



Thank you for purchasing your OM617-to-AX15 adapter from Doomsday Diesel LLC! Please read this entire page **BEFORE** installation. Please be aware of potentially sharp edges!

It is always a good idea to install the bellhousing on the adapter plate and fully install hardware to ensure hardware does not protrude out the back side in areas that may cause interference. In this case, that would only include the top left M10 bolt. If the bolt protrudes beyond the back side of the adapter plate, you will need to grind it to where it rests flush. This will also give you the opportunity to drill out bellhousing holes if they are not big enough for the supplied hardware.

#### **Adapter Plate to Engine:**

- (6) M10-1.5x30 10.9 FHCS (flat head) Positions 1

Use medium strength thread locker and torque to 40 lb\*ft.

The adapter plate must first be mated to the engine block. The back of the block should be bare. Make sure both 12mm dowel pins are in the engine block. Install the plate over the dowels and tap it tight against the block with a dead-blow hammer. You may install a couple bolts dry, to secure the plate. You must now trace the outline of the starter contour onto the upper oil pan. Using an angle grinder with an aluminum grinding disc or other suitable method, remove *just enough* of the upper oil pan to allow the AX15 starter to be installed. Do not leave any sharp or jagged edges. Feather out the grind marks to make smooth transitions, as to prevent stress cracks from forming in the upper oil pan during service. Install the bellhousing and starter to verify everything will mate up correctly.

You may now install the adapter plate bolts by using medium thread locker and torque to 40 lb\*ft.

#### **Crankshaft adapter:**

- (12) M10x1.0x17.8 ARP Flywheel Bolts  
Use medium strength thread locker and torque to 60 lb\*ft.

The crankshaft adapter is comprised of 2 pieces. The thicker piece indexes off the outside of the crankshaft. Make sure the crankshaft mating surface and outside diameter are clean and smooth. The AX15 pilot bearing must be pressed in flush to the back side of the crank adapter. After the pilot bearing is installed, use the 12 ARP bolts (17.8mm long) to secure the adapter and torque in the same pattern as prescribed in the factory service manual for the OM617. Spacing is extremely tight with this adapter. You must use a thin-wall 16mm 12-pt socket for installation. I've had good luck with a 3/8" drive socket from Harbor Freight.

The second piece of the crankshaft adapter is a round disc with a shoulder. This plate indexes the flywheel to the crankshaft. Make sure all mating surfaces are clean and free of debris, carefully set the 2<sup>nd</sup> adapter piece on top of the 1<sup>st</sup>. Tolerances are very tight, and the adapter will not slide on if it is not installed perfectly straight. If it binds up, do NOT force it on! Once the disc is installed, it should spin freely.

The crankshaft adapter requires the  $\varnothing 1"$  OD pilot bearing (ex. Timken SCE1295). The bearing is pressed flush with either side of the crankshaft adapter (going flush to the engine side will place the bearing further back on your input shaft than factory, which may help if your input shaft is worn out). The wiper seal should face the transmission.

### Flywheel to crankshaft:

- (6) M10x1.0x29.2 ARP Flywheel Bolts  
Use medium strength thread locker and torque to 60 lb\*ft.

You **DO NOT** reuse the Mercedes spacer ring. Apply medium strength thread locker and torque the new bolts in a star-pattern to 60 lb\*ft.

### 15mm Input Shaft Conversion:

Older AX15's with the  $\varnothing$ 15mm input shaft require a sleeve to be installed to bring them up to an outer diameter of 0.750". This allows you to run the newer Jeep pilot bearing which is 1" OD x 3/4" ID x 9/16 thick. The sleeve included with your kit, if you opted for it, has a chamfer on one end which faces the engine. The installation process is technical and precise. If you want to space the sleeve away from the rear end of the input shaft, you can wrap some wire around the shaft. This will allow you to quickly slide the sleeve up against the wire but still be able to remove the wire after the sleeve is on. You can space the sleeve out up to 0.25". If your input shaft is worn down from use, you can add Loctite 680 or a suitable 600-Series Loctite to help with adhesion. You must heat the sleeve up to 700°F  $\pm$ 50°. Use a temperature crayon or a laser temp. gun to measure temperature. The input shaft must remain cold. Wear welding gloves to handle the sleeve. You'll have less than 5 seconds to install the sleeve after removing it from the heat source. Once the sleeve slides over the shaft, it will cool immediately, locking it into place. Do not fool around, and do not partially install the sleeve. Slide the sleeve all the way back to the stop in one swift motion. A bearing puller will be required to remove the sleeve. You cannot pound the sleeve on. You only get one shot at it.



### Bellhousing to Adapter Plate:

Start by installing the dowel pin sleeves into the bellhousing. This will help ensure the bellhousing goes on straight. It is a good idea to mount the plate to the bellhousing before final installation, so you can ensure the bolts aren't going to protrude thru the adapter plate. Bell housings can vary, and the hardware and plate are designed to use every possible thread. If the hardware protrudes thru, simply grind the end off with an angle grinder (flap disc) until flush.

Holes may have to be drilled out on bellhousing for hardware to fit thru.

- M10-1.25x45 8.8 FHCS and Washer - Positions 3

Use medium strength thread locker and torque to 32lb\*ft. Be sure to install the washers with the flanged heads to ensure clearance.

- 7/16-20 x 3-1/4 GR 8 HCS, Washers, Lock Nut, and Dowel Sleeve - Positions 4

Torque to 58lb\*ft.

- M12-1.75x65 8.8 HCS, Washers, and Lock Nuts - Positions 5

Torque to 60lb\*ft.

All torque values were attained from Fastenal. This product is for off road use only. This kit carries no warranty.

















