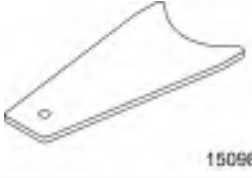


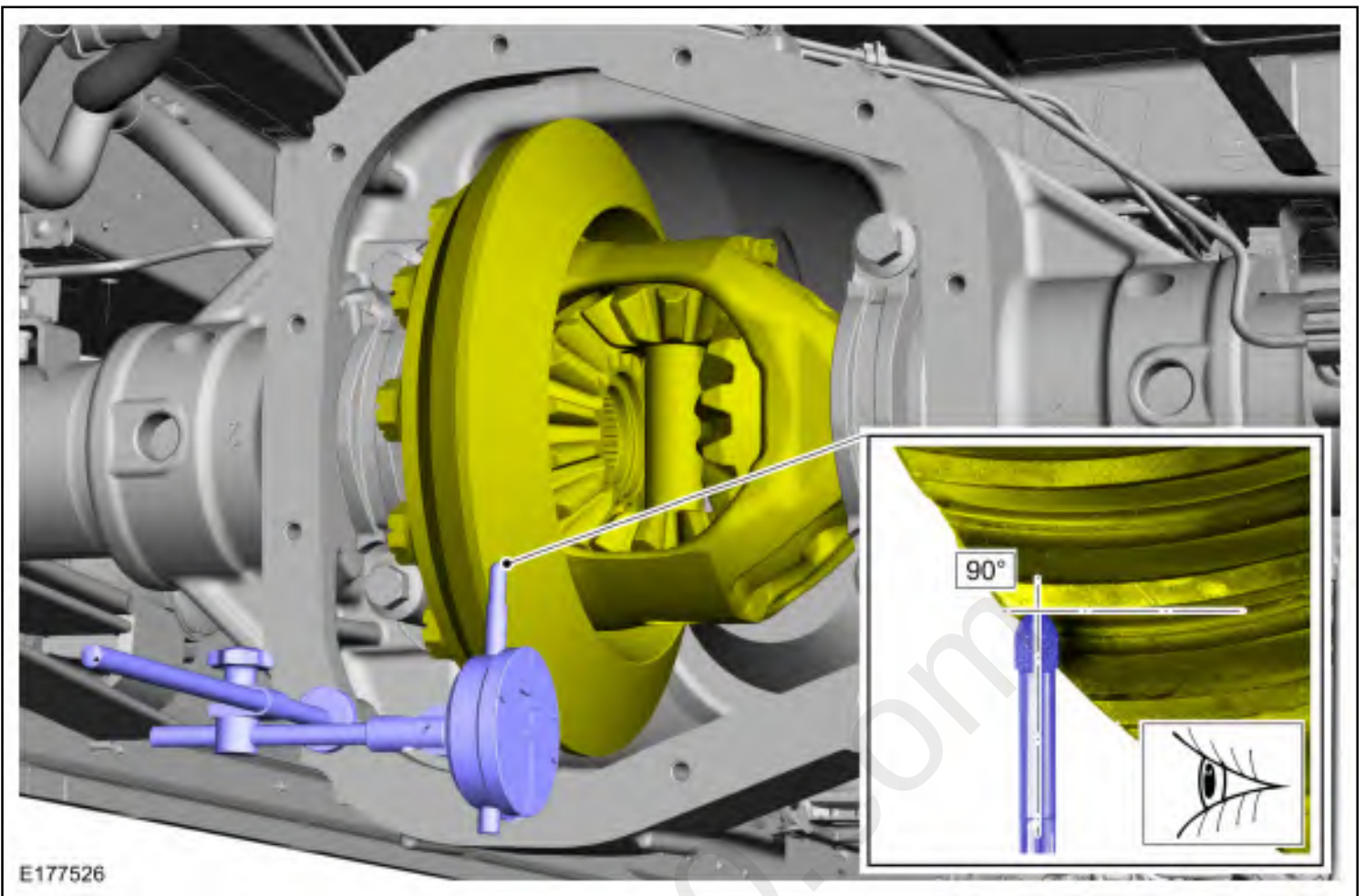
Ring Gear Backlash Adjustment

Special Tool(s) / General Equipment

	205-220 Installer, Differential Shim TKIT-1985-FH
Dial Indicator	

Adjustment

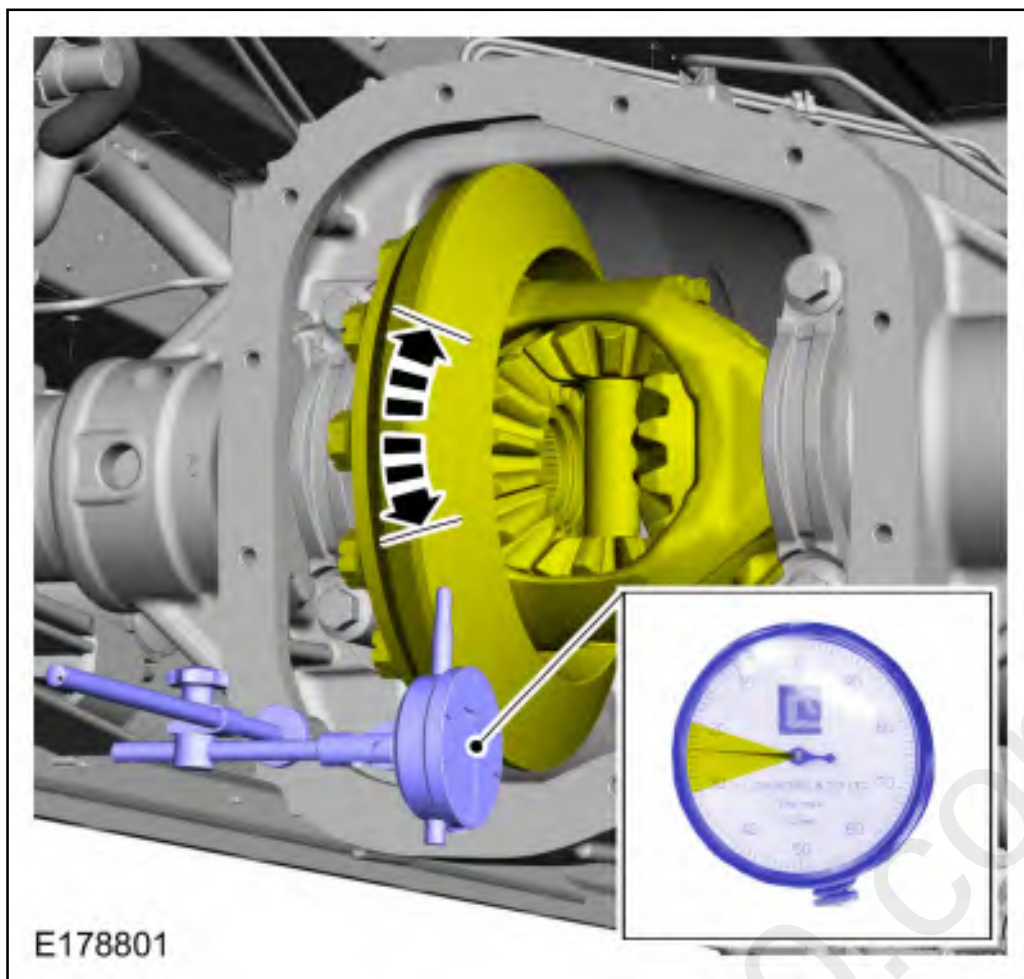
1. Remove the differential housing cover.
Refer to: [Differential Housing Cover](#) (205-02B Rear Drive Axle/Differential - Vehicles With: Ford 9.75 Inch Ring Gear, Removal and Installation).
2. Install the dial indicator gauge with holding fixture, with the dial indicator at a 90 degree angle from the ring gear tooth.
Use the General Equipment: Dial Indicator



3. Using the dial indicator check the ring gear backlash. Rotate the ring gear and carrier back and forth through the free play only.

Refer to: [Specifications - Raptor](#) (205-02B Rear Drive Axle/Differential - Vehicles With: Ford 9.75 Inch Ring Gear, Specifications).

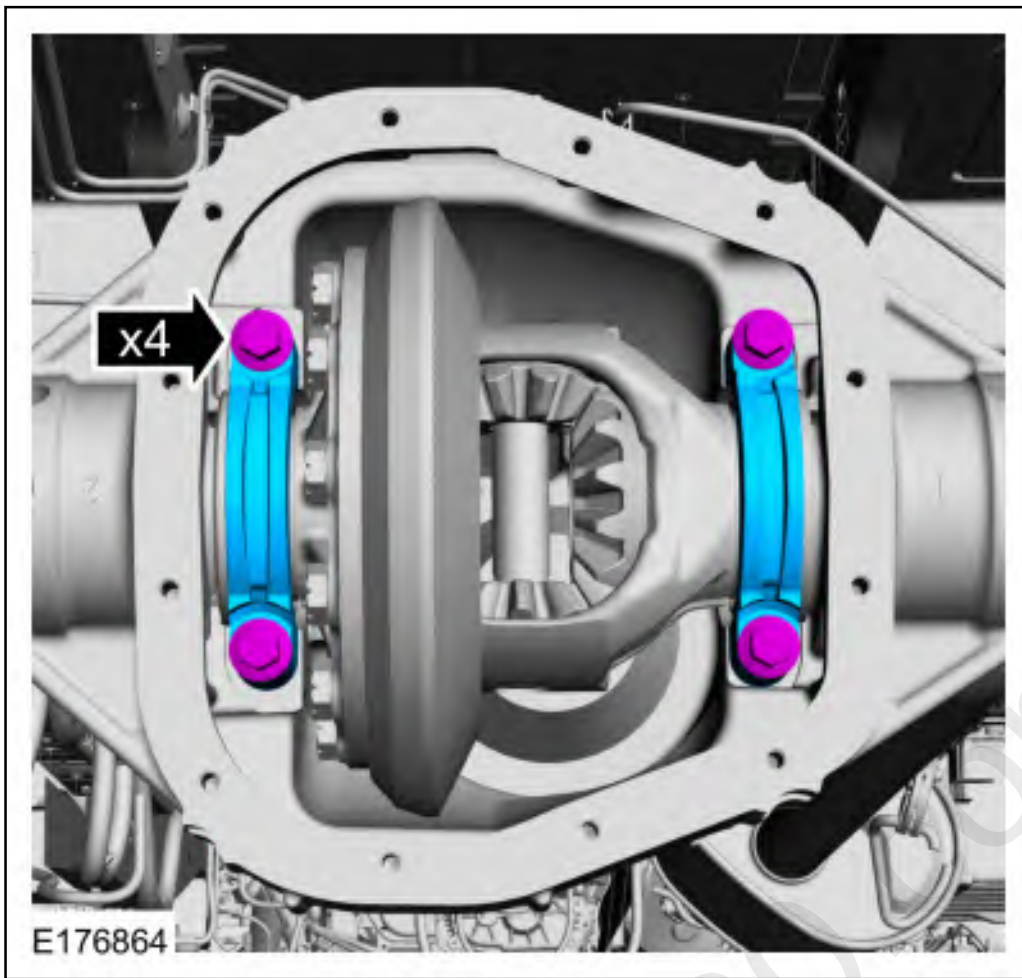
Use the General Equipment: Dial Indicator



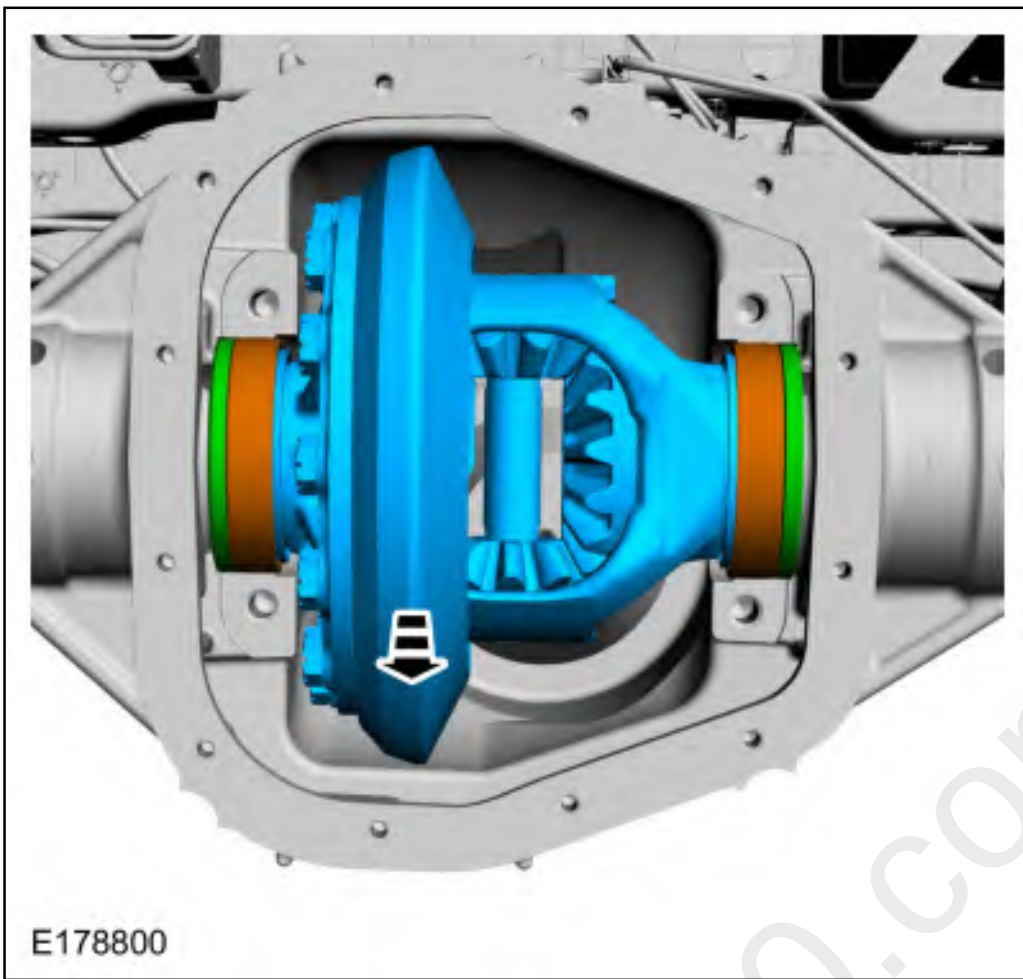
- If a zero backlash condition occurs or the backlash is not within specification, proceed to Step 5.
- If the backlash is within specification, proceed to Step 15.
Refer to: [Axle Shaft](#) (205-02B Rear Drive Axle/Differential - Vehicles With: Ford 9.75 Inch Ring Gear, Removal and Installation).
- To correct for high or low backlash, increase the thickness of one differential bearing shim and decrease the thickness of the other differential bearing shim by the same amount.
- If a zero backlash condition had occurred, add 0.50 mm (0.020 in) to the RH side shim and subtract 0.50 mm (0.020 in) from the LH side shim to allow a backlash indication. Recheck backlash.
- Using the backlash chart, determine the thickness of differential shim needed:
Refer to: [Specifications - Raptor](#) (205-02B Rear Drive Axle/Differential - Vehicles With: Ford 9.75 Inch Ring Gear, Specifications).

6. **NOTE:** *The differential bearing caps and differential bearing cap bolts need to be installed in the same location as removed.*

With the dial indicator removed, remove the differential bearing cap bolts and differential bearing caps.

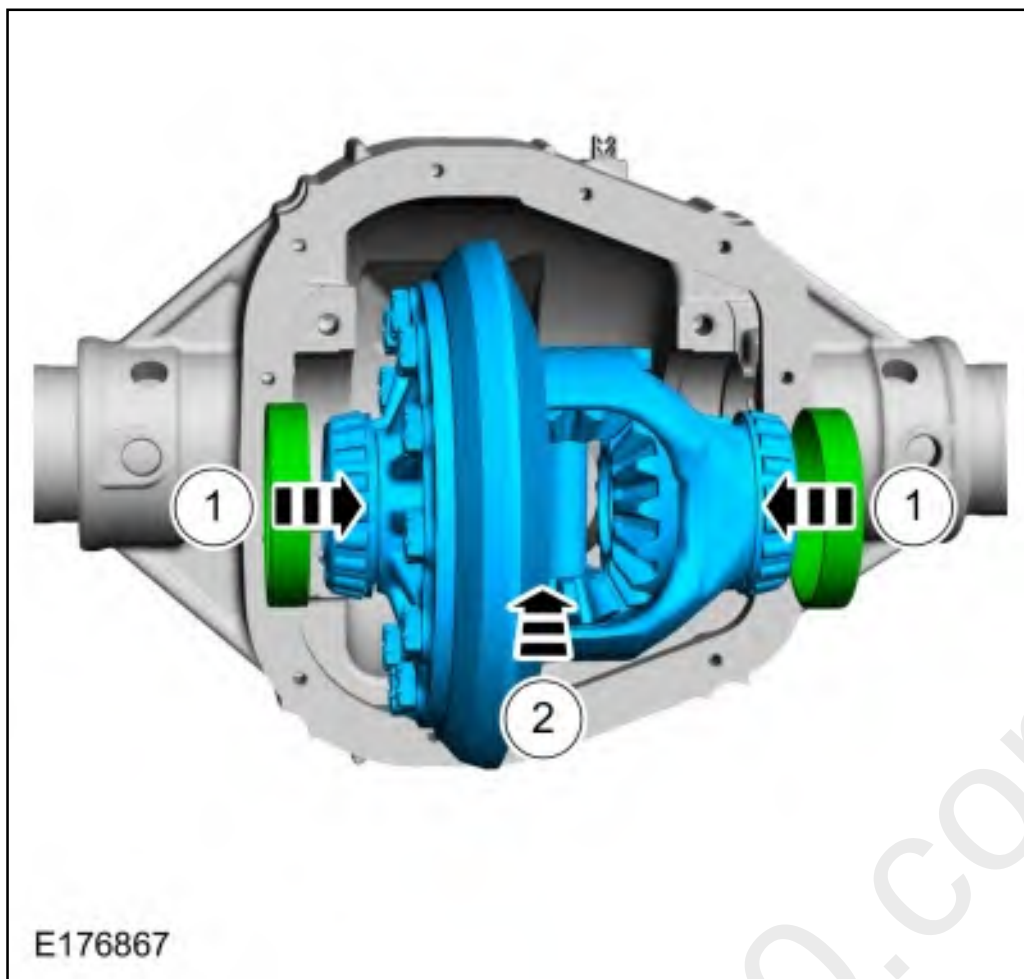


7. Remove the differential carrier, differential carrier bearing cups and the differential shims.



8. **NOTE:** *Have the selected shims available at this time. It will be required to hold the differential carrier and the differential carrier bearing cups in until shims are installed.*

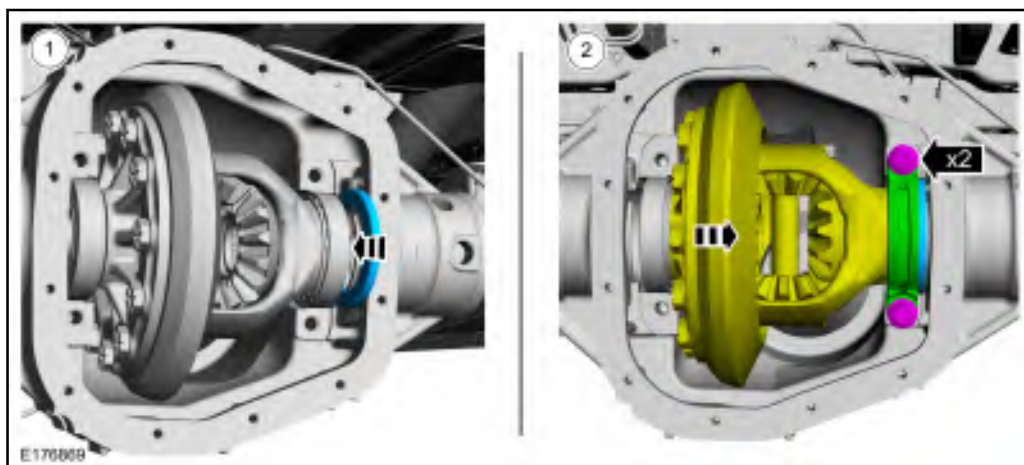
Install the differential carrier and the differential carrier bearing cups.



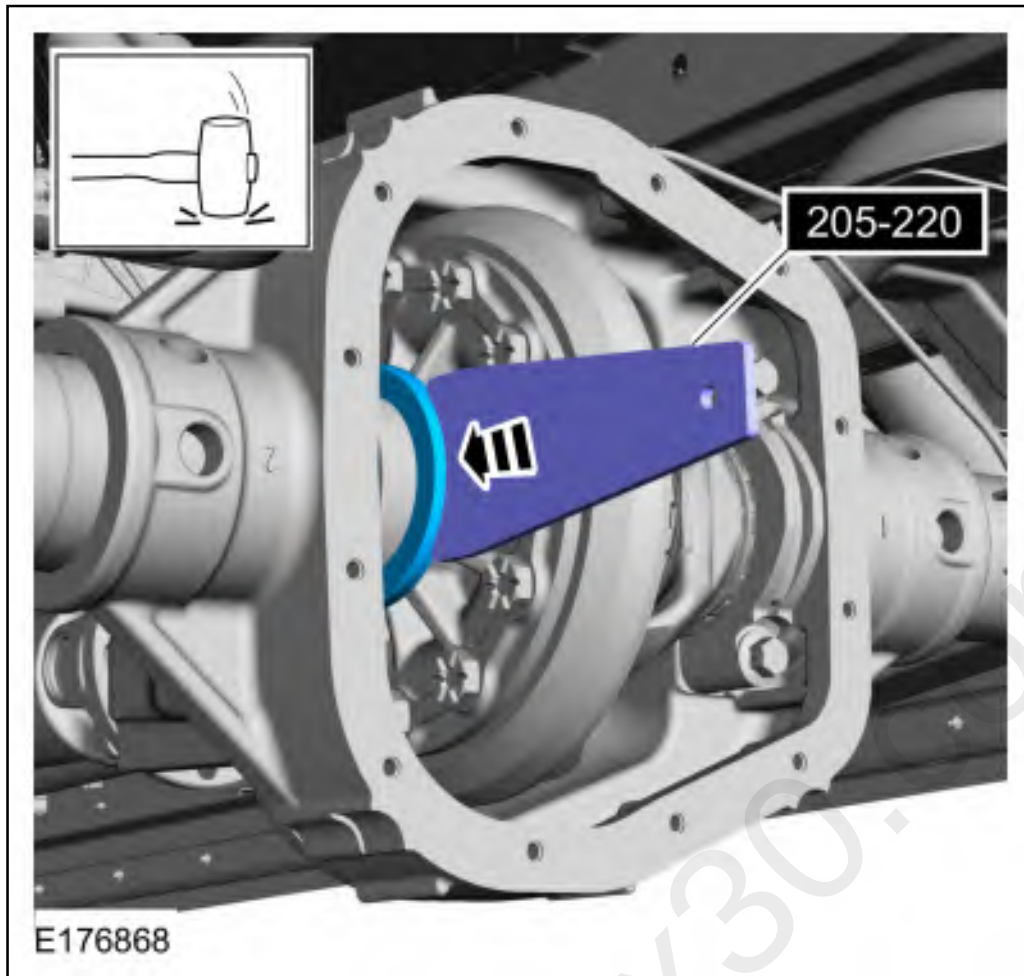
9. **NOTE:** *Differential bearing shims are to be installed with the chamfer facing outboard.*

- Install the RH selected ring gear back lash shim.
- Position the differential to the RH side of the differential housing.
- **NOTE:** *The differential bearing cap bolts should only be finger tight at this time.*

Install the RH differential bearing cap and the differential bearing cap bolts.

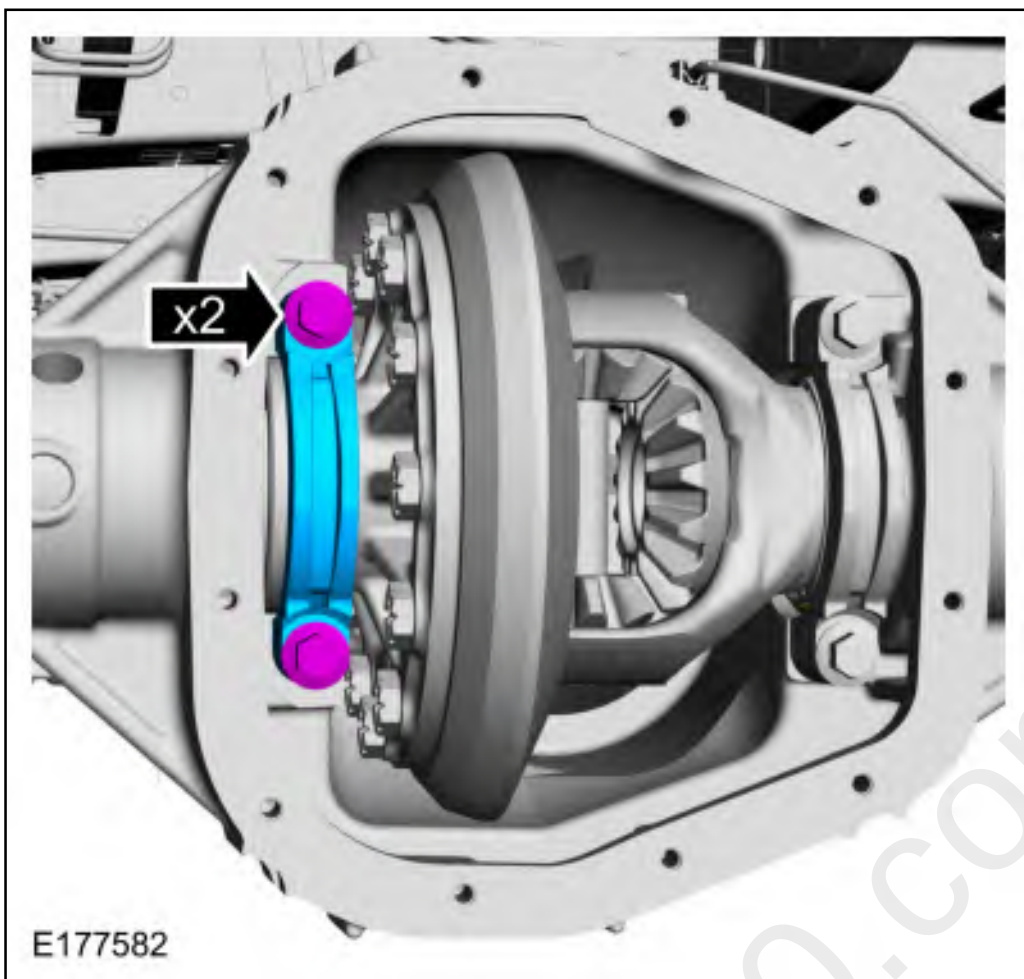


10. Using the special tool and a soft face brass mallet, install the LH selected ring gear back lash shim.
Use Special Service Tool: 205-220 Installer, Differential Shim.

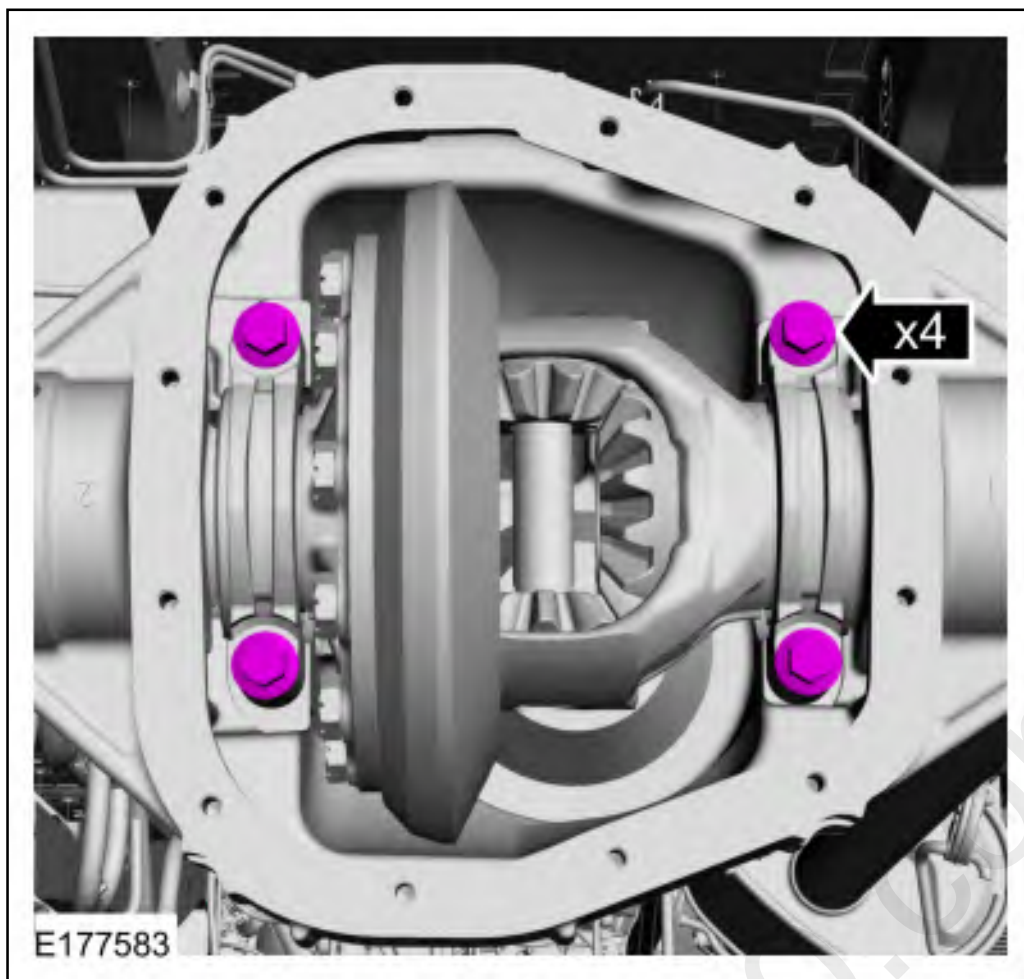


11. **NOTE:** *The differential bearing cap bolts should only be finger tight at this time.*

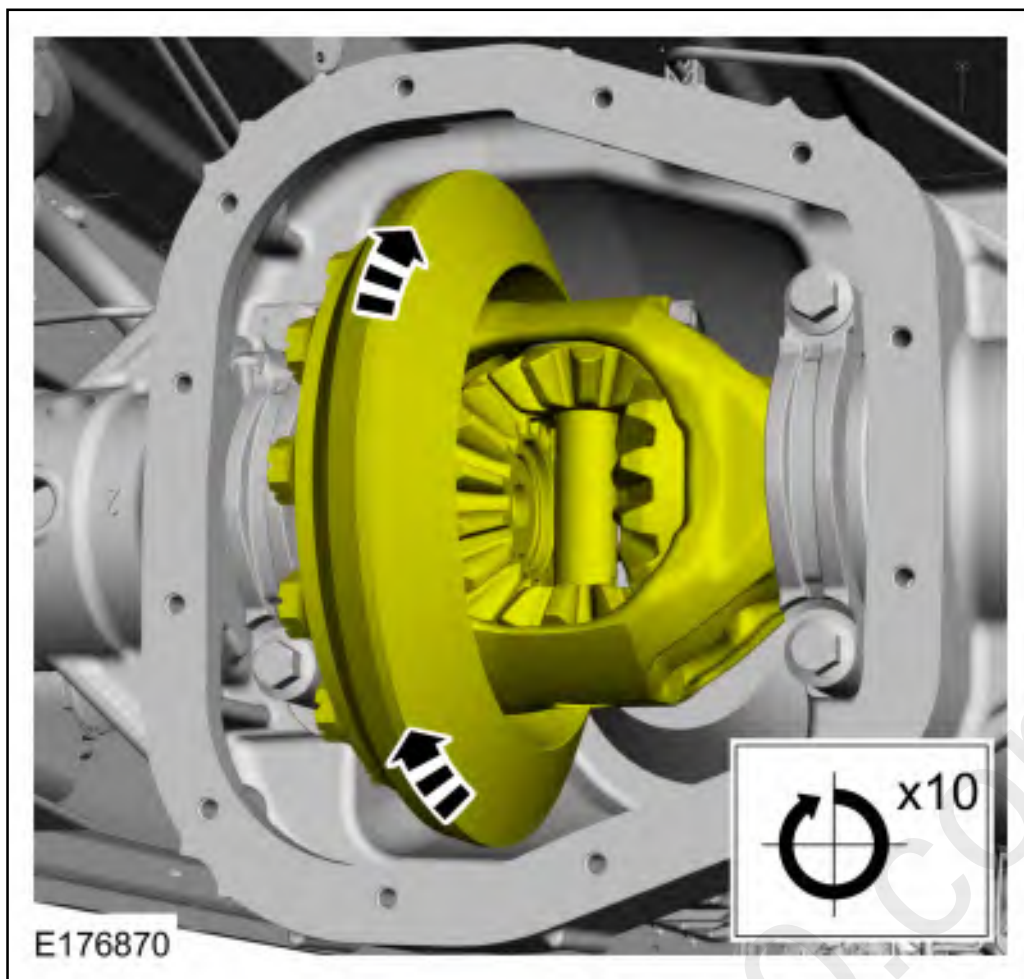
Install the LH differential bearing cap and the differential bearing cap bolts.



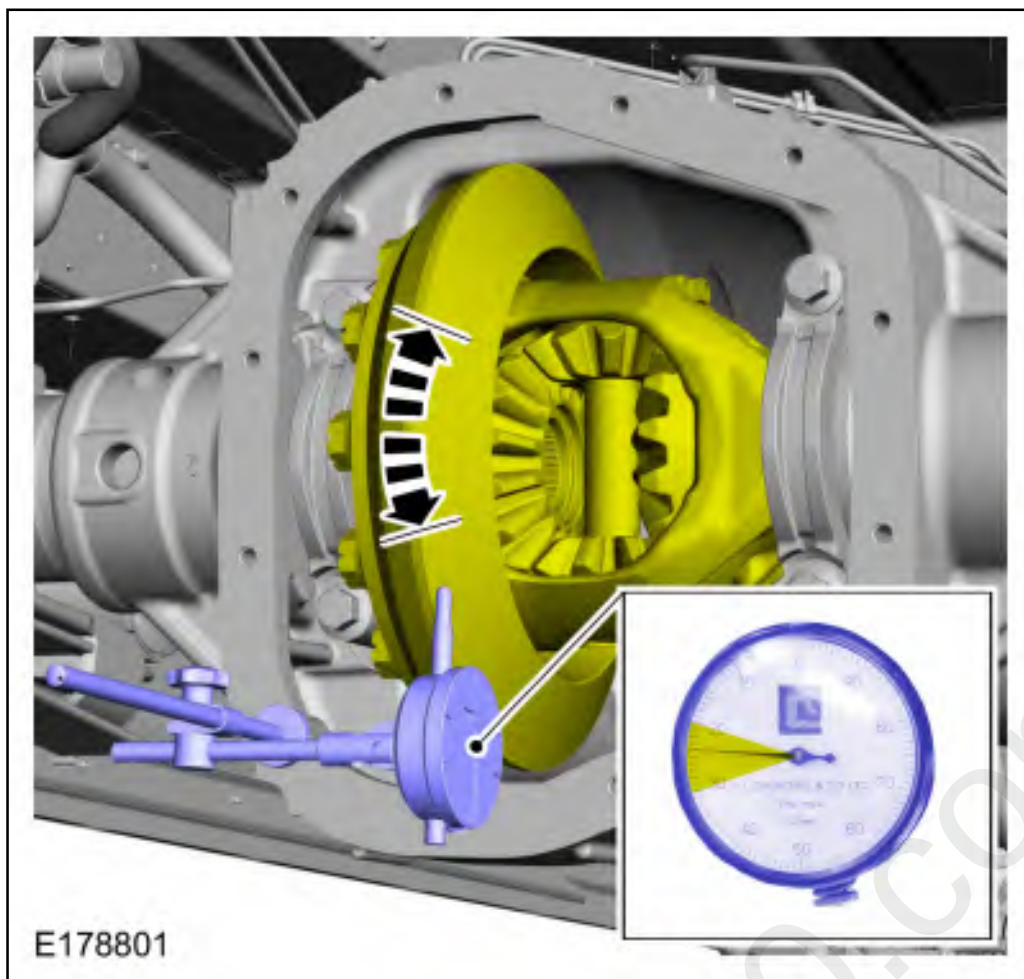
12. Tighten the differential bearing cap bolts.
Torque: 83 lb.ft (112 Nm)



13. Rotate the differential several times, to assure the differential assembly rotates freely.



14. Using the dial indicator gauge with holding fixture, do a final check of the ring gear backlash.
Use the General Equipment: Dial Indicator



15. Apply marking compound and rotate the differential assembly 5 complete revolutions.
16. Verify an acceptable ring gear tooth pattern check.
Refer to: [Rear Drive Axle and Differential](#) (205-02B Rear Drive Axle/Differential - Vehicles With: Ford 9.75 Inch Ring Gear, Diagnosis and Testing).
17. Install the axle shafts.
Refer to: [Axle Shaft](#) (205-02B Rear Drive Axle/Differential - Vehicles With: Ford 9.75 Inch Ring Gear, Removal and Installation).
18. Install the differential housing cover.
Refer to: [Differential Housing Cover](#) (205-02B Rear Drive Axle/Differential - Vehicles With: Ford 9.75 Inch Ring Gear, Removal and Installation).