

# EF1 RC Motor Replacement Field Installation Procedure

## ⚠ WARNING

It is the responsibility of service technicians to ensure the use of appropriate protective clothing and equipment. The chosen protective clothing and equipment must provide protection from potential hazards users may encounter while servicing equipment. Requirements for protective clothing and equipment are determined by the Authority Having Jurisdiction (AHJ).

## ⚠ WARNING

After any maintenance or service, equipment must be inspected and tested for proper operation and function per NFPA 1962 test procedures and the FLOW CHARACTERISTICS and OPERATION and INSPECTION CHECKLIST in the operator manual.

## NOTICE

This publication is intended for those who prefer to perform service on their own equipment. Factory service is available and repair time seldom exceeds one day in our facility. Factory serviced nozzles are repaired by experienced technicians, fully tested, and promptly returned functioning to original specifications. Task Force Tips assumes no liability for damage to equipment or injury to personnel that is a result of user service.



### 0.1 REQUIRED TOOLS


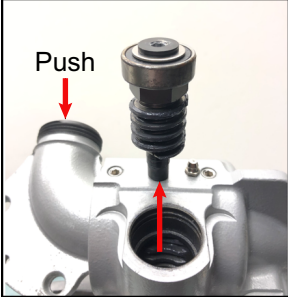


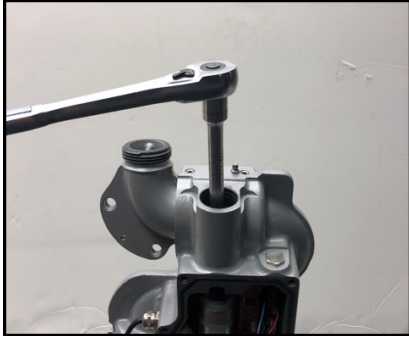
Tools for Y6000-KIT-H or Y6000-KIT-V Installation	
3 mm Hex Key	Retaining Ring Pliers
1/2" Socket Wrench and Extension	THY001-ST Motor Retainer Tool (Included in Kit)
1/2" Torque Wrench capable of 60 ft.-lbs. (81 Nm)	Red Loctite® threadlocker or equivalent
Straight Blade Screwdriver	Blue Loctite® threadlocker or equivalent

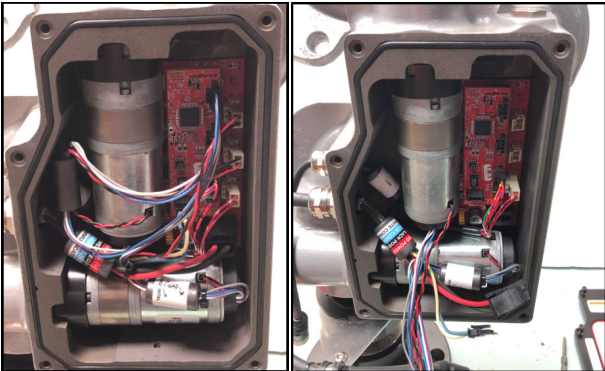

### 1.0 MOTOR REMOVAL

## NOTICE

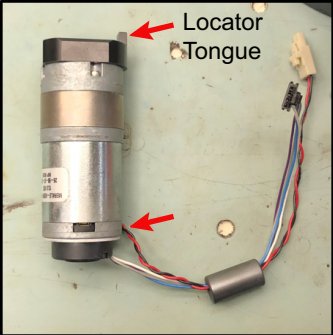


Always disconnect power before installing or servicing electrical components. Failure to do so could cause damage to the circuit boards.

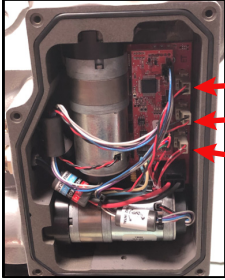

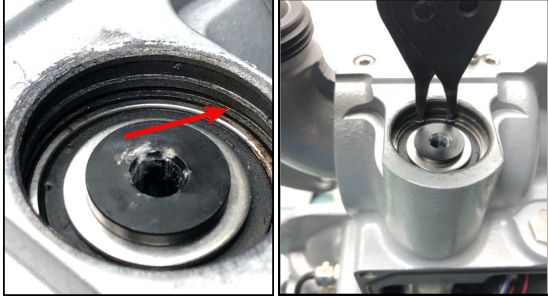


1	Turn Off Power to the EF1 Monitor or disconnect quick connect electrical plug.	
2	Using a 3 mm Hex Key, loosen the (5) screws securing the electronics cover to the monitor.  Loosen screws only enough to remove the lid.  Do not completely remove the screws as they are retained in the lid by an O-ring.	
3	Remove the override shaft cover from the monitor by carefully prying up the cover with a straight edge screwdriver.  The cover is retained by an O-ring.	

<p>4</p>	<p>Using Retaining Ring Pliers, remove the internal retaining ring securing the override shaft assembly.</p> <p>Use caution when removing the retaining ring, the ring is under tension.</p>	
<p>5</p>	<p>Push down lightly to rotate the exit elbow.</p> <p>This will cause the override shaft assembly to be removed from the casting.</p> <p>Set the override shaft assembly aside for re-installation.</p>	
<p>6</p>	<p>Using a 1/2" socket wrench, extension, and THY001-ST tool, insert the THY001-ST into the casting.</p>	
<p>7</p>	<p>Make sure the THY001-ST is fully inserted into the motor retainer in the orientation shown.</p> <p>It may be necessary to wiggle the tool past the worm gears of the exit elbow in order to fully seat the tool in the motor retainer.</p>	
<p>8</p>	<p>While holding the monitor steady, turn the socket wrench counter-clockwise to loosen the motor retainer.</p> <p>Considerable torque will be required. <b>Do Not Use an Impact Wrench</b>, damage can occur to the motor retainer.</p> <p>The retainer only needs to be unthreaded enough to allow the motor to be removed.</p> <p>Do not remove the retainer from the monitor.</p>	

<p>9</p>	<p>Unplug the two electrical plugs for the motor being replaced.</p> <p>It is acceptable to unplug any other wires that may need to be moved in order to clear the path for the motor to be removed.</p> <p>Each plug is locked in place by a locking tab. Squeeze the tab to release the plug.</p> <p>Note the location of wires for re-installation.</p>	
<p>10</p>	<p>Remove the motor.</p>	

## 2.0 REPLACEMENT MOTOR INSTALLATION

<p>1</p>	<p>Using a 3 mm hex key, remove the black mounting plate from the existing motor.</p> <p>Position the plate on new motor so that the locator tongue on the plate aligns with the wires exiting the motor.</p>	
<p>2</p>	<p>Apply red Loctite (or equivalent) to the screws and install to secure the plate.</p> <p>Apply a small 360° bead of blue Loctite (or equivalent) to the female threads of the motor retainer plate.</p>	
<p>3</p>	<p>Install the new motor aligning the locator tongue on the motor retainer plate with the notch in the monitor casting.</p> <p>Use the THY001-ST and torque wrench to tighten the motor retainer until the motor is fully seated.</p> <p>Torque to 60 ft.-lbs. (81 Nm).</p>	

<p>4</p>	<p>Reinsert any plugs that were previously unplugged.</p> <p>Make sure that the motors are plugged into the correct locations.</p> <p>Lay wires and ferrites neatly into place.</p>	 <p>Horizontal Motor Vertical Motor Nozzle Motor</p>
<p>5</p>	<p>Re-install the override shaft into the monitor.</p> <p>Pull up on the exit elbow to pull the shaft into the cavity.</p> <p>It may be necessary to rotate the shaft slightly in order to get it to engage the motor output shaft.</p>	
<p>6</p>	<p>Ensure the override shaft is fully seated and the bearing is sitting below the retaining ring groove, indicated by arrow.</p> <p>Re-install the retaining ring.</p>	
<p>7</p>	<p>Re-install the override shaft cap.</p> <p>Press firmly or use a rubber mallet to ensure the cap is fully installed.</p>	
<p>8</p>	<p>Re-install the electronics cover.</p> <p>When installing the cover, ensure no wires are pinched between the cover and casting.</p> <p>Power the unit and test for normal operation.</p>	

**WARNING**

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For questions regarding troubleshooting, parts, or repair, contact your local dealer or TFT's service department.

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