Service Bulletin

Enabling Your Ideas

Number: 0019

Title: Fuse Correction **Date:** January 15, 2008, revised January 30, 2008

Product Identification: PCNC 1100 Milling Machine, serial numbers 1 through 1181.

Overview:

Fuse specification and fuse installed in machines 1181 and earlier was incorrect due to a typographical error. Fuse identified as FU3 should be changed.

Background:

FU3 was originally specified and installed as a 6 Amp fuse. It should be 0.6 Amp. If a component or wiring failure were to occur the normal mode of failure should be a blown fuse. In this case fuse FU3 is in the 115 VAC control power circuit, downstream of the control power transformer (XFM1). When the fuse specification is too large it will not properly protect the control power transformer and an overload would likely lead to a failure of the transformer instead of a blown fuse. To correct this problem FU3 must be replaced with a 0.6 Amp fuse.

Resolution:

Tormach recommends 3 actions for resolution of this issue.

1. Replacement of the fuse. The fuse is in a white receptacle which is mounted on the lower right hand portion of the control panel. The fuse is best identified by the wire numbers that go through it, wires 101 and 102. There may be a fuse identification label below, but this should not be used to identify the proper fuse to replace. Typically the fuse will be the third from the left among a block of 4 fuses as is shown in Figure 1.

   Remove power to the electrical cabinet and then pull down on the upper tab. The fuses are pinned, they will both open as shown in Figure 2. Remove the fuse and replace with a 0.6A fuse. The fuse is Tormach PN 30724 but Bussmann KTK-6/10, LIttlefuse KLK-.6, or Ferraz ATM-0.6

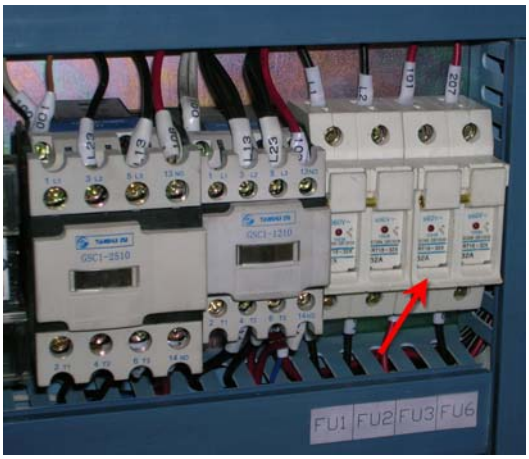

Figure 1 - Location of Fuse FU3

are appropriate substitutes. Swivel the fuse holder back up to snap the fuse in place and restore machine power.

Figure 2 - Fuse block opened

2. Correct the fuse specification in the operator's manual. The electrical parts list and circuit diagram is in section 10 of your owner's manual. Figure 3 shows the location of the fuse specification on the circuit diagram. You can make a notation on the existing circuit diagram or mark out the diagram and insert a revised copy in your manual.

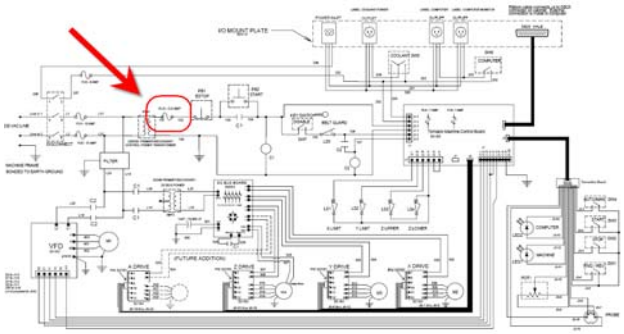

Figure 3 - Location of FU3 on Circuit Diagram

3. Additional documentation for the machine cabinet. This step is optional, but highly recommended. We suggest storing a copy of the cabinet layout, electrical diagram, and parts list in the machine cabinet. Tormach PN 30741 is a self adhesive vinyl envelope, convenient for storage of the documents. It will fit nicely on the lower inside door. Clean the painted surface before applying the envelope. Burnishing with the rounded handle of a screw driver or back of a spoon will help the envelope adhesive bond.

Problems:

If you find that the computer and coolant outlets no longer work after the fuse change, then you have replaced the wrong fuse. The convenience outlets are fused by a 6 amp fuse between wires 207 and 202. If you have put the 0.6A fuse into that location it will blow the fuse as soon as you turn on your computer or coolant system. If this is the case you can purchase a replacement fuse locally or contact Tormach for another 0.6 A fuse.

6 Amp fuse is Tormach PN 30456. Alternative is Bussmann KTK-6, Littlefuse KLK-6, or Ferraz ATM-6

0.6 Amp fuse is Tormach PN 30724. Alternative is Bussmann KTK-6/10, LIttlefuse KLK-.6, or Ferraz ATM-0.6