ~ 32.5 lb-ft)



STFDS1021D

6. Loosen the mount bolt and then remove the wheel speed sensor (A) from knuckle.

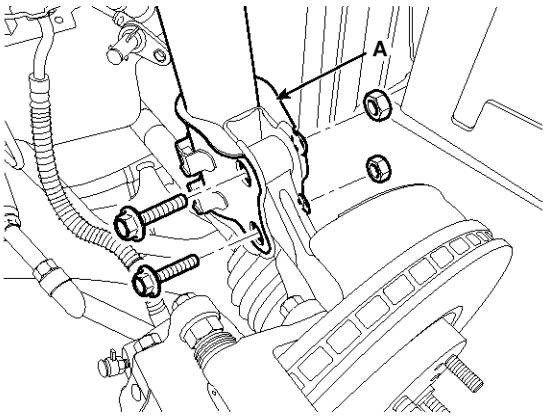
Tightening torque:
6.8 ~ 10.7 N.m (0.7 ~ 1.1 kgf.m, 5.0 ~ 7.9 lb-ft)



STFDS1022D

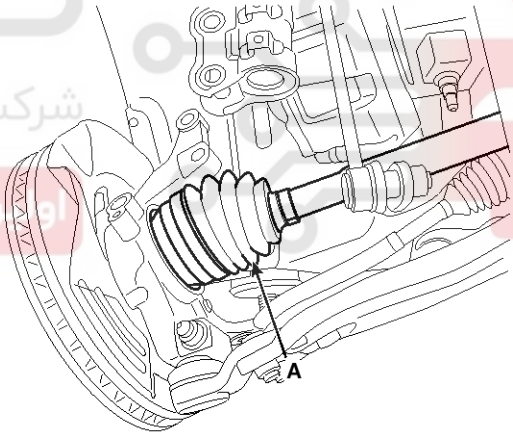
7. Loosen the bolt & nut and then remove the knuckle from the strut assembly (A).

Tightening torque:
156.9 ~ 176.5N.m (16.0 ~ 18.0kgf.m, 115.7 ~ 130.2lb-ft)



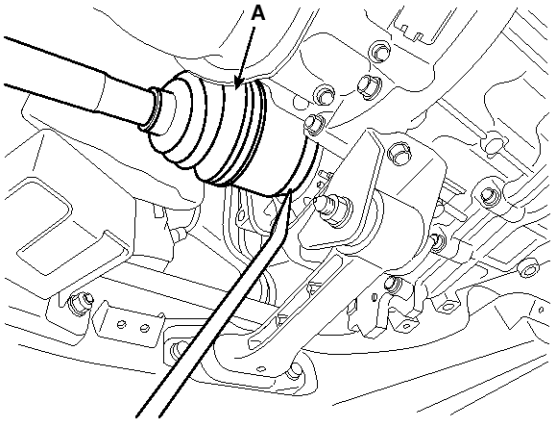
STFDS1023D

8. Disconnect the driveshaft (A) from the front hub assembly.



STFDS1012D

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



STFDS1015D

⚠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.**
- **Do not pull the driveshaft by excessive force it may cause components inside the joint kit to dislodge resulting in a torn boot or a damaged bearing.**
- **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.**

10. Install in the reverse order of removal.

Inspection

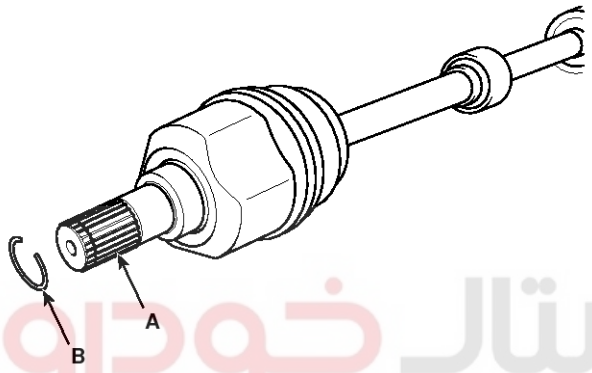
1. Check the driveshaft boots for damage and deterioration.
2. Check the driveshaft spline for wear or damage.
3. Check that there is no water or foreign material in the joint.
4. Check the spider assembly for roller rotation, wear or corrosion.
5. Check the groove inside the joint case for wear or corrosion.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

Disassembly

⚠CAUTION

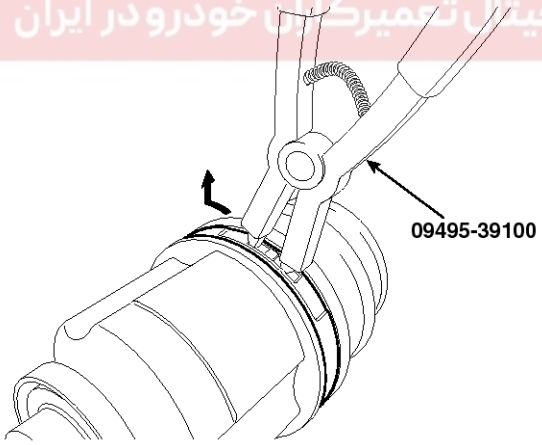
- **Do not disassemble the BJ assembly.**
- **Special grease must be applied to the driveshaft joint. Do not substitute with another type of grease.**
- **The boot band should be replaced with a new one.**

1. Remove the circlip (B) from the driveshaft spline (A).

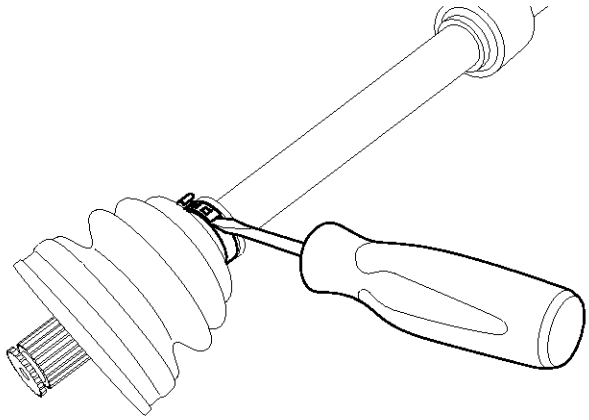


STFDS1006L

2. Remove both boot bands from the transaxle side joint(TJ) case.

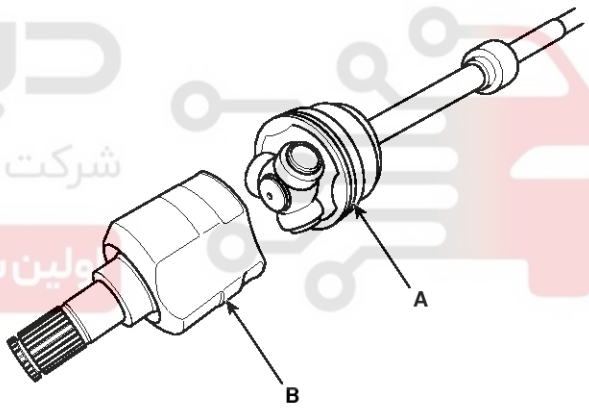


SUNDS6501D



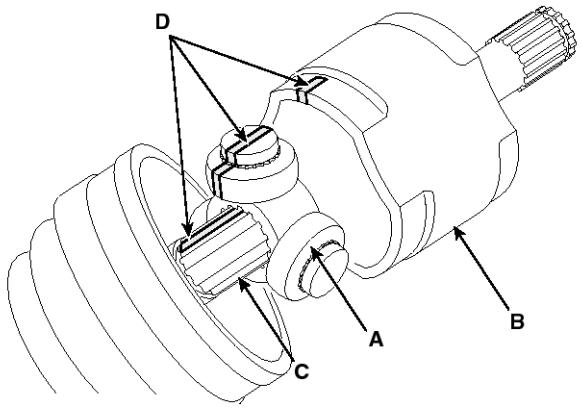
STFDS1007L

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



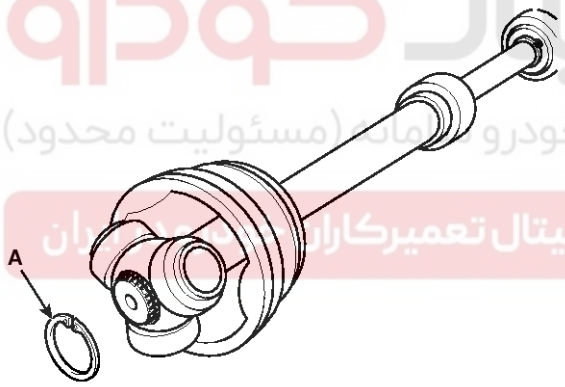
STFDS1008L

⚠CAUTION
Make alignment marks (D) on spider roller assembly (A), joint case (B), and shaft spline (C) to aid reassembly.



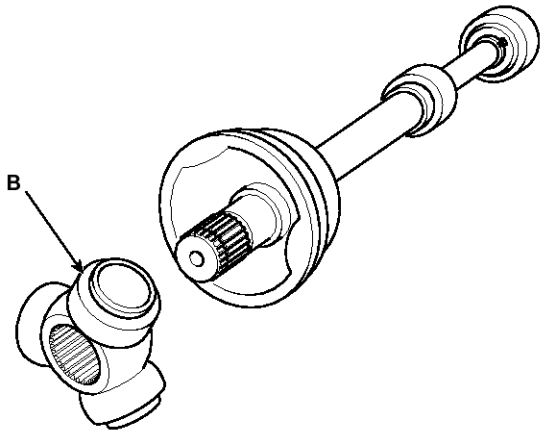
KXDDE11A

5. Remove the snap ring (A) from the shaft.



STFDS1003L

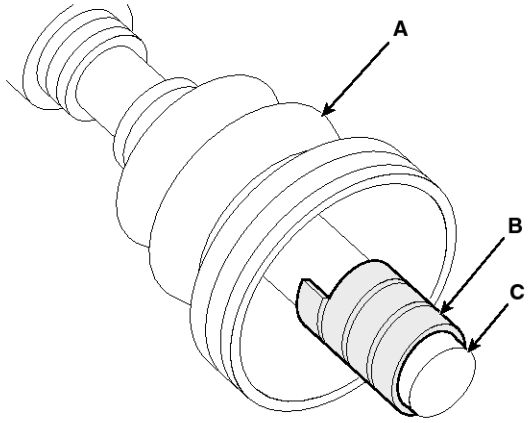
6. Remove the spider assembly (B) from the driveshaft.



STFDS1009L

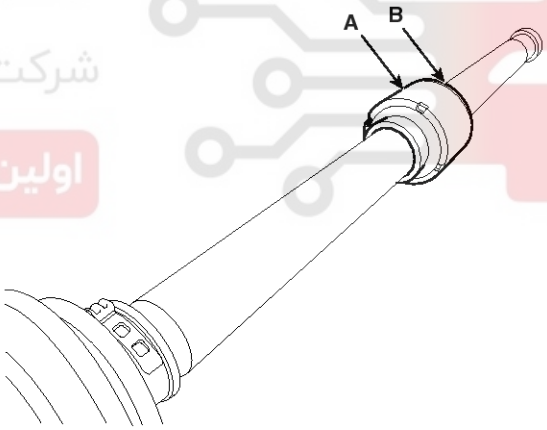
7. Clean the spider assembly.
8. Remove the boot (A) of the transaxle side joint(TJ).

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



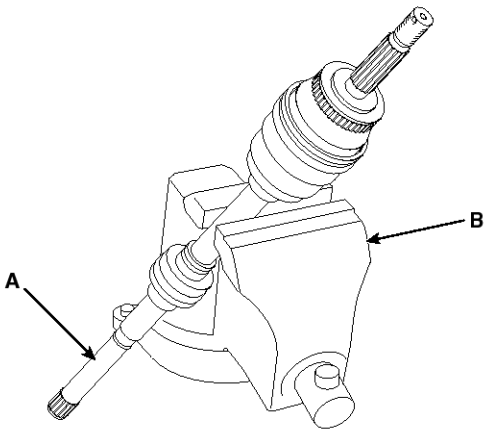
KXDDE14A

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



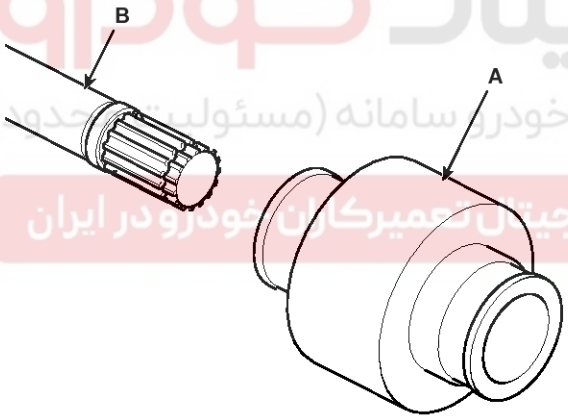
STFDS1001L

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



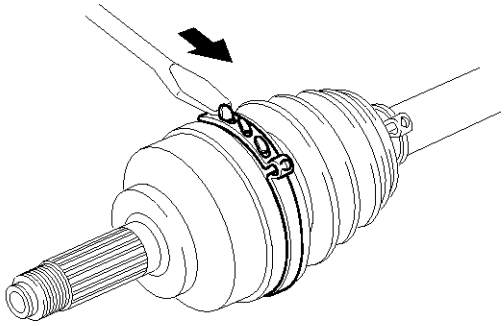
KXDDE16A

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.



AIGE004D

13. Using a plier or flat-tipped (-) screwdriver, remove the BJ boot band on the side of wheel.



EIRF003H

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

⚠CAUTION
Be careful not to damage the boot.

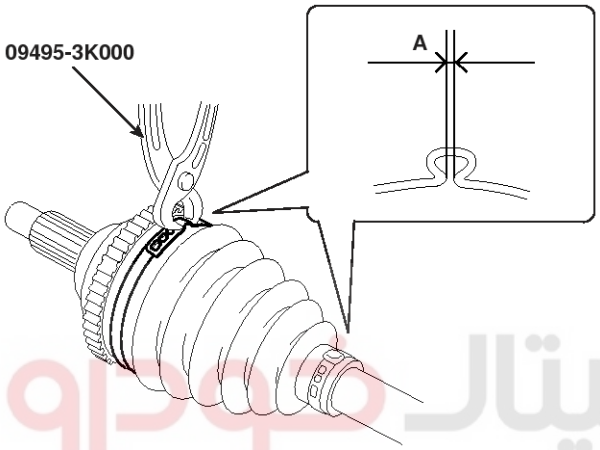
Reassembly

1. Wrap tape around the driveshaft spline(TJ) to prevent damage to the boots.
2. Apply grease to the joint boot on the side of the wheel and install the boot.

Lubricants Quantity:
GRB006 (UREA) 105g (3.7 OZ.)

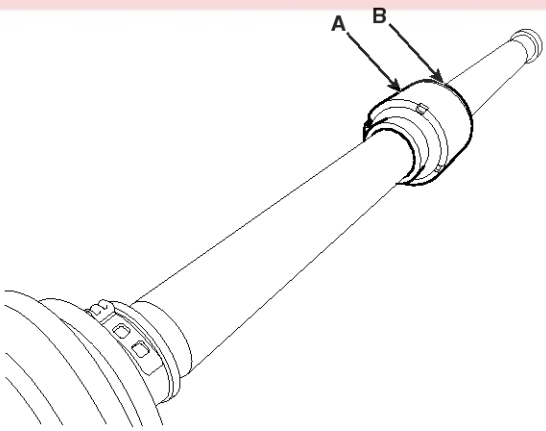
3. Using the SST (09495-3K000), secure the boot band.

Clearance (A): 2.0 mm (0.079 in) or less



AILG500L

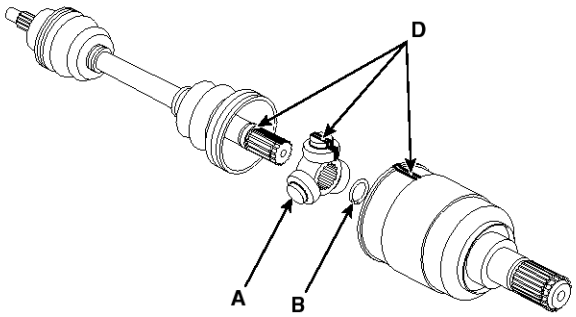
4. To install the dynamic damper (A), keep the shaft in a straight line and assemble the dynamic damper with the bands(B).



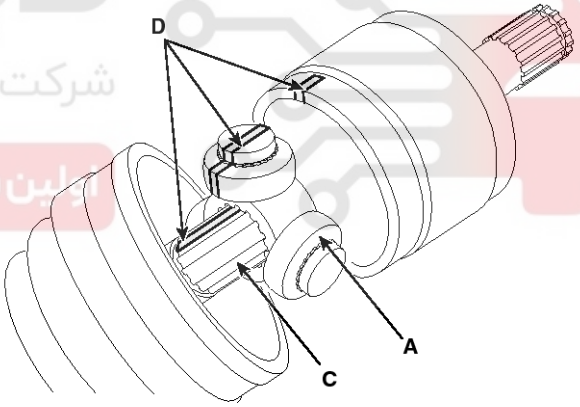
STFDS1010L

5. Assemble the transaxle side joint boot and bands.
6. Using the alignment marks (D) made during disassembly as a guide, install the spider assembly (A) and snap ring (B) on the driveshaft splines (C).

Lubricants Quantity:
SH06-VX21 (UREA) 145g (5.1 OZ.)



SHDDS6505D



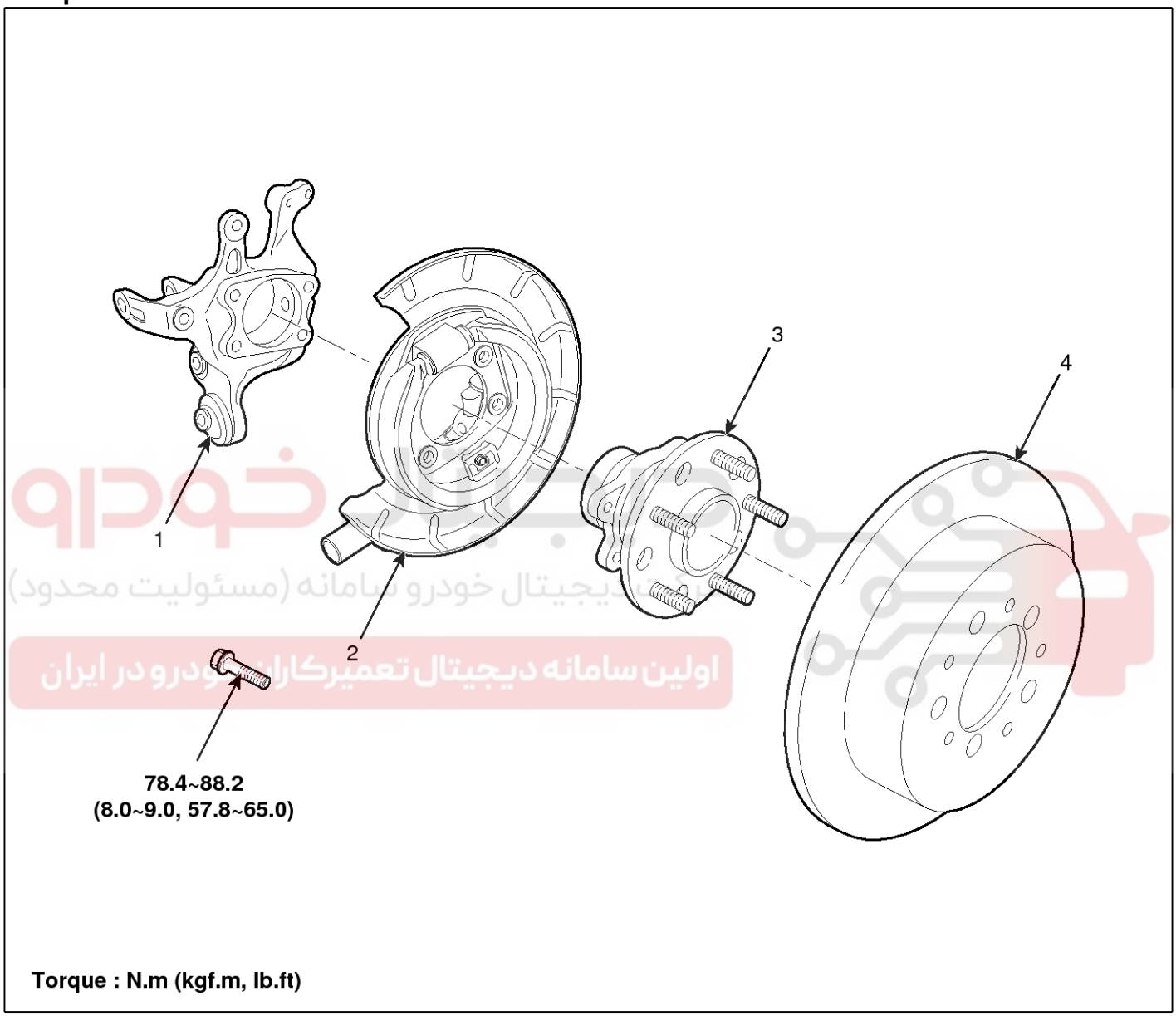
SHDDS6510L

7. Add specified grease to the joint boot as much as it was wiped away at inspection.
8. Install the both boot band.

Rear Axle Assembly

Rear Hub - Carrier

Components



STFDS1002L

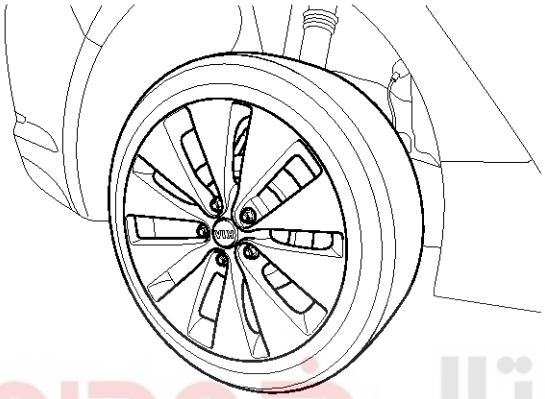
1. Rear carrier assembly
2. Parking brake assembly
3. Rear hub assembly
4. Rear brake disc

Replacement

1. Loosen the wheel nuts slightly.

   Raise the vehicle, and make sure it is securely supported.
2. Remove wheel nuts, rear wheel and tire from rear hub.

Tightening torque:
88.2 ~ 107.8 N.m (9.0 ~ 11.0 kgf.m, 65.0 ~ 79.5 lb-ft)

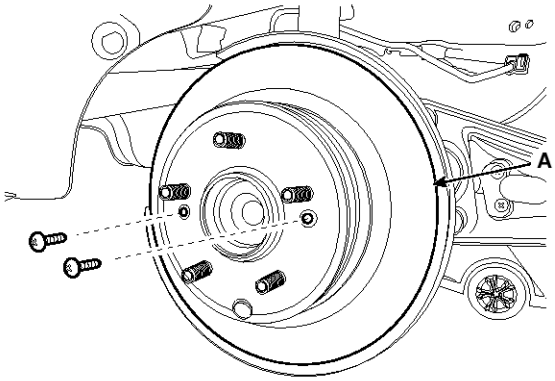


STFDS1029D

⚠CAUTION
Be careful not to damage to the wheel nuts when removing the rear wheel and tire.

3. Loosen the mount screw and then brake disc (A).

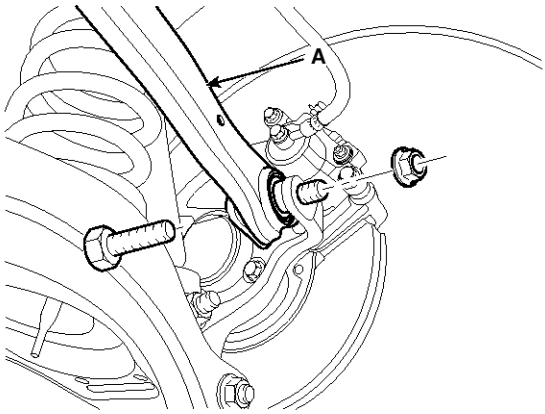
Tightening torque:
4.9 ~ 6.8 N.m (0.5 ~ 0.7 kgf.m, 3.6 ~ 5.0 lb-ft)



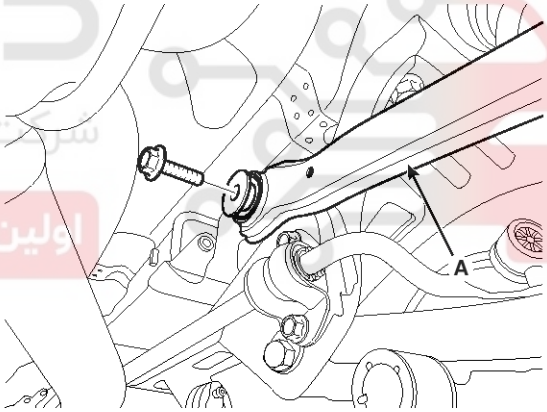
STFDS1030D

4. Loosen the rear upper arm and then remove the rear upper arm (A).

Tightening torque:
137.2 ~ 156.9 N.m (14.0 ~ 16.0 kgf.m, 101.2 ~ 115.7 lb-ft)



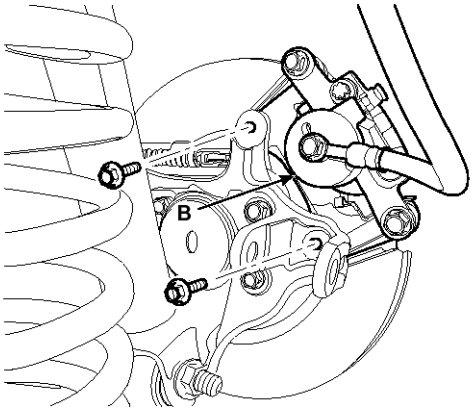
STFDS1028D



STFDS1039D

5. Remove the brake caliper mounting bolts , and then hold the brake caliper assembly (B) with wire as shown in the illustration.

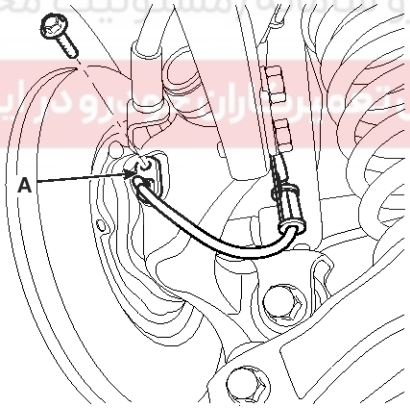
Tightening torque:
78.4 ~ 98.0 N.m (8.0 ~ 10.0 kgf.m, 57.8 ~ 72.3 lb-ft)



STFDS1031D

6. Disconnect the wheel speed sensor connector (A).

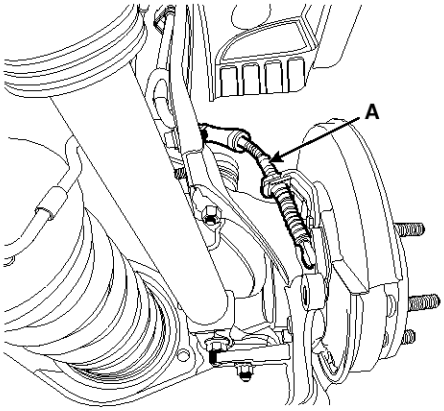
Tightening torque:
6.8 ~ 10.7 N.m (0.7 ~ 1.1 kgf.m, 2.8 ~ 7.9 lb-ft)



STFDS1032D

7. Disconnect the parking cable mouning clip, remove the parking cable (A).

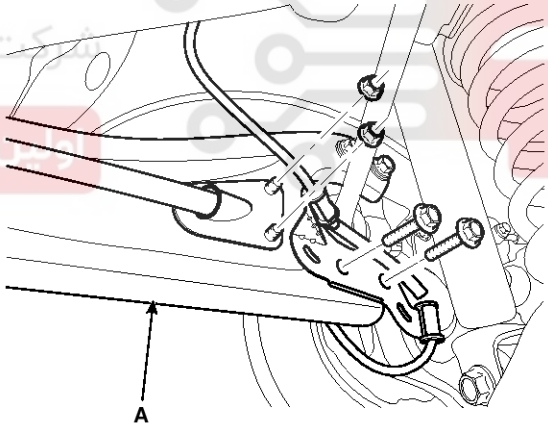
(Refer to BR group - "Parking brake cable")



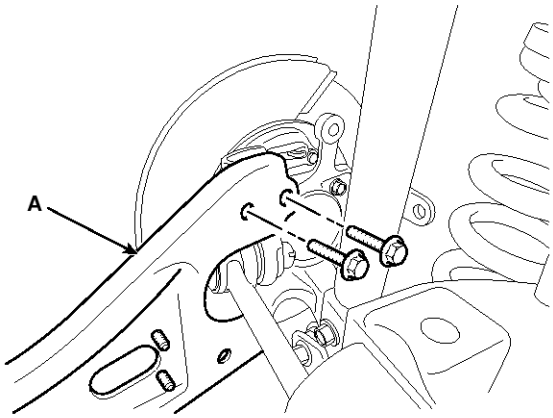
STFDS1034D

8. Loosen the trailing arm mounting bolt, and then remove the trailing arm (A).

Tightening torque:
44.1 ~ 53.9 N.m (4.5 ~ 5.5 kgf.m, 32.5 ~ 39.7 lb-ft)



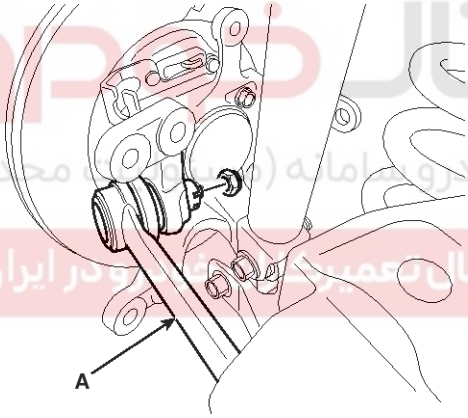
STFDS1035D



STFDS1016D

9. Loosen the assist arm mounting nut and then remove the assist arm (A).

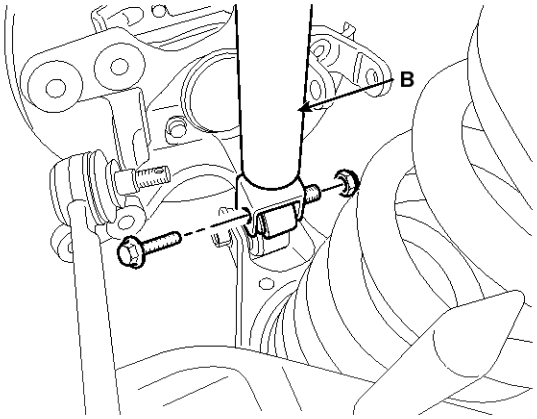
Tightening torque:
44.1 ~ 53.9 N.m (4.5 ~ 5.5 kgf.m, 32.5 ~ 39.7 lb-ft)



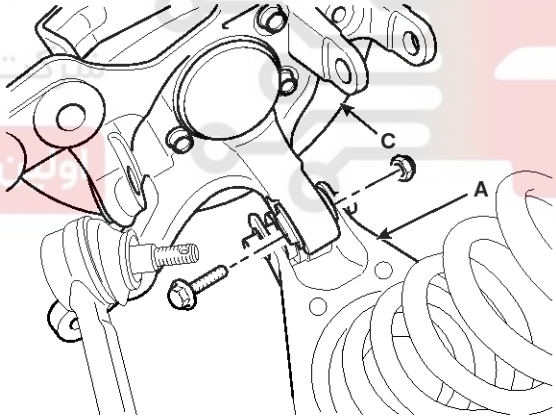
STFDS1017D

10. Loosen the lower arm (A) and rear strut (B) mounting bolts and remove the knuckle assembly (C).

Tightening torque:
Lower arm : 137.2 ~ 156.9 N.m (14.0 ~ 16.0 kgf.m, 101.2 ~ 115.7 lb-ft)
Strut : 137.2 ~ 156.9 N.m (14.0 ~ 16.0 kgf.m, 101.2 ~ 115.7 lb-ft)



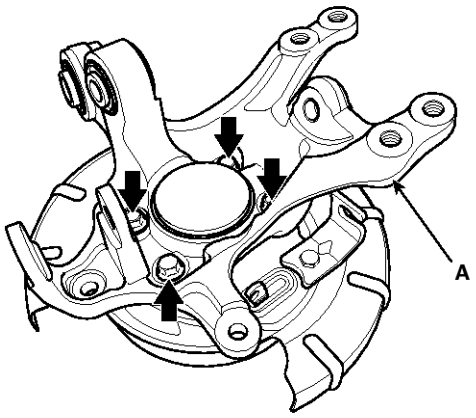
STFDS1018D



STFDS1019D

11. Loosen the hub bearing mounting, and then remove the hub bearing from knuckle (A).

Tightening torque:
78.4 ~ 88.2 N.m (8.0 ~ 9.0 kgf.m, 57.8 ~ 65.0 lb-ft)



SYFDS0026D

12. Install in the reverse order of removal.

Inspection

1. Check the hub for cracks and the splines for wear.
2. Check the brake disc for scoring and damage.
3. Check the rear axle carrier for cracks.
4. Check the bearing for cracks or damage.