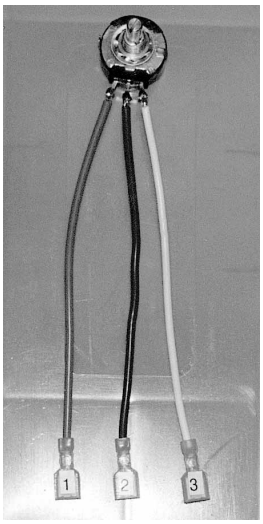
Minuteman International

Component Testing Guide

Potentiometer



Where Used:

On all variable speed traction drive automatic scrubbers and burnishers.

Purpose:

To increase or decrease resistance in a circuit to the motor controller to regulate the ground speed of a machine. By turning the potentiometer, voltage to the traction drive motor will raise and lower, thus changing the speed of the traction drive motor.

How to Test:

The potentiometer is best tested with an analog OHM meter. The potentiometer can be tested with a digital OHM meter but faults are harder to detect.

To test the potentiometer:

1). Place your OHM meter on or close to the scale that will read 5000Ω (OHMS).

2). Turn the potentiometer dial to the left and disconnect any wires going to the potentiometer so that you get an accurate reading.

3). Attach the red led of your OHM meter to the red wire. (In Photo #2).

4). Attach the black wire from your OHM meter to the orange wire from your potentiometer(In Photo #1).

5). Rotate the dial of the potentiometer to the right slowly and note the movement of the OHM meter. As you turn the dial to the right, the needle on the OHM meter should continue to rise until it reaches the 5000Ω reading. Any skips or jumps in the movement of the meter represents a faulty potentiometer. The needle must move evenly as you increase the resistance by turning the pot knob.

6). Now remove the black lead from the orange wire and connect it to the white lead on the potentiometer (In Photo #3). Now rotate the knob on the potentiometer all the way to the right to start the next test.

7). Rotate the knob of the potentiometer to the left slowly, noting the movement of the needle on the OHM meter. The needle should move slowly towards and park at the 5000Ω (OHM) reading. As before, any irregular jumps or skips of the needle as you rotate the potentiometer knob indicates a defective potentiometer.

8). Next, take the red lead of your OHM meter and attach it to the white wire (In Photo #3). Take the black lead of the OHM meter and attach it to the orange wire of the potentiometer (In Photo #1). Your meter should read approximately 5000Ω (OHMS), if it does not, the potentiometer is defective.

CAUTION: These tests should only be performed by a qualified technician. Working with electricity can be dangerous. When using jumper wires to help diagnosis an electrical component, care must be exercised to prevent a short circuit from occurring. Do not allow the two test leads (jumpers) to touch or personal injury or damage to the equipment will result.