

UNIVERSAL JOINT INSTALLATION INSTRUCTIONS

The Gear Actuator and the Position Indicator should be installed as shown in the instructions. If the gear drive shaft and the position indicator drive shaft are not aligned, universal joints are essential to correct the connecting rod misalignment.

The shaft of the position indicator has been slotted to aid in installation and to compensate for slight hole misalignment in the user supplied connecting rod. Failure to follow these instructions may cause binding in the linkage and result in excessive operating forces.

INSTALLATION INSTRUCTIONS

1. With the Gear Actuator and Position Indicator installed, place the enclosed rubber spacer G, Figure 1, on the shaft E at the back of the position Indicator. **CAUTION:** Ensure that the angle of the universal joint does not exceed 30 degrees.

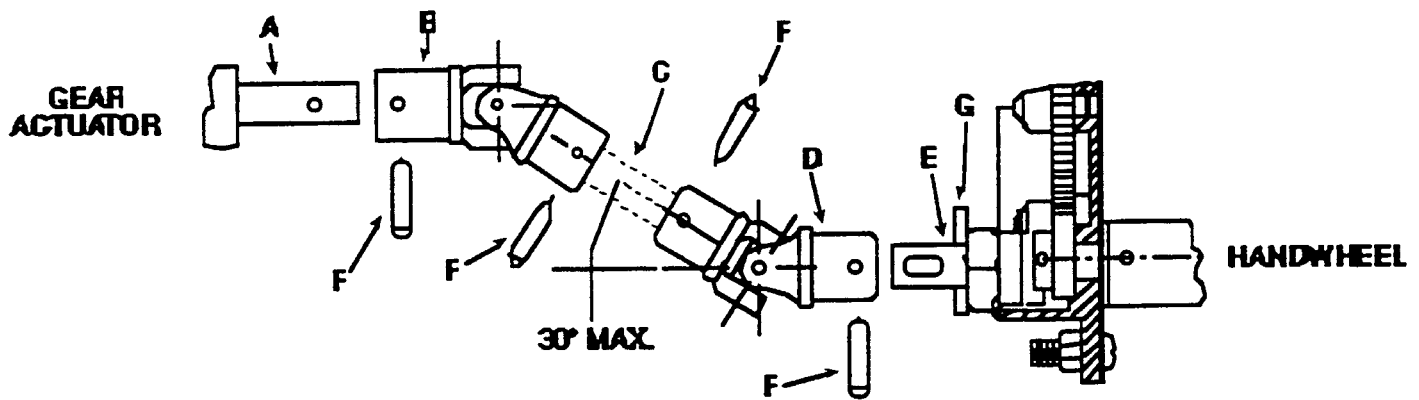
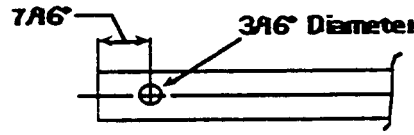


Figure 1

2. Slide a universal joint D onto the position indicator shaft E against the spacer G.
3. Place the remaining universal joint B on the gear actuator shaft A. Line up the hole in the gear actuator drive shaft A with the hole in the universal joint B and insert the roll pin F.
CAUTION: Hold a block of wood or steel against the opposite side of the universal joint as a “back-up” when driving in the roll pin to avoid damage to the shaft.
4. Ensuring that the universal joint D is positioned against the spacer G, measure the distance between the universal joint attached to the gear drive shaft and the universal joint attached to the position indicator shaft. The connecting rod should be inserted $\frac{3}{4}$ ” into each universal joint. Cut the user supplied $\frac{1}{2}$ ” diameter connecting rod to length. **CAUTION:** The angle for each universal joint should not exceed 30 degrees.
5. Match drill a $\frac{3}{16}$ ” diameter hole through one end of the connecting rod, on center, as shown. **CAUTION:** The hole must be drilled on center and straight through the rod. If the hole is not drilled properly, difficulties will be encountered when installing the roll pin that secures the rod and universal joint together.

6. Loosen the mounting screws from the position indicator and pull out the position indicator as required to install the connecting rod. Insert a $\frac{3}{16}$ " diameter screw through the universal joint and connecting rod at the "drilled end" of the connecting rod.
7. Snug up the mounting screws in the position indicator to pull the assembly back together.



8. Mark through the $\frac{3}{16}$ " diameter hole in the universal joint on the position indicator to locate where the second $\frac{3}{16}$ " diameter hole should be drilled in the connecting rod.
9. Remove the $\frac{3}{16}$ " temporary screw holding the universal joint and connecting rod together. Loosen the mounting screws and slide the position indicator back so that the connecting rod can be removed.
10. Drill the second hole in the connecting rod where it is marked. **CAUTION:** The hole must be drilled on center and straight through the rod. If the hole is not drilled properly, difficulties will be encountered when installing the roll pin that secures the rod and universal joint together.
11. Reinstall the connecting rod.
12. Install roll pins F through both ends of the connecting rod to secure the connecting rod to the universal joints. **CAUTION:** Hold a block of wood or steel against the opposite side of the universal joint as a "back-up" when driving in the roll pins.
13. Line up the slot in the position indicator drive shaft E with the hole in the universal joint D and insert the roll pin F. **CAUTION:** Hold a block of wood or steel against the opposite side of the universal joint as a "back-up" when driving in the roll pin to avoid damage to the shaft.
14. Remove and discard the spacer G and tighten up the position indicator mounting screws.