

Title: SPECTROL POTENTIOMETER FOR 19DM COMPRESSORS

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Supersedes: NEW

Date:

Models Affected: 19DM COMPRESSORS

PURPOSE

The purpose of this bulletin is to provide installation instructions for the new Spectrol potentiometer for 19DM compressors.

BACKGROUND

The original 19DM potentiometer was a wirewound design which experienced premature wearout. This potentiometer was replaced on all 19DM compressors with a plastic potentiometer. The plastic potentiometer exhibited far superior reliability but was very expensive. A Value Engineering program was undertaken to find a lower cost potentiometer with high reliability. The potentiometer selected is a modification of a potentiometer made by Spectrol (a unit of United Technologies) for use under the hood of Ford automobiles. Results of reliability testing and a few applications on trouble jobs indicate very good reliability.

The Spectrol potentiometer is constructed with an integral plastic housing and incorporates a sealed plug connector. The resistance element consists of a conductive film on a ceramic wafer. The wiper has multiple fingers which contact the conductive plastic.

PRODUCTION DESIGN

Figure 1 shows a cross section of the production potentiometer assembly. The potentiometer is supported by three No. 10 rods which are threaded into a new bushing on the volute. Adjustment is accomplished by means of the nuts on the threaded rods. The potentiometer connections and schematic and the color codes are the same as the previous design.


Because of the multiple finger contact and high contact force, the capacitor is not required to prevent intermittent contact signals.

FIELD RETROFIT

Figure 2 shows a retrofit kit assembly to be used to adapt the new potentiometer to an existing compressor. The part number is ~~19DM660006~~ and can be ordered from RCD as a complete assembly. The assembly mounts on the existing boss by means of the two slotted holes. Since the pot is larger than the original pot, it does not line up with the diffuser wall push rod. A 1 inch diameter target is provided which replaces the existing thumbwheel.

FILE: Controls/Wiring

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CAUTION: The diffuser wall should be fully closed (pushrod fully retracted) before the target and locknut are assembled to the pushrod. If the locknut and target are assembled too far on the pushrod and then the diffuser wall is closed, the pushrod may be broken.

Begin assembly by removing the old potentiometer and thumbwheel. Install the target and lock with the locknut. Mount the potentiometer assembly on the existing boss. With the diffuser wall fully closed, adjust the voltage between the red and clear leads (old terminals 2-3) to the values specified in Service Bulletin C8716 by screwing the three outer nuts in and out with a nut driver. The potentiometer shaft should be kept parallel with the pushrod. Once the voltage has been properly adjusted, the inner nuts should be tightened to lock the potentiometer in place.

MAIL KEYS: 2.33D, 2.40B, 2.45, and 2.53; ISBH

FIGURE 1

POTENTIOMETER ASSEMBLY CROSS SECTION

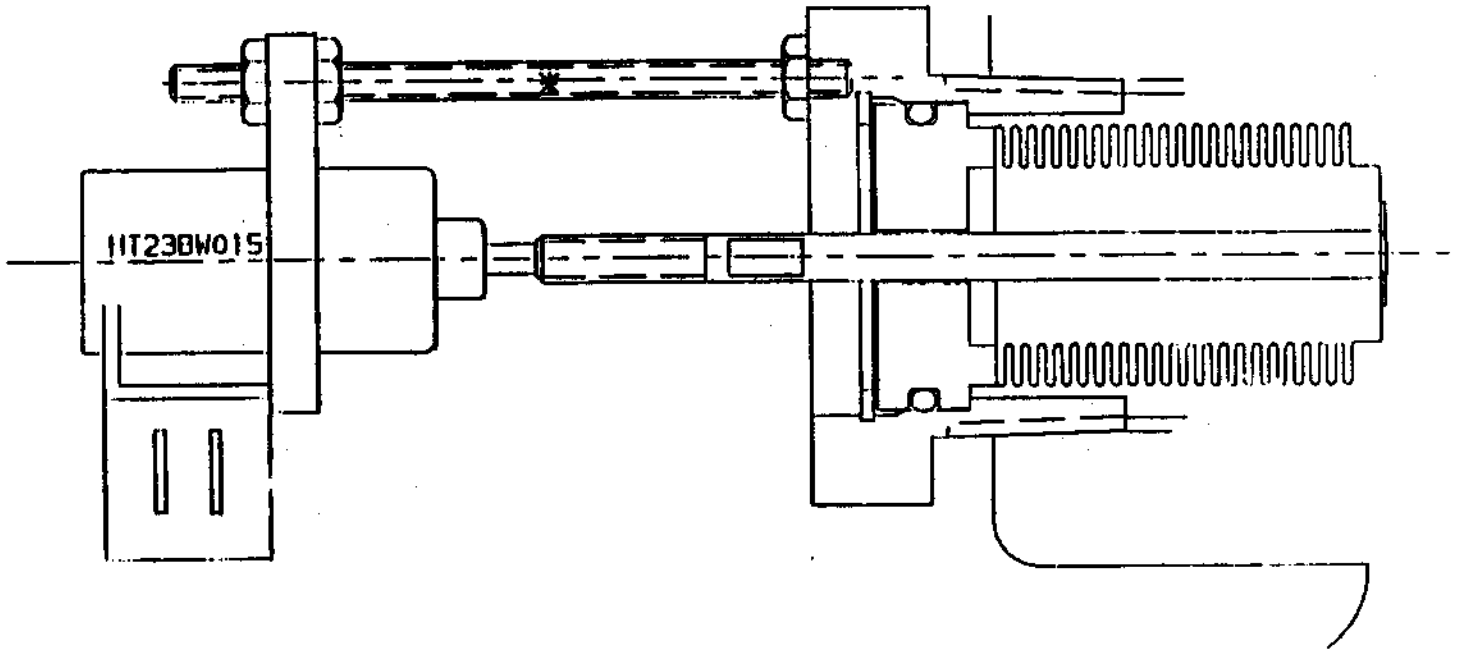


FIGURE 2

POTENTIOMETER RETROFIT KIT ASSEMBLY, 19DM660-006

