



## **MFK564A and MFK564TA**

### **HOLDEN V8 TO RANGE ROVER 4-SPEED ZF AUTOMATIC TRANSMISSION**

#### **Fitting Instructions**

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.

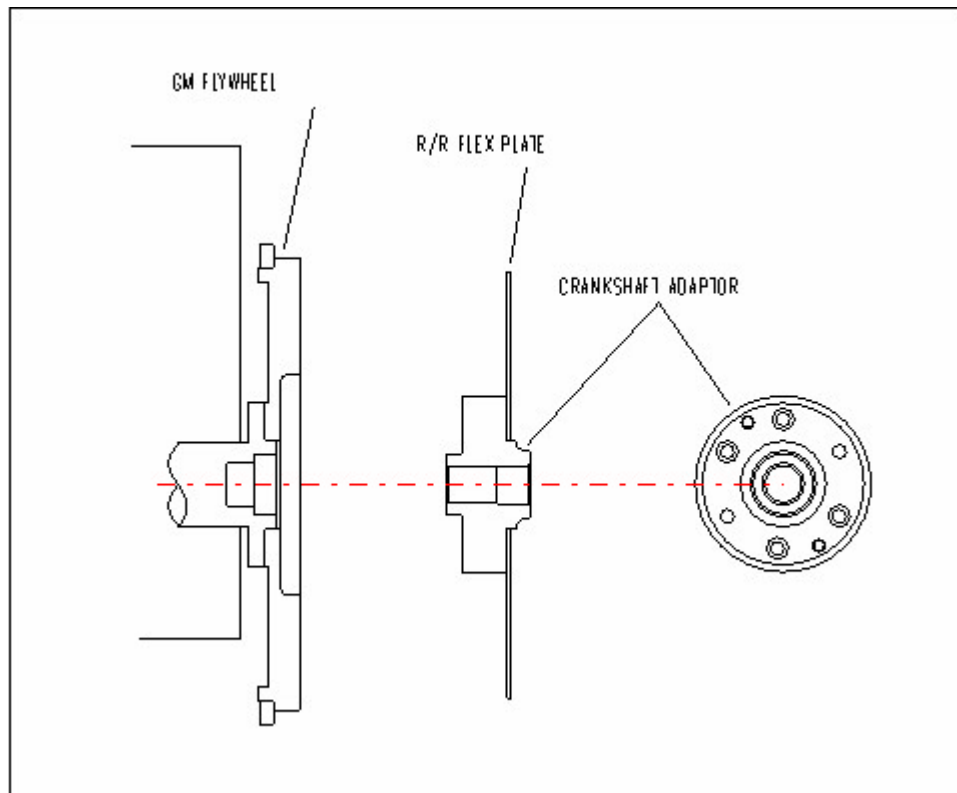
#### **Engine Removal**

1. Remove bonnet from vehicle and tie back hinges.
2. Drain radiator and engine of all fluids.
3. Remove the radiator from the vehicle.
4. Disconnect and label all the hoses and wiring attached to the old engine.
5. Disconnect power steering lines and air-conditioning compressor lines (if fitted).
6. Remove complete exhaust system from vehicle.
7. Support the original transmission using a jack stand and remove the complete engine assembly using suitable engine lifting equipment. Do not discard the old engine as some parts from the original engine are still used for this conversion.
8. Remove temperature and oil pressure sender from old engine.

#### **Adaptor Preparation**

1. Refer drawing: Fit the crankshaft adaptor to the engine with the flywheel between the adaptor and the crankshaft boss. Secure them using the four 7/16" UNF x 1 1/2" SHCS (MFC1088), use loctite on all crankshaft bolts and torque to specification.
2. Using a file slot 2 opposite crankshaft holes in the flex plate to line up with the 2 through holes in the crankshaft adaptor. Secure the flex plate using 2 of the original bolts and the two 7/16" UNF x 1 1/2" (MFC1248) bolts supplied in the kit. Use loctite on all crankshaft bolts and torque to specification.
3. Fit the starter motor to the engine.
4. Fit the top adaptor plate to the GM engine using the socket head cap screws supplied.

5. Fit the oil and temperature senders from the original engine. Use the adaptors supplied. **NOTE 1:** Use Teflon tape or liquid Teflon if required. **NOTE 2:** VT V8 engines do not have a separate water temp sender for the Commodore gauge, you will need to drill and tap a 1/8" NPSF 27tpi hole into the water jacket of the intake manifold. Then the adaptor supplied can be fitted.



6. The distributor will not fit in the vehicle without some firewall modification, check for clearance by trial fitting the engine.
7. Do not fit the Crank adaptor or torque converter/flexplate. Trial fit the engine into position to establish where to modify the original 3.5 litre V8 bellhousing to clear the starter motor. **NOTE:** It may be easier to remove the bellhousing from the gearbox to perform this modification.

The lower adaptor plate may be fitted to the bellhousing and the outline of the starter motor may then be scribed onto the bellhousing. Fit the starter motor to the engine and measure the distance that the nose cone protrudes from the block. Grind the bellhousing to allow the required clearance. Silastic may be used to seal between the starter motor and the hole after the engine has been installed.

8. Allow enough clearance to be able to remove the starter motor for servicing. Once the starter motor clearance is satisfactory, turn the flywheel to establish if the ring gear clears original housing. Grind the inside of the housing to achieve the required clearance.
9. If you are using a later transmission, the bottom plate will not correspond to all the cover plate holes and the outline of the bellhousing. You may choose to modify the plate or bellhousing to suit.

## Installation

### Engine Mounting

1. Fit the engine mounting brackets to the engine block. The larger bracket is fitted to the right side and the smaller one to the left side of the vehicle. **NOTE:** The brackets may need to be modified to clear the exhaust manifold and or sump as there are a number of variations in sump and manifold designs related to the donor engine.
2. Fit the engine into the vehicle.
3. Guide the engine over engine mounting rubbers and tighten them once aligned.
4. Fit the lower adaptor plate and flywheel cover plate using the original bolts.
5. Mount the power steering pump and air conditioning compressor, brackets will need to be fabricated if the Rover ones are to be used.
6. Modify the radiator spouts to correspond with the outlets on the GM engine. **NOTE:** 1974 to 1985 Range Rovers were fitted with a 4-row radiator. These radiators can be upgraded to a 5-row core. In 1986, Range Rovers were fitted with a 3-row radiator. These radiators can be upgraded to a 4-row.
7. Fit the radiator to the vehicle and attach the radiator and heater hoses.
8. Complete the wiring.
9. Fit new exhaust engine pipes or a complete system.
10.        Fill engine with all required fluids.
11.        Start the engine and check for-  
  
         Fuel leaks.  
  
         Oil leaks.  
  
         Water leaks.  
  
         Exhaust leaks.
12.        Allow to warm up and recheck the above.
13.        Refit the bonnet.
14.        Test drive the vehicle and re check for any leaks.

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.

Remember an inexpensive phone call can save a costly mistake!

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