

PLC27 PROFESSOR

HOT ROLL MOUNTING LAMINATOR

ASSEMBLY PROCEDURES

JUNE 2004: UPDATED 2007, 2013, 2018

PLC27 PROFESSOR ASSEMBLY

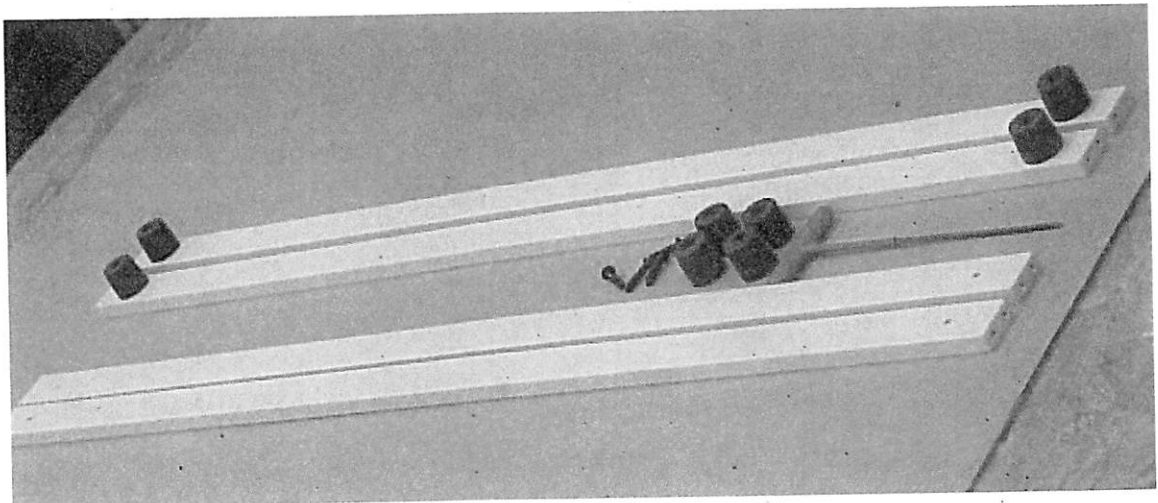
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PLC 27

BOTTOM CROSS BAR ASSEMBLY

- 1) EACH PLC 27 LAMINATOR USES TWO BOTTOM CROSS BAR ASSEMBLIES.
- 2) THREAD (4) RUBBER BUMPERS (PRR267) RACK 7 INTO (2) BOTTOM CROSS BARS (PL27 060.4) AS04 AND SECURE WITH (4) 8-32 X $\frac{3}{4}$ BSHS SCREWS. TIGHTEN BUMPERS FIRMLY, BUT NOT SO MUCH THAT THE RUBBER STARTS TO BULGE.
- 3) STORE SETS OF BOTTOM CROSS BARS UNTIL NEEDED FOR MACHINE.

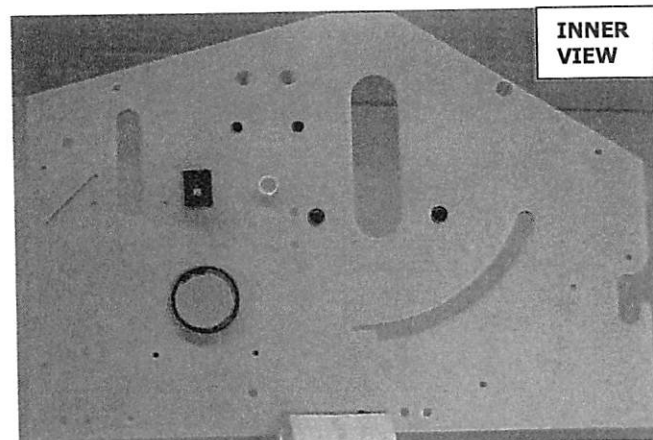
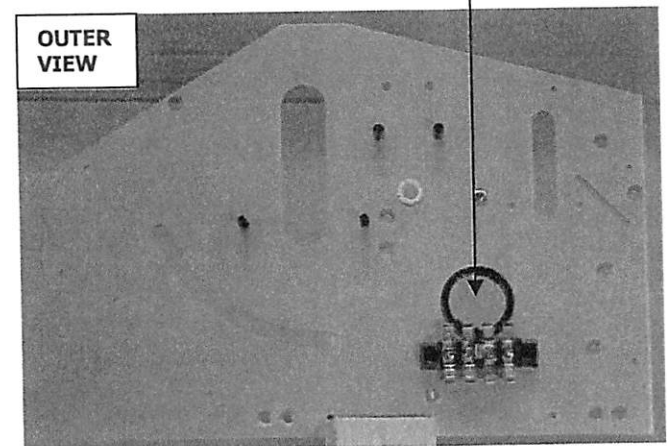
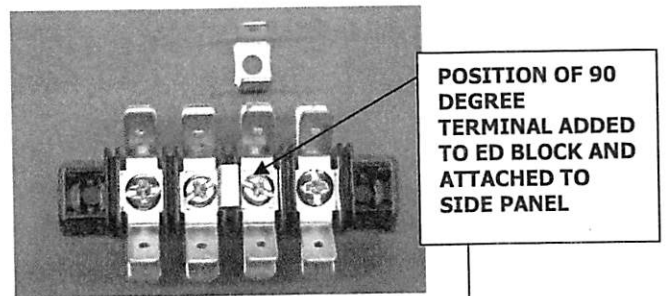
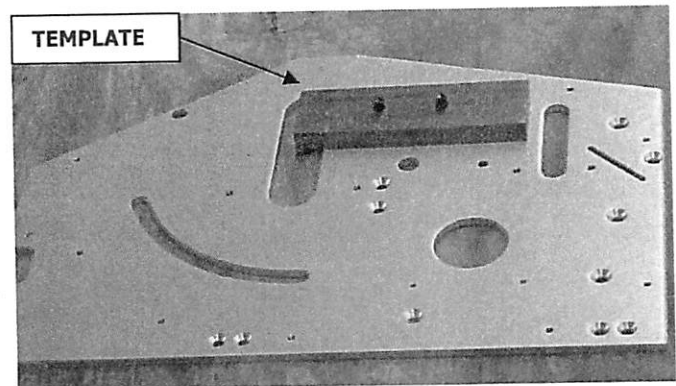


PARTS FOR TWO BOTTOM CROSS BAR ASSEMBLIES AND TWO COMPLETED UNITS

PLC 27

RIGHT SIDE PANEL ASSEMBLY

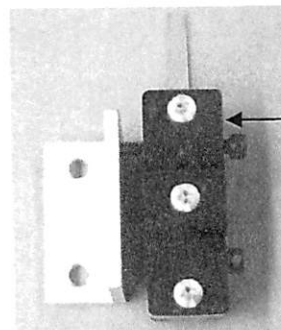
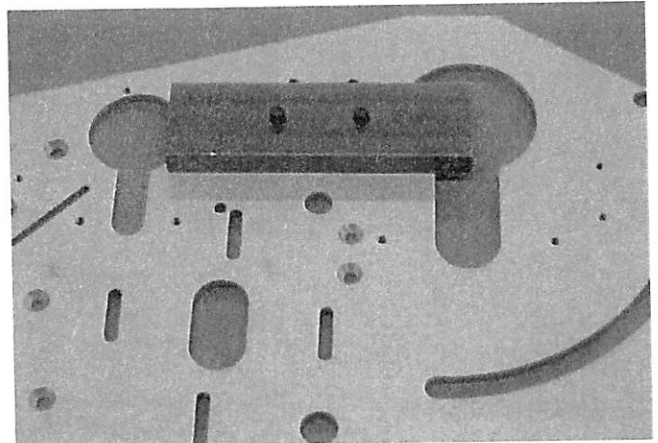
- 1) TO ASSEMBLE RIGHT SIDE PANEL (PL27 090.4R) AS05 FIRST ARBOR PRESS (2) $\frac{1}{4}$ X $\frac{3}{4}$ DOWEL PINS AS12 INTO OUTER SIDE PANEL, FLUSH *INWARD*, UNDER BOTH TOP COUNTERSUNK HOLES. USE GUIDE GAUGE WHEN ARBOR PRESSING.
- 2) ADD (2) 10-24 X 1 BHSH AS11 FROM INNER SIDE PANEL TO OUTSIDE. POSITIONED ON EITHER LOWER SIDE OF HOT ROLL JOURNAL APERTURE.
- 3) SNAP IN WHITE NYLINER (PRB203) RACK 7 FLANGE ON OUTSIDE. NOTE POSITION FROM PHOTO.
- 4) ADD SNAP BUSHING (PRB088) AS09 WITH FLANGE ON OUTSIDE OF SIDE PANEL. NOTE POSITION FROM PHOTO.
- 5) ADD (1) 90 DEGREE KULKA TERMINAL (PRT308) AS08 TO *EDUCATOR* TERMINAL BLOCK 110 VOLT (PRT301.5) LD01 POSITIONED RIGHT OF CENTER, FACING REAR, REPLACE JUMPER. ATTACH THIS ASSEMBLY TO OUTSIDE OF RIGHT SIDE PANEL UNDER SNAP BUSHING WITH (2) 8-32 X $\frac{1}{2}$ PHMS.
- 6) ON INNER SIDE PANEL ADD (1) TINNEMAN BRACKET (PRT319) LD01 SECURED FROM OUTSIDE WITH AN 8 X $\frac{1}{2}$ SMS THROUGH CLEARANCE HOLE TOWARD THE REAR, BEHIND NYLINER.
- 7) STORE SIDE PANEL UNTIL NEEDED.



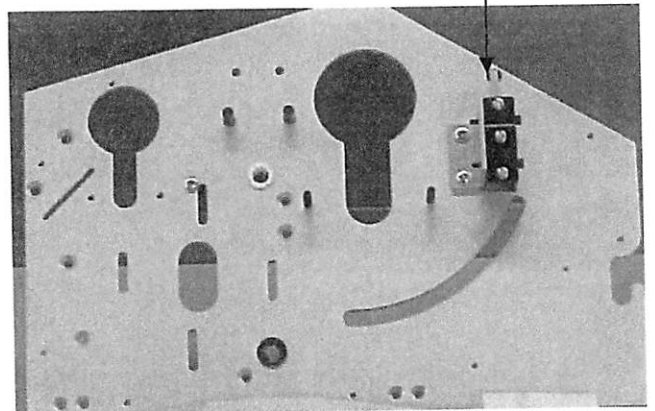
PLC 27

LEFT SIDE PANEL ASSEMBLY

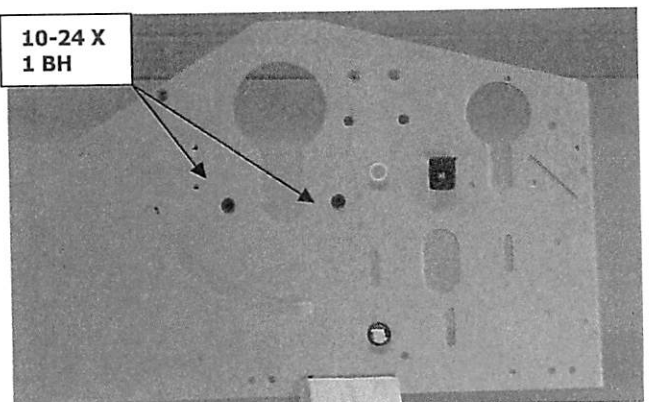
- 1) TO ASSEMBLE LEFT SIDE PANEL (PL27 090.4L) AS05 FIRST ARBOR PRESS (2) $\frac{1}{4}$ X $\frac{3}{4}$ DOWEL PINS AS12 INTO OUTER SIDE PANEL, FLUSH WITH TWO INNER TOP COUNTERSUNK HOLES. USE GUIDE GAUGE WHEN ARBOR PRESSING.
- 2) ADD (2) 10-24 X 1 BSH AS12 FROM INNER SIDE PANEL TO OUTSIDE, THREADS OUTWARD. POSITION SCREWS ON LOWER SIDES OF HOT ROLL JOURNAL APERTURE.
- 3) ATTACH SAFETY SWITCH MOUNTING BRACKET (PL27 170.4) RACK 7 TO LARGER SIDE OF LEVER TYPE MICROSWITCH (PRS313) RACK 1 USING (2) 6-32 X 1 SHCS AND #6 FLAT WASHER. THE (3) SCREWS FACE OUTWARD. SWITCH IS FLUSH AGAINST BRACKET, LEVER UPWARD AND INWARD. ATTACH SWITCH BRACKET TO OUTER LEFT SIDE PANEL USING (2) 8-32 X $\frac{1}{4}$ THMS, ABOVE FLOATING IDLER CURVE.
- 4) SNAP IN A WHITE NYLINER (PRB203) RACK 7 FLANGE ON OUTSIDE. NOTE POSITION FROM PHOTO.
- 5) ADD SNAP BUSHING (PRB064) AS07 WITH FLANGE ON OUTSIDE. NOTE POSITION FROM PHOTO.
- 6) ON INNER SIDE PANEL ADD (1) TINNERMAN BRACKET (PRT319) LD01 SECURED FROM OUTSIDE THROUGH COLEARANCE HOLE BEHIND NYLINER, WITH AN 8 X $\frac{1}{2}$ SMS.
- 7) STORE SIDE PANEL UNTIL NEEDED.



LEVER TYPE
MICROSWITCH
ATTACHED TO
BRACKET &
POSITIONED ON
SIDE PANEL

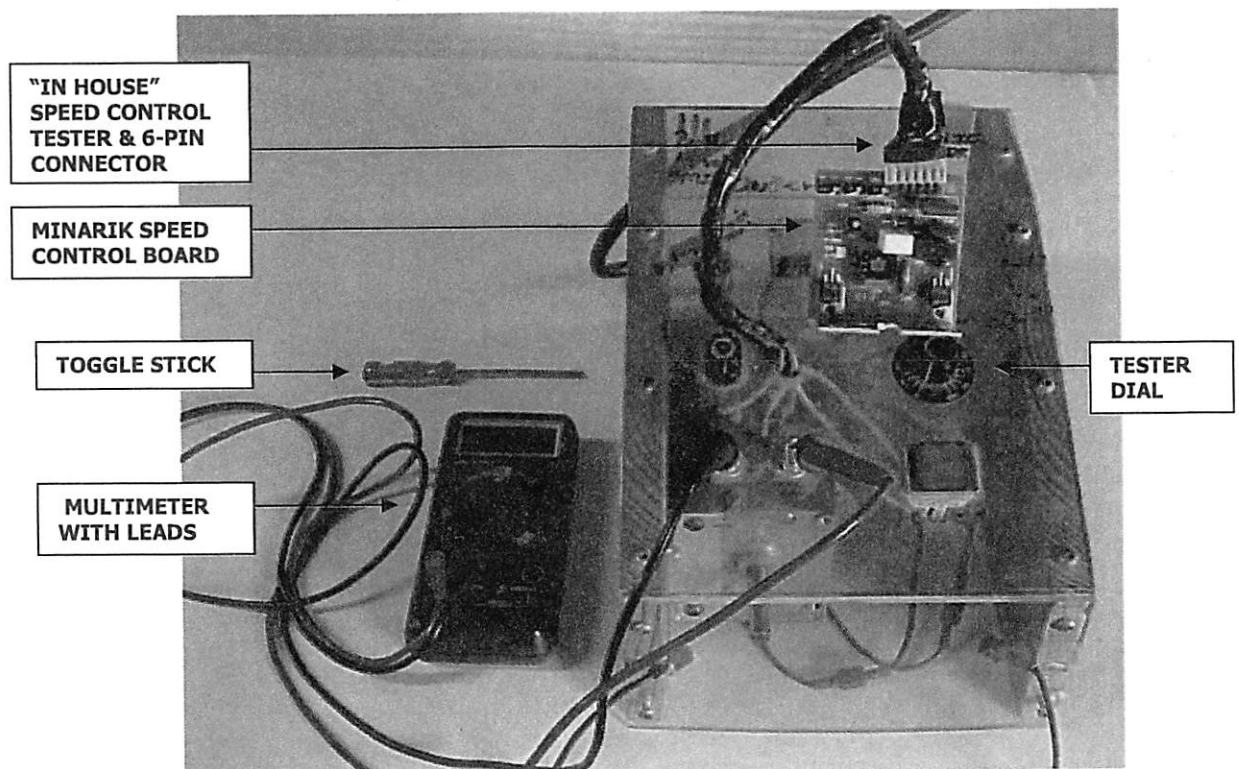
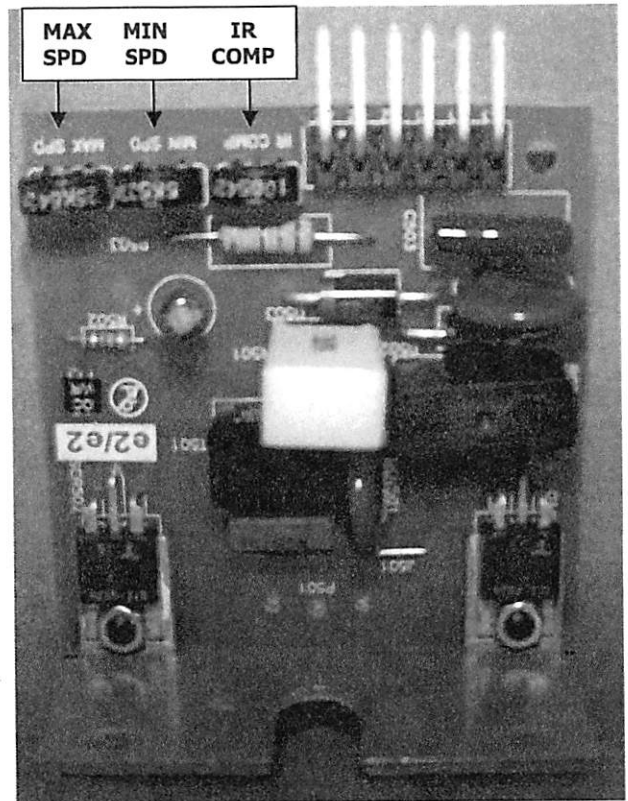


10-24 X
1 BH



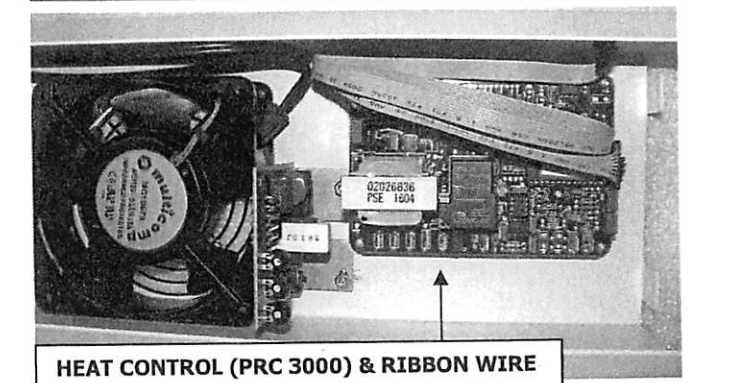
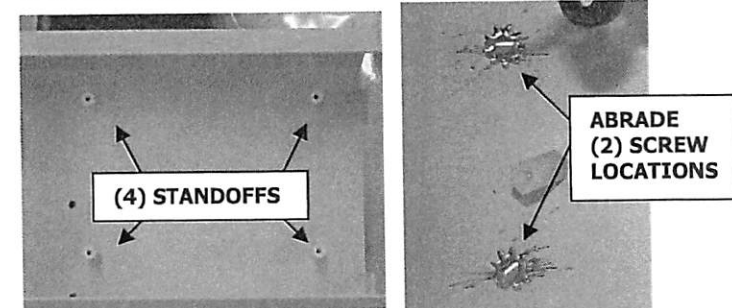
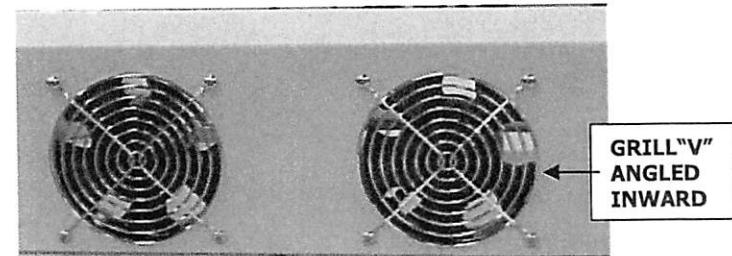
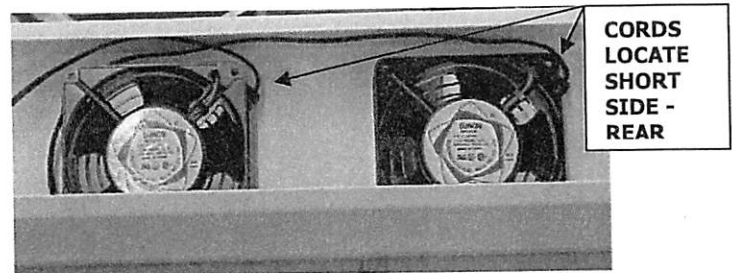
PLC27 SPEED CONTROL SETTING

- 1) PLUG "IN HOUSE" SPEED CONTROL TESTER INTO 110 VOLT OUTLET.
- 2) ATTACH NEGATIVE/BLACK AND POSITIVE/RED MULTIMETER END LEADS ONTO INDICATED NEGATIVE AND POSITIVE SPRINGS ON TESTER.
- 3) PLUG 6-PIN CONNECTOR ONTO SPEED CONTROL BOARD (PRM219) AS07 POSTS. SET MULTIMETER ON HZ V (DC) *DIRECT CURRENT*. SET TESTER DIAL ON LOWEST READING, PRESS IN RED "ON" BUTTON.
- 4) WITH TESTER DIAL ON LOWEST "0" READING, USE TOGGLE STICK TO ADJUST IR COMP POT BY TURNING FULL CLOCKWISE (RIGHT), THEN TURN COUNTERCLOCKWISE (LEFT) $\frac{1}{4}$ TURN; ADJUST MINIMUM SPEED POT AS LOW AS IT WILL GO; INCREASE TESTER DIAL TO MAXIMUM "100" AND ADJUST MAXIMUM SPEED POT TO 89.1 VOL WITH TOGGLE STICK.



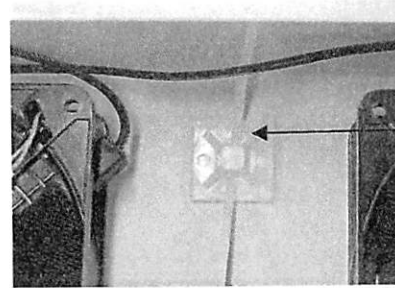
PLC 27 BOTTOM MOTOR COVER ASSEMBLY

- 1) FROM LD04 ATTACH (2) FAN CORD SETS (PRF116) ONTO (2) AXIAL FANS FOR EDUCTOR 120V (PRF133).
- 2) PLACE BOTTOM MOTOR COVER (PL27 093.4) AS04 ON WORKTABLE, SHORTER SIDE UPWARD AND TO THE REAR. ALIGN (2) FAN GUARD SMALL (PRF120) AS09 ON OUTER MOTOR COVER, WITH METAL RING CONNECTING "V" ON FAN GUARD POINTING INWARD FROM SIDES. ATTACH FAN GUARDS TO FANS ON INSIDE USING (4) 10 X 1/2 PH SMS. FAN CORDS SHOULD BE FACING REAR, SHORTER SIDE OF COVER, TOWARD BOARD POSITIONS. *AIR FLOW ARROW FACES UPWARD.*
- 3) SECURE (4) STANDOFF, NYLON 5/8 X 1/4 HEX (LC25 010.4) LD01 TO INSIDE BOTTOM MOTOR COVER USING (4) 4-40 X 3/8 PHMS.
- 4) SAND/FILE TO ABRASE INNER PAINT BY SPEED BOARD SCREW LOCATION. FROM OUTER HOUSING THREAD (2) 6-32 X 3/8 THMS INTO HOLES BY ABRASED AREA. PLACE A #8 STAR WASHER ON THREADS.
- 5) REMOVE MOLEX WIRES FROM MINARIK SPEED CONTROL (PRM219) AS07. LEAVE WIRES IN LDW1 BOX. SPREAD (2) DROPS OF ANTI-OXIDANT JOINT COMPOUND ON BOARD BRACKET BOTTOM. PLACE CONTROL BRACKET HOLES ON SCREW THREADS, POSTS INWARD. SECURE WITH (2) 6-32 KEPS HEX NUTS. TIGHTEN NUTS WITH DRIVER.
- 6) ATTACH SPECIFIC M9026912-010 HEAT CONTROLLER (PRC 3000) AS04 TO HEX STANDOFFS, RIBBON WIRE CONNECTION FACES OUTWARD TOWARD SIDE PANEL. USE (4) 4-40 X 3/8 PHMS TO SECURE. DOUBLE CHECK HEAT CONTROLLER, AS ONLY THE PRC 3000 ACCEPTS THE THERMAL COUPLING FROM THE



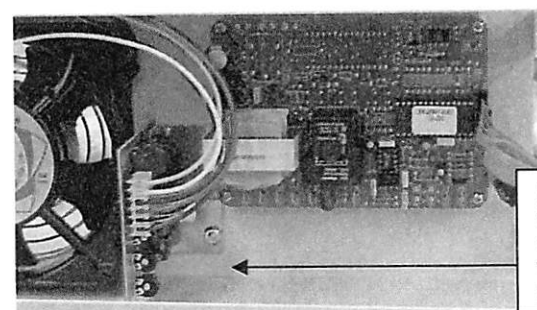
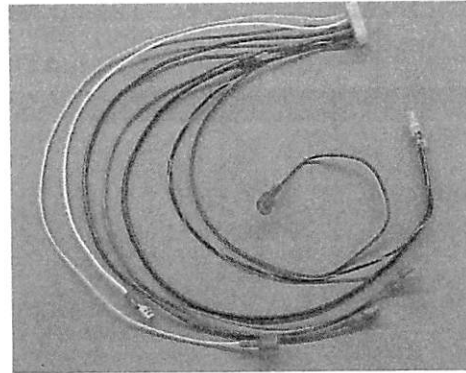
SENSOR USED IN THE PLC 27. SNAP RIBBON WIRE INTO HEAT BOARD, SET SLAVE DISPLAY ASIDE, USE LATER.

- 7) FROM AS09 CENTER AND ADHERE BRADY PRESS CLIP (PRC081) WITH INSERTED OPEN CABLE TIE 5 ¼ (PRC 082A) BETWEEN AXIAL FANS, ON SAME HORIZONTAL PLAIN.



PRESS CLIP BETWEEN FANS ON CORD SIDE

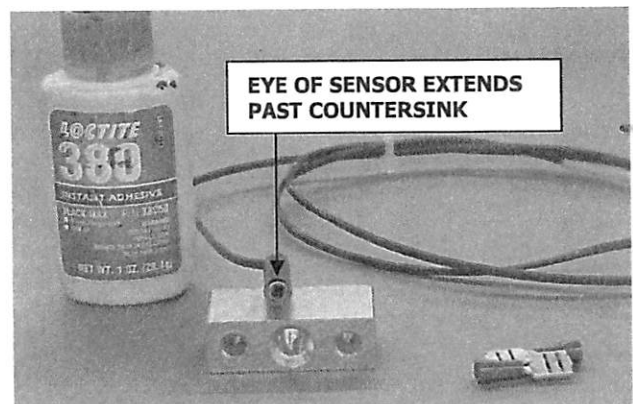
- 8) FROM WIRING HARNESS (PRW355) RACK 7 YOU WILL FIND THE FOLLOWING TERMINAL CONNECTIONS ON THE MOLEX WIRE ASSEMBLY: BLUE AND YELLOW WIRES ARE TERMINATED WITH FI MALES (PRT330), BROWN AND GRAY WIRES ARE TERMINATED WITH FI FEMALES (PRT331). APPROXIMATELY 3 ½ INCHES TRIMMED OFF THE WHITE WIRE AND TERMINATED WITH A FEMALE (PRT302). THE UNITED BLACK AND WHITE STRIPED WIRE WITH A BLACK 18 GAUGE USING A CLEAR CAP (PRT289). THE BLACK WIRE HAS A RED SPADE CONNECTION ON THE REMAINING END. A SMALL CABLE TIE ABOUT 1 INCH FROM CLEAR CAPPED CONNECTION.



MOLEX WIRES CONNECTED TO SPEED BOARD

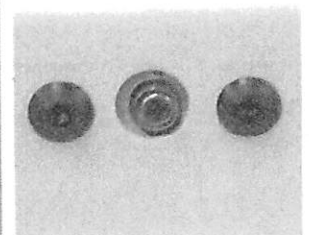
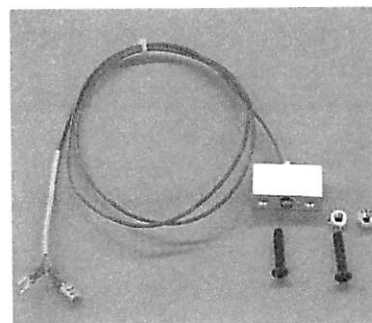
- 9) CONNECT MOLEX WIRES WITH TERMINALS ON SPEED BOARD. WIRES SHOULD BE FACING HEAT BOARD WITH BLUE WIRE CLOSER TO SENSOR OPENING. DO NOT TIE THESE YET.

- 10) PREPARE SENSOR ASSEMBLY. PLACE A DROP OF BLACK LOCTITE 380 INSTANT ADHESIVE CENTERED ON THE MIDDLE TOP AND BOTTOM OF THE INFRA-RED SENSOR (PRC300S) AS09. SLIDE THE SENSOR THROUGH THE MIDDLE HOLE ON THE SENSOR BRACKET (PL27 055.4) RACK 7 SO THE SENSOR "EYE" IS 2/16" EXTENDED PAST THE COUNTERSUNK SIDE OF THE BRACKET. THE COUNTERSINKING ALLOWS MORE LIGHT TO REACH THE "EYE." ONCE THE LOCTITE IS DRY, CONNECT (2) FEMALE FASTONS (PRT302) TO THE RED AND YELLOW WIRES ATTACHED TO THE INFRA-RED SENSOR.



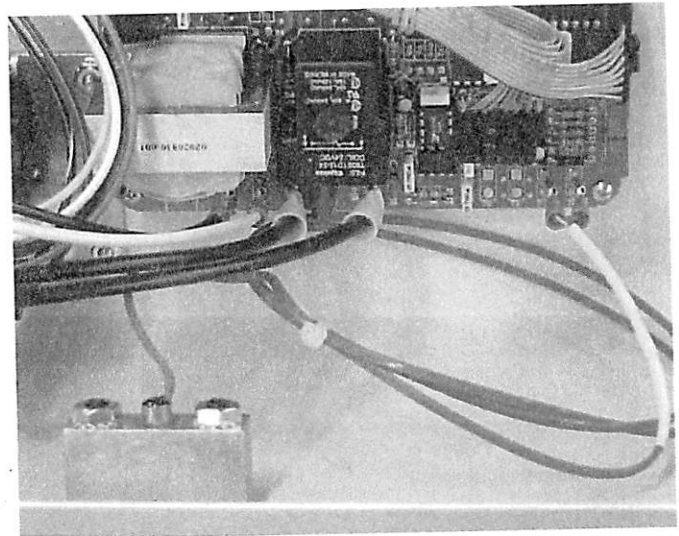
EYE OF SENSOR EXTENDS PAST COUNTERSINK

- 11) PLACE SENSOR AND SENSOR BRACKET INTO SIDE HOLES ON BOTTOM MOTOR

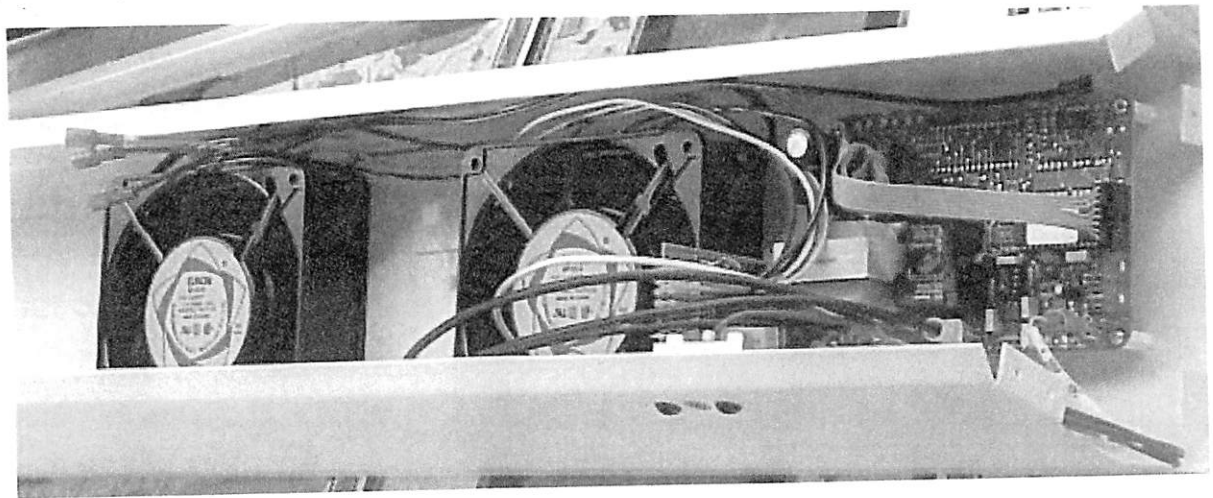


COVER AND SECURE WITH (2) 10-32 X 1 BHCS AND (2) 10-32 KEPS HEX NUTS ON INSIDE. TIGHTEN WITH NUT DRIVER.

- 12) FROM HARNESS BAG WIRE HEAT BOARD AS FOLLOWS: T3 = 18 GAUGE, 14" BLACK, T4 = 18 GAUGE, 10" WHITE T6 & T7 = 12 GAUGE, 12" BLACK ON EACH. T10 = YELLOW SENSOR WIRE, AND T11 = RED SENSOR WIRE.
- 13) STORE COMPLETED BOTTOM HOUSING ASSEMBLY UNTIL YOU ARE READY TO USE.



INFRA-RED SENSOR AND HEAT BOARD WIRED

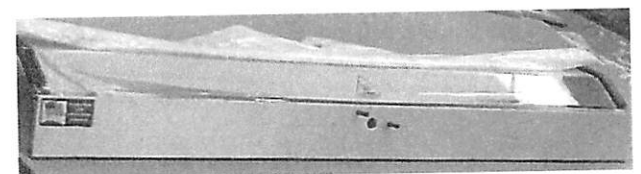
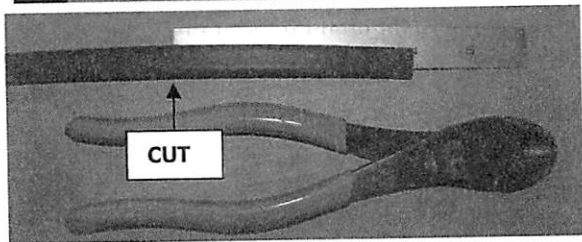
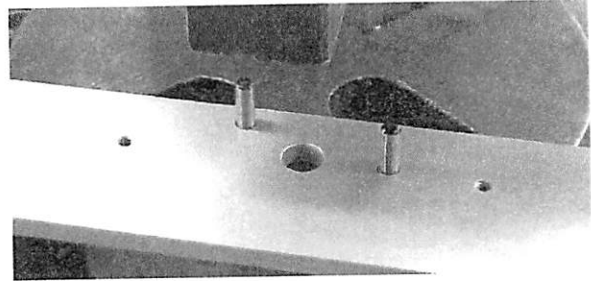


COMPLETED BOTTOM MOTOR COVER ASSEMBLY

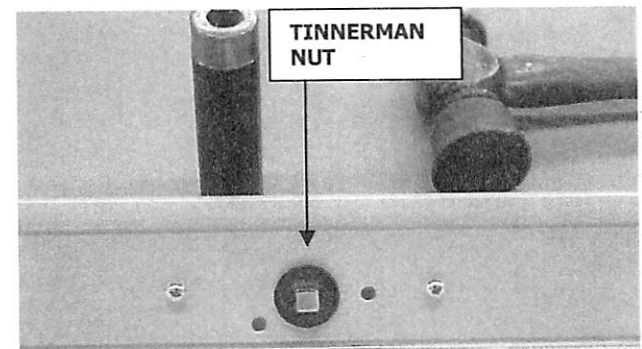
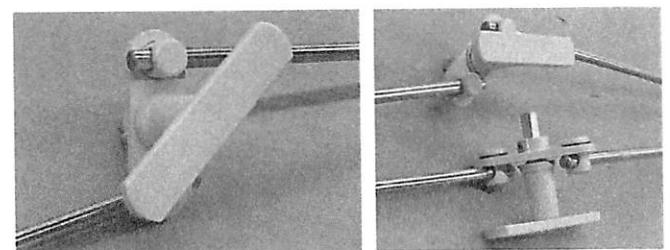
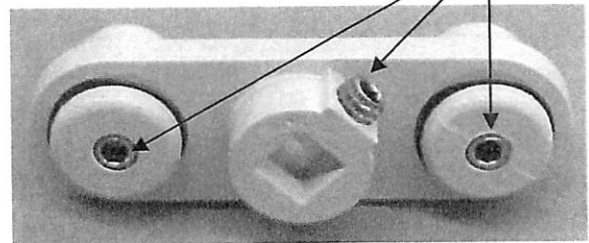
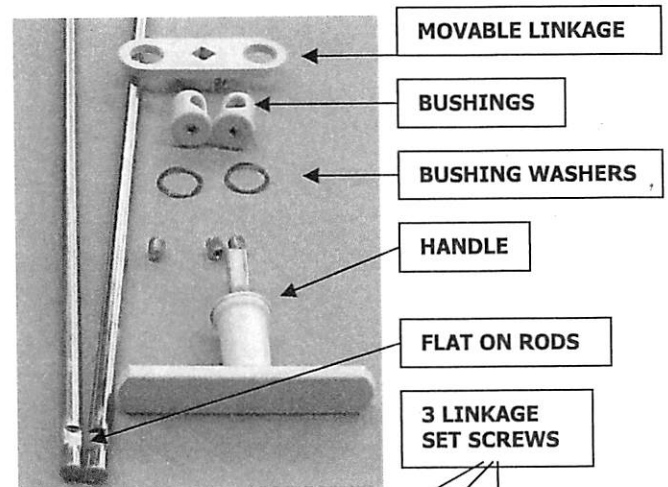
PLC 27

SAFETY SHIELD ASSEMBLY

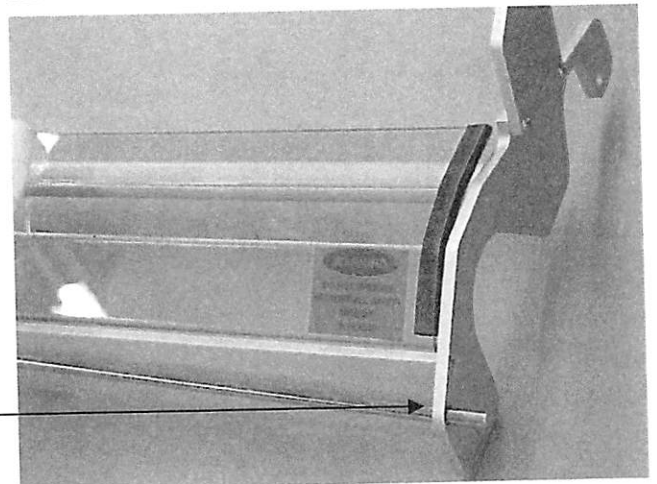
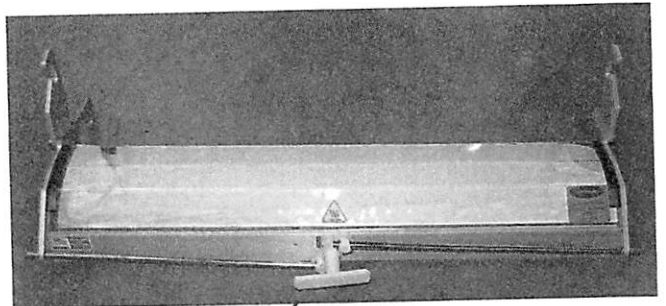
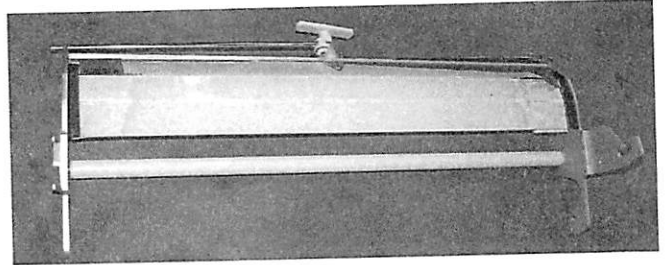
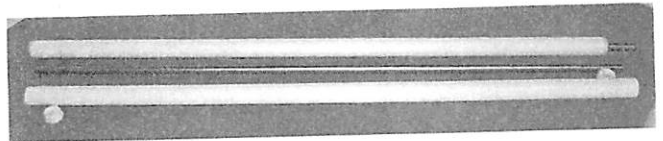
- 1) USING DOWEL PIN GUIDE BLOCK, ARBOR PRESS (2) 3/16 X 3/4 DOWEL PINS INTO SAFETY SHIELD BRACE (BC27 073.4) AS04. POSITION SAFETY SHIELD BRACE HOLES UP AND THE HIGHER DOWEL PIN OPENING ON THE LEFT, AS PICTURED ON ARBOR PRESS. ADHERE A MADE-IN-AMERICA LABEL (XS33) RACK 7 TO UPPER LEFT CORNER OF SAFETY SHIELD BRACE ON THE SIDE WITH EXPOSED DOWEL PINS POSITIONED UP.
- 2) PEEL BACK PLASTIC COVERING ON BOTH ENDS OF SAFETY SHIELD (BC27 074.4) AS04. CUT (2) FOUR INCH PIECES OF PUSH ON PLASTIC TRIM-BLACK FROM SPOOL (PRT354) AS04. OPEN PLASTIC TRIM LIPS AND SLIDE BLACK TRIM PIECES ONTO SAFETY SHIELD ENDS. A RUBBER MALLOT CAN BE USED TO TAP TRIM ON. THE TRIM DOES NOT COVER SECTION OF SAFETY SHIELD WITH HOLES. SEE PHOTO.
- 3) PEEL PLASTIC BACK TO EXPOSE FRONT HOLES ON SAFETY SHIELD. ATTACH SAFETY SHIELD BRACE TO OUTSIDE OF SAFETY SHIELD USING (2) 8-32 X 3/8 RH. THE SCREW HEAD WILL BE ON INSIDE. THE BRACE WILL EXTEND BEYOND THE SAFETY SHIELD FRONT EDGE.
- 4) CENTER AND ADHERE A YELLOW "HOT" LABEL (LAB100) AS09 ONTO SAFETY SHIELD, ABOVE BRACE DOWEL PINS. TRIM TOP AND BOTTOM OF RED SMALL WARNING LABEL (LAB21) RACK 7 TO FIT ONTO RIGHT CORNER OF SAFETY SHIELD ABOVE BRACE AND ADHERE.
- 5) CONNECT RIGHT AND LEFT TOP COVER SIDE PLATES (PL27 066.4R AND PL27 066.4L) RACK 7 TO THE SAFETY SHIELD BRACE ENDS USING (4) 10-32 X 1/2 FHMS INTO (2) COUNTERSUNK HOLES ON EACH SIDE. LEFT SIDE PICTURED.



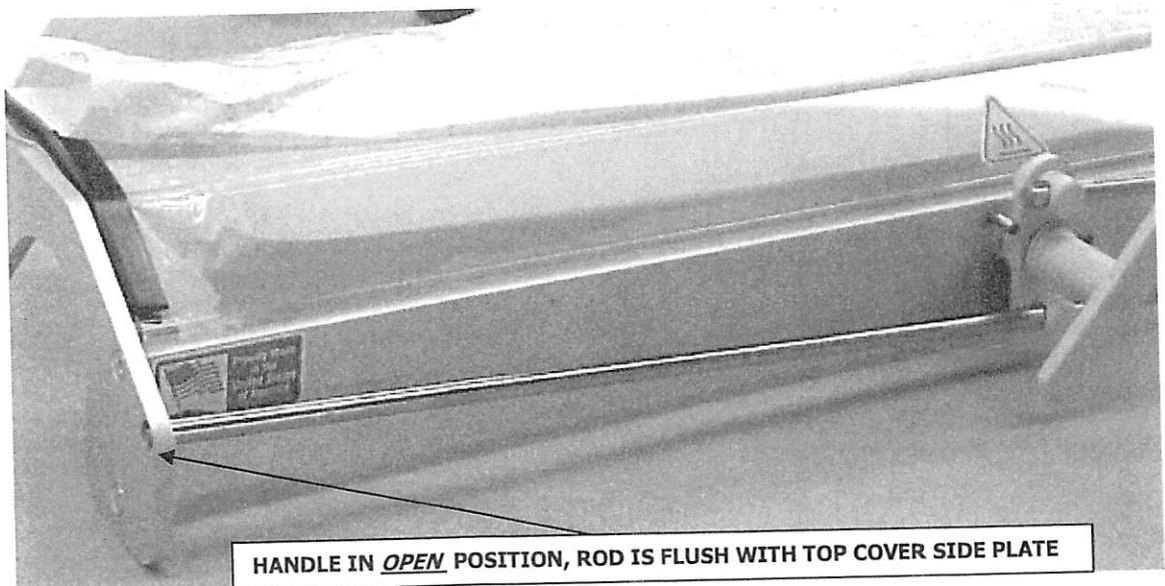
- 6) ATTACH (2) UPPER SUPPLY ROLL BRACKETS (BC27 008.4) RACK 7 ONTO OUTER RIGHT & LEFT TOP COVER SIDE PLATES. SUPPLY ROLL NOTCHES *FACE THE FRONT*. USE (4) SILVER 10-32 X 1/2 SHCS (.190PAB08SS) AS12.
- 7). FROM RACK 7 GATHER (2) PIECES FROM LATCH ROD SET (BC27 151.4) IN THE TWO POINT LOCKING ROD KIT AND (1) SAFETY SHIELD HANDLE (BC27 150.4). ASSEMBLE HANDLE UNIT AS FOLLOWS: THREAD THE (3) SET SCREWS SUPPLIED IN THE KIT INTO THE (2) ROD BUSHINGS AND THE MOVABLE LINKAGE. SLIDE THE METAL WASHER SUPPLIED IN KIT ONTO EACH ROD BUSHING. INSERT BOTH ROD BUSHINGS INTO HOLES ON MOVABLE LINKAGE, THE THREE SET SCREWS SHOULD ALL BE ON THE SAME SIDE. SLIDE FLAT END OF LATCH RODS INTO ROD BUSHINGS. ALIGN FLAT OF ROD WITH SET SCREW AND TIGHTEN BOTH. INSERT HANDLE INTO MOVABLE LINKAGE FROM ROD SIDE.
- 8) SLIDE HANDLE (BC27 150.4) RACK 7 SHAFT THROUGH BRACE AND SAFETY SHIELD. SLIDE LATCH RODS INTO FRONT OF TOP COVER SIDE PLATES. *THE HANDLE SHOULD BE TURNED SO THE RIGHT ROD IS HIGHER*. THE RODS ARE FLUSH WITH THE OUTSIDE OF THE SIDE PLATES. IF THEY ARE NOT FLUSH, ADJUST BY RESETTNG SET SCREWS.
- 9) TURN SAFETY SHIELD SO INSIDE IS VISIBLE. SECURE HANDLE SHAFT BY SETTING SQUARE TINNEMAN NUT (PRT352) RACK 7 ALIGNED WITH RECESS INWARD ON HANDLE SHAFT. USE NUT DRIVER PICTURED AND TAP TINNEMAN NUT ONTO SHAFT. BE CAREFUL NOT TO CRACK SAFETY SHIELD.
- 10) TAP (2) WHITE PLASTIC IDLER BEARINGS (LC25 009.4) LD02 ONTO ENDS OF THE *SHORTER* UPPER IDLER TUBE (BC27 052.4) AS04. INSERT UPPER IDLER SHAFT (BC27 051.4) AS04 THROUGH BOTH WHITE PLASTIC IDLER BEARINGS. USE A .380 REAMER TO OPEN BEARINGS, IF NECESSARY.



- 11) SECURE UPPER IDLER SHAFT TO RIGHT AND LEFT TOP COVER SIDE PLATES USING 10-32 X 1/2 FH IN COUNTERSUNK HOLES IN SIDE PLATE, UNDER SUPPLY ROLL BRACKETS. TEST SPIN OF UPPER IDLER TUBE, TO BE CERTAIN IT MOVES FREELY. IF IT DOESN'T, THE BEARINGS SHOULD BE REAMED AGAIN.
- 12) STORE COMPLETED SAFETY SHIELD UNTIL NEEDED FOR MACHINE ASSEMBLY.



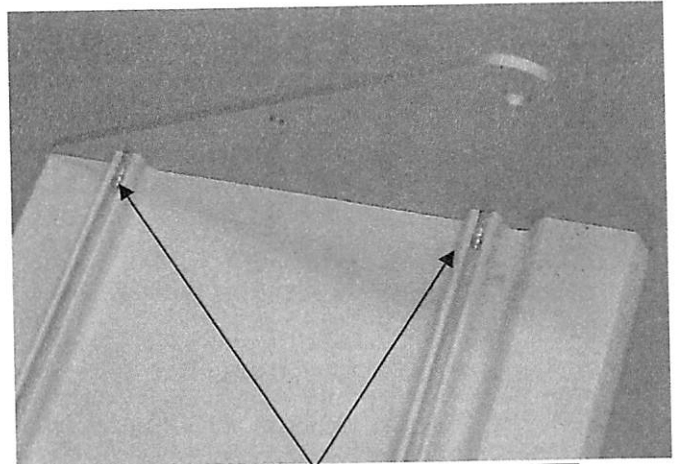
RIGHT SIDE OF SAFETY SHIELD ASSEMBLY:
IDLER TUBE ATTACHED TO SIDE PLATE,
HANDLE ROD IN *CLOSED* POSITION



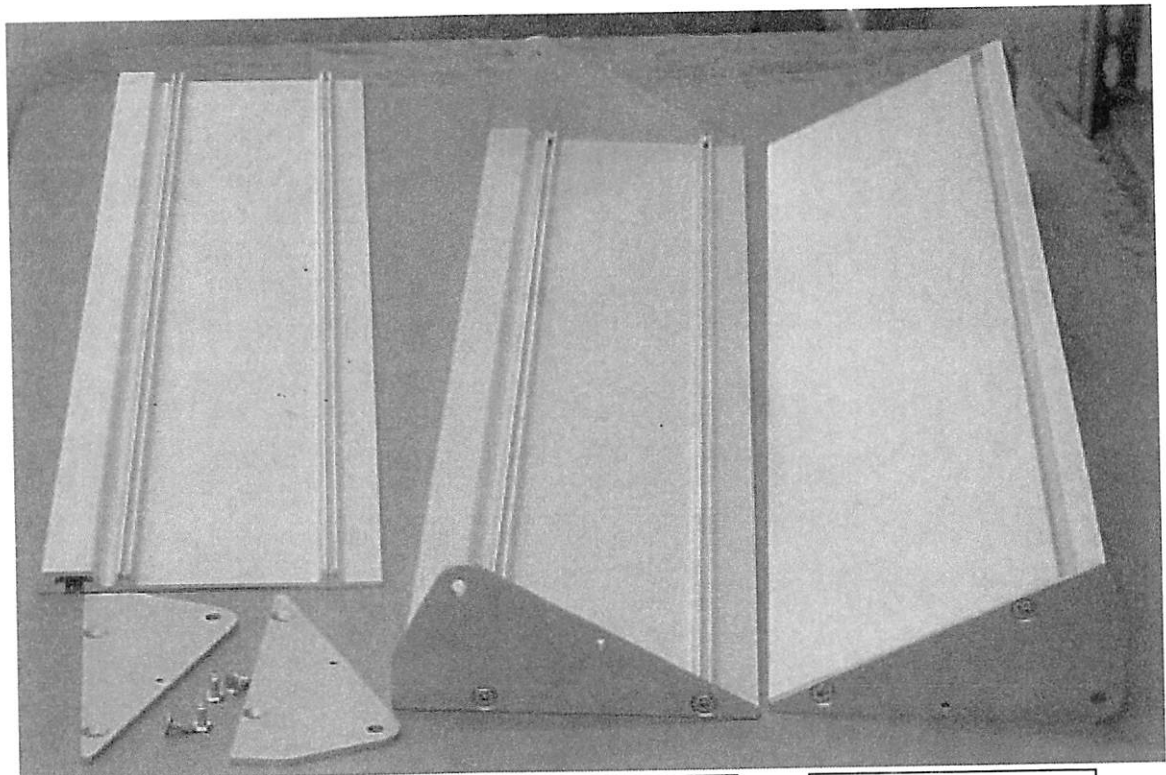
HANDLE IN *OPEN* POSITION, ROD IS FLUSH WITH TOP COVER SIDE PLATE

PLC 27 FEEDTABLE ASSEMBLY

- 1) PLACE FEEDTABLE EXTRUSION (BC27 096.4) AS04 ON WORKTABLE WITH SCREW CHANNELS FACING UPWARD.
- 2) ATTACH RIGHT FEEDTABLE BRACKET (PL27 074.4R) RACK 7 THROUGH COUNTERSUNK HOLES ON OUTSIDE. LINE UP COUNTERSUNK HOLES WITH FEEDTABLE UNDERSIDE CHANNELS AND SECURE BRACKET WITH (2) 10 X 1/2 FHUC SMS.
- 3) ATTACH LEFT FEED TABLE BRACKET (PL27 074.4L) RACK 7 THROUGH COUNTERSUNK HOLES ON OUTSIDE. LINE UP COUNTERSUNK HOLES WITH FEEDTABLE UNDERSIDE CHANNELS AND SECURE BRACKET WITH (2) 10 X 1/2 FHUC SMS.



SMS SCREWS IN SCREW CHANNEL ON
UNDERSIDE OF FEEDTABLE EXTRUSION



ASSEMBLY PARTS

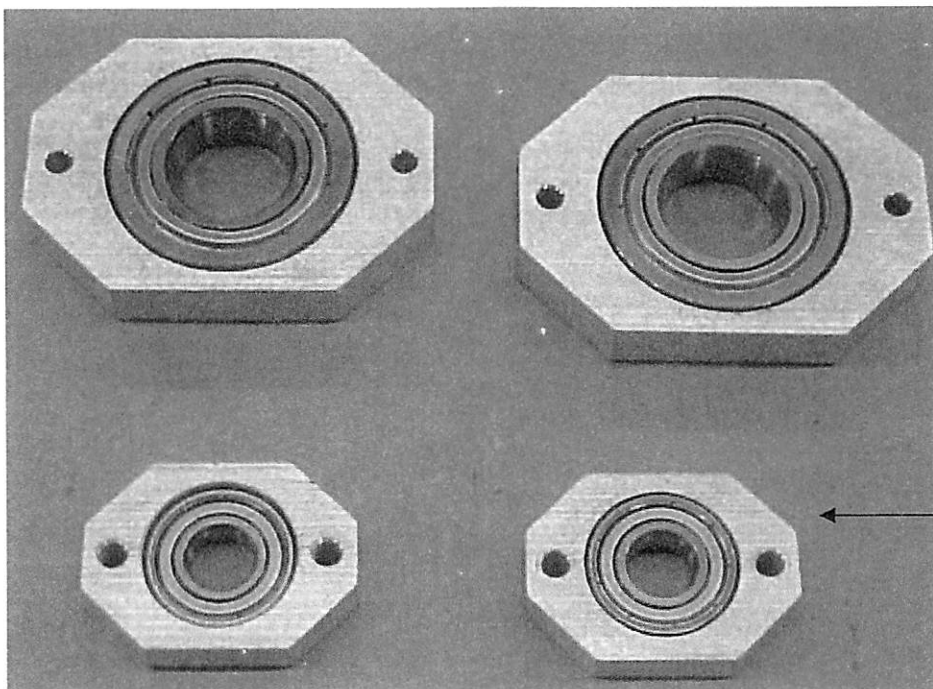
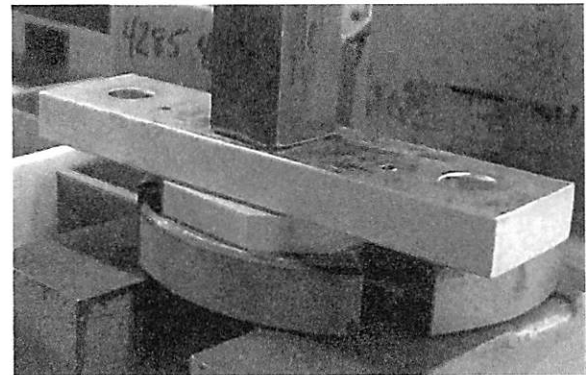
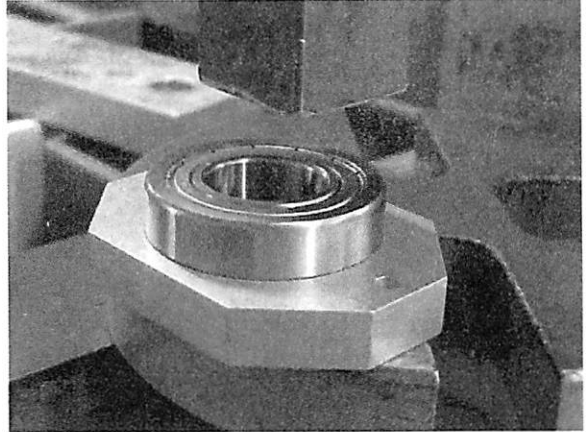
ASSEMBLED UNDERSIDE VIEW

ASSEMBLED TOP VIEW

PLC 27

PILLOW BLOCK ASSEMBLY

- 1) THE PLC 27 LAMINATOR IS BUILT WITH TWO FRONT PILLOW BLOCKS AND TWO REAR PILLOW BLOCKS. THE PILLOW BLOCK ASSEMBLY IS AS FOLLOWS.
- 2) ARBOR PRESS (2) ROLLER BEARINGS R16Z (PRB085) AS07 INTO (2) FRONT PILLOW BLOCKS (PL27 042.4) RACK 7. FRONT PILLOW BLOCKS ARE THE LARGER SET.
- 3) ARBOR PRESS (2) ROLLER BEARINGS R8Z (PRB038) RACK 21 INTO (2) REAR PILLOW BLOCKS (PL27 043.4) RACK 7, BEING THE SMALLER SET OF BLOCKS.
- 4) STORE THE FRONT AND REAR PILLOW BLOCK ASSEMBLIES UNTIL NEEDED.

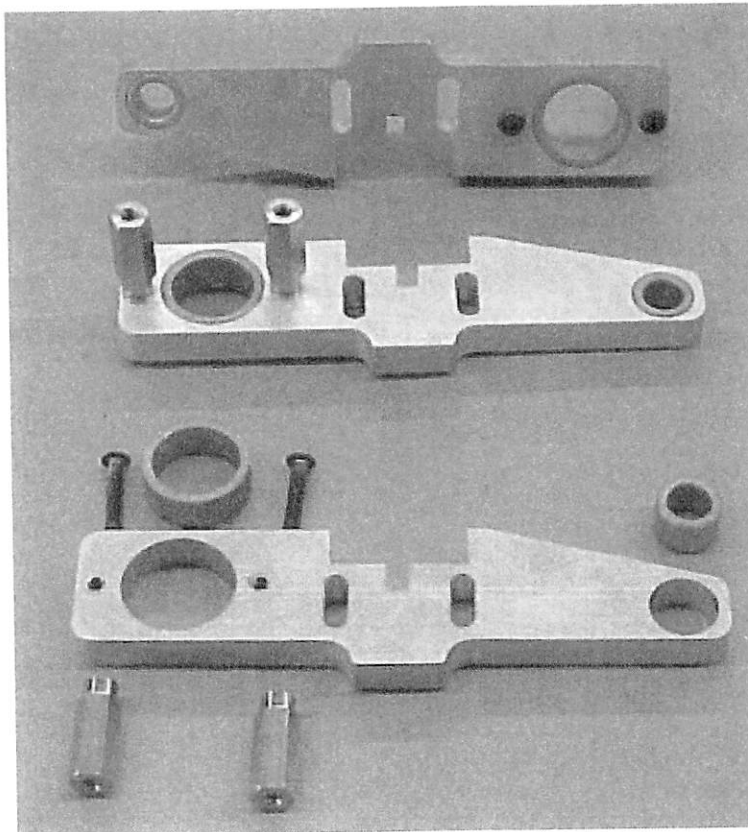
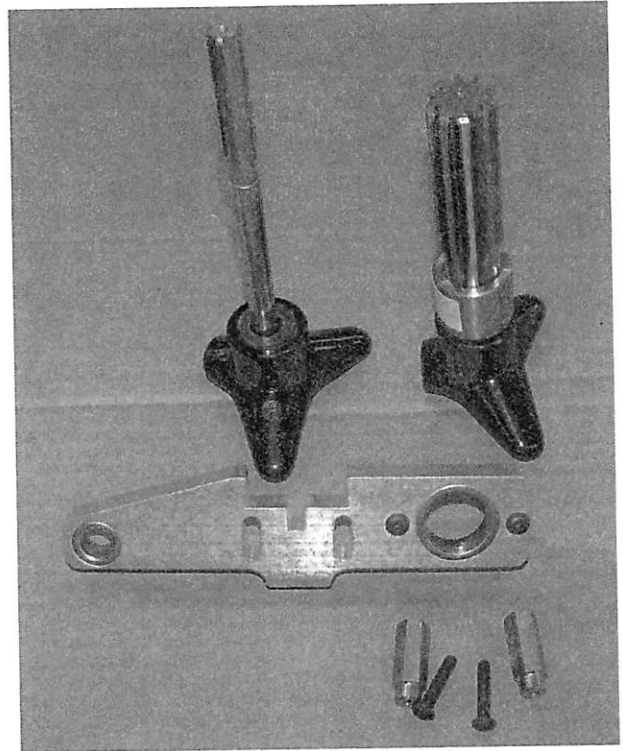


FRONT
PILLOW
BLOCK
ASSEMBLY

REAR
PILLOW
BLOCK
ASSEMBLY

PLC 27 SUSPENSION BAR ASSEMBLY

- 1) THE PLC 27 USES A RIGHT AND LEFT SUSPENSION BAR. THE DIFFERENCE BETWEEN THE TWO IS THE DIRECTION OF THE TOP STANDOFFS FROM THE SUSPENSION BAR. THE STANDOFFS FACE AWAY FROM THE MACHINE BODY. ASSEMBLY IS AS FOLLOWS.
- 2) FROM RACK 7 ARBOR PRESS THE LARGER SLEEVE BEARING (PRB204) AND THE SMALLER SLEEVE BEARING (PRB205) INTO THE SUSPENSION BAR (PL27 044.4). OPEN BEARINGS WITH A 1.002 AND .505 REAMER.
- 3) THREAD (2) 10-24 X 1 BH AS12 INTO SUSPENSION BAR AND SECURE THE RADIUS END OF (2) HEX TOP STANDOFFS (PL27 047.4T) RACK 7. THE RIGHT AND LEFT STANDOFFS FACE OPPOSITE DIRECTIONS.

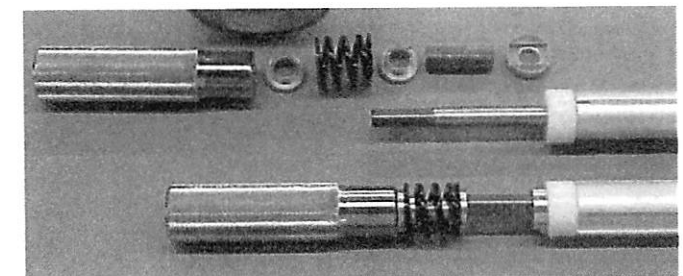
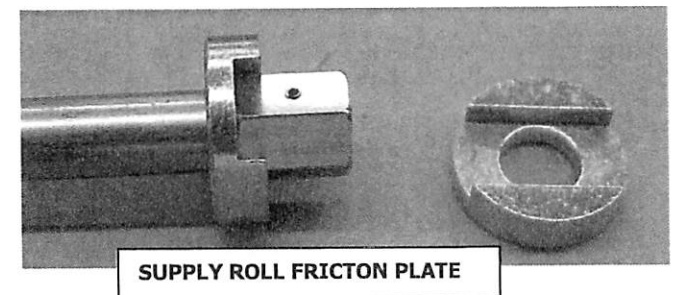
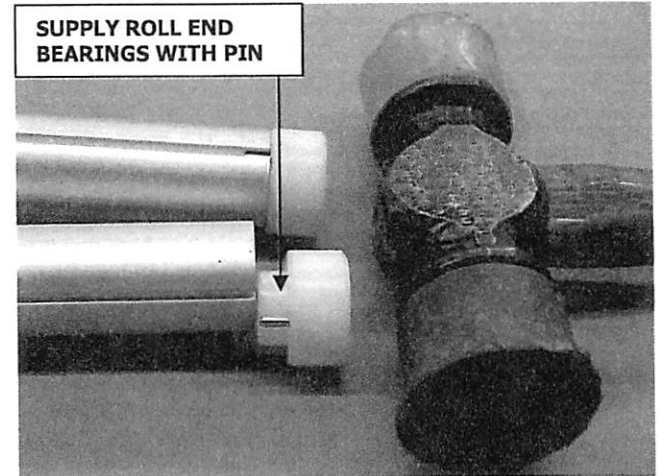
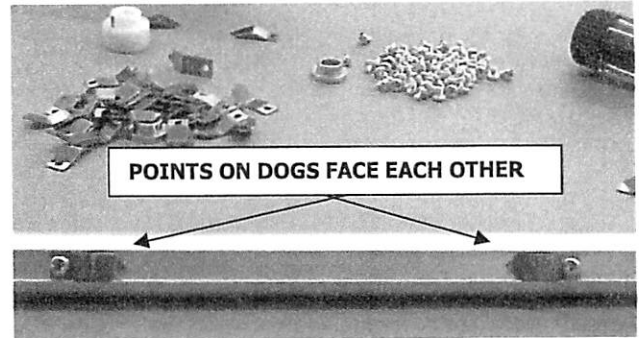


STANDOFFS
FACE AWAY
FROM PLC
MACHINE

PLC 27

SUPPLY ROLL ASSEMBLY

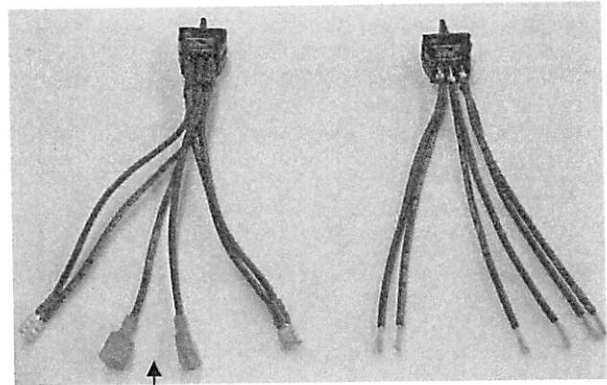
- 1) THE PLC 27 POUCH LAMINATOR USES TWO SUPPLY ROLLS PER MACHINE.
- 2) ATTACH (4) LD SUPPLY ROLL DOGS (0285 015.4A) SR CART, WITH BOTH SET OF POINTS FACING EACH OTHER TO SUPPLY ROLL EXTRUSION (BC27 002.4) AS04. USE (4) 6-32 X 3/16 PHMS.
- 3) ALIGN PIN AND TAP (2) LD SUPPLY ROLL END BEARINGS (LC25 100.4) SR CART INTO ENDS OF SUPPLY ROLL EXTRUSION. THE PREPRESSED DOWEL PIN FITS INTO SUPPLY ROLL CHANNEL.
- 4) SLIDE SUPPLY ROLL FRICTION PLATE C (0285 025.4) SR CART ONTO BC27 SUPPLY ROLL SHAFT WITH HEX ASSEMBLY (BC27 011.5) AS04, FITTING FRICTION PLATE ONTO HEX ADAPTOR. INSERT SUPPLY ROLL SHAFT THROUGH BEARINGS ON EXTRUSION. ADD ANOTHER SUPPLY ROLL FRICTION PLATE ONTO THREADED END OF SHAFT.
- 5) ADD SUPPLY ROLL HEX BUSHING (0285 027.4) SR CART ONTO SHAFT, FITTING INTO SUPPLY ROLL FRICTION PLATE.
- 6) FROM SR CART ADD LD SUPPLY ROLL SPRING BUSHING (0285 026.4). FIT SUPPLY ROLL TENSION SPRING PAINTED BLACK (PRS234) INTO THE SPRING BUSHING AND THEN ANOTHER SPRING BUSHING TO SECURE SPRING.
- 7) BRUSH SUPPLY ROLL SHAFT THREADS WITH NEVER-SEIZE. THREAD ON SUPPLY ROLL TENSION KNOB (BC27 001.4) AS05. TIGHTEN ONLY ENOUGH TO SECURE SPRING.



PLC 27

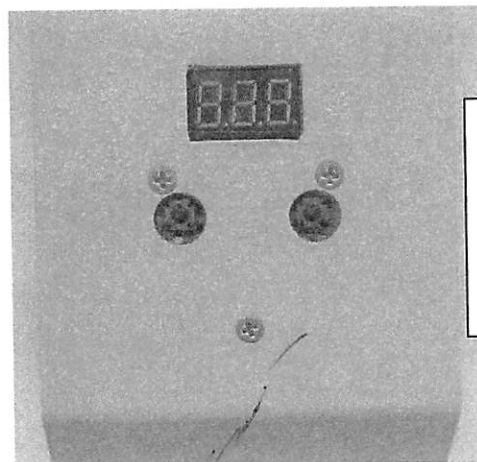
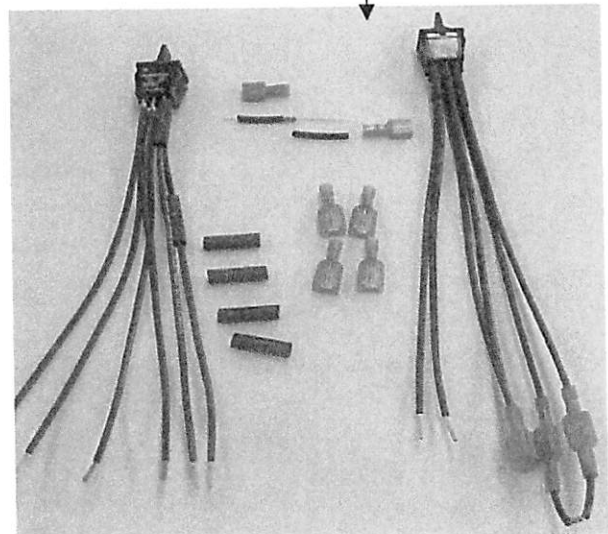
UPPER RIGHT HOUSING

- 1) BEFORE THE PREPARATION OF THE UPPER RIGHT HOUSING (PL27 094.4RL) AS04 WIRING SUBS SHOULD BE ASSEMBLED. THE WIRING DEPARTMENT WILL HAVE WIRES BAGGED AND STORED IN AS30. IF THE ASSEMBLER HAS TO MAKE THE SWITCHES PROCEED AS FOLLOWS.
- 2) THE DRIVE SWITCH CARLING (PRS005) LD01 FOR THE FORWARD/REVERSE MOTION HAS REVERSE IN A "JOG" MODE WHICH MUST BE HELD DOWN FOR ACTIVATION. SLIDE ON (6) 3/4 INCH PIECES OF SHRINK TUBING (PRI165) CAB1 INDIVIDUALLY OVER EACH SOLDERED WIRE TO THE SWITCH AND HEAT THE SHRINK. THE TWO MIDDLE INSIDE AND OUTSIDE WIRES ARE TERMINATED WITH FI MALE (PRT330). TERMINATE BOTH DIAGONAL PAIRS, IE. RIGHT INSIDE WITH LEFT OUTSIDE TOGETHER USING (PRT292).
- 3) SLIDE ON (6) 3/4 INCH PIECES OF SHRINK TUBING (PRI165) OVER EACH SOLDERED WIRE TO THE POUCH MODE SWITCH CARLING (PRS002) LD01, HEAT AND SHRINK TUBING. WITH PRINTING ON SWITCH FACING YOU, THE LEFT INSIDE AND OUTSIDE PAIR OF WIRES REMAIN OPEN. THE MIDDLE PAIR OF INSIDE AND OUTSIDE WIRES ARE TERMINATED WITH FI MALE (PRT330). THE RIGHT PAIR OF INSIDE AND OUTSIDE WIRES ARE ALSO TERMINATED WITH FI MALE (PRT330) AND THEN THEY ARE CONNECTED WITH CARBON FILM RESISTOR: 6.8K OHM (PRR272) WIRING DEPT. WHICH HAS BLACK 18 GAUGE SHEATHING TO COVER WIRES AND A FI FEMALE (PRT331) CRIMPED AT EACH END.
- 4) INSERT (3) 4-40 X 3/16 FH INTO COUNTERSUNK HOLES ON UPPER



DRIVE SWITCH

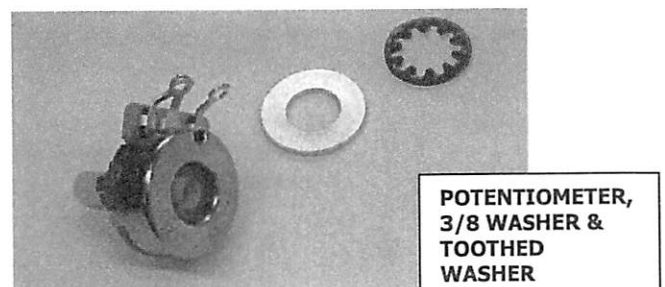
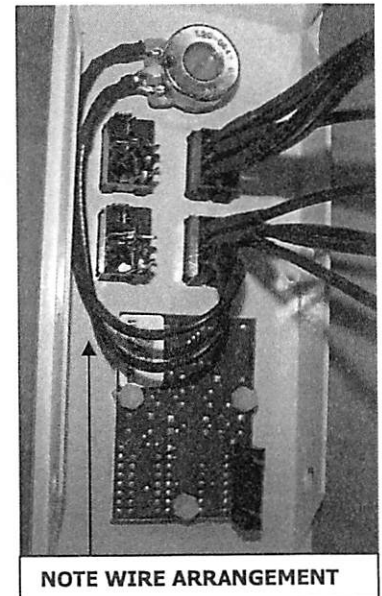
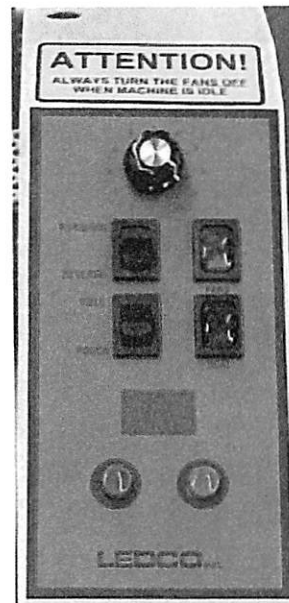
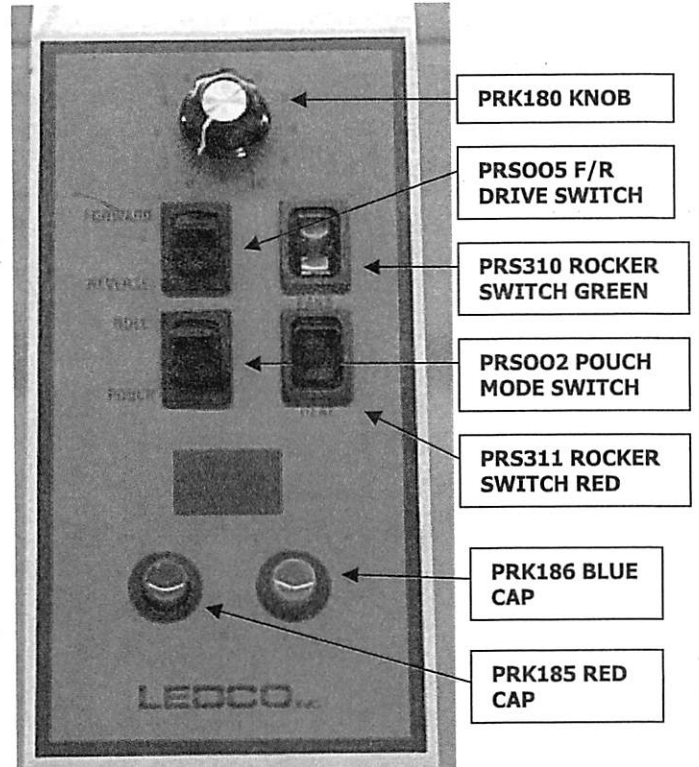
POUCH ROLL SWITCH



SECURE SLAVE BOARD TO (3) STANDOFFS BEFORE DECAL IS ATTACHED

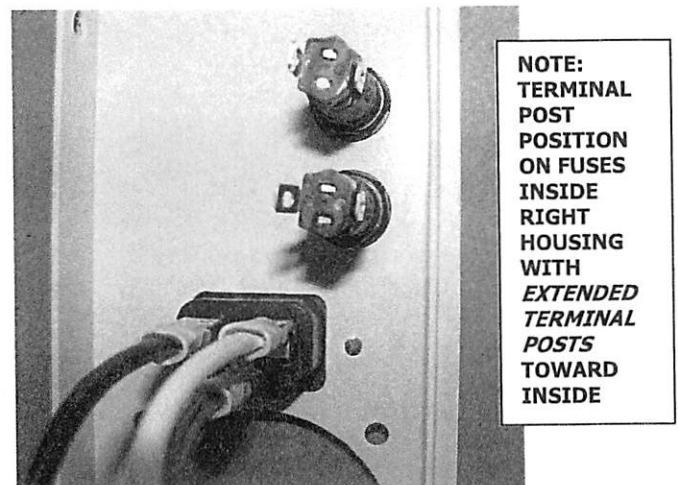
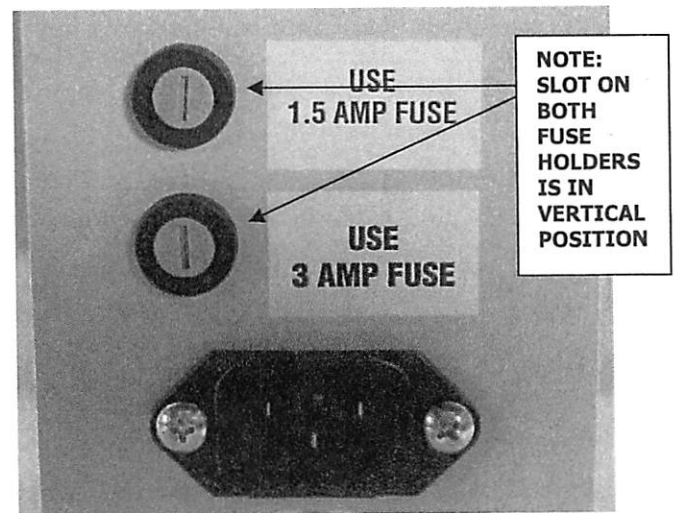
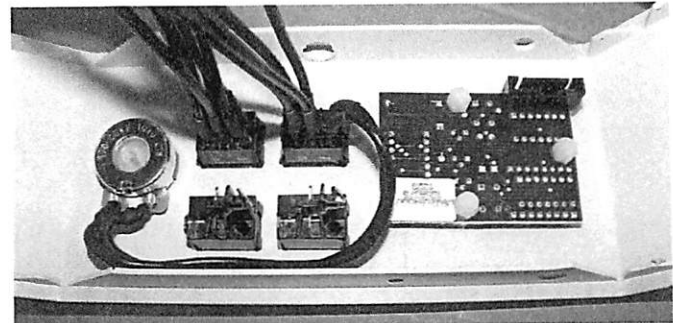
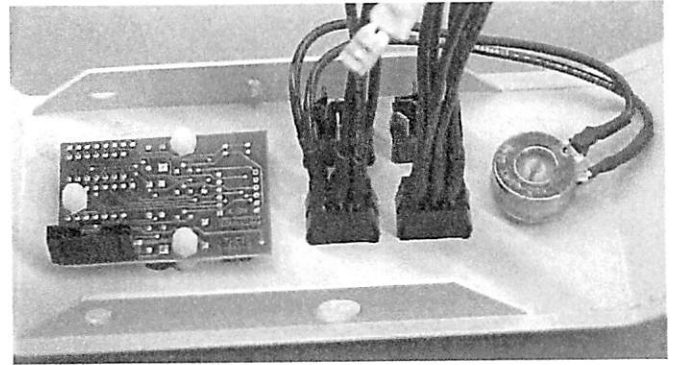
RIGHT HOUSING AND THREAD (3) STANDOFFS (D25 010.4) AS12. ATTACH SLAVE BOARD FROM HEAT CONTROLLER USED IN BOTTOM MOTOR COVER AND SECURE WITH (3) 4-40 ACORN NUTS (112 LDROO) AS11.

- 5) FROM AS09 SNAP ON PUSHBUTTON CAP **RED** (PRK185) ONTO LEFT SLAVE BOARD POST AND PUSHBUTTON CAP **BLUE** (PRK186) ONTO RIGHT SLAVE BOARD POST.
- 6) CAREFULLY CENTER AND ADHERE BC27 CONTROL PANEL DECAL (LAB27) RACK 7 OVER PUSHBUTTON CAPS AND REMAINING OPENINGS ON UPPER RIGHT HOUSING.
- 7) WITH PRINTING ON SWITCHES FACING OUTWARD AND OFFSET TERMINAL POST DOWN AND INWARD, SNAP IN ROCKER SWITCH GREEN LIGHTED (PRS310) LD03 ABOVE "FANS" INDICATION AND ROCKER SWITCH RED LIGHTED (PRS311) LD09 ABOVE "HEAT" INDICATION ON PANEL DECAL.
- 8) WITH PRINTING ON SWITCHES FACING OUTWARD, SNAP ASSEMBLED FORWARD/REVERSE DRIVE SWITCH WITH "JOG" AND ROLL POUCH SWITCH WITH RESISTER.
- 9) CENTER YELLOW "ATTENTION" LABEL (LAB104) RACK 7 ABOVE CONTROL PANEL DECAL.
- 10) WITH (PRM219) POTENTIOMETER STEM FACING YOU AND TERMINAL POSTS UPWARD, UNITE MIDDLE AND RIGHT POSTS. ADD 3/16" SHRINK TUBING TO THE TWO OPEN WIRES ON ROLL POUCH SWITCH, THESE WILL BE HEATED *AFTER* WIRES ARE SOLDERED TO POTENTIOMETER. SOLDER OUTER OPEN ENDED ROLL POUCH WIRE; WHICH IS WIRE CLOSEST TO HEAT SWITCH & PRINTING, WITH DOUBLE POSTS ON POTENTIOMETER. SOLDER REMAINING INSIDE OPEN WIRE TO SINGLE POTENTIOMETER POST.



COVER WITH TUBING AND SHRINK.

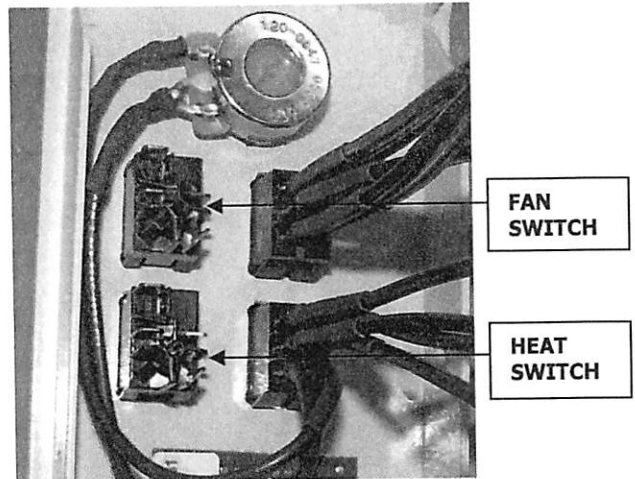
- 11) PLACE A 3/8 WASHER OVER THE POTENTIOMETER STEM. INSERT STEM THROUGH OPENING. RUN WIRES BY ROCKER SWITCHES. SECURE ON OUTSIDE WITH TOOTHED WASHER AND HEX NUT. ADD ROUND KNOB (PRK180) LD05 ONTO STEM, WITH INDICATION ON 'ZERO' POSITION.
- 12) ON BACK OF UPPER RIGHT HOUSING INSERT (2) 3-PIECE FUSE HOLDERS (PRF110) LD01. BEND & POSITION TERMINAL POSTS ON INSIDE. INSERT LITTLEFUSE 1 1/2 AMP (PRF128) AS09 IN THE TOP FUSE HOLDER AND LITTLEFUSE 3 AMP (PRF127) AS09 INTO LOWER FUSE HOLDER.
- 13) ADHERE A "USE 1.5 AMP FUSE ONLY" LABEL TO RIGHT OF TOP FUSE AND "USE 3 AMP FUSE ONLY" RIGHT OF LOWER FUSE LDB1.
- 14) INSERT CORD RECEPTACLE, PANEL MOUNT (PRC117) AS09 WITH SINGLE GROUND TERMINAL DOWNWARD. SECURE TO HOUSING WITH (2) 6 X 3/8 TH SMS.
- 15) FROM WIRING BAG IN RACK 7 ADD THE 6 1/2" BLACK, WHITE AND GREEN GROUND WIRES TO RECEPTACLE. GREEN ON SINGLE TERMINAL POST AND WHITE ON 'N' NEUTRAL POST.



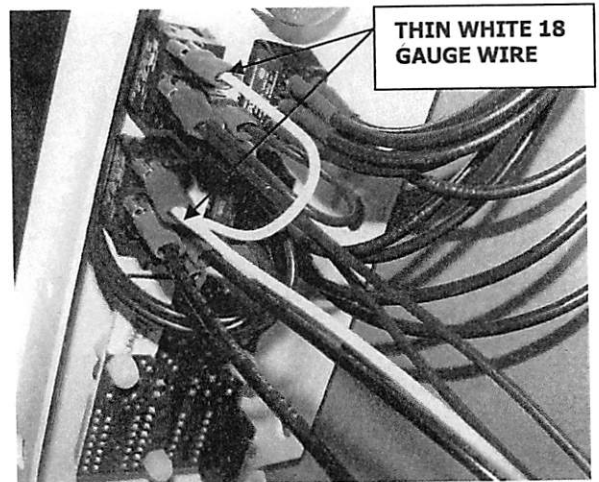
PLC 27

UPPER RIGHT HOUSING WIRING

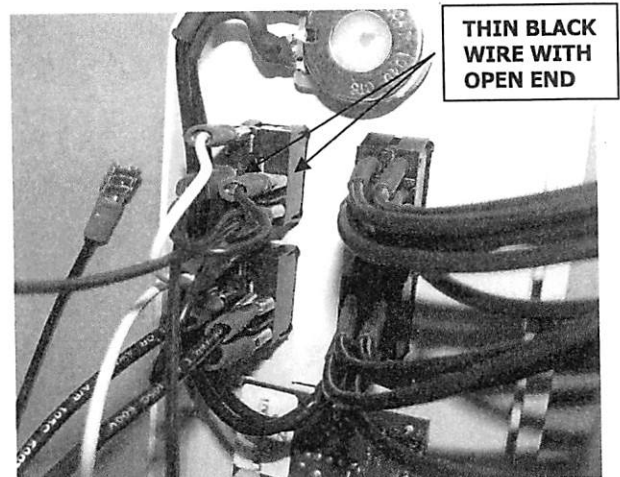
- 1) BEFORE SECURING THE RIGHT HOUSING TO THE SIDE PANEL, IT MAY BE EASIER TO COMPLETE SOME OF THE FAN AND HEAT SWITCH WIRING. BOTH OF THESE SWITCHES TERMINATE WITH SMALL RED AND BLUE FEMALE CONNECTORS.



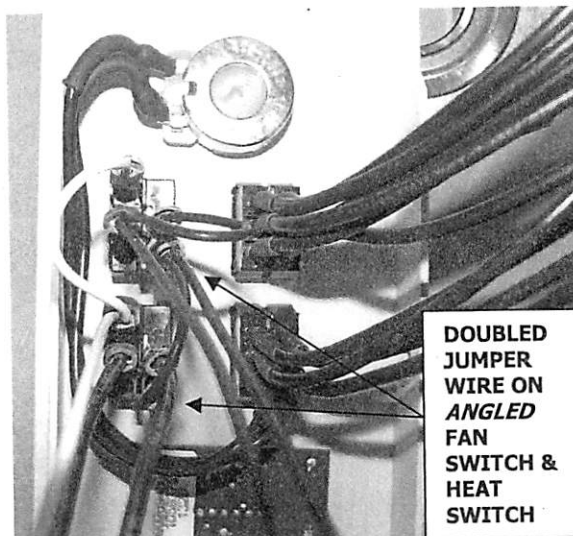
- 2) FIRST CONNECT THE THIN 18 GAUGE WHITE WIRE. TERMINATE THE SHORT JUMPER END WITH THE RED CONNECTOR ONTO THE UPPER, OUTER FAN SWITCH POST. TERMINATE THE DOUBLED WHITE WIRE JUMPER END WITH THE BLUE CONNECTOR ON THE UPPER, OUTER HEAT SWITCH POST. THE REMAINING LONG JUMPER END OF THE WHITE WIRE WITH A (PRT302) RED FEMALE END WILL CONNECT ONTO THE TERMINAL BLOCK.



- 3) CONNECT THE THIN, BLACK 18 GAUGE WIRE WITH RED AND BLUE FEMALE ENDS AND AN OPEN END ON THE LONGER JUMPER WIRE. TERMINATE THE BLUE CONNECTOR WITH THE DOUBLED WIRE TO THE OUTER, MIDDLE FAN SWITCH POST. TERMINATE THE SHORT JUMPER END OF THIS WIRE TO THE INNER, MIDDLE FAN SWITCH POST, LOCATED ABOVE THE ANGLED POST. THE REMAINING OPEN ENDED JUMPER WIRE WILL CONNECT WITH (2) OTHER OPEN ENDED WIRES FOR THE FANS.

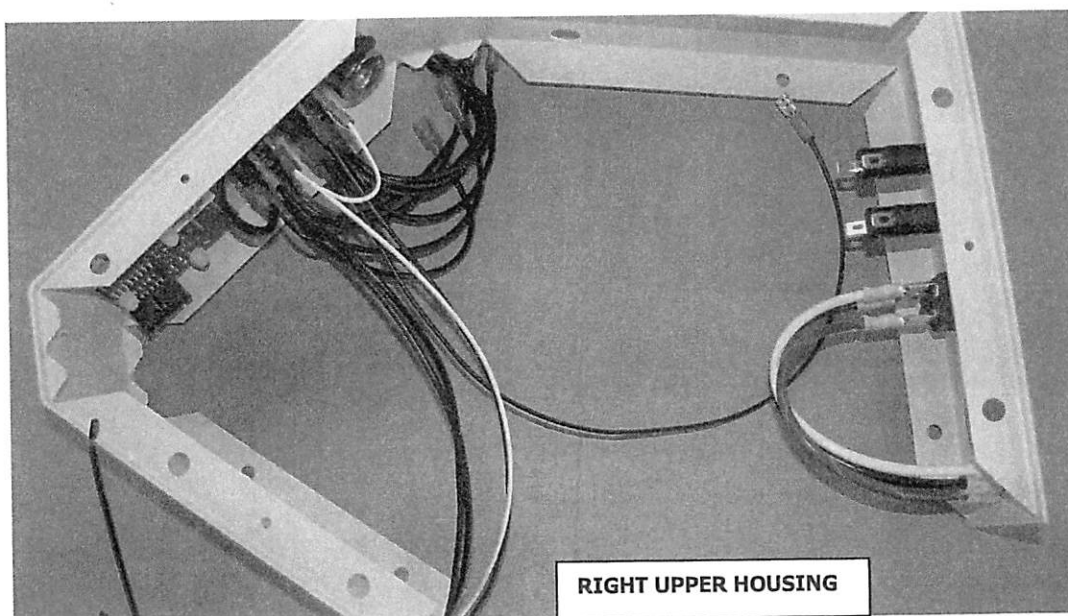
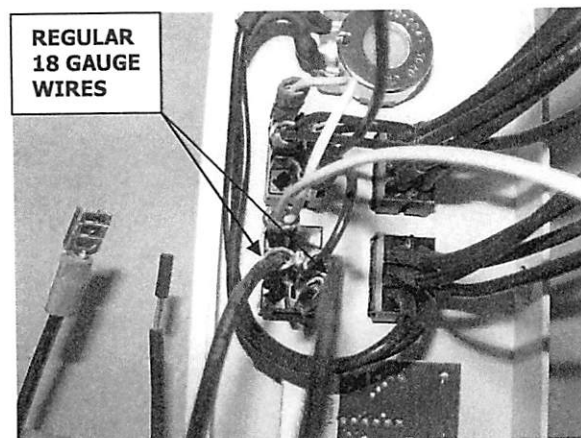


- 4) CONNECT THE THIN, BLACK 18 GAUGE WIRE WITH A (PRT302) FEMALE AND TWO SMALL FEMALE ENDS-ONE RED AND ONE BLUE ON THE DOUBLED WIRES. TERMINATE THE DOUBLED WIRES WITH THE BLUE CONNECTOR ON THE LOWER ANGLED POST OF THE FAN SWITCH. TERMINATE THE RED CONNECTOR ON THE SHORT JUMPER END ON THE LOWER ANGLED POST OF THE HEAT SWITCH. THE LARGER RED FEMALE WILL CONNECT TO THE TERMINAL BLOCK.



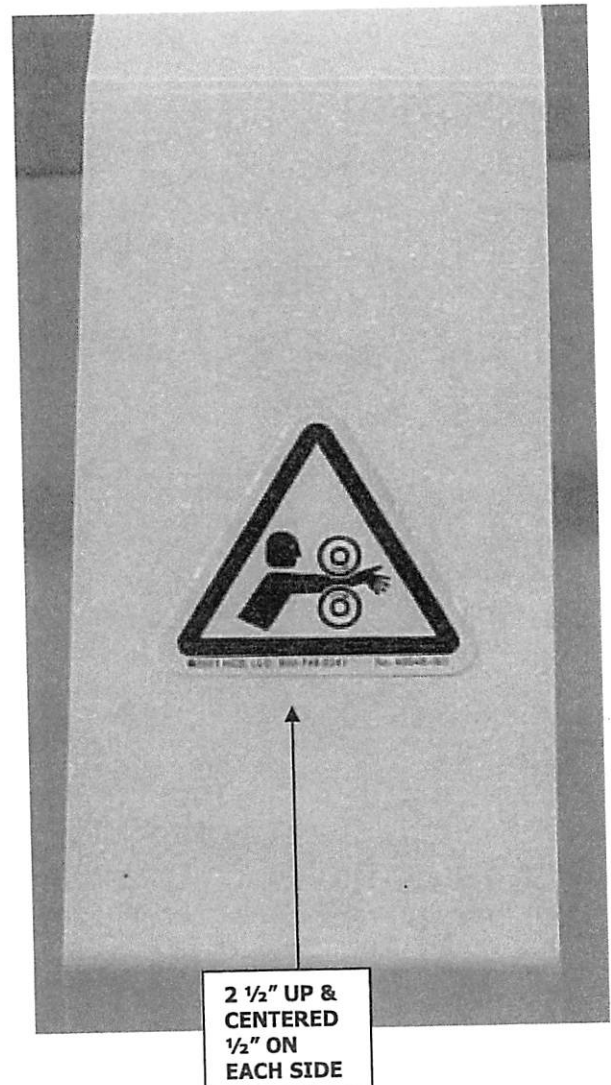
- 5) CONNECT THE 14" BLACK 18 GAUGE WIRE WITH A SMALL AND LARGE RED FEMALE END TO THE OUTER, MIDDLE HEAT SWITCH POST.

- 6) CONNECT THE 18" BLACK 18 GAUGE WIRE WITH A SMALL FEMALE CONNECTOR AND AN OPEN END TO THE INNER, MIDDLE HEAT SWITCH POST LOCATED ABOVE THE ANGLED POST.



PLC 27 UPPER LEFT HOUSING

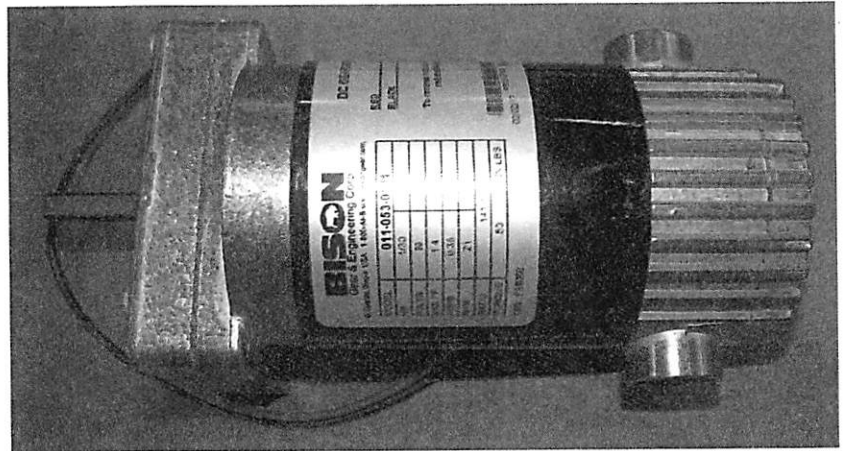
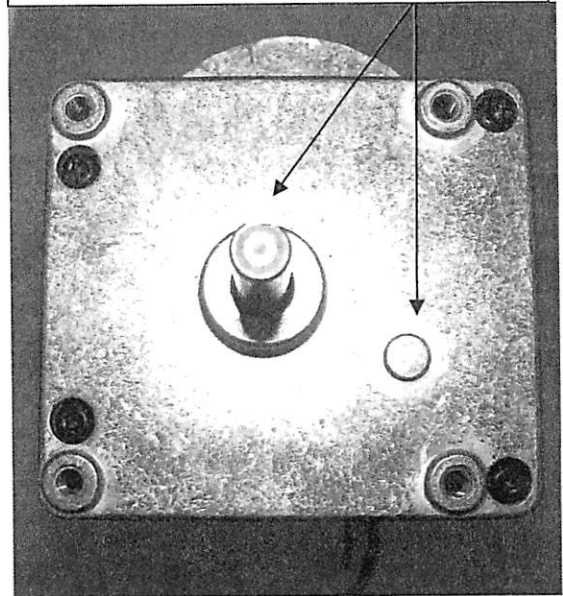
- 1) THE PREPARATION OF THE UPPER LEFT HOUSING (PL27 094.4L) AS05 IS SIMPLY TO ADHERE THE ARM ENTANGLEMENT LABEL (LAB51) AS09 CENTERED ON THE *FRONT* AS PICTURED. MEASURE 2 1/4 INCHES UP FROM BREAK TO CENTER.
- 2) STORE UPPER LEFT HOUSING UNTIL NEEDED FOR ASSEMBLY OF MACHINE.



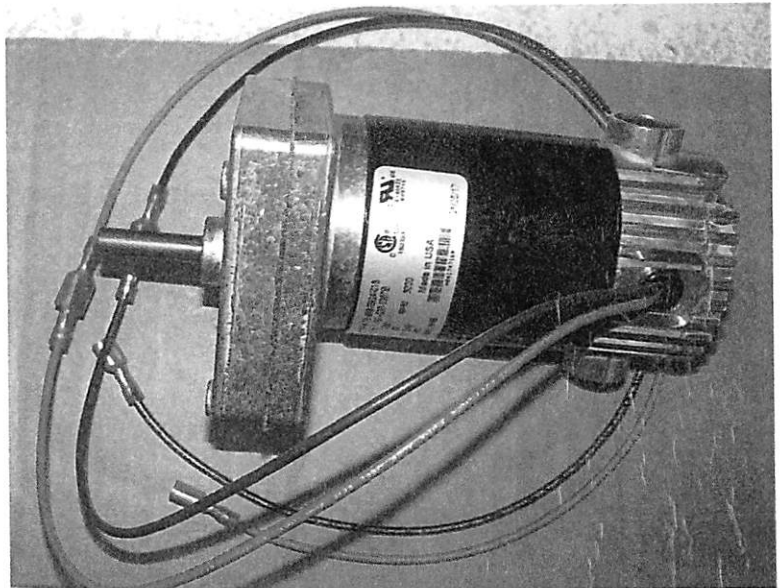
PLC 27 MOTOR ASSEMBLY 2017

- 1) REMOVE VARIABLE 90VDC SPEED MOTOR (PRM300) LD01 FROM SHELF. THE RED AND BLACK MOTOR WIRES MEASURE 12" LONG. CRIMP THE RED AND BLACK WIRES WITH A RED FULLY INSULATED FEMALE (PRT331).
- 2) CONNECT THE MOTOR SPROCKET (PRS2455.1B) RACK 7 TO THE FLAT OF MOTOR SHAFT SECURING WITH A 10-32 X 3/8 SET SCREW. TURN MOTOR SHAFT UNTIL FLAT SIDE ALIGNS WITH NIPPLE. REMOVE SPROCKET AND SET ASIDE.
- 3) CONNECT RED AND BLACK 18 GAUGE EXTENSION WIRES FROM PL27 HARNESS TO MOTOR WIRES: RED WIRE TO RED AND BLACK WIRE TO BLACK.
- 4) SET THIS ASSEMBLY ASIDE UNTIL

PRM300 MOTOR: FLAT OF MOTOR SHAFT
ALIGNS WITH NIPPLE BEFORE INSTALLATION

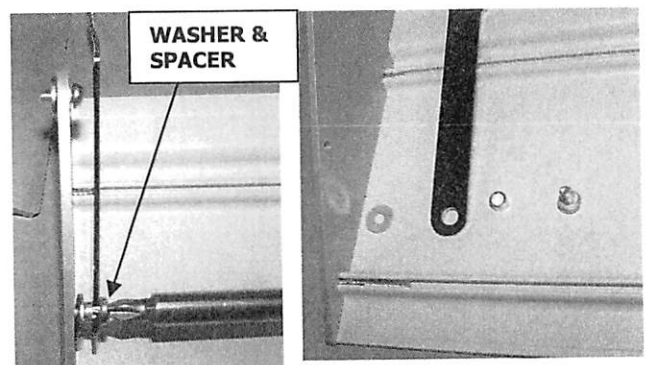
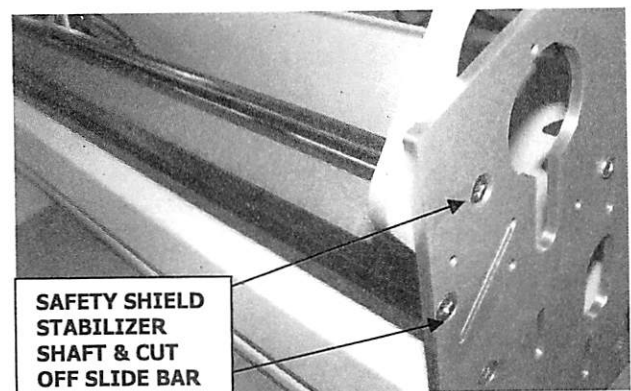
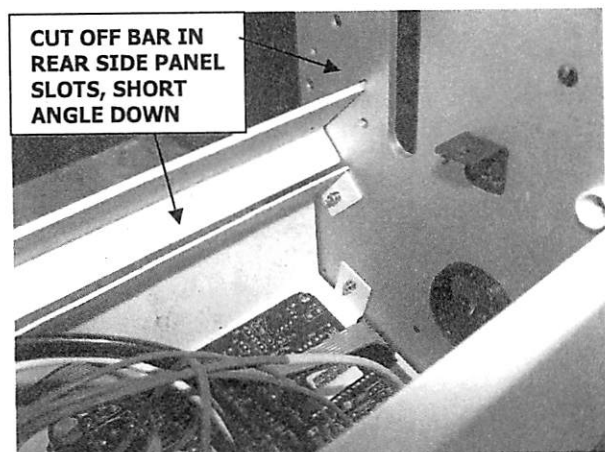
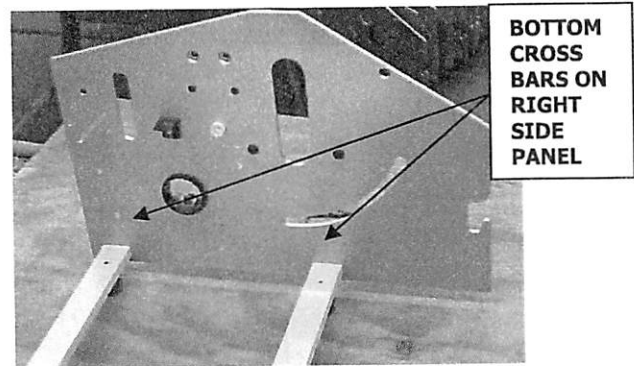


A DAYTON MOTOR WAS
USED UP TO SERIAL #498,
AFTER THAT NUMBER MOST
PL27 PROFESSORS USED A
GLEASON AVERY MOTOR.
IN 2017 MOTOR CHANGED
TO BISON ROBUSTICITY.



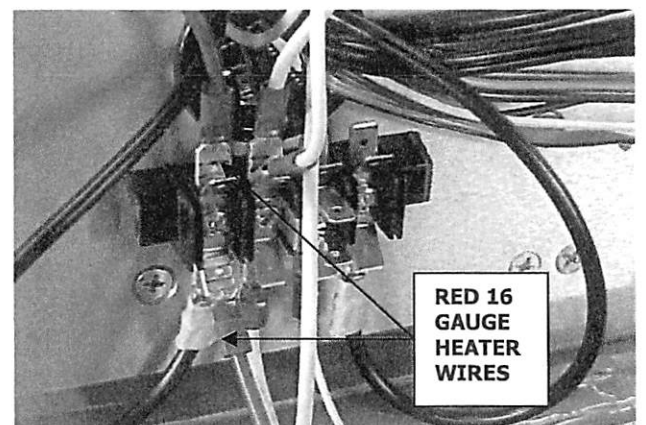
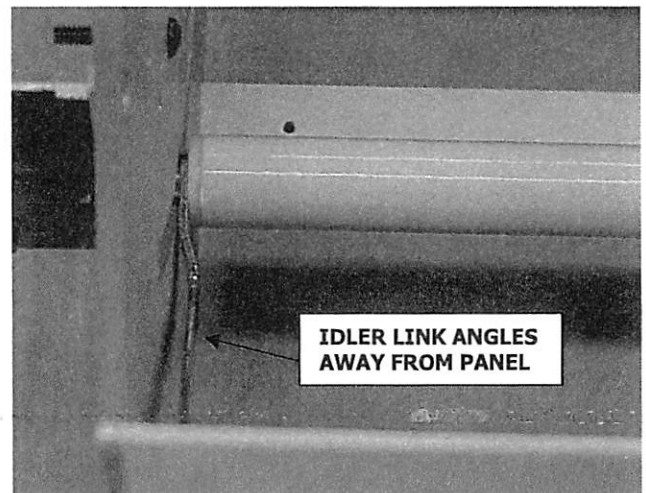
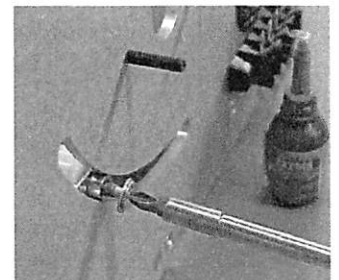
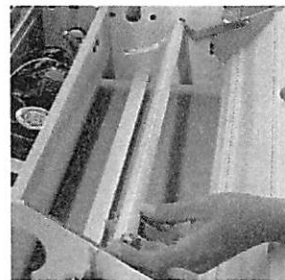
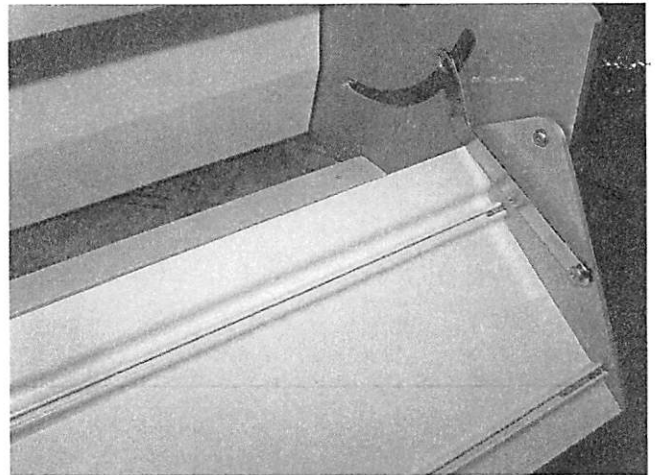
PLC CHASSIS ASSEMBLY

- 1) PLACE (2) BOTTOM CROSS BAR ASSEMBLIES PARALLEL ON WORKTABLE. ATTACH THE RIGHT SIDE PANEL ASSEMBLY TO THE CROSS BARS USING (4) 8-32 X 1/2 FH. ATTACH THE LEFT SIDE PANEL TO THE OTHER END OF THE CROSS BARS, BUT LEAVE THE (4) 8-32 X 1/2 FH SCREWS LOOSE.
- 2) SET THE BOTTOM MOTOR COVER ASSEMBLY BETWEEN SIDE PANELS WITH THE SENSOR FACING FRONT AND CONTROL BOARDS ON RIGHT. ATTACH TO RIGHT SIDE PANEL WITH (5) 10 X 1/2 FHUC SMS. START THE LEFT SIDE PANEL WITH THE SAME HARDWARE, BUT DO NOT TIGHTEN.
- 3) INSERT THE CUT OFF BAR (PL27 172.4) AS04 BETWEEN RIGHT AND LEFT REAR SIDE PANEL SLOTS ABOVE BOTTOM MOTOR COVER. THE SHORTER BREAK FACES DOWN AND INWARD.
- 4) SLIDE THE STABILIZER SHAFT (BC27 110.4) AS04 THROUGH BACK HOLES ON SAFETY SHIELD RIGHT AND LEFT TOP COVER SIDE PLATES. SET SAFETY SHIELD OVER BOTTOM MOTOR COVER AND SECURE STABILIZER SHAFT WITH (2) 10-32 X 1/2 FH TO UPPER BACK COUNTERSUNK SIDE PANELS.
- 5) SECURE THE SQUARE CUT OFF SLIDE BAR (BC27 173.4) AS04 TO THE RIGHT AND LEFT LOWER COUNTERSUNK HOLES ABOVE THE CUT OFF BAR, HOLDING TO KEEP IT STRAIGHT, WITH (2) 10-32 X 1/2 FH. NOW TIGHTEN THE SCREWS ON THE SIDE PANELS.
- 6) LAY THE FEEDTABLE ASSEMBLY FLAT IN FRONT OF CHASSIS. PLACE A SPACER (PRS100) RACK 7 ON THE THREADS OF (2) 8-32 X 3/8 PH AND INSERT FROM THE INSIDE INTO THE PEAK ON THE RIGHT AND LEFT FEEDTABLE BRACKETS. ADD A # 8 FLAT WASHER TO THE SCREW THREADS BETWEEN SPACER AND SIDE



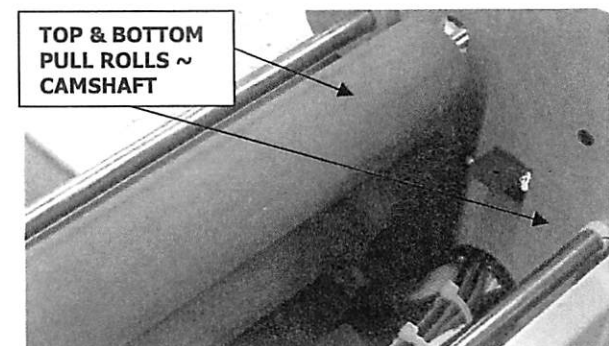
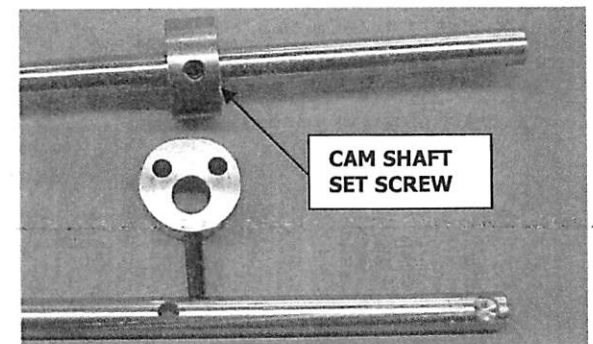
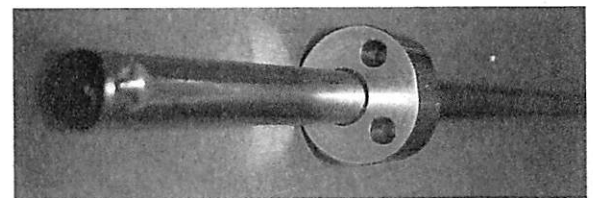
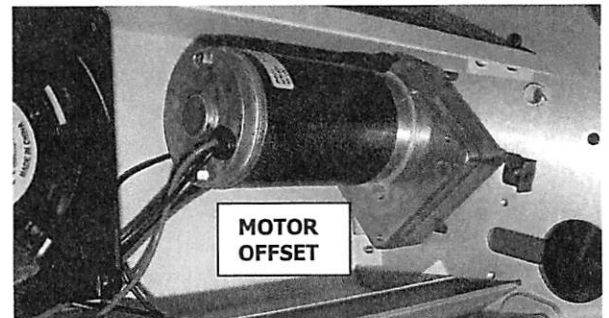
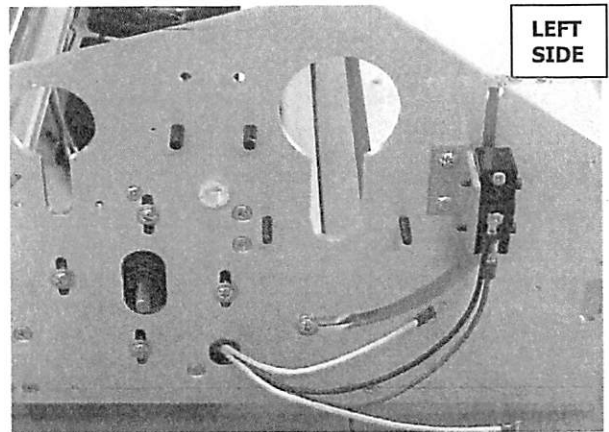
PANEL. ALIGN REMAINING THREADS WITH THE THREADED HOLE ABOVE THE FRONT SUPPLY ROLL NOTCH ON THE SIDE PANELS AND SECURE FEEDTABLE BETWEEN THE SIDE PANELS.

- 7) PLACE A SPACER (PRS100) RACK 7 ON EACH OF (2) 8-32 X 5/16 PHMS. INSERT SPACER INTO THE LONG END OF A RIGHT AND LEFT IDLER CONNECTING LINK (BC27 180.4R AND BC27 180.4L) RACK 7. *THE SHORTER END OF THE CONNECTING LINK BENDS OUTWARD ON BOTH.* THEN ADD A *THIN* #8 FLAT WASHER TO EACH THREAD. ATTACH THE IDLER CONNECTING LINKS TO INNER LOWER THREADS ON THE RIGHT AND LEFT FEEDTABLE BRACKETS, WASHER BY INNER FEEDTABLE BRACKET.
- 8) SNAP (2) WHITE IDLER BEARINGS (LC25 099.4) LD12 INTO ENDS OF LOWER IDLER TUBE (BC27 053.4) AS04. INSERT LOWER IDLER SHAFT (PL27 050.4) AS04 THROUGH BEARINGS AND TUBE. THE SHAFT WILL EXTEND PAST BEARINGS.
- 9) SLIDE IDLER CONNECTING LINKS ONTO ENDS OF LOWER IDLER SHAFT BEING CERTAIN LINKS ARE ANGLED TOWARD SIDE PANEL. FIT IDLER SHAFT INTO FLOATING IDLER SHAFT APERTURE IN SIDE PANELS AND CONNECT FROM OUTER SIDE PANEL USING (2) 10-32 X 3/8 TH WITH A #10 FLAT WASHER AND LOCTITE ON THREADS.
- 10) RUN WIRES FROM MOLEX THROUGH RIGHT SNAP BUSHING *EXCEPT* BLACK/WHITE STRIPED WIRE, WHICH RUNS TO LEFT SIDE. RUN HEAT BOARD WIRES THROUGH RIGHT SIDE PANEL: T4=WHITE, LOWER MIDDLE/FRONT 180, T6=BLACK, LOWER REAR 180, T7=BLACK, LOWER FRONT 180. CONNECT 12" RED HEATER WIRES ON TERMINAL BLOCK, FRONT UPPER 180 & LOWER 45. T3 DOES NOT CONNECT AT THIS TIME. BRING RIBBON WIRE THROUGH RIGHT SIDE BUSHING. RUN BOTH FAN WIRES THROUGH RIGHT BUSHING. TRIM LONGER FAN WIRE TO EQUIL SHORTER WIRE. RUN THE TWO LONGEST WHITE 16 GAUGE WIRES FROM HARNESS (FEMALE CONNECTORS ON



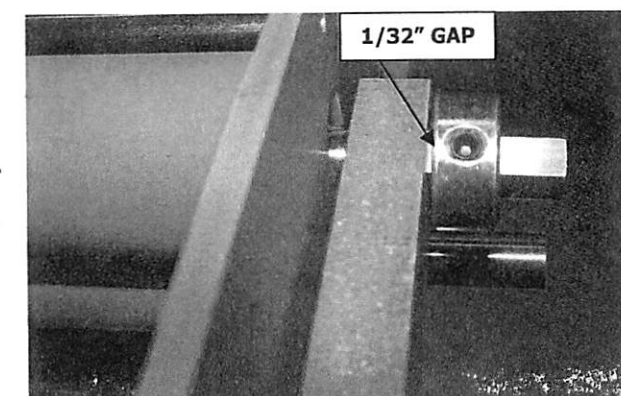
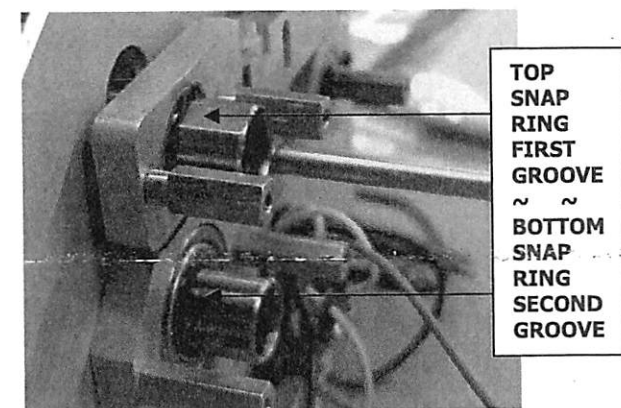
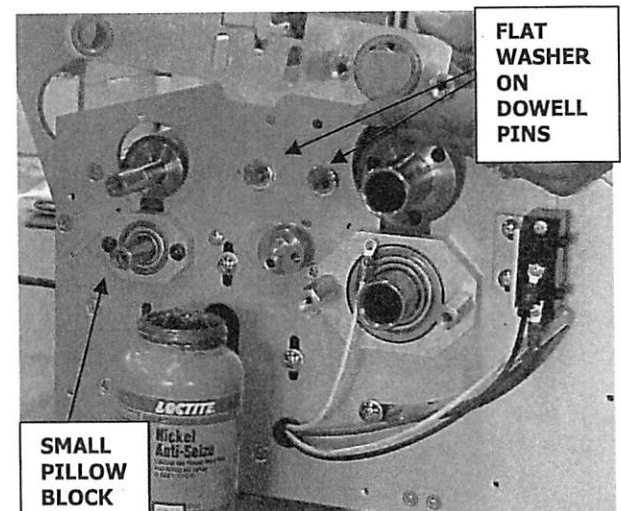
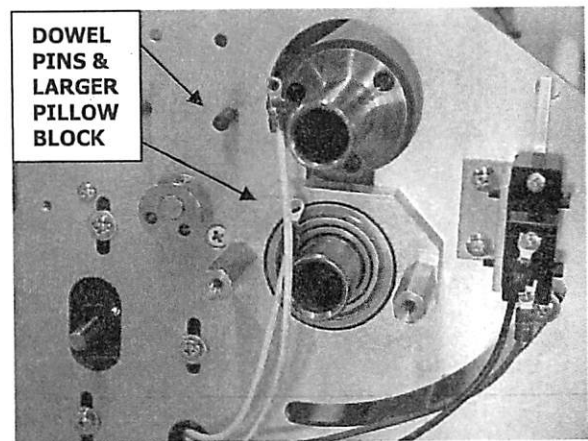
RIGHT AND RING CONNECTORS ON LEFT SIDE). CONNECT THE WHITE FEMALES TO MIDDLE/FRONT: TOP 180, BOTTOM 45. EXIT RED 18 GAUGE WIRE THROUGH BROWN BUSHINGS, FEMALE CONNECTOR ON RIGHT. LEAVE 4" OUTSIDE OF BUSHING WHICH LATER CONNECTS TO 3 AMP FUSE.

- 11) ON LEFT SIDE PANEL CONNECT RED 18 GAUGE WIRE WITH SPADE CONNECTOR TO BOTTOM SCREW ON MICROSWITCH. THE BLACK 18 GAUGE WIRE WITH SPADE CONNECTOR SPLICED WITH STRIPED WIRE FROM MOLEX CONNECTS TO MIDDLE SCREW ON MICROSWITCH.
- 12) WITH FLAT OF SHAFT ON MOTOR (PRM300) LD02 TOWARD NIPPLE ON MOTOR HOUSING AND RED AND BLACK WIRES ATTACHED, INSERT MOTOR UPWARD IN CHANNEL WITH NIPPLE TOWARD BACK OF MACHINE. CONNECT TO SIDE PANEL WITH (4) 10-32 X 1/2 PH AND (4) #10 FLAT WASHERS. TIGHTEN ONLY ONE SCREW, AS MOTOR POSITION WILL BE USED TO SNUG CHAIN LATER.
- 13) FACING FRONT OF MACHINE RUN MOTOR WIRES THROUGH RIGHT SIDE BUSHING. LEAVE ENOUGH LEFT SIDE WHITE 16 GAUGE WIRE TO CONNECT TO HEATERS. PLACE BRADY PRESS CLIP BETWEEN TOP OF FANS AND CABLE TIE WIRES.
- 14) START (2) 10-32 X 3/4 SS INTO (2) CAMS (PL27 131.4) RACK 7. SLIDE FIRST CAM ONTO CAMSHAFT (PL27 130.4) AS04 AND INSERT SET SCREW THROUGH DEEPER SET SHAFT HOLE, FROM SIDE OPPOSITE DEPRESSION FOR CAMSHAFT HANDLE. THIS PLACES THE (2) CAM HOLES ON SIDE WITH HANDLE DEPRESSION. SLIDE 3/8 X 3/4 X 1/8 OILITE THRUST WASHER (PRB206) RACK 7 DOWN LONGER END OF CAM SHAFT.
- 15) INSERT CAMSHAFT WITH THRUST WASHER INTO WHITE NYLINER ON RIGHT SIDE, EXIT OPPOSITE WHITE NYLINER. ADD A REGULAR 3/8 FLAT WASHER ON LEFT SIDE CAMSHAFT OR IF THAT IS TOO SLOPPY ADD ANOTHER 3/8

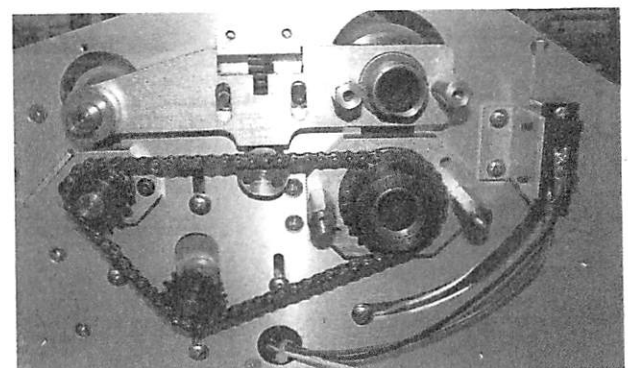
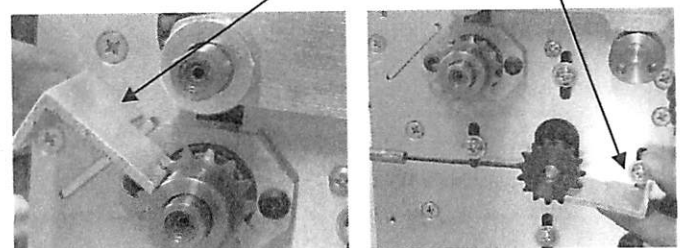
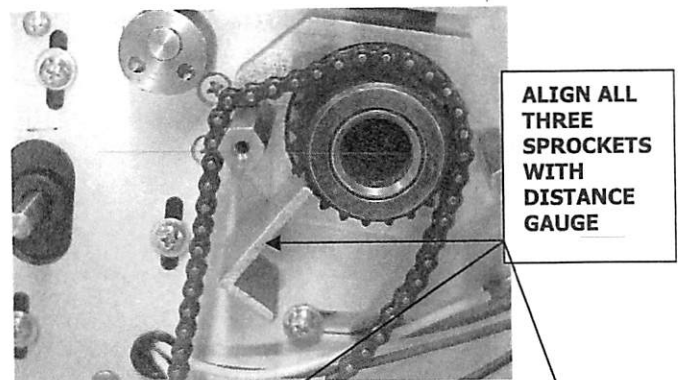
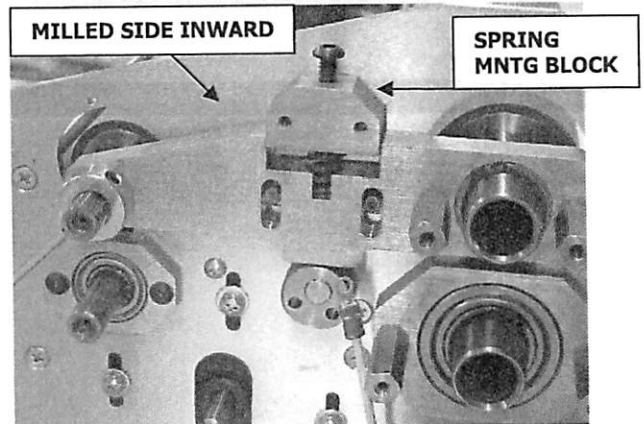
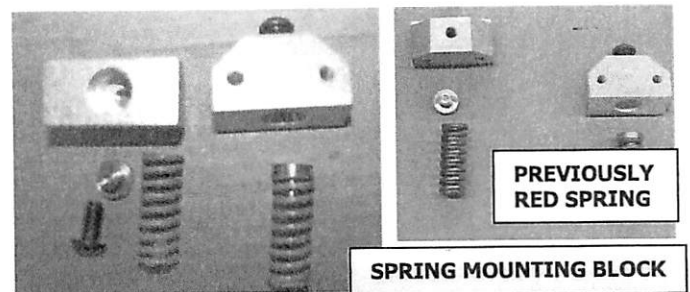


OILITE THRUST WASHER. SECURE SET SCREW ON CAM. **BE CERTAIN BOTH SET SCREWS FACE UPWARD ON CAMSHAFT AND FLATS ARE ON SAME SIDE.**

- 16) INSERT (2) PULL ROLLS (PL27 041.5) AS04 INTO SIDE PANELS ON BACK OF MACHINE.
- 17) INSERT (2) HOT ROLLS (PL27 040.5) AS04 INTO FRONT OF MACHINE.
- 18) SLIDE LARGER PILLOW BLOCK ASSEMBLIES OVER BOTTOM HOT ROLL JOURNALS AND EXPOSED THREADS. SECURE PILLOW BLOCKS WITH (4) BOTTOM STANDOFFS (PL27 047.4B) RACK 7. WRENCH TIGHTEN STANDOFFS.
- 19) THE (2) SMALL PILLOW BLOCK ASSEMBLIES SLIDE OVER BOTTOM PULL ROLL JOURNALS. ***FLUSH SIDE OF THE BALL BEARING IS OUTBOARD.*** SECURE SMALL PILLOW BLOCKS AND JOURNALS TO SIDE PANEL WITH (4) 10-24 X 5/8 BSHS.
- 20) SLIDE A 1/4 X 5/8 X 1/8 FLAT WASHER OVER ALL (4) DOWEL PINS ON OUTER SIDE PANELS, ABOVE CAM SHAFT. BRUSH LOCTITE ANTI-SEIZE ON BOTH CAMS, (4) DOWEL PINS AND THE VERTICAL SIDES OF BOTH SUSPENSION BARS.
- 21) ***WITH CAM SET SCREW UPWARD, SLIDE SUSPENSION BARS OVER TOP HOT ROLL AND PULL ROLL JOURNALS. ADD (2) RETAINING RINGS (PRR191) LD05 INTO GROOVE ON JOURNALS OF BOTTOM PULL ROLL.***
- 22) ATTACH (4) 1" EXTERNAL SNAP RINGS (PRR195) RACK 19 INTO HOT ROLL JOURNALS. *****ON THE BOTTOM HOT ROLL JOURNALS THE SNAP RINGS GO ON THE INNERMOST GROOVE. ON THE TOP HOT ROLL JOURNALS THE SNAP RINGS GO ON THE OUTERMOST GROOVE.***
- 23) ALIGN RUBBER ON TOP AND BOTTOM PULL ROLLS. SECURE TOP PULL ROLL JOURNALS WITH (2) 1/2" SHAFT COLLARS (PRC096) AS09. LEAVE A 1/32" GAP BETWEEN OILITE BEARING IN SUSPENSION BAR & 1/2" SHAFT COLLAR. TIGHTENED ON FLAT OF JOURNAL.

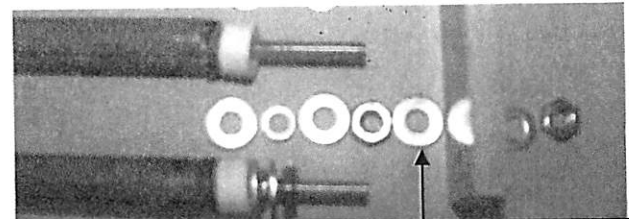
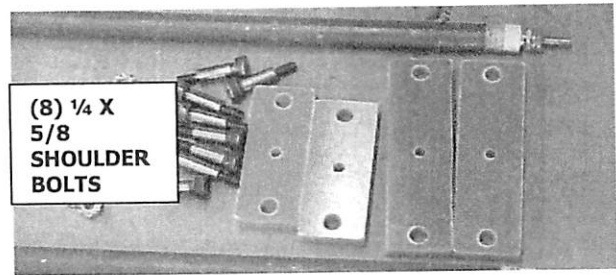


- 24) FROM RACK 7 CHECK THREADS ON SPRING MOUNTING BLOCK (PL27 045.4) BY RUNNING A $\frac{1}{4}$ -20 X $\frac{1}{2}$ BSH THROUGH THREADS, BACK OFF AGAIN. SET SPRING RETAINER (PL27 046.4) INTO END OF DIE SPRING (PRS062) AND FLAT END OF SPRING RETAINER INTO APERTURE ON SPRING MOUNTING BLOCK. INSERT DIE SPRING INTO SUSPENSION BAR WITH MILLED SIDE OF MOUNTING BLOCK INWARD BY SIDE PANEL TO ACCOMMODATE HOUSING. PUSH MOUNTING BLOCK DOWN, ALIGN WITH PANEL THREADS, SECURE WITH 10-32 X $\frac{3}{4}$ FHMS FROM INNER PANEL.
- 25) SET SPRING PRESSURE BY THREADING THE $\frac{1}{4}$ -20 X $\frac{1}{2}$ BSH UNTIL IT TOUCHES SPRING RETAINER, THEN TIGHTENING THREE HALF TURNS. TENSION CAN BE ADJUSTED AFTER DWELL LINE TEST.
- 26) ON LEFT SIDE PLACE A 1" BORE 25B23 SPROCKET (PRS326) RACK 7 ON BOTTOM HOT ROLL JOURNAL WITH HUB OUT, TEETH IN. SET DISTANCE WITH GAUGE AND TIGHTEN SPROCKET ON FLAT OF JOURNAL USING 10-32 X $\frac{3}{8}$ SET SCREW.
- 27) PLACE $\frac{1}{2}$ " BORE 25B15 SPROCKET (PRS2455) LD13 ON BOTTOM PULL ROLL JOURNAL WITH HUB OUT, TEETH IN AND SET WITH DISTANCE GAUGE. TIGHTEN SET SCREW ON JOURNAL FLAT.
- 28) PLACE $\frac{5}{16}$ " BORE 25B15 SPROCKET (PRS2455.1B) RACK 7 ON MOTOR SHAFT WITH HUB IN, TEETH OUT **THIS IS OPPOSITE DIRECTION OF OTHER TWO SPROCKETS. GAUGE AND TIGHTEN WITH 10-32 X $\frac{3}{8}$ SET SCREW ON FLAT OF SHAFT. THE GAUGE MEASURES APPROXIMATELY $\frac{7}{8}$ " FROM SIDE PANEL.
- 29) SET PL LAM DRIVE CHAIN (PRC083C) RACK 7 ON TEETH OF SPROCKETS, HOT ROLL FIRST, AS CHAIN GOES BETWEEN TEETH AND BOTTOM STAND OFF. TIGHTEN CHAIN BY ADJUSTING MOTOR POSITION DOWNWARD AND SECURING THE FOUR MOTOR SCREWS.
- 30) REVISED MAY 2014: REMOVE NUTS AND WASHERS ON BOTH ENDS OF (2) 27"

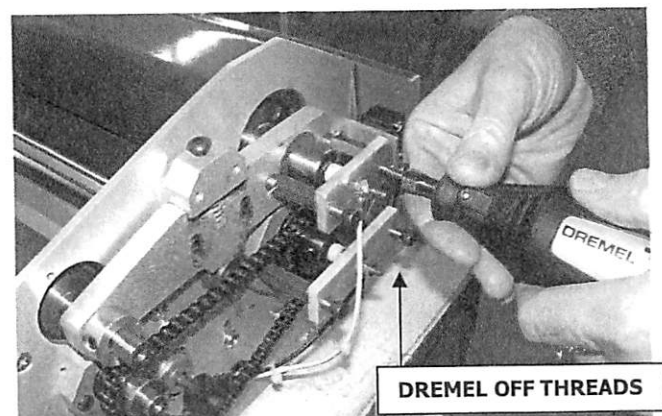
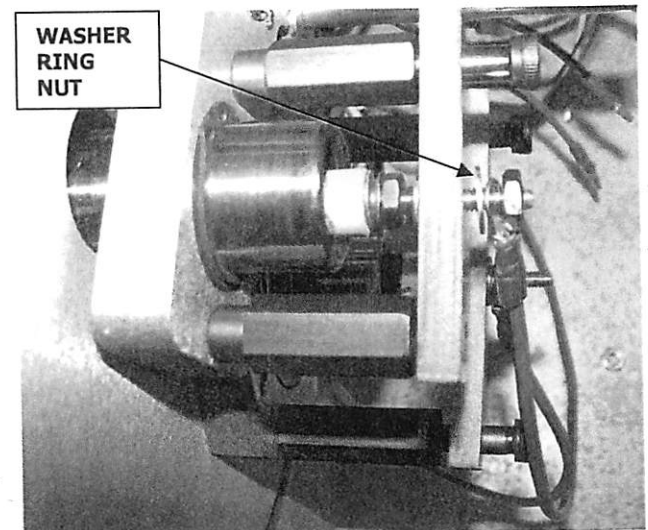
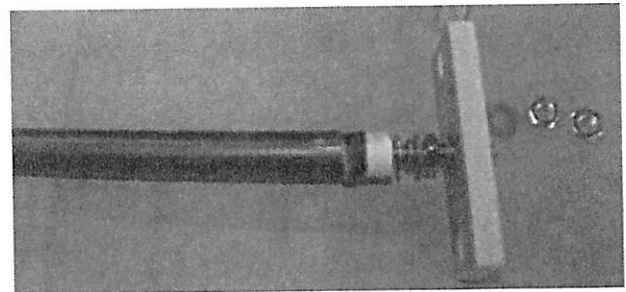


CALROD HEATERS (PRH200) AS05.
REPLACE AS FOLLOWS: PLACE A FLAT WASHER BY CERAMIC, A SPLIT LOCK WASHER, ANOTHER FLAT WASHER, THEN TIGHTEN WITH HEX NUT. SLIDE HEATERS THROUGH TOP AND BOTTOM HOT ROLL JOURNALS.

- 31) ADD A FLAT WASHER ON THREADS. SLIDE A BOTTOM INSULATOR PLATE (PL27 049.4) RACK 7 OVER BOTH ENDS OF CALROD HEATER IN BOTTOM ROLL. SECURE INSULATOR PLATE TO STANDOFFS WITH (4) $\frac{1}{4}$ X $\frac{5}{8}$ SHOULDER BOLTS (.250IAC10). ON OUTER INSULATOR PLATE PLACE A *FLAT WASHER*, HEATER WIRE RING. TIGHTEN WITH NUT. **THERE SHOULD BE A FLAT WASHER ON BOTH SIDES OF THE INSULATION PLATE.
- 32) USE THE SAME PROCEDURE AND HARDWARE FOR THE TOP INSULATOR PLATES (PL27 048.4) RACK 7 OVER THE ENDS OF CALROD HEATER IN TOP HOT ROLL. SECURE TOP INSULATOR PLATE TO STANDOFFS WITH (4) $\frac{1}{4}$ X $\frac{5}{8}$ SHOULDER BOLTS.
- 33) ON LEFT, SECURE THE LONGER WHITE 16 GAUGE WIRE RING ONTO THE TOP HEATER THREADS AND THE SHORTER WHITE 16 GAUGE WIRE RING SLIDES ONTO THE BOTTOM HEATER THREADS, USING (2) OUTER HEX NUTS HEX NUTS ON ALL OUTER INSULATION PLATES.
- 34) THE CALROD HEATERS WILL EXPAND WHEN REACHING LAMINATING TEMPERATURE. EXPANSION CAN CAUSE HEATER ENDS TO SHORT ON HOUSING COVERS. THEREFORE, AFTER WIRES AND BOTH HEX NUTS ARE ON OUTER PLATES, TRIM EXCESS HEATER THREADS WITH A DREMEL TOOL LOFT 2. THEN, LIBERALLY COVER THE THREAD ENDS WITH RED RTV HIGH TEMP GASKET SEALANT CAB 1.
- 35) ON THE RIGHT SIDE HEATERS REPEAT WIRING PROCEDURE USING THE RED 16 GAUGE WIRES ATTACHED TO TERMINAL BLOCK. **CONNECT THE RED WIRE ON UPPER TERMINAL BLOCK

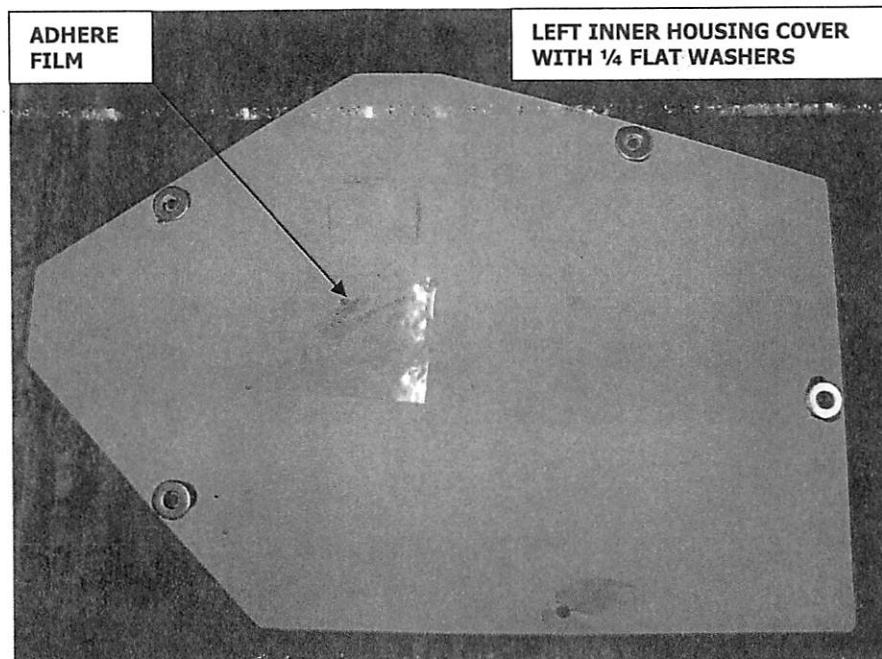
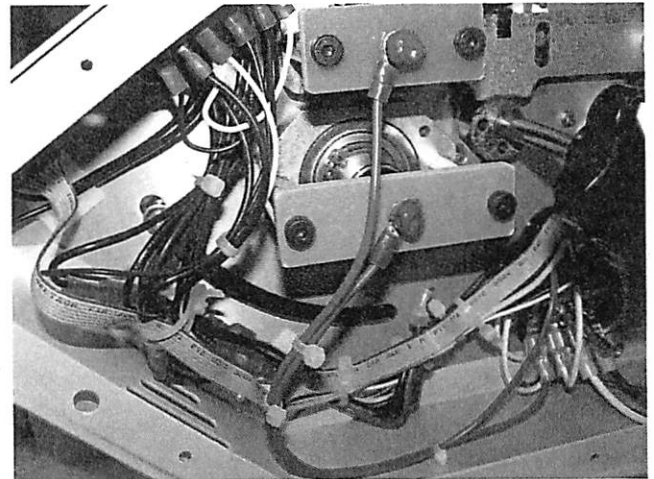
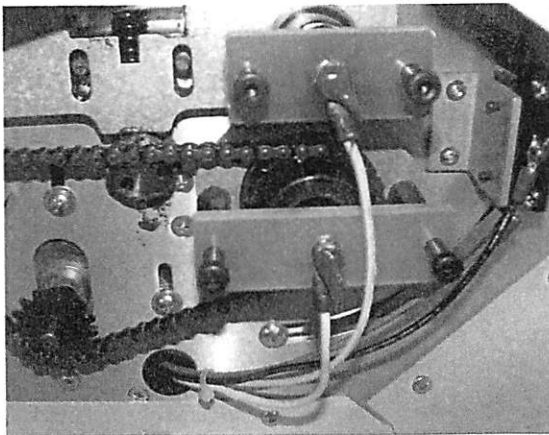
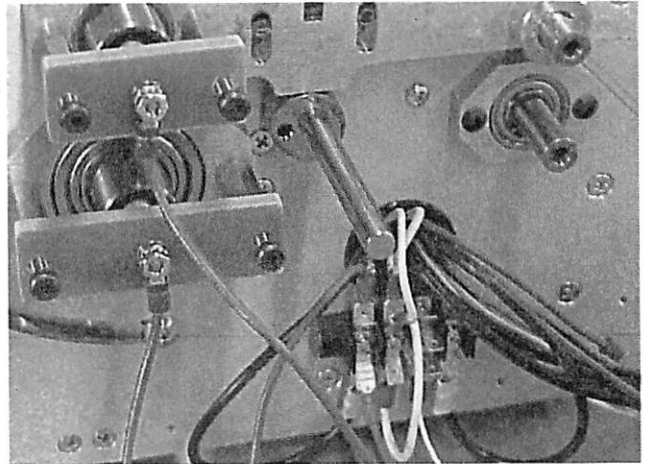


WASHERS/LOCK/WASHER/NUT/WASHER/PLATE/ WASHER

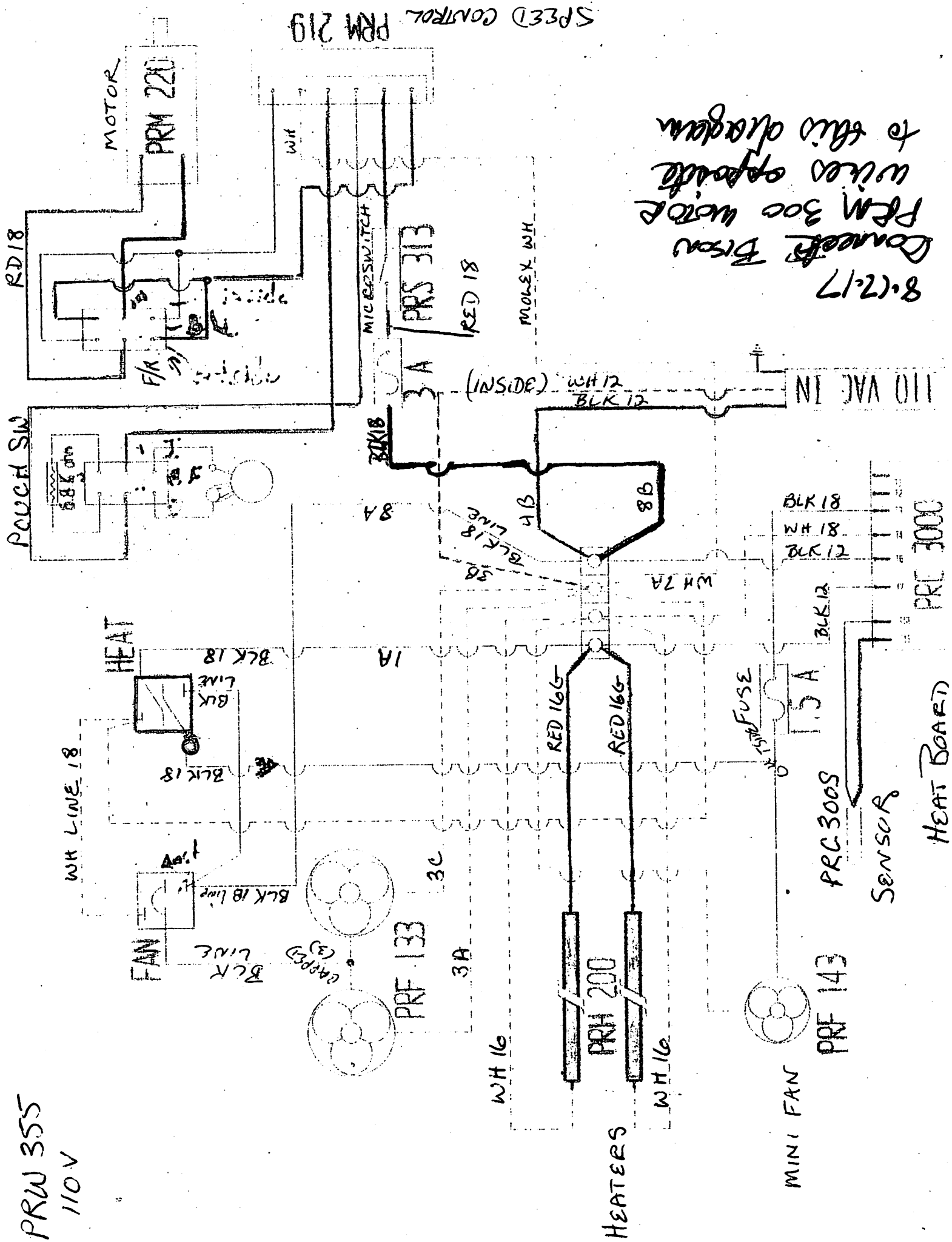


POST TO THE BOTTOM HOT ROLL HEATER. CONNECT THE RED WIRE ON THE LOWER TERMINAL POST CONNECTS TO TOP HOT ROLL HEATER.

- 36) TO EXTEND THE HOUSING COVERS FURTHER AWAY FROM THE HEATER ENDS, ADD A $\frac{1}{4}$ FLAT WASHER TO EACH OF THE (5) OPENINGS ON THE INNER COVER. SECURE THE $\frac{1}{4}$ FLAT WASHERS WITH PERMANENT BLACK LOCTITE. ALLOW TO DRY BEFORE MOVING HOUSING COVERS.
- 37) ADHERE A SQUARE OF LAMINATE FILM ON INNER HOUSING COVERS, LOCATED WHERE HEATER END MIGHT TOUCH: MEASURE $4\frac{1}{2}$ " DOWN AND 6" FROM THE FRONT.



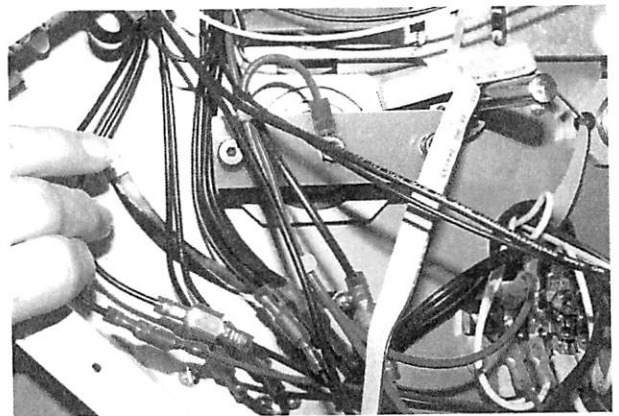
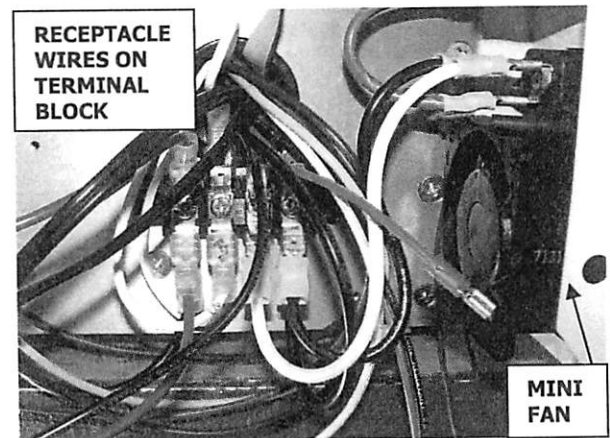
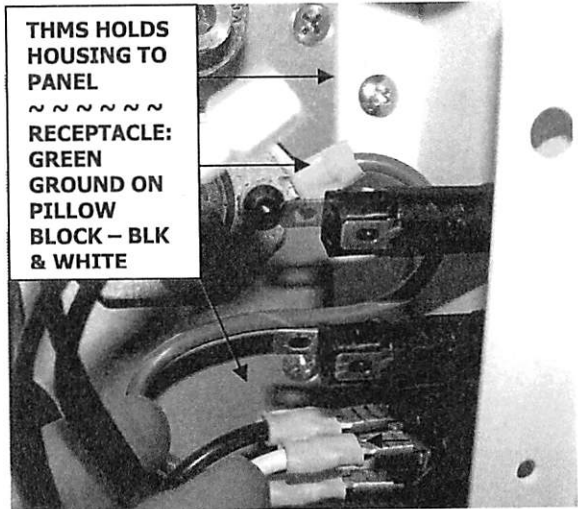
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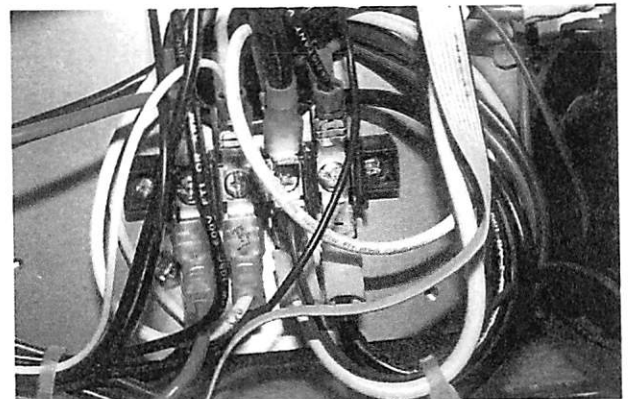
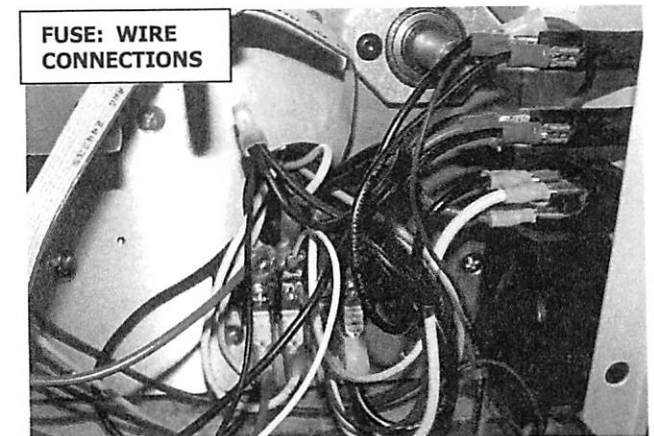
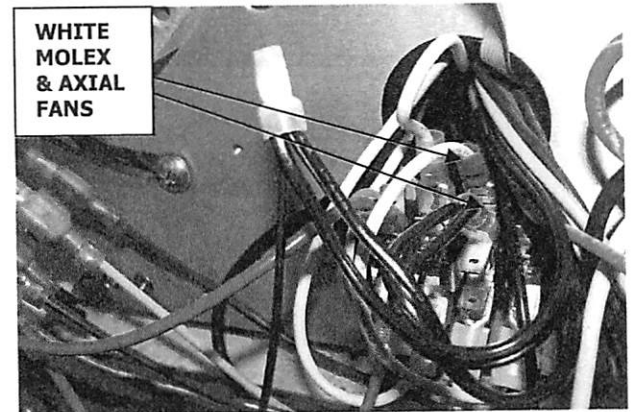
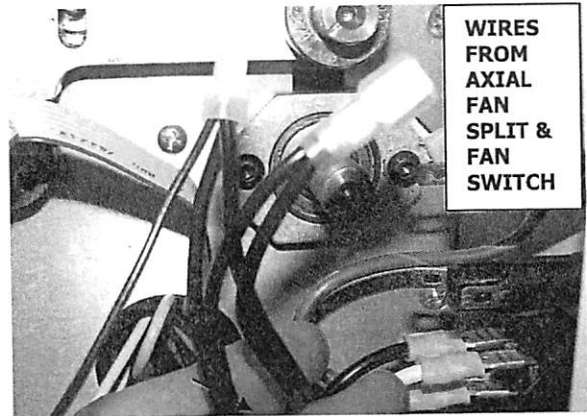
PLC 27

HOUSINGS & WIRE COMPLETION 2015

- 1) FIT LIP OF RIGHT HOUSING ASSEMBLY OVER SIDE PANEL. BE CAREFUL NOT TO PINCH ANY WIRES. SECURE HOUSING TO SIDE PANEL USING EXTENDED SCREWDRIVER AND (5) 8-32 X 1/4 THMS.
- 2) THE TWO FRONT & REAR *OUTER* TERMINAL BLOCK BANKS ARE FOR RED & BLACK *POSITIVE* WIRES, THE TWO *INNER* TERMINAL BANKS ARE FOR WHITE NEUTRAL WIRES AND SMALL FAN WIRE.
- 3) REMOVE REAR BSHS SCREW ON RIGHT SIDE PULL ROLL PILLOW BLOCK. PLACE POWER GROUND WIRE RING ON SCREW, ADD #10 STAR WASHER. REATTACH TO PILLOW BLOCK. ADD GROUND LABEL.
- 4) ATTACH 12 GAUGE WHITE AND BLACK RECEPTACLE WIRES TO TERMINAL BLOCK. BLACK WIRE TO LOWER, REAR 45 POST AND WHITE WIRE TO LOWER, MIDDLE/REAR 45 POST. *THE INTERNAL WIRES LAY RIGHT OF BLOCK.*
- 5) FROM AS09 ATTACH 115VAC MINI FAN (PRF143) WITH PRINTING/AIRFLOW OUTWARD, WIRES UPWARD. SNUG (4) 10 X 1/2 PHSMS THROUGH WIRE FAN GRILL (PRF144) WITH FAN GRILL WIRE POINTS FACING INWARD FROM SIDES.
- 6) ATTACH MOLEX WIRES TO FORWARD/REVERSE & POUCH SWITCHES PER WIRING DIAGRAM. SPECIFICALLY: BLUE WIRE TO PAIR ON INNER, UPPER/BACK OF FORWARD/REVERSE SWITCH AND YELLOW WIRE TO INNER LOWER/FRONT PAIR. CONNECT BROWN WIRE TO INNER POUCH SWITCH WIRE AND GRAY WIRE TO OUTER POUCH SWITCH WIRE. WHITE MOLEX WIRE CONNECTS TO UPPER MIDDLE/REAR 180 TERMINAL BLOCK POST.

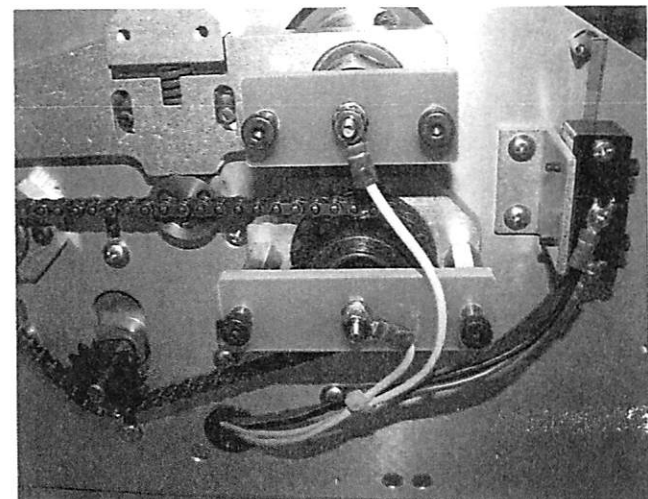
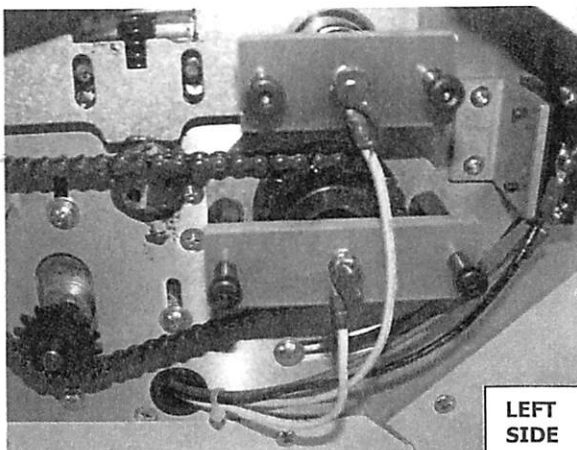
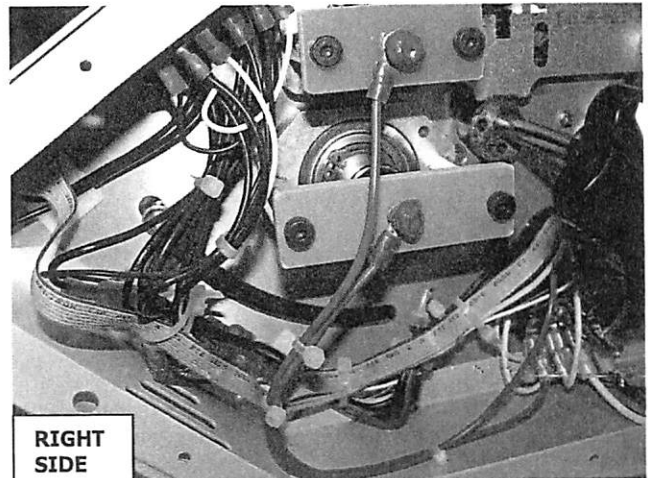
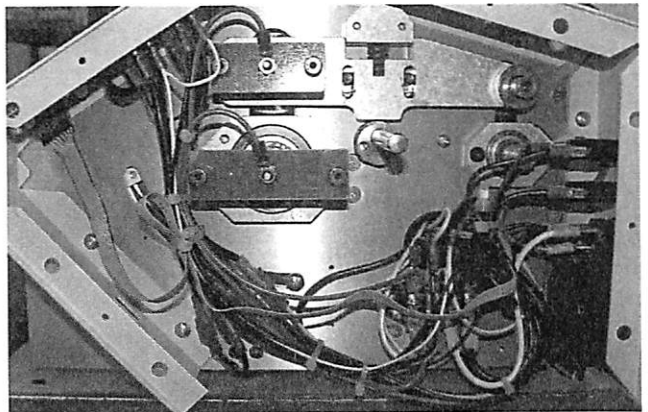
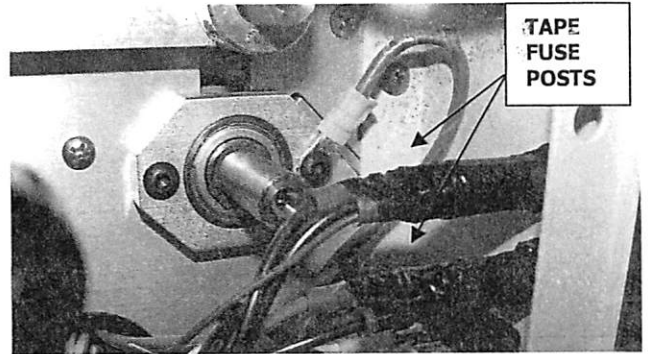


- 7) ****PRM300 MOTOR: THE RED MOTOR WIRE CONNECTS TO INNER MIDDLE FORWARD/REVERSE SWITCH WIRE AND BLACK MOTOR WIRE TO OUTER MIDDLE FORWARD/REVERSE SWITCH WIRE.**
- 8) **WITH A SHARP KNIFE SEPARATE THE (2) WIRE LINES ON *EACH* OF THE AXIAL FAN WIRES, ABOUT AN INCH. STRIP EACH OF THE (4) ENDS. COMBINE ONE WIRE LINE FROM EACH FAN AND ADD IT TO THE BLACK OPEN ENDED THIN WIRE FROM THE FAN SWITCH. TWIST THESE (3) ENDS TOGETHER AND CRIMP ON A CLOSE CAP (PRT290). TWIST TOGETHER THE REMAINING FAN LINE WIRES FROM EACH FAN AND CRIMP ON A BLUE FI FEMALE CONNECTOR. SECURE THE COMBINED AXIAL FAN WIRES ON THE FEMALE TO THE NEUTRAL UPPER, MIDDLE/REAR 45 DEGREE TERMINAL POST.**
- 9) **PLACE THE MINI FAN WIRES TOWARD THE SIDE PANEL AND CABLE TIE THEM TO THE LOWER INNER FAN OPENING. CRIMP A (PRT302) FEMALE ONTO THE END OF ONE OF THESE WIRES AND SECURE THAT WIRE TO THE LOWER MIDDLE/REAR 90 DEGREE TERMINAL BLOCK POST. CABLE TIE ONLY THIS MINI FAN WIRE TO THE OUTER LOWER MINI FAN OPENING.**
- 10) **THE REMAINING MINI FAN WIRE IS DOUBLED WITH AN OPEN ENDED BLACK 18 GAUGE WIRE FROM THE HEAT SWITCH. TWIST THESE (2) WIRES TOGETHER, CRIMP WITH A SMALL RED FEMALE (PRT2911). CONNECT TO INNER 1.5 AMP FUSE POST.**
- 11) **CONNECT HEAT BOARD T3 BLACK WIRE TO THE OUTER 1.5 AMP FUSE POST.**
- 12) **CONNECT THE RED WIRE FROM LEFT SIDE MICROSWITCH TO INNER POST ON 3 AMP FUSE. CONNECT 4" BLACK WIRE FROM HARNESS BETWEEN THE OUTER 3 AMP FUSE POST AND UPPER REAR 180 DEGREE TERMINAL BLOCK POST.**
- 13) **CONNECT THE THIN BLACK 18 GAUGE WIRE WHICH HAS A FEMALE CONNECTOR**



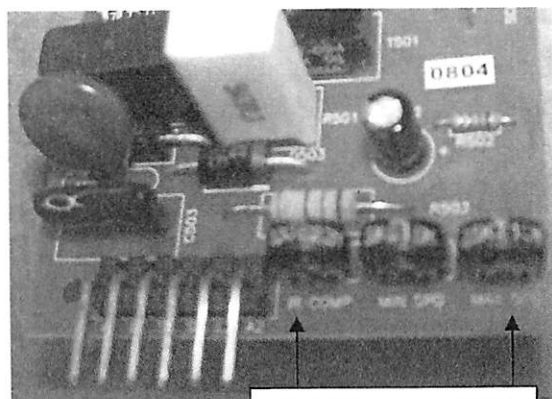
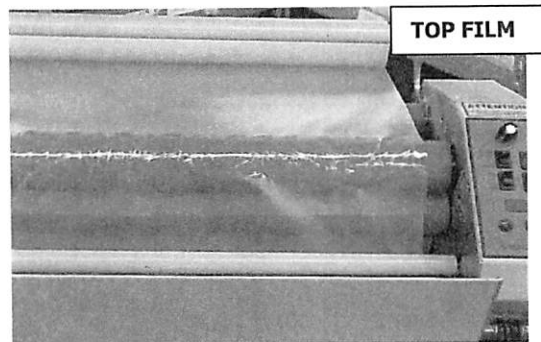
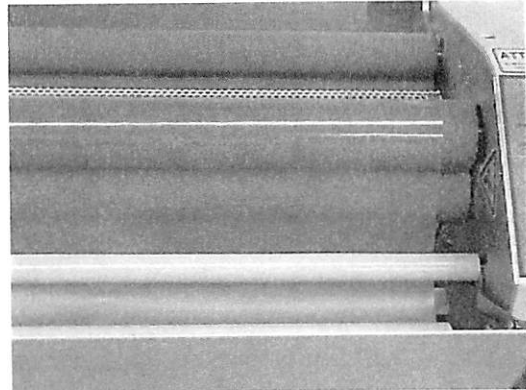
ON IT, FROM DIAGONAL POSTS ON FAN AND HEAT SWITCH TO UPPER REAR 45 DEGREE TERMINAL BLOCK POST.

- 14) CONNECT OUTER HEAT SWITCH 18 GAUGE BLACK WIRE TO FRONT, UPPER 45 DEGREE TERMINAL BLOCK POST.
- 15) FROM THE THIN WHITE 18 GAUGE WIRE JUMPER ON THE FAN AND HEAT SWITCH CONTINUE TO UPPER FRONT/MIDDLE 45 DEGREE TERMINAL BLOCK POST.
- 16) CONNECT THE GRAY RIBBON WIRE BETWEEN HEAT AND SLAVE BOARDS.
- 17) AFTER WIRING IS COMPLETED, FUSE HOLDER CONNECTIONS ARE WRAPPED WITH ELECTRICAL TAPE FOR SUPPORT. CABLE TIE WIRES.
- 18) PLUG IN PLC 27 USING REMOVEABLE CORD (PRC118) LD05. CLOSE SAFETY SHIELD AND TURN ON MACHINE. TEST FUNCTION OF SWITCHES AND ROLL DIRECTION. SET HEAT AT 220 DEGREES. CHECK FUNCTION OF LIGHTS AND FANS.
- 19) ADD A THIN COAT OF LUBRICANT OIL ON CHAIN AS IT TURNS. CABLE TIE WIRES ON LEFT SIDE.
- 20) FIT LIP OF LEFT HOUSING ASSEMBLY OVER LEFT SIDE PANEL. SECURE TO SIDE PANEL USING EXTENDED SCREWDRIVER AND (5) 8-32 X 1/4 THMS.
- 21) FIT AND HOLD LIP OF LOWER HOUSINGS (BC27 095.4B) AS05 ON RIGHT AND LEFT SIDE PANELS AND SECURE LOWER HOUSINGS WITH (4) 8-32 X 1/4 THMS.



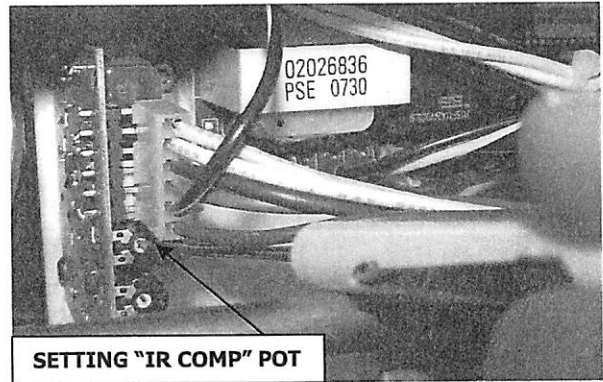
PLC 27 TESTING- MAY 2015

- 1) LOAD FILM ON SUPPLY ROLLS ALIGNED WITH SHINY SIDE BY RUBBER ROLL. SET SUPPLY ROLLS INTO NOTCHES WITH HANDLES ON RIGHT SIDE.
- 2) WHEN MACHINE REACHES LAMINATING TEMPERATURE OF 220F DEGREES, LIFT SAFETY SHIELD AND OPEN FEEDTABLE. WITH ALL SWITCHES "OFF," LOAD FILM. BOTTOM FILM GOES UNDER LOWER IDLER AND LAYS ON HOT ROLL. TOP FILM GOES UNDER TOP IDLER AND LAYS ON BOTTOM FILM. CLOSE FEEDTABLE AND LOCK SAFETY SHIELD.
- 3) THREAD FILM USING FEED BOARD (XS100) LD01. CHECK DWELL LINE. IF UNEQUAL AT EDGES OF FILM, INCREASE PRESSURE ON LESSER DWELL SIDE SPRING, ONE HALF TURN. RETEST DWELL. LAMINATE JOB ORDER. FANS ARE USED ON 5-10 MIL FILM.
- 4) RESET TEMPERATURE TO 300F DEGREES AND PREPARE A 9 X 12 MOUNTING BOARD LOFT 4 TO TEST POUCH LAMINATION. WHILE MACHINE IS HEATING, PREPARE FINAL TEST AND INSPECTION CHECK LIST ALONG WITH LEDCO TEST LAMINATION SHEET.
- 5) AFTER REACHING 300 DEGREES, RAISE ROLLS WITH CAMSHAFT HANDLE. SET SWITCH TO "POUCH" MODE.
- 6) SET THE FRONT BOTTOM RUBBER ROLL SPEED TO ONE REVOLUTION PER 27 SECONDS. FIRST, ADJUST "IR COMP" POT ON SPEED BOARD BY TURNING IT FULL CLOCKWISE (RIGHT), THEN COUNTERCLOCKWISE 1/4 TURN (LEFT). TIME ROLL REVOLUTION AND ADD/RIGHT OR MINUS/LEFT IN "MAX" POT. **SLOWER IS BETTER THAN FAST.
- 7) WITH ROLL POSITION "UP", SWITCHES IN "FORWARD" & "POUCH," POUCH LAMINATE LEDCO TEST LAMINATION SHEET. THIS GOES TO CUSTOMER.



IR COMP -----MAX

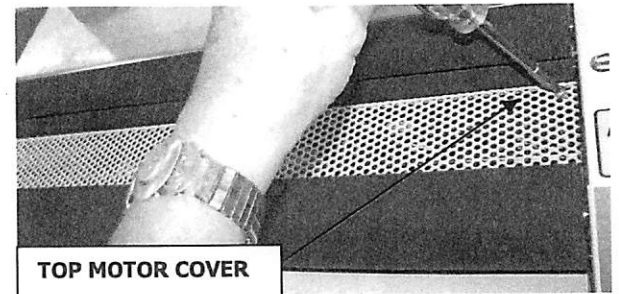
- 8) RESET HEAT TO 220 DEGREES. TURN OFF HEAT, CLEAN RUBBER ROLLS. UNPLUG.
- 9) INSERT A 1/2" HOLE PLUG (PRC090) RACK 21 INTO TOP OPENINGS OF RIGHT AND LEFT HOUSINGS OVER SPRINGS.
- 10) SECURE PERFORATED TOP MOTOR COVER (BC27 092.4) AS04 OVER BOTTOM HOUSING ONTO TINNEMAN BRACKETS, WITH 90 DEGREE BEND TO THE REAR, CURVED SIDE FORWARD, UNDER BOTTOM COVER. USE (2) 8 X 1/2 SMS.
- 11) TEST ON HI POT.
- 12) CENTER AND ADHERE SERIAL TAG WITH JOB TO UNDERSIDE OF FEEDTABLE.
- 13) PLACE (2) SUPPLY ROLLS IN BRACKETS.
- 14) CREATE A SPARE FUSE KIT: (1) EACH 1.5 AMP AND 3 AMP FUSE (PRF128 AND PRF127) AS09 INDIVIDUALLY BAGGED AND LABELED. INSERT BAGGED FUSES IN LARGER BAG AND SPARE FUSE LABEL (LAB126) AS08. CABLE TIE SPARE FUSE KIT ONTO A REMOVEABLE CORD (PRC118) LD05.
- 15) SNAP THE ORANGE 'OPERATOR SAFETY PRECAUTIONS' (LIT011) AS02 ONTO THE FRONT CROSS BAR.
- 16) INCLUDE A WARRANTY CARD, FEED BOARD AND A PRELIMINARY EVALUATION SHEET.



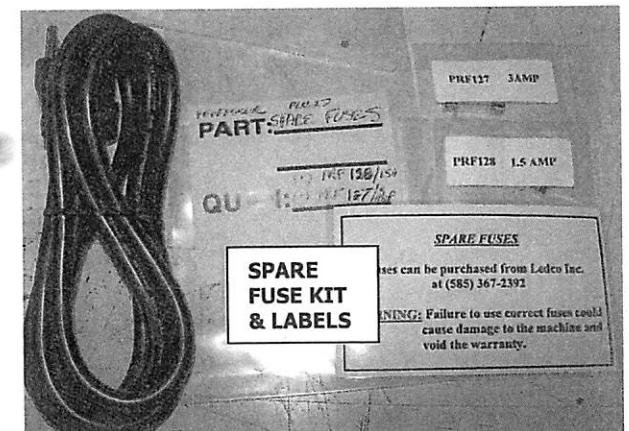
SETTING "IR COMP" POT



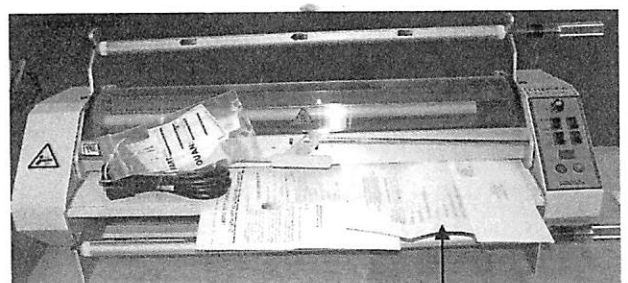
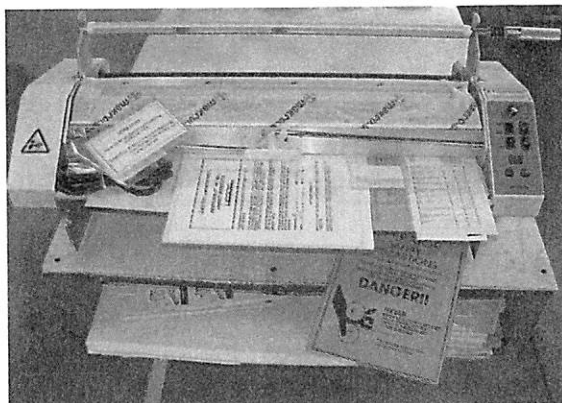
SERIAL TAG ON FEEDTABLE



TOP MOTOR COVER



SPARE FUSE KIT & LABELS

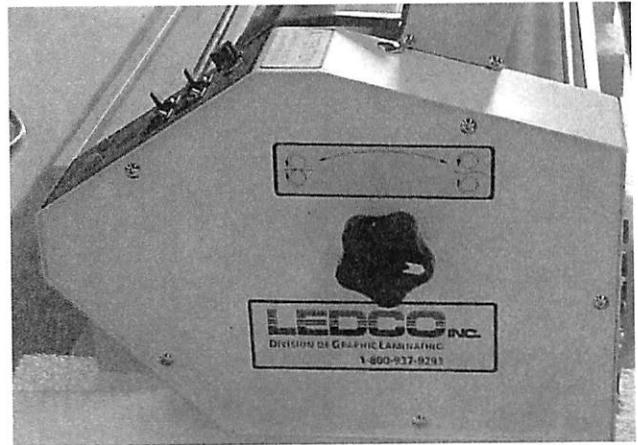
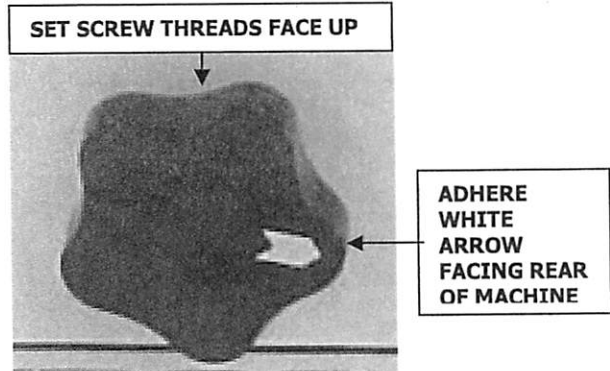


PRELIMINARY EVALUATION SCORE SHEET

PLC 27

RIGHT AND LEFT HOUSING COVERS

- 1) ATTACH RIGHT HOUSING COVER (BC27 097.4R) AS05 TO PL27 UPPER RIGHT HOUSING AND LOWER HOUSING USING (5) 8-32 X 1/4 TH. THE CAMSHAFT WILL EXTEND THROUGH COVER. ROLLERS SHOULD BE DOWN AND SET SCREW DEPRESSION ON SHAFT WILL BE FACING DOWNWARD.
- 2) ADHERE WHITE ARROW WB09 ONTO LD CAMSHAFT KNOB (PRK175) LD05, POSITIONED WITH SET SCREW THREADS FACING UP AND ARROW POINTING RIGHT (TOWARD 3 O'CLOCK). ATTACH CAMSHAFT KNOB INTO CAMSHAFT DEPRESSION USING 1/4-20 X 3/8 SET SCREW.
- 3) CENTER AND ADHERE "OPEN/CLOSE ROLLERS" LABEL (LAB69) LD05 OVER CAMSHAFT KNOB. OPEN LABEL INDICATION TO THE REAR. THE CENTER INDICATION LINES UP WITH OPENING.
- 4) ALIGN TOP EDGE OF LEDCO LABEL (LAB05C) RACK 7 WITH BACK TRUSSHEAD SCREW AND ALIGN THE "A" IN "GRAPHIC" WITH THE BOTTOM TRUSSHEAD SCREW, ADHERE LABEL. APPROXIMATELY 2 3/4" UP FROM LOWER EDGE OF COVER.
- 5) ATTACH LEFT HOUSING COVER (BC27 097.4L) AS04 TO UPPER LEFT HOUSING AND LOWER HOUSING USING (5) 8-32 X 1/4 TH.
- 6) ADHERE LEDCO LABEL (LAB05C) RACK 7 ONTO LEFT HOUSING COVER, ALIGNING WITH SAME TRUSSHEAD SCREWS AS ON RIGHT SIDE. APPROXIMATELY 2 3/4" UP FROM LOWER EDGE OF COVER.



ABOVE: RIGHT SIDE COVER~BELOW: LEFT SIDE COVER

