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### Frequently Asked Questions

Date Raised: 26/6/2023


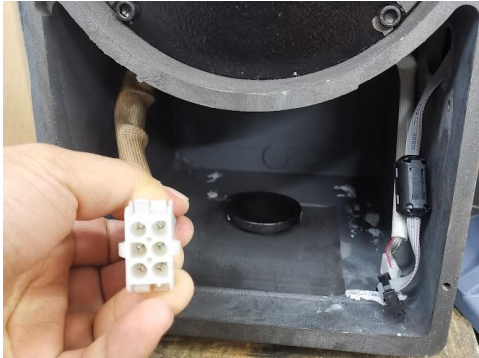
Date Amended:

Safe practices should always be employed to ensure the Health and Safety of yourself, employees and customers (if applicable) Refer to product manuals, exploded drawings and our website if further assistance is required, or contact us on [service@teknatool.com](mailto:service@teknatool.com)

## Measuring the Motor Winding Resistance for the DVR Motors

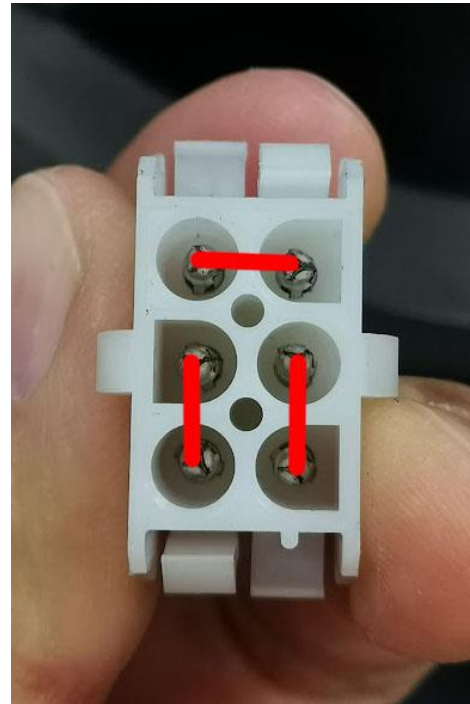
Tools required:

- Multimeter

1	<p><i>Please remember to unplug the machine</i></p> <p>Follow the appropriate guide for your machine to disassemble the cover panels.</p> <p><b>NOTE: You do not need to remove the main control board to measure the motor windings.</b></p>	
2	<p>Locate the large 6 pin motor connector <u>on the motor side.</u></p>	

3 The motor winding has **3 pairs** of phases.

The power controlled by software on the Main Control Board which determines the **direction** (positive or negative) and **voltage** (size of force) which is sent through each of the coils. The sequence of power flow is what makes the motor rotate.



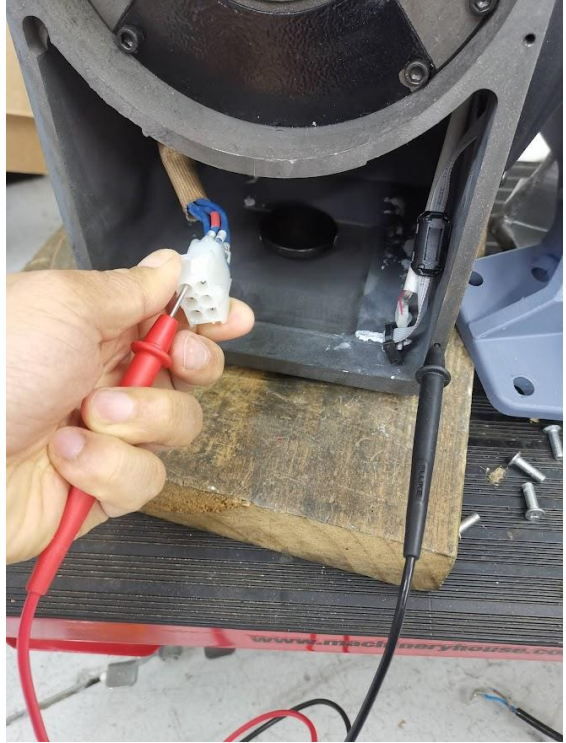
4 **To measure the motor winding resistance:**

Please select one of the 3 phases and probe the multimeter across the 2 terminals. **Repeat for all 3 pairs**

Set the multimeter to measure resistance (in ohms). The corresponding resistance measurements are below.

Machine	Correct Motor Winding Resistance
Nova DVR XP, Saturn, Galaxi, Orion, Nebula Lathes	9 – 11 ohm
Nova Voyager, Vulcan Drill Press	
Nova Viking drill press	1.7 – 2 ohm
Nova Neptune, Neptune Max Lathe	6.8 – 7.5 ohm



5	<p><b><u>To check motor winding insulation</u></b></p> <p>Sometimes, the insulation on the copper windings used to construct the motor may be broken, this will result in power leakage through to the motor headstock which may result in a shock or the machine will trip the fuse.</p> <p>To check if the insulation has broken on the motor windings, set one probe of the multimeter on an <b>exposed metal part</b> of the motor windings (Do not use painted areas), the other probe should be on 1 of the three phases.</p>	
	<p>Set the multimeter on continuity mode or resistance mode and check if any of the 3 phases is shorting to the main casting. Repeat for all 3 phases.</p> <p><b>IF any of the 3 phases is shorting out to the motor body</b> then the insulation on the motor windings has broken. <u>The headstock can no long be used.</u></p>	