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Frequently Asked Questions

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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

How to Fix the 'Hardware Fault' at low RPM For DVR Orion, Saturn and Voyagers

If while under load, your machine stops spinning and displays a '**Hardware Fault**' warning while running at or lower than 500 rotations-per-minute (RPM), then you may be experiencing this Hardware Fault. Read on for instructions for how to fix this issue.

Please note that not all '**Hardware Fault**' warnings are attributed to this issue. This guide will only fix resettable Hardware Fault errors occurring when running a DVR Orion, Saturn, or Voyager at or under 500 RPM and under load.




Tools Required:

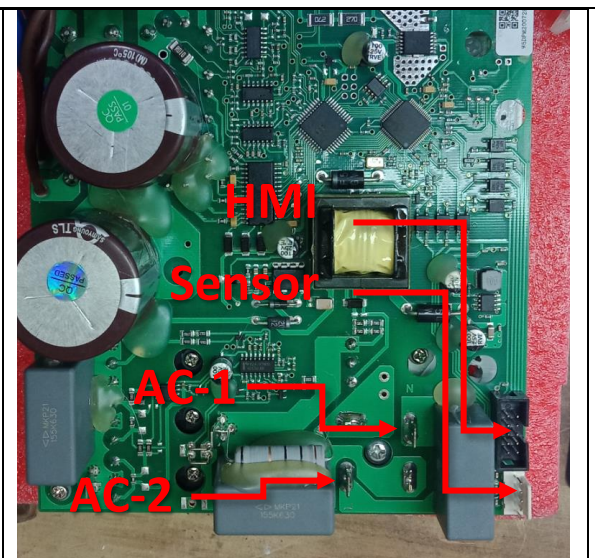
- Phillips head screw drivers
- Pliers
- Allen key set
- Silicone electrical insulation pads (Buy from hardware store or Teknatool)
 - o Electrical tape will also work

1	Power off and unplug the lathe and wait for 2 minutes for the power to dissipate.
2	Remove the Main Control Board from the headstock of your Lathe or Drill press using the following instructions:


For DVR Orion and DVR Saturn Lathes:

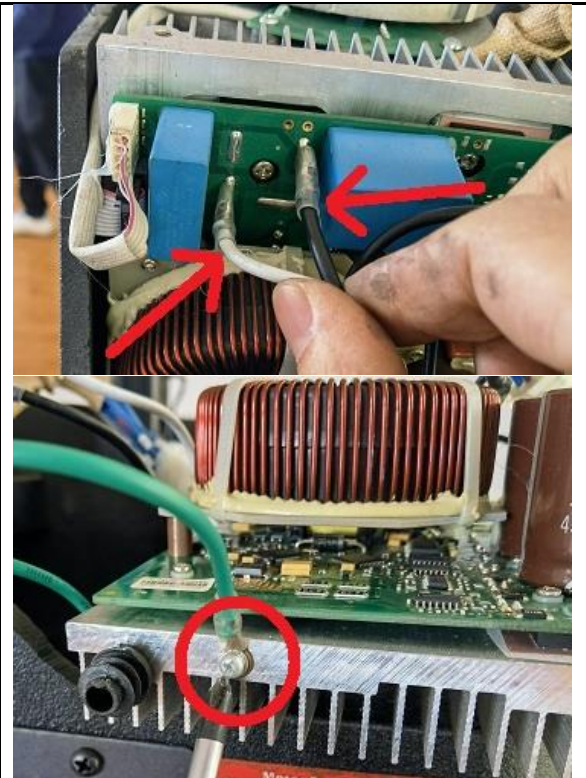


A1	Disengage the locking handle on the lathe bed and then swivel the headstock to any diagonal position.	
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B1	<p>Unbolt each heat sink screws exposed underneath the headstock when rotated.</p> <p>There are four in total, and you will need to rotate the headstock another 90 degrees to access the next one.</p>	
C1	<p>Unscrew the 8 bolts holding the headstock cover on to expose the main control board.</p>	
D1	<p>Using your pliers, begin to remove the control board from the headstock by pulling on the heat sink. Be careful not to touch the control board with the pliers.</p> <p>NOTE: There may be thermal paste underneath the heat sink, which can get onto your clothes if touched.</p>	



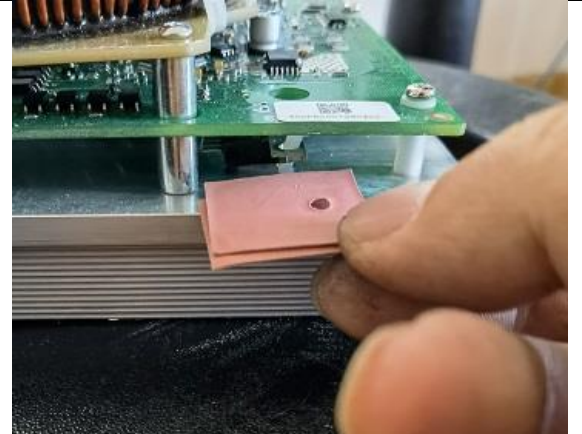
E1	<p>Unplug the cables attached to the control board as you remove it from the headstock.</p> <p>There are 5 in total including:</p> <ul style="list-style-type: none">- Two AC power connectors- A white sensor cable- A black HMI ribbon connector- The 6-pin motor cable (Undo the buckle before pulling it off) <p>Remove any glue holding the cables into place with your pliers.</p>	
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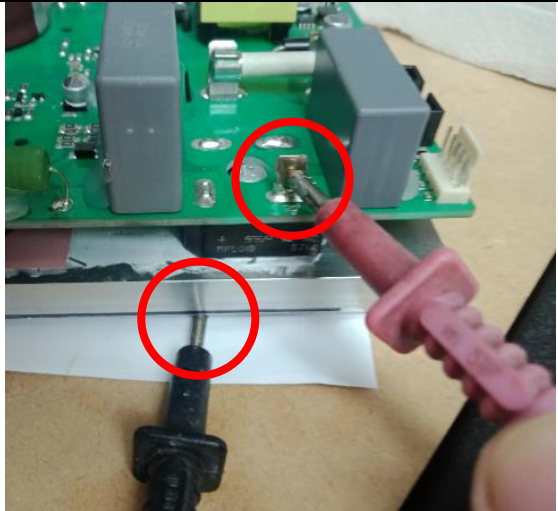

For the DVR Voyager Drill Press:

A2	<p>Remove the screws on the front and top panel of the headstock to expose the control board – there are 10 in total.</p>	
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B2	<p>Unplug the Black and white AC power cables from the control board.</p> <p>Remove the grounding wire attached to the screw on the heat sink.</p>	 <p>The top photograph shows a hand unplugging a black AC power cable from a green control board. A red arrow points to the cable. The bottom photograph shows a hand removing a grounding wire from a screw on a heat sink. A red circle highlights the screw.</p>
C2	<p>Unplug the white sensor cable and the Black HMI ribbon connector. Remove any glue holding the cables in place with your pliers.</p>	 <p>The photograph shows a hand unplugging a white sensor cable from a green control board. A black HMI ribbon connector is also visible.</p>
D2	<p>Finally, remove the 6-pin motor cable. Undo the buckle before unplugging it. Cut the cable tie if necessary.</p>	 <p>The photograph shows a hand unplugging a 6-pin motor cable from a green control board. A white buckle is visible on the cable.</p>

With the Main Control Board now exposed:

3	<p>Carefully remove the control board from the headstock by pulling on the heat sink. Be careful not to damage the board.</p>	
4	<p>Undo the Nylon screw on the temperature sensor on the board.</p> <p>The temperature sensor can be found on the corner with the QR code sticker, between the underside of the control board and the heat sink.</p>	
5	<p>Place two or more silicone insulation pads between the temperature sensor and the heat sink.</p> <p>If you do not have silicone pads, electrical tape will also work, add additional layers in this case.</p>	

6	<p>Carefully replace the screws for the temperature sensor being careful not to tighten it too hard so the force does not break the insulation pads.</p>	
7	<p>Check the electrical insulation of your motherboard by testing the resistance between any of the <i>AC power pins</i> and the <i>heat sink</i> using a megger tester. The resistance should ideally be infinite. (reading of >999M Ohms)</p>	
8	<p>Reassemble your headstock by</p> <ul style="list-style-type: none"> - Replacing your control board into the headstock - Reattaching all cables back onto the control board - Replacing the screws and bolts onto the cover plate <p>Remember to replace the grounding onto the heat sink for the drill press, and the heat sink bolts under the lathe headstock.</p>	

The error should now be resolved!