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FITTING INSTRUCTIONS
FOR
MFK1045C153A, MFK1045C168A, MFK1045CDA, MFK1045CL153A,
MFK1045CL168A, MFK1045HTA

HOLDEN and CHEVY V8 PETROL and CHEVY V8 DIESEL
TO
LAND CRUISER 4.5 PETROL 4-SPEED AUTOMATIC TRANSMISSIONS

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: Standard block hugger headers cannot be used with the bolt in engine mounts.

Note 2: The crankshaft adaptor in the kit must be fitted with a manual GM flywheel (not an automatic flex plate) between the adaptor and the crankshaft boss.

Note 3: When fitting a Holden V8 or a Chevy V8 Diesel engine you will need to move the engine/transmission forward 20mm and panel beat the firewall behind the right hand cylinder head. A rear drive shaft spacer kit should then be fitted, part number MFK1421.

Note 4: This kit has been designed to directly replace the original Land Cruiser 4.5 Litre petrol engine.

Engine Removal

1. Remove the bonnet from vehicle.
2. Disconnect and label all the hoses and wiring attached to the old engine.
3. Remove air-conditioning compressor and power steering (if fitted).
4. Remove the complete exhaust system from vehicle.
5. Drain radiator and engine of all fluids.
6. Remove the radiator from the vehicle.
7. Support the transmission with a jack and remove the bellhousing to engine bolts.

8. Undo and remove the front engine mounting rubbers and remove the engine assembly from the vehicle using suitable engine lifting equipment. Do not discard the old engine, as some parts are required for the conversion.

NOTE: The crank adaptor supplied in this kit is specifically designed for a 4.5ltr petrol model flex plate and torque converter. They are not interchangeable with other models. Please check the distance the torque converter bolt holes are behind the original bellhousing face and the diameter of the spigot on engine side of the torque converter. The kit comes with an adaptor ring (MFC670A) this ring is fitted to the crank adaptor if your torque converter spigot measures 32mm diameter. The following information is derived from original Toyota Manuals. If your vehicle does not match this table please **do not** proceed, contact this office.

Model	Spigot Diameter	Original Bellhousing face to Torque converter bolt holes.	Reference
FJ80	42mm/35mm	16.5mm	From Toyota Manual Page - AT37, RM184E JAN 1990
HZJ80	32mm	41.2mm	From Toyota Manual Page - AT37, RM184E JAN 1990
FZJ80 FZJ100	40mm/32mm	37.2mm	From Toyota Manual Page - AT77, RM315E AUG 1992
HDJ80	32mm	43.8mm	From Toyota Manual Page - AT77, RM315E AUG 1992

9. Remove the Land Cruiser torque converter and flex plate.
10. Remove the oil pressure and water temperature senders from the Toyota engine.

Adaptor Kit Preparation

1. Fit the M8 x 20 dowel (MFC170) to the gearbox side of the adaptor housing.
2. Fit the stepped M8 x 18.5 dowel to the gearbox side of the adaptor housing. **NOTE:** If the dowel slides through the hole in the adaptor, fit it in the bellhousing.
3. Fit the adaptor housing assembly to the rear of the GM engine using the 6 SHCS supplied. Check the thread in the engine block. Later engines have metric threads (M10 x 1.5 mm). We have supplied both metric and imperial socket head cap screws. Make sure that the engine is fitted with the two bellhousing locating dowels.

4. Fit the flywheel cover plate using the 3 bolts (MFC432), 3 spring washers (MFC435) and 3 flat washers (MFC436).
5. Fit the starter motor to the engine using the GM bolts. Seal the plate around starter motor and the engine block using silastic.

NOTE: Due to various Chevy petrol starter motor offsets, a small portion may have to be ground out of the starter locating hole in the flywheel cover plate. If the hole in the cover plate supplied is in a totally different position, then you have ordered the incorrect kit. Chevy engines have two different size flywheels and as a result have two different starter motor offsets.

6. Fit the crankshaft adaptor to the engine with a manual GM flywheel (not an auto flex plate) between the adaptor and the crankshaft boss. Secure them using the 6 7/16" UNF x 1 1/2" bolts (MFC428C), use loctite on all crankshaft bolts and torque to specification. **NOTE:** An offset (crows foot) adaptor will be required.
7. Fit the Toyota flex plate to the crankshaft adaptor. Secure the flex plate using the 10 Bolts supplied (MFC1358 – Bolt M12 x 1.25 x 25 mm) and the original rear Toyota spacer. Use loctite on all crankshaft bolts and torque to specification. **NOTE:** The original Toyota spacer fitted between the flex plate and the crankshaft is not used.

Chevy Engine and Engine Mount Set Up

NOTE: Fitting 6.2 and 6.5 Ltr Diesel and Big Block Chevy Motors will require modification of the firewall behind the right hand cylinder head.

1. Lift the engine into the engine bay using suitable lifting gear. Align the torque converter with the input shaft spline by rotating the engine backward and forward while pushing the engine back to the bellhousing face.
2. Secure the adaptor to the bellhousing using the original Toyota bolts.

Chevy Engine Mountings. **MFK1062 Bolt in mounts for 80 and 100 Series.**

1. Fit the left-hand engine bracket (MFC1062, the smaller of the two) to the engine mount rubber and fit the original washer and nut. Do not tighten the nut at this stage.
2. Fit the right hand engine bracket (MFC1063, the larger of the two) to the engine mount rubber and fit the original washer and nut. Do not tighten the nut at this stage.
3. Lift the engine as high as it will go and locate the left hand mounting rubber stud through the chassis bracket.

4. Locate the right hand mounting rubber stud through the chassis bracket.
5. Lower the engine slightly and fit the bolts (MFC1101), flat washers (MFC052) and spring washers (MFC196) through the engine brackets and into the engine block. When you have all of the 3/8"UNC bolts fitted, lower the engine down onto the chassis brackets and tighten all of the engine bracket to block bolts. **NOTE:** Some late model engines have M10 mounting holes.
6. Tighten the top engine mounting rubber nuts.
7. Fit and tighten the bottom engine mounting rubber washers and nuts.

Holden Engine and Engine Mount Set Up
MFK671CK Weld in mounts

1. Lift the engine into the engine bay using suitable lifting gear.
2. Secure the adaptor to the bellhousing using 2 of the original Toyota bolts located roughly central on the left and right of the bellhousing.
3. Fit the original Holden left and right engine block brackets.
4. Fit the new engine mounting rubbers to the block brackets using the nuts and washers supplied.
5. Fit the new chassis brackets to the engine mounting rubbers using the bolts washers and nuts supplied. **NOTE:** The longer bracket (MFC672) to the RHS and the (MFC671) to the LHS.
6. Lower the engine so that the top flange plate sits on top of the chassis rails. **NOTE:** The top flange will not sit flat on the chassis.
7. Tack weld the brackets to the side of the chassis and remove the engine.
8. Complete the welding of the bracket to the side of the chassis.
9. Using an oxy acetylene torch heat the top flange plate until its cherry red. Then shape it to the chassis rail using a hammer.
10. Complete the welding and allow them to cool.
11. Paint the chassis and brackets.

Holden Engine

1. Fit the torque converter to the flex plate and secure it using the bolts supplied .
2. Lift the engine into the engine bay using suitable lifting gear. Align the torque converter with the input shaft spline by rotating the engine backward and forward while pushing the engine back to the bellhousing face.
3. Secure the adaptor to the bellhousing using the original Toyota bolts.
4. Fit the engine mountings and secure them with the bolts supplied.

Engine completion.

1. Fit the Toyota oil pressure sender using the adaptor supplied.
2. Fit the water temperature sender using the adaptor supplied. **NOTE 1:** Use Teflon tape or liquid Teflon. **NOTE 2:** Holden 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.
3. Fit heater and radiator hoses.
4. Fit the Toyota power steering pump, air-conditioning compressor, and alternator with the appropriate mount and drive kit.
5. Complete the wiring.
6. Fit the tachometer interface (MFK1165) as per instructions.
7. Complete the exhaust system.
8. Check all fluid levels.
9. Double check, all of the mounting bolts are tight.
10. Start the engine and check for-
Fuel leaks.
Oil leaks.
Water leaks.
Exhaust leaks.
Allow the engine to warm up and recheck the above.
11. Refit the bonnet.

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.

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