



# TEMCO Engineering Inc.

## *MAGIC II* Electronics Kit Replacement Procedure

❖ TEMCO Engineering's *MAGIC* box is tuned with the Coil and must be replaced together.

### Tools Needed

Phillips screw driver, 3/4" or 9/16" wrench and 7/16" wrench.

### *MAGIC* Box and Coil Removal

1. Disconnect the coil cable and the thermistor cable (yellow wire) from the *MAGIC* box.
2. Remove the two coil clamps with a phillips head screwdriver.
3. Remove the coil with a 3/4" wrench for electronic conversion or 9/16" wrench for a pneumatic conversion.
4. Remove the *MAGIC* box. The *MAGIC* box is held in place by two 1/4"-20 hex head screws on the top of the mounting plate. Use a 7/16" wrench to remove the screws.

### *MAGIC* Box and Coil Installation

1. Mount the new *MAGIC* box with the 1/4"-20 hex head screws.
2. With the Coil UNPLUGGED from the *MAGIC* box. Apply an anti-seize compound to the coils thread. Screw the new coil into the mounting hole until the gap between the coil and the torque arm is approximately 1/16"
3. Plug the coil and the thermistor (yellow wire) into the *MAGIC* box connections.
4. Install the cable clamps on the coil cable.
5. Connect 24 to 30 VDC power to the *MAGIC* box.
6. Connect the digital voltmeter to the front panel Test Voltage jacks.
7. **With motor off**, adjust the coil to the DC voltage marked in the serial number tag.
8. Use the **HART** communicator to set the Lower Range Value (LRV) and the Upper Range Value (URV) to match the control room settings.
9. Use the **HART** communicator to set recommended Curve Multiplier for the applications furnish.
10. Switch **HART** to read Process Variable.
11. Move torque arm, DC voltage should swing between 6.0 and about 7.0 volts and Consistency should follow DC voltage swing.
12. Remove volt meter & Hart Communicator.
13. Put Consistency Loop in Automatic Control.
14. Obtain a Lab Sample. Record the *MAGIC's* signal at the time the sample is taken.
15. **Adjust Coil so the *MAGIC's* signal agrees with Lab Sample**

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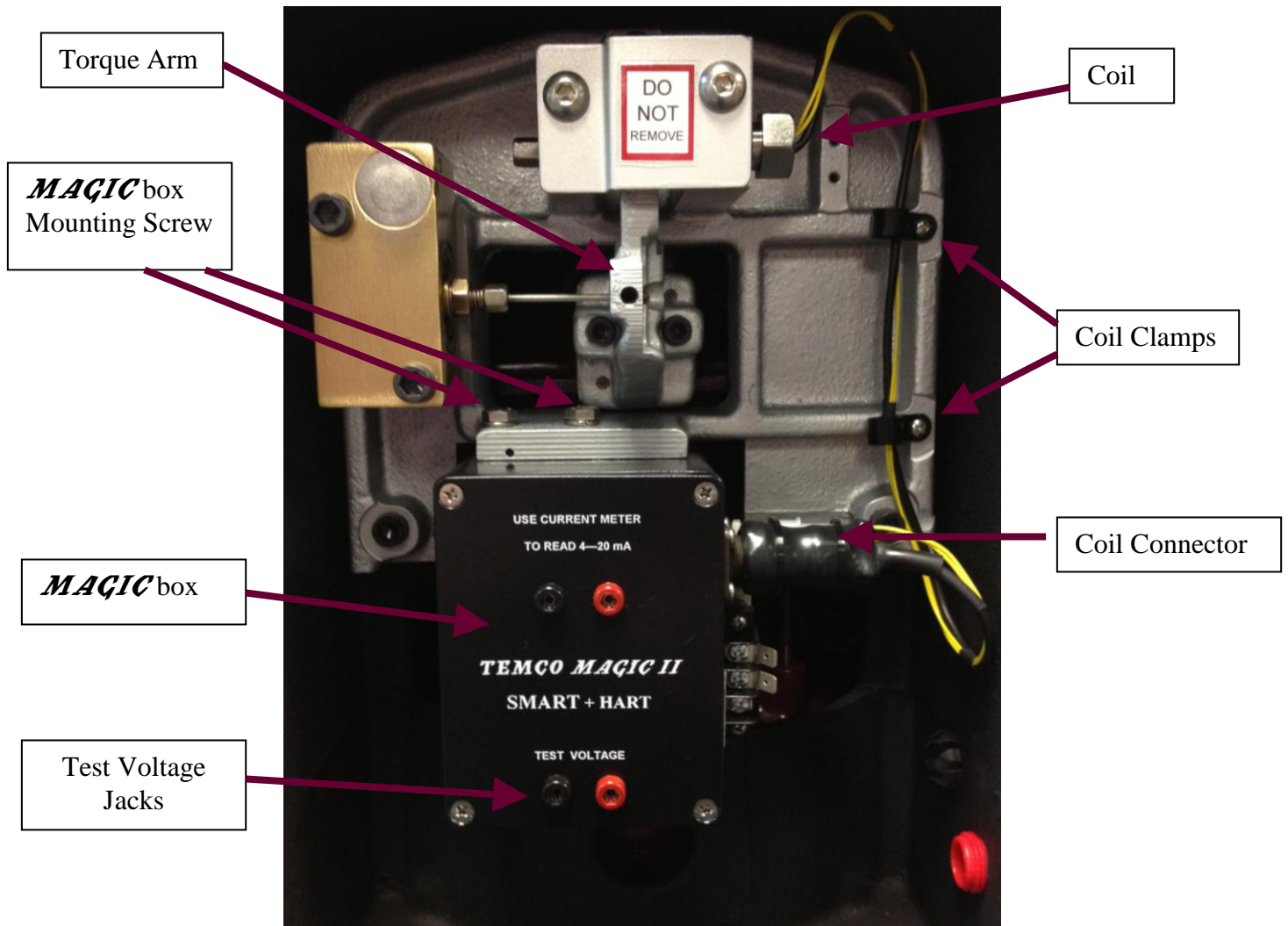
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