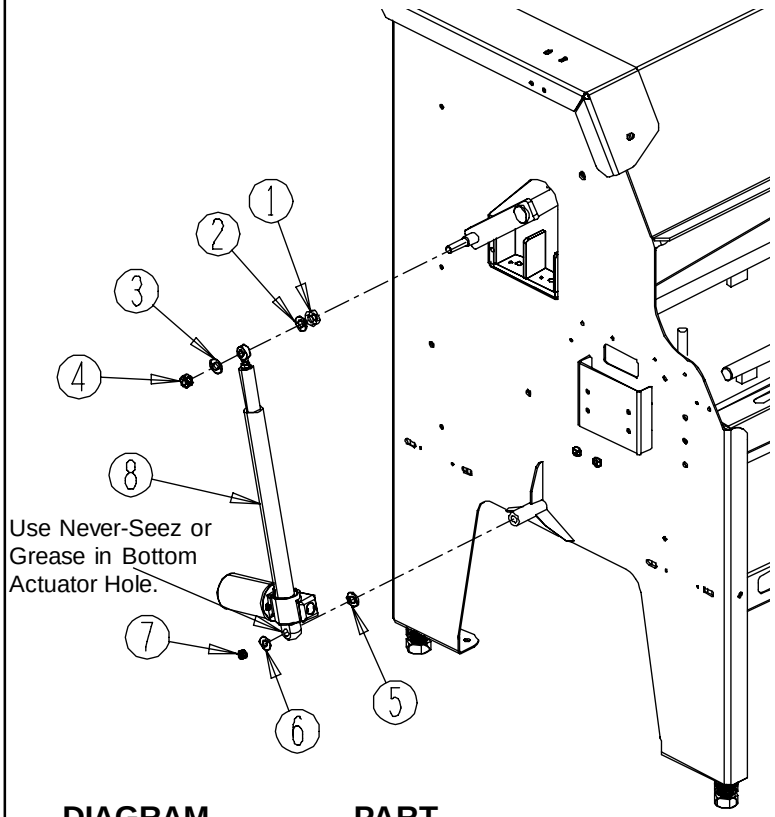
6720520 ACTUATOR CONVERSION KIT INSTRUCTION SHEET

THIS KIT APPLIES TO 6720901, 6720951, OR 6720959 GRINDER WITH SERIAL NUMBERS 1001-1254 (2008-2010)

Below is a list of the items included in this kit:

Some of the parts will not be required based on the grinders current configuration.



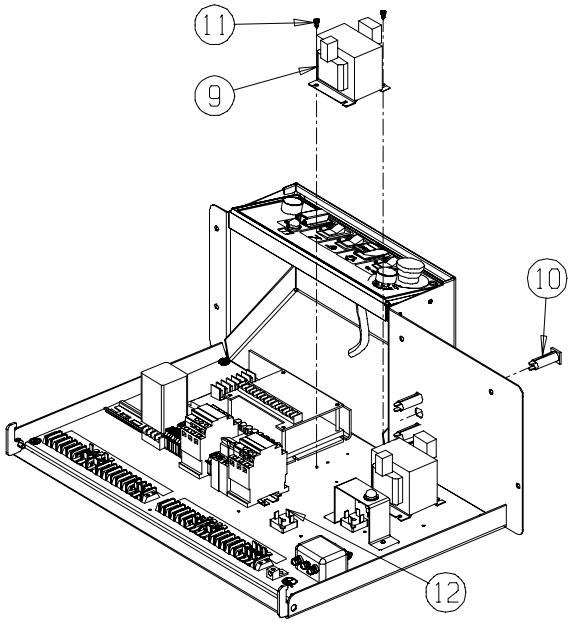
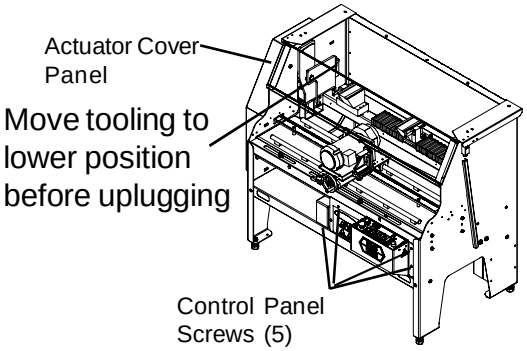


DIAGRAM NUMBER	PART NUMBER	DESCRIPTION
1	2109095	Spacer 1/2" ID x 1" OD x 3/8" Long
2	3709019	Thrust Washer 1/2" ID x 1" OD x 1/32" Thick
3	K500001	1/2" Flat Washer
4	J507000	1/2-13 Jam Locknut
5	3709016	Thrust Washer 1/2" ID x 1" OD x 3/32" Thick
6	3709304	Thrust Washer 3/8" ID x 13/16" OD x 1/32" Thick
7	J377100	3/8-16 Jam Locknut
8	6729014	Actuator Assembly
9	6729011	Transformer Assembly
10	3707547	15 Amp Circuit Breaker
11	D160666	8x3/8 Phil Pan Self Tapping Screw
12	6309134	Diode Jamper Assembly
	6724507	Wiring Diagram

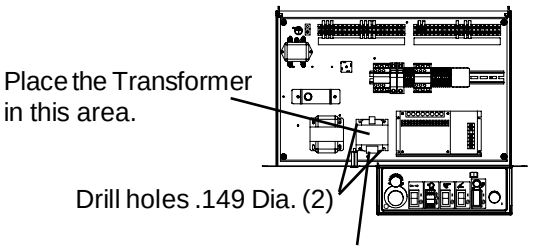
IMPORTANT! IF YOUR GRINDER HAD AN ACTUATOR CONTROL BOARD INSTALLED USE INSTRUCTIONS ON SHEET 4.

Follow the instructions below to convert the actuator in your machine from a 90 VDC actuator to a 12 VDC actuator:

Step 1 - Rotate the tooling Bar down until it is 1/8" above the bottom screw. **Unplug the machine** and open the control panel assembly by removing the 5 screws located on the front of the machine. Also Remove the Actuator Cover Panel.

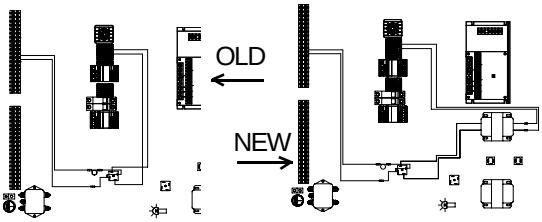


Step 2 - Place the transformer on the electrical sub-panel between the traverse control board and the magnets transformer assembly. Using the transformer as a guide mark 2 holes. Remove the transformer and protect the other electrical components from drill chips. Then use a #25 drill (.149 diameter) to drill the 2 holes needed to mount the transformer. Clean up the debris and mount the transformer using the 2 selftapping screws (D160666).



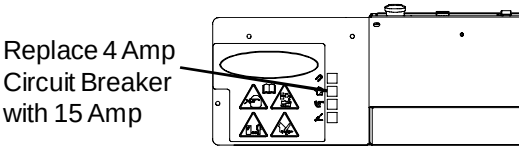
Step 3 - Unplug the AC power wires (150BD1-S and 149BD1-S) going into the Bridge Diode (BD1) and connect it to the Brown and Blue wires from the Transformer Asssembly. (See Sheet 4)

Step 4 - Connect the output wires (46BD1-S) of the Transformer assembly to the Bridge Diode where the wires in Step 3 were located. (See Wiring Diagram)

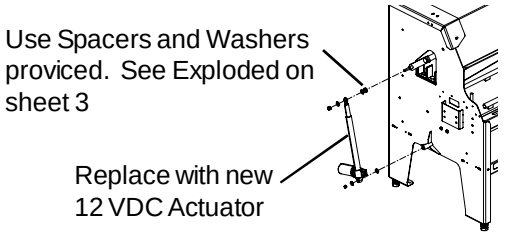


Step 5 - Replace the 4 amp Circuit breaker with the 15 amp circuit Breaker. (Second from the top.)

Step 6 - Replace 90 VDC Actuator with the new 12 VDC Actuator included in this kit. You may need to brace the tooling to remove the tension off the actuator. (If the actuator moves in the opposite direction, switch the motor wires.)

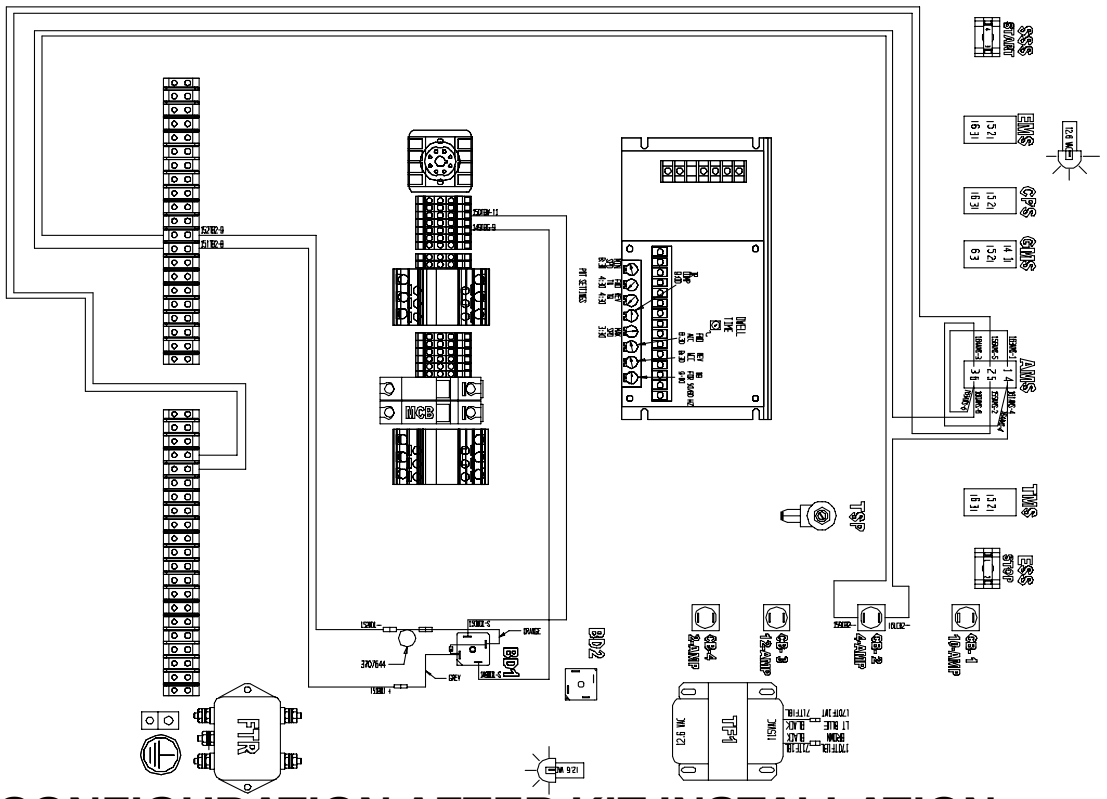


Step 7 - Plug the machine in and test the actuator. It should travel smoothly through full range of motion. (If not see below) Reinstall the Actuator cover panel and screws to hold in the control panel assemlby. Be careful not to pinch the wires when pushing the control panel assembly back into place.

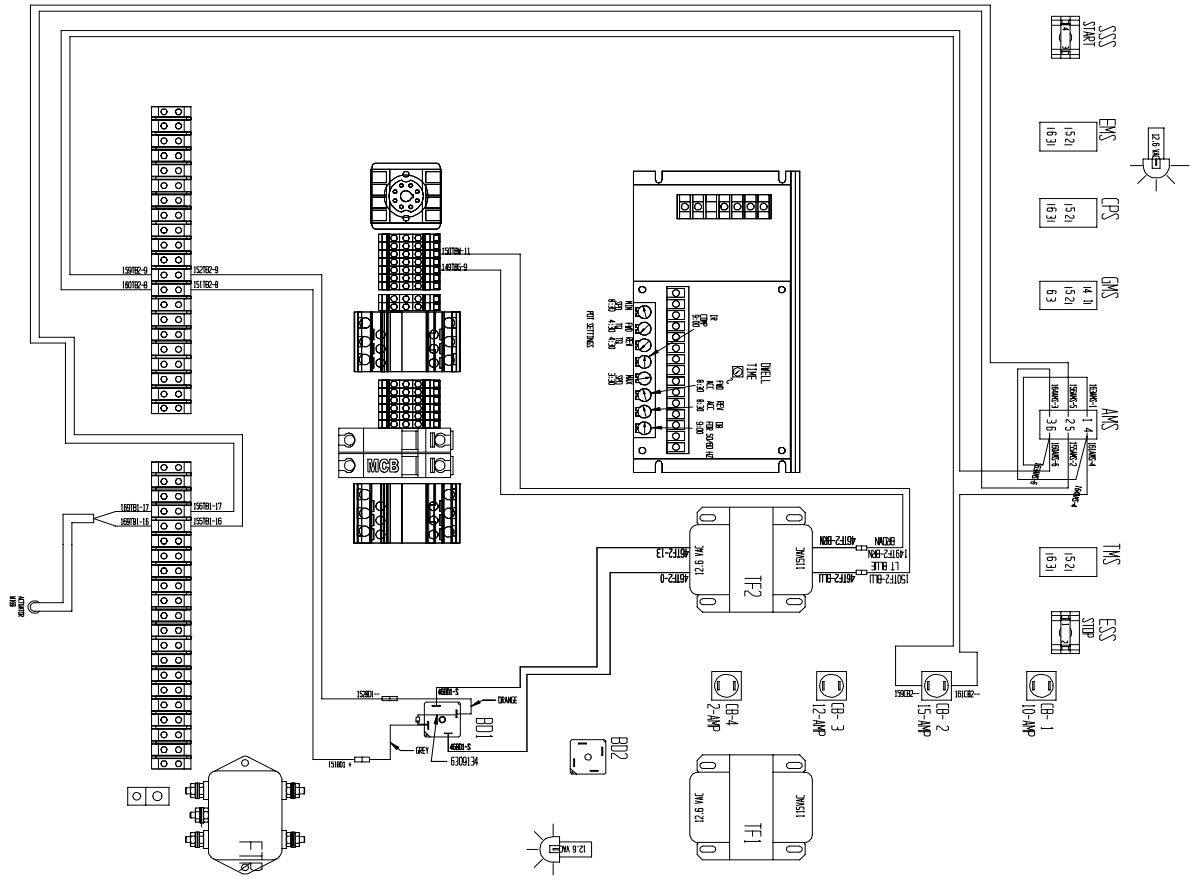


**NOTE: If actuator does not move up after in STEP 7, remove the Thermistor (3707644 - Black disc connected to the bridge diode) and retry. Discard Thermistor and close control panel and actuator cover as listed in step 7.

OLD CONFIGURATION
(NO ACTUATOR CONTROL BOARD)

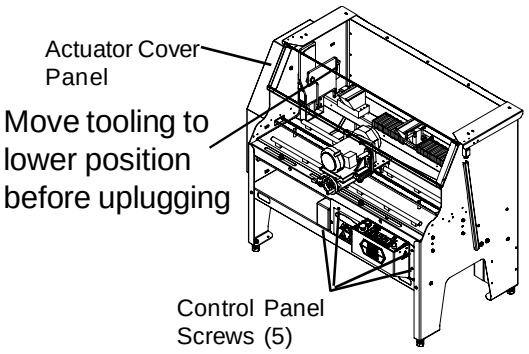


CONFIGURATION AFTER KIT INSTALLATION



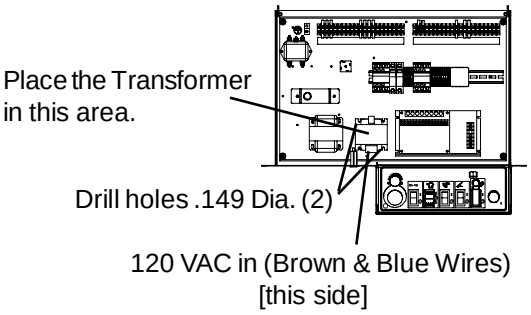
IMPORTANT! USE THISE INSTRUCTION IF YOUR GRINDER HAS AN ACTUATOR CONTROL BOARD INSTALLED.

Step 1 - Rotate the tooling Bar down until it is 1/8" above the lower screw. **Unplug the machine** and open the control panel assembly by removing the 5 screws located on the front of the machine. Remove the Actuator Cover Panel.



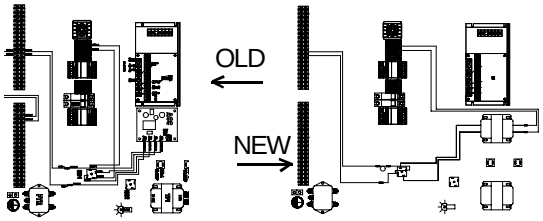
Step 2 - Remove the actuator control board located on the elctrical sub panel and discard according to local regulations for circuit boards.

Step 3 - Place the transformer on the electrical sub-panel in the area where the actuator control board was. Using the transformer as a guide mark 2 holes. Remove the transformer and protect the other electrical components from drill chips. Then use a #25 drill (.149 diameter) to drill the 2 holes needed to mount the transformer. Clean up the debris and mount the transformer using the 2 selftapping screws (D160666).

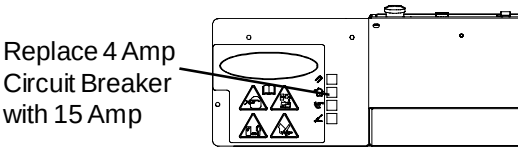


Step 4 - Unplug the AC power going into the Bridge Diode (BD1) and connect it to the Brown and Blue wires from the Transformer Assembly. (See Sheet opposite page)

Step 5- Connect the output wires (46BD1-S) of the Transformer assembly to the Bridge Diode.

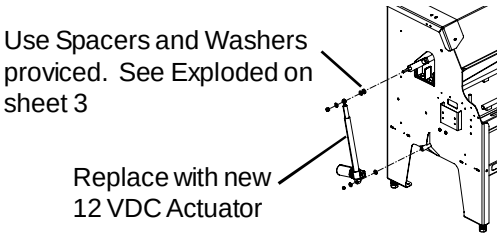


Step 6 -Remove the 4 wires that were connected to the Actuator Control board and Discard. (Wires 176, 177, 178 and 179) . Connect the Diode Assembly 6309134 to the Bridge Diode. **THE GREY WIRE MUST BE ATTACHED TO THE POSITIVE (+) TERMINAL ON THE BRIDGE DIODE.** (See included wiring diagram.) Connect wire 152 (Black wire) to the Orange wire from the Diode Assembly, and wire 151 (Red Wire) to the Grey wire from the Diode Assembly.



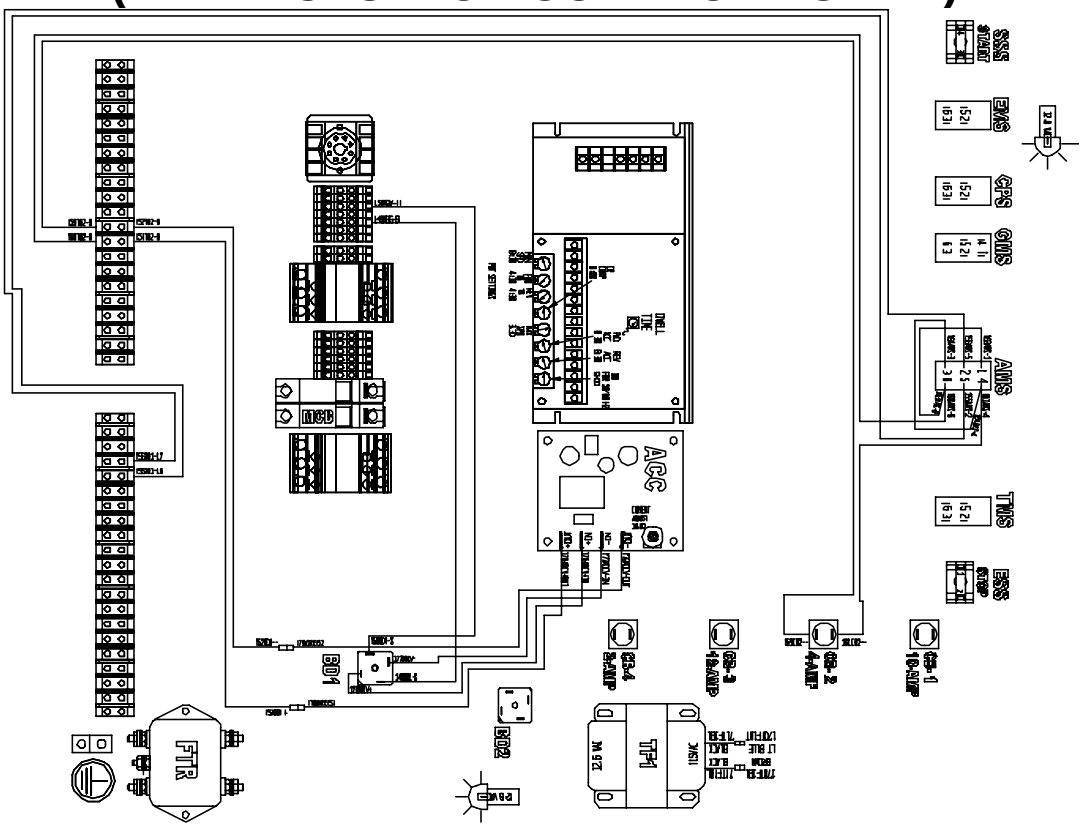
Step 7 - Replace the 4 amp Circuit breaker with the 15 amp circuit Breaker. (Second from the top.)

Step 8 - Replace 90 VDC Actuator with the new 12 VDC Actuator included in this kit. You may need to brace the tooling to remove the tension. (If the actuator moves in the opposite direction, switch the motor wires.)

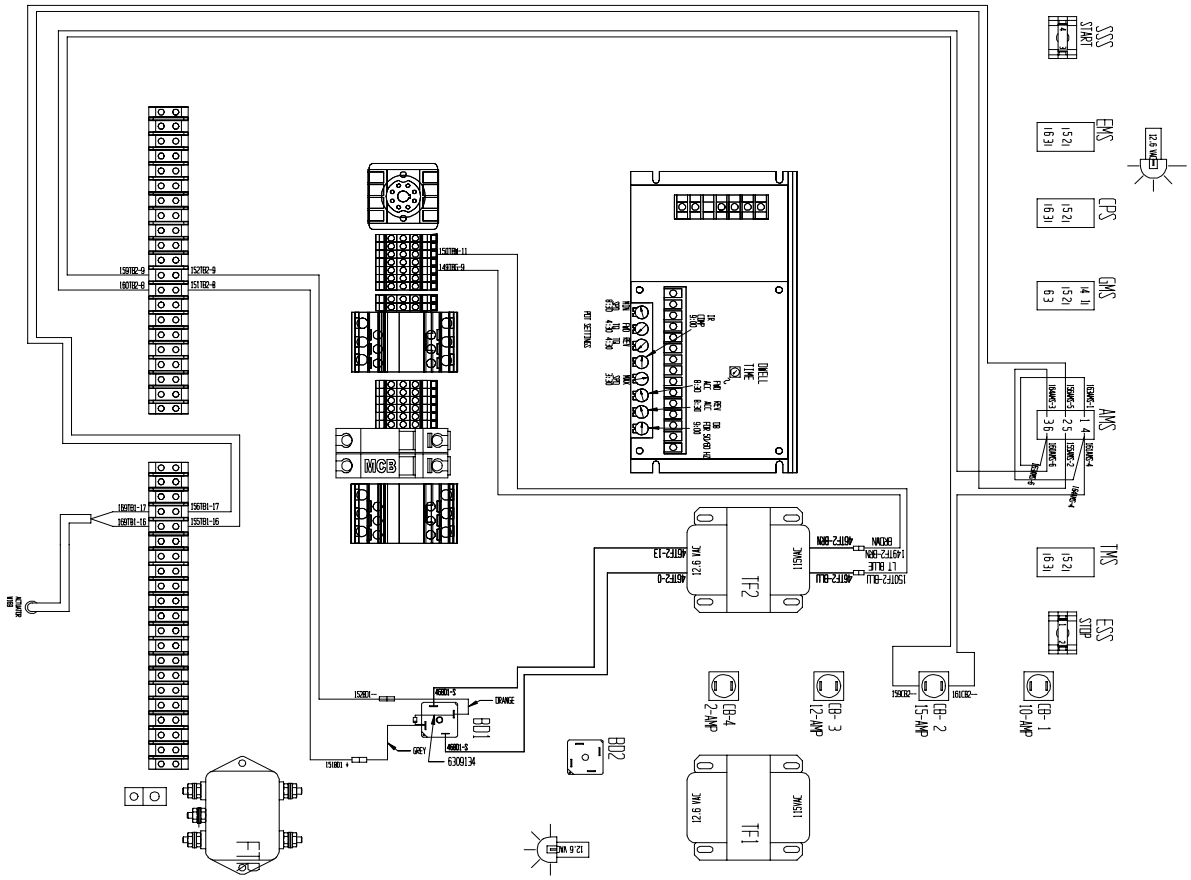


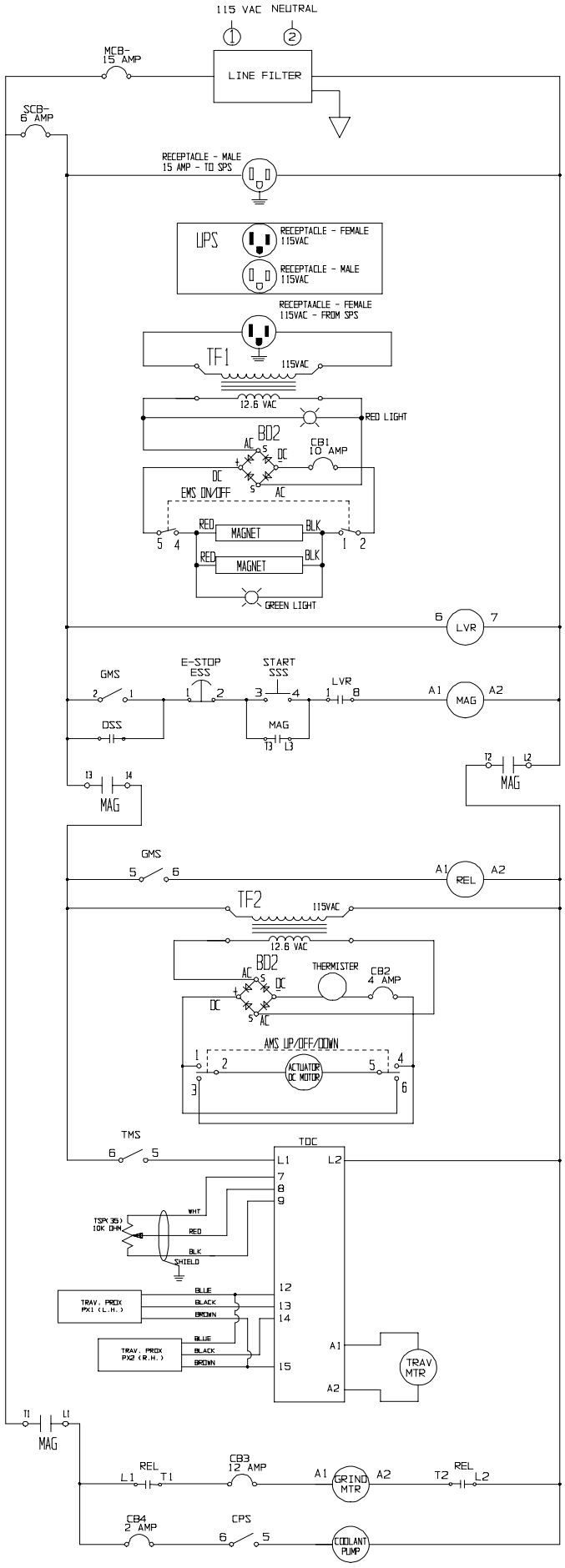
Step 9 - Plug the machine in and test the actuator. It should travel smoothly through full range of motion. Reinstall the Actuator Cover Panel and Control Panel Assemlby. Be careful not to pinch the wires when pushing the control panel assembly back into place.

OLD CONFIGURATION
(WITH ACTUATOR CONTROL BOARD)



CONFIGURATION AFTER KIT INSTALLATION





AMS - ACTUATOR MOTOR SWITCH
BD1 - BRIDGE DIODE 1
DB2 - BRIDGE DIODE 2
MCB - MAIN CIRCTUIT BREAKER
CB1 - CIRCUIT BREAKER 1
CB2 - CIRCUIT BREAKER 2
CB3 - CIRCUIT BREAKER 3
CB4 - CIRCUIT BREAKER 4
CPS - COOLANT PUMP SWITCH
DSS - DOOR SAFETY SWTICH
EMS - ELECTROMAGNET SWITCH
ESS - EMERGENCY STOP SWITCH
GMS - GRINDING MOTOR SWITCH
LVR - LOW VOLTAGE RELAY
MAG - MAGNETIC STARTER
PX1 - LEFT PROXIMITY SWITCH
PX2 - RIGHT PROXIMITY SWITCH
REL - GRINDING MOTOR RELAY
SCB - SECONDARY CIRCUIT BREAKER
SSS - SYYSTEM START SWITCH
TDC - TRAVERSE DRIVE CONTROL
TF1 - TRANSFORMER ASSEMBLY MAGNETS
TF2 - TRANSFORMER ASSEMBLY ACTUATOR
TMS - TRAVERSE MOTOR SWITCH
TSP - TRAVERSE SPEED POT
UPS - UNINTERUPTABLE POWER SUPPLY

TROUBLESHOOTING (Continued)

This page replaces page 36 in the Service and Assembly manual for the 672 Grinder.

PROBLEM--Tooling Bar Rotation Actuator does not Function

Possible Cause	***Checkout Procedure***	
Actuator Motor Switch (AMS) is not on.	**A**. Push (AMS) switch to the up or Down position.	Actuator works Yes-- end troubleshooting No-- go to Step **B.** next
Circuit Breaker tripped	**B.** Check Circuit breaker on front of Control Panel. Press in if Tripped.	Actuator works Yes-- end troubleshooting No-- go to Step **C**. next
No Power To Transformer	**C.** Check for 120 **VAC** at input to Transformer assembly for Actuator.	Check for 120 Volt (AC) from Terminal 149TF2-BRN to 150TF2-BLU Yes-- Go to Step **D.** next No-- Verify continuity of wires
No Power to Bridge Diode	**D.** Check for 14 **VAC** at input to Bridge Diode.	Check for 14 Volt (AC) from Terminals 46BD1-S to 46BD1-S Yes-- Go to Step **E.** next No-- Verify continuity of wires
Bridge Diode is not working	**E.** Check for 13 **VDC** at the output of the bridge diode.	Check for 13 Volts **(DC)** from Terminals 152BD1-- to 151BD1 + Yes-- Go to Step **G.** next No-- Replace Bridge Diode
Circuit Breaker is Bad	**G.** Check for 13 V **DC** into Actuator Motor Switch (AMS)	Check for 13 Volts **(DC)** from Terminals 161AMS-4 to 163AMS-1 Yes-- Go to Step **H.** next No-- Check continuity of wires and Circuit breaker. Replace if bad.
Actuator Motor Switch (AMS) is Bad	**H.** While pressing switch (AMS) up or down, measure 13 Volts **(DC)** at Terminal Strip 1	Check for 13 Volts **(DC)** from Terminals 16 (TB1-16) to 17 (TB1-17) on Terminal Strip 1. Yes-- Go to Step **I.** next No-- Check Continuity of wires and AMS, replace switch.
Bad Actuator Cord or Motor	**I.** While pressing switch (AMS) up or down, measure 13 Volts **(DC)** at end of Actuator Cord where it connects to the motor.	Check for 13 Volts **(DC)** from Terminals169ACT-B to 169ACT-O Yes-- Replace Actuator assembly No-- Replace Actuator cord 6709210.