

XPO Logistics Manufacturing

Upper Coupler Maintenance Recommendations

August 16, 2018

The trailer upper coupler must be properly maintained and inspected to ensure proper function with the fifth wheel. The procedure outlined herein is for inspecting kingpins that conform to SAE J700 specifications and are subject to the wear limits of SAE J2228. Kingpin inspection should be conducted every three months or 30,000 miles to ensure proper function. Each of the inspection steps listed below should be performed front-to-back and side-to-side.

1. Inspect the upper coupler for damage.

Check for nicks, gouges, cracks, deformations, missing fasteners and any other damage that could interfere with or affect safe operation. Replace the entire upper coupler if any damage is found. If no damage is found, move on to the next step.

2. Inspect the flatness of the bottom plate.

Using the XPO Upper Coupler Gauge check to see if the bottom plate of the upper coupler is warped (see **Figure 1**). Slide the gauge over the center of the kingpin spool with the 1/8" tall ribs touching the bottom plate. If both ribs touch the bottom plate and the gauge does not rock back and forth, move on to the next step.

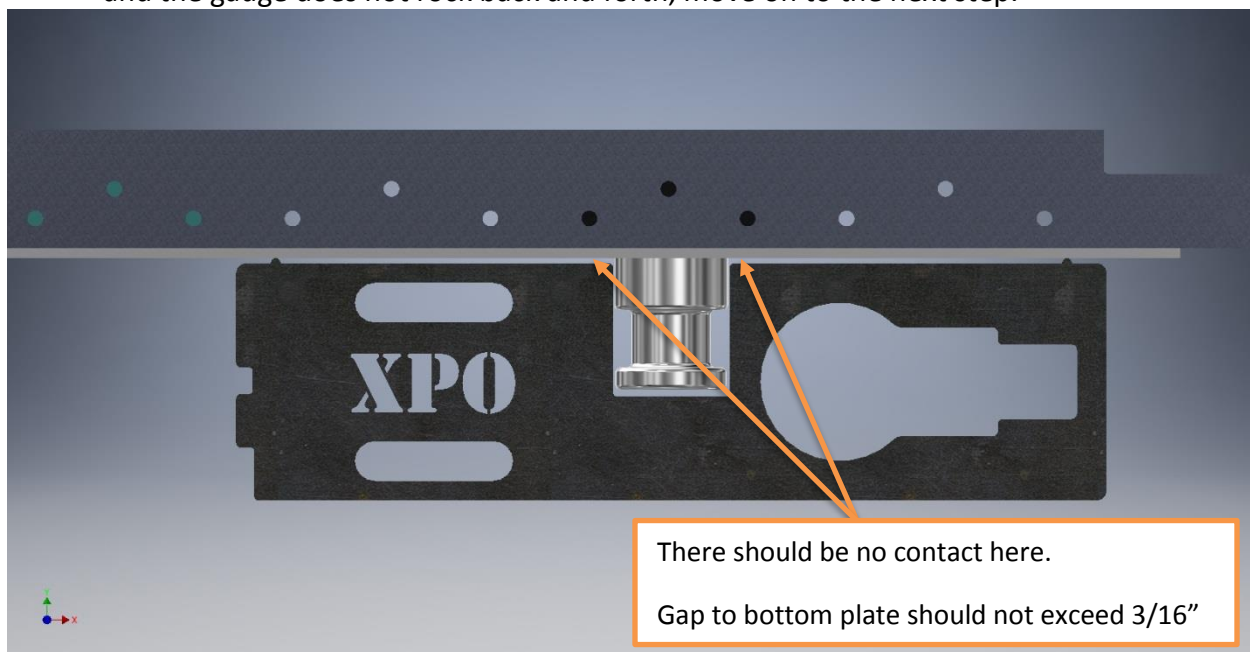


Figure 1

3. Inspect the kingpin spool for straightness.

Using the XPO Upper Coupler Gauge or a square check to see if the kingpin is bent. The kingpin should not exceed 1° from square in any direction. A bent kingpin accelerates lock wear and may interfere with the locking mechanism. A kingpin that is more than 1° out of square will require that the entire upper coupler be replaced. If the kingpin is found to be within 1° of square, move on to the next step.

4. Inspect the kingpin spool for proper length.

Using the XPO Upper Coupler Gauge check the length of the kingpin spool (see **Figure 2**). If the end of the gauge does not easily fit the profile of the kingpin spool then the spool is not of the proper length and the upper coupler should be replaced. If the gauge easily matches the side of the spool, move on to the next step.

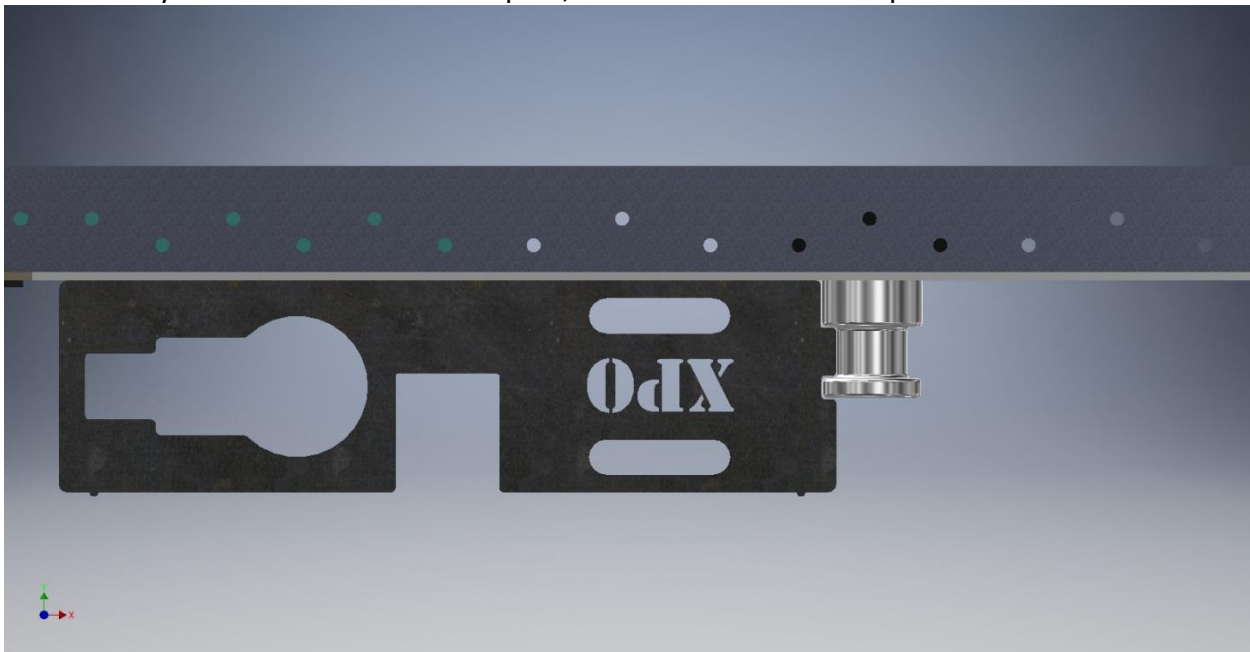


Figure 2

5. Inspect the kingpin spool for wear.

Using the XPO Upper Coupler Gauge check the wear on the 2.00” and 2.88” diameter sections of the kingpin spool (see **Figures 3 and 4**). The gauge will indicate more than 1/8” of wear if the appropriate diameter section of the kingpin spool enters the slotted section of the gauge (see **Figure 5**). If the spool slides into the slot on the gauge the spool has exceeded the maximum amount of wear and the entire upper coupler should be replaced. If the spool will not fit into the slot on the gauge the wear limits have not been reached and the upper coupler is safe to continue using.

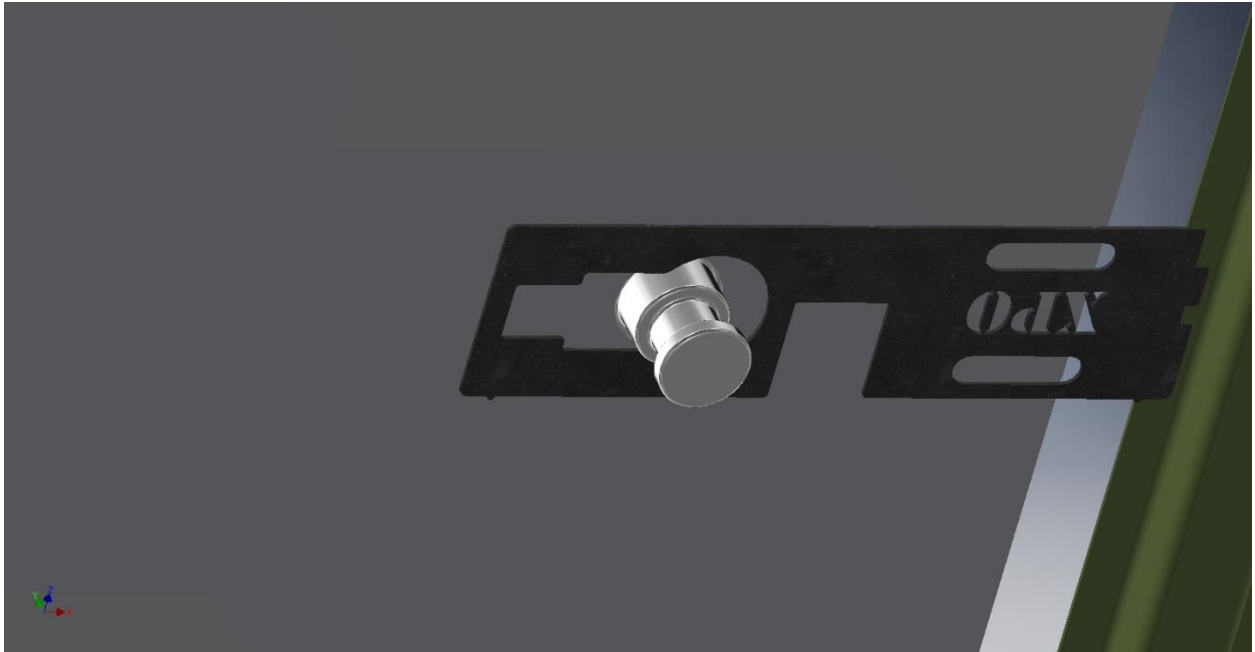


Figure 3



Figure 4

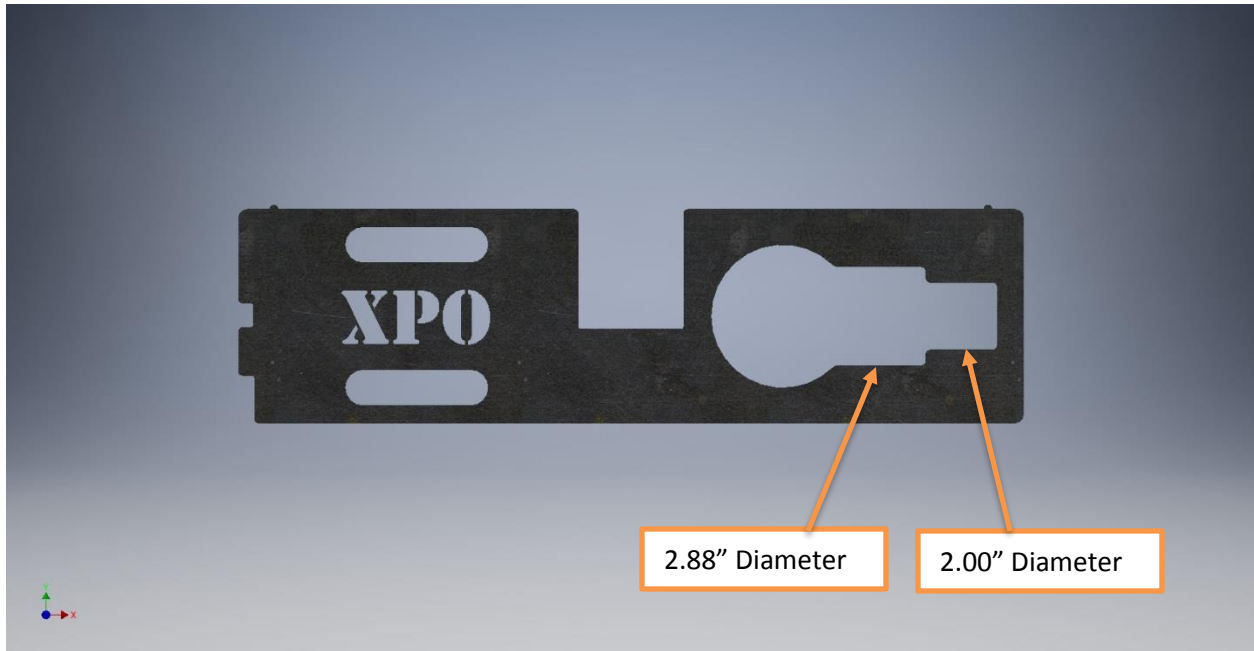


Figure 5