

The following MB302 instructions are intended to assist in modifying a vehicle to accept an OM601-OM606 diesel engine to an AX-15, NV3500, NSG370, transmission with standard .750 diameter transmission input shaft. Please read through the instructions before you begin. This procedure assumes the OM601-OM606 was previously removed from MB vehicle and is ready for installation. The transmission does not have to be removed from vehicle to complete this installation.

### **OM601-OM606 Engine Preparations.**

1. Remove starter from OM601-OM606 engine.
2. Remove the 8 flywheel bolts from the MB engine. DO NOT remove the flywheel from engine, the bolts will not be reused.
3. Insert 2 10mm dowel pins supplied in hardware package into the MB engine block with taper facing out towards the transmission at approximately 10 and 4 o'clock position.
4. Mount the MB302 bell housing adapter to back of the OM601-OM606 by lining up two 10mm dowel pins. Note: These holes have .002 tolerance they may need to be lightly filed with round file for final fit. This fit should be kept as tight as possible.
5. Install and apply blue loctite to threads of 8 pieces M10 x 22mm allen head bolts to attached the MB302 adapter in place and torque to 40 foot pounds.
6. Insert 2- M10-1.5 x 60mm bolts into the starter holes from the back of the MB302 adapter.
7. Attach the MB starter at this time and torque to 40 foot pounds.

### **Flywheel Assembly**

1. The MB147 custom flywheel should not need balancing due to the CNC precision machining. But this flywheel should be neutral or static balanced if you prefer to have checked at a local machine shop (This process can further reduce vibration through driveline if excessive).
2. Mount the MB1143 Crankshaft spacer and MB147 flywheel to existing flywheel with 8-M10-1.0 x 80mm fine thread hex flywheel bolts apply blue loctite and torque to 40 pounds.

### **Clutch & final Assembly**

1. At this time mount standard Jeep 10.4" clutch assembly to the flywheel (a new clutch and throw out bearing is recommended but not necessary based on your specific vehicle).

2. The 2- upper bell housing holes should be drilled or reamed to ½” to accept new 7/16 x 1-1/2 bolts supplied with kit.
3. The OM601-OM606 engine is now ready to be mated to the existing transmission.
4. Lower the OM601-OM606 into place and line up main input shaft to the clutch assembly (at this point you are lining up the splines at approximately 1-1/2” to 1” separation).
5. The next alignment is the line up at the main input shaft to the bronze pilot bushing (approximately 1” to ½” separation). NOTE: Care must be taken not to force the two assemblies together at this point as you will damage the bronze pilot bushing.
6. Final alignment comes from the existing transmission dowel pins to the corresponding MB302 bell housing adapter holes. At this point you may need to be able to slightly rotate the OM601-OM606 or the transmission to allow these holes to line up.
7. Focus on passenger side dowel pin first, after it drops into hole attach a 3/8 x 3-1/2 coarse thread bolt, with lock washer on bolt first then flat washer insert from back of transmission bellhousing and put another flat washer on bolt protruding through the MB302 bellhousing adapter then 3/8 nut all supplied and only hand tighten.
8. Now line up driver side dowel pin hole (rotate up or down as needed) allowing dowel pin to drop into hole. Install 3/8 lock washer then flat washer onto 3/8 x 3-1/2 fine thread bolt, begin to install 3/8 x 3-1/2 fine thread bolt from back of transmission bellhousing until it is visible in starter access slot.
9. Now slide crescent shaped starter cover piece supplied into the MB302 bellhousing adapter at the starter access hole, allow the 3/8 x 3-1/2 fine thread bolt to slide through and only hand tighten.
10. The crescent shaped starter cover will allow access to starter bolts for removal or replacement of the MB starter motor.
11. Install 2- upper bell housing bolts 7/16 x 1-1/2 fine thread supplied in kit with blue loctite and torque to 35 foot pounds.
8. Now remove 2- dowel pin bolts and apply blue loctite torque to 25 foot pounds.
9. Install 2- lower bell housing bolts 7/16 x 2 supplied in kit with blue loctite torque to 35 foot pounds.
10. Double check all bell housing connections and continue the conversion.

For more information, technical help, pictures, and accessories visit our website at [www.MercedesDiesel4x4.com](http://www.MercedesDiesel4x4.com)

You can also email us at [sales@MercedesDiesel4x4.com](mailto:sales@MercedesDiesel4x4.com) or call 717-448-3800.

