



2010 Dodge Ram 9.25 ZF AXLE TECH

Key words: Re-gearing a 4th Gen Dodge Ram ZF axle , dodge ram 1500 rearend failure, differential failure, repair, recall 2009-2015, pinion nut backed off, locked up, carrier differences, warranty, recall, parts, bearings, carriers.

- At some point in 2010 Ram, Fiat, Dodge, Chrysler changed the rearend from the standard Chrysler 9.25 to the ZF style 9.25. This article is written to help identify the differences so customers can order the correct parts and identify issues with the production axles.
- In 2009 the dodge Ram 1500 4th Gen was released. Rear axle became coil sprung, the tone ring was removed from the ring gear and Axleshaft ABS rings were used. The old 9.25 parts were still used.
- In 2010 the ZF style rearend was introduced however some of the old style 9.25's were still in production vehicles from what we can tell. The easiest way we have determined to tell the difference is the diff cover. There are two bump outs in the diff cover located on the centerline of the axle.
- The original ZF cover also did not have a cover fill plug. The rearend did have a Drain hole in the casting and fill hole on the front side of the casting. Issues occurred with the ZF axles, some have said that cheap Chinese bearing were used on 57,000 vehicles; others have stated that it was a low oil level issue. I find it hard to believe that Chinese bearings would be used by an OEM manufacturer. I also could not find any concrete documentation of this issue. However we have seen the dealer put on the updated Diff cover with fill plug under warranty. The addition of the cover fill plug was to allow for more fluid capacity. We do have concrete documentation of a recall anywhere from 300,000 to 500,000 axles recalled do to a pinion nut backing off problem. (Note: 9.25 pinion nuts backing off has been an issue for many years and we see it all the time, nut back off, pinion drops in and nearly everything is destroyed including the housing in

some cases. Tech note: liberal red loctite is your friend when building a 9.25!!!!!!)
<http://www.ramtrucks.com/webservice/pdf/N08.pdf> RECALL INFO - PINION NUT

- If you have an issue with your rearend in 2009 and newer truck make sure it's not covered under warranty. If it is not come see us www.eastcoastgearsupply.com .
- Why the differences are so important: With the ZF change there was some other changes with the internals that make it a challenge for the aftermarket. (Coincidence not likely). The ring gear bolt pattern changed, pilot remained the same. Therefore aftermarket C9.25 ring gear will not bolt to ZF case. The ZF case can be machined and re-drilled to accept the Old style ring gear, but this is costly and requires downtime unless you purchase a new ZF carrier. The cross pin offset also changed in the ZF carrier so swapping carriers is not an option as it would then change your axleshaft lengths. Some say that you can swap shafts side to side or run old style shafts, but this is unconfirmed and from **reliable source it is not possible we have not attempted so buyer beware if someone attempts to sell you on this idea**. New aftermarket gears are on the way that will be double drilled so they fit either carrier. So waiting to regear your dodge until about DEC 2014 is financially advisable. We do currently have a 3.92 double drilled gear available for sale. We also have a sample 4.10 gear that we need to test if anyone wants to be a guinea pig.
- Currently if you need to repair a ZF rearend OE ZF ring and pinions are available at a fairly high cost but they are repairable.
- Note: I would not take every bit of this as the gospel but all info should be accurate enough to allow you to order the correct parts and identify the rear end. If anyone has any absolute accurate info to contribute fell free to contact us at customerservice@eastcoastgearsupply.com

PLEASE SEE PICTURES BELOW FOR IDENTIFICATION

STANDARD 9.25 REAR END 4TH GEN 2009 SOME 2010

- *NO BUMP OUTS ON DIFF COVER AT AXLE CENTERLINE HAS RUBBER PLUG



2010 AND NEWER ZF STYLE

- BUMP OUTS ON COVER NO FILL HOLE ORIGINAL COVER



2010 TO CURRENT ZF REAREND

- NEW STYLE COVER WITH FILL PLUG FACTORY INSTALLED 2012+ ALSO INSTALED UNDER RECALL



Tech Note: The ZF rear differential has 12mmx1.5 Left Hand Thread Ring Gear Bolts, center to center on ring gear bolts is 7.125" (7 1/8"). Non ZF rear differentials have 7/16"x18 Left hand thread ring gear bolts, center to center on ring gear bolts is 6.625 (6 5/8").