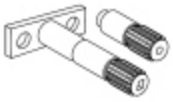
Differential Case and Ring Gear — Traction-Lok

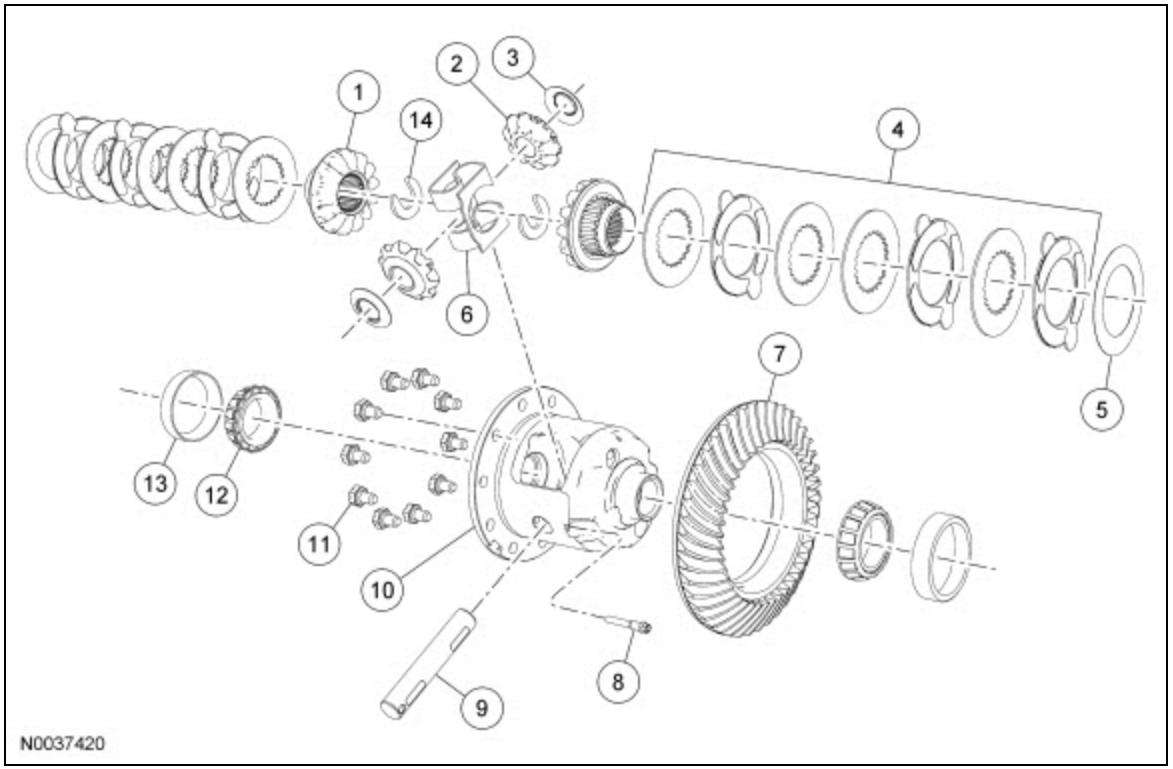
Special Tool(s)

 ST2026-A	2 Jaw Puller 205-D072 (D97L-4221-A) or equivalent
 ST1265-A	Gauge, Differential Clutch 205-022 (T66L-4204-A)
 ST1374-A	Gauge, Differential Clutch 205-135 (T80P-4946-A)
 ST1372-A	Gauge, Differential Clutch 205-270 (T87T-4946-A)
 ST1375-A	Installer, Differential Side Bearing 205-010 (T57L-4221-A2)

	Step Plate 205-D016 (D80L-630-5) or equivalent

Material

Item	Specification
Motorcraft® Additive Friction Modifier XL-3 (US); CXL-3 (Canada)	EST-M2C118-A
Maximum Strength Retaining Compound Loctite® 638™	—

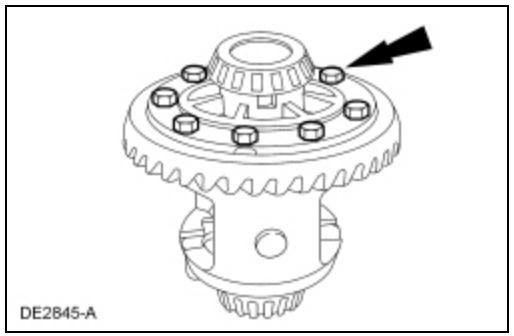


Item	Part Number	Description
1	4236	Differential side gear
2	4215	Differential pinion gear
3	4230	Differential pinion gear thrust washer
4	4947	Differential clutch pack

5	4A324	Rear axle differential clutch shim
6	4214	Differential clutch spring
7	4209	Differential ring gear
8	4241	Differential pinion shaft lock bolt
9	4211	Differential pinion shaft
10	4204	Differential case
11	4216	Differential ring gear bolt
12	4221	Differential bearing
13	4222	Differential bearing cup
14	4N237	Axle shaft U-washer

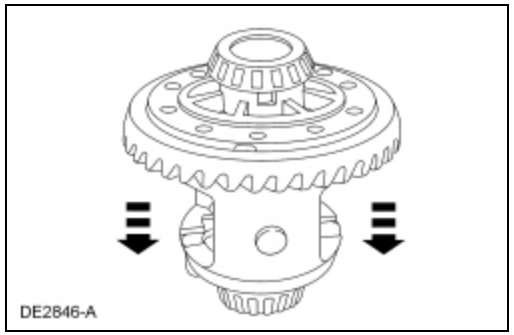
Disassembly

1. Remove the differential carrier. Refer to Differential Carrier.
2. Remove and discard the 10 differential ring gear bolts.



3. **NOTE:** *Care should be taken not to damage the differential ring gear bolt hole threads.*

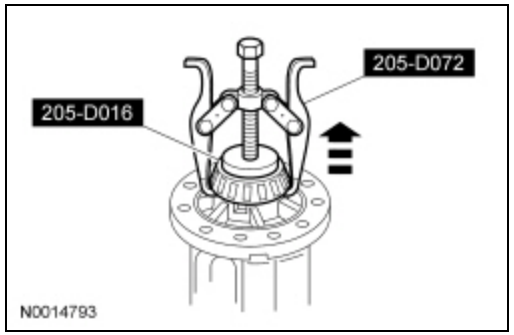
   Insert a punch in the differential ring gear bolt holes and drive the differential ring gear off.



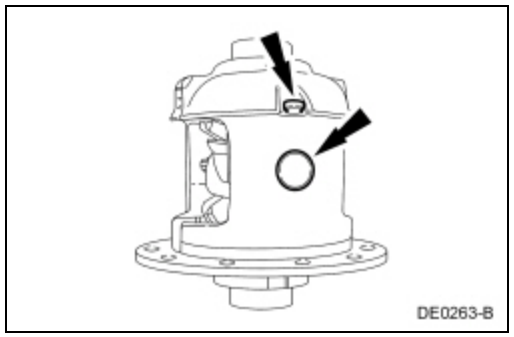
4. **NOTE:** *The differential flange and ring gear flange must be free of any old retaining compound. Failure to clean the surfaces can result in ring gear runout concerns.*

Clean all traces of the old retaining compound from the differential flange and the ring gear flange.
- Use solvent and Scotch-Brite® pads to remove old material.

5. Using a 2 Jaw Puller and Step Plate, remove the 2 differential bearings.

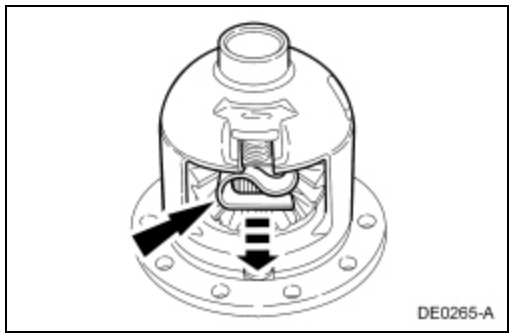


6. Remove the differential pinion shaft lock bolt and remove the differential pinion shaft.
   - Discard the differential pinion shaft lock bolt.

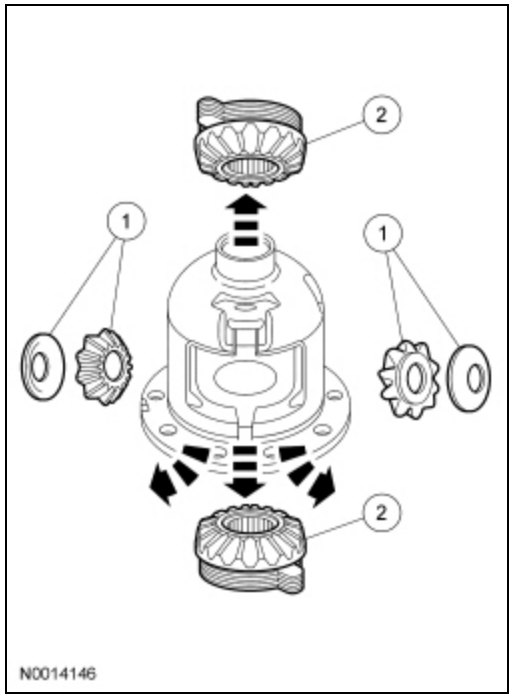


7. **NOTE:** *Due to the spring tension, care must be used when removing the differential clutch spring.*

   Remove the differential clutch spring.

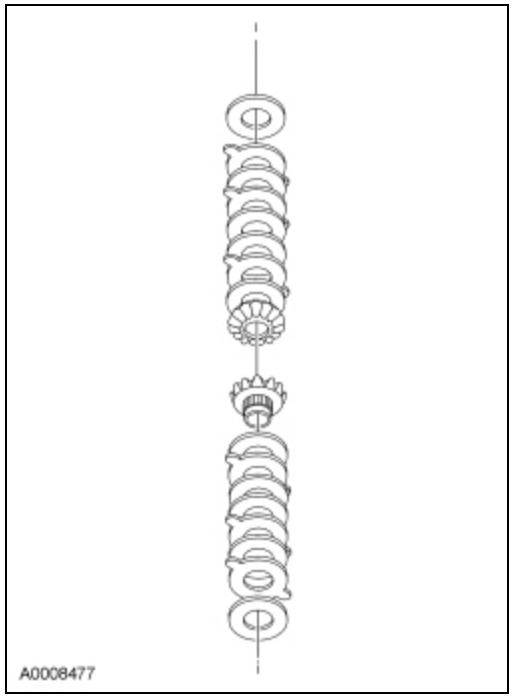


8. Remove the differential gears.
   1. Remove the 2 differential pinion gears and 2 thrust washers.
   2. Remove the 2 differential side gears.



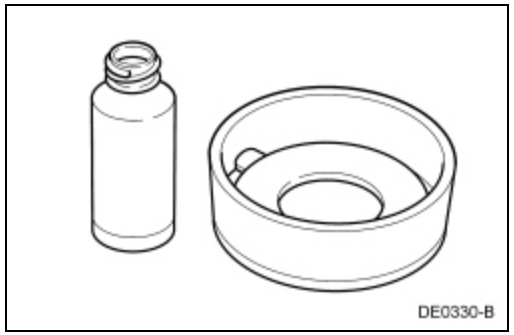
9. **NOTE:** *Keep the differential clutch packs in order. Do not mix the differential clutch packs. The differential clutch packs must be reassembled in the same sequence.*

   Remove the differential clutch packs and differential side gears and tag them RH and LH with the selective shim.
   - Clean and inspect the remaining components of the differential case for wear or damage and install new components as necessary.



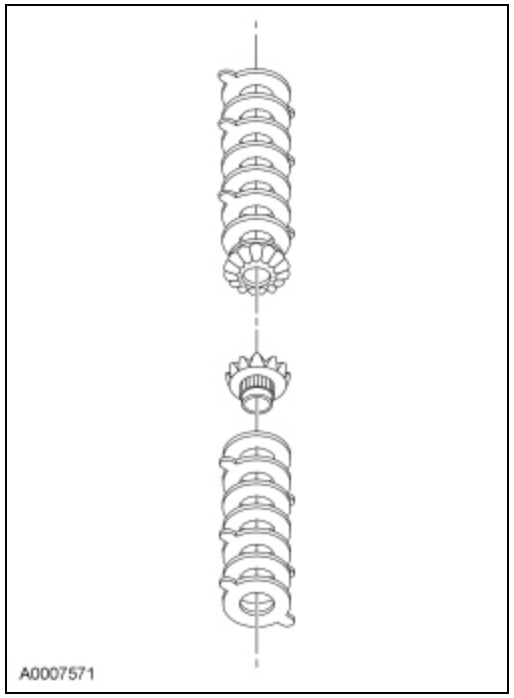
Assembly

1. Using friction modifier, separate the plates and lubricate each steel clutch plate. Soak all the friction plates for no less than 15 minutes.

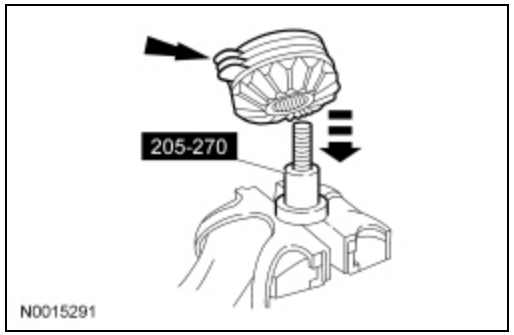


2. **NOTE:** *Do not mix the clutch plates, clutch discs or shim from one side with the other.*

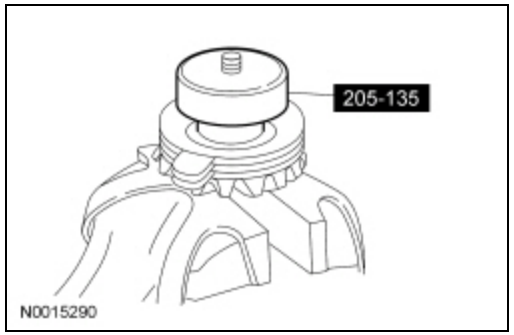
   Assemble the differential clutch packs on their respective differential side gear.



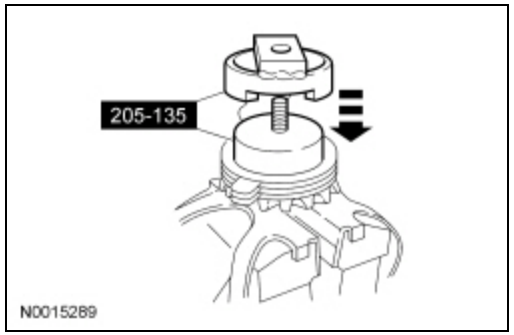
3. Place the base portion of the Differential Clutch Gauge in a vise. Install the differential side gear and differential clutch pack (without the shim) on the tool.



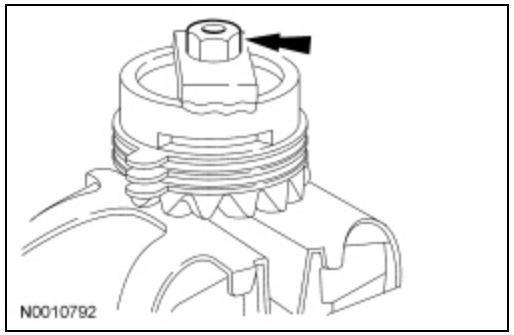
4. Position the Differential Clutch Gauge hand-tight on top of the differential clutch pack.



5. Install the Differential Clutch Gauge over the disc and differential clutch pack.



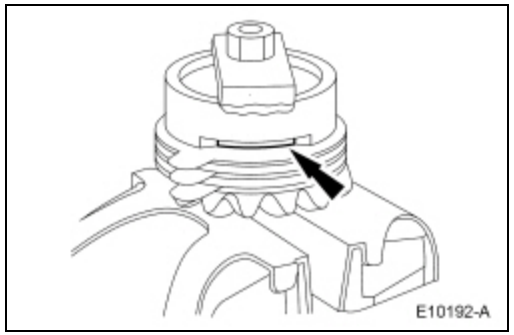
6. Install the nut.
    - Tighten to 6.7 Nm (60 lb-in).



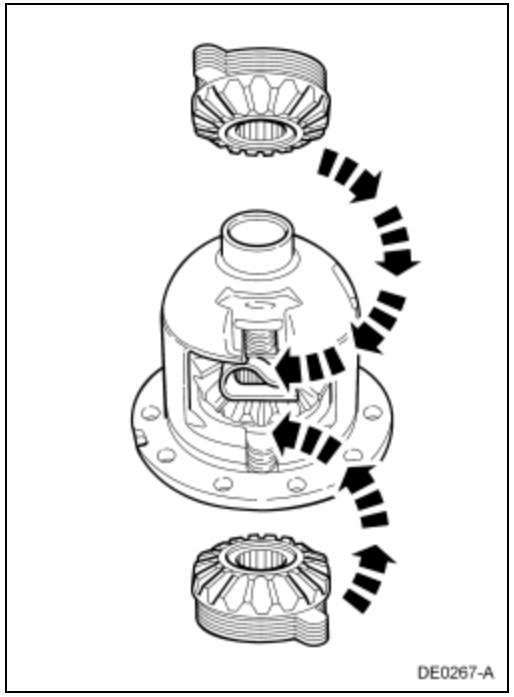
7. Select and insert the thickest feeler gauge blade that will enter between the tool and the differential clutch pack. The reading will be the thickness of the new clutch shim.

Selective Shims

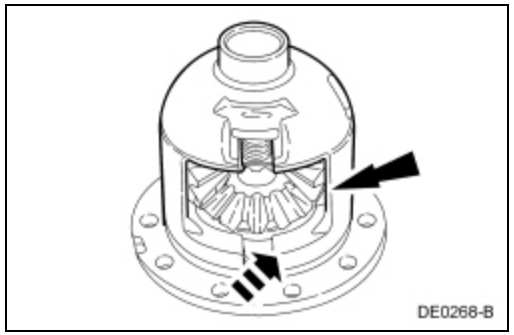
Part Number	Description
EOAZ-4A324-G	0.025 inch
EOAZ-4A324-H	0.030 inch
EOAZ-4A324-C	0.035 inch
EOAZ-4A324-D	0.040 inch
EOAZ-4A324-F	0.045 inch



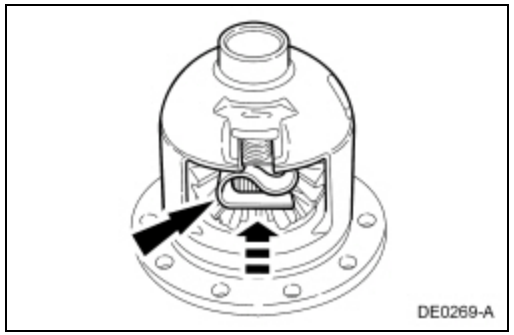
8. Remove the Differential Clutch Gauge from the differential clutch pack and differential side gear assembly.
9. Install the shim(s) on the differential clutch pack and differential side gear assembly.
10. Install the 2 differential side gear assemblies in the differential case.



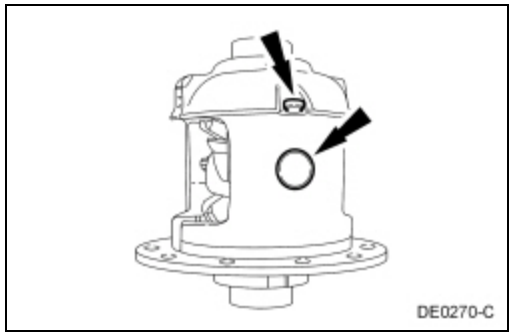
11. Install the 2 differential pinion gear and differential pinion thrust washer assemblies in the differential case.



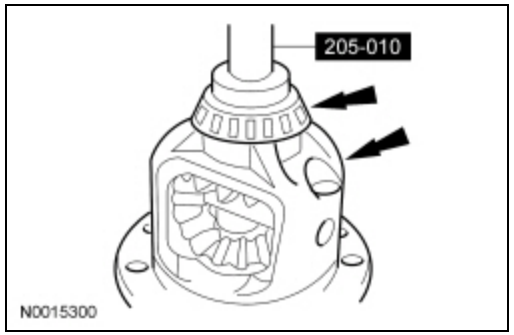
12. Using a soft-faced hammer, install the differential clutch spring.



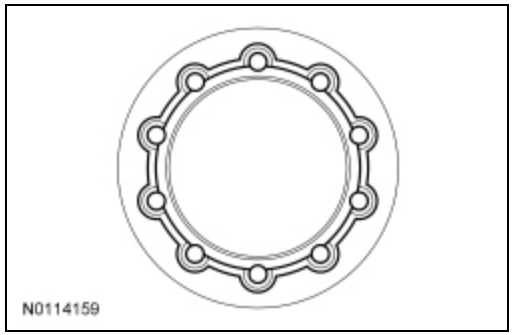
13. Install the differential pinion shaft and install a new bolt finger-tight without tightening into the loctite covered area of the bolt.



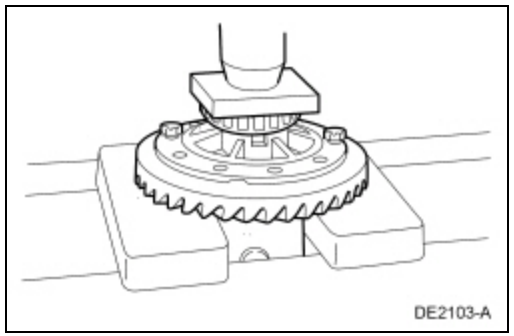
14. Using the Differential Side Bearing Installer, install the 2 differential bearings.



15. Apply a one-eighth inch bead of maximum strength retaining compound on the rear face of the ring gear in the pattern shown.

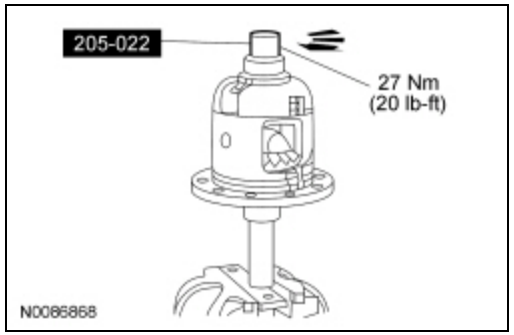


16. Position the differential ring gear and the differential case. Align the bolt holes by starting 2 new bolts through the holes in the differential case and the differential ring gear. Press the differential ring gear on the differential case.

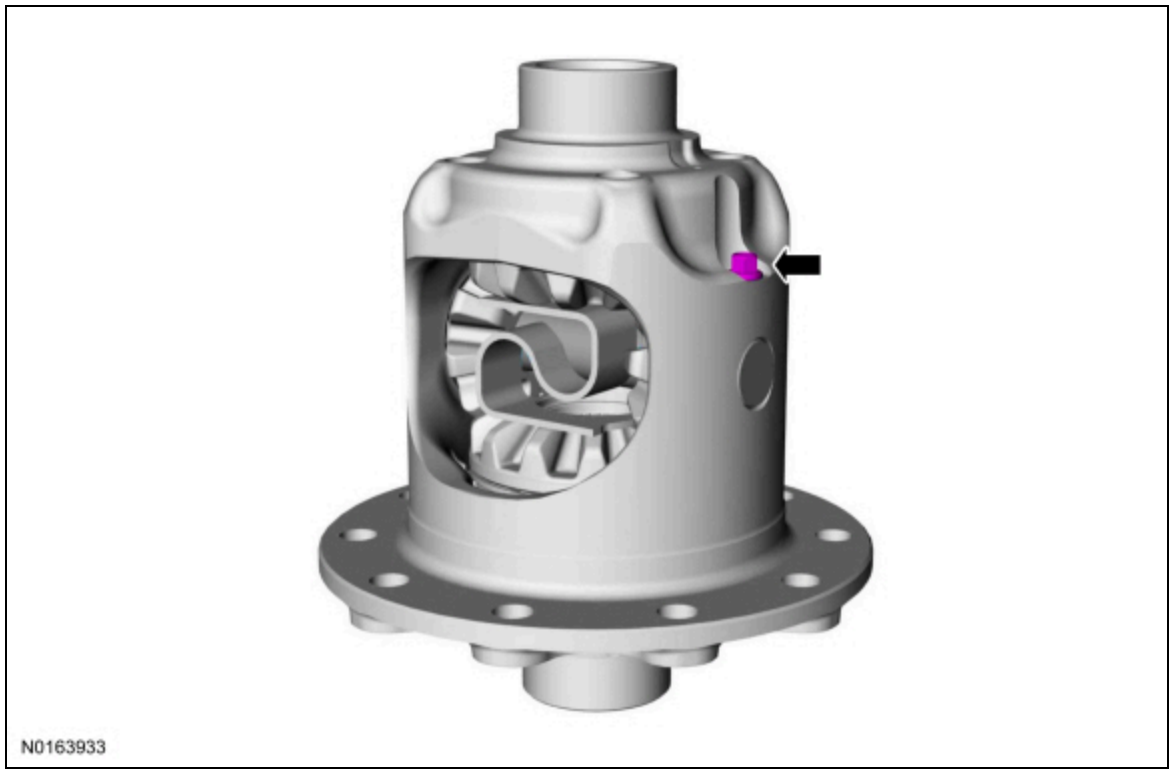


17. Install the 10 new differential ring gear bolts.
    - Tighten to 135 Nm (100 lb-ft).

18. Using the Differential Clutch Gauge, check the torque required to rotate one differential side gear.
    - Mount the differential assembly and Differential Clutch Gauge in a vise.
    - The initial minimum break-away torque, if original clutch plates are used, must be within specification. The minimum rotating torque required to keep the differential side gear turning with new clutch plates may vary.



19. Tighten the pinion shaft bolt.
    - Tighten to 34 Nm (25 lb-ft).



20. Install the differential carrier. Refer to Differential Carrier.