



## Fitting Instructions for MFK1530 - MFK1542

# TH700, 4L60E & 4L60E-6 to Nissan Patrol Transfer Case Adaptor Kit



### Important Information

This instruction booklet can be used standalone for the above stated conversion but we would also recommend having a workshop manual for your vehicle to cover any factory Nissan Patrol torque / installation settings to complete the transfer case adaptor installation to your Nissan Patrol.

The instruction booklet describes the required modifications (if any) and installation process in order for our kit to fit and work properly.

Marks 4WD Adaptors cannot and will not take responsibility for knowing everything that may impact on your conversion. Before beginning any work, thoroughly work through the sequence of changes, work and potential impact of your conversion. You must ensure you completely understand all the factors that may impact on achieving your desired results.

**Note: See following page for important kit notes before proceeding**

## Important Kit Notes:

- The GM automatic transmission can be fitted without drive shaft length alterations. When fitting this kit to an automatic ZD30 Patrol, a manual ZD30 Patrol cross-member and tail-shafts will be required.
- All automatic transmissions require the use of a suitable transmission cooler. This can either be incorporated into the original radiator or a remote type can be used.
- For **GQ Y60 models** the Hi-low linkage and brackets fitted to the factory automatic equipped Patrols will not suit this adaptor kit. We recommended that you use the lever, linkages and lockout plate from a manual vehicle.

## Kit Contents

This kit contains the following parts. Before beginning any work ensure that you have all parts.

### MFK1530

<b>Part No.</b>	<b>Quantity</b>	<b>Part Description</b>
MFC1103	1	Adaptor - 4L60E 6 Bolt to 4 Bolt
MFC925E	1	Transfer Case Adaptor - 4L60E to Patrol
MFC1530	1	Standard Nissan Input Gear 29T to Turbo 700/4L60
TC12572	1	Seal - 44 x 65 x 8
DL-M12-20	2	Dowel - M12 x 20
SHCS-2045	10	SHCS - M10 x 30mm - H/T - Z/P
WP-35	1	Welsh Plug - 35mm - GQ/GU Patrol T/C
MFC1515/S	1	Spacer - 60 x 3.5 x 74L

### MFK1540

<b>Part No.</b>	<b>Quantity</b>	<b>Part Description</b>
MFC1103	1	Adaptor - 4L60E 6 Bolt to 4 Bolt
MFC925E	1	Transfer Case Adaptor - 4L60E to Patrol
MFC1540	1	Standard Nissan Input Gear 29T to Turbo 700/4L60
TC12572	1	Seal - 44 x 65 x 8
DL-M12-20	2	Dowel - M12 x 20
MFC1516-36/20	1	Idler Gear - Patrol - 36-Tooth/20-Tooth
MFC1517-43	1	Output Gear - Patrol - 43-Tooth
MFC1516BE35	1	Backlash Eliminator - 35-Tooth
SHCS-2045	10	SHCS - M10 x 30mm - H/T - Z/P
WP-35	1	Welsh Plug - 35mm - GQ/GU Patrol T/C
MFC1515/S	1	Spacer - 60 x 3.5 x 74L

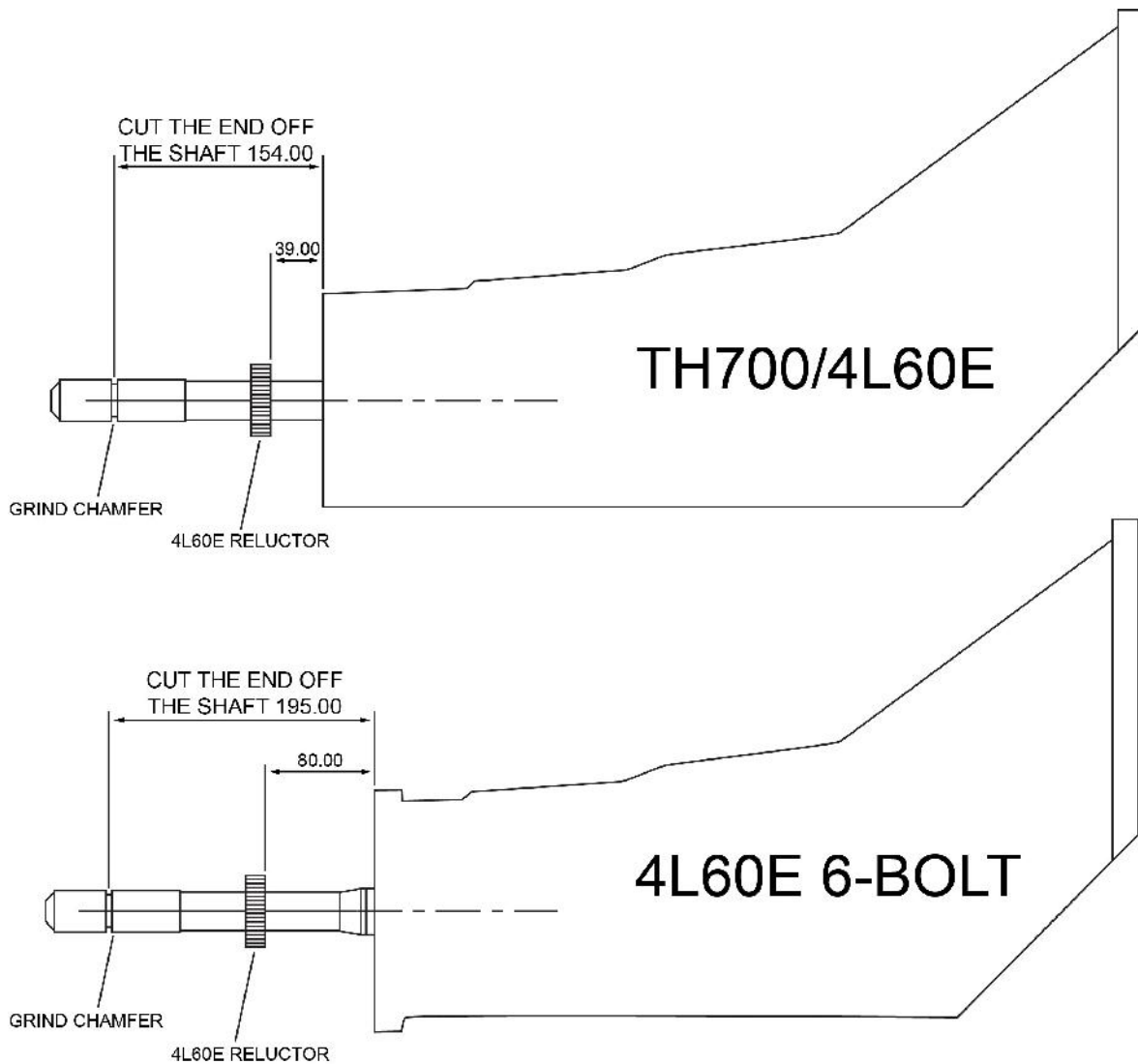
# Transmission Preparation

1. Drain transmission of fluid
2. Remove automatic extension housing and speed sensor. See image 1.1



Image 1.1

3. Output shaft will be cut down to 154mm stick out length 4 bolt rear housing and 195mm stick out length 6 bolt rear housing – this should be at the factory groove in the shaft. See image 1.2 below for reference.



4. Cover rear opening with rags to keep contamination out when cutting the output shaft down. See image 1.3 below



*Image 1.3*

5. Chamfer shaft once cut and clean shaft. See image 1.4 below



*Image 1.4*



## Transfer Case Preparation

**NOTE:** If you purchased the MFK1540 kit, fit the low range reduction gears as per their instructions; skip to page 10—Assembly

1. Drain transfer case of fluid. Remove the 10 bolts securing the front case cover using a 12mm socket.
2. Remove the 10, 12mm headed bolts securing the front case cover and remove cover. Retain these bolts for reuse. See image 2.0

**Note:** RD and RB models see page 13 for more information



*Image 2.0*

3. Remove the input gear, careful to not loose the 2 piece needle roller bearing as this is reused.
4. Remove the circlip from the gear. See image 2.1



*Image 2.1*

5. Use bearing jaws to remove the bearing from the input gear. See image 2.2



Image 2.2

6. Clean and apply a film of oil on the new input gear bearing diameter and press the bearing on (take note of the direction of the bearing). See image 2.3.



Image 2.3



7. Fit the supplied spacer and the original circlip to the input gear. See image 2.4



Image 2.4

8. Fit the supplied welsh plug to the input gear using a suitable drift. See image 2.5
9. Re-fit the 2 piece needle roller. See image 2.6



Image 2.5



Image 2.6

10. Make sure mounting face for the front cover is clean and free from old gasket material etc.
11. Carefully fit the input gear into the transfer case, make sure the needle roller stays in place. See image 2.7



*Image 2.7*

12. Make sure the face of front cover is clean and free from old gasket material etc.. See image 2.8



*Image 2.8*



13. Apply a thin film of gasket maker such as Threebond. See image 2.9



Image 2.9

14. Fit front cover to transfer case, secure using original bolts – use thread sealer on bolt thread so oil doesn't leak down threads and torque to factory specifications. See image 2.11



Image 2.11

# Assembly

1. Use a suitable drift to fit the oil seal flush with the transfer case adaptor housing, grease lip of seal. See image 3.1



Image 3.1

2. Fit the supplied M12 x 20 dowels to the MFC925E adaptor housing (make sure there are none remaining in the transfer case)
3. Use the original extension housing seal and Threebond gasket sealant on the 6 – 4 bolt adaptor. See image 3.2



Image 3.2



4. Fit the MFC1103 6-4 bolt adaptor to the transmission – secure with factory bolts (or supplied cap screws) – use Loctite on threads. See image 3.3

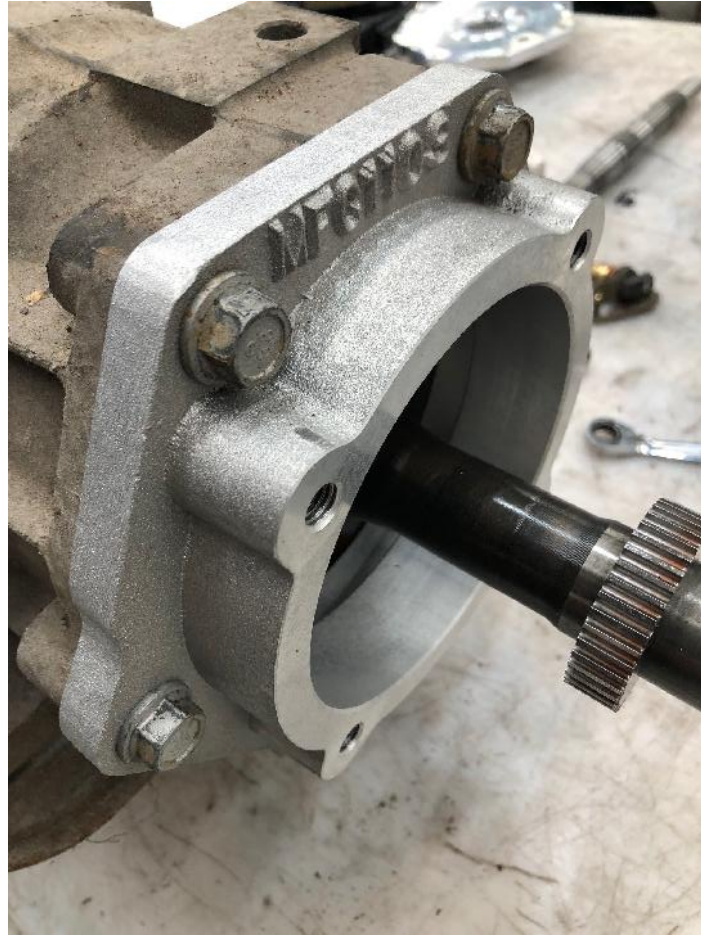


Image 3.3

5. Fit the transfer case adaptor housing and secure with the supplied cap screws – use Loctite on threads. See image 3.4

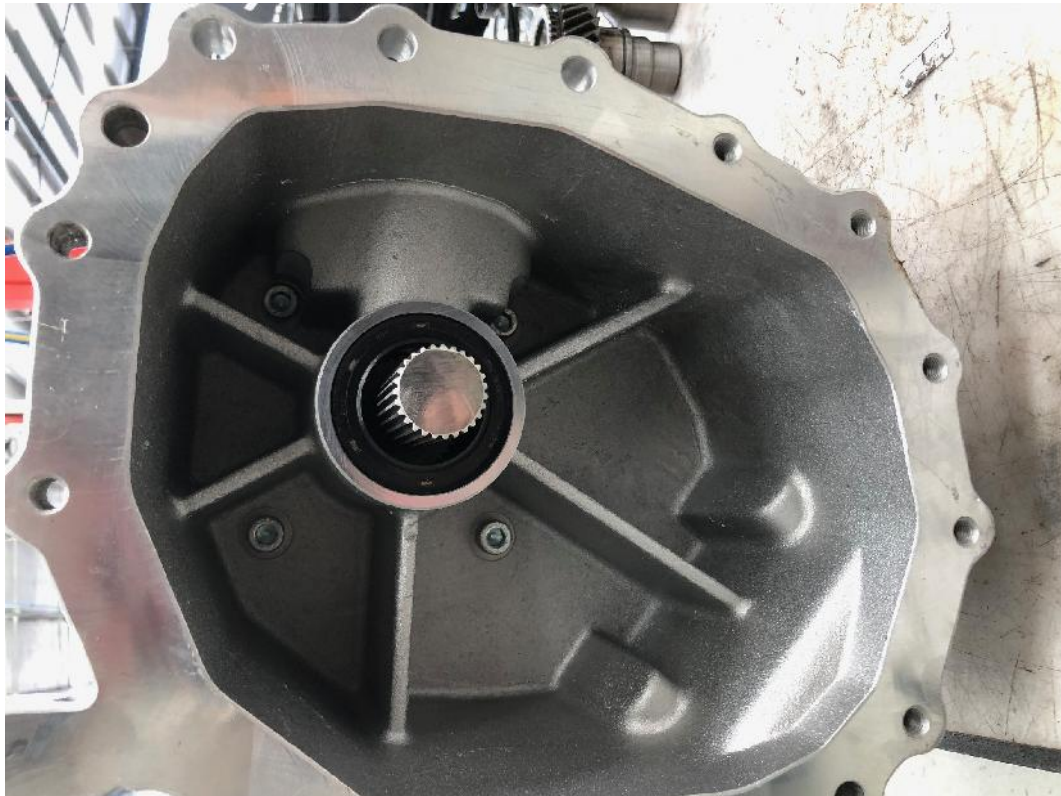
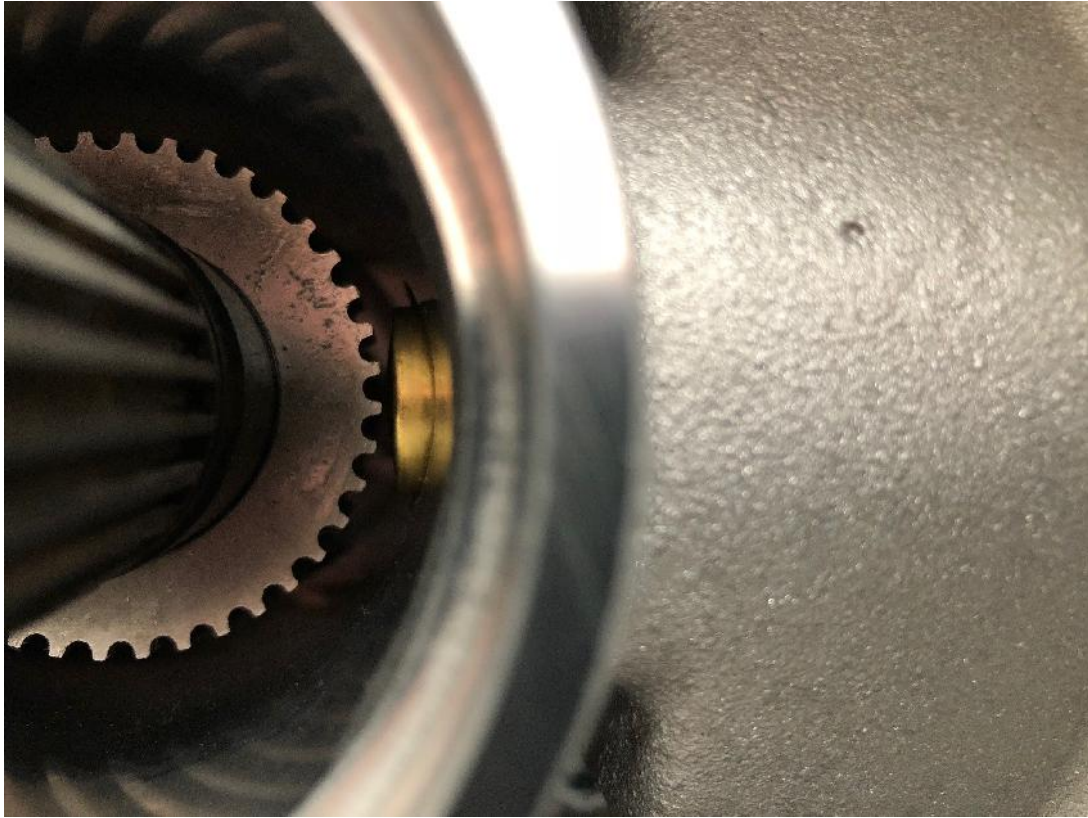


Image 3.4



- Fit speed sensor (or welsh plug for TH700 transmissions) to the side of the adaptor – check it aligns closely with the reluctor ring on the output shaft, use factory bolt to retain. See image 3.5. See image 3.6 for the installed speed sensor.



*Image 3.5*

- Align the transfer case with the output shaft, slide together aligning the dowels. Secure with the factory Nissan bolts. See images 3.6 and 3.7



*Image 3.6*



*Image 3.7*

- Remember to fill the transmission and transfer case with oil prior to operation.



## **RD28 & RB30 Models Only (1a, 1b & 1c)**

1.
  - a. Cut the original transfer case shift linkage rod in half. Weld the new extension piece supplied between the two halves.
  - b. Refit the linkage to the original lever. Then refit the assembly to the side of the adaptor housing. Secure it using the new lockout plate supplied.
  - c. The oil catcher under the transfer case input seal needs to be cut off. If this is not done, the oil catcher will foul on the adaptor housing and oil seal. The photo below shows a transfer case with the oil catcher.



2. Making sure that the front transfer case face is clean, place a smear of silastic on the adaptor housing rear face then bolt up to the transfer case using the original bolts.
3. Refit the transfer case linkages, lock out plate and pivot pin to the extension housing.
4. Mount the transmission assembly to the vehicle using the original Nissan transfer case mounts on the new adaptor housing.
5. Refit front drive shaft. Check the clearance between the front shaft and the side of the automatic transmission. Simulate the up and down movement of the drive shaft as the front suspension travels. Modify the pan of the auto and the corner of the cover plate to allow for this movement.

## Terms and Conditions

Thank you for purchasing this product manufactured by Marks 4WD Adaptors. Components supplied in this kit are designed and machined for a specific conversion only as outlined in this guide. Modifications to or substitution for any of the components without the written consent of Marks 4WD Adaptors will void any possible warranty or return privileges.

The following instructions are intended as a guide and only for Marks 4WD Adaptors kits. If you do not fully understand the steps, modifications or changes required to complete the conversion, contact our sales department for more information. We recommend that you purchase a service manual pertaining to your vehicle for specific torque values, wiring diagrams and other related information.

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