



Fitting Instructions for

MFK222

TURBO 400

TO

LAND CRUISER 5-SPEED-19 SPLINE SPLIT TRANSFER CASE

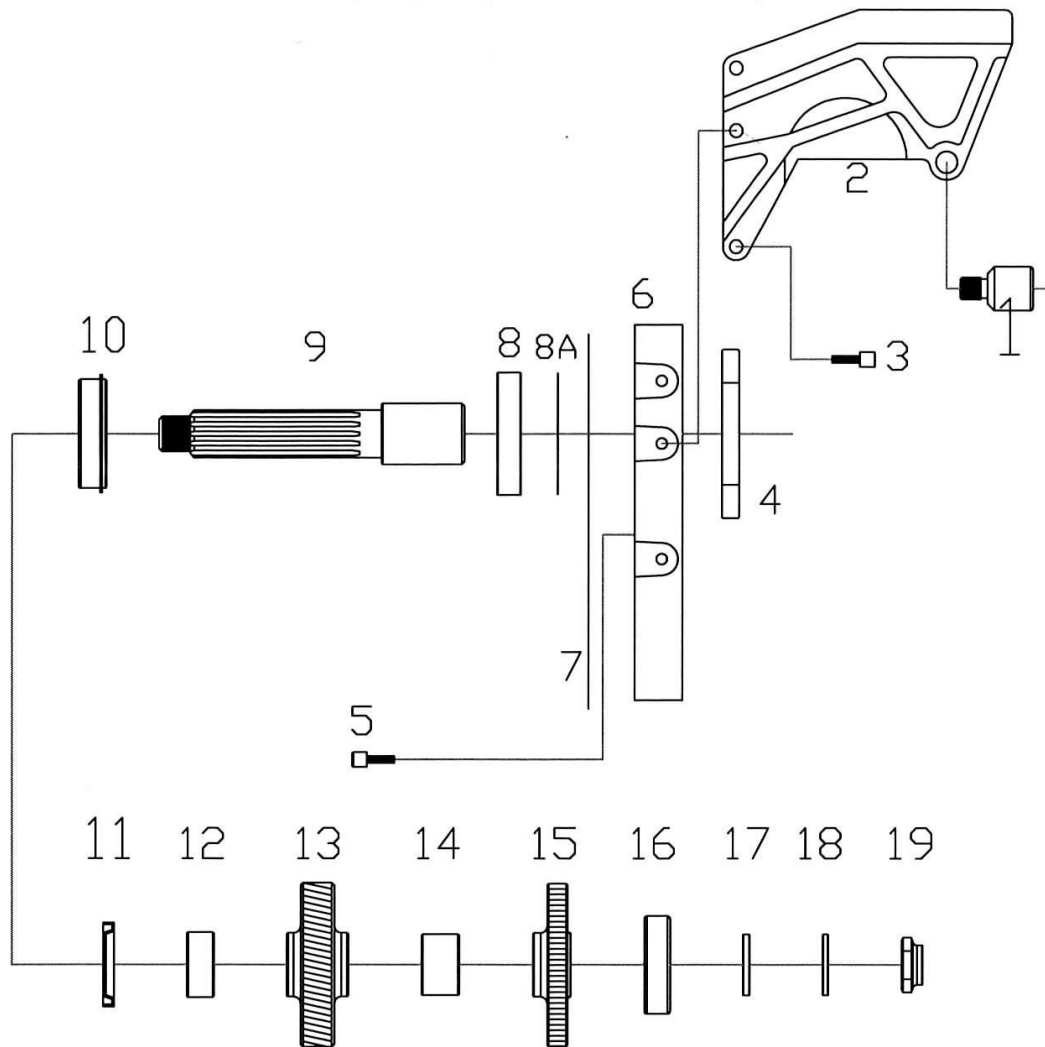
Thank you for purchasing a product manufactured by Marks 4WD Adaptors. The following instructions are intended as a guide. We recommend that you purchase a service manual pertaining to your vehicle for specific torque values, wiring diagrams and other related information.

Note 1: Front drive shaft modifications are required when fitting this kit see page 5 for details.

Note 1: Front It is recommended that an automatic transmission specialist install the modified transmission output shaft to the automatic transmission. The automatic transmission requires complete disassembly as the output shaft is fitted from the inside of the transmission.

Note 3: This adaptor housing is used for both TH350 and TH400 transmissions, it is multi drilled part way through the casting. After removing the extension housing from your transmission, establish which holes need to be drilled through. Using a drill press drill the required holes through and remove any burrs. **Note:** When drilling the holes out place a sheet of cardboard under the casting to prevent scratching the machined surface.

1. Remove transfer case linkages, lock out plate and pivot pin from old transmission assembly.
2. Remove the rear cover plate (tin hat) from the transfer case and undo the rear main shaft nut.
3. Undo the 14 M10 bolts securing the transfer case rear half to the transfer case front. Clean the transfer case housing thoroughly, removing all of the old gasket material.
4. Remove the transfer case input gear and PTO gear from the main shaft. Inspect the gears for damage. If the spline or teeth are worn now is a good time to replace them. By fitting a worn gear to a new shaft will result in premature wear of the new shaft spline.
5. Remove the transfer case front half by undoing the 4 bolts that attach it to the back of the gearbox.
6. Press the bearing (TM307) onto spud shaft (MFC225) with the circlip end of the bearing closest to the female end of the shaft. Refer to fig. A. The circlip must fit inside the circlip groove in front of the transfer case housing, with the majority of the bearing inside the transfer case housing. Refer to diagram.



KEY	PART NO.	QTY.	DESCRIPTION
1	MFC548	1	EXTENSION HI/LOW PIVOT
2	MFC074CA	1	BRACKET HI/LOW LEVER MOUNTING
3	MFC114	3	SHCS M10x1.5x30
4	MFC395	1	TH400 SPIGOT ADAPTOR RING
5	MFC200B	6	SHCS 3/8"UNCx1 1/2"
6	MFC090	1	HOUSING TH400 TO LAND CRUISER
7	3314260030	1	GASKET
8	MFC397	1	SPACER T/CASE INPUT BEARING
8A	MFC397A	5	SHIM .25 SPACER T/CASE INPUT BEARING
9	MFC225	1	SHAFT SPUD TO L/C 5SP T/CASE
10	TM307	1	BEARING (SPECIAL SEALED TRANSMISSION)
11	9031648002	1	SEAL T/CASE INPUT
12		1	SPACER ORIGINAL TOYOTA
13		1	GEAR ORIGINAL TOYOTA T/CASE INPUT
14		1	SPACER ORIGINAL TOYOTA
15		1	GEAR ORIGINAL TOYOTA PTO
16		1	BEARING ORIGINAL TOYOTA REAR MAINSHAFT
17	MFC103	1	SPACER SPUD SHAFT
18		1	WASHER ORIGINAL TOYOTA
19	MFC504	1	NUT MAINSHAFT LOCK

Make sure the transfer case adaptor is fitted with the aluminium, spigot adaptor ring (MFC395).

7. Fit the transfer case adaptor to the automatic transmission using the 6 socket head cap screws supplied.
8. Fit new seal to transfer case using a suitable sealer around the seal. Make sure that the open end of the seal faces the automatic transmission.
9. Feed the spud shaft assembly through the transfer case input seal and housing. Support the rear of the spud shaft and fit the transfer case gears, main shaft spacer, washer and nut (MFC504), making sure that they are in the same order as removed. NOTE: do not tighten the nut at this stage.

TRANSFER CASE INPUT SHAFT

END FLOAT ADJUSTMENT

10. Using a straight edge and a set of feeler gauges measure the distance between the TM307 bearing and the front of the transfer case housing.

HINT: To measure, sit the transfer case housing on top of a 20ltr drum with the shaft and gears hanging inside. **NOTE:** Allow for the thickness of the gasket.

To remove the above measured end float, five (MFC397A) .25mm shims have been supplied with the kit. The appropriate number of shims must be fitted inside the 80mm counter bore behind the bearing spacer (MFC397). The spacer must be fitted with the 74mm ID side against the shims.

11. Fit original dowels to the front transfer case housing.
12. Using the gasket supplied, and a suitable sealant, fit the front half of the transfer case to the adaptor housing and secure it with the original bolts. **NOTE:** A suitable thread sealer should be used on the bolts.
13. The spud shaft bearing is now sandwiched between the transfer case, front housing and the adaptor housing.

ALUMINIUM TRANSMISSION SUMP WITH MOUNTING

14. Then using our MFK 315 sump.

The two left hand outside bolts must be fitted through the transfer case adaptor and into the rear section of the sump. The threaded adaptor housing must be re drilled to accept the longer bolts supplied with the kit. Refer MFK315 instructions.

15. Proceed with the rest of the transfer case rebuild in reverse order to disassembly. Refer to the Toyota manual if necessary, for this stage.
16. Remove the main shaft nut from the spud shaft. Using a small quantity of loctite, re fit the main shaft nut and torque to specification. Then using a small punch, secure the rear of the nut into the flat on the spud shaft.

17. Fit the tin hat with the gasket supplied and secure it with the original bolts.
18. Fit the new hi low lever bracket (MFC074CA) to the side of the adaptor housing, using the 3 (MFC114) socket head cap screws supplied. Screw the pivot shaft extension (MFC548) and original pivot shaft into the new bracket.



19. Mount the complete assembly into the vehicle.
20. The cross member will need to be modified as the mounting point under the MFK315 sump is rear of the original mounting point on the old gear box.
21. **Note:** The cross member cannot remain in its original position without drive shaft alterations.

22. Fit the HI-LOW lever and attach the linkages. Refit the lockout plate to the new bracket.

NOTE: The lockout plate must be fitted as it supports the end of the pivot pin. Without it the bottom lug on the bracket where the pin screws in will easily break off with normal use.

Front Drive Shaft

NOTE: Vehicles fitted with a double cardan or single joint, front drive shaft will have to have them removed and replaced with a smaller single universal joint from a Hilux or early model 40 Series Land Cruiser.

In all cases the transfer case drive front drive flange will need to be machined down (reduce the diameter). Then make or get made buy a drive shaft specialist a new front drive shaft. Make the new front shaft using the Land Cruiser diff yoke and slip joint, then fit a yoke from a Toyota Hilux rear drive shaft to the transfer case end.

Drive Shaft Sump/Pan Clearance

23. Fit the front drive shaft and check the clearance between the shaft and the side of the automatic transmission pan.

24. Modify the pan by removing the corner section. **HINT:** A section of large diameter exhaust pipe could be welded into the side.

When modifying the automatic sump/pan make sure that the modifications do not interfere with the valve body.

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. The transmission shift mechanism can either be an after market Hurst or B&M floor shifter or alternatively a T-bar set up can be used from a passenger car with modification.

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 any possible 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.

Proudly Manufactured by:

Marks 4WD Adaptors

385-393 Lower Dandenong Road, Dingley Vic. 3172

Tel: (03) 9552 6555, Fax: (03) 9551 8060,

E-Mail: sales@marks4wd.com

Catalogue: <http://www.marks4wd.com/>