

Rear Drive Axle/Differential - Drive Pinion Front Bearing

Removal and Installation

Removal

1. Raise and support the vehicle.

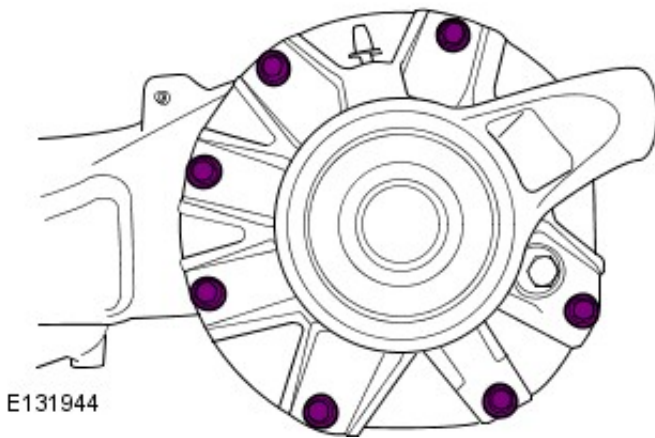
2. Drain the differential fluid.

Refer to: [Differential Draining and Filling](#) (205-02 Rear Drive Axle/Differential, General Procedures).

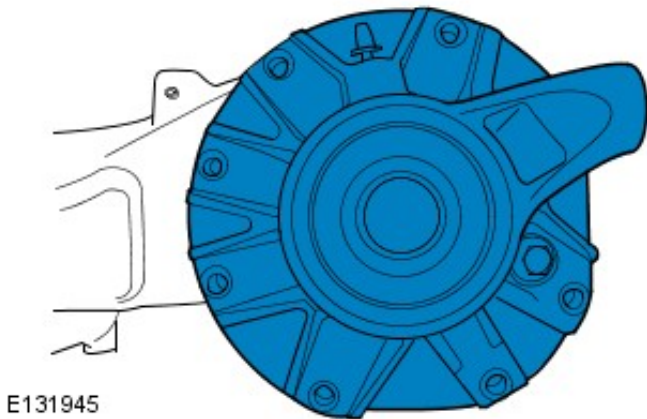
3. Remove the rear differential.

Refer to: [Differential Case](#) (205-02 Rear Drive Axle/Differential, Removal and Installation).

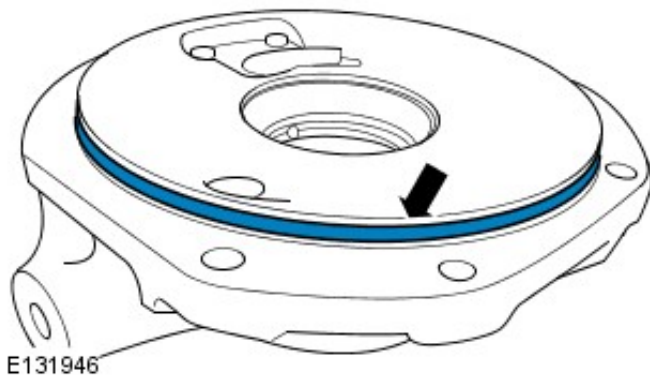
4. Remove the differential casing bolts.



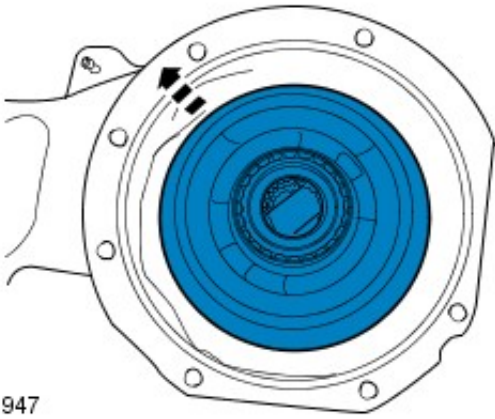
5. Remove the differential case.



6. Remove and discard the differential case seal.

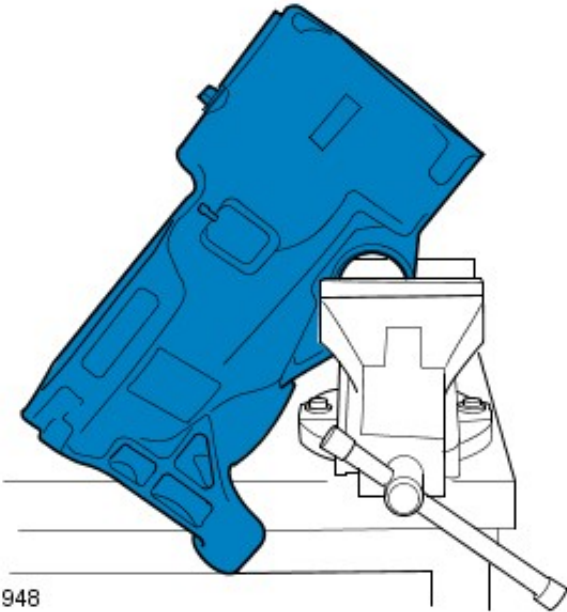


7. Remove the crown wheel assembly.




E131947

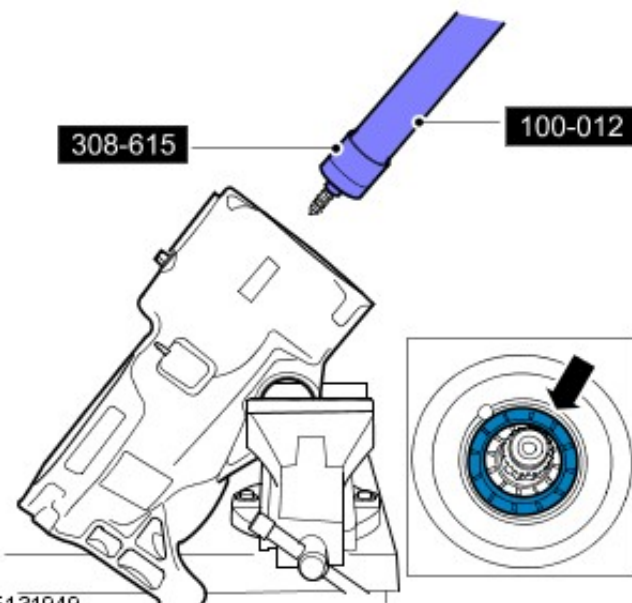
8. Position the differential assembly in a suitable vice as shown.



E131948


9.  **CAUTION:** Make sure the pinion seal recess is not damaged as the seal is removed.

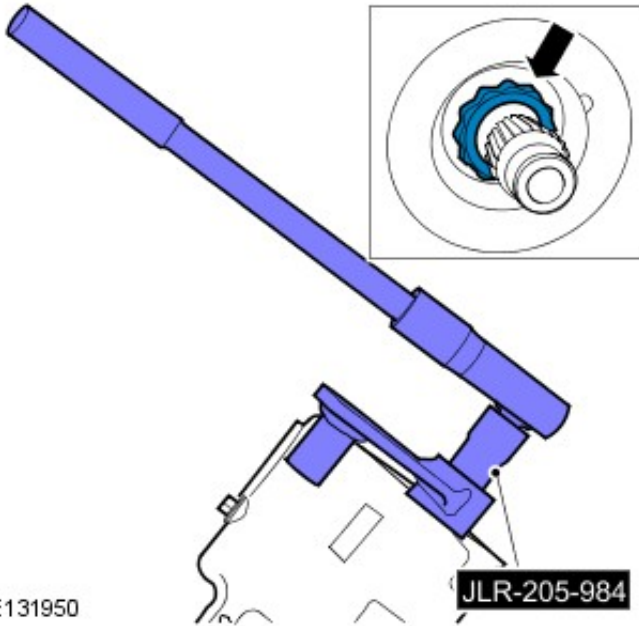
Using the special tool remove the pinion shaft oil seal.




E131949

10.  **WARNING:** High torque application.

 **CAUTION:** Do not use air tools or heat to remove the nut (as this could contaminate the head bearing). Failure to follow this instruction may result in damage to the component.



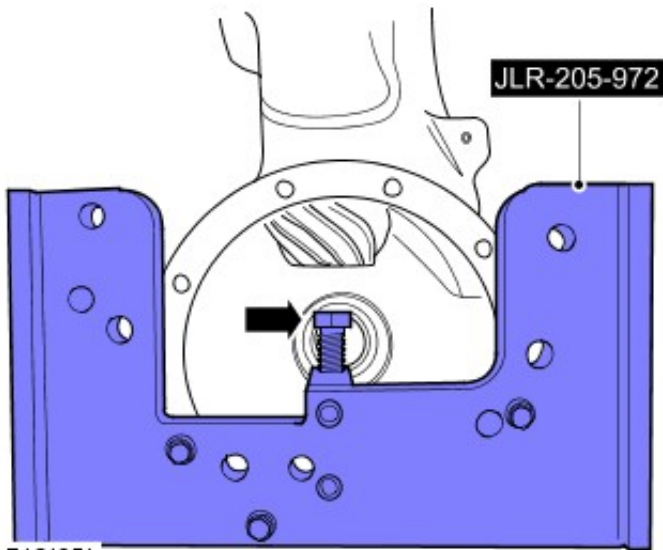
E131950

 **NOTE:** The special tool should be turned clockwise to remove the pinion shaft nut.

Using the special tools remove the pinion shaft nut.


11.

- Secure the differential casing to the special tool.
- Position the support bolt to its lowest setting.

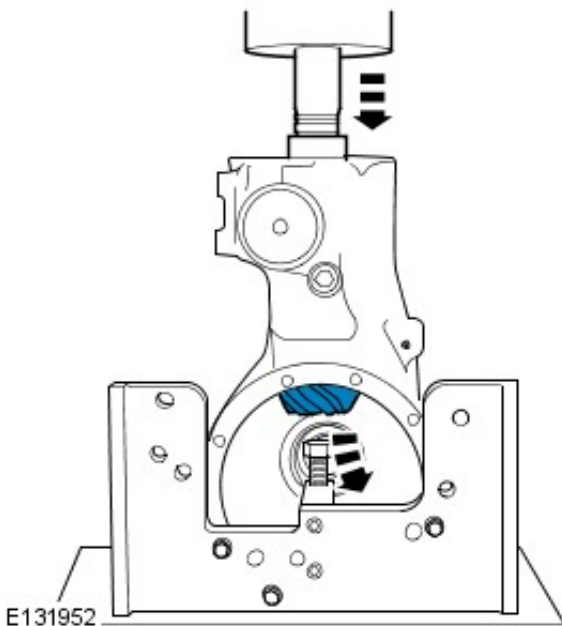


E131951

12.

 **CAUTION:** Twisting or damage to the casing may occur if the base plates to support the jig on the press are not used.

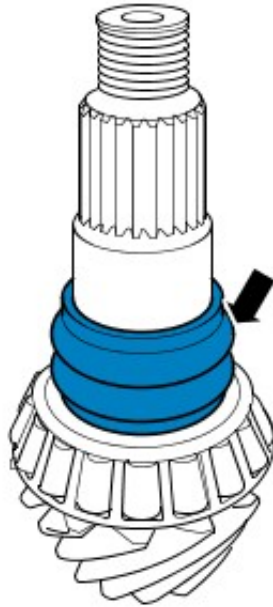
Using a suitable press remove the differential pinion shaft.



E131952

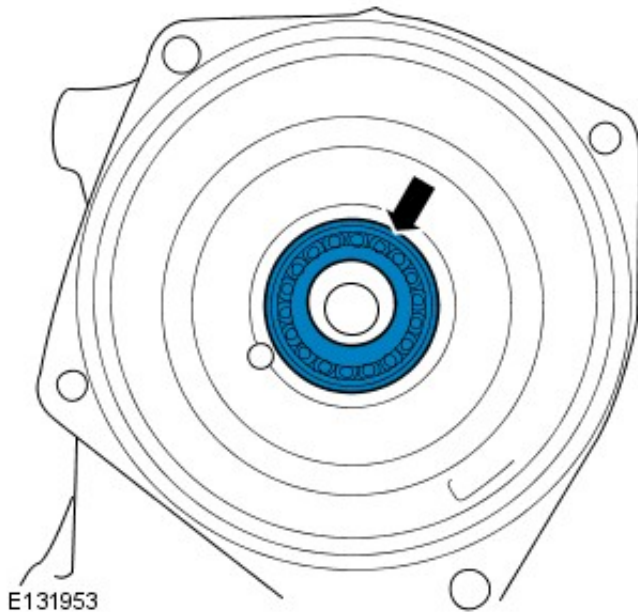
13. Remove and discard the pinion shaft collapsible

spacer.



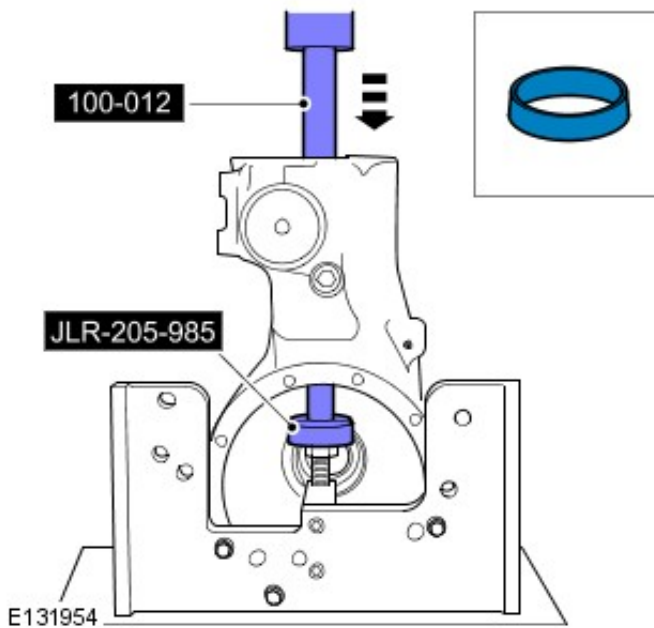
E131656

14. Remove the tail bearing inner race.




E131953

15. Using the special tools remove the pinion shaft tail bearing outer race.

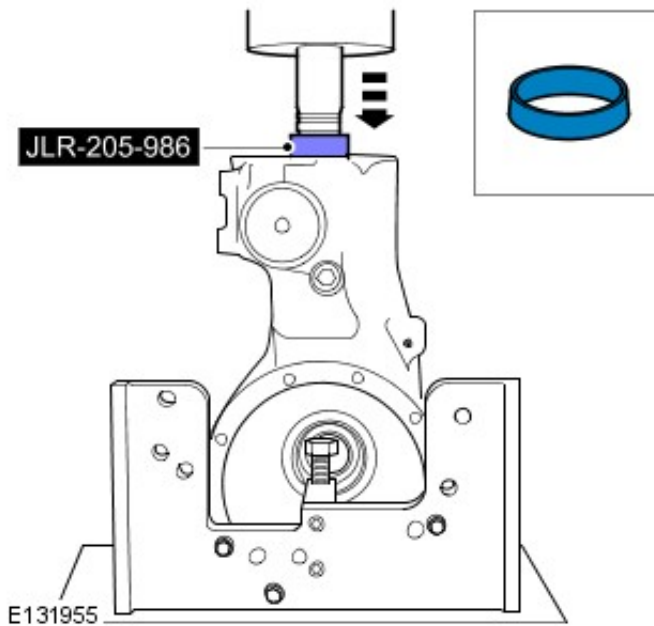



E131954

16.  **CAUTION:** It is essential that absolute cleanliness is observed when working on the rear 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.

- Remove the differential from the supporting tool.
- Thoroughly clean the pinion shaft paying particular attention to the thread.
- Using a suitable cleaning fluid thoroughly clean the differential casings.

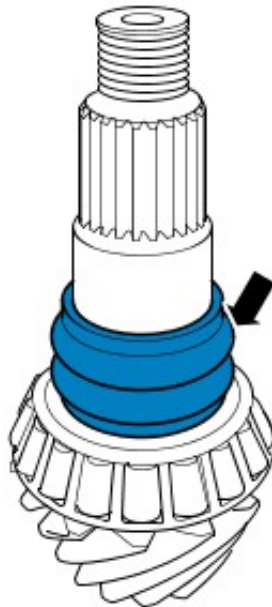
Installation



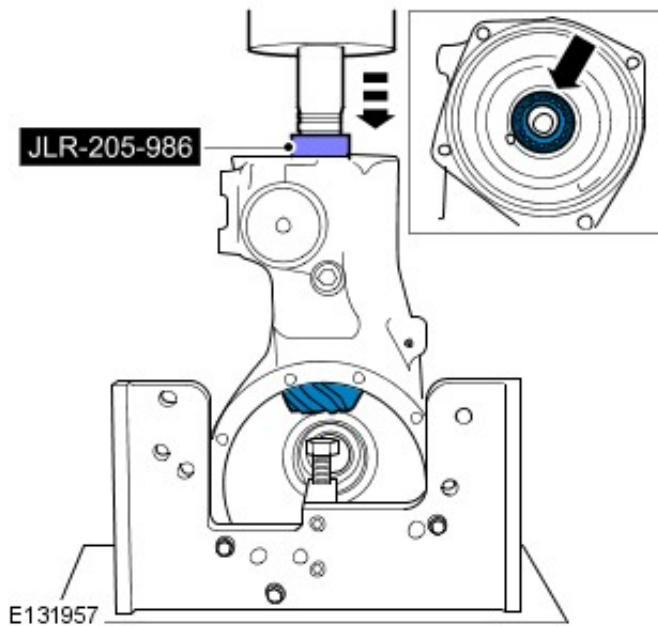
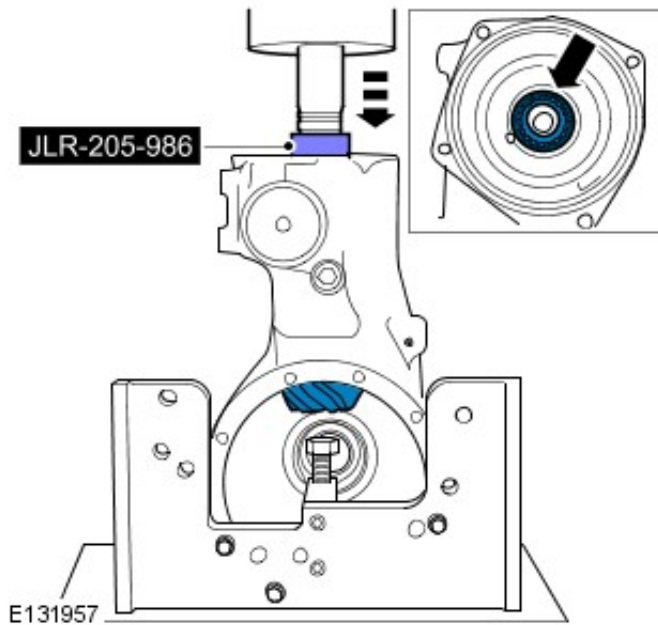
1.  **CAUTION:** Do not clean or lubricate the new pinion shaft tail bearing, as it is supplied coated with a low friction oil. Failure to follow this instruction will require the pinion shaft tail bearing to be replaced before the differential can be successfully assembled.


- Secure the differential casing to the special tool.
- Using a suitable press and the special tool install the pinion shaft tail bearing outer race.

2. Install the new pinion shaft spacer.



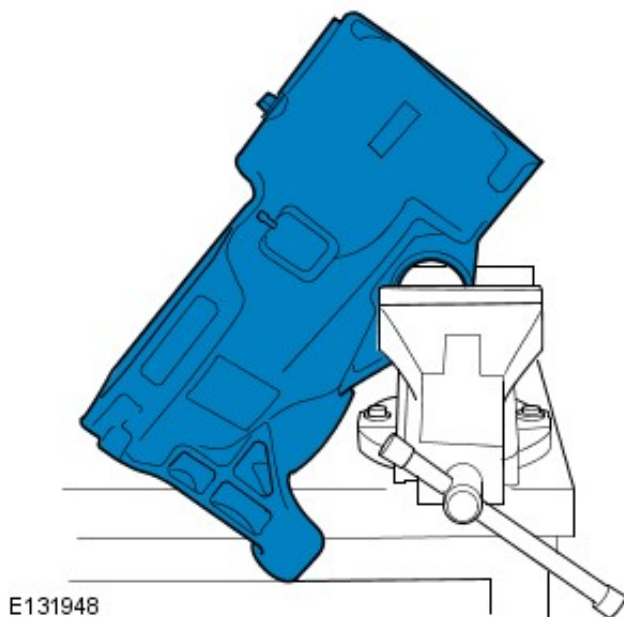
- 3.
- Install the pinion shaft to the differential case.
 - Lubricate the pinion head bearing with differential oil.
 - Position the support bolt to its highest setting.

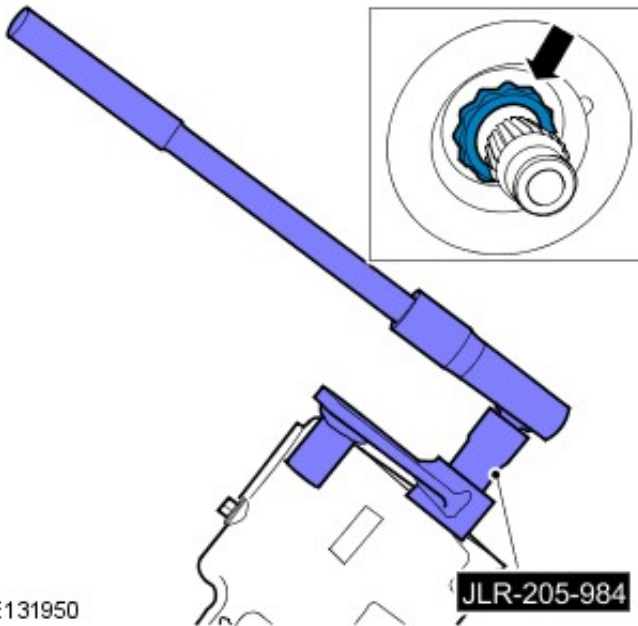


4.  **CAUTION:** Do not clean or lubricate the new pinion shaft tail bearing, as it is supplied coated with a low friction oil. Failure to follow this instruction will require the pinion shaft tail bearing to be replaced before the differential can be successfully assembled.

Using a suitable press and the special tool install the pinion shaft tail bearing inner race.

- 5.
- Position the differential assembly in a suitable vice as shown.
 - Remove the differential from the supporting tool.








E131950

6.  **WARNING:** High torque application.

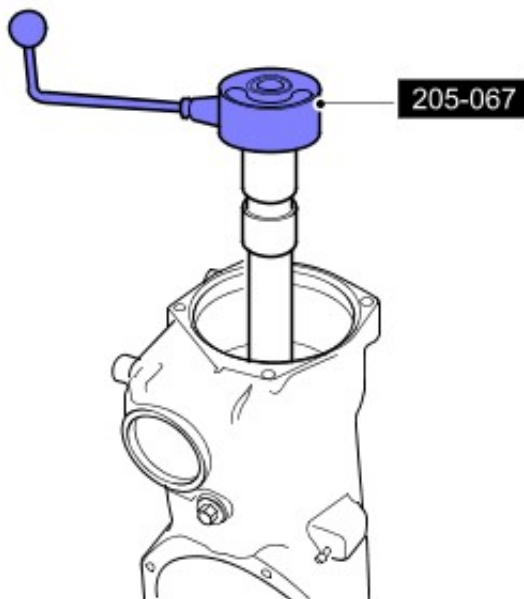
CAUTIONS:

 The special tool should be turned counter clockwise to install the pinion shaft nut.

 Do not use air tools to install the nut. Failure to follow this instruction may result in damage to the component.


 **NOTE:** 250 Nm (184 lb.ft) is the minimum torque requirement to begin collapsing the pinion shaft spacer.


- Using the special tools install the new pinion nut.
- Tighten to 250 Nm (184 lb. ft).




E131959


7. **CAUTIONS:**

 Make sure the specified torque to rotate the pinion shaft is not exceeded. If excess preload is applied to the joint the pinion shaft should be removed and a new collapsible spacer, pinion shaft tail bearing, pinion shaft tail bearing cup and pinion nut must be installed.

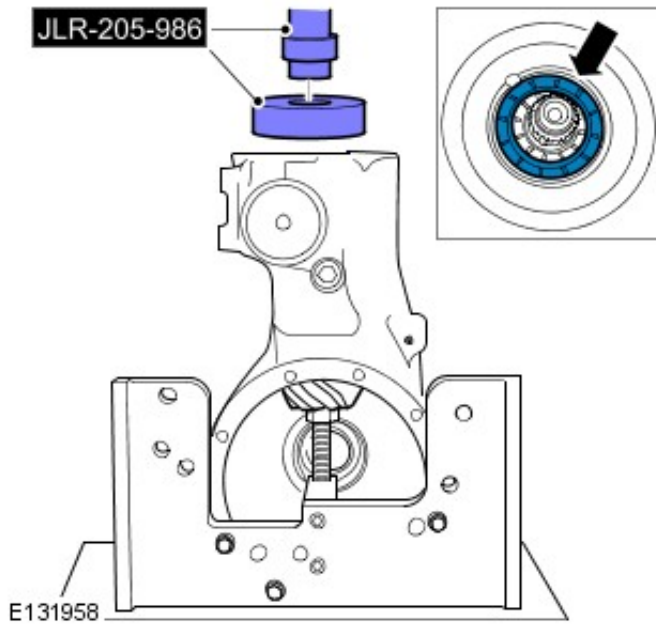
 The special tool should be rotated at 60 rpm (1x revolution per second) to produce a consistent reading.

 The pinion shaft should be rotated through two full revolutions by hand before the torque measurement is performed.

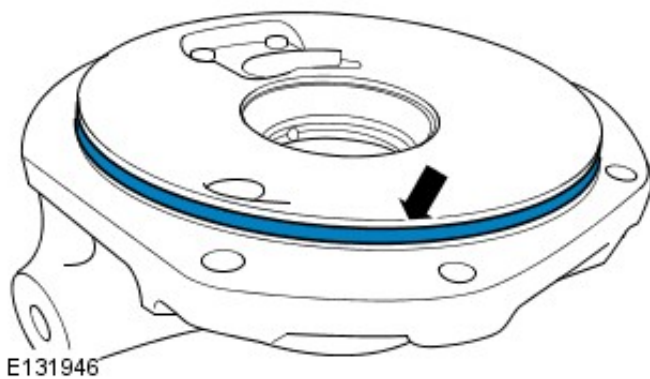
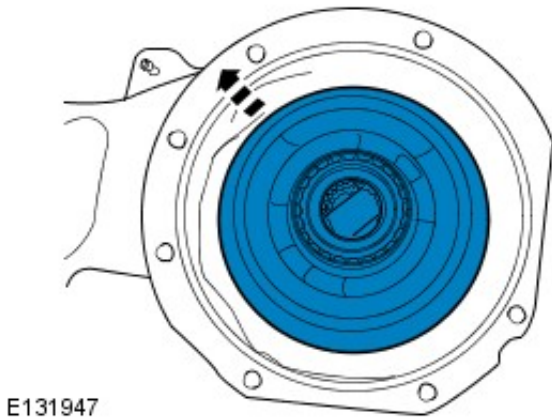
- Using the special tool, check the torque required to rotate the pinion shaft. The specified torque is 1.1 Nm +/- 0.2 Nm
- If the specified torque to rotate the pinion shaft is not reached, using the special tools, tighten the pinion flange nut in one degree increments and check the rotational torque after each until the specified torque of 1.1 Nm +/-0.2 Nm is achieved.

8.  **CAUTION:** Do not lubricate the pinion oil seal.


Using a suitable press, the special tool and adapter install the pinion bearing oil seal.




9. Install the crown wheel assembly.



10. CAUTIONS:

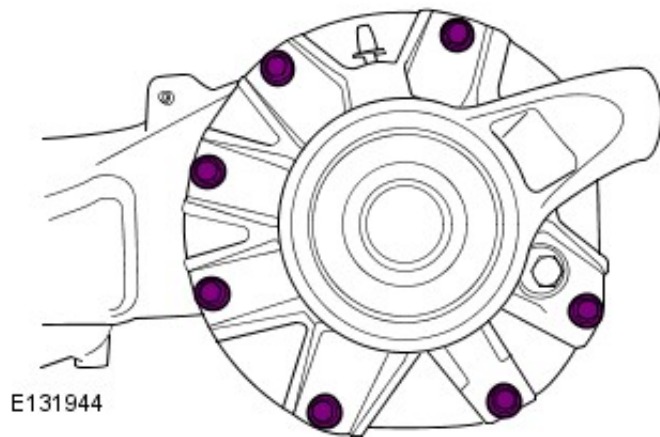
 Make sure the mating faces are clean, failure to follow this instruction may result in damage to the differential.

 Make sure the new seal is not twisted when fitting, failure to follow this instruction may result in damage to the differential.

- Install the differential case seal.
- Apply a thin amount of clean differential oil to the new differential casing seal.

11.

- Install the differential casing bolts.
- Tighten the 7 bolts to 29 Nm.



12. Install the rear differential.

Refer to: [Differential Case](#) (205-02 Rear Drive Axle/Differential, Removal and Installation).

13. Fill the differential case with fluid.

Refer to: [Differential Draining and Filling](#) (205-02 Rear Drive Axle/Differential, General Procedures).