

PUBLISHED: 28-AUG-2019
2020.0 DEFENDER (LE), 205-03

FRONT DRIVE AXLE/DIFFERENTIAL

DRIVE PINION SEAL (G2415730)

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SPECIAL TOOL(S)



E54135

100-012

Slide Hammer



1504

205-067

Preload Gauge



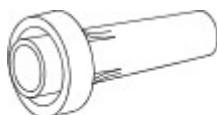
303-1300

Remover, Crankshaft Seal



307-520

Installer, Output Shaft Seal



308246

308-246

Installer, Front Seal



JLR-205-1010

Remover, Bearing



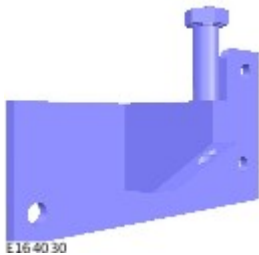
JLR-205-1013

Installer, Bearing



JLR-205-890

Support, Differential



JLR-205-890-2

Pinion Support, Differential Case



E145957

JLR-205-995

Holder, Front Differential Pinion



E145958

JLR-205-996

Remover/Installer, Differential Pinion Nut



E145963

JLR-205-997

Installer, Front Differential Seal

GENERAL EQUIPMENT

EQUIPMENT NAME
Hydraulic press
Workbench with vice

PART(S)

STEP	PART NAME	QUANTITY
Installation Step 1	Rear differential pinion flange kit	1

REMOVAL

CAUTION:

Before disconnecting any components, make sure the area is clean and free from foreign material. When disconnected all openings must be sealed.

NOTE:

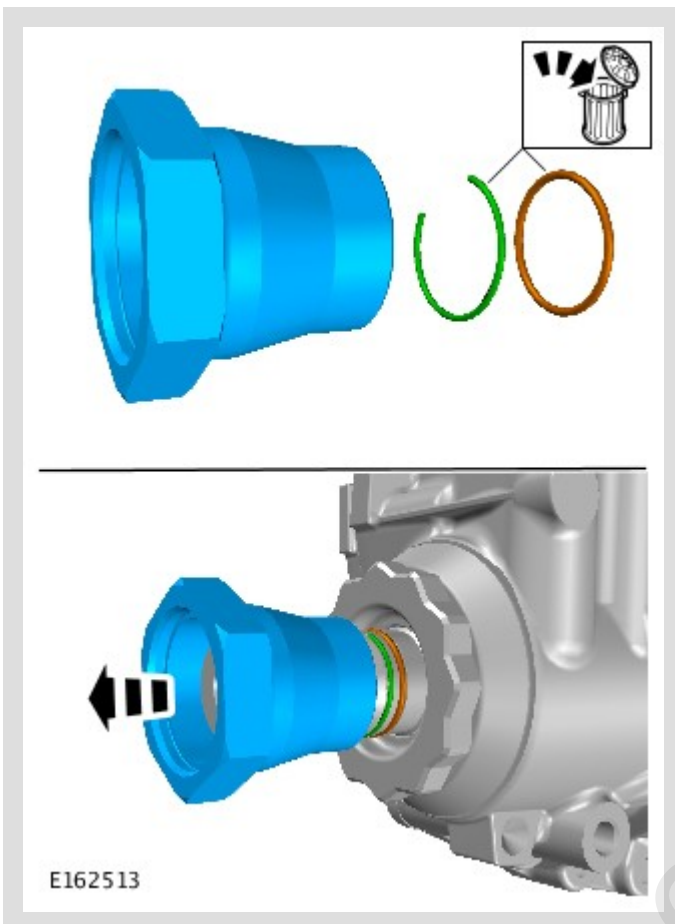
- This procedure contains some variation in the illustrations depending on the vehicle specification, but the essential information is always correct.
- This procedure contains illustrations showing certain components removed to provide extra clarity.

1. Raise and support the vehicle on a suitable 2 post lift.
Refer to: [Jacking and Lifting](#) (100-02 Jacking and Lifting, Description and Operation).

2. Drain the differential.
Refer to: [Differential Draining and Filling](#) (205-03 Front Drive Axle/Differential, General Procedures).

3. Remove the differential.
Refer to: [Differential](#) (205-03 Front Drive Axle/Differential, Removal and Installation).

4.



- Remove the differential nut.
- Remove and discard the drive pinion O-ring seal.
- Remove and discard the drive pinion circlip.

5.



Remove the 14 differential bolts.

6.

⚠ CAUTION:

Be prepared to collect escaping oil.



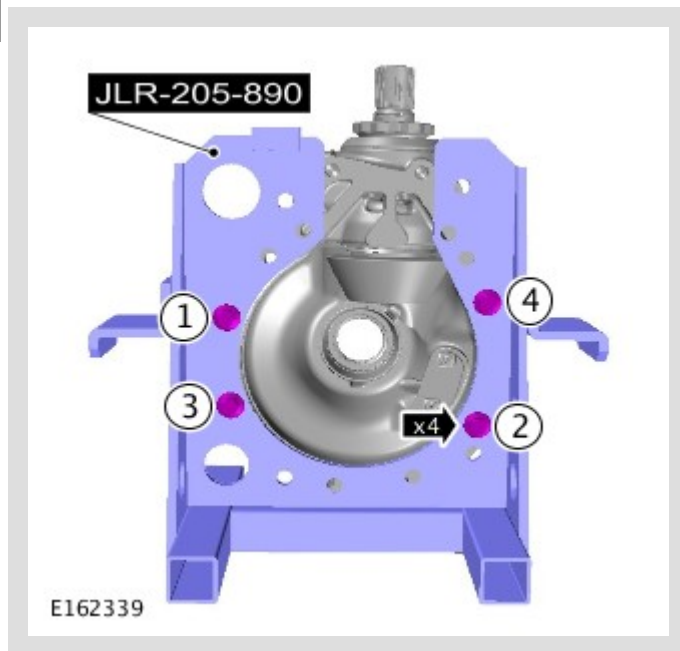
Remove the differential casing.

7.



Remove the crown wheel assembly.

8.



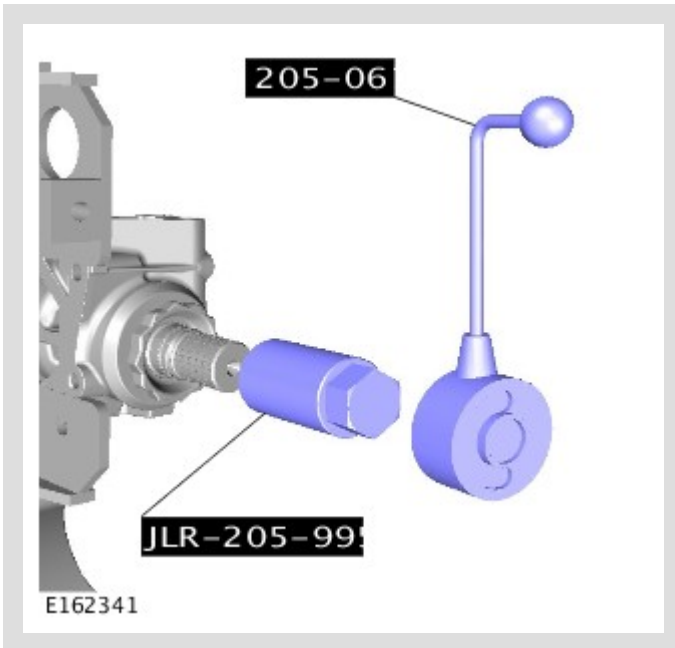
- Install the special tool.
Special Tool(s): [JLR-205-890](#)
- Install and tighten the 4 bolts in the sequence shown.
Torque: 45Nm

9.



Secure the differential casing and special tool in a suitable vice.
General Equipment: [Workbench with vice](#)

10.



- Install the special tools.

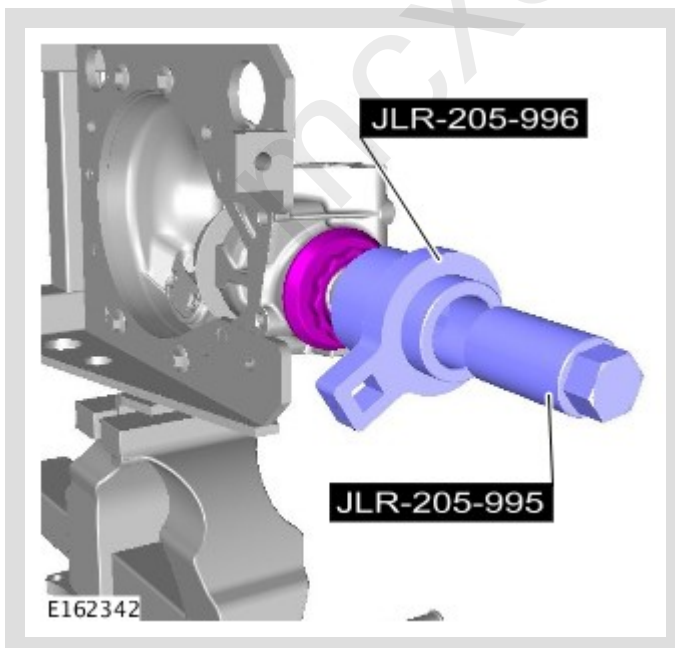
Special Tool(s): 205-067, JLR-205-995

- Check and record the torque required to rotate the drive pinion assembly before disassembling any further.

11.

⚠ CAUTION:

The special tool JLR-205-995 should be rotated clockwise to remove the drive pinion nut.

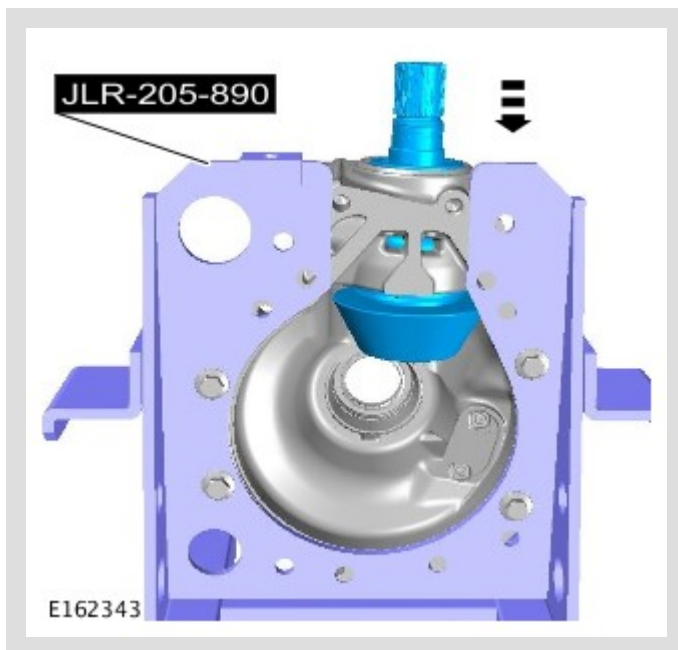


Use the special tools to remove the drive pinion nut.

Special Tool(s): JLR-205-996

⚠ CAUTION:

Damage to the casing may occur if the base plates to support the special tool on the press are not used.



Use a suitable press to remove the drive pinion shaft.

Special Tool(s): [JLR-205-890](#)

General Equipment: [Hydraulic press](#)

**WARNING:**

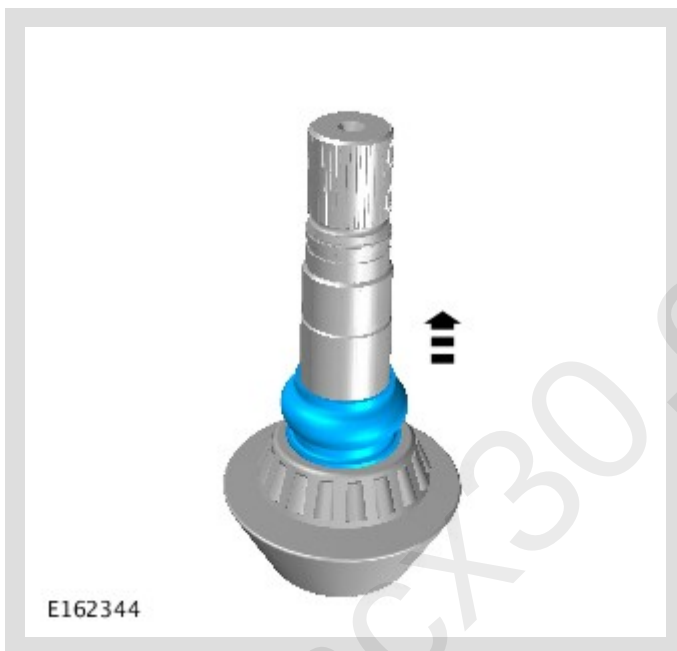
- Do not handle the head bearing.
- Do not clean or degrease the head bearing.

**CAUTION:**

Check the drive pinion assembly and bearing for any damage.

**NOTE:**

Make sure to clean the threads prior to installation using Loctite cleaner 7200.

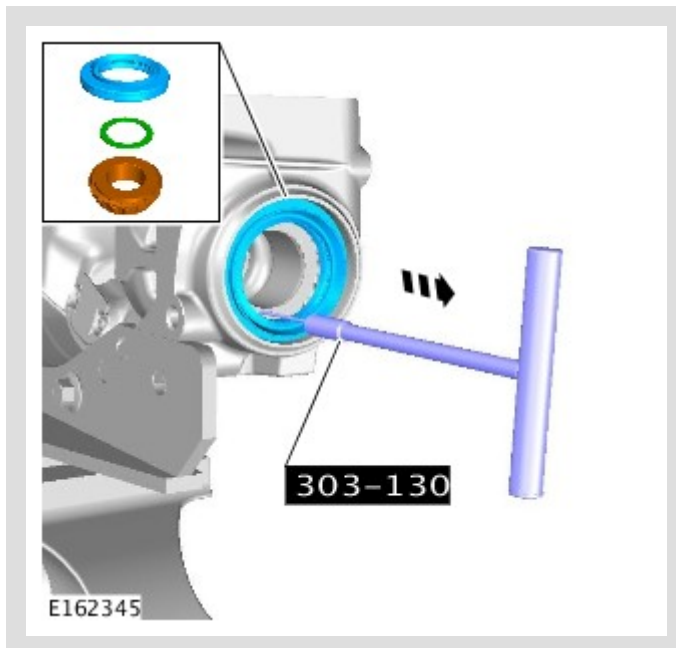


Remove and discard the drive pinion spacer.

14.

⚠ CAUTION:

Make sure the drive pinion seal recess is not damaged as the seal is removed.



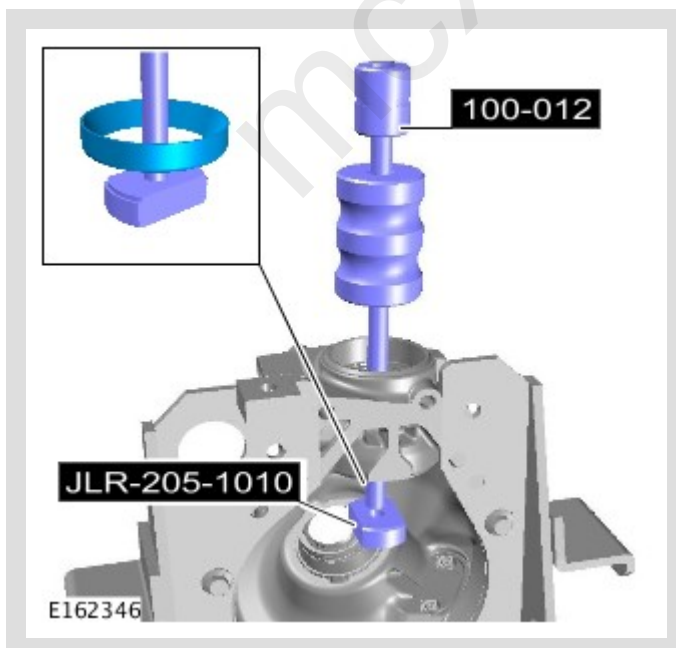
Use the special tool to remove and discard the drive pinion seal, tail bearing thrust washer and tail bearing.

Special Tool(s): [303-1300](#)

15.

⚠ WARNING:

Check special tool for any damage before removing the drive pinion tail bearing outer race.



Use the special tools to remove the pinion drive tail bearing outer race.

Special Tool(s): [100-012](#), [JLR-205-1010](#)

 CAUTION:

It is essential that absolute cleanliness is observed when working on the front differential. Always cover any open orifices using lint free non-flocking material to prevent the ingress of foreign matter. Failure to follow this instruction may result damage to the components.

 NOTE:

Inspect the drive pinion tail bearing outer race carrier for damage.

Use Loctite cleaner 7200 to thoroughly clean the differential casings.

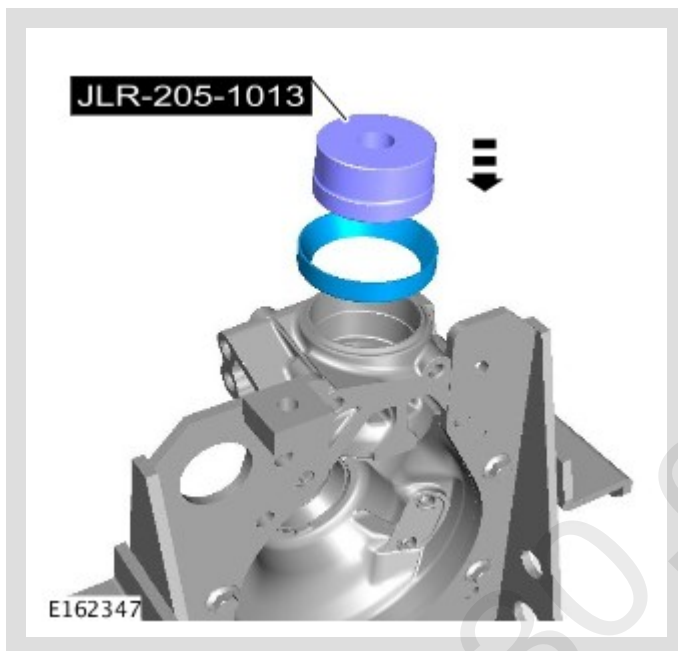
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INSTALLATION

1.

⚠ CAUTION:

Do not clean or lubricate the new drive pinion tail bearing, as it is supplied coated with a low friction oil. Failure to follow this instruction will require a new drive pinion tail bearing to be installed before the differential can be successfully assembled.



use the special tool and a suitable hydraulic press to install the new drive pinion tail bearing outer race.

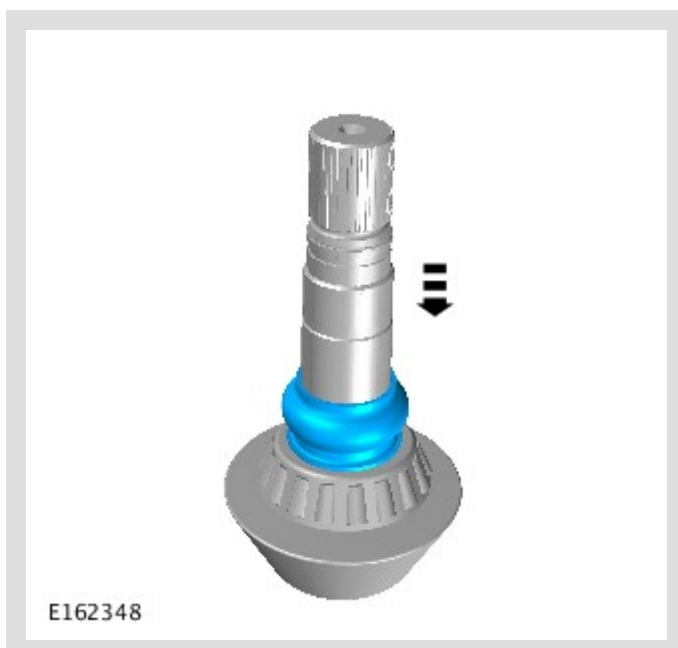
Special Tool(s): [JLR-205-1013](#)

Renew Part: [Rear differential pinion flange kit](#) Quantity: 1.

2.

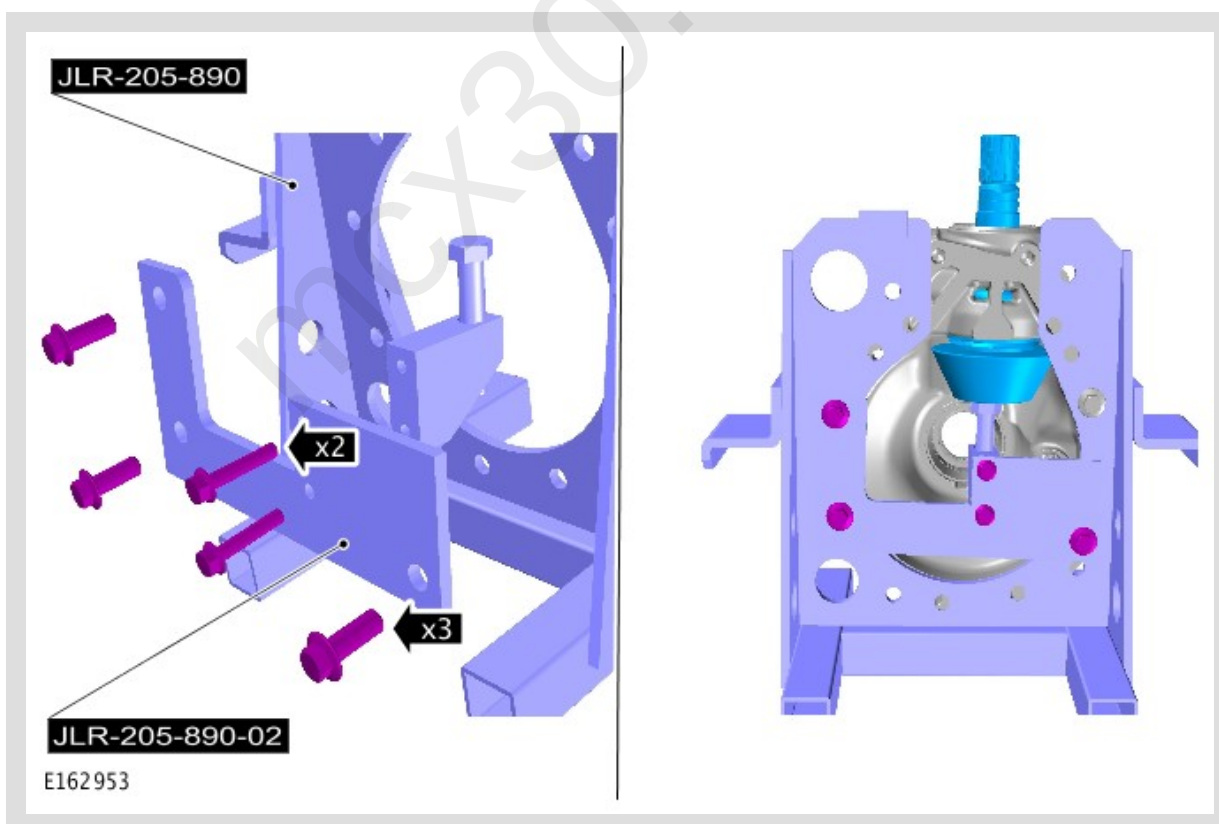
NOTE:

Make sure to clean the threads prior to installation using Loctite cleaner 7200.



Install the new drive pinion spacer.

3.



Install the special tool onto the differential casing and tighten the 5 bolts.

Special Tool(s): [JLR-205-890-2](#), [JLR-205-890](#)

Torque: **45Nm**

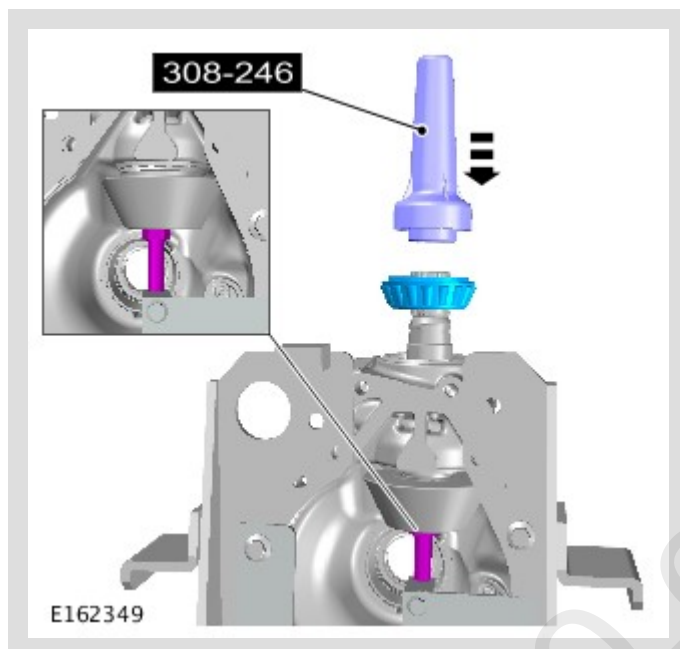
4.

⚠ CAUTION:

Check the drive pinion assembly is secure before installing the drive pinion tail bearing.

⚠ NOTE:

Make sure to clean the threads prior to installation using Loctite cleaner 7200.



Use the special tool and suitable hydraulic press to install the new drive pinion tail bearing.

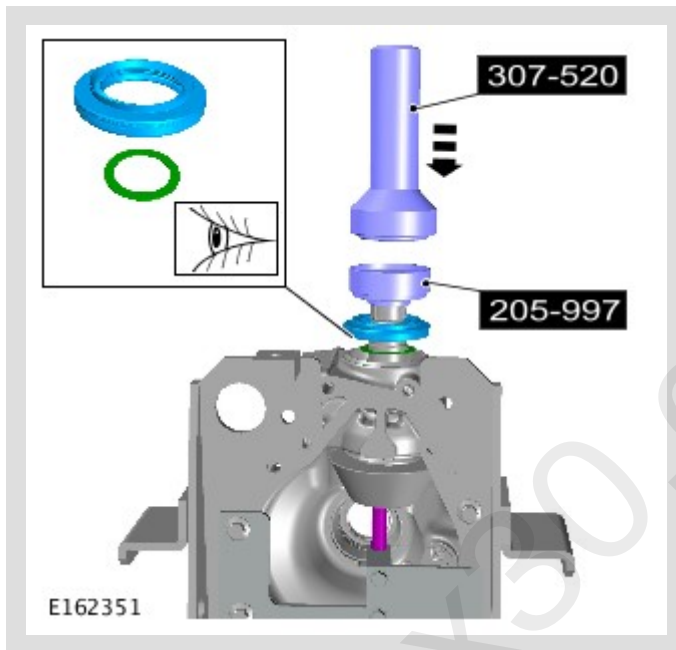
Special Tool(s): [308-246](#)

⚠ CAUTIONS:

- Check the special tool for damage before installing the new seal.
- Check the special tool is clean and free from foreign material.
- Do not lubricate the drive pinion oil seal.

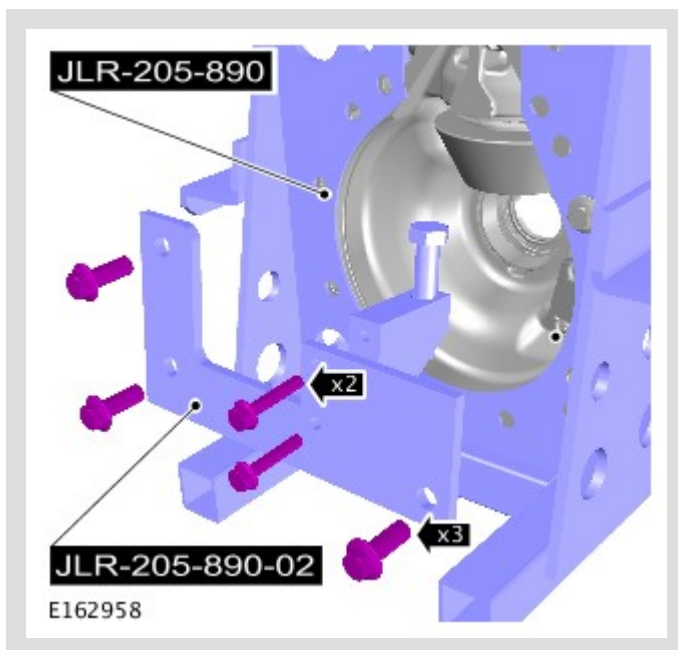
⚠ NOTES:

- Use the special tool to secure the drive pinion assembly.
- Install the new drive pinion tail bearing thrust washer.



Use the special tool and a suitable hydraulic press to install the new drive pinion seal.

Special Tool(s): [307-520](#), [JLR-205-997](#)

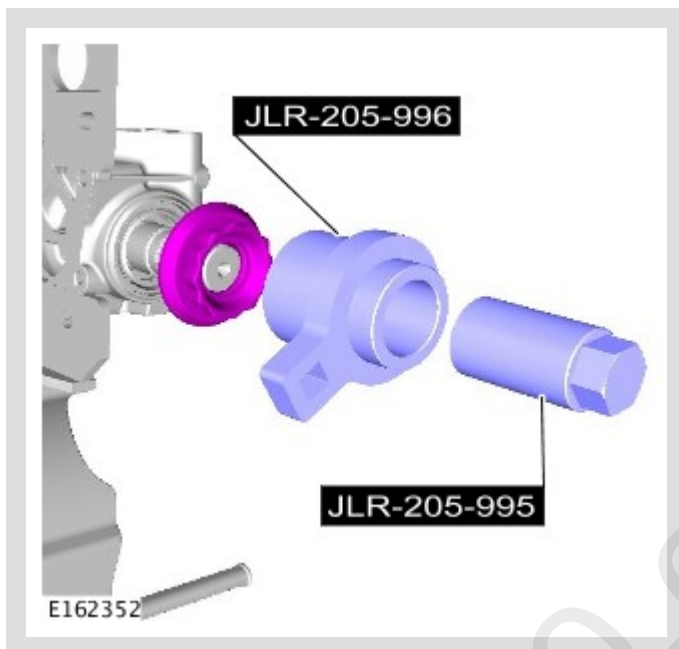


- Remove the 5 bolts.
- Remove the special tools.

Special Tool(s): [JLR-205-890](#), [JLR-205-890-2](#)

ⓘ CAUTION:

- The special tool JLR-205-995 should be rotated counter clockwise to install the new drive pinion shaft nut.
- Do not use air tools to install the nut. Failure to follow this instruction may result in damage to the component.

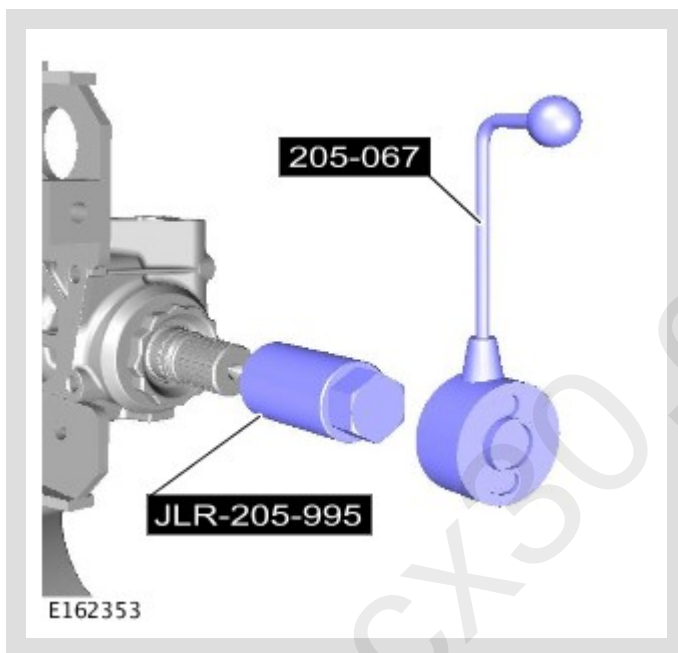


- Apply Loctite 243 to the drive pinion shaft threads.
- Use the special tools to install the new drive pinion nut. Tighten the nut until the collapsible spacer begins to collapse.

Special Tool(s): [JLR-205-996](#), [JLR-205-995](#)

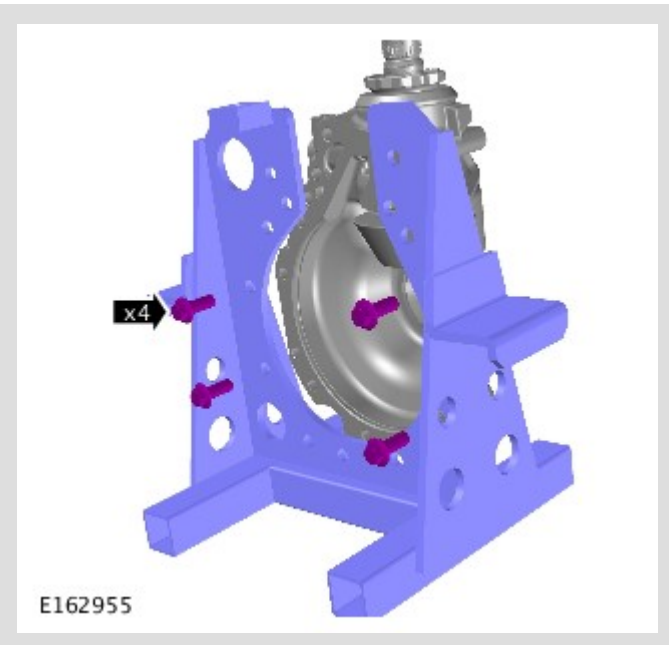
ⓘ CAUTIONS:

- The special tool should be rotated at a constant steady speed to produce a consistent reading.
- The drive pinion shaft should be rotated through two full revolutions by hand before the torque measurement is performed.
- Make sure the specified torque to rotate the drive pinion shaft is not exceeded. If excess preload is applied to the joint the drive pinion shaft should be removed and a new collapsible spacer, drive pinion tail bearing, bearing cup and flange nut must be installed.
- The special tool 205-067 should be turned clockwise to check the torque to rotate.



- Check the torque required to rotate the drive pinion nut. The specified torque is the torque to rotate figure recorded in step 9 of the removal process + 0.45 Nm.
- If the specified torque to rotate the pinion is not reached, tighten the drive pinion flange nut in one degree increments and check the rotational torque after each until the specified torque is achieved.

9.



- Remove the 4 bolts.
- Remove the special tool.

10.



Install the crown wheel assembly.

11.

⚠ WARNING:

Clean the bolt holes to remove any sealant and make sure the bolts threads are clean.

⚠ CAUTION:

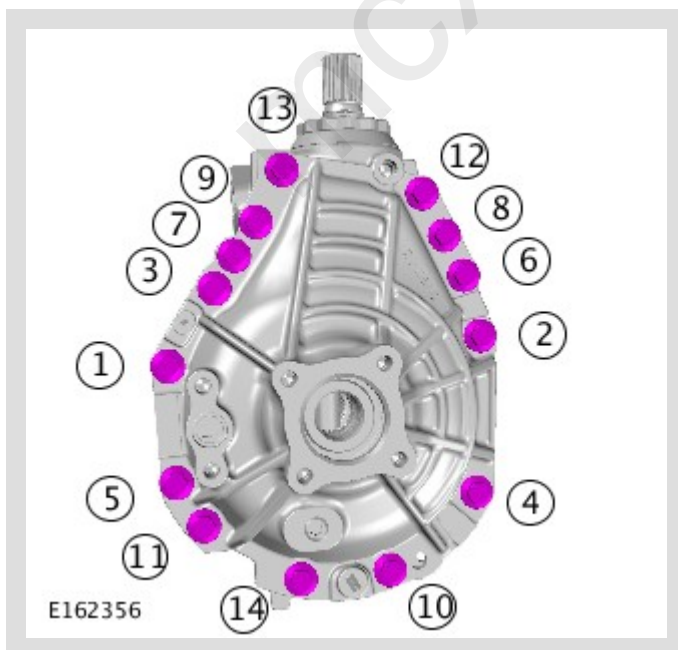
Using Loctite cleaner 7200 thoroughly clean the mating faces, before the sealant is applied.



Apply a 3 mm bead of sealant STC50550 to the areas shown.

Refer to: [Specifications](#) (205-03 Front Drive Axle/Differential, Specifications).

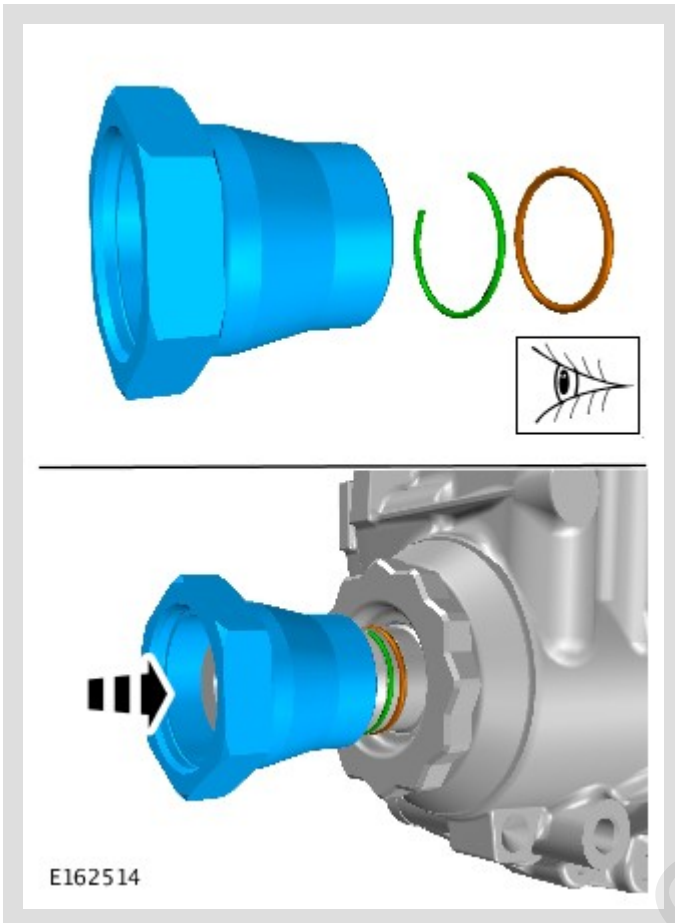
12.



Install and tighten the differential casing bolts in the sequence shown.

Torque: 123Nm

13.



- Install a new drive pinion O-ring seal.
- Install a new drive pinion circlip.

14. Install the front differential.

Refer to: [Differential](#) (205-03 Front Drive Axle/Differential, Removal and Installation).

15. Fill the front differential.

Refer to: [Differential Draining and Filling](#) (205-03 Front Drive Axle/Differential, General Procedures).