

Wire Rope Replacement HX Ranges to 80", HXE Range 100"

The wire rope in UniMeasure draw wire position and velocity transducers should be replaced at the first sign of fraying. If the wire rope is exercised until breakage occurs, serious damage to the potentiometer is possible.

Replacement Procedure

1. Remove the cylindrical housing from the mounting base of the transducer. To do this, remove the two largest Phillips head seal screws from the end of the transducer and slide the housing away from the mounting base. Note that the housing will not slide freely because of an o-ring seal.

2. Remove the potentiometer from the transducer by loosening the 6-32 set screw located on the shaft coupling. Remove the potentiometer with anti-rotation rod by sliding out of the shaft coupling.

3. Remove the square end cover from the end of the transducer where the wire rope exits.

4. Remove the existing wire rope from the transducer. If the wire rope is not broken, extend it fully and while holding the capstan from rotating, remove the wire rope from the catch slot on the drum. Carefully allow the capstan to unwind in a controlled manner.

5. Remove the wire rope guide by twisting it out of the mounting base with a pair of pliers.

6. Place the wire rope guide of the new wire rope assembly into the wire rope guide hole. Place press tool #201655 into the recess of the wire rope guide slot downward. Insure that the wire rope clears the tool. While making sure that wire rope guide is perpendicular to the surface of the transducer housing, press the new guide in place. An arbor press is the preferred press tool. **Note:** It is imperative that the new wire rope be handled with care to avoid severe bends as permanent damage to the wire rope can occur which will affect both accuracy of the transducer and wire rope life.

7. Remove tool #201655 from the wire rope guide and insert the felt wiper #201635 by placing the wire rope into the slit of the wiper and by carefully pushing the wiper into the guide with a small screw driver.

8. Wind the internal spring by rotating the capstan in a clockwise direction (when viewed from the capstan end) the following number of turns:

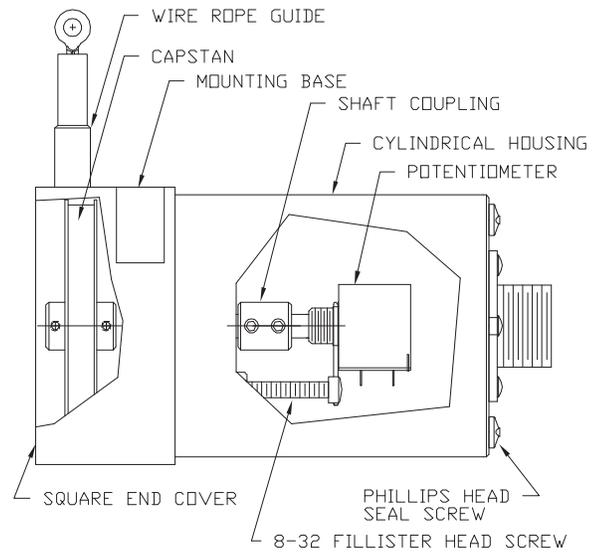
- Units with measurement ranges to 50" 14 turns
- Units with measurement ranges 60" to 80" 13 turns

9. Insert the wire rope into the outer slit on the flange of the capstan so that the crimped lug near the end of the wire rope is tight against the flange.

10. Allow the wire rope to reel onto the capstan in a slow and controlled manner. Insure that the wire rope reels onto the drum so that the lay of the wire rope is side by side. The wire rope should never wind onto itself.

11. While viewing the potentiometer from the shaft end, rotate the shaft of the potentiometer counterclockwise to its stop. With the wire rope completely retracted onto the drum of the transducer, carefully insert the shaft of the potentiometer partially into the coupling with the anti-rotation rod rotated about 15° clockwise from the head of the 8-32 fillister head screw into which it fits. Now rotate the potentiometer counterclockwise until the anti-rotation rod moves past the slot in the screw by approximately one diameter of the anti-rotation rod. Then rotate the potentiometer clockwise until the anti-rotation rod is aligned with the slot in the screw. Push the potentiometer toward the coupling until the anti-rotation rod reaches the bottom of the slot in the screw head. Torque the 6-32 set screw which holds the potentiometer shaft to 7 lb-in.

12. Carefully push the cylindrical cover onto the transducer so that no damage occurs to the potentiometer or the large o-ring on the mounting base. Rotate the cylindrical cover so that the internal standoffs align with the holes for the Phillips head seal screws. Insert the two seal screws and torque to approximately 20 lb-in. Install the square end cover and torque the four button head cap screws to 7 lb-in.



**HX Series Transducer
Cutaway View**