

EPM Troubleshooting Guide

WARNING: All testing described in this guide should be performed by qualified personnel following appropriate safety guidelines.

1 Symptom: Low or no holding power.

1.1 Cause: Incorrect power supply.

1.1.1 Solution: Make sure voltage is within 10% of voltage rating stated on back of controller.

1.1.2 Solution: Make sure supply is a dedicated 30 amp circuit with a minimum of 10 gauge wire.

1.1.3 Solution: Make sure voltage does not drop below 10% of voltage rating while controller is demagnetizing the chuck.



Voltage test of incoming power supply.



Test points for incoming power supply.



Controller voltage rating is 480VAC.

1.2 Cause: Power level not set to '8'.

1.2.1 Solution: Increase power level to '8'.



Power level is set to '8'.

1.3 Cause: Chuck cable connections are damaged, wet and / or not clean.

1.3.1 Solution: Clean connection.

1.3.2 Solution: Replace connector and / or cable.



Pins are not clean.



Clean chuck cable and chuck connectors.

1.4 Cause: Chuck cable is damaged.

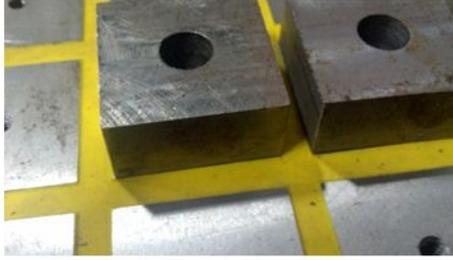
1.4.1 Solution: Replace chuck cable.

1.5 Cause: Chuck or induction block surface not flat.

1.5.1 Solution: Face off surface.



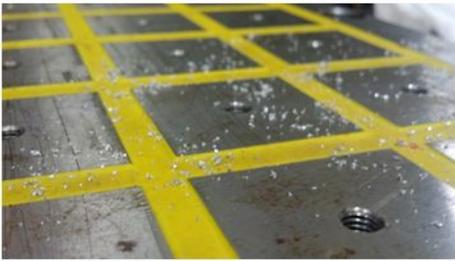
Induction blocks not yet milled flat.



Induction blocks after face milling.

1.6 Cause: Coolant or debris between the chuck and the work piece.

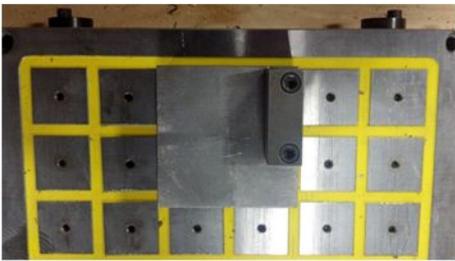
1.6.1 Solution: Clean chuck and work piece.



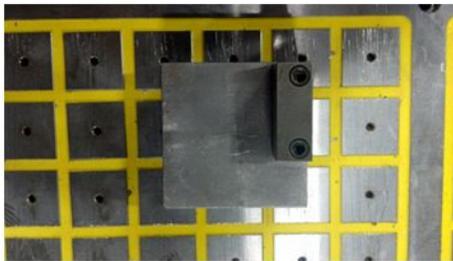
Debris collected on chuck surface.

1.7 Cause: Work piece not covering enough poles.

1.7.1 Solution: Align work piece to touch as many poles as possible.



Work piece only contacting 4 poles.



Work piece contacting 9 poles.

1.8 Cause: Poor work piece surface quality.

1.8.1 Solution: Face off work piece.

1.9 Cause: Work piece surface facing chuck is not flat.

1.9.1 Solution: Face off work piece.

1.9.2 Solution: Install spring blocks.



Spring block induction block.

1.10 Cause: Work piece is not made of a ferromagnetic material.

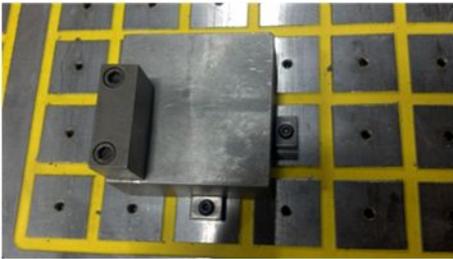
1.10.1 Solution: Use only ferromagnetic alloys.

1.11 Cause: Incorrect work piece thickness.

1.11.1 Solution: Use at least 0.5" thick material.

1.12 Cause: No work stops installed.

1.12.1 Solution: Install work stops.



Work piece contacting 9 poles with stops.

1.13 Cause: Work piece extends too far beyond the chuck.

1.13.1 Solution: Install a larger chuck.

1.13.2 Solution: Install supports.

1.14 Cause: Controller is damaged.

1.14.1 Solution: Replace controller.

1.15 Cause: Chuck is damaged.

1.15.1 Solution: Replace chuck.

2 Symptom: Not all the poles are magnetized / demagnetized.



Testing poles for magnetism.

2.1 Cause: Chuck cable connections are damaged, wet and / or not clean.

2.1.1 Solution: Clean connection.

2.1.2 Solution: Replace connector and / or cable.

2.2 Cause: Chuck cable is damaged.

2.2.1 Solution: Replace chuck cable.

2.3 Cause: Controller is damaged.

2.3.1 Solution: Replace controller.

2.4 Cause: Chuck is damaged.

2.4.1 Solution: Replace chuck.

3 Symptom: The chuck does not demagnetize completely.

3.1 Cause: Incorrect power supply.

3.1.1 Solution: Make sure voltage is within 10% of voltage rating stated on back of controller.

3.1.2 Solution: Make sure supply is a dedicated 30 amp circuit with a minimum of 10 gauge wire.

3.1.3 Solution: Make sure voltage does not drop below 10% of voltage rating while controller is demagnetizing the chuck.

3.2 Cause: Chuck cable connections are damaged, wet and / or not clean.

3.2.1 Solution: Clean connection.

3.2.2 Solution: Replace connector and / or cable.

3.2.3 Solution: Replace chuck cable.

3.3 Cause: Controller is damaged.

3.3.1 Solution: Replace controller.

3.4 Cause: Chuck is damaged.

3.4.1 Solution: Replace chuck.

4 Symptom: No lights are displayed on the controller.

4.1 Cause: Incorrect power supply.

4.1.1 Solution: Make sure voltage is within 10% of voltage rating stated on back of controller.

4.1.2 Solution: Make sure supply is a dedicated 30 amp circuit with a minimum of 10 gauge wire.

4.1.3 Solution: Make sure voltage does not drop below 10% of voltage rating while controller is demagnetizing the chuck.

4.2 Cause: Controller disconnect switch not turned to 'ON' position.

4.2.1 Solution: Turn disconnect switch 'ON'.



Disconnect switch in 'ON' position.

4.3 Cause: Blown fuse.

4.3.1 Solution: Replace fuse.



Replacing fuse.

4.4 Cause: Controller damaged.

4.4.1 Solution: Replace controller.

5 Symptom: CNC Control port not working.

5.1 Cause: Incorrect control signals.

5.1.1 Solution: With the chuck demagnetized, there should be a short between pins #1 and 3.

There should be an open between pins #1 and 2. With the chuck magnetized, there should be a short between pins #1 and 2. There should be an open between pins #1 and 3. To demagnetize the chuck, apply +5-26VDC to pin #4 and 0V to pin #6. To magnetize the chuck, apply +5-26VDC to pin #5 and 0V to pin #6.



CNC Control Port.

5.2 Cause: Controller is damaged.

5.2.1 Solution: Replace controller.

6 Symptom: Power level displays '0'.

6.1 Cause: CPU is loose in socket.

6.1.1 Solution: Gently press CPU into socket.

7 Symptom: The green magnetized light is flashing.

7.1 Cause: The chuck did not magnetize properly.

7.1.1 Solution: Make sure the chuck cable is properly connected to the chuck and magnetize the chuck again.



Flashing green Magnetize light.

8 Symptom: The red magnetized light is flashing.

8.1 Cause: The chuck did not demagnetize properly.

8.1.1 Solution: Make sure the chuck cable is properly connected to the chuck and demagnetize the chuck again.



Flashing red Demagnetize light.

9 Symptom: The yellow light is on all of the time.

9.1 Cause: The controller is the slave in a daisy chain connection.

9.1.1 Solution: This is normal. It indicates that the daisy chain cable is connected and is being controlled by another controller.

9.2 Cause: The remote is damaged.

9.2.1 Solution: Replace the remote.

9.3 Cause: The controller is damaged.

9.3.1 Solution: Replace the controller.



Flashing Magnetize light.

10 Symptom: The remote control is not working.

10.1 Cause: The remote is damaged.

10.1.1 Solution: Replace the remote.

10.2 Cause: The controller is damaged.

10.2.1 Solution: Replace the controller.



Remote Control.