



# Replacing the Desktop Control Board

## Before Starting

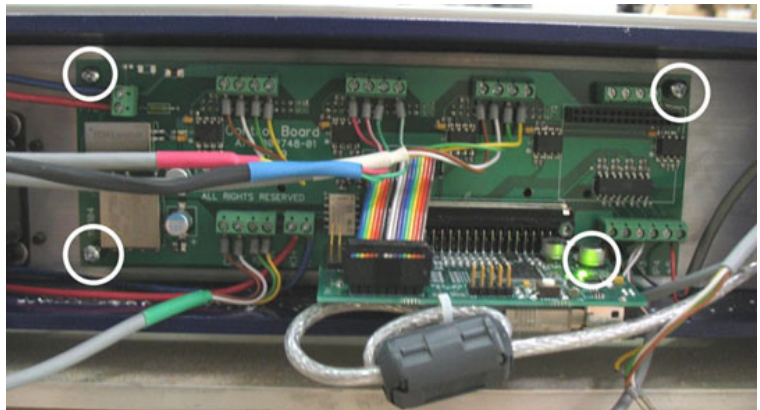
**RISK OF ELECTRIC SHOCK:** Unplug the power to the ShopBot before starting. Failure to do this can result in electric shock and/or damage to the tool.

## Remove Existing Board

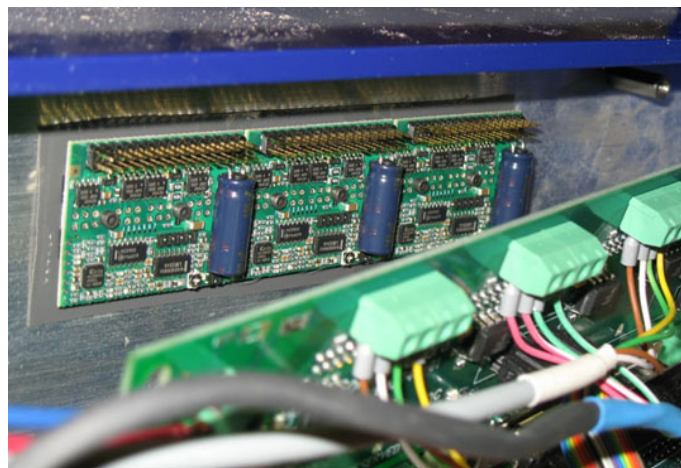


Use an allen wrench to remove two screws and plexi-glass cover from the back of the machine.

Unscrew four phillips head screws and board. The fourth screw is underneath the smaller control card, as indicated in the picture on right.



The board is also attached to a serial connector behind it. Very gently pull the board from the connectors.



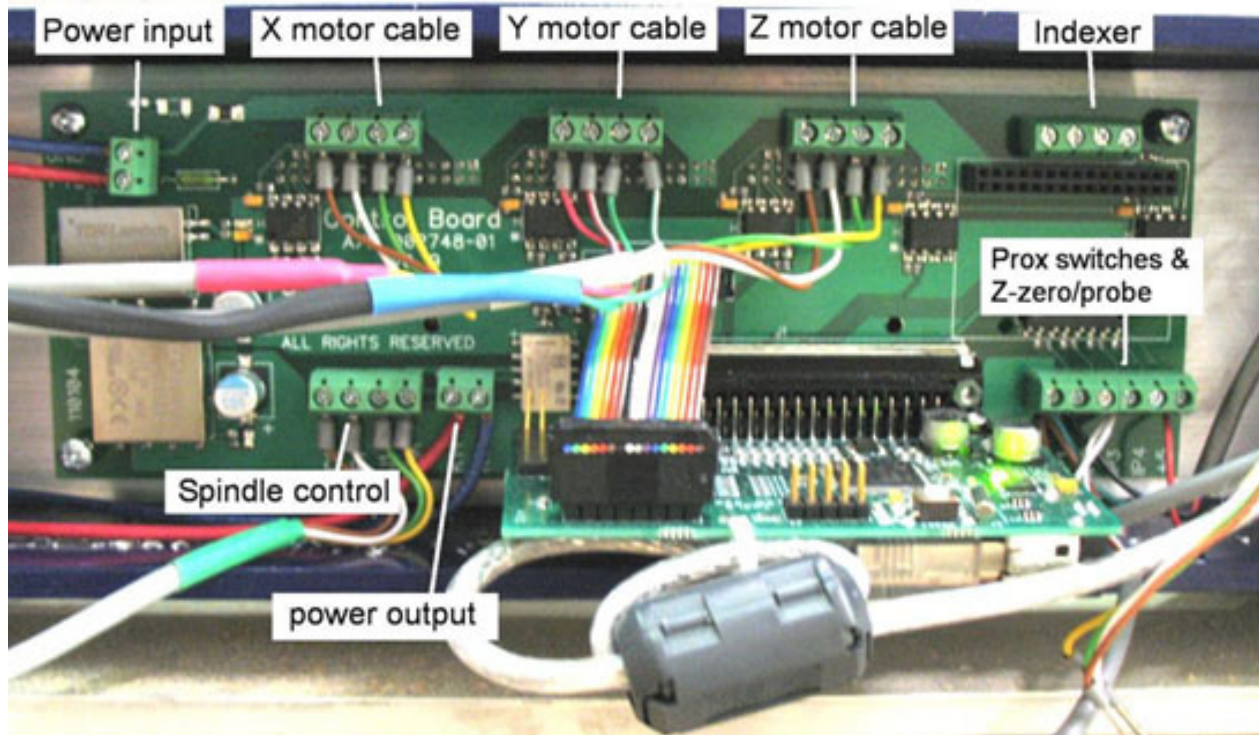
## Wire the New Board

**ATTENTION: It is extremely important that you wire each cable to the correct terminal block. Failure to do so can destroy your new board.**

Paying close attention to the order of the cables, switch the wires over to the new board. Loosen the screws on the old board to free the wires and loosen the screws on the new board. Insert one wire at a time into the green terminal blocks, and tighten each screw to secure the wire. Tug on the wires to make sure they are tight.

If setting up an indexer, remember to route the cable through the frame along with the other cables.

Refer to the indexer setup document for further instructions on completing installation.



Wiring instructions go from left to right. When putting two or more wires into the same terminal, twist them together first.

X motor cable: brown – white – green – yellow

Y motor cable: red- red/white stripe – green – green/white stripe  
Z motor cable: brown – white – green – yellow

Indexer (if applicable): brown – white – green – yellow

Proximity switches: Both brown wires to GND (ground), both white wires to IP3  
Z-zero/probe: Green wire to GND, Black wire to IP1, Red wire to +5.

Spindle control: brown – white – green – yellow.

Power input: blue on top, red on bottom.

Power output (to contactors): red on left, blue on right.



## Attach the New Board

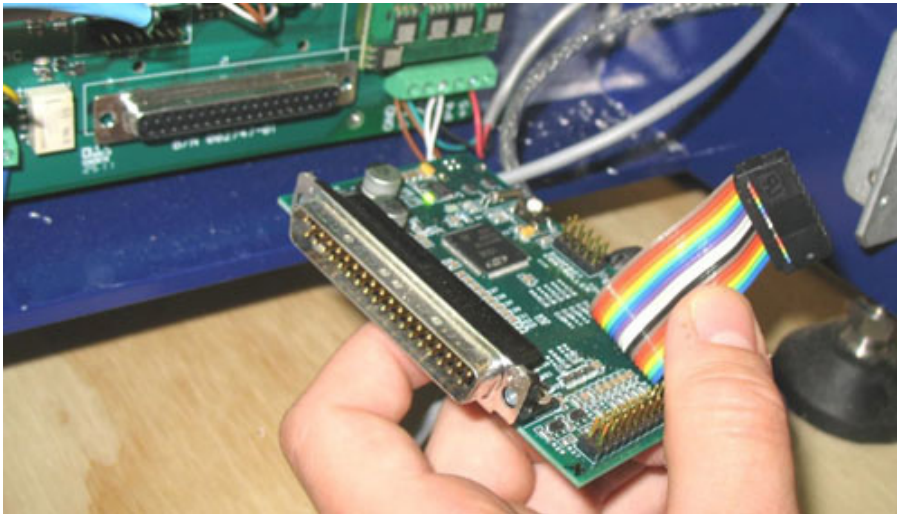
When plugging the board back into its serial connector, it's very important to get all the pins lined up correctly. If the pins are not aligned correctly, there is a risk of destroying the board.

Make sure that the pins and the plug are clean and clear of any sawdust or debris.

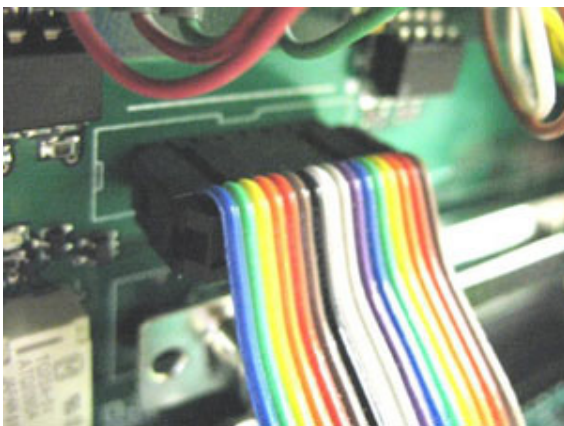
Reach around the board and align the pins to the plug. It should be aligned both vertically and horizontally. If all the holes line up with the screw posts, gently press the pins into the board. Install screws to secure board. If the screws don't line up, carefully remove the board and adjust the alignment.

## Transfer the Control Card

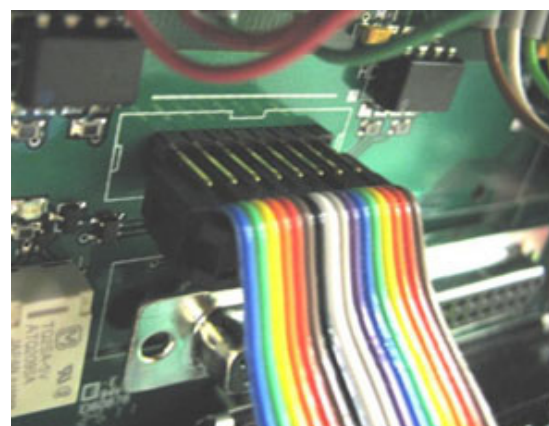
Locate the ribbon cable that runs from the board to the card. Leave it attached to the card, and gently remove the card from the board. Remove the screws that hold the control card onto the board, and gently pull the card out of the serial connector.



Press the control card onto the new board, and secure the board to the serial connector with screws. Re-connect the ribbon cable. Check both the top and the bottom of the ribbon cable connector to make sure that it is seated onto both rows of pins. **Proper alignment is very important.**



**Right:** connector aligned and seated properly



**Wrong:** connector only covering a single row of pins (check both sides!)