

5 Transmission / Axle

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5.1 Warnings and Notices

5.1.1 Warnings and Notices

Assistant Driving Warning

Warning!

Warning: An assistant should drive the vehicle while the technician checks for the location of the reported condition. Otherwise, personal injury could result.

Battery Disconnect Warning

Warning!

Warning: Unless directed otherwise, the ignition and start switch must be in the OFF or LOCK position, and all electrical loads must be OFF before servicing any electrical component. Disconnect the negative battery cable to prevent an electrical spark should a tool or equipment come in contact with an exposed electrical terminal. Failure to follow these precautions may result in personal injury and/or damage to the vehicle or its components.

Road Test Warning

Warning!

Warning: Road test a vehicle under safe conditions and while obeying all traffic laws. Do not attempt any maneuvers that could jeopardize vehicle control. Failure to adhere to these precautions could lead to serious personal injury and vehicle damage.

Engine Lifting Notice

Note

Notice: When raising or supporting the engine for any reason, do not use a jack under the oil pan, any sheet metal, or the crankshaft pulley. Lifting the engine in an unapproved manner may cause component damage.



5.2 Differential

5.2.1 Specifications

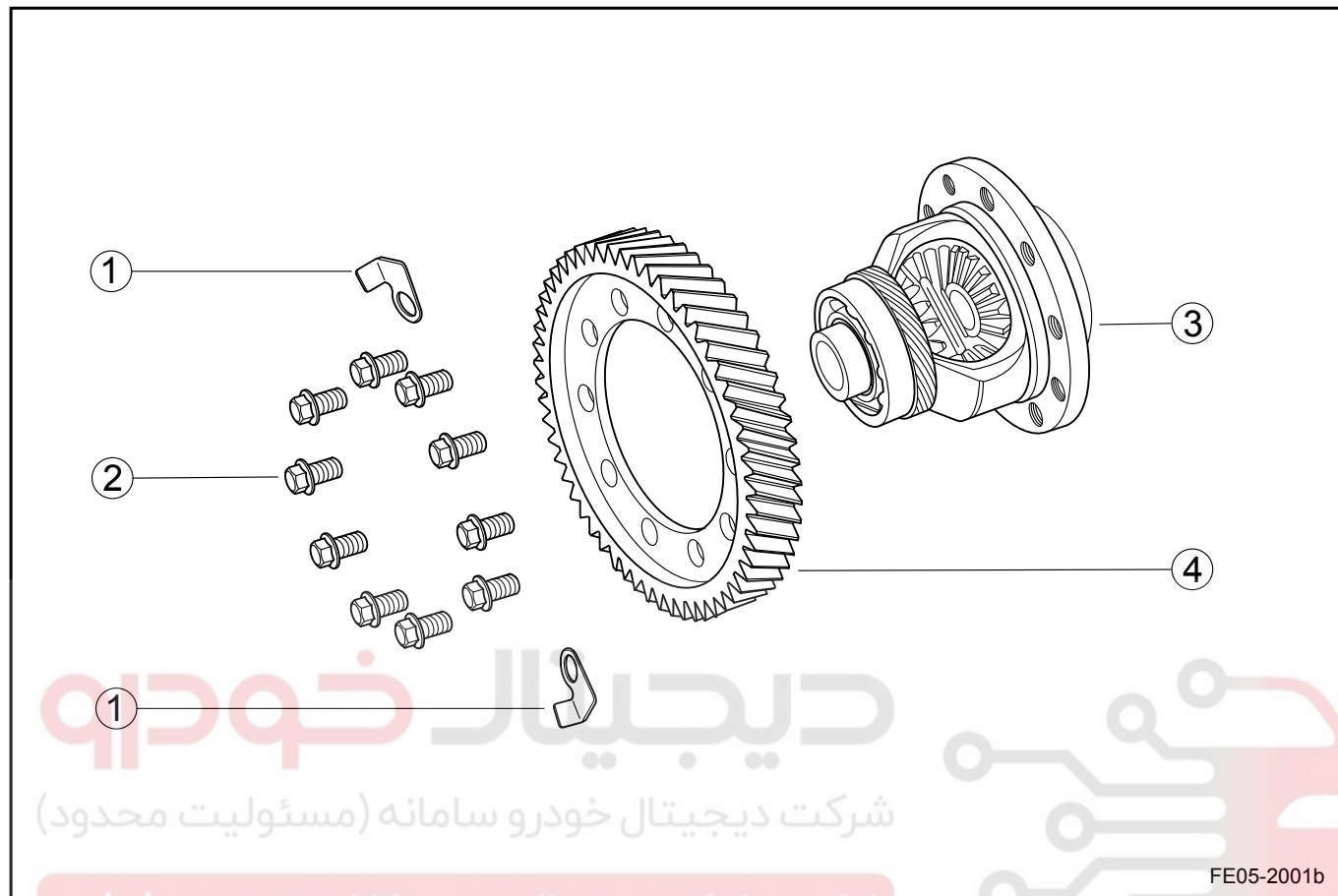
5.2.1.1 Fastener Tightening Specifications

Applications	Model	Specifications	
		Metric (Nm)	US English (lb-ft)
Main Reducer Driven Gear Retaining Bolts	M10 × 20	47-57	35-42



5.2.2 Disassemble View

5.2.2.1 Disassemble View



Legend

- | | |
|---|----------------|
| 1. Planetary Axle Locking Piece | 4. Driven Gear |
| 2. Driven Gear and Planet Carrier Retaining Bolts | |
| 3. Planet Carrier | |

5.2.3 Diagnostic Information and Procedures

5.2.3.1 Fault Symptom Table

Symptoms	Suspected Parts	Refer to
Abnormal Sound	Planet Carrier, Planetary Axle	3.3.7.6 Abnormal Sound When Running and 5.2.4.1 Differential Disassemble and Assemble

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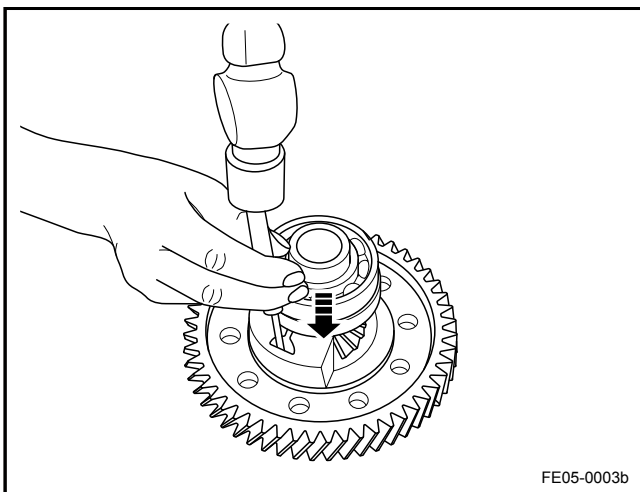
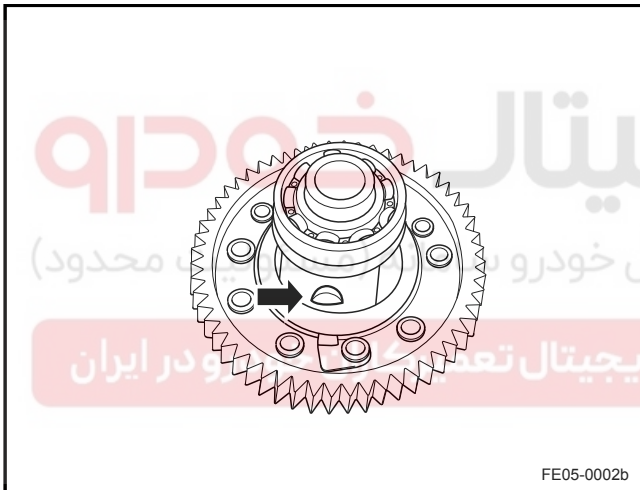
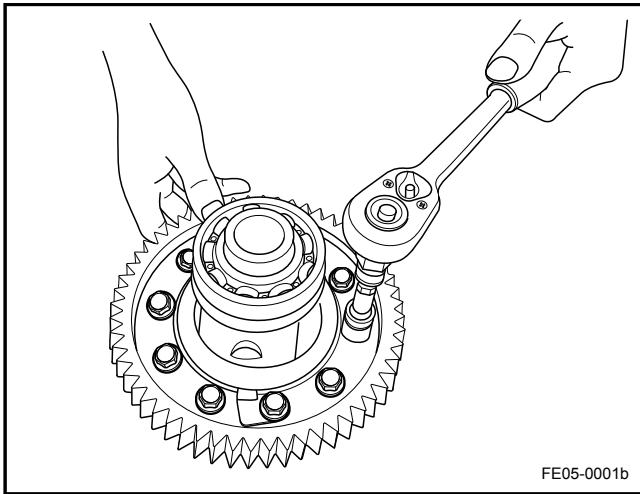


5.2.4 Removal and Installation

5.2.4.1 Differential Disassemble and Assemble

Removal Procedure:

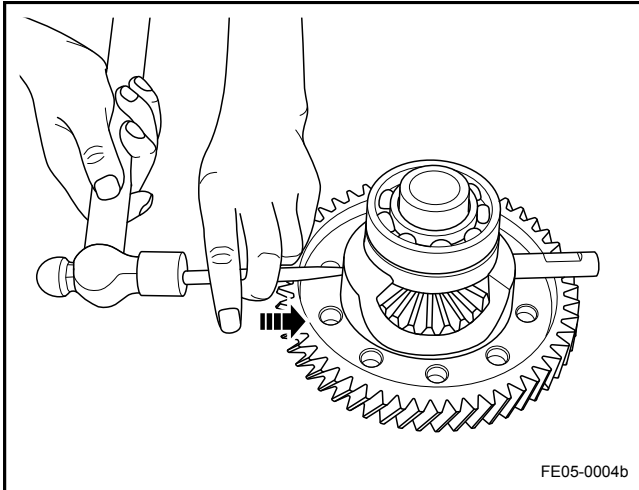
1. Remove the gearbox assembly. Refer to [3.3.8.3 Transmission Assembly Replacement](#).
2. Remove the shift control mechanism assembly. Refer to [3.3.8.4 Shift Control Assembly Replacement](#).
3. Remove the fork shaft. Refer to [3.3.8.6 Shift Shaft Replacement](#).
4. Remove differential assembly from the gearbox.
5. Remove the main reducer driven gear retaining bolts, a total of 10.
6. Find the location of the planet wheel locking pin.



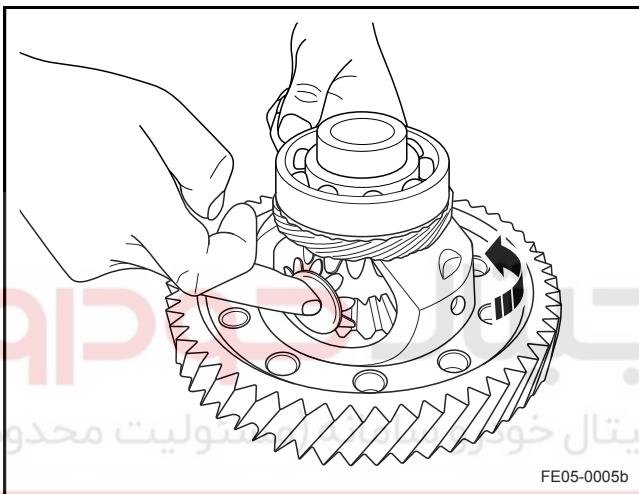
7. Use a universal tool to remove the planetary axle locking pin.

Note

There is a locking ball on the other side locking pin. Prevent the ball falling during the removal.



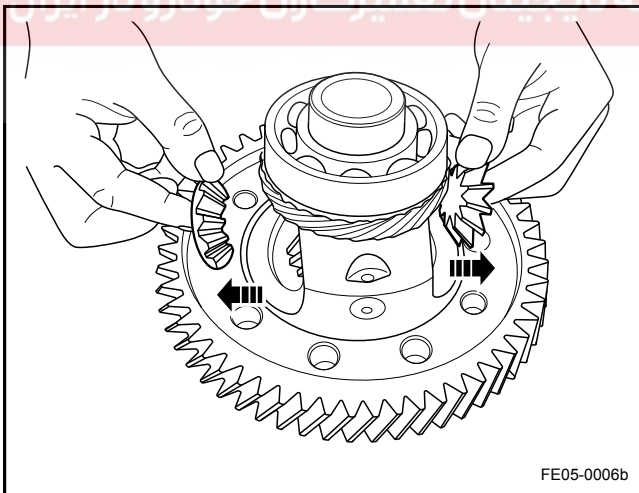
8. Remove the planetary axle.



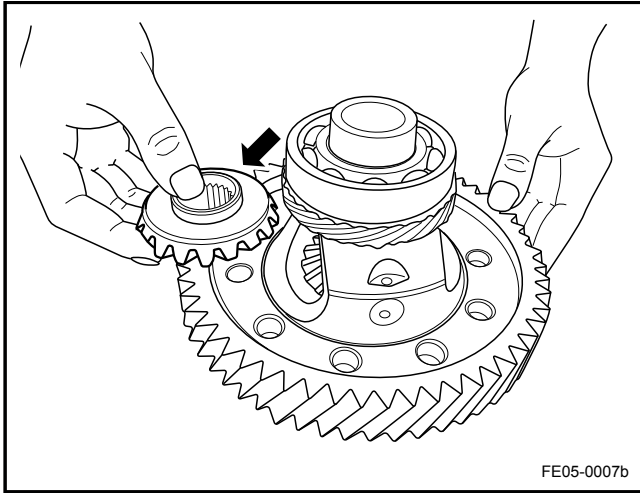
9. Rotate the planetary gear.

Note

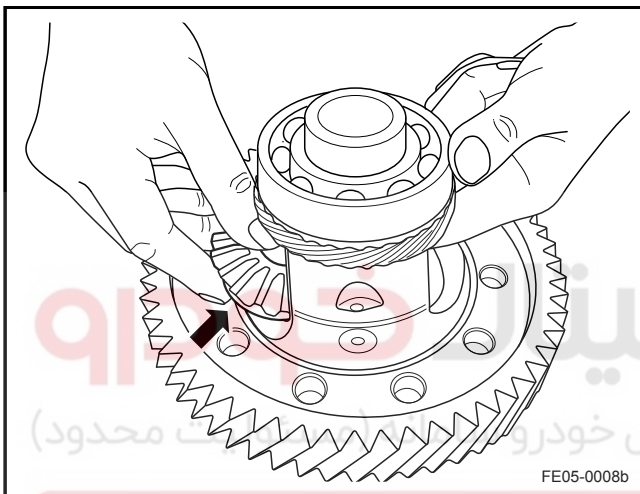
Rotate the planetary gear 90 °, as shown.



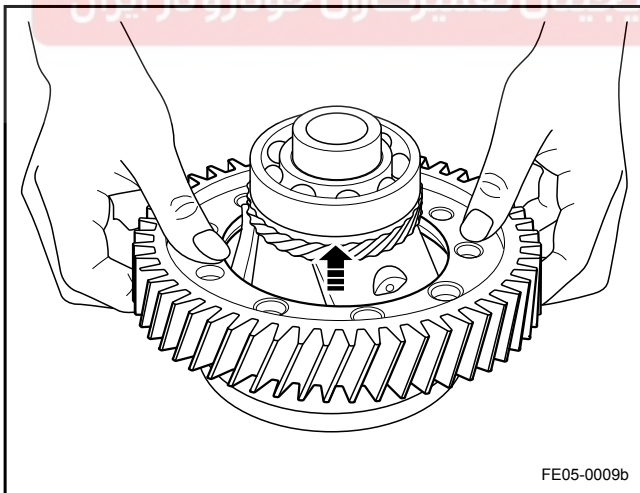
10. Remove the planetary gear.



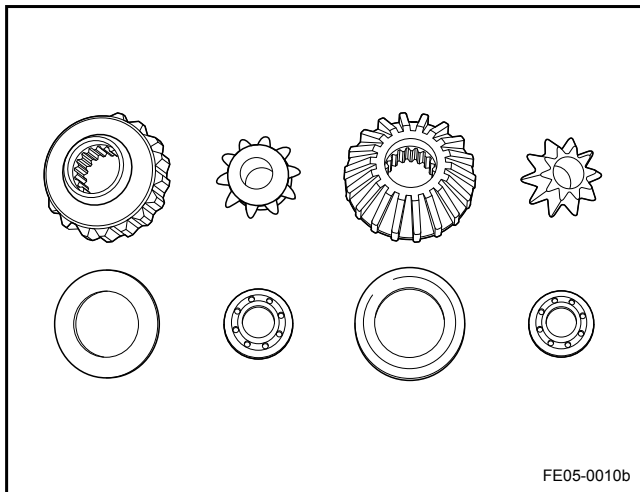
11. Remove the right output pinion.



12. Remove the left output pinion.



13. Remove the primary reducer driven gear.



14. Removed planetary gear and output gear.

Note

If it needs to adjust the planetary gear and output gear meshing gap, adjust the thickness of the pads.

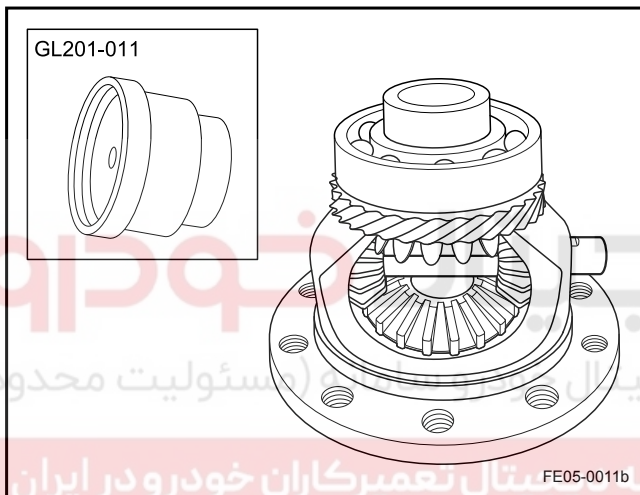
Installation Procedure:

1. Install the planetary gear.

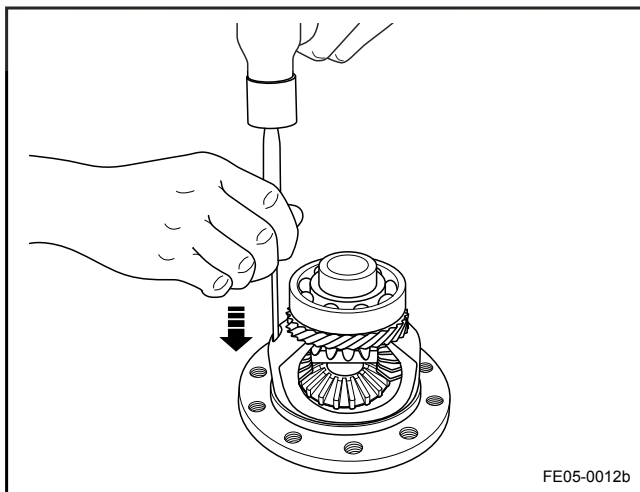
Note

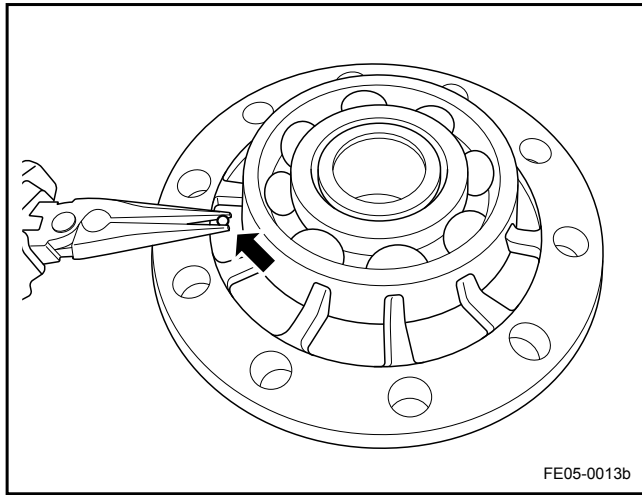
During the installation process, please note that the planetary gear and the output gear gasket status. If it needs to replace the differential bearings, please use the special tool GL201-011 to install the bearing.

2. Install the planetary axle.

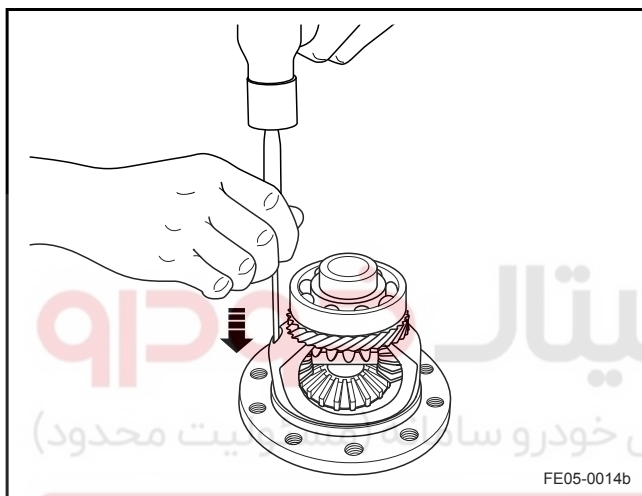


3. Install the planetary axle locking pin.

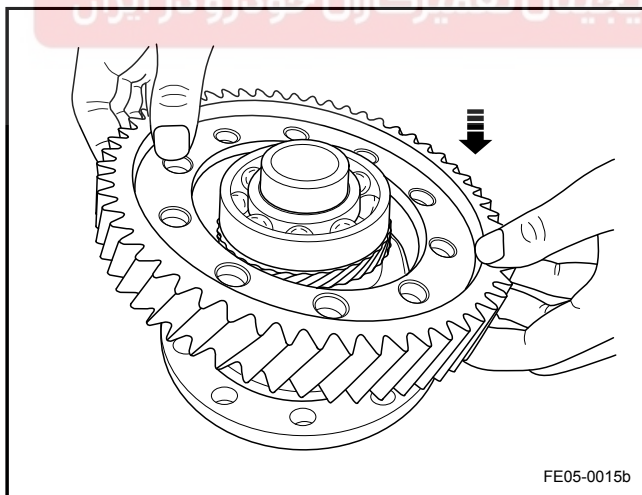




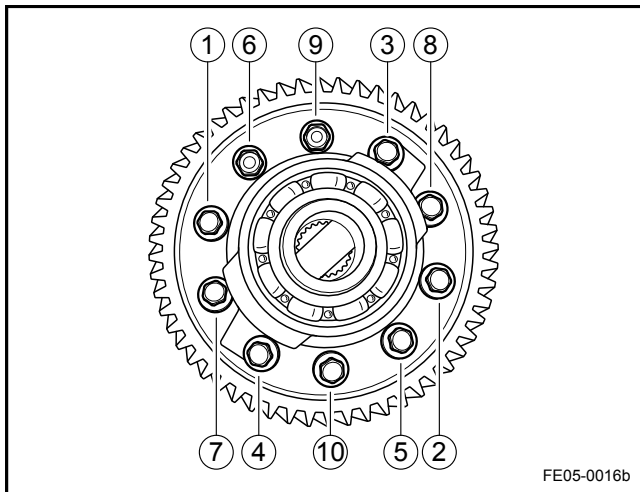
4. Install the planetary axle locking pin ball.



5. Lock the locking pins (both sides).



6. Install the primary reducer driven gear.



7. Tighten the primary reducer driven gear retaining bolts.

Note

During the installation process, do not forget the planetary locking pieces on both sides, according to the sequence as shown in the graphic.

8. Install the differential assembly.
9. Install the fork shaft.
10. Install the gearbox assembly.
11. Install the shift control assembly.

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5.3 Drive Shaft System

5.3.1 Specifications

5.3.1.1 Fastener Tightening Specifications

Applications	Model	Specifications		Notes
		Metric (Nm)	US English (lb-ft)	
Drive Shaft Outer Locking Nut	M22 × 1.5	210-230	154.9-170.0	
Lower Control Arm Ball Joint Connecting Bolts	M10 × 1.25 × 16	131-159	96.6-117.3	
Lower Control Arm Ball Joint Connecting Nuts	M12 × 1.25	131-159	96.6-117.3	
Steering Rod Ball Pin Groove Nut	M12 × 1.25	44-54	32.5-39.8	When the pin can not be installed , turn the nut 60 °

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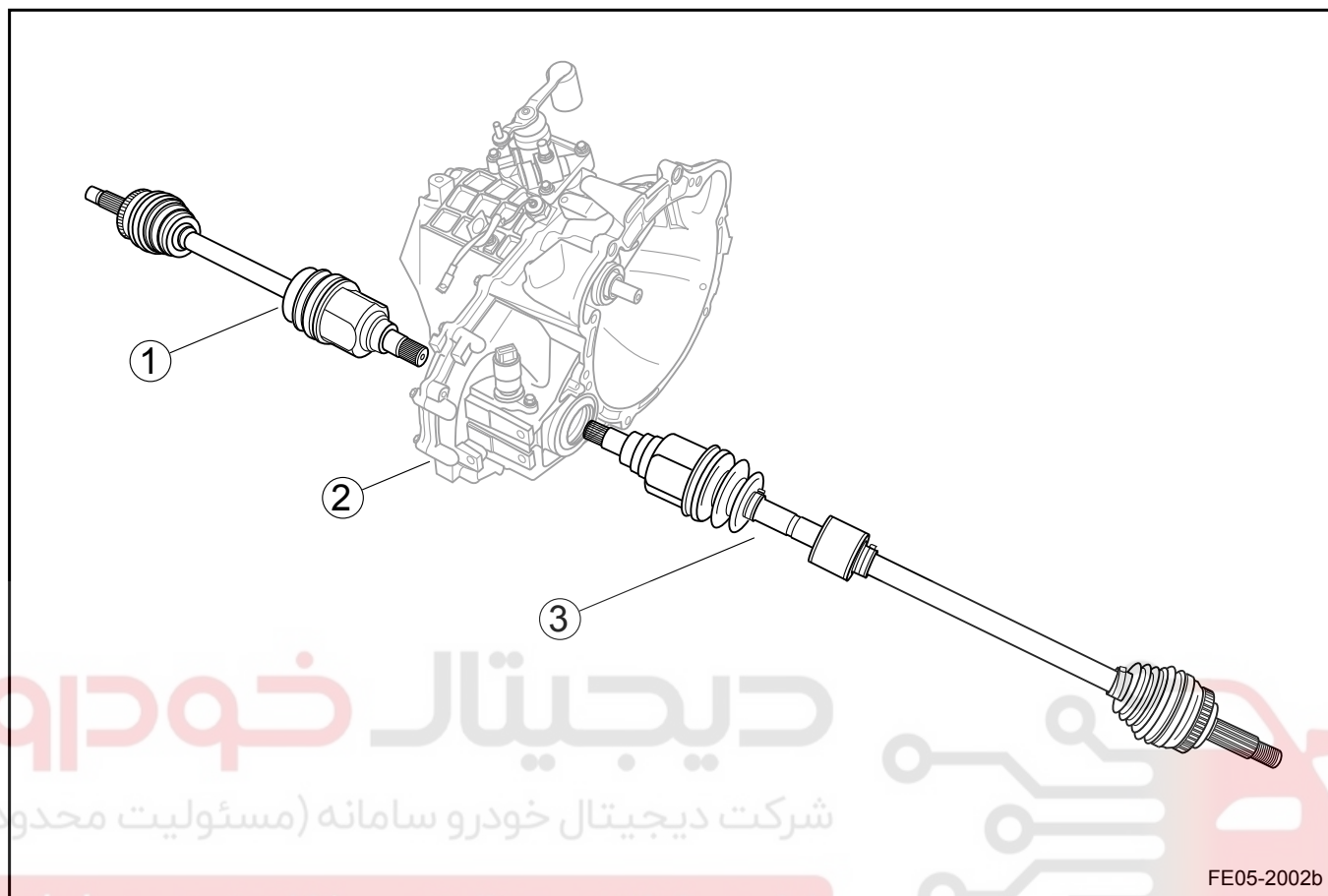
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5.3.2 Disassemble View

5.3.2.1 Disassemble View



Legend

- 1. Left Drive Shaft
- 2. Transmission

- 3. Right Drive Shaft

5.3.3 Diagnostic Information and Procedures

5.3.3.1 Fault Symptom Table

Symptoms	Suspected Parts	Refer to
Noise (Front Drive Shaft)	Inside or Outside Ball Joint (Worn)	3.3.7.6 Abnormal Sound When Running and 5.3.4.1 Drive Shaft Replacement

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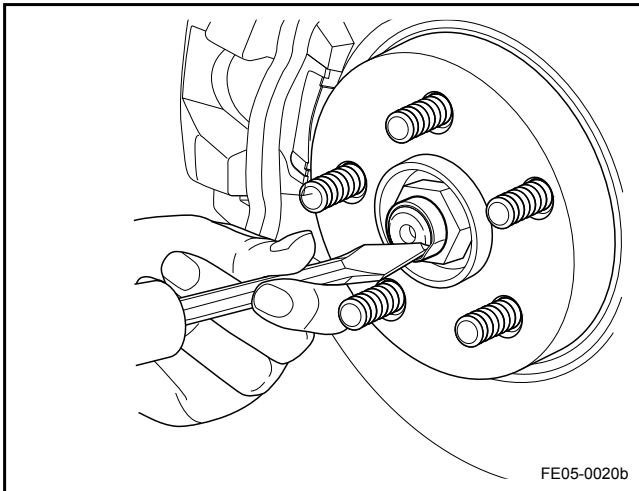


5.3.4 Removal and Installation

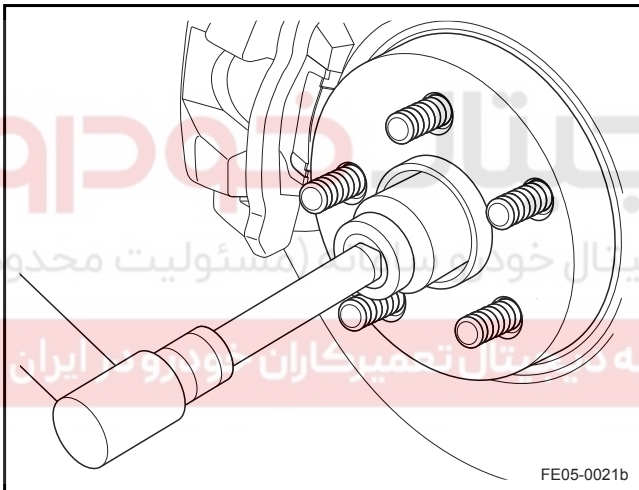
5.3.4.1 Drive Shaft Replacement

Removal Procedure:

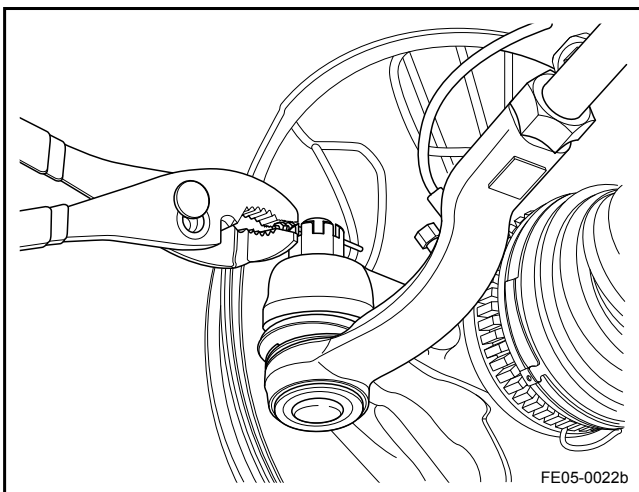
1. Disconnect the battery negative cable. Refer to [2.11.8.1 Battery Disconnection](#).
2. Remove the tires. Refer to [4.4.5.1 Wheel Replacement](#).
3. Release the drive shaft outside locking nut self-locking device.

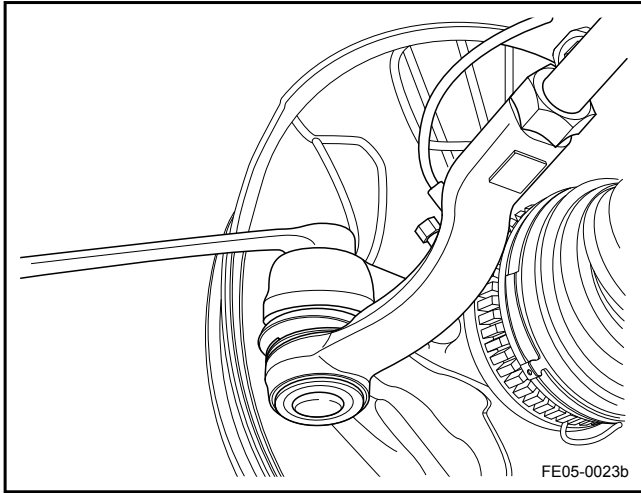


4. Remove the drive shaft outside locking nut.

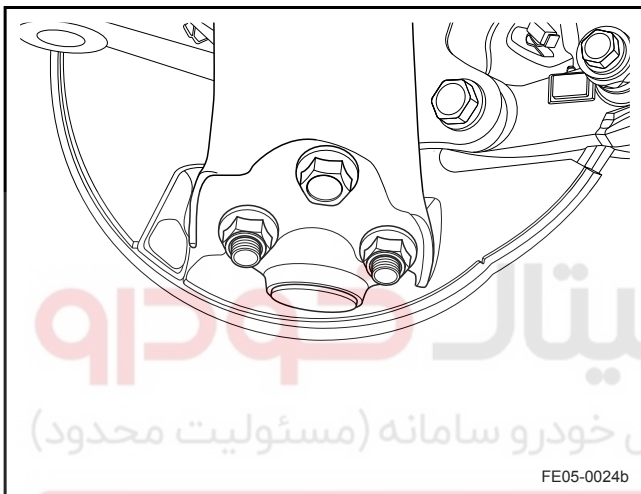


5. Remove the steering rod ball joint locking pin.

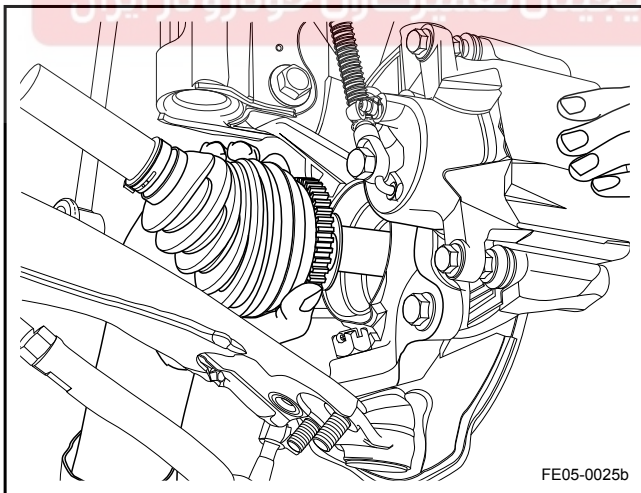




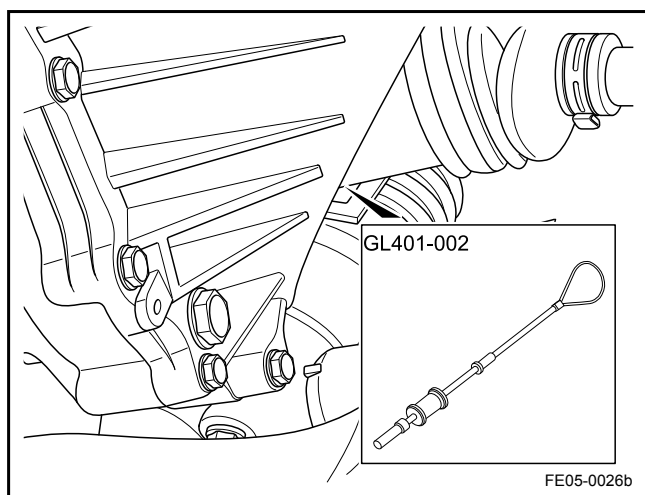
6. Remove the Steering tie rod nut.



7. Remove the lower control arm ball joint retaining bolts and nuts.



8. Remove the drive shaft outer side.



9. Use special tool GL401-002 to remove the drive shaft.

Note

During the removal process, do not force the remove a part to prevent damage to the gearbox housing.

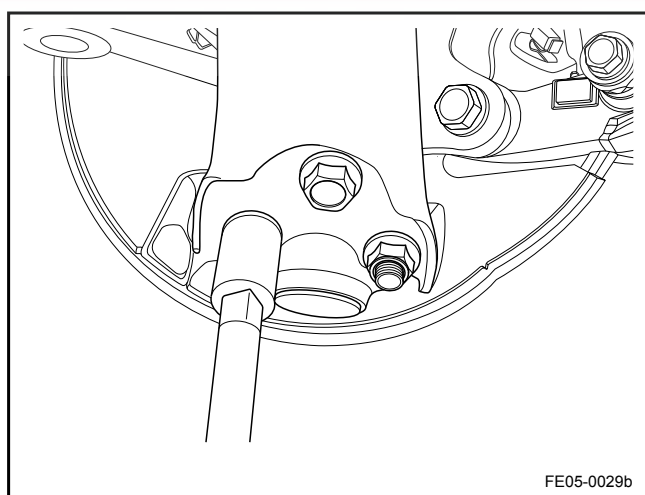
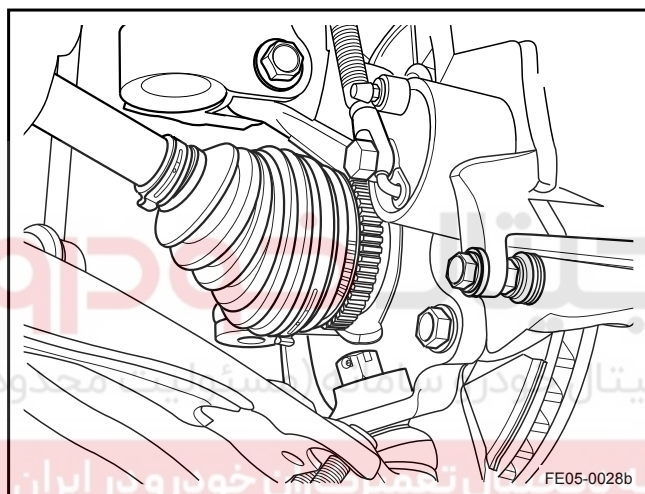
Installation Procedure:

1. Install the drive shaft inner side.

Note

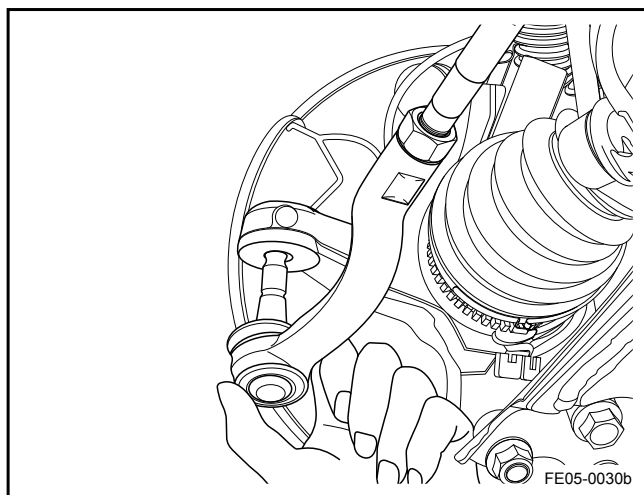
During the installation process, push the drive shaft to confirm the drive shaft is installed in place.

2. Install the drive shaft outer side.

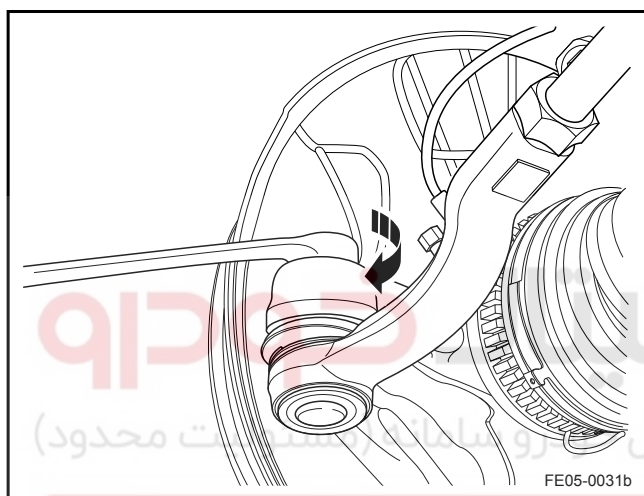


3. Install and tighten the lower control arm ball joint retaining bolts and nuts.

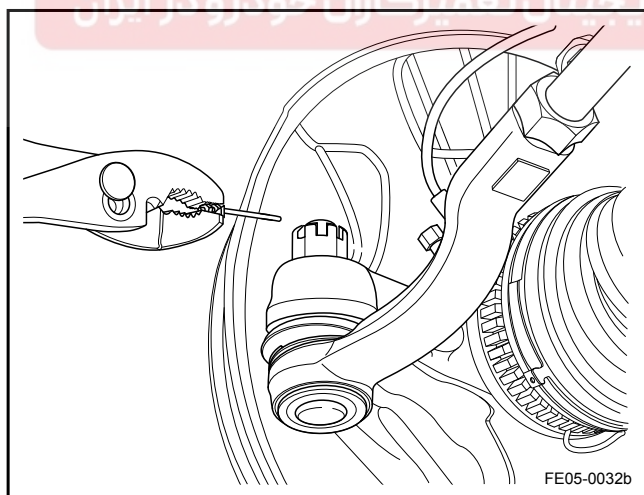
Torque: 145 Nm (Metric) 106.9 lb-ft (US English)



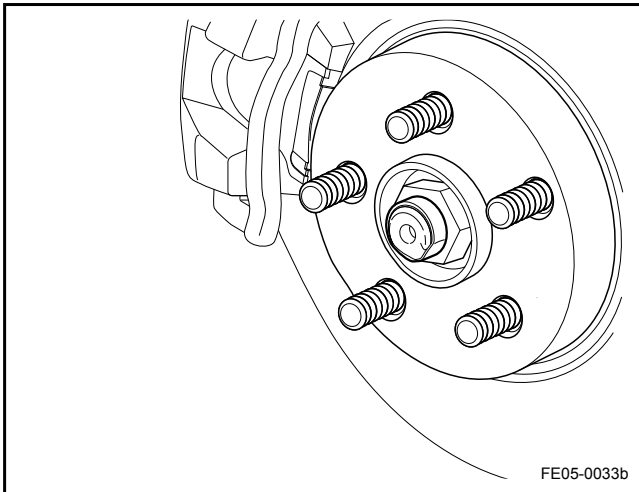
4. Install the steering rod ball joint.



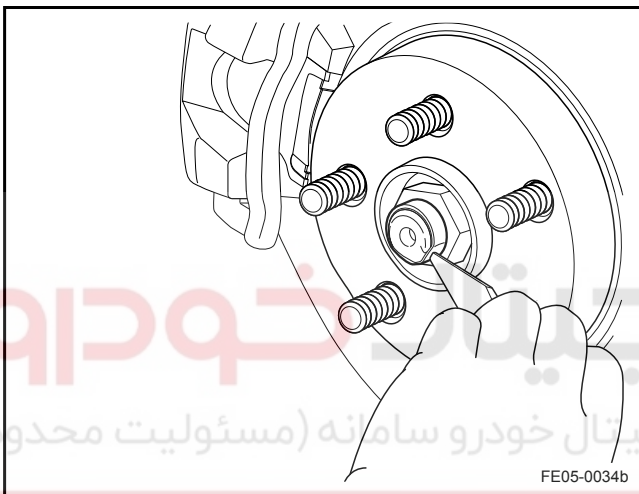
5. Install and tighten the steering tie rod ball joint nut.
Torque: 49 Nm (Metric) 36.1 lb-ft (US English)



6. Install the steering rod ball joint nut locking pin.



7. Install and tighten the drive shaft outside locking nuts.
Torque: 215 Nm (Metric) 158.6 lb-ft (US English)



8. Lock the drive shaft outside locking nut self-locking device.
9. Install the tires.
10. Tighten the tire bolts.
11. Connect the battery negative cable.

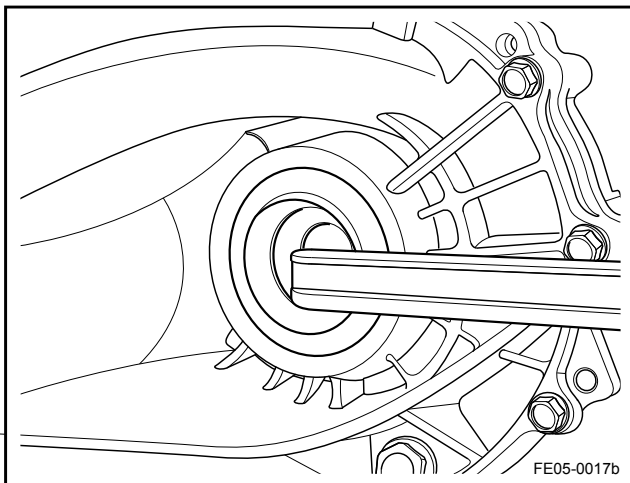
5.3.4.2 Drive Shaft Oil Seal Replacement

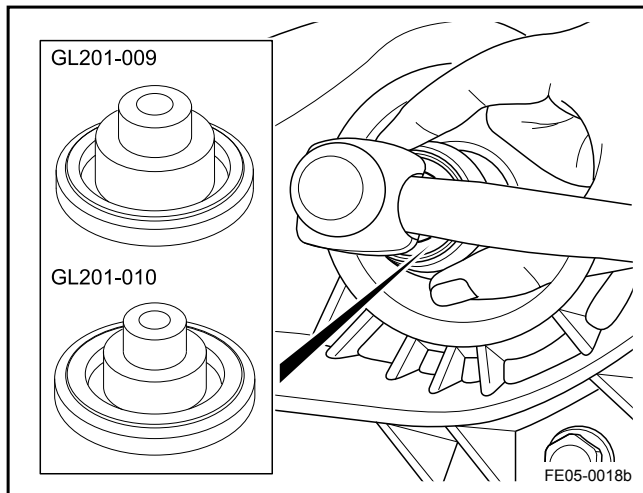
Removal Procedure:

1. Remove the drive shaft from the gearbox. Refer to [5.3.4.1 Drive Shaft Replacement](#).
2. Lever with pry bar outside the lip seals, Remove drive axle seal.

Note

When pry the seal, be careful not to damage the gearbox housing and seals.





Installation Procedure:

1. Using special tools GL201-009, GL201-010 to install the drive shaft seal components.
2. Apply gearbox oil to the drive shaft oil seal component lip.
3. Install the drive shaft.

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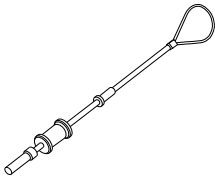
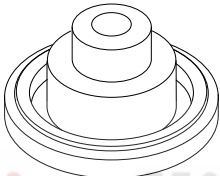
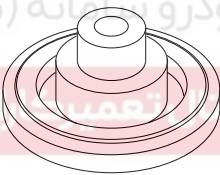
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5.3.5 Special Tools and Equipment

5.3.5.1 Special Tool List

Serial Number	Illustration	Tool Number	Tool Name
1	 FE01-2026b	GL401-002	Drive Shaft Inner Cage Removal Device
2	 FE01-2009b	GL201-009	Differential Clutch Housing Oil Seal Removal Tool
3	 FE01-2010b	GL201-010	Differential Gearbox Housing Oil Seal Removal Tool

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