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AUSSIE LOCKER®

Aussie lockers are 100% made in the USA.

**Installation Supplement for Carrier Clearance
Dana 35 Models (XD-13527 & XD-13530)**

Table of Contents

Table of Contents 2

Introduction..... 3

Installation Procedures 3

Figures 7

Introduction

While the installation is generally described in the manual that is included in the package, there may be some question on the sequence of parts installation in the Dana 35 Models XD-13527 and XD-13530.

Note: Due to the overall bigger size of the Aussie Locker compared to others and due to casting differences of the Dana 35 differential cases, it may be necessary to grind/clearance your carrier during install. Also due to the size of the locker you will not be able to rotate the Cam gears of the locker inside of the case during the installation.

Installation Procedures

To install your Aussie Locker in the XD-13527 and XD-13530 differentials, perform the following steps in order:

1. With the case empty and still installed in vehicle, test fit the locker to find out if you will have any clearance issues.
2. Install the axle gears and thrust washers (make sure they rotate freely).
3. Install the ring gear side cam gear (without the pins installed) then rotate cam gear until it lines up with the cross shaft hole.

Note: If the cam will not rotate when engaged with the axle gear pull the cam gear towards the center of the carrier then rotate.

4. Install remaining cam gear if possible and rotate until aligned with cross shaft holes.
5. If the locker will not fit (**See Figure 1**), proceed to Step 6. If the locker fits and rotates proceed to Step 9.
6. Since it was determined that the differential carrier needs more clearance we recommend the carrier be removed from the vehicle to prevent metal shavings from contaminating the housing.

Note: Consult your service manual for removal, making sure you mark which side your shims and bearing races came from.

You may elect not to remove the carrier from the vehicle. In this case, put a solvent soaked rag inside to catch any metal filings and do a final rinse with solvent.

Installation Supplement for Carrier Clearance (Dana 35 Models – XD13527 & XD13530)

7. While sitting on a bench, install the locker again and mark the case where it needs to be clearance (**See Figure 2**).

Note: This step may be easier to perform if you also remove your ring gear. Mark the ring gear in relation to the carrier and install in the same position.

In most cases only a small amount of material should need to be removed—usually just smoothing down the casting is enough. Also the clearancing only needs to be done on the center to the right $\frac{1}{2}$ (passenger side) of the case (**See Figure 3**), just enough to slide the cam gear in.

8. After clearancing the carrier, thoroughly clean and remove the metal shavings. Test fit the locker again. If all is well you can check your cross-shaft to spacer gap (**See Figure 4**).

Note: Reference the installation manual “Checking case Tolerances”.

9. (5)Reinstall the case into vehicle ensuring that the shims and bearing races are located on the correct sides. Install the bearing caps, apply lock-tite to bolts and torque them to the manufacturer’s specs.

10. Apply grease to the axle gears. Install the thrust washers on the axle gears and install axle gears into case.

11. Slide the driver’s side axle-shaft through the axle gear, install the “C” clip, and snap back the axle.

Note: Reference the installation manual for additional “C” clip installation tips.

12. Apply grease to the cam gears and spacers.

13. Install the spacers into the cam gears. In this application the pins will be installed after the cam gears are installed into the case.

14. Install the ring gear side cam gear and spacer (open end of spacer covers “C” clip and axle shaft). Hold the cam gear away from the ring gear towards the center of the carrier and rotate until cross shaft holes line up (The Flats of the Cam gear will be visible). Push cam gear back towards ring gear and align teeth with axle gear.

15. Install the remaining cam gear (**See Figure 5**). Rotate the cam gear to align it with the cross shaft holes.

Note: Be sure the recess in the cam gear for the “C” clip installation is facing you.

Push the cam gear as far as possible towards the ring gear (to allow for axle shaft and “C” clip to be installed).

16. Install passenger side axle shaft, looking thru the recess in the cam gear. Line up the end of the axle shaft (where the “C” clip installs) with the recess.

Installation Supplement for Carrier Clearance (Dana 35 Models – XD13527 & XD13530)

17. Install the “C” clip using a small screwdriver or pick ensure “C” clip is completely seated on axle shaft.
18. Pull the axle shaft out to ensure that the “C” clip is seated.

Note: Reference the installation manual for additional “C” clip installation tips.

Regarding the insertion of this cam gear: This is a tight fit, there is only a small amount of clearance 0.005-0.010”, if excessive grease is used or care is not taken with dirty parts or by sliding the cam gear in an unaligned fashion this clearance may reduce and the cam gear will appear not to be able to slide past the raised section of the axle gear, in this instance squeezing the already installed parts with a screwdriver or similar will ensure the grease is squeezed out from between them and down to a thin film yielding back the necessary space. If your diff has been re-shimmed with thicker thrust washers than normal (0.030”), then it may be necessary to have these ground or replaced with thinner ones.

19. Slide the cam gear and spacer towards passenger side to engage the axle gear.

Note: Reference the installation manual for additional “C” clip installation tips.

20. Install the pins. Apply grease to the pins, line up the cross shaft recess of both cam gears (this will align the pin holes).
21. Install pins into the notched cam gear space with the “Step” of the pin pointing towards the teeth of its respective cam gear. (This allows a location for the springs to seat on later.) Using a pick, slide the pins into the opposing cam gear. Repeat for all four pins.

Note: Reference the installation manual for additional tips.

22. Install the springs. Wedge a screwdriver or equivalent tool between the cam gears to spread them apart and ensure that they are engaging the axle gears. Install a spring by sliding it into the notch and engaging the step on the pin. Then with a small screwdriver compress the spring and push it completely into the notch. Repeat for all four springs.

Note: Reference the installation manual for additional tips.

23. Install the Cross-Shaft. Line up both cam gears with the holes in the carrier for the cross shaft. The new Cross shaft is drilled on both ends for either a bolt installation or roll pin installation. Set the bolt or roll pin into each of the holes to determine the best (tighter) fit. Once this is determined install the cross shaft into the carrier.

Note: You may need to push apart the spacers if the shaft does not slide completely in.

Installation Supplement for Carrier Clearance (Dana 35 Models – XD13527 & XD13530)

24. Apply Lock-tite to the threads of the bolt install and torque to manufacturer's specs.

Note: Reference the installation manual for additional tips.

25. Congratulations! You have just installed the Dana 35 Aussie Locker—one of the more difficult installations. You can now proceed to the installation manual section entitled “Measuring Center Gap”, then to “Testing of the Locker Assembly.”

Figures

Figure 1: Locker not fitting into carrier; will need to be cleared.



Figure 2: Area to be cleared.



Figure 3: Carrier after clearancing.



Figure 4: Checking the cross-shaft (pinion shaft) to spacer clearance (.005 - .020).

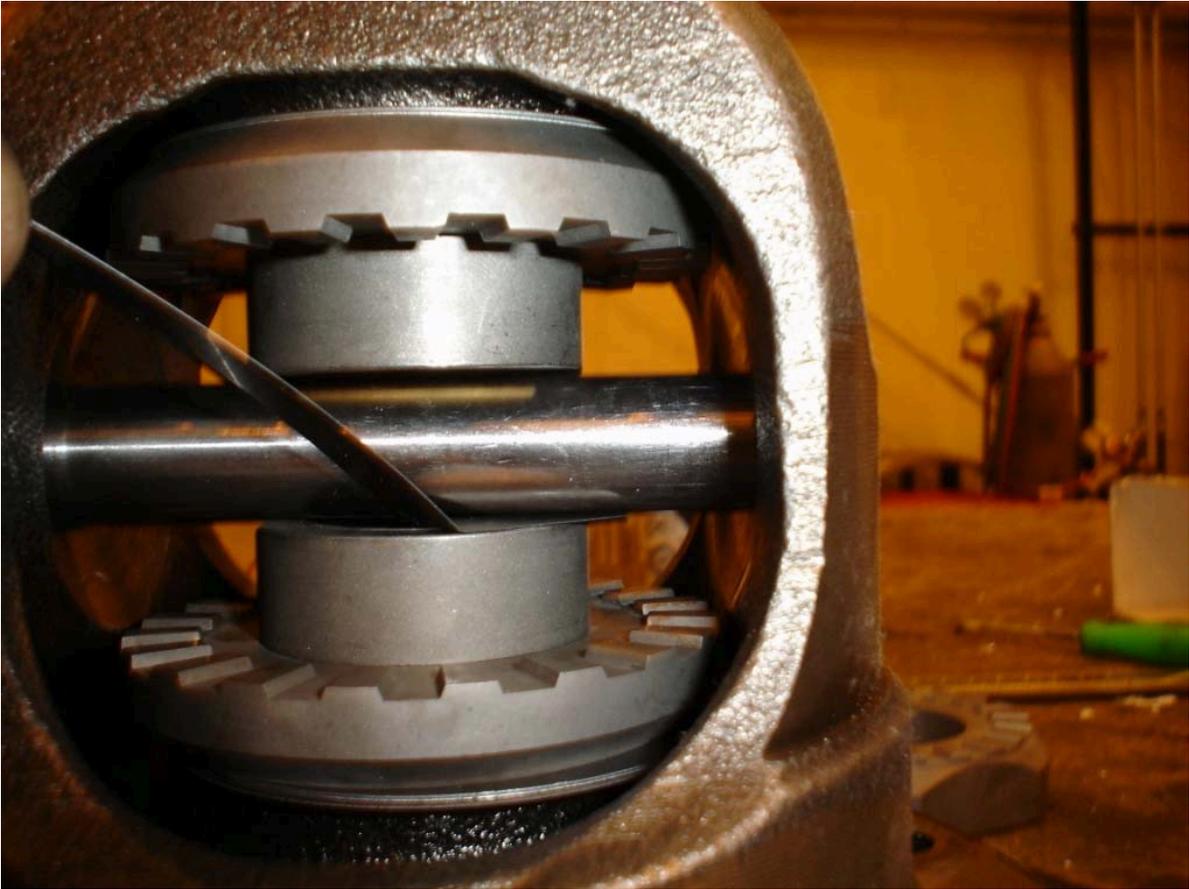


Figure 5: Sliding the 2nd cam gear in after clearing the carrier.

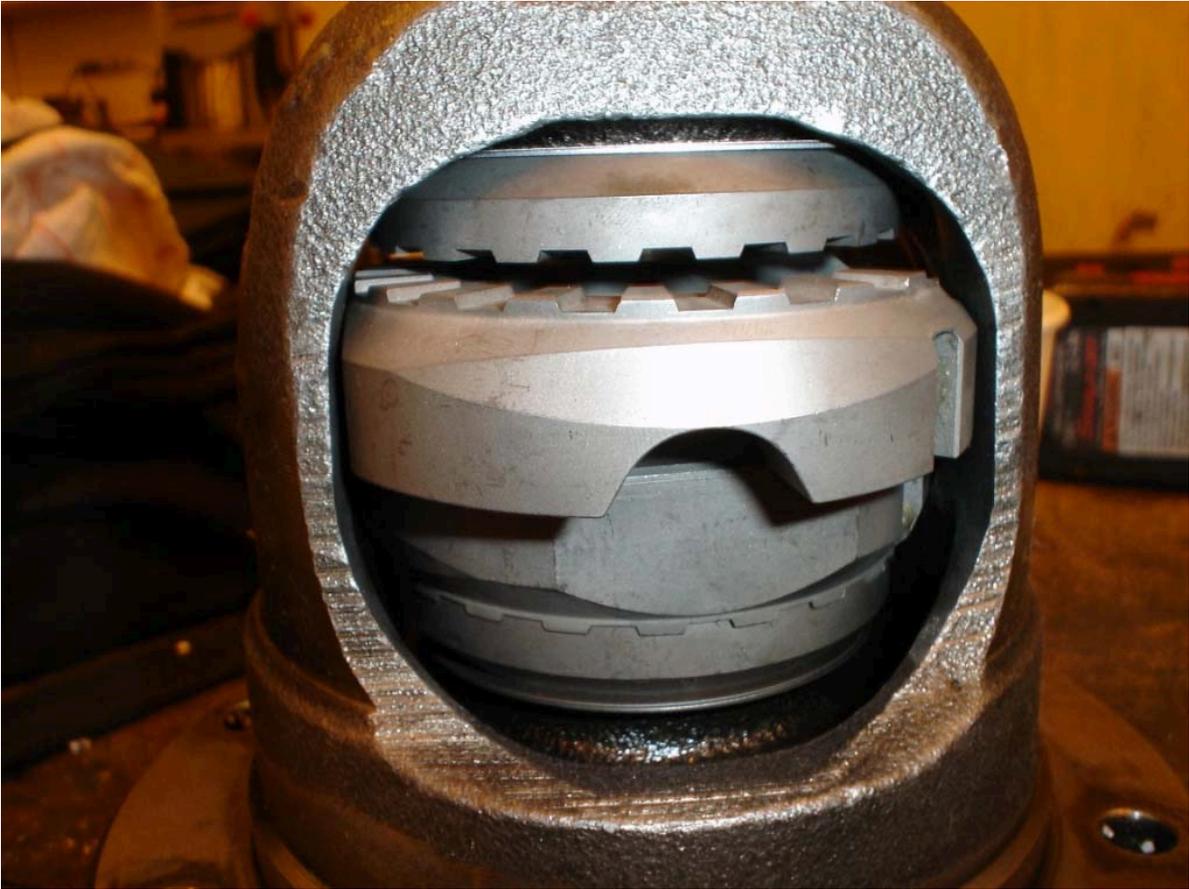


Figure 6: Measuring the center gap (.140 - .170).

