

WHAT TO DO IF THE SERVO SYSTEM REPORTS FAILURES.

1. Try a hard reset on the system, shut the computer down and turn the main power switch off for 30 seconds, turn the main power back on and run the mango software, if error goes away continue normal operation if not go to step 2.
2. Exit report and get back to mango front screen, select "EXIT" then "OPERATING SYSTEM" then enter the password (210569) you may need to double click in the white number entry area to allow a number pad to appear. Click "ACCEPT" then push the emergency stop button in on the screen and click "OK". The mango software will shut down and you will be at the windows desktop.
3. Locate the icon that says either "NMCTEST" or "SERVO TEST PROGRAM". If one does not exist go to step 4. If you have located icon double click and go to step 5.
4. Double click "MY COMPUTER" then "LOCAL DISK (C)" then "PROGRAM FILES" then "MANGO TECH" then "MT AUTOMATION" then "JR KERR TEST". Right click on the icon "NMCTEST" and go to "Send to" "Desktop (create shortcut)" this will put a shortcut on the desktop for easy use. Close all open folders locate new NMCTest icon on the desktop, double click icon to start servo test program. NB If you are using a touch screen and do not have a mouse by clicking on the blue ELO button in the bottom right task bar and selecting "Elo right mouse button tool" this will allow bring an icon to the top left of screen which allows you to right click.(Fig 1.)

Fig 1.

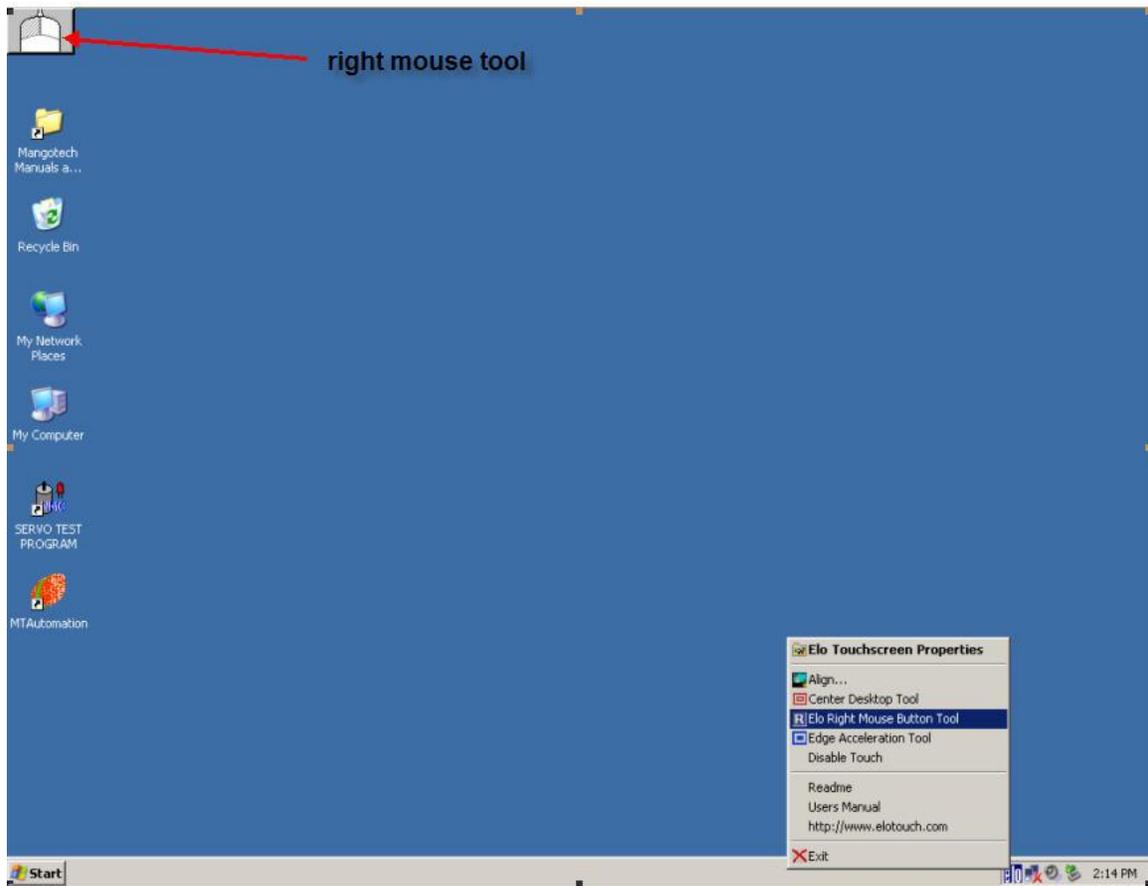
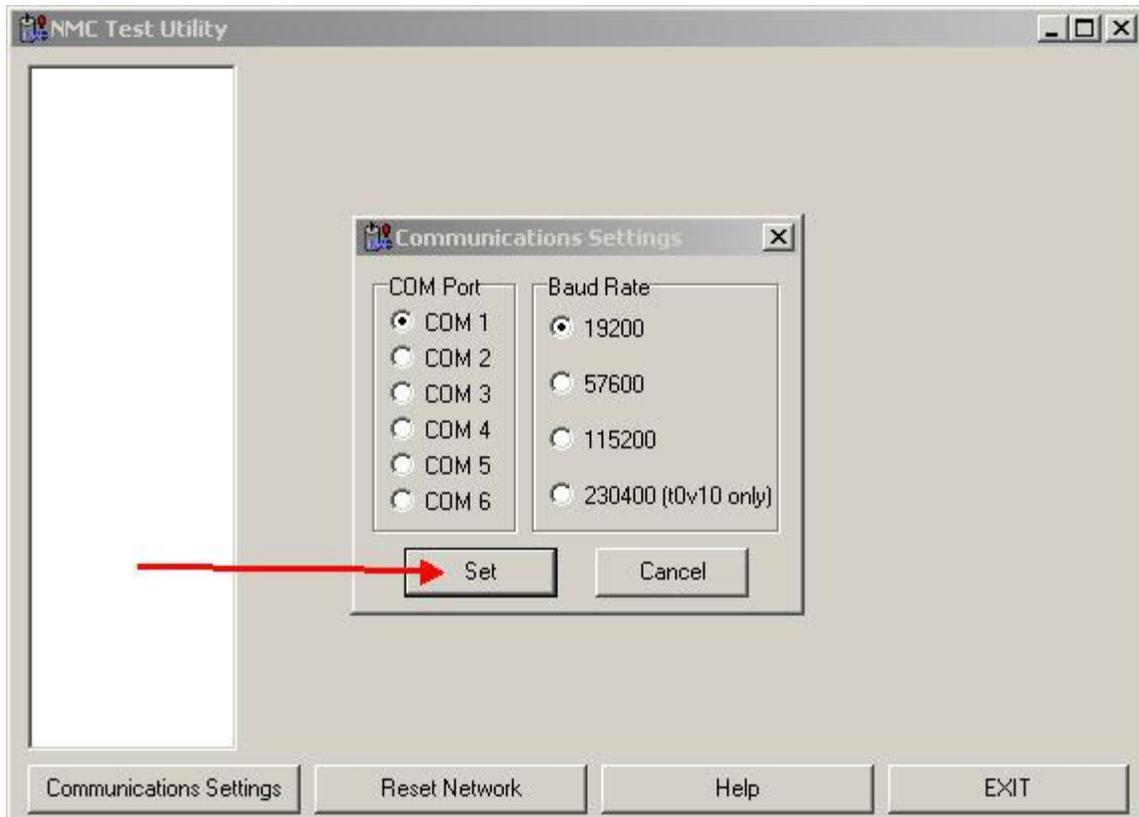
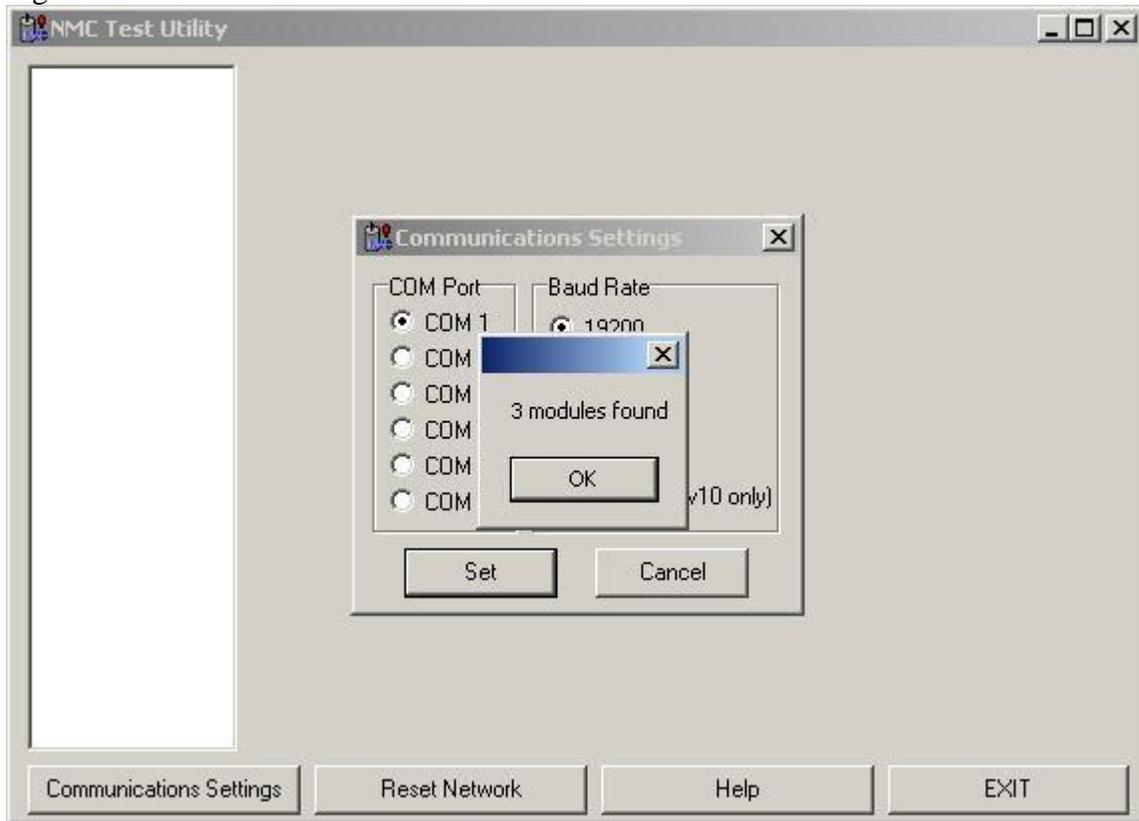


Fig 2.



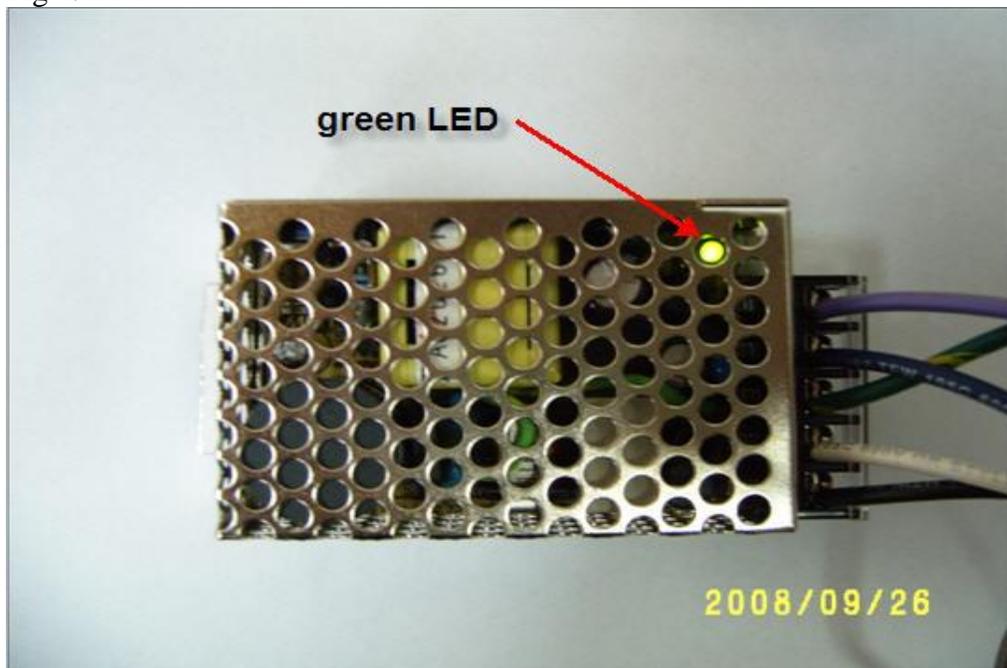
5. Click the "Set" button (Fig 2.) then ideally you will get a message saying "3 modules found" (Fig 3.) If you get 0, 1 or 2 modules found it means there is a problem either with the 12v transformer or more likely with one or more of the cards in the system. You will now have to open the box which contains the servo cards, do a visual inspection make sure there are no obvious loose cables, also have a close look at the cards for any signs of charring or physical damage. If these look OK move onto step 6.

Fig 3.



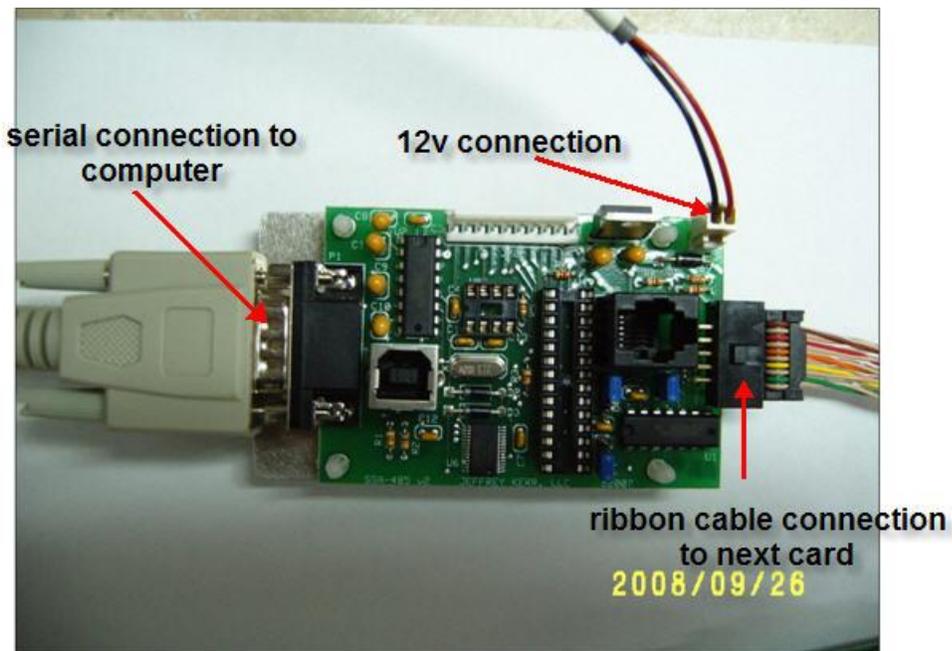
6. The first thing to check is the 12v transformer (Fig 4.), make sure that the green LED is lit and not flashing.

Fig 4.



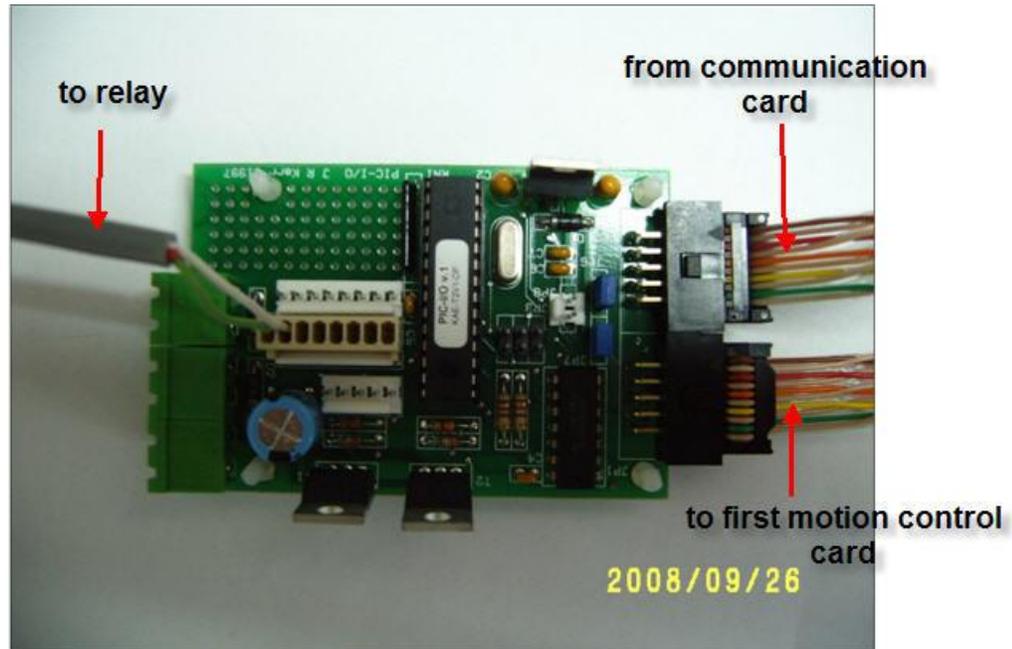
7. If the transformer checks out, then it is time to test the cards, there are going to be 4 cards in the system all daisy chained together by ribbon cable. The first card in the system is called the communication card (Fig 5.) and is hooked to the computer via a serial cable. This card should also have a 12v connection on it if it doesn't then you will have to move this plug from one of the other cards to the communication card before commencing testing. If you need to move this 12v connection from the input/output card it is OK to remove the 8 pin plug with 2 wires to give you enough length on the 12v cable, the 8 pin plug is not required for testing.

Fig 5.



The next card is Input/Output card (Fig 6.), this card in combination with a relay sensors the saw stroke switch.

Fig 6.



The next 2 cards will be identical and are called motion control cards, they will either be a 3Amp card (Fig 7.) or a 6Amp card (Fig 8.) depending on the age of the saw. The cards are pictured here with out the 48v or encoder circuits attached.

Fig 7.

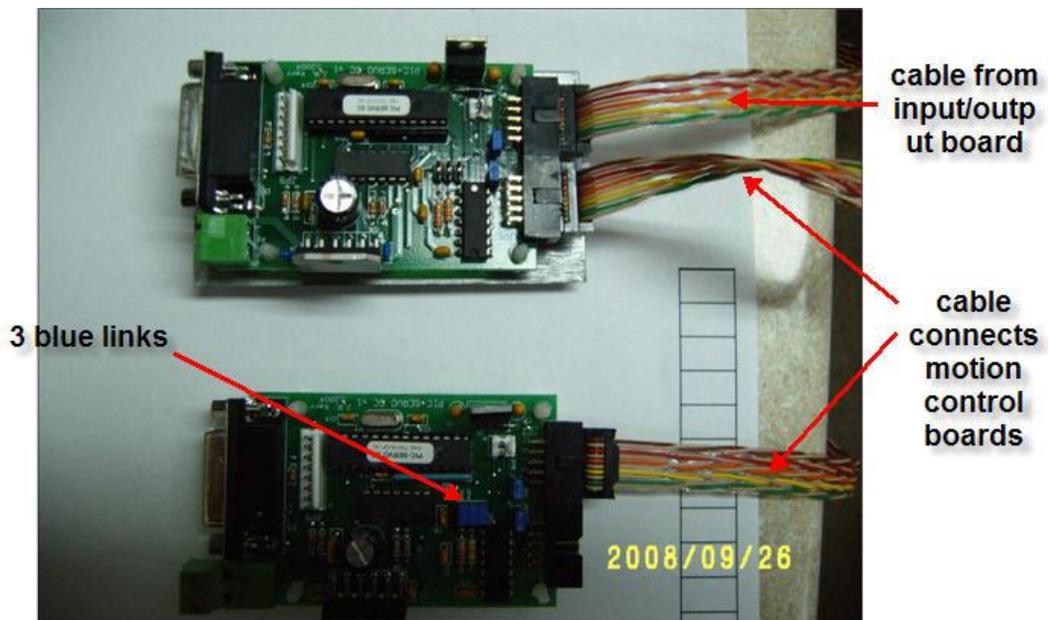


Fig 8.



8. Before beginning testing hit the emergency stop button on the touch screen to kill the 48v power. Also close the servo test program you will have to this after each test, the computer will ask if you want to reset the network, answer yes. You are going to be testing the cards one at a time, start with the input out put card remove the ribbon cable that goes to the first motion control board. Take the 3 blue links off the second motion control board (Fig 7.) and move them to the input/ output board. Now you should only have the communication board and the input/output board in circuit. (Fig 9.) There are other blue links on the cards these are all to remain in place while testing.

9. Now start the servo test program, and click the "SET" button if this card is functioning correctly you will get "1 module found" click OK then close the servo test program and reset the network. If you get "0 modules found" this is most likely going to be card that is the problem however the other cards should be tested.

10. Remove the 12v plug from the communication card. Remove the ribbon cable from the input/output card and plug it into the first motion control card (the ribbon cable will all ways go in the right side and out the left if the black plugs are at the bottom of the card). Remove the ribbon cable that links the first and second motion control cards. Move

the 3 blue links from the input/output card and put them on the first motion control card. Plug the 12v back in to the communication card.(Fig 10.) Now repeat step 9.

11. Repeat step 10 for the final motion control card, swapping the ribbon cable and blue links from the first motion control card.

Fig 9.

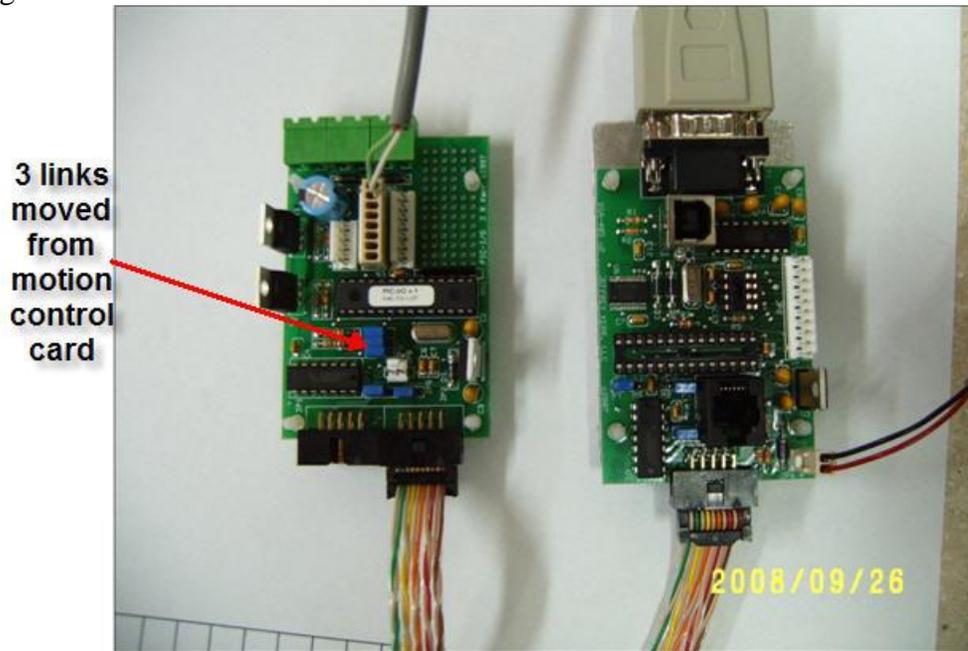
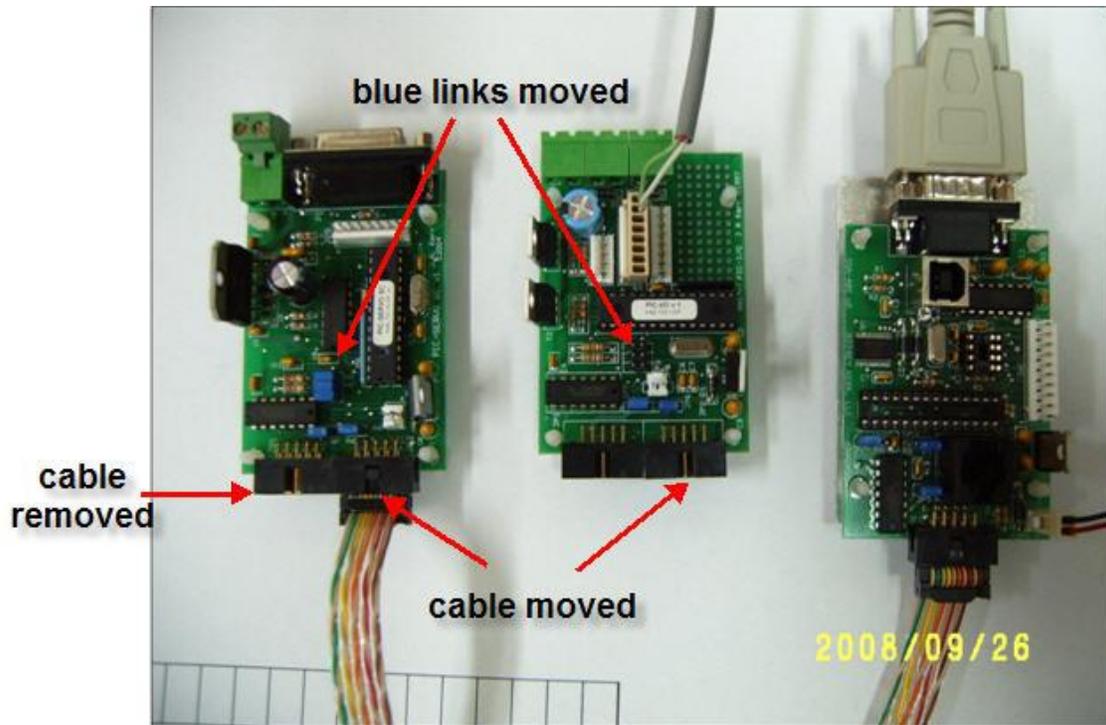


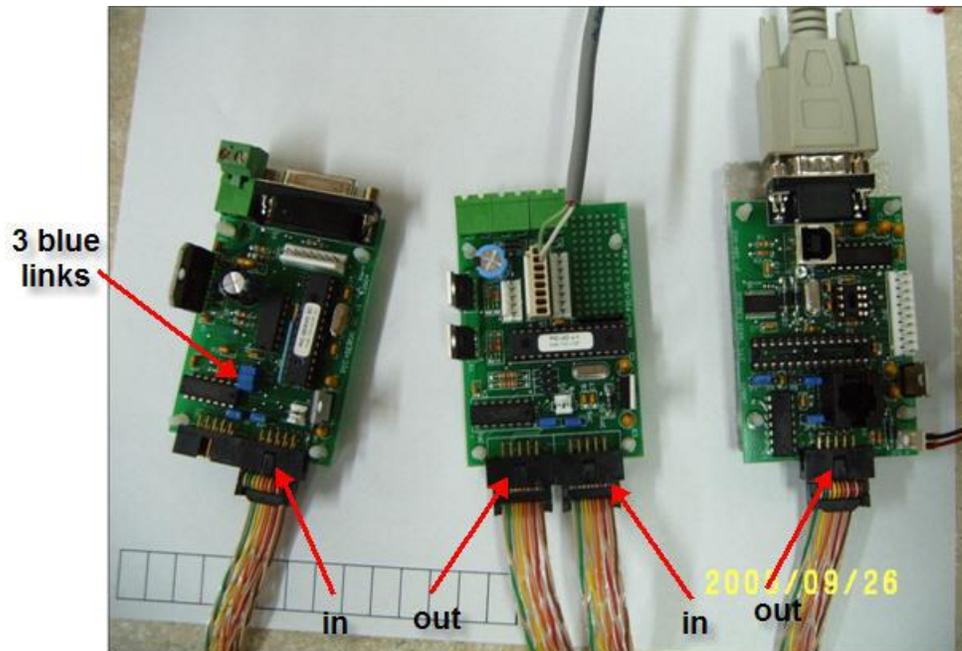
Fig 10.



12. In some cases all the cards will record a "1 module found" result, if this is the case it usually means that one of the cards is communicating "IN" but not communicating "OUT". To find out which card this is you will need to test the cards in pairs. Disconnect the 12v from the communication card, connect the ribbon cable from communication card to the "IN" (right) plug on the input/output card. Connect a second ribbon cable from the "OUT" (left) on the input/output card to the "IN" on the first motion control board. Move the 3 blue links to the first motion control board and replace the 12v plug on the communication card. (Fig 11.)

13. Run the servo test program and click "SET" if you get "2 modules found" it means the input/output card is functioning properly. If you get 0 or 1 module found it means the problem is in the input/output card. Click "OK" and close the program and reset the network.

Fig 11.



14. If the input/output card is OK, then test the first and second motion control cards together. Remove the 12v from the communication card. Connect a ribbon cable from the communication card to "IN" on the first motion control board. Connect a ribbon cable from "OUT" on the first motion control board to "IN" on the second motion control board. Move the 3 blue links to the second motion control board. Plug the 12v back into the communication board.

15. Run the servo test program if you get "2 modules found" then the first motion control board is functioning properly if you get 0 or 1 module found the problem is in the first motion control board.

16. Once you have determined the defective board and have received a replacement make sure you attach appropriate heat sinks and only have 3 blue links on the second motion control board (last card in the chain). There then should be no errors after starting the mango software, if there is, exit the mango software (step 2) and run the servo test program . If you get "3 modules found" try restarting the mango software, if the error persists contact Mango Tech. If you get 0, 1 or 2 modules found check your wiring against the photo below (Fig 12.) taking careful note of the placement of the 3 blue links and the ribbon cables. You can also try a "hard reset" by removing the 12v supply for 10 seconds and plugging back in. If the problem persists contact Mango Tech.

Fig 12.

3 blue links only on this card

