

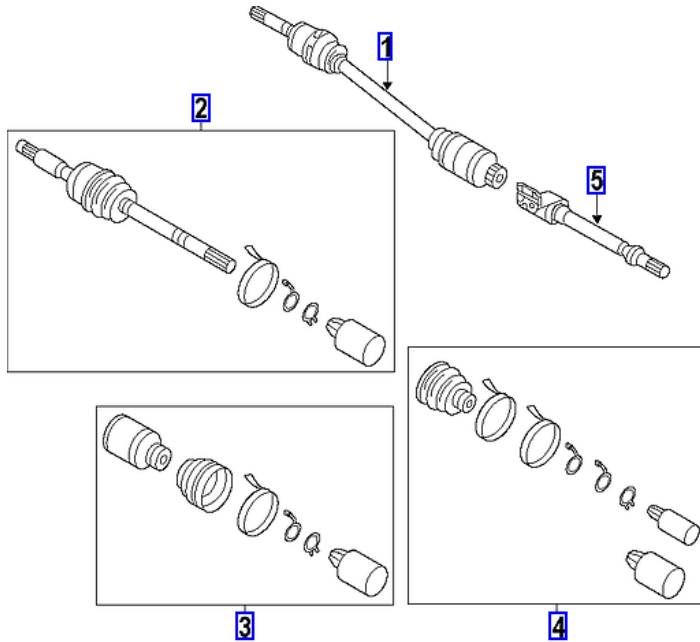
Component Procedures: Axle Shaft Assembly

Table of Contents

1. Front Axle (Article 80006)
2. Parts and Labor (itype_189)
3. Specifications Quick Reference (itype_439)
4. Dynamic Damper - Components and Components Location (Article 45295)
5. Front Driveshaft - Components and Components Location (Article 45293)
6. Dynamic Damper - Repair Procedures (Article 45296)
7. Front Driveshaft - Repair Procedures (Article 45294)
8. Driveshaft and Axle - Specifications (Article 45269)
9. Driveshaft and Axle - Specifications (Article 45270)
10. Driveshaft and Axle - Troubleshooting (Article 45287)
11. Driveshaft and Axle - Special Service Tools (Article 45280)

Component Procedures: Axle Shaft Assembly

Front Axle (Article 80006)



Parts and Labor (itype_189)

Parts

Qualifier	Part #	Name	Price	Note
Front Axle > Axle Assembly >?	49500F2300	1 - Left	507.34	
Front Axle > Axle Assembly >?	49501F2300	1 - Right	507.34	
Front Axle > Axle Assembly >?	49500F3100	1 - Left	415.16	
Front Axle > Axle Assembly >?	49501F3150	1 - Right	415.16	
Front Axle > Axle Assembly >?	49500F3000	1 - Left	415.16	
Front Axle > Axle Assembly >?	49501F3050	1 - Right	415.16	
Front Axle > Shaft		5 - Part Of Axle Assem?	0.00	
Front Axle > Shaft		5 - Part Of Axle Assem?	0.00	

Labor

Operation	Qualifier Path	Skill	Std Hrs	Wty Hrs
Remove & Install	Front Axle > Axle Assembly, R&I > One Side	B	1.3	0.0
Remove & Install	Front Axle > Axle Assembly, R&I > One Side > ?		0.2	
Remove & Install	Front Axle > Axle Assembly, R&I > One Side > ?		0.5	
Remove & Install	Front Axle > Axle Assembly, R&I > One Side > ?		0.5	
Remove & Install	Front Axle > Axle Assembly, R&I > Both Sides	B	2.1	0.0
Remove & Install	Front Axle > Axle Assembly, R&I > Both Sides ?		0.2	
Remove & Install	Front Axle > Axle Assembly, R&I > Both Sides ?		0.5	
Remove & Install	Front Axle > Axle Assembly, R&I > Both Sides ?		0.5	
Remove & Replace	Front Axle > Axle Assembly, R&R > One Side	B	1.3	0.0
Remove & Replace	Front Axle > Axle Assembly, R&R > One Side > ?		0.2	
Remove & Replace	Front Axle > Axle Assembly, R&R > Both Sides	B	2.1	0.0
Remove & Replace	Front Axle > Axle Assembly, R&R > Both Sides ?		0.2	

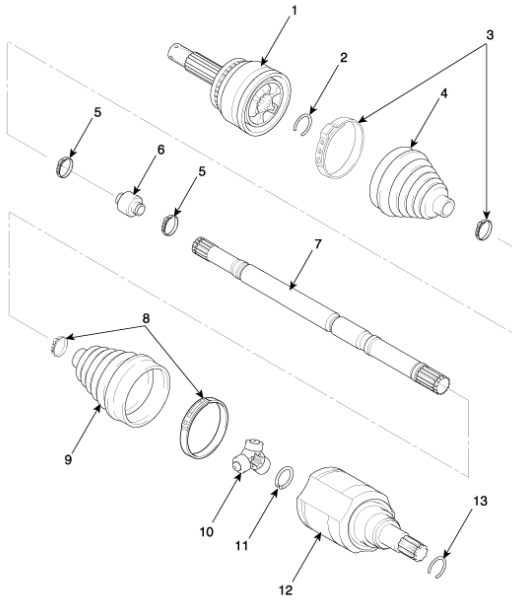
Specifications Quick Reference (itype_439)

Quick Specifications

- item

Dynamic Damper - Components and Components Location (Article 45295)

- Components

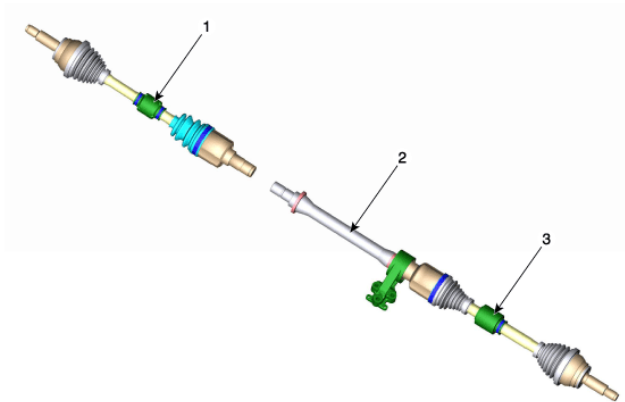


1. BJ assembly 2. BJ circlip 3. BJ boot band 4. BJ boot 5. Dynamic damper band 6. Dynamic damper 7. Shaft 8. TJ boot band 9. TJ boot 10. Spider assembly 11. Snap ring 12. TJ housing 13. Clip

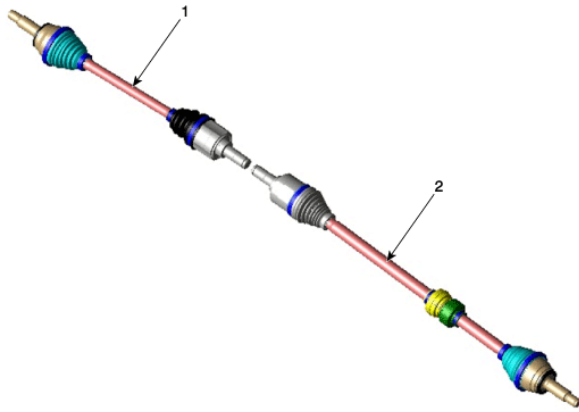
Front Driveshaft - Components and Components Location (Article 45293)

- Components (1)

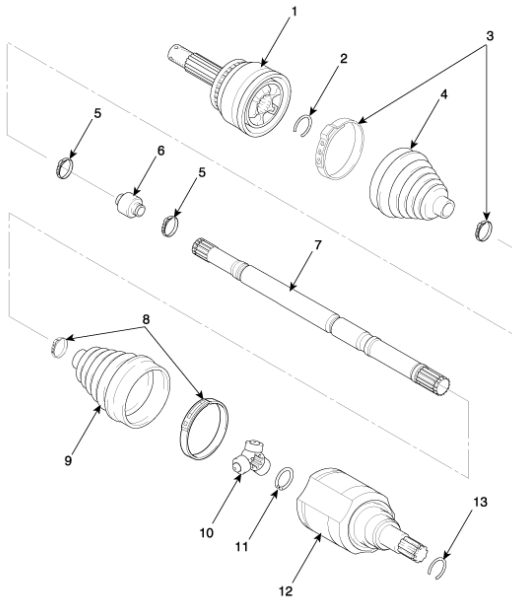
[1.4 T-GDI]



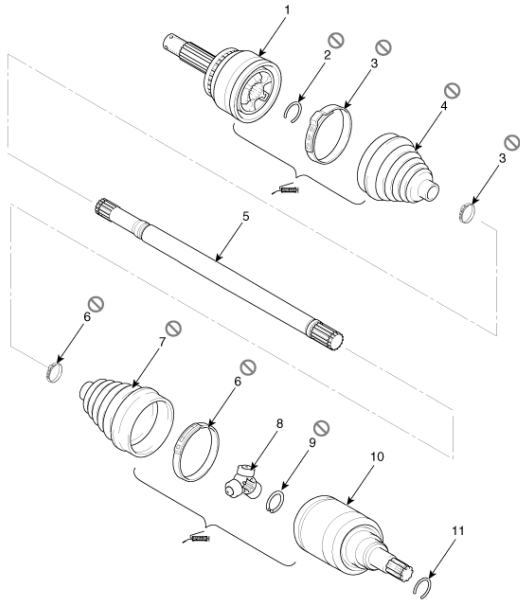
1. Driveshaft (LH) 2. Inner shaft bearing bracket 3. Driveshaft (RH)
[2.0 MPI]



1. Driveshaft (LH) 2. Driveshaft (RH)
 - Components (2)
 [RH]



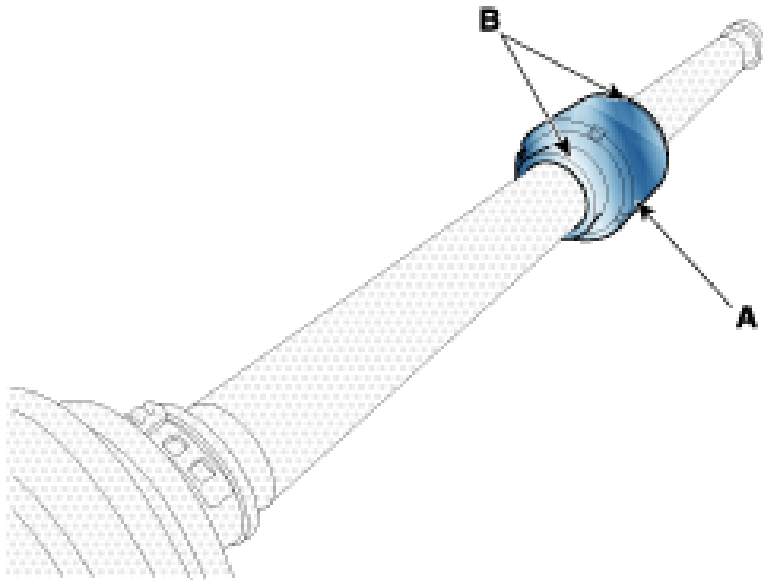
1. BJ assembly 2. BJ circlip 3. BJ boot band 4. BJ boot 5. Dynamic damper band 6. Dynamic damper 7. Shaft 8. TJ boot band 9. TJ boot 10. Spider assembly 11. Snap ring 12. TJ case 13. Clip
 [LH]



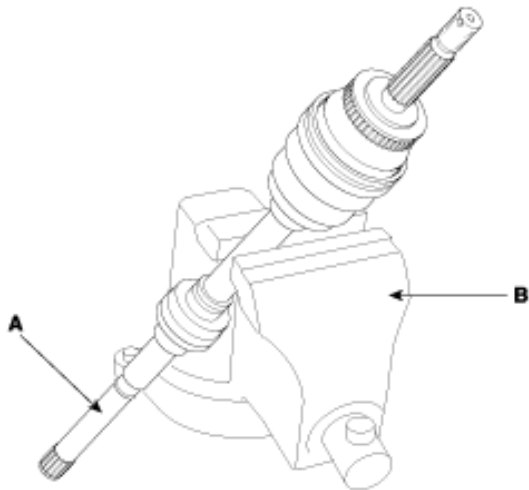
1. BJ assembly 2. Circlip 3. BJ boot band 4. BJ boot 5. Shaft 6. TJ boot band 7. TJ boot 8. Spider assembly 9. Snap ring 10. TJ Case 11. Clip

Dynamic Damper - Repair Procedures (Article 45296)

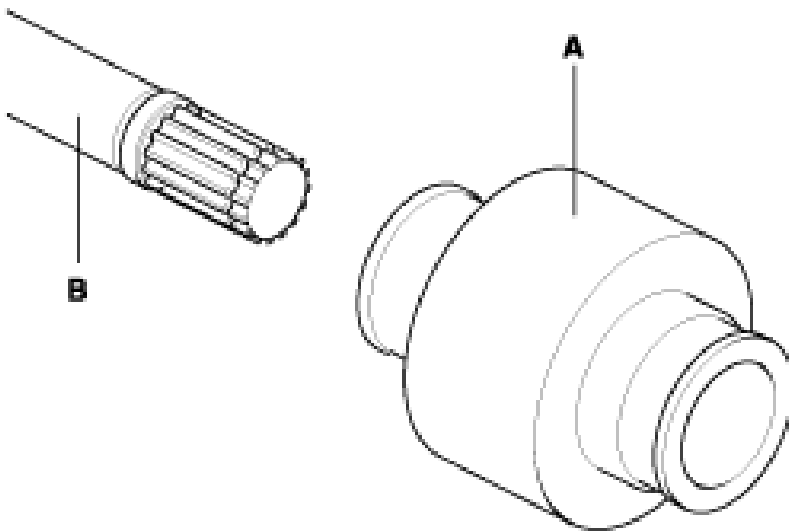
- Removal
- Remove the front driveshaft . (Refer to Driveshaft Assembly - "Front Driveshaft")
- Remove the TJ joint assembly. (Refer to Driveshaft Assembly - "TJ Joint")
- Remove the remove the both side of band (B) of the dynamic damper (A).



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



- Apply soap powder on the shaft to prevent being damaged between the shaft spline and the dynamic damper when the dynamic damper is removed.
- Separate the dynamic damper (A) from the shaft (B) carefully.



- Installation
- Apply soap powder on the shaft to prevent being damaged between the shaft spline and the dynamic damper.
- Install the dynamic damper.
- Install the dynamic damper band.
- Using the SST(09495-39100), secure the TJ boot bands. Do not reuse the boot band.



Do not reuse the boot band.

NOTICE

- Do not reuse the boot band.
- Install the TJ joint assembly. (Refer to Driveshaft Assembly - "TJ joint")
- Install the front driveshaft. (Refer to Driveshaft Assembly - "Front Driveshaft")
- Check the front alignment. (Refer to Suspension System - "Front Alignment")

Front Driveshaft - Repair Procedures (Article 45294)

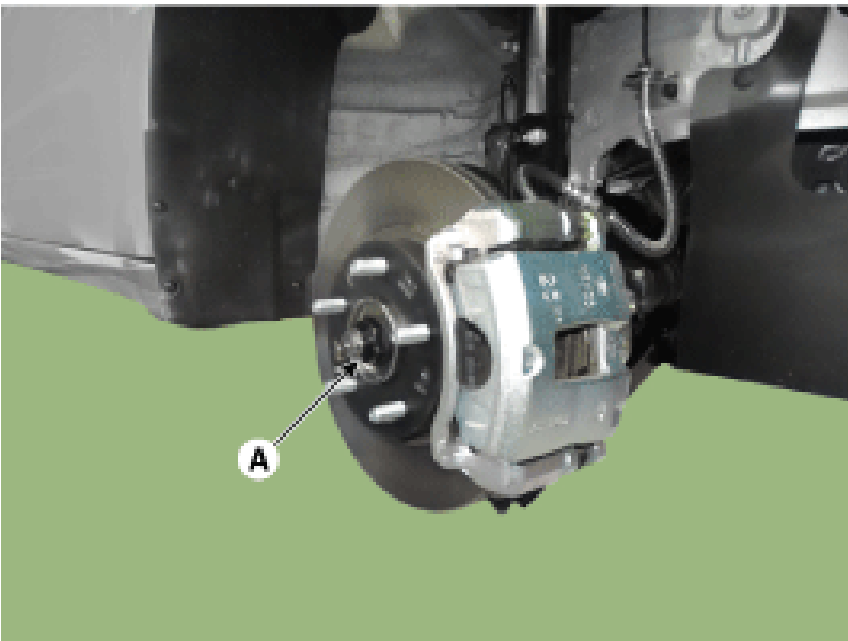
- Removal
- Loosen the wheel nuts slightly. Raise the vehicle, and make sure it is securely supported.
- Remove the front wheel and tire (A) from front hub . Tightening torque : 107.9 ~ 127.5 N.m (11.0 ~ 13.0 kgf.m, 79.6 ~ 94.0 lb-ft) Be careful not to damage the hub bolts when removing the front wheel and tire (A).



Be careful not to damage the hub bolts when removing the front wheel and tire (A).

NOTICE

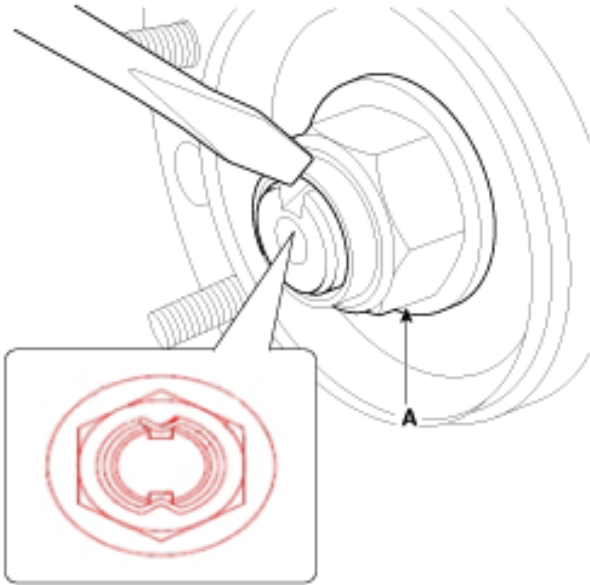
- Be careful not to damage the hub bolts when removing the front wheel and tire (A).
- Loosen the driveshaft caulking nut (A). The driveshaft lock nut should be replaced with new ones. After installation driveshaft lock nut, stake the lock nut using a chisel and hammer as shown in the illustration below. Caulking depth : 1.5 mm (0.591 in.)



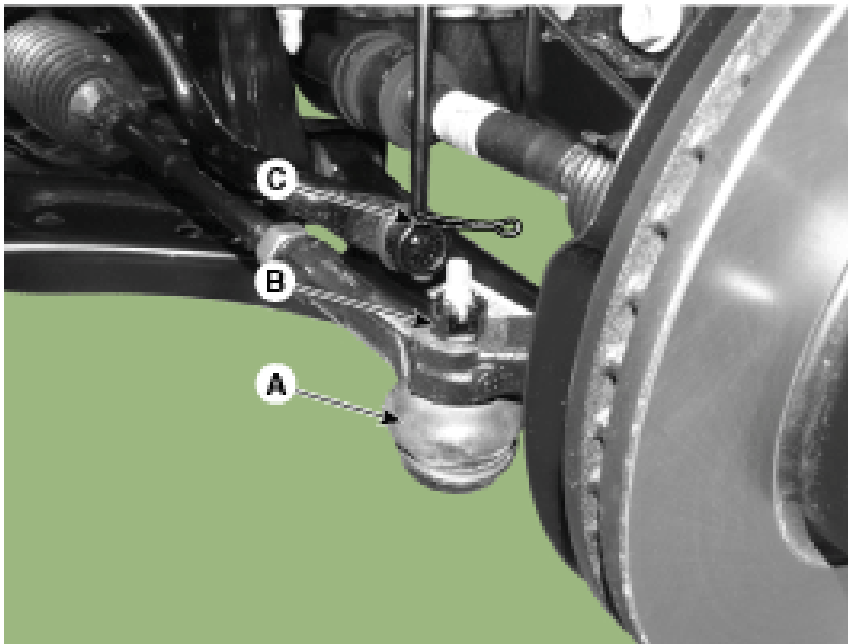
The driveshaft lock nut should be replaced with new ones. After installation driveshaft lock nut, stake the lock nut using a chisel and hammer as shown in the illustration below. Caulking depth : 1.5 mm (0.591 in.)

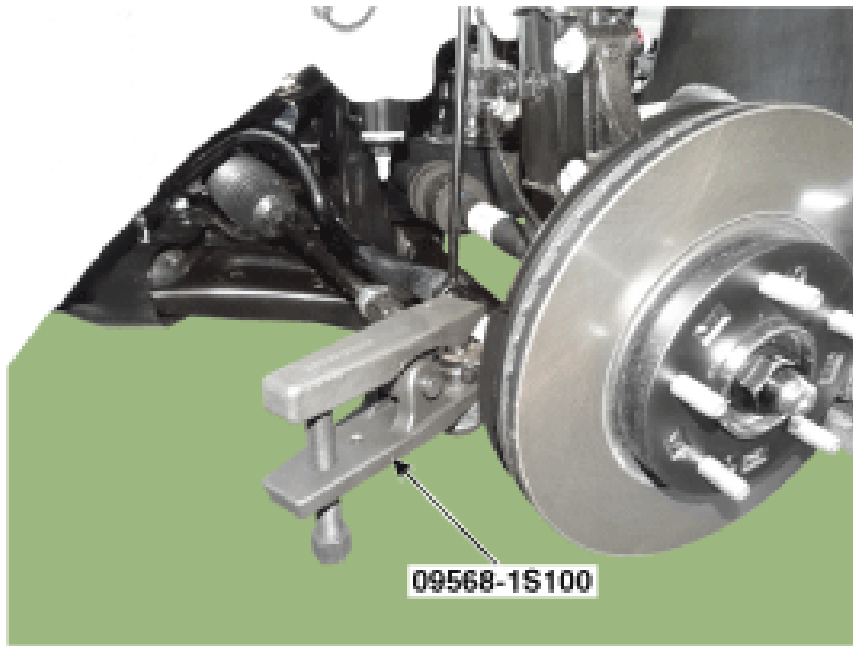
- The driveshaft lock nut should be replaced with new ones.

- After installation driveshaft lock nut, stake the lock nut using a chisel and hammer as shown in the illustration below. Caulking depth : 1.5 mm (0.591 in.)

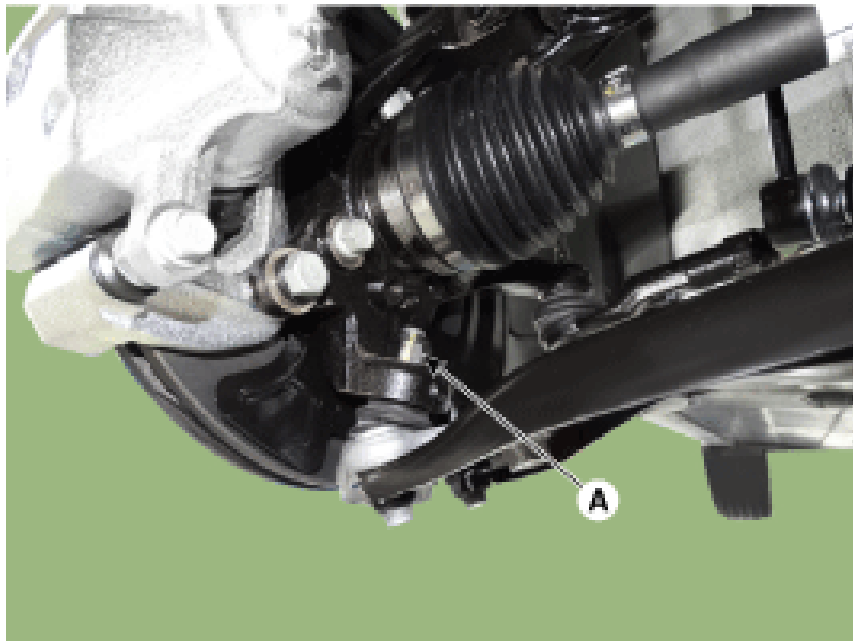


- Remove the tie rod end ball joint. Remove the split pin (C). Loosen the nut (B). Using SST(09568-1S100) separate the ball joint (A) from the knuckle. Tightening torque : 23.5 ~ 33.3 N.m (2.4 ~ 3.4 kgf.m, 17.4 ~ 24.6 lb-ft)
- Remove the split pin (C).
- Loosen the nut (B).
- Using SST(09568-1S100) separate the ball joint (A) from the knuckle.





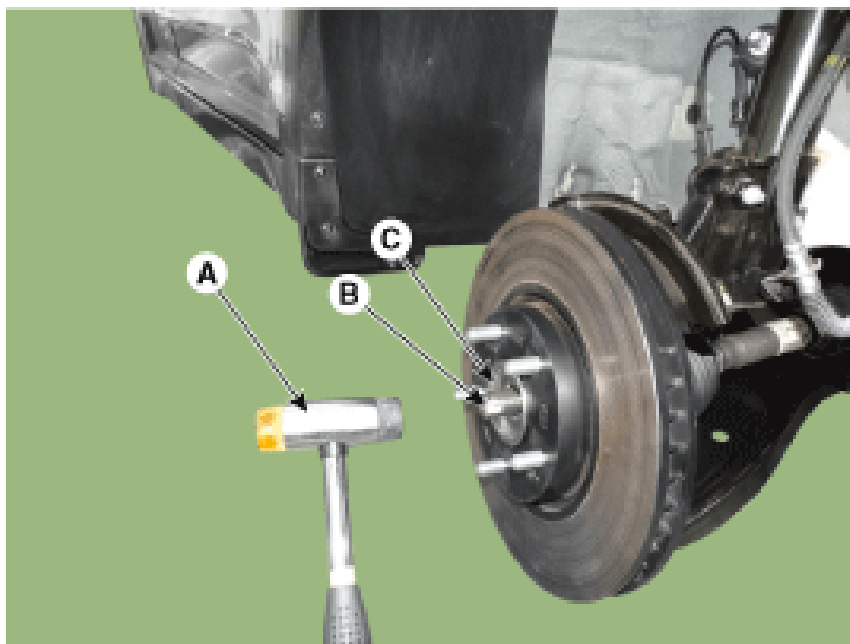
- Loosen the lower arm nut (A) and then remove the lower arm ball joint by using SST(09568-1S100). Tightening torque : 58.8 ~ 70.6 N.m (6.0 ~ 7.2 kgf.m, 43.4 ~ 52.1 lb-ft) Do not reuse the lower arm lock nut(A).





Do not reuse the lower arm lock nut(A).

- Using a plastic hammer (A), remove the front driveshaft (B) from the knuckle assembly (C). Be careful not to damage the boot and tone wheel.



Be careful not to damage the boot and tone wheel.

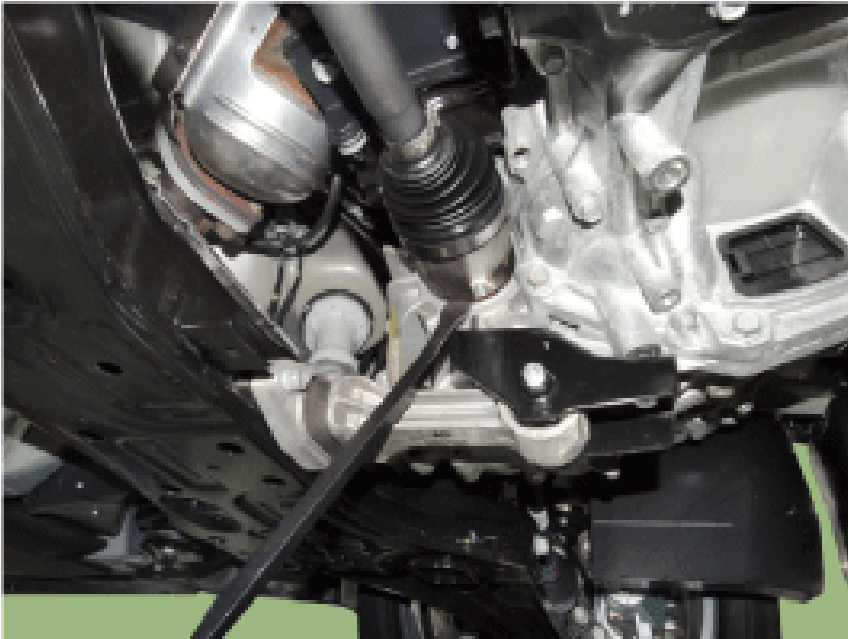
- Be careful not to damage the boot and tone wheel.

- Loosen the inner shaft mounting bolts and then remove the driveshaft. [GAMMA T-GDI RH Only] Tightening torque : 49.0 ~ 68.6 N.m (5.0 ~ 7.0 kgf.m, 36.2 ~ 50.6 lb-ft)

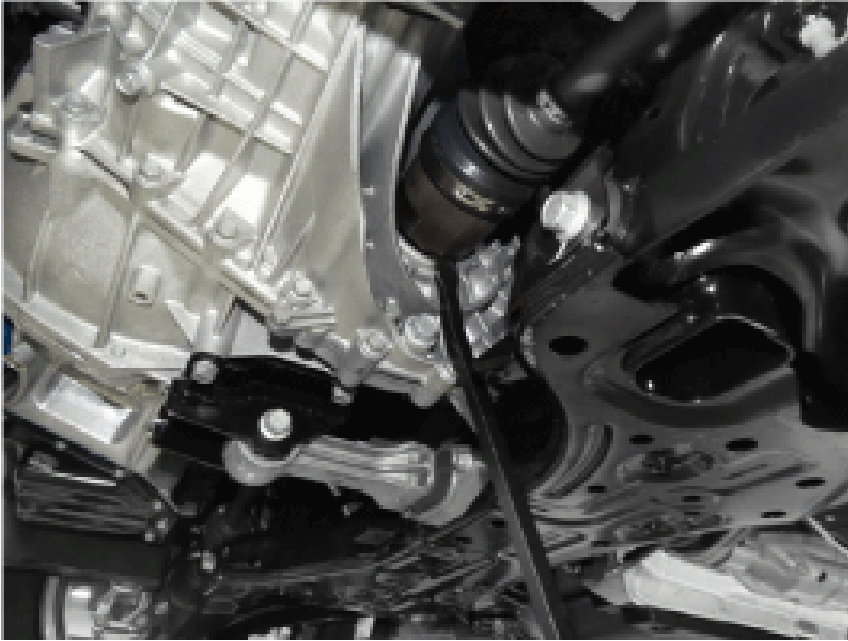


- Insert a pry bar between the transaxle case and joint case, and separate the driveshaft from the transaxle case. [RH] [LH] Use a pry bar (A) being careful not to damage the transaxle and joint. Do not insert the pry bar (A) too deep, as this may cause damage to the oil seal. Do not pull the driveshaft 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.

[RH]



[LH]



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.

- 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.
- Install in the reverse order of removal..
- Check the front alignment. (Refer to Suspension System - "Front Alignment")

Driveshaft and Axle - Specifications (Article 45269)

- Specification

Engine Transaxle Joint type Max. permissible angle

Outer Inner Outer Inner

NU 2.0 6 MT BJ#23 CTJ#23 46.5° 23°

6 A/T BJ#23 CTJ#23

1.4 T-GDI 6 MT BJ#23 CTJ#23 46.5° 23°

7DCT BJ#24 CTJ#24

- Tightening torque

Item N.m kgf.m lb-ft

Front Hub nuts 107.9 ~ 127.5 11.0 ~ 13.0 79.6 ~ 94.0

Driveshaft caulking nut 274.6 ~ 294.2 28.0 ~ 30.0 202.5 ~ 217.0

Strut assembly to knuckle 156.9 ~ 176.5 16.0 ~ 18.0 115.7 ~ 130.2

Front caliper to knuckle 78.5 ~ 98.1 8.0 ~ 10.0 57.9 ~ 72.3

Wheel speed sensor mounting bolt 7.8 ~ 11.8 0.8 ~ 1.2 5.8 ~ 8.7

Disc fixing screw 4.9 ~ 5.9 0.5 ~ 0.6 3.6 ~ 4.3

Lower arm to knuckle 58.8 ~ 70.6 6.0 ~ 7.2 43.4 ~ 52.1

Tie rod end castle nut 24.5 ~ 34.3 2.5 ~ 3.5 18.1 ~ 25.3

Rear Hub nuts 107.9 ~ 127.5 11.0 ~ 13.0 79.6 ~ 94.0

Rear caliper to torsion beam axle 63.7 ~ 73.5 6.5 ~ 7.5 47.0 ~ 54.2

Wheel speed sensor mounting bolt 8.8 ~ 13.7 0.9 ~ 1.4 6.5 ~ 10.1

Rear herb assembly to torsion beam axle 49.0 ~ 58.8 5.0 ~ 6.0 36.2 ~ 43.4

Replace caulking nuts with new ones after removal.

NOTICE

- Replace caulking nuts with new ones after removal.

- Lubricants

Engine Joint type Lubricants Quantity

NU 2.0 BJ BM71-141 90g + 10g

TJ CW09-VX21 125g + 10g

1.4 T-GDI BJ BM71-141 100g + 10g

TJ CW09-VX21 130g + 10g

Driveshaft and Axle - Specifications (Article 45270)

- Specification

Engine Transaxle Joint type Max. permissible angle

Outer Inner Outer Inner

NU 2.0 6 MT BJ#23 CTJ#23 46.5° 23°

6 A/T BJ#23 CTJ#23

1.4 T-GDI 6 MT BJ#23 CTJ#23 46.5° 23°

7DCT BJ#24 CTJ#24

- Tightening torque

Item N.m kgf.m lb-ft

Front Hub nuts 107.9 ~ 127.5 11.0 ~ 13.0 79.6 ~ 94.0

Driveshaft caulking nut 274.6 ~ 294.2 28.0 ~ 30.0 202.5 ~ 217.0

Strut assembly to knuckle 156.9 ~ 176.5 16.0 ~ 18.0 115.7 ~ 130.2

Front caliper to knuckle 78.5 ~ 98.1 8.0 ~ 10.0 57.9 ~ 72.3

Wheel speed sensor mounting bolt 7.8 ~ 11.8 0.8 ~ 1.2 5.8 ~ 8.7

Disc fixing screw 4.9 ~ 5.9 0.5 ~ 0.6 3.6 ~ 4.3

Lower arm to knuckle 58.8 ~ 70.6 6.0 ~ 7.2 43.4 ~ 52.1

Tie rod end castle nut 24.5 ~ 34.3 2.5 ~ 3.5 18.1 ~ 25.3

Rear Hub nuts 107.9 ~ 127.5 11.0 ~ 13.0 79.6 ~ 94.0

Rear caliper to torsion beam axle 63.7 ~ 73.5 6.5 ~ 7.5 47.0 ~ 54.2

Wheel speed sensor mounting bolt 8.8 ~ 13.7 0.9 ~ 1.4 6.5 ~ 10.1

Rear herb assembly to torsion beam axle 49.0 ~ 58.8 5.0 ~ 6.0 36.2 ~ 43.4

Replace caulking nuts with new ones after removal.

NOTICE

- Replace caulking nuts with new ones after removal.

- Lubricants

Engine Joint type Lubricants Quantity

NU 2.0 BJ BM71-141 90g + 10g

TJ CW09-VX21 125g + 10g

1.4 T-GDI BJ BM71-141 100g + 10g

TJ CW09-VX21 130g + 10g

Driveshaft and Axle - Troubleshooting (Article 45287)

- 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

Excessive noise Wear, damage or bending of driveshaft Replace

Rattle of driveshaft and worn hub splines Replace

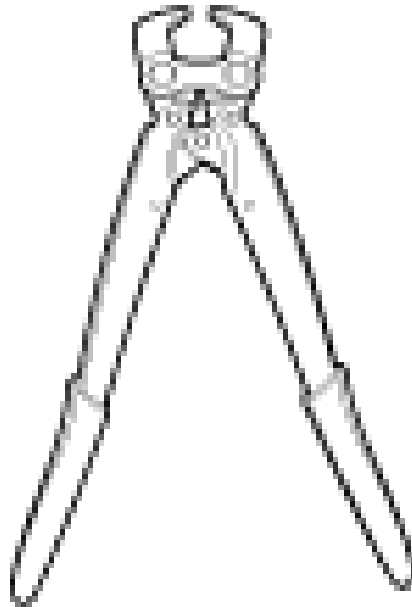
Loose hub nut Adjustment or Replace

Driveshaft and Axle - Special Service Tools (Article 45280)

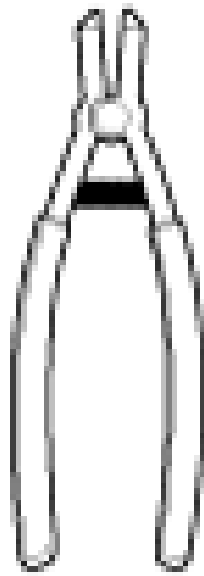
- Special Service Tools

Tool(Number and Name) Illustration Use

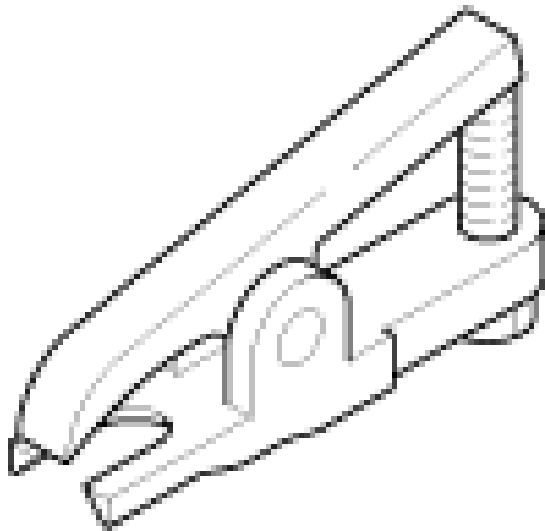
09495-3K000 Band installer Installation of ear type boot band



09495-39100 Band installer Installation of hook type boot band



09568-1S100 Ball joint puller Saperate the ball joint from the front axle



09495-33000 Puller Removal of spider assembly from a drive shaft

