

MER

E Q U I P M E N T

Installing the MER Coupling System:

All couplings are installed, aligned and tested before leaving MER, but the alignment must be re-checked by the engine installer after the final engine installation has been performed.



Figure 1: The MER coupling is suitable for a wide range of engines and applications.

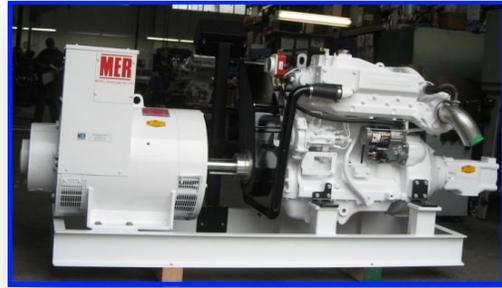


Figure 2: MER couplings allow the engine to power multiple pieces of power equipment. The generator is mounted on the front (left), and hydraulic pump on the back end of the engine, as shown here.



Figure 3: Here the hydraulic pump is on the front and the generator on the rear.



Figure 4: The system works on any size or brand of engine.

Caution: Always wear hearing protection, eye glasses and gloves as needed! Make note of manufacturer's grade of fastener hardware, tightening specifications and suggestions for thread

locking compound. (The John Deere reference on fasteners, FOS 6006NC, is available from the MER parts department.)

ASSEMBLY

The instructions will explain how to align the engine and driven equipment by shimming the engine or clutch mounting pad. Alignment is checked by measuring between the two halves of the MER Coupling by means of a straight edge and feeler gauges.

In most instances, no further alignment is required than the initial one carried out by MER, but if the drive assembly is dismantled and reassembled during installation, or if the surface on which the engine skid is mounted is uneven, than adjustment may be necessary.

Caution: Improper alignment can result in damage to the elastomeric insert, coupling halves or equipment failure. Often, improper alignment will result in premature bearing wear, but in severe cases, improper alignment will result in destruction of the coupling jaws, or heat generation in the elastomeric element, leading to deterioration, and eventually cause the material to “spool out” in threads of material. Actual chunks of material may begin to break off if the coupling is overloaded.

Note: When the clutch half of the coupling sits lower than the engine half, shims are placed beneath the clutch mounting pad to bring it up to the elevation of the engine side. If the engine side is lower than the clutch, shims must either be removed from beneath the clutch or placed at the four engine mounting point to raise the engine elevation.

This may require using shims of different thicknesses to adjust the angle of the clutch half of the coupling in respect to the engine side.

Before beginning the alignment process, ensure all mating surfaces are clean and de-burred, and free

of any material that could interfere with proper seating and alignment.



Figure 5: Begin by bolting one half of the MER-Drive coupling to the clutch assembly. Use lock washers when needed, apply thread-locking compound to the bolts, and tighten to 50 ft/lb.



Figure 6: Bolt the other half of the coupling to the front of the crank, using thread-locking compound and tightening the bolts to 50 ft/lb.

Note: Bolts must be flush or recessed into the coupling bolt-hole counter-bore. If not, they will interfere with the seating of the elastomeric insert.



Figure 7: Insert the elastomeric insert, into the coupling.

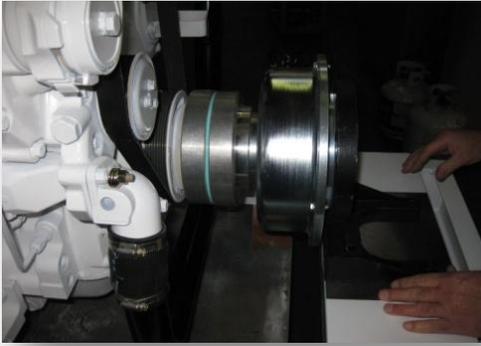


Figure 8: Seat the clutch assembly side of the coupling lightly, and then pull it away from contact, opening up a .015"-.020" air gap to avoid over-loading the engine crankshaft thrust bearing.



Figure 10: Install the clutch mounting feet bolts, and temporarily snug them to approximately 30 ft/lb.

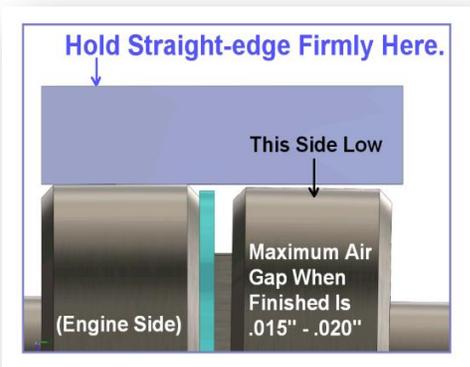


Figure 10: Check the alignment now by placing a straight-edge across the tops of the two coupling halves. The straight-edge must be held firmly to the engine side of the coupling as shown on the left in this photo. Use feeler gauges to determine if and

how many shims are necessary to align the coupling halves. **When properly aligned, the two halves must be parallel in phase and plane within a tolerance of .010"**. Be sure to use the straight-edge properly, for accurate readings.

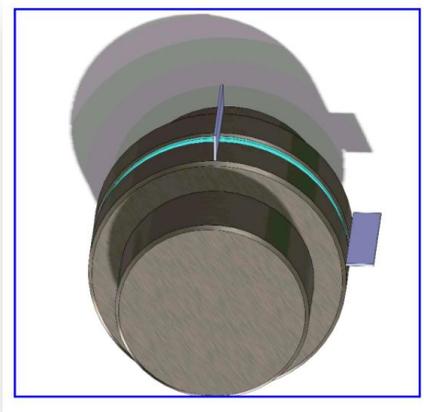


Figure 9: Alignment readings are taken on top and at 90 degrees, down the side. Place the straight-edge across the top of engine side coupling. The same rule applies when taking readings at the side of the coupling, 90 deg apart from the reading at the top. **Readings will change when the bolts are tightened, so the final check must be taken when bolts are tight.**

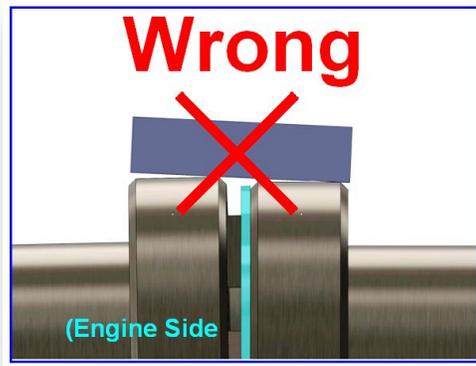


Figure 11: Placing the straight-edge so it makes contact with both coupling halves will result in inaccurate feeler gauge readings, as in above. Although it appears the coupling is in alignment because the straight edge makes contact with both halves, they are not parallel.

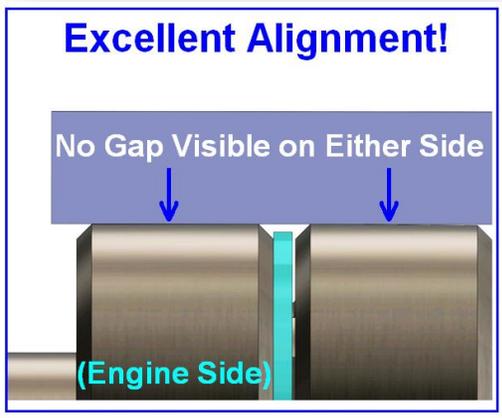


Figure 10: With perfect alignment, the straight-edge should make uniform contact when laid across the top and the side of the coupling halves. If a feeler gauge thicker than .010" can be inserted between the straight-edge and either half of the coupling, further adjustment and shimming is required.



Figure 11: If the clutch side of the coupling is higher than the engine side by more than .010", and there are no shims which can be removed from beneath the clutch pad, then the engine must be shimmed up to match the clutch side. For example, if the clutch-side coupling is higher than the engine side by .020", then add the .020" of shims to each of the four engine mounting feet.

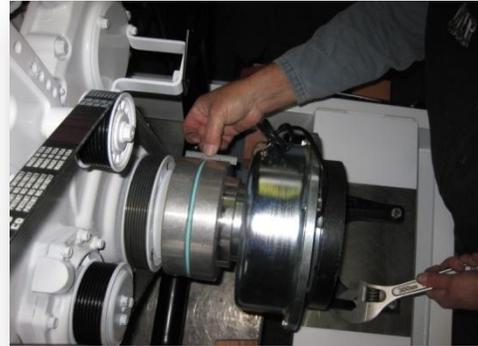


Figure 12: After the height is set, recheck the side alignment by placing your straight edge along the sides of the coupling halves, as pictured above. Move the mounting bracket to get the correct side-to-side alignment. Apply service grade thread-locking compound to the bolts, and tighten to 100 ft/lb. Be sure to use lock washers. It is recommended, that in addition to thread locking compound, either ny-lock nuts, or double nuts be used. **Recheck the alignment once the bolts have been properly tightened.**

Repeat steps as needed to achieve a maximum of .010" difference between the outer diameters of the coupling halves.

Caution:

Again, When finished there must be .015-.020" total gap between elastomeric and the two parallel halves of the magnesium coupling to allow for engine end play.

Congratulations! You're done. With proper alignment, you will enjoy thousands of hours of trouble-free operation. If you have any questions or concerns don't hesitate to contact us at 1-800-777-0714. Thank you for your business.