Axis Controller Cards

Troubleshooting Amplifier and Motor Faults

Often times in troubleshooting motor or amplifier faults you need to swap controller cards to determine if the fault follows the card or stays with the axis. Your axis controller cards are located within the card rack in slots 9, 10, 11 & 14 for the X, Y, Z and spindle controller card respectfully.

Common faults you may need to swap controller cards for troubleshooting are:

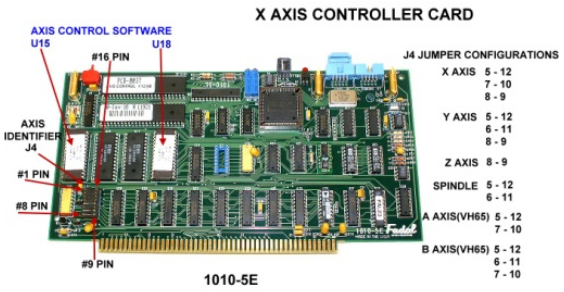
(9) SPINDLE FAULT LINE DOWN
(12) MOTOR OVERLOAD
(13) MOTOR OVERLOAD
(18) AMPLIFIER FAULT LINE DOWN

Other common issues where you may suspect a bad controller card and need to swap them to be sure it is bad:

* Controller card not responding errors
* Bad surface finishes
* All amplifier faults
* All motor overload faults.

Swapping controller cards is quite common in troubleshooting and it is very rare that in swapping cards you may damage a good card putting it in a bad slot. Put your mind at ease that this really never happens. However, when swapping cards, there are some things you need to know.

1. The location and orientation of the EPROMS.
2. The location of the jumper IC.



The 1010-5 controller card photo shows both the EPROM and jumper IC locations, in addition to the jumper configurations for each of the axes the card is able to control, including the spindle. We have also provided a document that shows you how the jumpers need to be configured for each axis and spindle when you are swapping them.

All cards, 1010-5, 1010-4, 1010-2 & 1010-1 cards use this jumper to configure the card to run that particular axis. YOU CANNOT JUST SWAP CARDS BETWEEN SLOTS WITHOUT

CHANGING THE JUMPER. So keep this in mind as you are swapping cards: THE JUMPER STAYS WITH THE SLOT AS THE CARD MOVES.

Now, also remember that all your survey values (SV Command) which hold Grid Offset for the axes and tool change position on the Z axis on AC servo drive machines is stored on the card and will move with the card. So when you are done testing, PUT THE CARDS BACK IN THE ORIGINAL SLOTS. This keeps you from losing your ballscrew pitch compensation for that axis...and worse, applying another axis's compensation to another axis that is completely different. So, once again: PUT THE CARDS BACK IN THE ORIGINAL SLOTS WHEN DONE.

The long and short of this exercise is if the problem moves with the card, replace it. If it stays with the slot, you have more work to do. We carry all versions of controller cards in stock and are available for technical support over the phone if you need additional assistance.

Best of luck!