## Notes

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## References

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## Bill of Materials

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4 Panel General Requirements  
Work Center: Electrical Prep

### 4.1 Bill of Materials

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![3/8" flat washer]
4.2 General Requirements
• Use proper safety equipment
• Follow Req's as needed for Soldering and Welding
• Routings must be maintained

Verify you read all required information

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4.3 Specifications - Changed Specs 1-22-13
Refer to Specifications soldering. Reflect changes

4.4 Stage Shipping Locks
Use a flathead screwdriver to pry the bellows from the traveling crosshead on the linear stage. Look for a tab locking the two cross roller rails. Remove the two fasteners holding the tab to the rails. Remove the tab and reinstall the two fasteners.
• Repeat on the other end of the traveling crosshead.

Record Serial Number

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4.5 Linear Stage Prep - Test Changes Made on a step in a work order 1-22-13 dew

Use a 0.05" Allen wrench to remove the two button head screws holding the cover over the limit switches of the 6" Travel Stage, as shown in the figure.
4.6 Clip Center Limit - Version Note test 2:12 on 1-22

There are three cables going to the limit switches on the linear translation stage.

- Identify the cable going to the center limit switch (indicated in the figure).
- Use the wire cutters to cut the cable going to the center limit switch at the shrink tube where indicated in the figure.
- Pull the end of the cable under the shrink tube so it is not exposed.
4.7 Solder pins
Obtain a jeweler’s vise and hold the wires in place as shown in the first figure. Solder the pins to the conductors as demonstrated in the second figure.

Reference attached video for proper soldering technique.
4.8 Center Limit Quality Check

Length of ram is 3 inches. Measure and sign off this is correct.
### 5.1 Bill of Materials

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**Work Center:** Electrical Prep
5.2 Clip other two wires
Measure 14" along the remaining two cables from the Limit Switch Mount on the linear translation stage. Cut both wires 14" from the mount.
5.3 Strip Insulation

Use the wire strippers to strip the outer insulation from the two limit switch cables approximately 3/4” from the end (as shown in the figure).

Be careful not to cut the four conductors inside the cable.

Do not cut coating on small wires.
5.4 White Wires
Cut the white conductors on both cables, leaving the black, brown and blue wires.

Cut off white wire
Remove two set screws.
5.5 Mark Bottom Cable

- Identify the "Bottom" limit switch using the first figure as a reference. The bottom limit switch is the one closest to the motor mount shown in the first figure.

- Place a piece of red tape on the "bottom" limit switch cable as shown in the second picture.
5.6 Solder Wire Pairs
Strip the 6 conductors (three in each cable) 1/8". Twist the two blue wires together and solder the pair as shown in the first figure. Twist the two brown wires together and solder in a similar fashion.
5.7 Connector plug
Press the crimp pins into the Electrical Plug as indicated below.

Molex
5.8 Crimp Pins - Needed to be 

Identify the crimp tool used for this step.

- Using the tool, install a crimp pin on the soldered brown wires.
- Install a crimp pin on the blue wire pair. Install a crimp pin on each of the black wires.
- The four crimp pins should look similar to those in the second figure.
5.9 Solder wires
Solder wires to sensor leads.

Refer to video if needed:

5.10 Motor Mount Plate
Use (3) M2x6 cap screws to attach the Motor Mount Plate to the MicroMotor as shown in the first picture. The three mounting holes in the center of the motor mount plate are recessed on one side of the plate. The recessed side goes away from the motor.

- Note also that the motor must be rotated relative to the plate as shown in the figure. If it does not look like the one in the picture, rotate the plate relative to the motor.

You will use a M1.5 allen wrench for this step.
Note: Only tighten to 45 in-lbs