



FITTING INSTRUCTIONS FOR

MFK1665

25% LOW RANGE GEARS

TO SUIT

80/100 SERIES HF2A LAND CRUISER TRANSFER CASES

Thank you for purchasing a product manufactured by Marks 4WD Adaptors. The following instructions are intended as a guide. It is recommended that you purchase a workshop manual to suit the 80/100 series Land Cruiser. The Toyota publication number for the 80 series transfer case is RM184E, the following instructions refer to this manual.

Note: Viscous coupled transfer cases can be fitted with these low range gears.

Note: For maximum transfer case strength we recommend you convert your HF2A to part time 4WD using our MFK1210/80HD or MFK1210/100HD

INSTRUCTIONS

1. Drain the transfer case oil.
2. Remove the rear drive shaft.
3. Remove the front drive shaft.
4. Disconnect the transfer case 4wd control/light switches and the VSS. (disconnect the speedo cable if fitted.)
5. Disconnect the earth strap on the transfer case.
6. Disconnect the Hi/Low lever linkage.
7. Remove the bolts and nuts holding the transfer case to the back of the gearbox.
8. Using a suitable lifting jig remove the transfer case from the vehicle.
9. Remove the rear extension housing from the transfer case by undoing the 9 bolts as per page TF-7 instruction 11 in the Toyota manual.

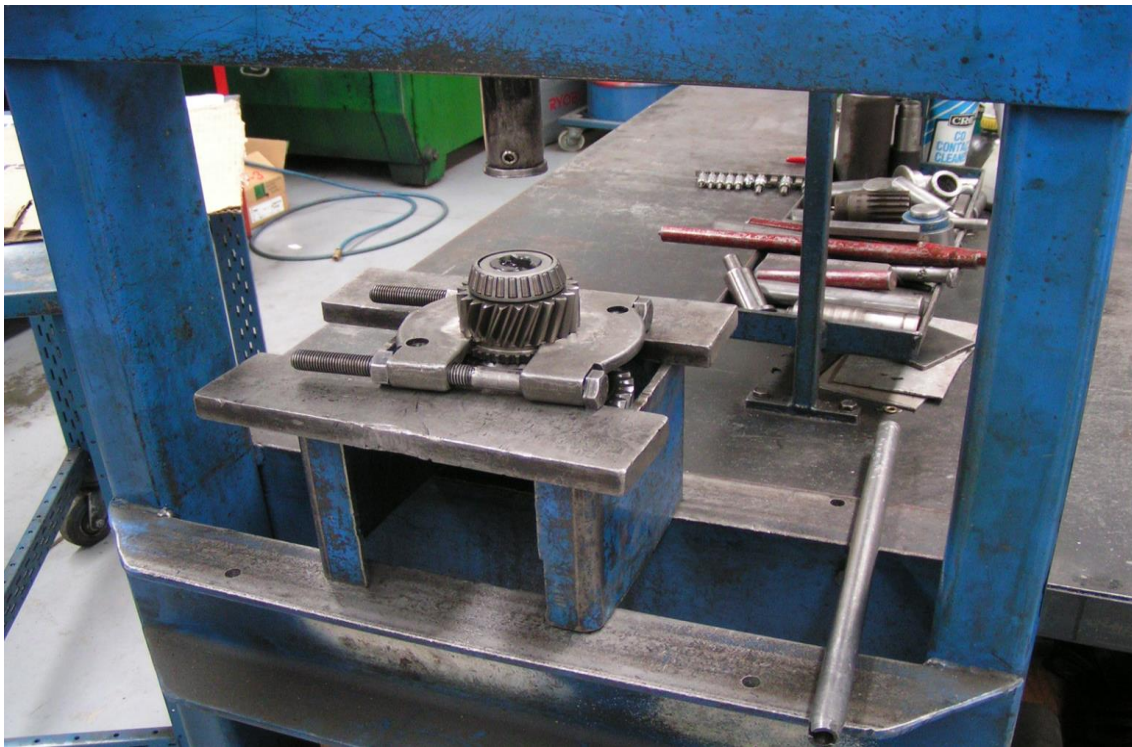
NOTE: The bolt lengths vary so take note of which holes the bolts came from.



10. Remove the 5 bolt, top case cover, as per instruction 13 in the Toyota manual.
11. Remove the large snap ring from the outside of the transfer case input shaft rear bearing.
12. Remove the 8 bolts holding the centre housing to the front housing. Separate the two housings as per instruction 14a, b, and c in the Toyota manual.

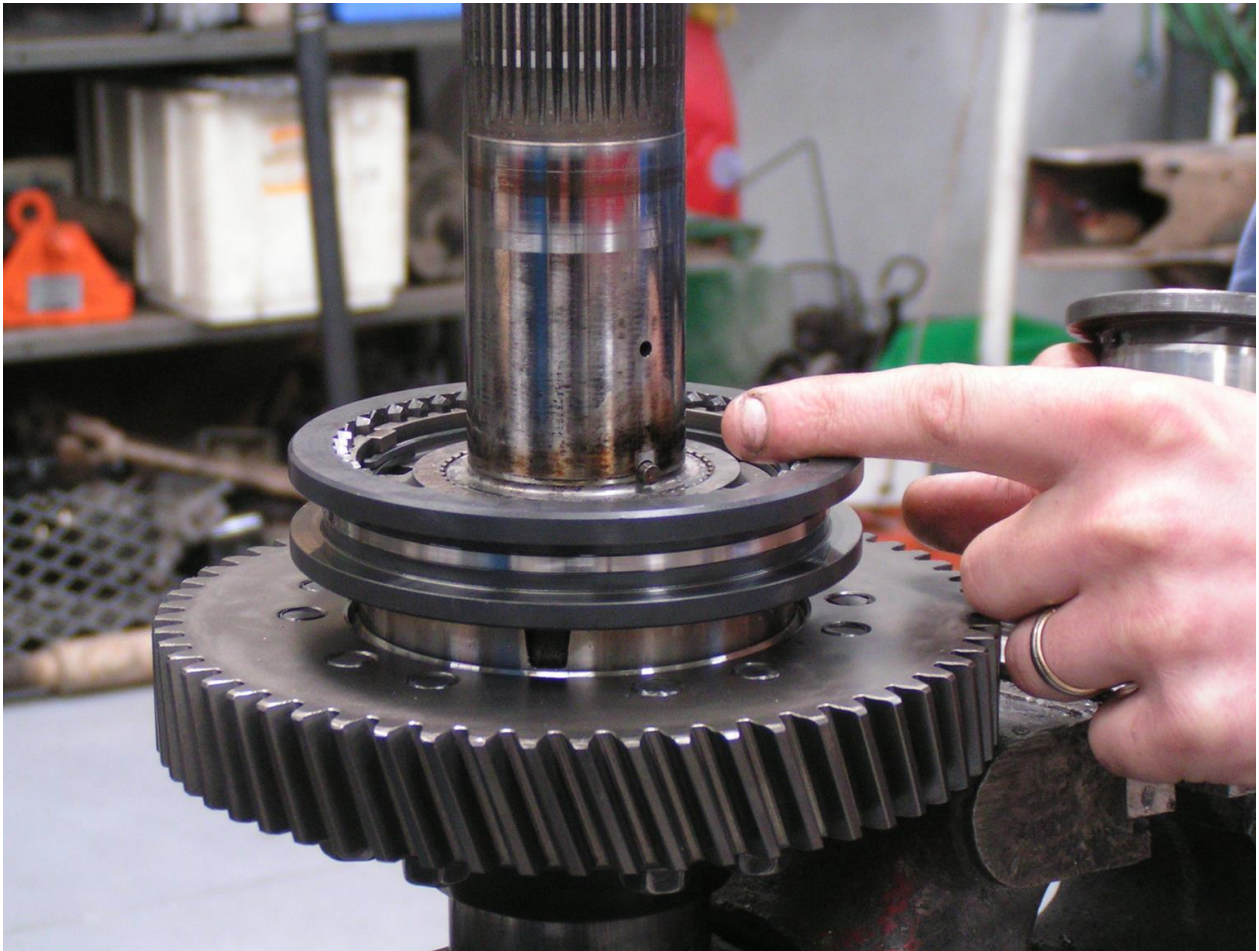


13. Remove the input gear and shaft assembly.
14. Remove the 4WD electric motor and gearbox from on top of the transfer case. (page TF-5)
15. Remove the Hi/Low detent cap, spring and ball located under the 4WD electric motor and gearbox. (page TF-5)
16. Remove the centre differential, idler shaft and the Hi/Low selector fork. (page TF-9)
17. Remove the idler shaft low gear, see the photos next page. (also refer page TF-17)
18. Install the new gear onto the idler shaft.



19. Remove the centre differential front drive gear piece. (refer page TF-21)
20. Remove the high range gear and synchro hub assembly. (refer pages TF-21 & TF-22)

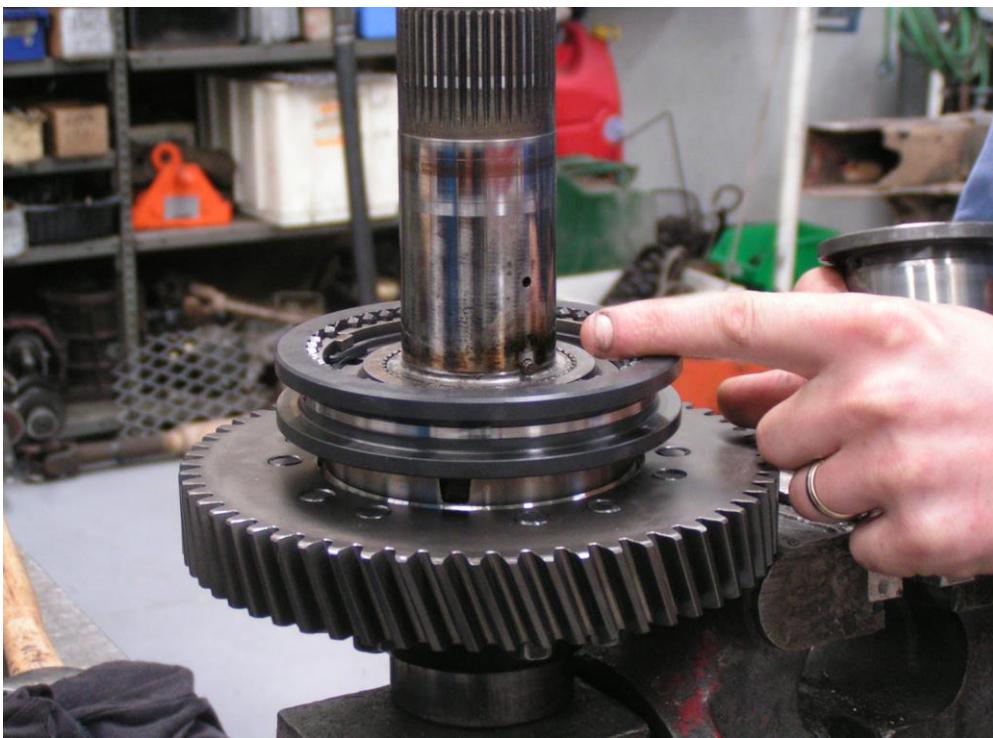
NOTE: Watch out for the small locating pin under the bearing sleeve, it's easy to lose. See photos.



21. Remove the centre differential rear case (spool) as per page TF-23 instruction 10 in the Toyota manual. 12 bolts hold the rear case to the front along with the low range output gear.
22. Remove the pinion shaft, locating pin, pinion gears, side gears and thrust washers.
23. Remove all parts and clean thoroughly.
24. Fit the new low range output gear onto the centre differential and re install the centre differential gears and spool. Torque the bolts to specification. (65-ft-lb, 88 n-m) (refer page TF-24 & TF-25)
25. Then loosen the 12 bolts as per instruction 5b page TF-25 in the Toyota manual.
26. Re-torque the 12 bolts to 72ft-lb 98 n-m as per instruction 5c in the Toyota manual

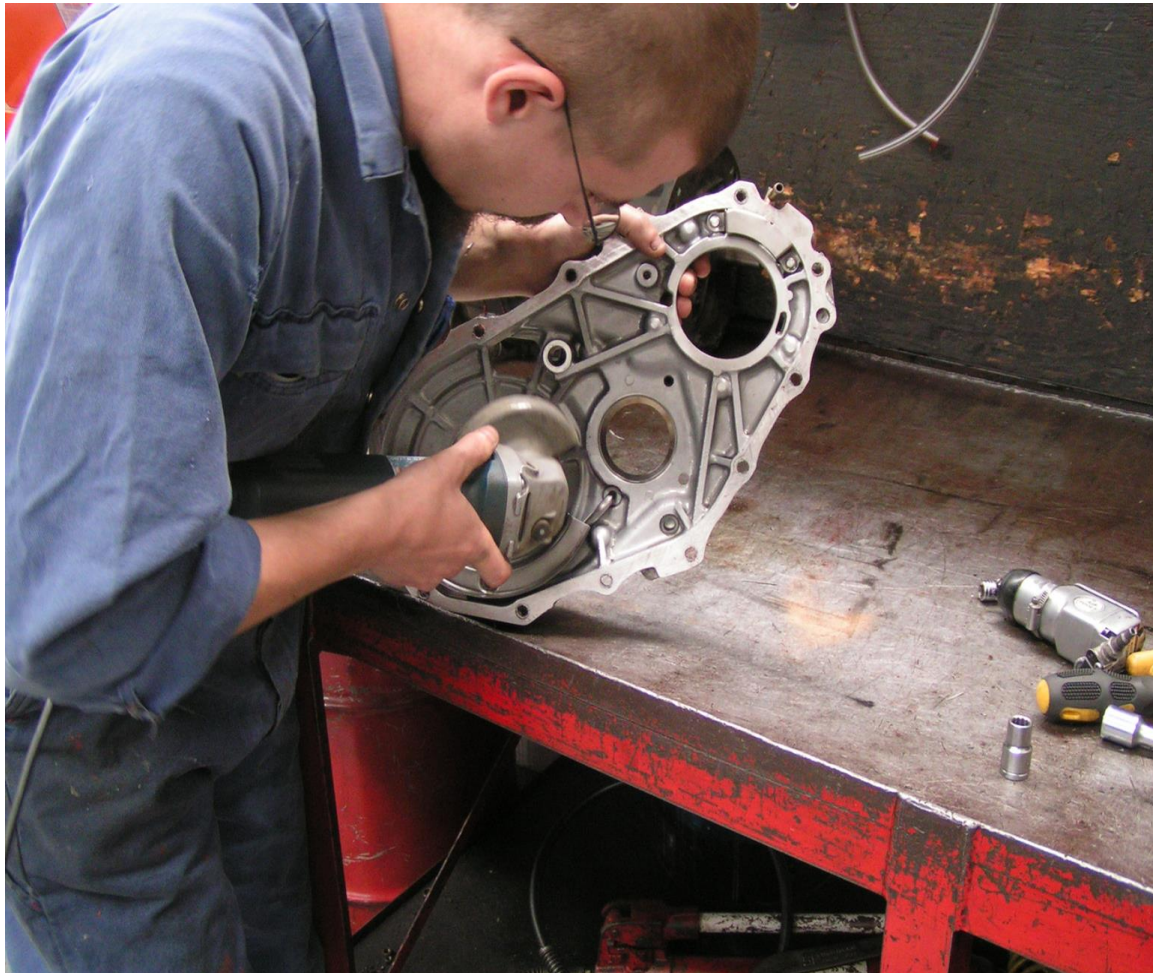


27. Re install the synchroniser hub assembly and bearing sleeve.
NOTE: Make sure you align the slot in the sleeve with the locating pin on the shaft.(see photo)



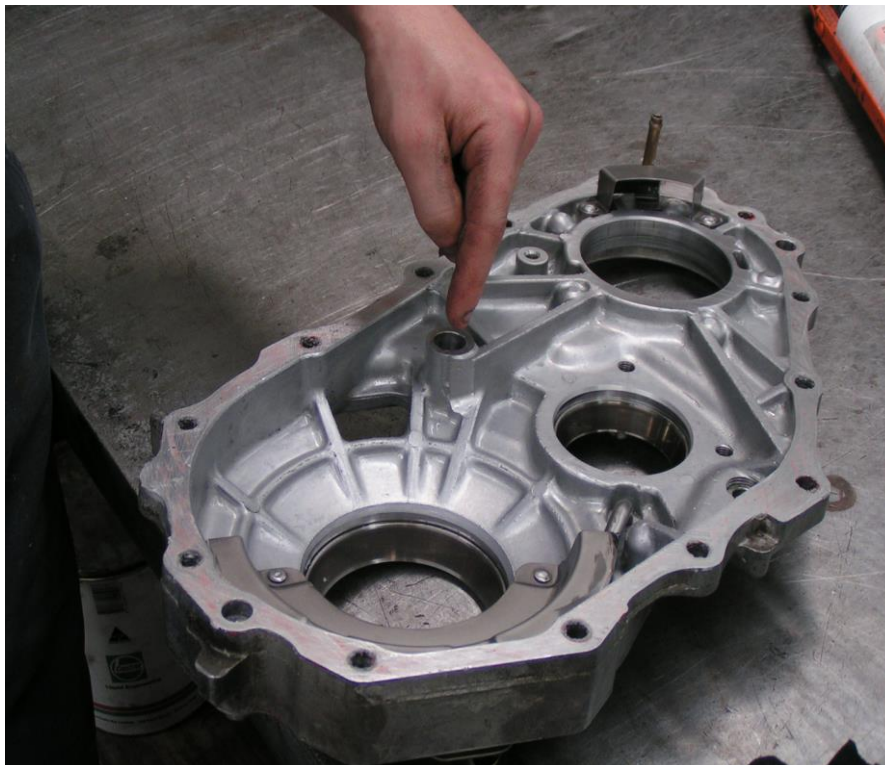
28. Re install the high range output gear, bearings and front drive gear piece. (refer page TF-27 & TF-28)

29. Using a grinder with a cut off wheel fitted remove the large diameter section of the metal shield in both halves of the transfer case housing. This section is around the outside of the low range output gear. See the following photos.

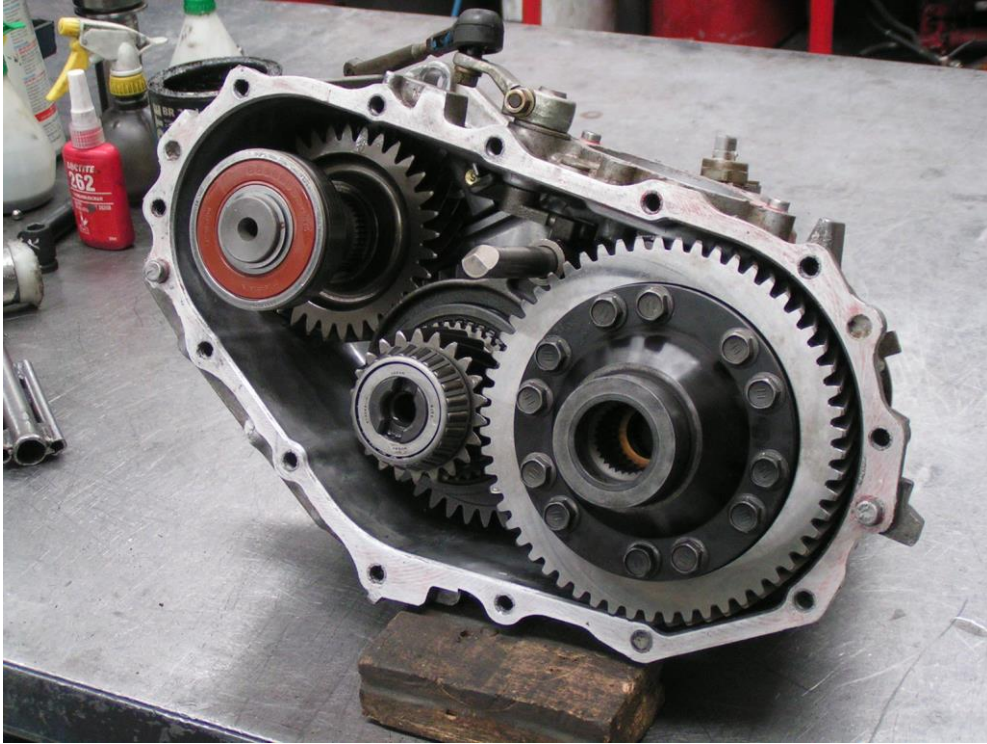




30. A small section of housing also needs to be ground away to clear the low range output gear. See the following photo.



32. Re install the gears and selector into the case. See the following photo.



The following instructions refer to pages TF42 and TF43 in the Toyota Manual.

31. Fit the centre housing to the front housing using a suitable sealer as per instruction 9a, b, and c in the Toyota manual.
32. Apply liquid thread sealer to all 8 bolts and torque them to 27ft-lb 37 NM as per instruction 9d and e in the Toyota manual.
33. Re-install the snap ring on the input shaft rear bearing as per instruction 9f in the Toyota manual.
34. Install the 5 bolt rear case cover. Apply sealer to the cover as per instruction 10a and b in the Toyota manual.
35. Apply sealer to the 5 cover bolts and torque them to 27ft-lb 37 n-m as per instruction 10c, d and e in the Toyota manual.
36. The output shaft and idler shaft shims should not require adjustment but the end float should be checked as per page TF-44 in the Toyota manual.
37. Install the rear extension housing using sealer on the housing and the 9 bolts as per page TF-45 instruction 14a, b, c, d and e in the Toyota manual.
38. Torque the bolts to 27ft-lb 37 n-m.
39. Re install the transfer case into the vehicle.
40. Re connect the wiring.
41. Re connect the transfer case linkage.
42. Fill the transfer case with 75w-90 oil. It should take approximately 1.3ltrs (1.4US qts)
43. Fit the rear drive shaft.
44. Fit the front drive shaft.
45. Fit the speedometer cable or speed sensor wiring.
46. Road test the vehicle and check for oil leaks.
47. If all is well happy 4 wheeling.

The components supplied in the kit are designed for specific type conversions. Modifications to any components without the written consent from Marks 4WD Adaptors will void all warranty or return privileges. Should you have any further questions that are not covered in the instruction sheet, please contact our sales department for assistance.

Remember an inexpensive phone call can save a costly mistake

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