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Service Information Bulletin

SUBJECT	DATE
Model 4 Axle Bearing Cage Update	May 2014

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0141	Model 4 Axle	Axle Bearing Cage Update	This is a new section.



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2 Axle Bearing Cage Update

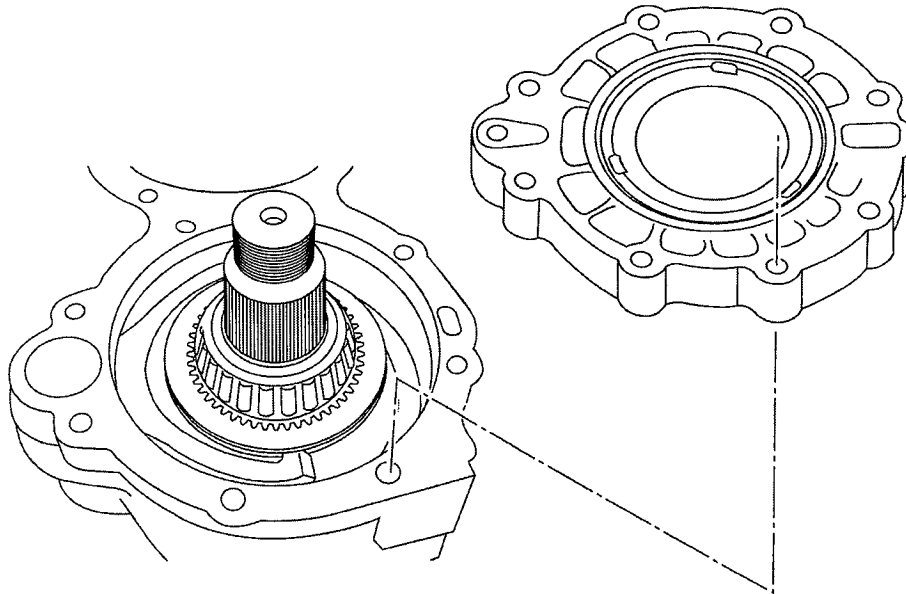
Below is the procedure for replacing or updating a Detroit™ axle input bearing cage for a Model 4 Front Rear Tandem.



WARNING: PERSONAL INJURY

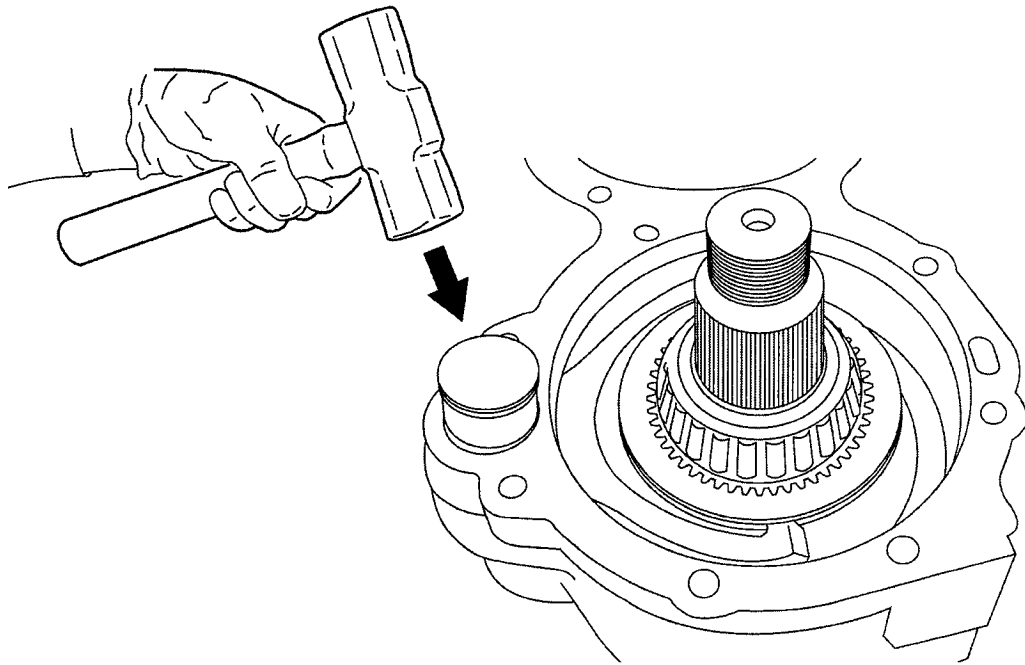
To avoid injury, never remove any engine component while the engine is running.

1. Disconnect the main driveshaft from the forward carrier input yoke. Using suitable straps, support the end of the drive shaft by attaching it to the frame rail.
2. Remove the input yoke nut and washer from the center of the forward rear carrier.
3. Remove the forward carrier input yoke from the forward input shaft.
4. Remove the bearing cage cap screws from the bearing cage. Remove the bearing cage assembly. Clean all sealant from bearing cage housing and mating surface.



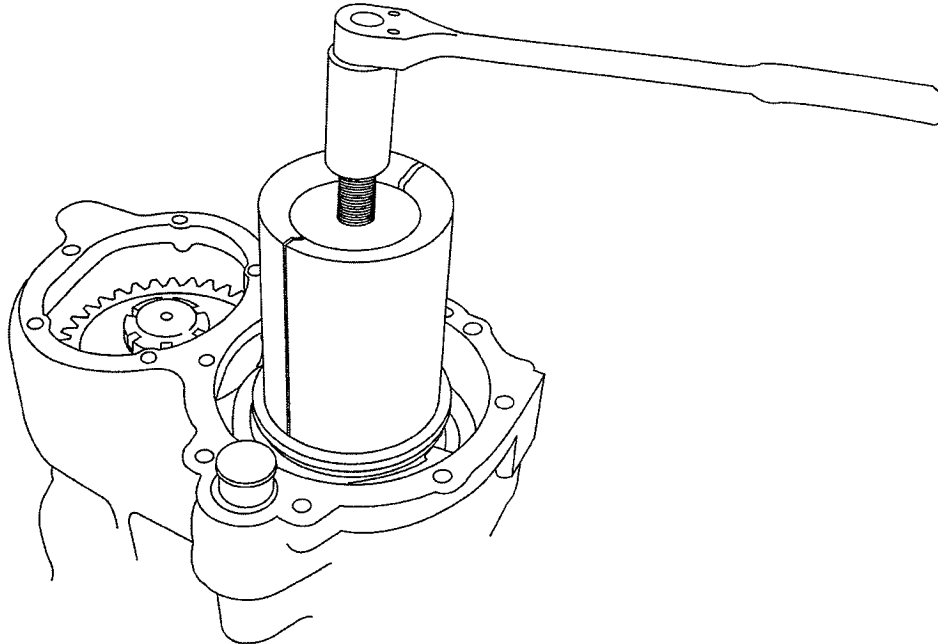
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5. Remove the pinion cover cap screws from the pinion cover. Clean all sealant from pinion cover and mating surface.
6. Using a brass or plastic mallet, squarely tap the shift shaft to unseat it, and then remove the shift shaft.



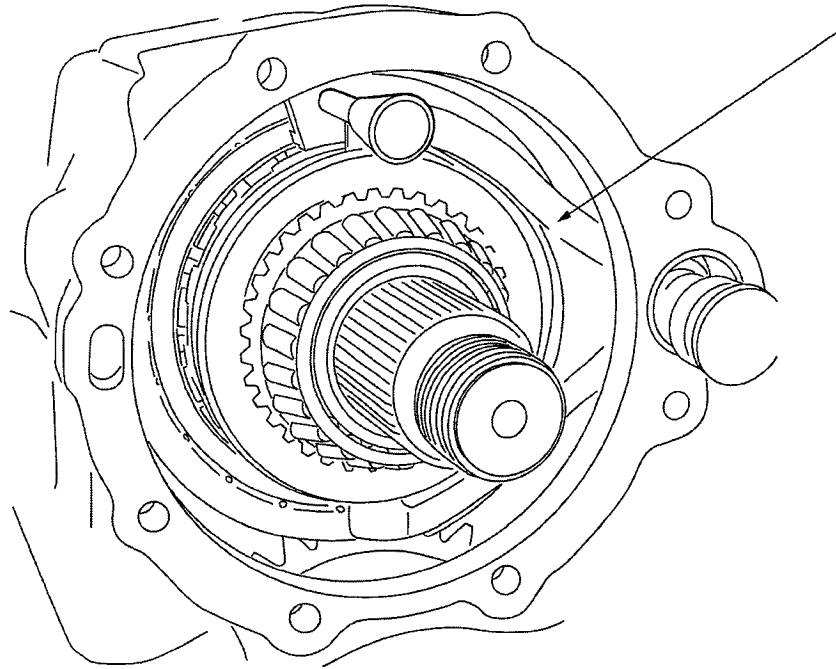
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7. Install bearing puller (DDE W420589033300) and remove bearing.



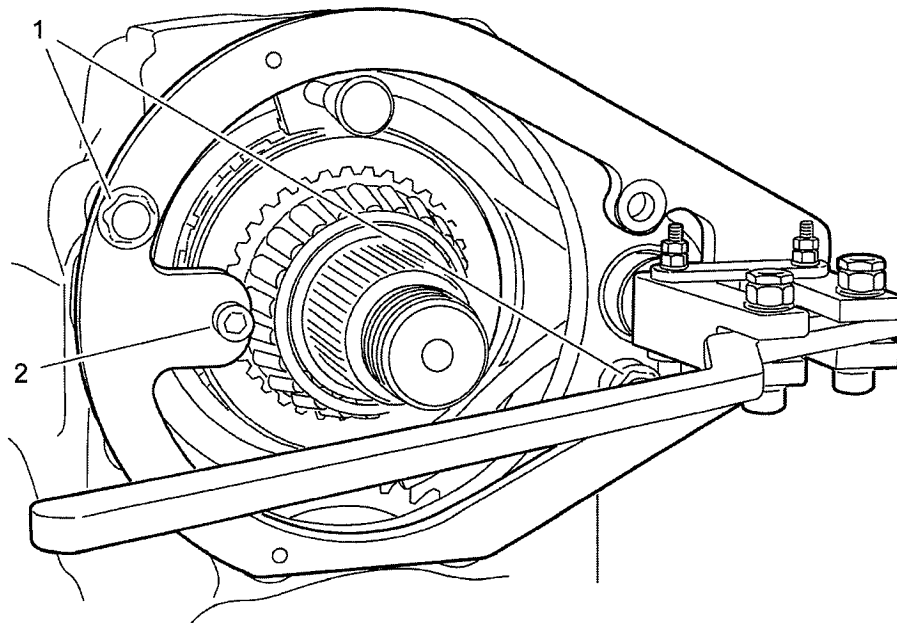
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8. Using a locally sourced bearing heater, heat new input bearing to 101.6°C (215°F). Do not exceed this temperature.
9. Quickly place bearing back on shaft and ensure it is fully seated; do not drop bearing onto shaft.
10. Install half moon device (MBA 420589006300), which helps align the shift fork and shift shaft piston. To install it, slide it between the oil slinger and the shift fork.



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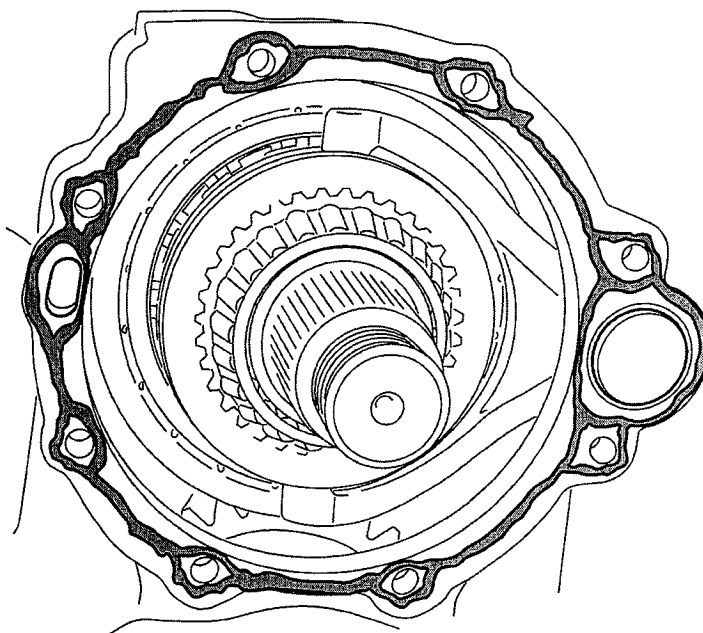
11. Install the shift shaft piston installer (MBA 420589023300). Use two bearing cage screws (1) to mount it to the carrier housing.



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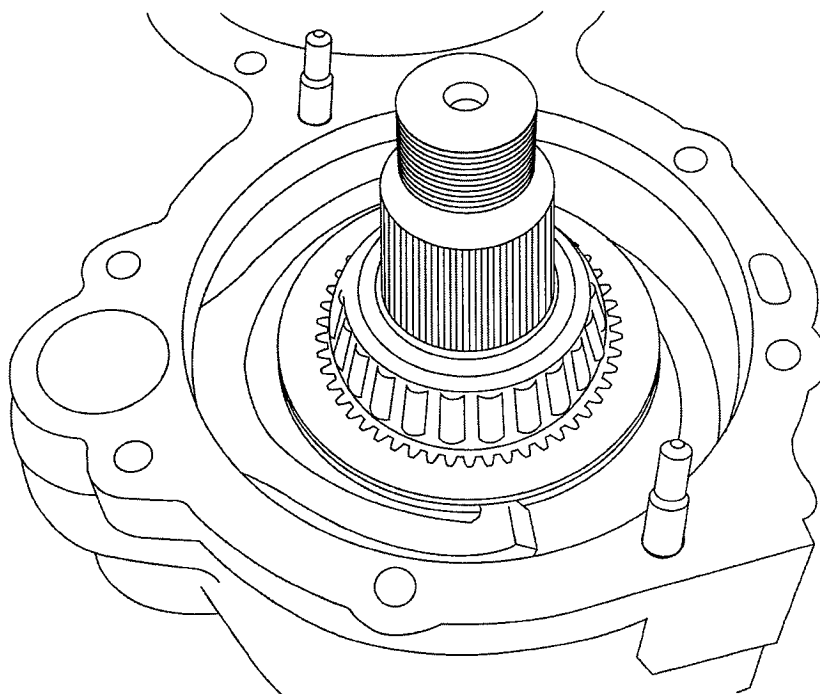
12. In a single movement of moderate force, use the lever of the installer to press the piston into the bore until only about 2 to 3 mm (1/8 to 1/16 in.) of the piston protrudes from the carrier housing. When the piston seats, a "click" sound may be audible. If the piston does not seat readily, adjust the hex screw (2), and try again. Once the piston is seated, remove the installer.

13. Apply a bead of Loctite 5900 to the carrier housing. Do not allow sealant to enter the oil return or touch the shift shaft piston.



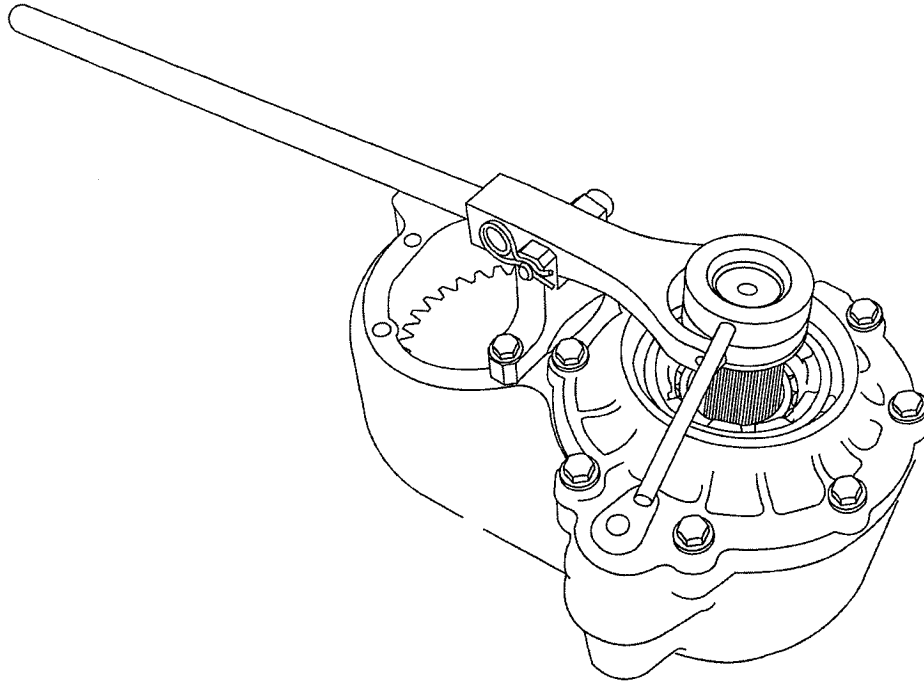
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14. Install guide pins to carrier housing; guide pins can be made using an M12x1.5x76mm bolt with the head removed.



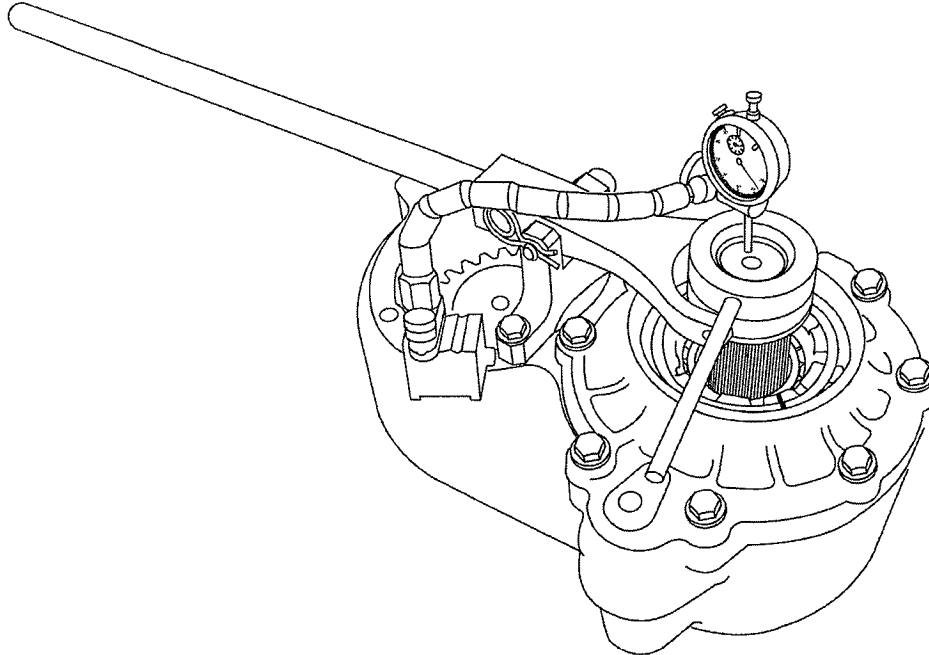
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15. Install a new bearing cage housing over guide pins.
16. Install new bearing cage bolts into housing, and using a star pattern, torque bolts to 140 N·m (103 lb·ft).
17. Install push-pull device (MBA 420589001600).



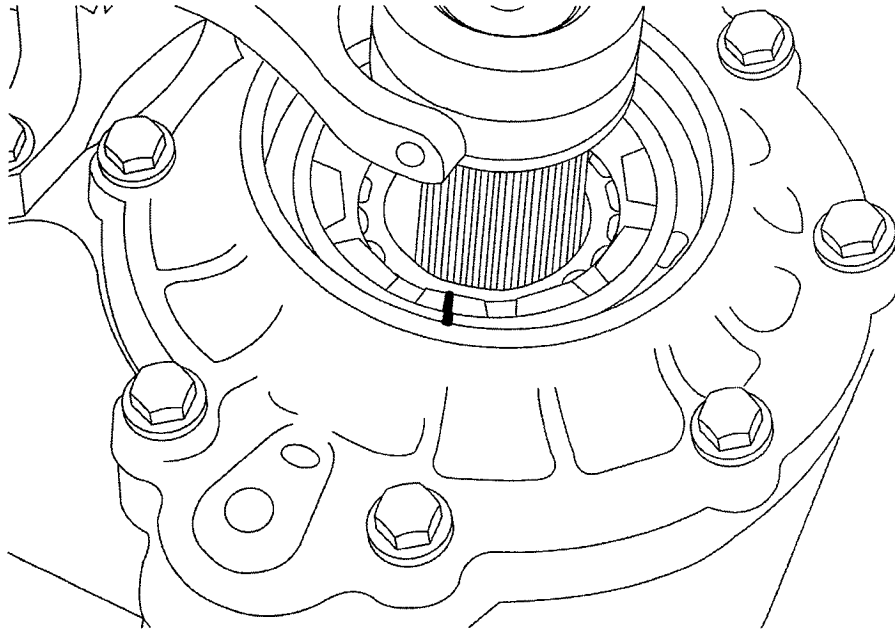
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18. Install dial indicator; ensure it is positioned on the input shaft.

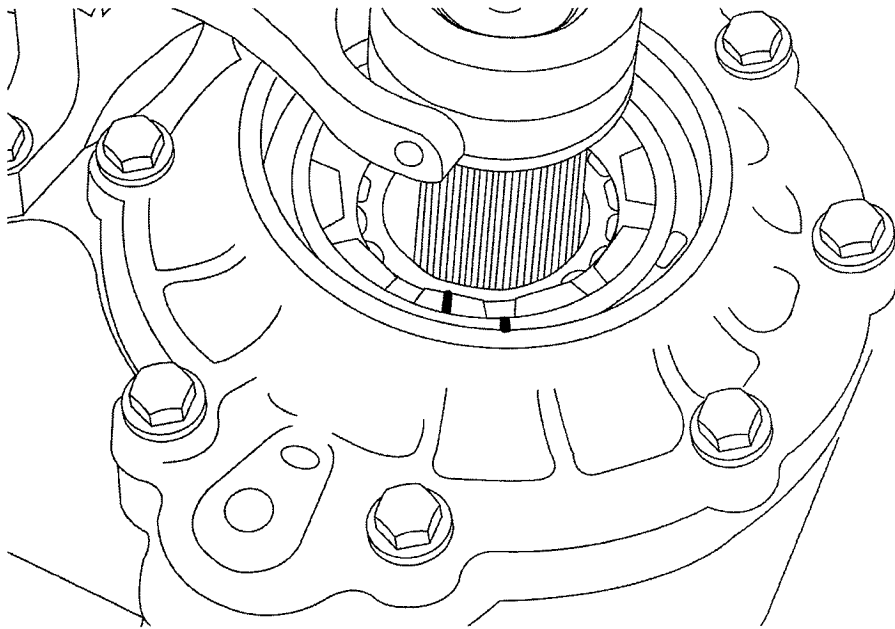


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19. Turn the input shaft three revolutions and tighten the threaded ring until there is between 0.12 and 0.15 mm (0.004 and 0.006 in.) of end play. Turn the input shaft three more revolutions and verify the measurement. When there is between 0.12 and 0.15 mm (0.004 and 0.006 in.) of end play, align a mark on the threaded ring with one on the bearing cage. See figure below. Tighten the threaded ring almost one notch.

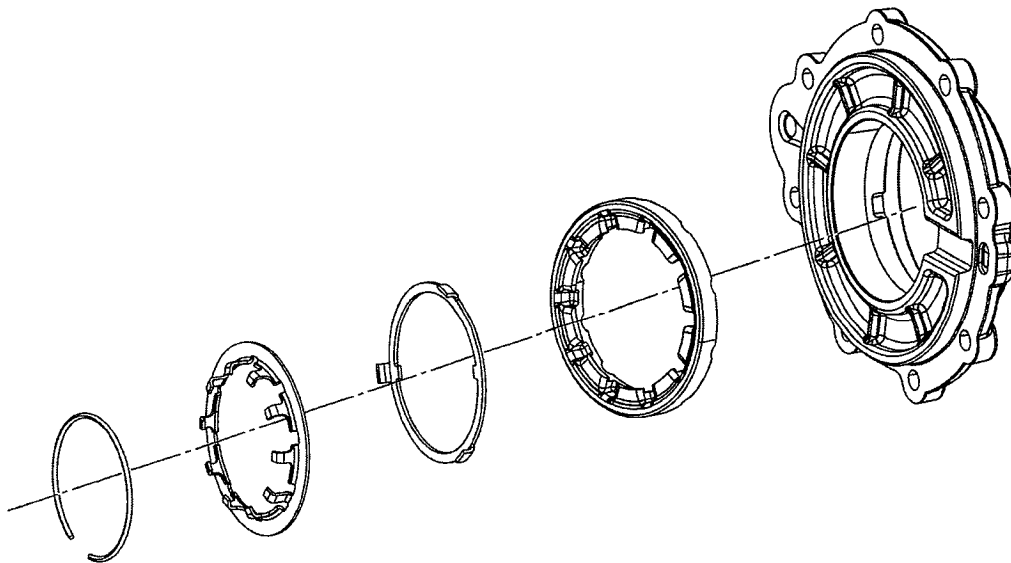


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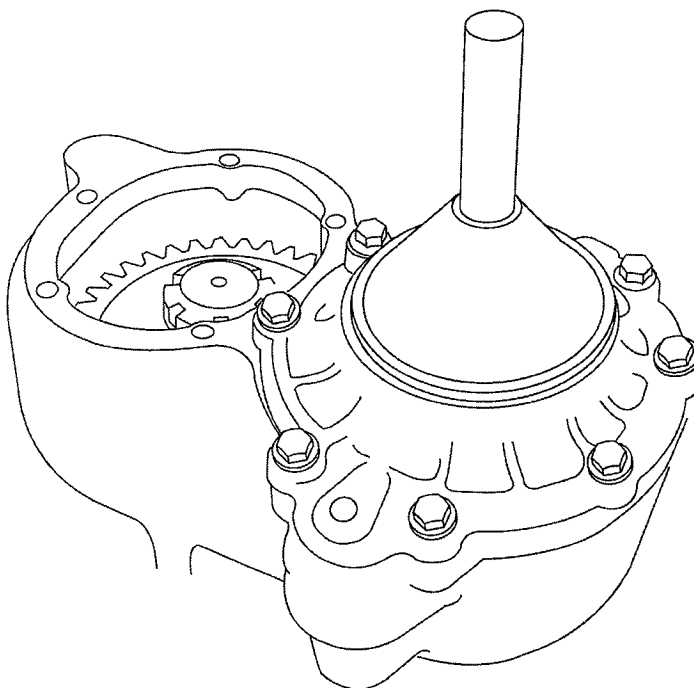
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20. Rotate the input shaft assembly one more revolution and verify there is zero endplay.
21. Remove the dial indicator and push-pull device.
22. Install bearing cage locking ring. Refer to below graphic for proper installation.



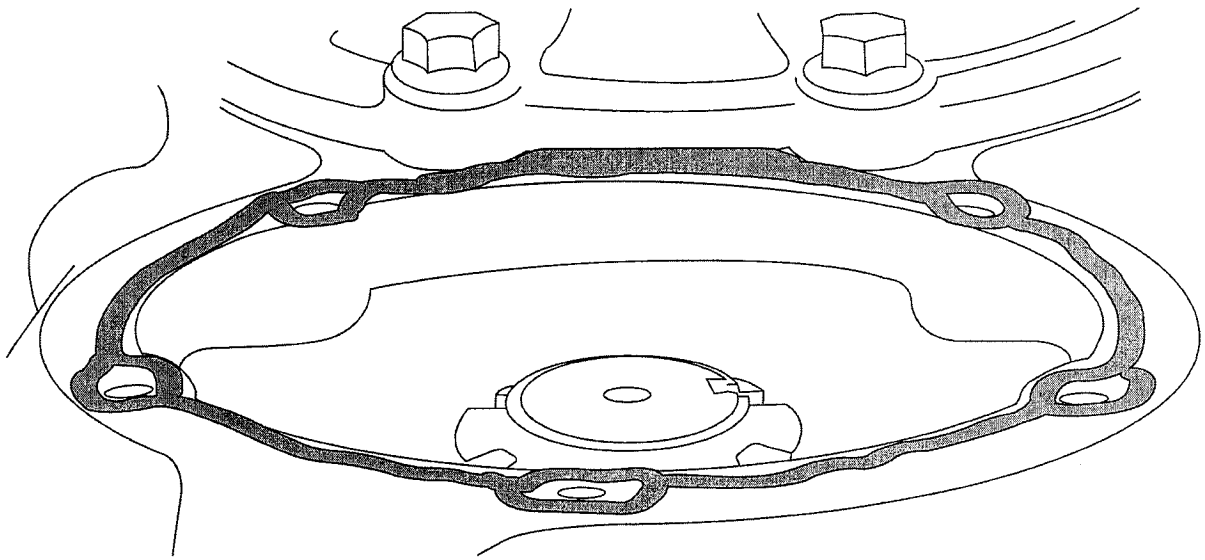
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23. Using seal installer (DDE W420589031500), install new input shaft seal.



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24. Apply a bead of Loctite 5900 to the pinion cover; ensure the coverage is thick next to the bearing cage.



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25. Install pinion cover bolts and torque to 85 N·m (62 lb·ft).
26. Apply Loctite 277 to the threads of a new yoke nut, then, using it and a new washer, install the existing yoke on the input shaft. Tighten yoke nut to 900 N·m (663 lb·ft).

