

# TECHNICAL INFORMATION



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 FGN 205-03  
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## Revised Time and Procedure for Front Differential Installation

### AFFECTED VEHICLE RANGE:

Discovery Series II (LT)

All

### SITUATION:

#### METHODS STUDY PROVIDES WORK EFFICIENCIES

Methods engineers at Land Rover have recently studied the service process for renewal of the front differential assembly for Discovery II models. Significant process changes have been made.

### RESOLUTION:

#### REVISED LABOR TIME AND PROCEDURE

The changes, detailed below, refine and improve the process and allow the operation to be carried out more efficiently. Additionally, the original process timing contained a calculation error. Changes:

- A step to release track rod ball joint from steering arm has been added
- Timing for front differential securing bolts has been corrected

Should it become necessary to remove a front differential assembly on a Discovery II, please refer to the procedure detailed in this bulletin.

### PARTS INFORMATION:

Refer to Microcat for appropriate parts for the repair

### TOOLS

- LRT-54-013.....Track rod end removal tool
- LRT-51-018.....Oil seal installer
- LRT-99-003.....Oil seal installer

### DDW WARRANTY CLAIMS:



**NOTE:** Repair procedures are under constant review, and therefore times are subject to change; those quoted here must be taken as guidance only. Always refer to DDW to obtain the latest repair time. Repair time 54.10.01 has been adjusted from 2.20 hours to 2.00 hours.

DDW requires the use of causal part numbers. Labor only claims must show the causal part number with a quantity of zero.

Description	SRO	Time (Hours)	Condition Code	Causal Part
Replace Front Differential	54.10.01	2.00		

Normal warranty policy and procedures apply.

**NOTE:** The information in Technical Information bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment required to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers."  
 If you are not a Retailer, do not assume that a condition described affects your vehicle. Contact an authorized Land Rover service facility to determine whether the bulletin applies to a specific vehicle.

TIB	CIRCULATE:	Service Mgr	Warranty	Workshop	Body Shop	Parts
54/03/05/NAS	TO	X	X	X	X	X

## REPAIR PROCEDURE

### DIFFERENTIAL REMOVAL

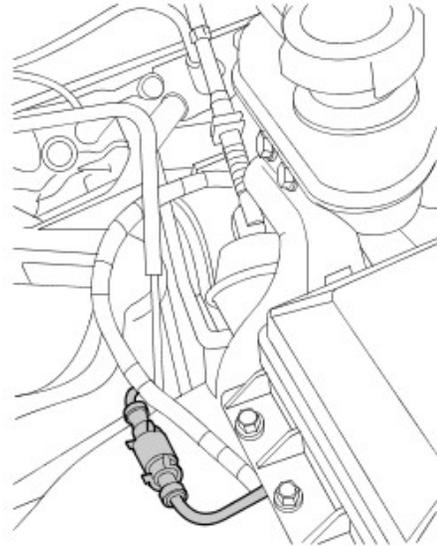
1. Position the vehicle on a suitable lift.
2. Release and disconnect both front ABS sensor electrical connectors. (Figure 1)
3. Raise vehicle on lift.
4. Raise the front of vehicle, support the chassis with axle stands and allow front axle to hang.
5. Remove the front road wheels.
6. Position a suitable container and drain the oil from the differential.
7. Release the front anti-lock braking system (ABS) sensor harness from the brake hoses and brackets. (Figure 2)



**CAUTION: Do not allow brake calipers to hang on the brake flexible hose.**

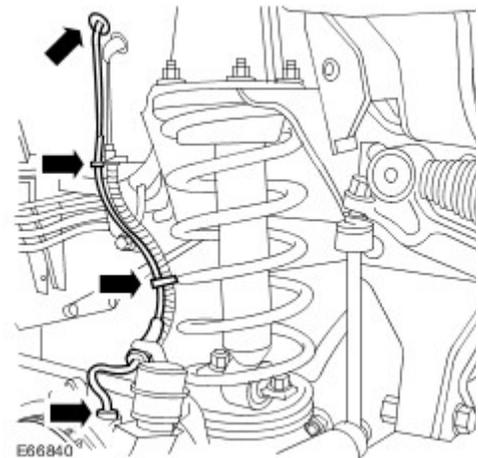
8. Remove the front brake discs.
9. Remove the four bolts securing each front wheel hub to the front axle. (Figure 3)
10. Release the wheel hubs from the front axle.
11. Remove the wheel hubs and drive shafts from the front axle.
12. Remove and discard the oil seal from the axle casing. (Figure 4)

Figure 1



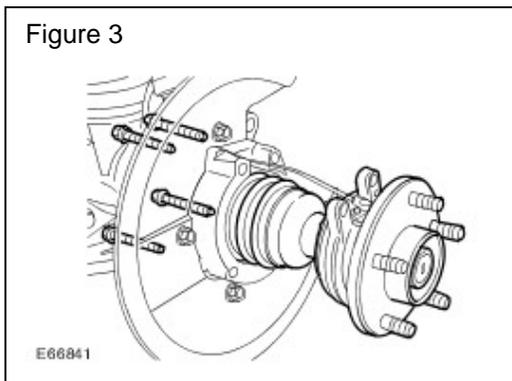
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Figure 2



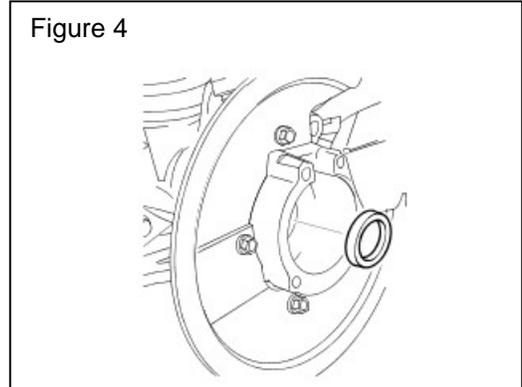
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Figure 3



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Figure 4



13. Remove and discard the nut securing the track rod ball joint to the steering arm. (Figure 5)
14. Using special tool, LRT-57-018, separate the taper joint and release the track rod from steering arm. (Figure 6)
15. Reference mark the propeller shaft and differential flange to aid reassembly. (Figure 7)
16. Remove the four nuts and bolts securing the propeller shaft to the differential.
17. Release the propeller shaft and secure aside.



**WARNING: The differential assembly is a heavy item. Suitable lift equipment should be used to avoid injury.**

18. Remove the ten bolts securing the differential to the axle casing. (Figure 8)
19. Release and remove differential from axle casing.

Figure 5

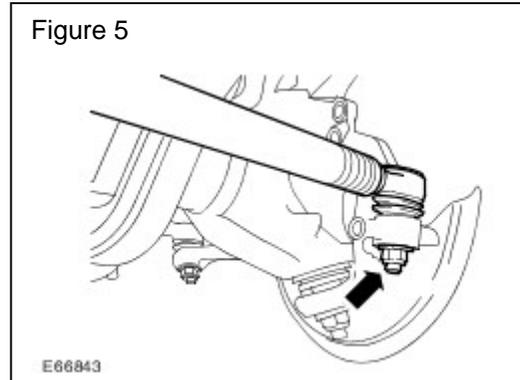


Figure 6

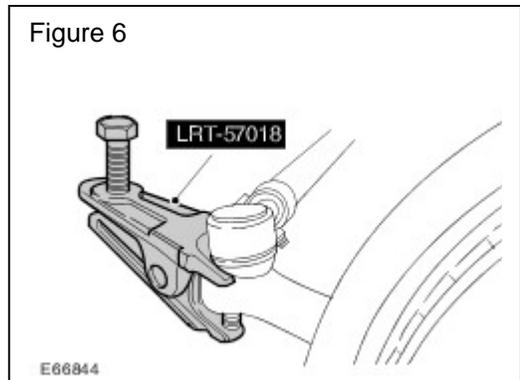


Figure 7

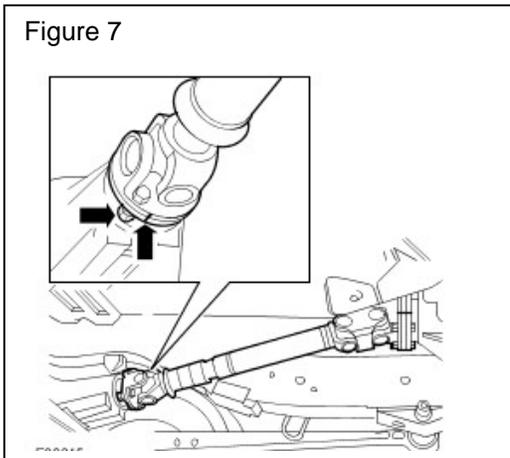
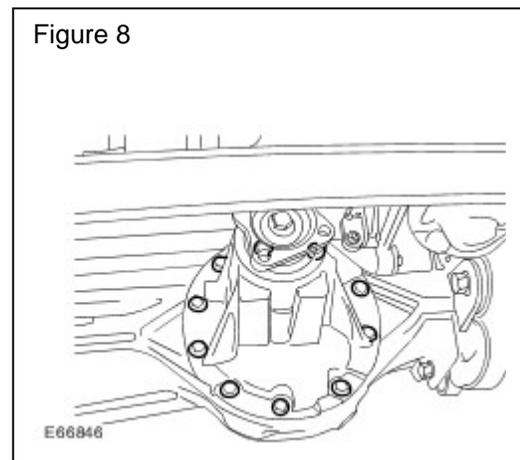


Figure 8



## INSTALL REPLACEMENT DIFFERENTIAL

1. Clean the differential and axle case mating faces.
2. Apply sealant STC3811 (Hylomar 101) to the differential and axle mating faces.
3. Apply sealant STC50552 (Loctite 248) to the threads of the differential securing bolts.
4. With assistance, carefully install the differential assembly and tighten the bolts to **55 Nm (41 lb-ft)**.
5. Position the propeller shaft and align the reference marks. Install the nuts and bolts and tighten to **47 Nm (35 lb-ft)**.
6. Install a new track rod and tighten to **40 Nm (30 lb-ft)**.
7. Clean the drive shaft oil seal recess in the axle casing.



**CAUTION: Oil seal must be installed dry.**

8. Position the new oil seal with the metal part of the seal facing towards the installation tool.



**CAUTION: The seal must be correctly installed.**

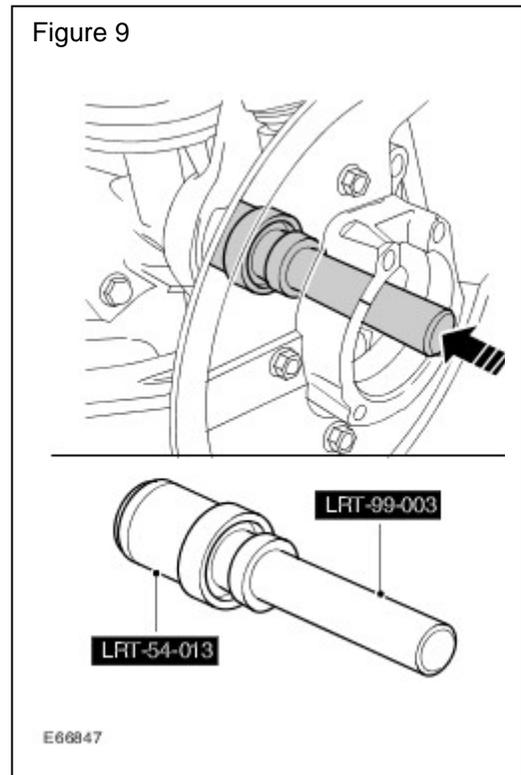
9. Using special tool LRT-54-013 and LRT-99-003, install the new drive shaft oil seal to the axle casing. (Figure 9)
10. Apply anti-seize compound to the wheel hub and axle mating faces.



**CAUTION: Care should be taken to avoid damage to the oil seal recess.**

11. Install the drive shaft and wheel hub to the axle casing and align the wheel hub with the steering knuckle.
12. Install the wheel hub bolts and tighten to **100 Nm (74 lb-ft)**.
13. Install the front brake discs.
14. Connect the front ABS sensor harness and secure the harness to the brake hose bracket and brake hose.
15. Install the front road wheels and tighten nuts to **140 Nm (103 lb-ft)**.
16. Remove the support stands and lower the front end of vehicle.
17. Fill the differential with the correct specification oil.
18. Lower the vehicle.
19. Connect and secure both front ABS sensor connectors.

Figure 9



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