



Installation Instructions for the TeraLow Heavy- Duty 300 Output Shaft (HD300)



Think safety first when installing this kit. This kit was designed specifically for the Dana 300 transfer case. It can be used with either the factory stock gears or with the TeraLow 300 4.0:1 low-range gear kit (LOW300)

Note: This kit will NOT fit 1980 the model Dana 300 Transfer Case.

Photos in these instructions are of a display transfer case which has some areas cut away for observation of the inside of the case.

Before installation make sure that your HD300 kit includes each of the following items:

- | | |
|---|-----------------------------------|
| 1 bearing race (LM48510) | 1 bearing (LM48548) |
| 1 large bearing race (LM501314) | 1 large bearing (501349) |
| 1 cv type yoke (SS103) | 1 oil seal 472572 (SS104) |
| 1 speedo gear 4338996 (SS110) | 1 yoke nut (SS112) |
| 1 washers for yoke (SS113) | 1 thrust washer (TL655) |
| 1 preload shim .010" (TL656-10) | 1 preload shim .024" (TL656-24) |
| 1 preload shim .003" (TL656-3) | 1 heavy duty output shaft (TL657) |
| 1 pocket bearing (TL658) | 1 housing (TLHD300-5) |
| 1 front speedo gear spacer (TL778) | |
| 1 rear speedo gear spacer OD 1.8"x ID .481" (TL777) | |

Disassembly

1. Drain the transfer case. Remove front and rear drive shafts. Remove transfer case from vehicle.
2. Remove the shift lever assembly and the bottom cover bolts. Break the seal of the bottom cover by inserting a putty knife between the cover and the case.

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Work around the circumference of the cover to break the seal.

3. Remove the front and rear drive shaft yokes.
4. Remove the input shaft support attaching bolts and remove the support, rear output shaft gear and input shaft assembly. It may be necessary to use a putty knife to break the seal around the support.
5. Remove the rear output shaft clutch sleeve from the transfer case.
6. Remove the intermediate shaft lock plate and bolt.
7. Use a brass drift and hammer to tap the intermediate shaft out of the case.
8. Remove the intermediate gear assembly thrust washers, needle bearings and spacers.
9. Remove the rear housing. Loosen the housing with a rubber mallet so it can be removed.
10. Remove the speedometer drive gear and end play shims from the rear output shaft.
11. Remove the rear output shaft front bearing and support the case on blocks. Brace the clutch gear on a firm surface and tap the shaft out of the bearing with a rubber mallet. If the shaft does not come out easily it will be necessary to use an arbor press.
12. Remove the rear output shaft front bearing, thrust washer, clutch gear and output shaft from the case.

Reassembly

1. Install the input shaft rear pocket bearing in the new Tera Heavy Duty rear output shaft.
2. Place the rear output shaft clutch gear in the case and insert the shaft into the gear.



3. Install the thrust washer.



4. Install the front bearing onto the rear output shaft.



5. Insert the inner speedo gear spacer.



6. Insert the speedo gear and then the outer speedo gear spacer.



7. Install the input gear assembly.

8. Install the assembled support, shaft and gear in the case. Use two of the bolts to align the housing on the case.



9. Install the end play shims on the rear output shaft.



10. Position the rear output shaft rear bearing in the bearing cap and install the drive shaft yoke seal.

11. Clamp a dial indicator to the bearing cap. Pry the shaft back and forth to check end play. If the end play is not within the specified range, remove or add shims between the rear speedometer drive gear spacer and the output shaft rear bearing. The preload should not exceed 10 in. lbs.

12. Remove the rear housing. Apply sealant to the rear housing mating surface and align it on the case with two mounting bolts. Tap the cap into position and install the bolts, torque them to 22-32 ft. lbs.

13. Install the oil seal.



14. Install the rear output shaft yoke and tighten the locknut to 90-100 ft. lbs.



15. Install the needle bearing and spacers in the intermediate gear.

16. Install the intermediate gear thrust washers in the case with the tangs aligned in the grooves. Petroleum jelly can be used to hold the washers in place. Then push the shaft into place.

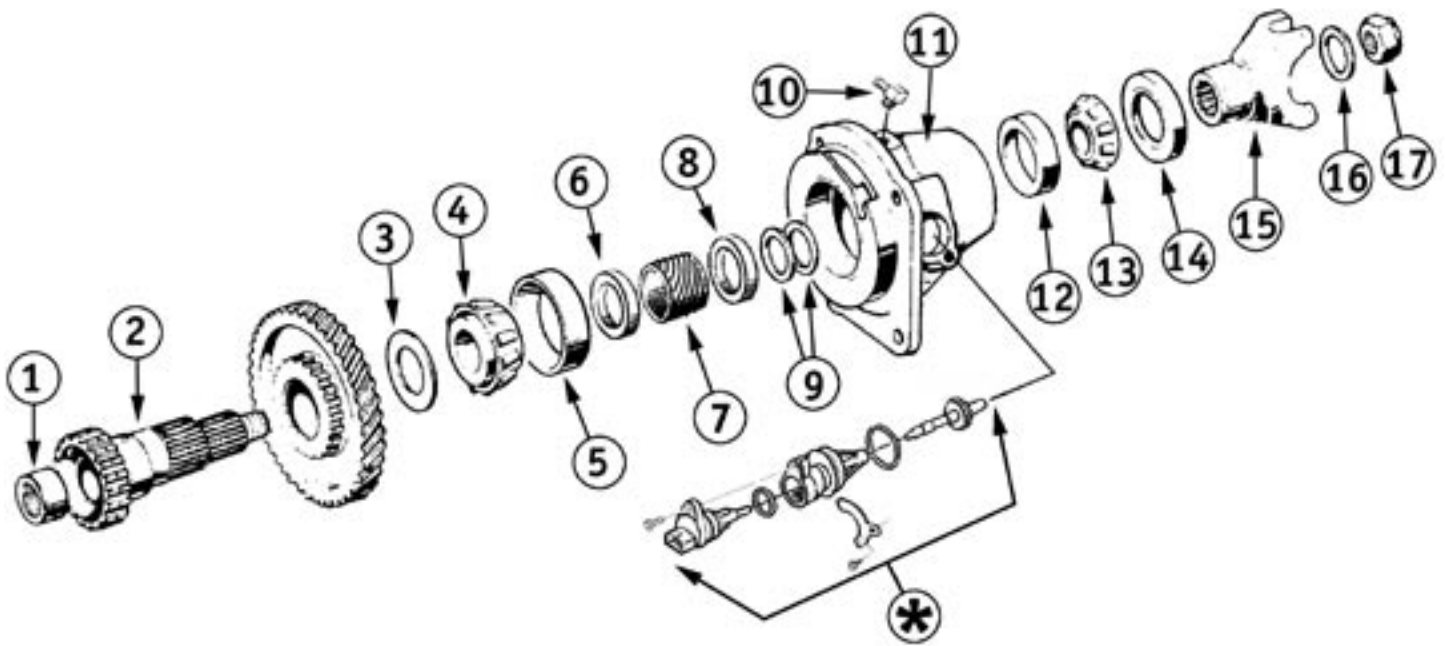
17. Install the shaft lock plate and bolt, tightening the bolt to 22-32 ft. lbs.

18. Install the bottom cover after applying sealant to the mating surface. Install the cover bolts and torque them to 22-32 ft. lbs.

19. Remember to fill the transfer case with oil.



Exploded view of the Tera Low Heavy-Duty 300 Output Shaft (HD300)



Items numbered are included in the TeraLow HD300 Heavy-Duty Output Shaft kit

- 1 pocket bearing (TL658)
- 2 Tera Heavy-Duty output shaft (TL657)
- 3 thrust washer (TL655)
- 4 large bearing (LM501349)
- 5 large race (LM501314)
- 6 front speedo gear spacer (TL778)
- 7 speedo gear 4338996 (SS110)
- 8 rear speedo gear spacer (TL777)
- 9 preload shims;
 - .003" (TL656-3),
 - .010" (TL656-10),
 - .024" (TL656-24)

- 10 brass elbow vent (TL26) pre-installed in the housing by Tera manufacturing
- 11 housing (TLHD300-5)
- 12 rear race (LM48510)
- 13 rear bearing (LM48548)
- 14 oil seal 472572 (SS104)
- 15 cv type yoke (SS103)
- 16 yoke washer (SS113)
- 17 yoke nut 4167924 (SS112)
- * speedometer gear assembly

Note: this assembly is NOT included in the HD300 kit. It comes stock on 1981-86 models and must be replaced or re-used.