

EP 30/44/60

**ECONOCRAFT
LAMINATOR**

**ASSEMBLY
PROCEDURES**

UPDATED MARCH 2019

EP 30

EP44/60 LAMINATOR

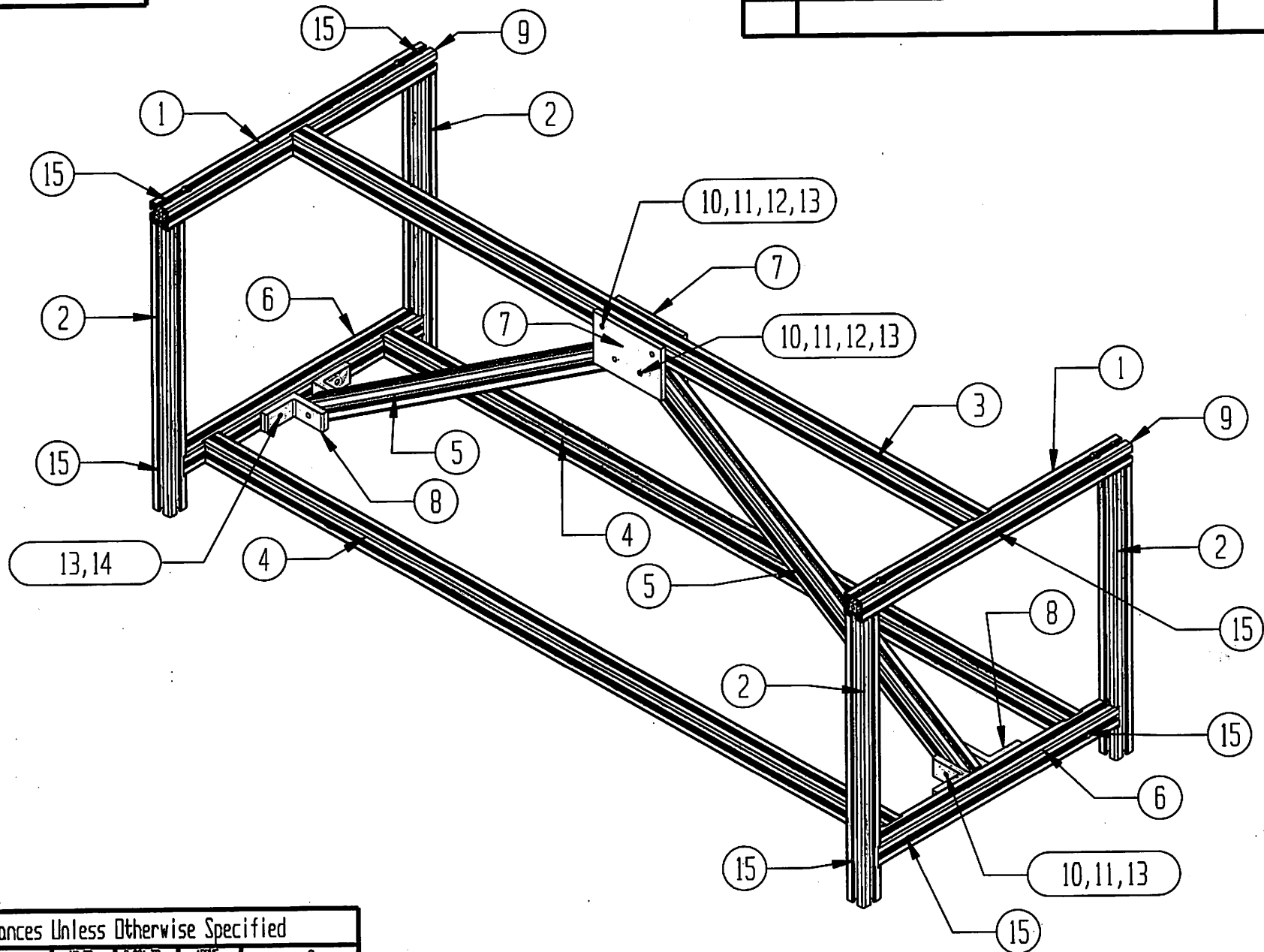
110V & 220V CONVERSION

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APRIL 2017



Tolerances Unless Otherwise Specified				
Basic Dimension	UP TO 6.000	6.001 TO 24.000	ABOVE 24.000	$\angle \pm 0^\circ \pm 30'$
2 Place Din.	$\pm .005$	$\pm .010$	$\pm .031$	
3 Place Din.	$\pm .002$	$\pm .005$	$\pm .010$	
Material Specs: SEE B.D.M.				

Finish Specs: CLEAN PARTS

LED CO INC.

4265 N. Main St., Henlock N.Y. 14466
Ph # 585-367-2392 Fax # 585-367-2978

Part # EP60 135.5	Title: EP60 / D60 EXTRUDED STAND COMPLETE	Date: 04/08/09	Rev. Level:
Sheet 2 Of 2	Rev.	Description	Date App. By

#	PART #	DESCRIPTION	PCS	#	PART #	DESCRIPTION	PCS
1	EHR44 135.4C ✓	TOP LEFT/RIGHT WIDTH SPANNER	2 ✓	9	PRC250	EXTRUDED STAND END CAP 36414	4
2	EP30 135.4D ✓	FRONT/BACK LEGS	4 ✓	10	.312PAA48	5/16-18 x 3" SHCS	6
3	EP60 135.4AA	TOP LENGTH SPANNER	1	11	.312KKC01	5/16-18 FLAT WASHER, SAE	16
4	EP60 135.4A ✓	BOTTOM LENGTH SPANNER	2	12	.312LDF00	5/16-18 HEX NUT	4
5	EP60 135.4J	DIAGONAL CENTER SUPPORTS	2	13	.312LDE00	5/16-18 ACORN NUT	12
6	EHR44 135.4D ✓	BOTTOM LEFT/RIGHT WIDTH SPANNER	2	14	.312GDA16	5/16-18 x 1" CARRAGE BOLT	4
7	I30 135.4I	MIDDLE BRACE MTG PLATE	2	15	.312PAA24	5/16-18 x 1-1/2" SHCS	14
8	LC38 135.4G ✓	STAND GUSSETS	4 ✓				

Tolerances Unless Otherwise Specified

Basic Dimension	UP TO 6.000	6.001 TO 24.000	ABOVE 24.000	$\angle \pm 0^\circ \pm 30'$
2 Place Din.	±.005	±.010	±.031	✓
3 Place Din.	±.002	±.005	±.010	

Finish Specs: CLEAN PARTS

LED CO INC.

4265 N. Main St., Henlock N.Y. 14466
Ph # 585-367-2392 Fax # 585-367-2978

Material Specs: SEE B.D.M.

U/M	QTY.	WGT.	Drawn By: RON	App. By: Ron	Date: 04/08/09
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Part # EP30 135.5

Title: EP30 EXTRUDED STAND COMPLETE

Date: 04/08/09

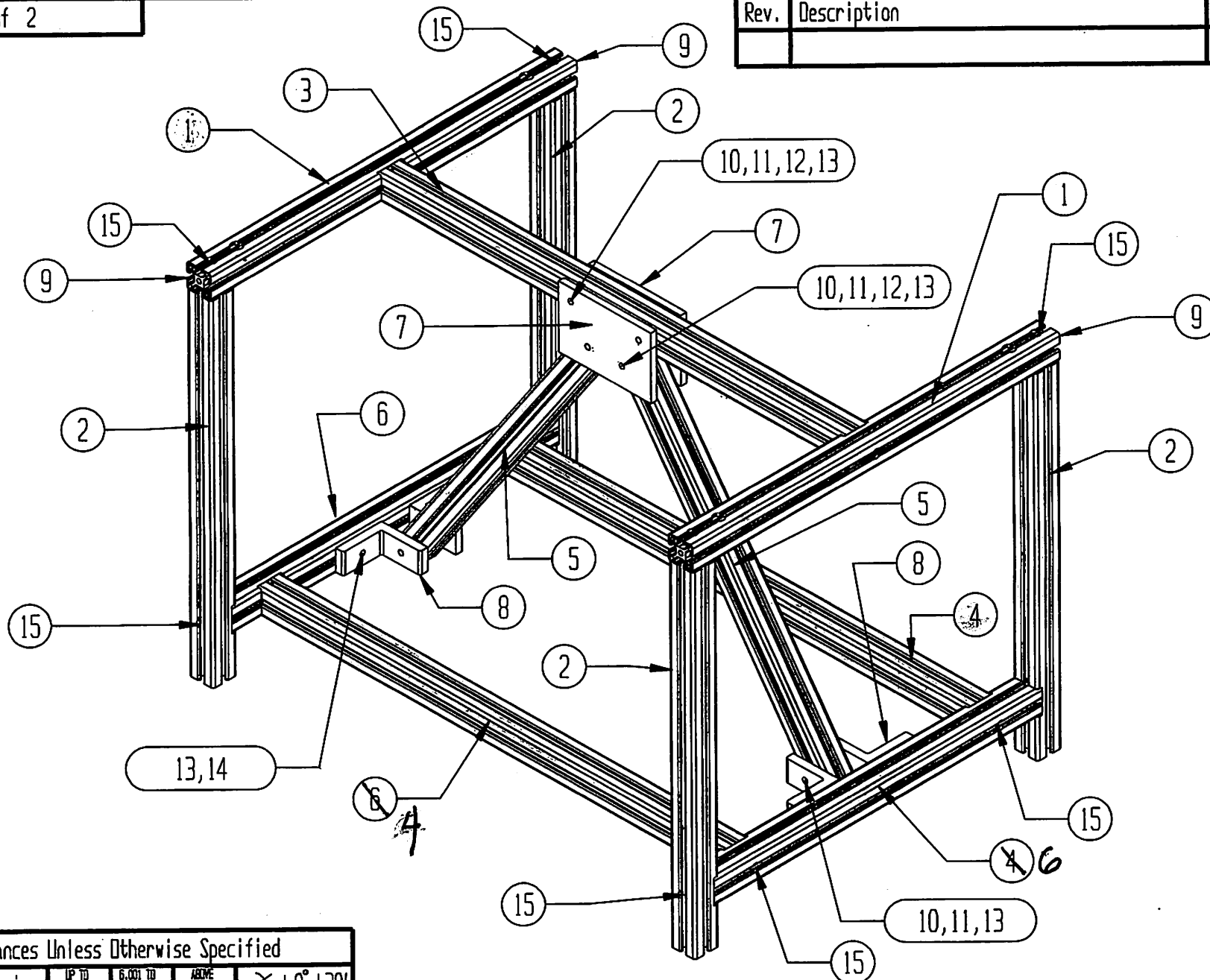
Rev. Level:

Sheet 1 Of 2

Rev. Description

Date

App. By



Tolerances Unless Otherwise Specified

Basic Dimension	UP TO 6.000	6.001 TO 24.000	ABOVE 24.000	$\angle \pm 0^\circ \pm 30'$
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Finish Specs: CLEAN PARTS

LED CO INC.4265 N. Main St., Henlock N.Y. 14466
Ph # 585-367-2392 Fax # 585-367-2978

Material Specs: SEE B.D.M.

U/M

QTY.

WGT.

App. By: Ron

Date: 04/08/09

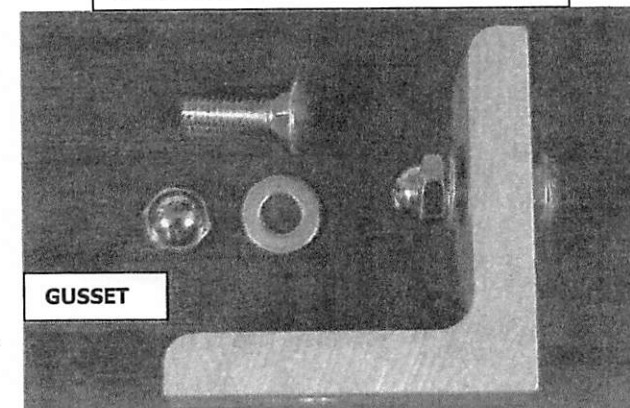
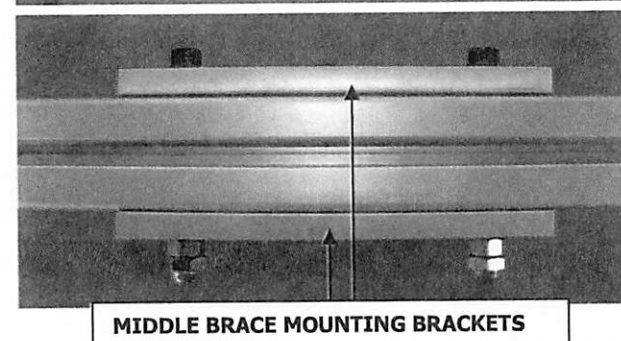
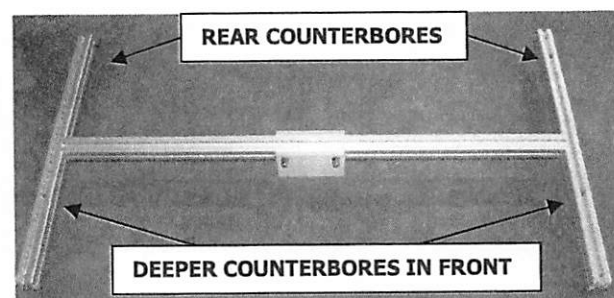
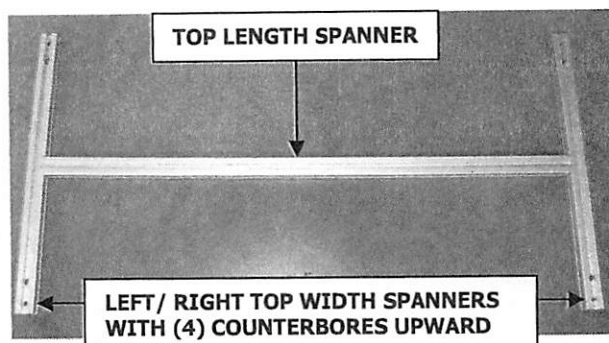
Part # EP30 135.5	Title: EP30 EXTRUDED STAND COMPLETE	Date: 04/08/09	Rev. Level:
Sheet 2 Of 2	Rev.	Description	Date
			App. By

#	PART #	DESCRIPTION	PCS	#	PART #	DESCRIPTION	PCS
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3	EP30 135.4AA	TOP LENGTH SPANNER	1	11	.312KKC01	5/16-18 FLAT WASHER, SAE	16
4	EP30 135.4A	BOTTOM LENGTH SPANNER	2	12	.312LDF00	5/16-18 HEX NUT	4
5	EP30 135.4J	DIAGONAL CENTER SUPPORTS	2	13	.312LDE00	5/16-18 ACORN NUT	12
6	EHR44 135.4D	BOTTOM LEFT/RIGHT WIDTH SPANNER	2	14	.312GDA16	5/16-18 x 1" CARRAGE BOLT	4
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8	LC38 135.4G	STAND GUSSETS	4				

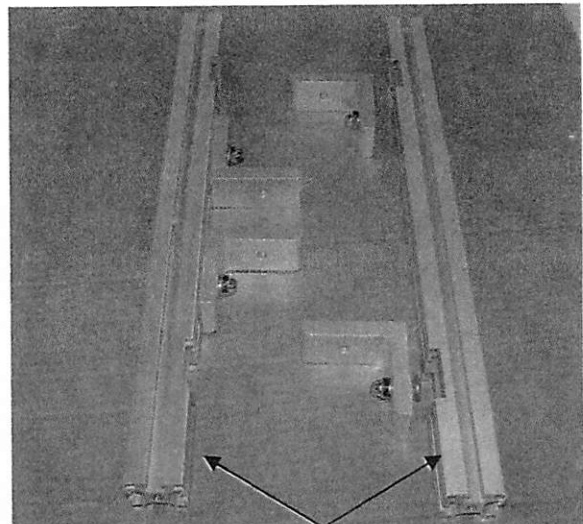
Tolerances Unless Otherwise Specified				
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2 Place Din.	$\pm .005$	$\pm .010$	$\pm .031$	
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Material Specs: SEE B.D.M.				
Finish Specs: CLEAN PARTS		LED CO INC. 4265 N. Main St., Henlock N.Y. 14466 Ph # 585-367-2392 Fax # 585-367-2978		
U/M	QTY.	WGT.	Drawn By:	App. By: Ron
			Date: 04/08/09	

EHR44 OR EP44 & EP60 EXTRUDED STAND ASSEMBLY

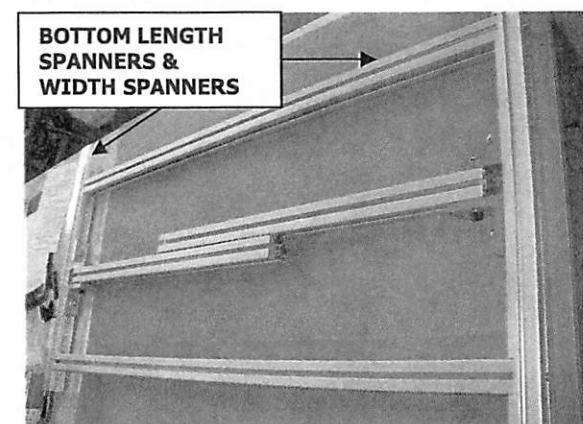
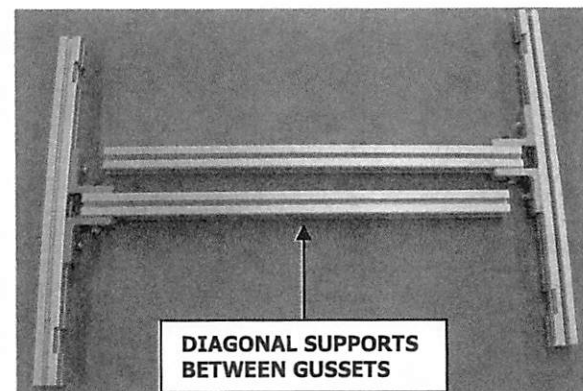
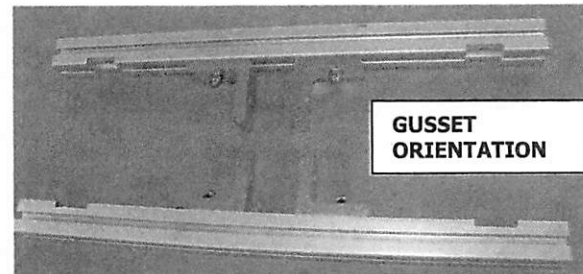
- 1) THE EHR44 AND THE EP44 REQUIRE THE SAME STURDY, EXTRUDED STAND. THE CHASSIS IS BUILT ON THE COMPLETED STAND WITH "IN HOUSE" CASTERS. BUILD THE STAND IN SECTIONS ON A CLEAN WORKTABLE. USE THE FOLLOWING HARDWARE: (4) 5/16-18 X 1 CARRIAGE BOLTS, (16) 5/16 FLAT WASHERS SAE, (10) 5/16-18 ACORN NUTS, (4) 5/16-18 HEX NUTS, (14) 5/16-18 X 1 1/2 SHCS AND (6) 5/16-18 X 3 SHCS AS11, AS12 AND AS13.
- 2) FROM LOFT1 PLACE (2) TOP LEFT/RIGHT WIDTH SPANNERS (EHR44 135.4C) ON A WORKTABLE WITH THE CENTER CUT NOTCHES FACING EACH OTHER, INWARD AND ALL (4) OF THE COUNTERBORED OPENINGS FACING UPWARD.
- 3) THE TOP LENGTH SPANNER (EHR44 135.4E OR EP60 135.4AA) LOFT1, HAS TWO CENTER HOLES TO ACCOMMODATE THE MOUNTING PLATES. ORIENT HOLES FRONT AND BACK. INSERT THE TOP LENGTH SPANNER BETWEEN THE TOP LEFT/RIGHT WIDTH SPANNER NOTCHES. SECURE USING (2) 5/16-18 X 1 1/2 SHCS.
- 4) LOOSELY ATTACH (2) MIDDLE BRACE MOUNTING PLATES (I30 135.4I) LOFT1 TO THE FRONT AND REAR CENTER OF THE TOP LENGTH SPANNER. INSERT (2) 5/16-18 X 3 SHCS EACH WITH A 5/16 FLAT WASHER THROUGH THE REAR MIDDLE BRACE MOUNTING PLATE, THE LENGTH SPANNER AND THE FRONT MOUNTING PLATE. PLACE A 5/16 FLAT WASHER ON THE REMAINING THREADS, A 5/16-18 HEX NUT AND A 5/16-18 ACORN NUT. THE ACORN NUTS WILL INDICATE THE FRONT OF THE LAMINATOR. DO NOT TIGHTEN YET. SET THIS ASSEMBLY ASIDE.



- 5) **ASSEMBLE (4) STAND GUSSETS (LC38 135.4G) LOFT1 BY INSERTING A 5/16-18 X 1 CARRIAGE BOLT THROUGH ONE OF THE OUTER BREAK HOLES ON THE GUSSETS. ADD A 5/16 FLAT WASHER TO THE CARRIAGE BOLT THREADS AND SNUG ON A 5/16-18 ACORN NUT.**
- 6) **PLACE (2) BOTTOM LEFT/RIGHT WIDTH SPANNERS (EHR44 135.4D) LOFT1 ON A WORKTABLE, ORIENTED WITH NOTCHES FACING EACH OTHER, INWARD. SLIDE THE "BOSS" OF (2) ASSEMBLED CARRIAGE BOLTS ON GUSSETS IN CHANNEL BETWEEN NOTCHES ON THE INSIDE OF BOTH BOTTOM LEFT/RIGHT WIDTH SPANNERS. THE OUTSTANDING GUSSET BREAK FACES *INWARD* ON BOTH ALL GUSSETS. SNUG THE ACORN NUTS ON STAND GUSSETS. THEY WILL BE MEASURED AND TIGHTENED LATER.**
- 7) **ATTACH (2) DIAGONAL CENTER SUPPORTS (EHR44 135.4G OR EP60 135.4J) LOFT1 BETWEEN GUSSETS ON LEFT/RIGHT WIDTH SPANNERS. USE (2) 5/16 X 3 SHCS AS13 EACH WITH A 5/16 FLAT. INSERT THROUGH GUSSET, DIAGONAL SUPPORT AND THE SECOND GUSSET. ADD A 5/16 FLAT WASHER AND A 5/16-18 ACORN NUT TO THREAD ENDS. *ACORN NUTS WILL FACE THE FRONT.***
- 8) **ATTACH THE (2) BOTTOM LENGTH SPANNERS (EHR44 135.4F OR EP60 135.4A) LOFT1 BETWEEN THE BOTTOM LEFT/RIGHT WIDTH SPANNERS, FITTING INTO THE FRONT AND REAR NOTCHES. LOOSELY INSERT (4) 5/16-18 X 1 1/2 SHCS. ADJUSTMENTS WILL BE MADE, THESE MUST NOT BE TIGHT.**
- 9) **MEASURE THE CENTER OF THE RIGHT AND LEFT SIDE DIAGONAL SUPPORTS EVENLY BETWEEN THE FRONT AND REAR NOTCHES ON THE BOTTOM WIDTH SPANNERS. *SNUG* THE ACORN NUTS ON THE GUSSETS. THE DISTANCE WILL BE APPROXIMATELY THE SAME FROM THE DIAGONAL SUPPORT EXTRUSION CENTER TO THE BOTTOM LENGTH SPANNER EXTRUSION CENTER. A FINAL**

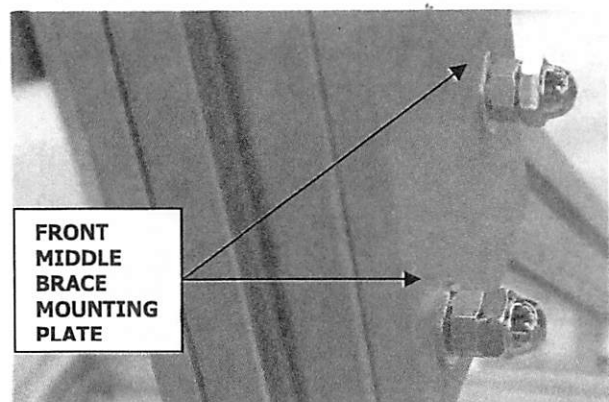
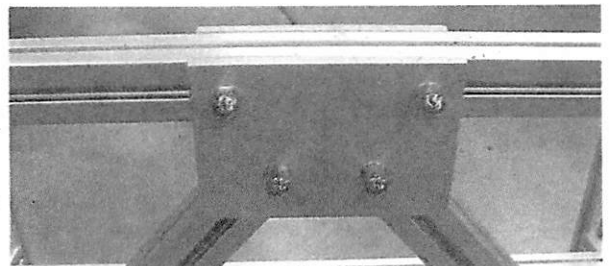
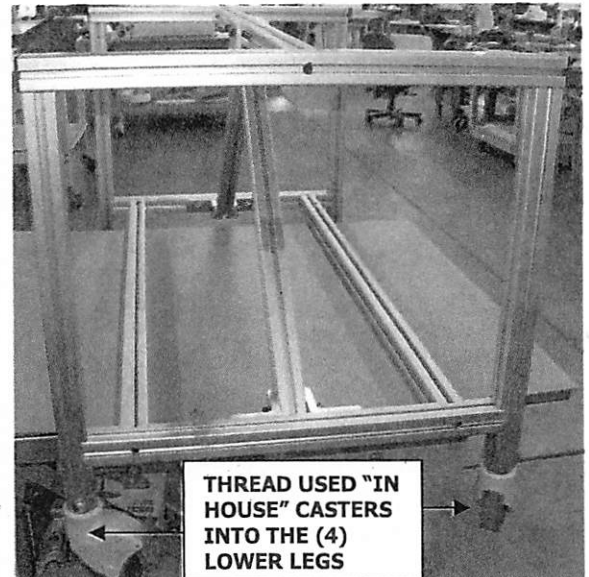
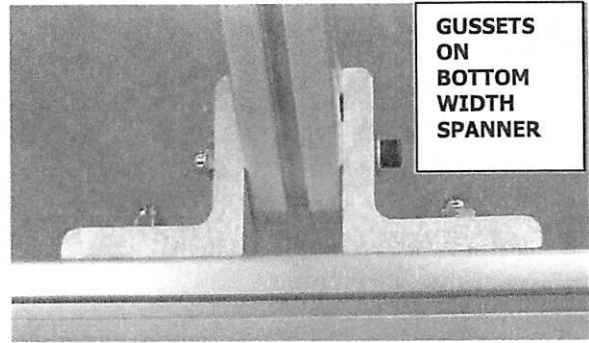


BOTTOM LEFT/RT WIDTH SPANNERS & GUSSETS

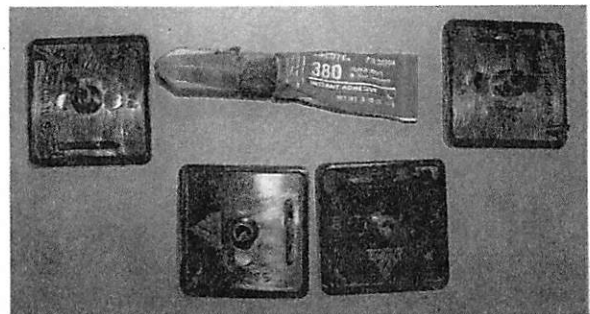
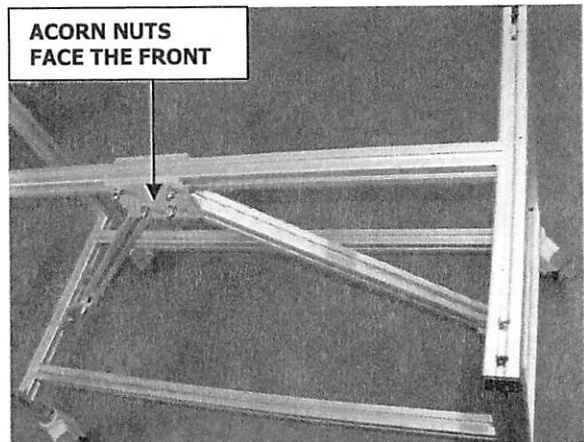


MEASUREMENT WILL BE TAKEN AFTER THE LEGS ARE ON AND THE DIAGONAL SUPPORTS ARE FITTED BETWEEN THE MIDDLE BRACE MOUNTING BRACKETS.

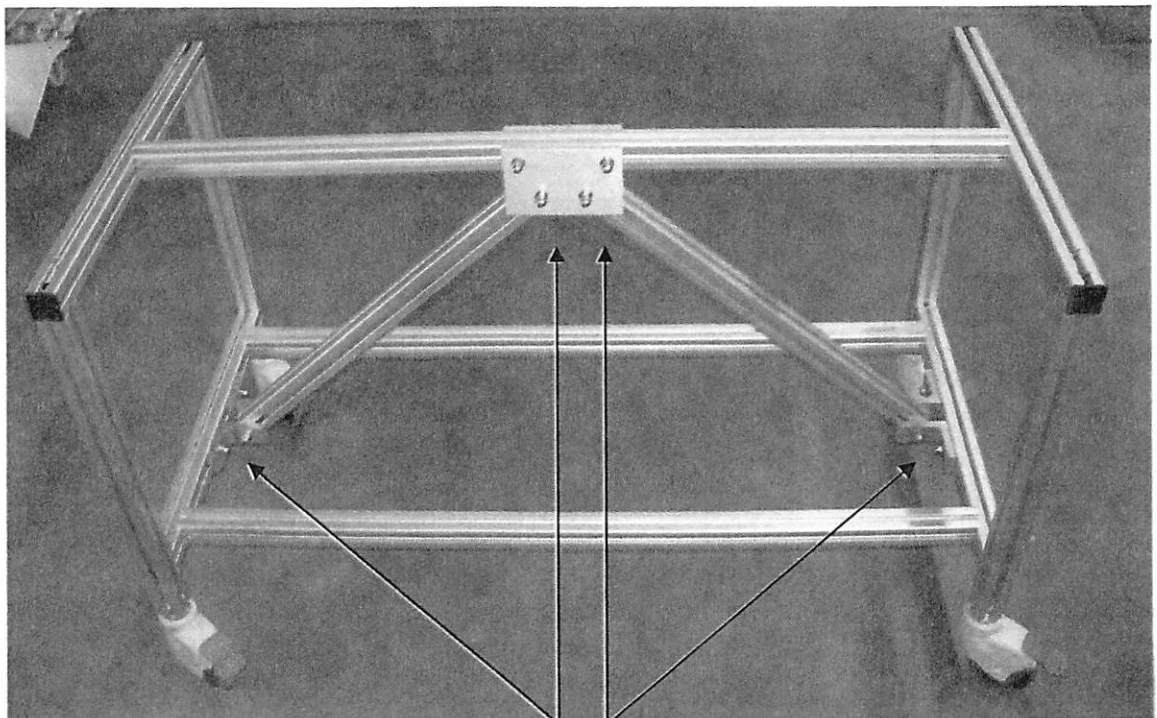
- 10) **LOOSELY** THREAD (3) OF THE (4) FRONT/BACK LEGS (EP30 135.4D) **LOFT** WITH THE NOTCH FITTING OVER THE ENDS OF THE BOTTOM LEFT/RIGHT WIDTH SPANNERS. SECURE EACH OF THE LEGS TO THE BOTTOM WIDTH SPANNERS WITH A 5/16-18 X 1 1/2 SHCS. THE FOURTH LEG IS SECURED AFTER THE DIAGONAL SUPPORT IS FITTED BETWEEN THE FRONT AND REAR MIDDLE BRACE MOUNTING PLATES.
- 11) FOR ASSEMBLY PURPOSES THREAD (4) USED "IN HOUSE" CASTERS **SHIPPING DEPARTMENT** INTO THE BOTTOM OF THE LEGS. THESE WILL BE REMOVED BY THE SHIPPING DEPARTMENT WHEN MACHINE IS PACKED. NEW CASTERS ARE SENT WITH THE LAMINATORS.
- 12) CAREFULLY SET THE TOP LENGTH SPANNER SECTION ONTO THE (3) UPPER LEGS. **LOOSELY** ATTACH THE TOP WIDTH SPANNER ENDS TO THE LEGS, SO THEY DO NOT SLIDE OFF THE LEGS. USE 5/16-18 X 1 1/2 SHCS FOR THESE CONNECTIONS. BE CAUTIOUS, AS THE TOP WIDTH SPANNER EXTRUDED ENDS ARE **VERY SHARP AND WILL EASILY CUT YOU**.
- 13) FIT THE UPPER ENDS OF THE DIAGONAL SUPPORTS BETWEEN THE MIDDLE BRACE MOUNTING PLATES. TAP THE GUSSETS ALONG THE CHANNEL FOR A STRAIGHT FIT. ALIGN THE DIAGONAL SUPPORT HOLES WITH THE LOWER HOLES OF THE MIDDLE BRACE MOUNTING PLATES. INSERT (2) 5/16-18 X 3 SHCS EACH WITH A 5/16 FLAT WASHER **THROUGH THE REAR MOUNTING PLATE, THE DIAGONAL SUPPORT AND FRONT MOUNTING PLATE**. ADD ANOTHER 5/16 FLAT WASHER, THREAD ON A 5/16-18 HEX NUT AND A 5/16-18 ACORN NUT. ALL ACORN NUTS FACE THE FRONT.



- 14) AFTER THE DIAGONAL SUPPORTS ARE SECURED, THREAD ON THE FOURTH LEG WITH A 5/16-18 X 1 1/2 SHCS ON THE TOP AND BOTTOM. ADD THE LAST CASTER AND PLACE ON FLOOR.
- 15) USE A TAPE AND MEASURE AN EVEN DISTANCE FOR THE GUSSETS BEFORE TIGHTENING ALL CONNECTIONS.
- 16) PLACE A DROP OF LOCTITE BLACK 380 'INSTANT ADHESIVE CAB1 ON THE CENTER INSERT SECTION OF AN EXTRUDED STAND END CAPS (PRC250) LOFT1. TAP THE END CAP INTO THE (4) EXPOSED EXTRUSION END OF THE TOP LEFT/RIGHT WIDTH SPANNERS. DO THEM ONE AT A TIME, SO THE LOCTITE DOESN'T FIRM UP BEFORE THE END CAP IS INSERTED.
- 17) TIGHTEN ALL CONNECTING SCREWS AND NUTS. SET THE STAND ON THE FLOOR.



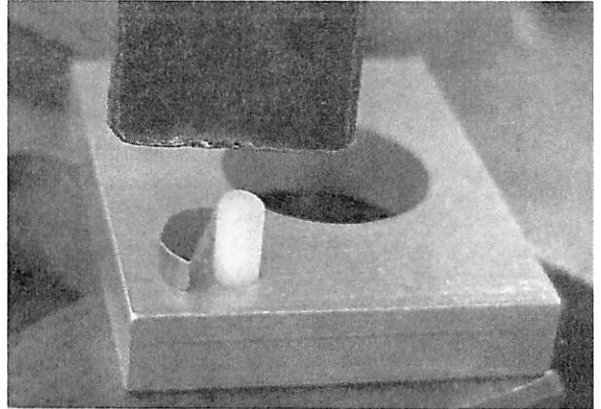
END CAPS & 380 LOCTITE



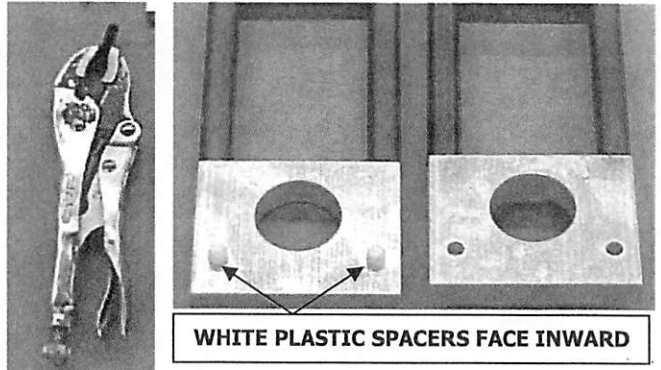
EHR44 & EP44 STAND FROM FRONT: ACORN NUTS & END CAPS

ECONOCRAFT 30, 44, 60 CONNECTING PLATES

- 1) TWO CONNECTING PLATE ASSEMBLIES ARE NEEDED FOR THE ECONOCRAFT 44 OR 60. ASSEMBLE THE CONNECTING PLATES SO THE EXCESS ROLLER BALL BEARING WILL SHOW ON THE SAME SIDE AS THE WHITE PLASTIC SPACERS. WHEN INSTALLED EXCESS BEARING AND SPACERS FACE INWARD.

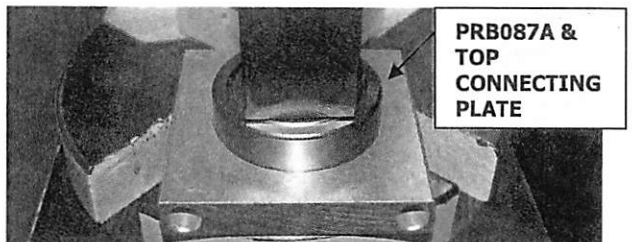


- 2) TO ASSEMBLE CONNECTING PLATES ARBOR PRESS (4) WHITE PLASTIC CONNECTING PLATE SPACERS (H850 044.4) RACK 8 INTO (2) BOTTOM CONNECTING PLATES (EP30 042.4B) RACK 8 DEPTH OF A M.161 WOODRUFF KEY SHOWING.

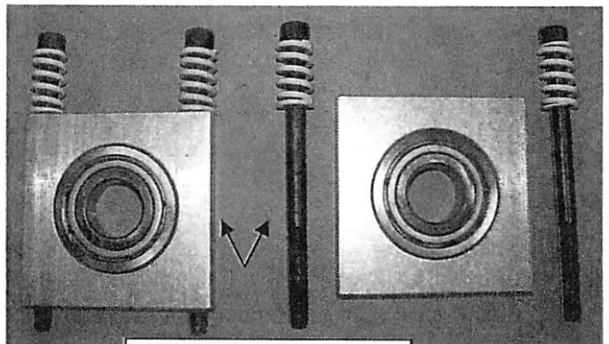


- 2) PLACE LOCTITE ON END THREADS OF (4) 5/16-18 X 1 SET SCREWS AND INSERT INTO BOTTOM CONNECTING PLATES LEAVING 1/2 INCH OF THREADS SHOWING. LOCTITE SHOWING THREADS AND SCREW ON (4) CONNECTING PLATE SPACERS (EP30 043.4) RACK 8. TIGHTEN WITH CHANNEL LOCKS.

- 3) ARBOR PRESS (2) BALL BEARING 1640ZZ (PRB087A) AS09 INTO (2) TOP CONNECTING PLATE (EP30 042.4T) RACK 8 FLUSH ON ONE SIDE.

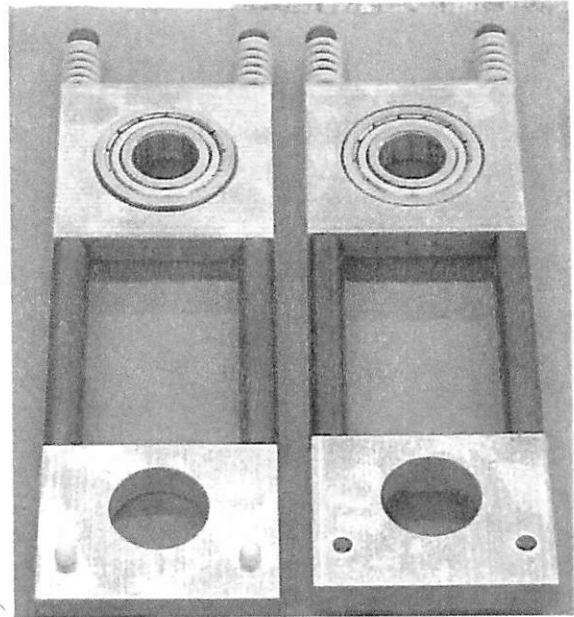


- 4) POSITION THE TOP AND BOTTOM CONNECTING PLATE SECTIONS WITH EXCESS BALL BEARING SHOWING ON TOP AND WHITE PLASTIC SPACERS SHOWING ON BOTTOM. RUN (2) 5/16-18 X 4 1/2 SHCS WITH A ROUND WIRE SPRING (PRS229) RACK 9 ON EACH THROUGH TOP CONNECTING PLATE AND THREAD INTO CONNECTING PLATE SPACERS. TO SET PRESSURE, TIGHTEN ONE COMPLETE 360 DEGREE TURN AFTER THE SPRING IS TOUCHING SCREW HEAD AND TOP CONNECTING PLATE.

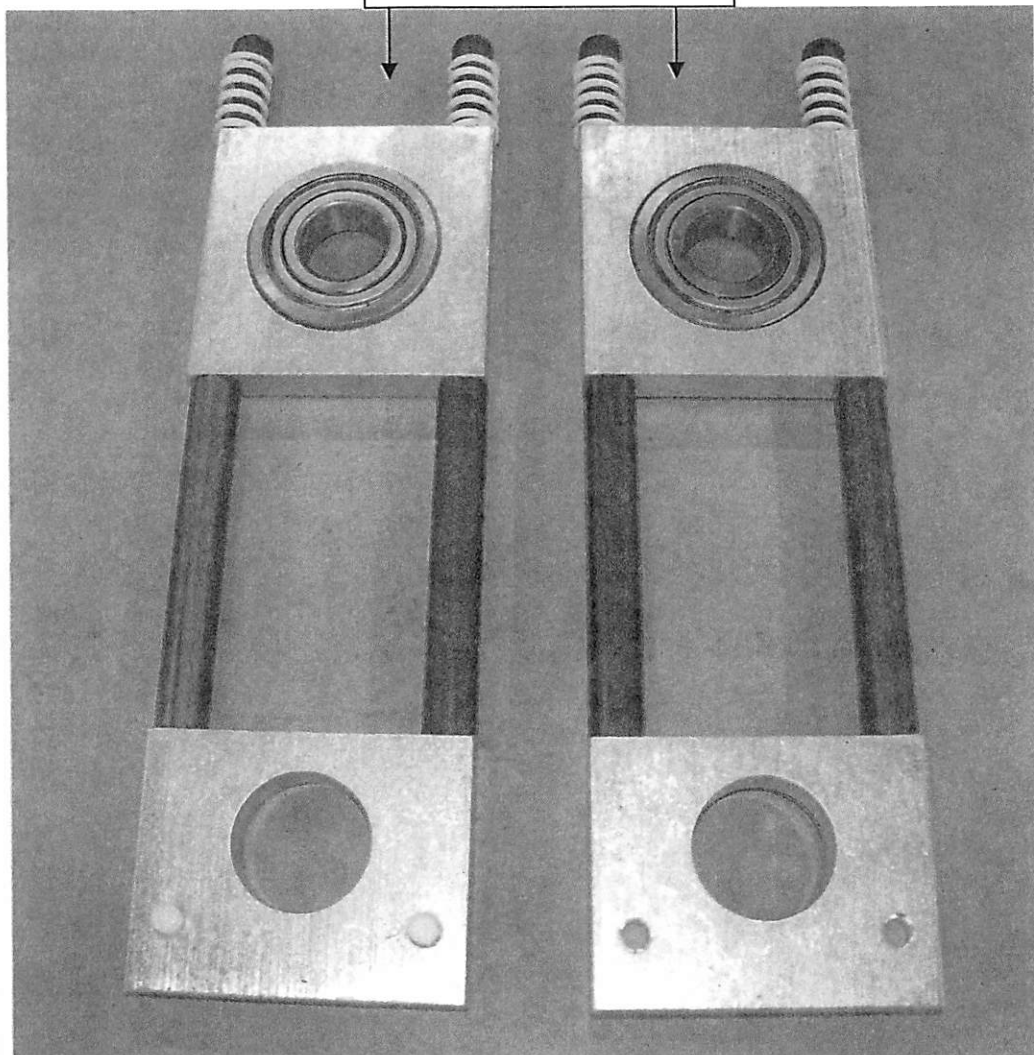


5/16-18 X 4 1/2 SHCS

- 5) THESE TWO CONNECTING PLATE ASSEMBLIES CAN BE STORED UNTIL NEEDED FOR ECONOCRAFT 60 COMPLETION. REMEMBER WHEN PLACING CONNECTING PLATES ON LAMINATOR THE EXCESS BALL BEARING AND WHITE SPACERS FACE INWARD.
- 6) BELOW ARE THE TWO ASSEMBLIES SHOWING THE INNER VIEW AND THE OUTER VIEW.

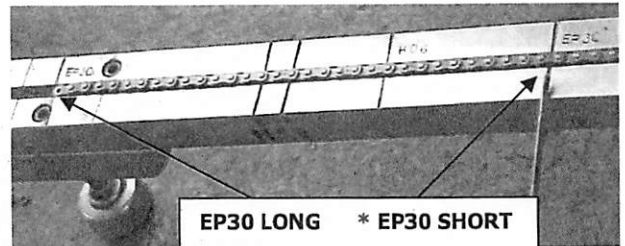


INNER VIEW ~ OUTER VIEW

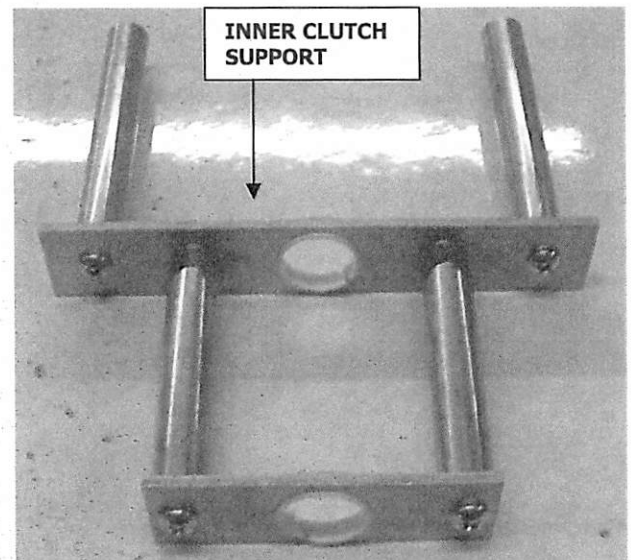


ECONOCRAFT 44, 60 CHAIN, CLUTCH SUPPORT AND TENSION SPRING ARM

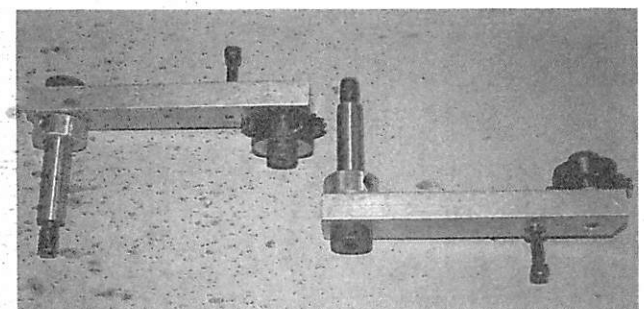
- 1) FROM THE #25 CHAIN ROLL (PRC083.1) CCT CUT (3) CHAINS FOR THE ECONOCRAFT 44/60. EP44: ONE CHAIN MEASURED TO LONG EP30 ON SCALE, ONE MEASURED TO SHORT EP30 AND ONE TO EP IDLER MARK. EP60: (1) LESS LINK ON EP30 SHORT DRIVE CHAIN, AND ADD AN OFFSET LINK (PRC085) AS09. CONNECT ALL CHAINS WITH #25 CHAIN CONNECTING LINKS (PRC084) AS09.



- 2) FROM RACK 8 ASSEMBLE CLUTCH SUPPORT BY USING A TOTAL OF (6) 10-32 X 3/8 RH SCREWS CONNECT PARTS AS FOLLOWS: USE (2) SCREWS TO ATTACH ENDS OF THE LONGER INNER CLUTCH SUPPORT (EP30 076.4) TO (2) INNER CLUTCH SPACERS (EP30 078.4). USE (2) SCREWS TO ATTACH SHORTER OUTER CLUTCH SUPPORT (EP30 077.4) TO THE OUTER CLUTCH SPACERS (EP30 079.4). USE (2) SCREWS TO ATTACH OUTER CLUTCH SPACERS TO INNER CLUTCH SUPPORT. ADD (2) 3/4" SHAFT NYLINERS (PRB068) AS09 FROM THE INSIDE TO THE OUTSIDE, SO FLANGE IS TOWARD THE SIDE PANEL. THIS ASSEMBLY WILL SLIDE OVER THE REWIND DRIVER NUT AND SECURE WITH (2) 10-32 X 3/4 BH FROM INSIDE OF PANEL.

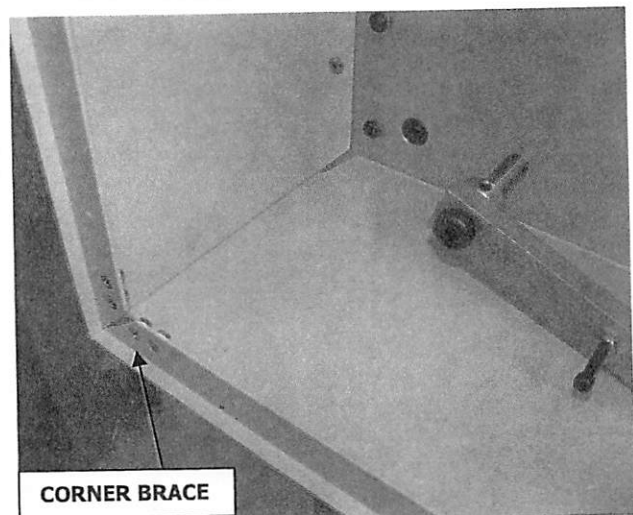
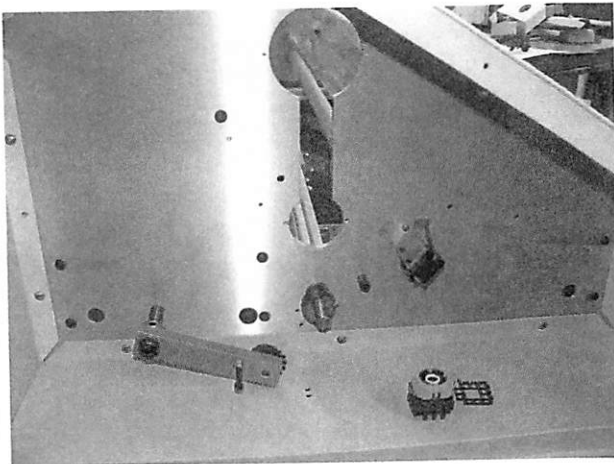
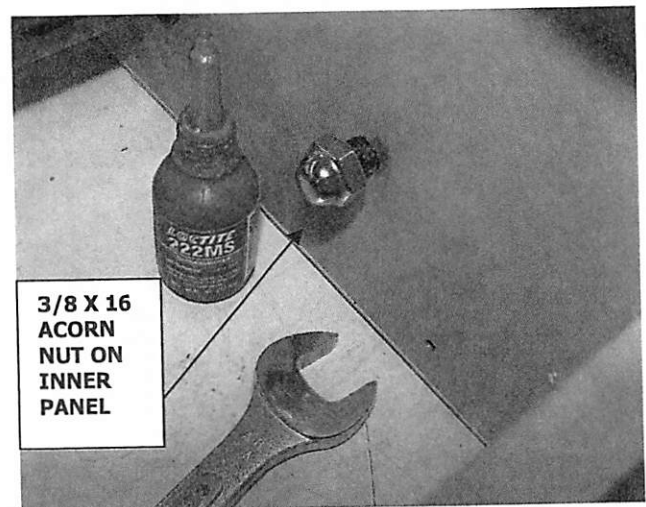
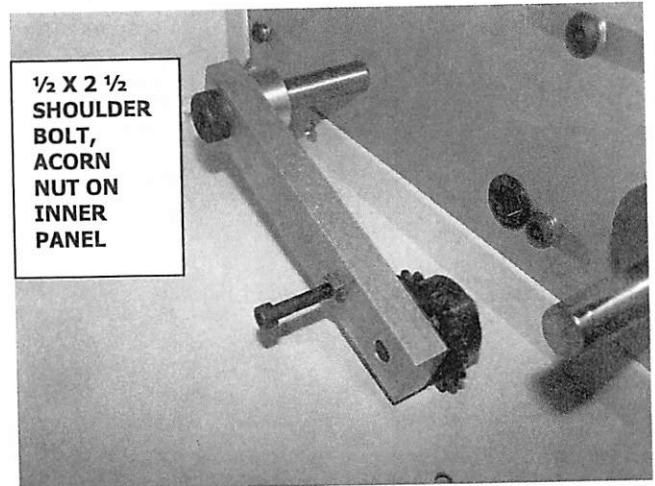


- 3) ASSEMBLE LEFT SIDE TENSION SPRING ARM. INSERT 1/2 X 2 1/2 SHOULDER BOLT INTO TENSION SPRING ARM (EP30 055.4) RACK 8 SECURED WITH 1/2" STOP COLLAR (PRC096) AS09. THE ARM MUST TURN FREELY ON THE SHOULDER BOLT. PLACE A TURNED 25B18 SPROCKET (PRS249B.5) RACK 8 WITH AN OILITE BEARING ONTO A 3/8 X 5/8 SHOULDER BOLT, WITH THE SPROCKET HUB NEXT TO THE SHOULDER BOLT HEAD. THREAD



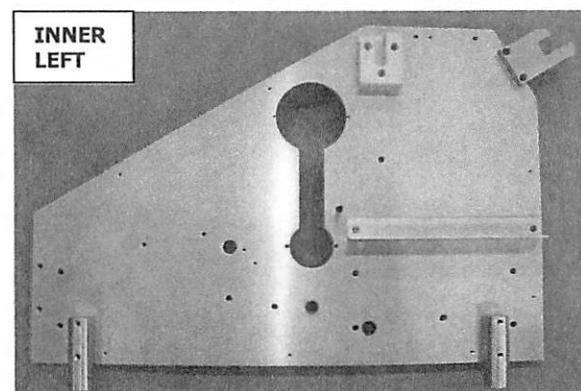
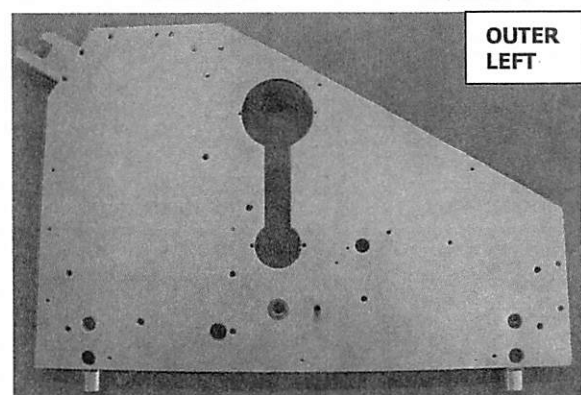
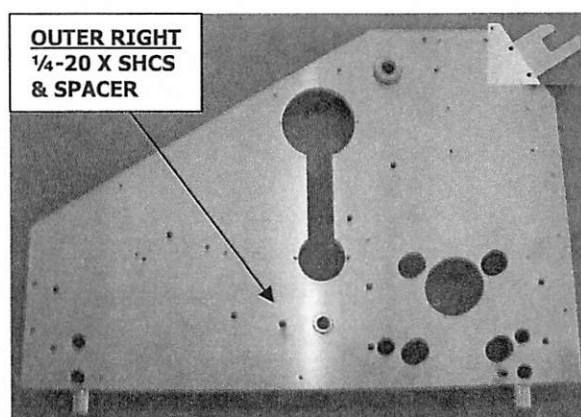
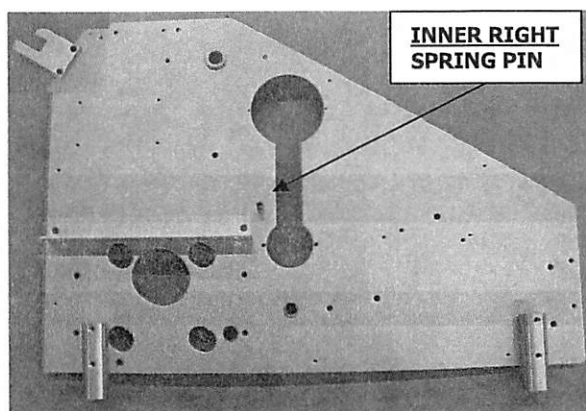
THIS SPROCKET ONTO TENSION SPRING WITH THE FLANGE AND TEETH NEXT TO TENSION SPRING ARM, ON STOP COLLAR SIDE. SPROCKET MUST SPIN FREELY. RUN A #10 KEPS NUT UP THE THREADS OF A 10-32 X 1 1/4 SHCS ABOUT 5/16 OF THE WAY AND LOCTITE END. THREAD SCREW ON TENSION ARM SIDE OPPOSITE THE SPROCKET, AND TIGHTEN KEPS NUT. THE SPRING WILL HOOK ONTO THIS LATER IN ASSEMBLY.

- 4) THREAD THE TENSION SPRING ARM ASSEMBLY INTO LEFT SIDE PANEL USING THE 1/2 X 2 1/2 SHOULDER BOLT. SECURE SHOULDER BOLT THREADS ON INNER SIDE PANEL BY PLACING LOCTITE ON A 3/8-16 ACORN NUT AND TIGHTEN WITH A 5/8 WRENCH.
- 5) SECURE HOUSING BOTTOM LEFT (EHR 094.4LBA) AS13 AND HOUSING TOP LEFT (EHR 094.4LTA) AS08 WITH 8-32 X 1/4 THMS. USE (2) HOUSING CORNER BRACES (D105 098.4) RACK 1 TO SECURE LOWER CORNERS WITH 8-32 X 3/8 FHMS AND #8 KEPS HEX NUTS ON THE INSIDE.

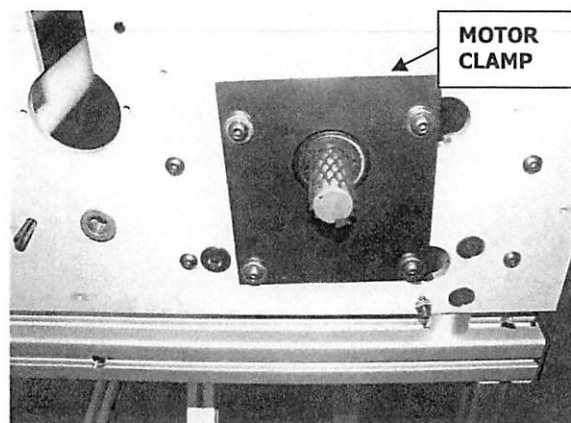
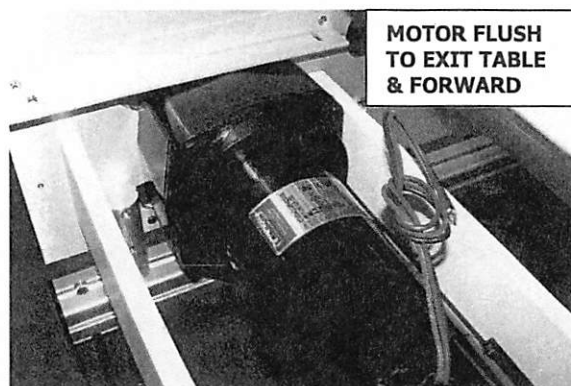
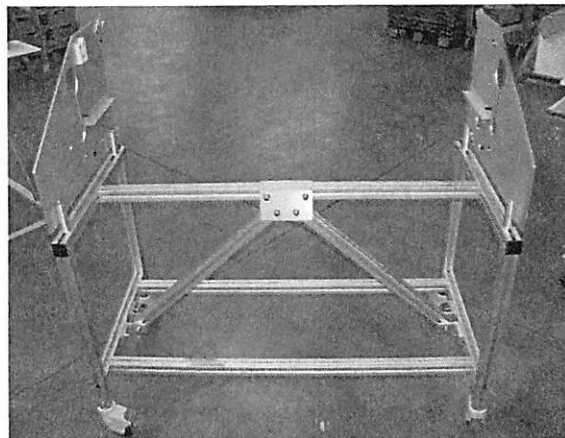


ECONOCRAFT 30, 44, 60 NRTL SIDE PANELS & CHASSIS

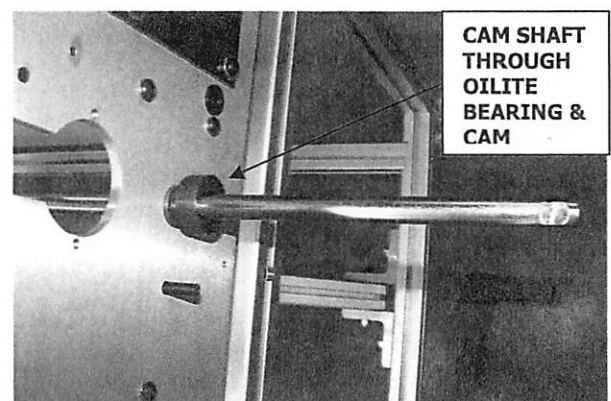
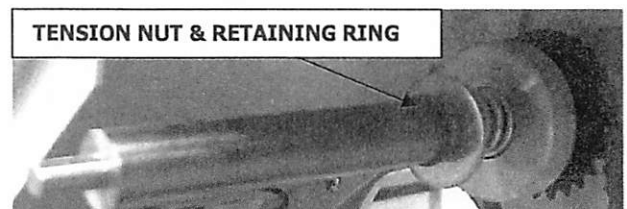
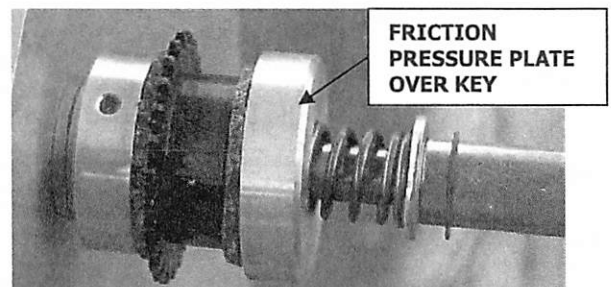
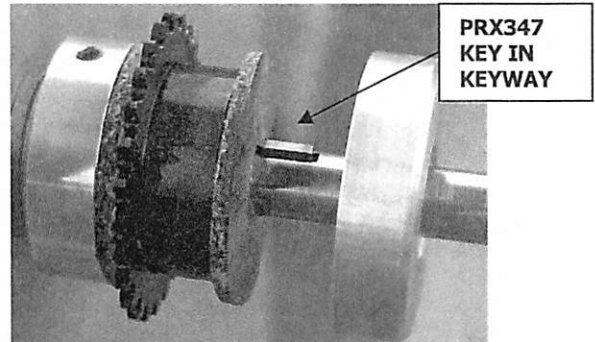
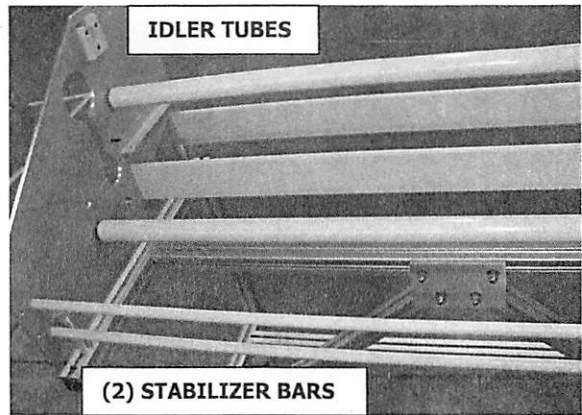
- 1) THREAD A $\frac{1}{4}$ -20 X $\frac{5}{8}$ SHCS WITH A CAM SPACER (PRS232) AS07 INTO *OUTER* RIGHT AND LEFT SIDE PANELS: EP44 (EHR44 090.4R AND EHR44 090.4L OR EP60 EP30 090.4R AND EP30 090.4L) AS18 LOCATED IN FRONT OF CAM SHAFT HOLE TO STABILIZE CONNECTING PLATE.
- 2) TAP A $\frac{1}{4}$ X 1 SPRING PIN BEHIND DRIVE ROLL, ABOVE FEED/EXIT TABLE BRACKET, FLUSH WITH OUTER SIDE PANEL, TO STEADY EXIT TRAY.
- 3) PLACE A #8 STAR WASHER ON AN 8-32 X 1 BSH. THREAD THROUGH THE *INNER RIGHT REAR SIDE PANEL* UNDER MOTOR HOLES, TIGHTEN. THIS IS GROUND SCREW CONNECTION.
- 4) ON UPPER RIGHT SIDE PANEL ARBOR PRESS AN OILITE BUSHING (PRB078) RACK 10 FLANGE INWARD. ON OUTER SLEEVE TAP ON (2) OILITE WASHERS (PRW338) RACK 10. STAKE WASHERS (3) TIMES. REAM WITH A .625.
- 5) PRESS A REAMED OILITE BEARING (PRB048B) RACK 8 INTO CAM OPENINGS, WITH FLANGE OUTWARD.
- 6) INSERT (2) MEDIUM SNAP BUSHINGS (PRB063) RACK 8 FLANGE OUTWARD, ON BOTH PANELS FOR RACEWAY WIRES.
- 7) ATTACH A FEED/EXIT TABLE BRACKET (EP30 098.4) RACK 8 TO THE INNER SIDE PANELS USING (4) 8-32 X $\frac{3}{8}$ FHMS. LOCATE THE BRACKETS ABOVE MOTOR HOLES ON RIGHT AND PARALLEL ON LEFT, FOR EXIT TABLE. THE BREAK OR BEND IS DOWNWARD ON THE PANEL.
- 8) ON THE UPPER, INNER LEFT PANEL ADD FROM RACK 8, THE PAINTED REWIND ROLL BRACKET C (EP30 006.4) AND THE REWIND BRACKET SPACER (EP30 057.4). SECURE WITH (3) 10-32 X 1 FH.
- 9) THREAD (2) FEET MOUNTING SHAFT EXTENSIONS (LC38 048.4) AS09 TO BOTH INNER SIDE PANELS. USE (4) 5/16-18 X $\frac{3}{4}$ FHS PER SIDE PANEL.



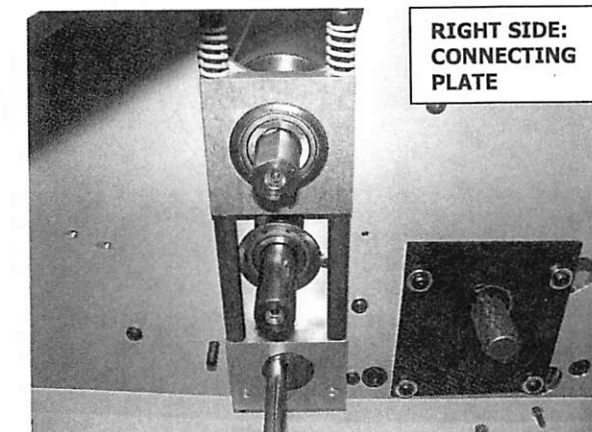
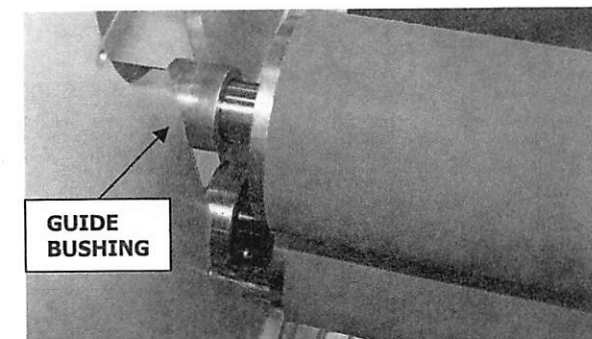
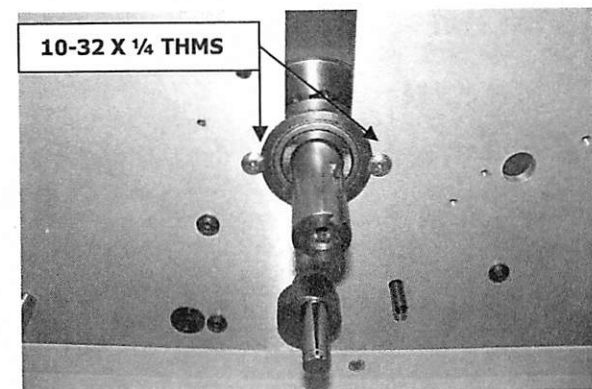
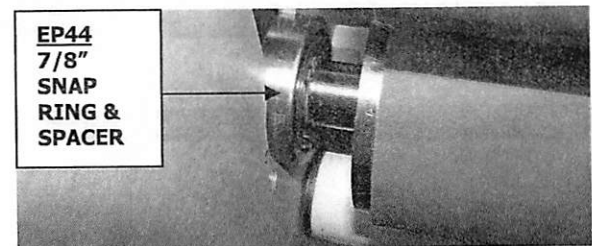
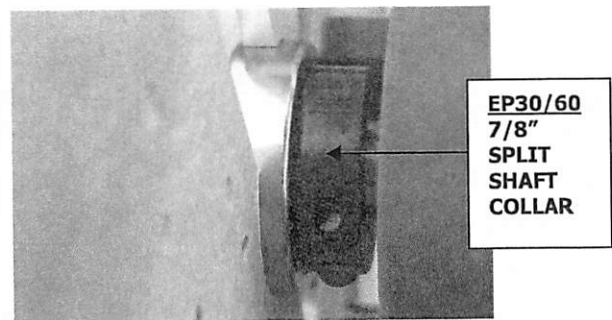
- 10) SECURE AN UPPER SUPPLY ROLL BRACKET (EP30 008.4) RACK 8 TO THE INNER REAR OF BOTH SIDE PANELS. USE 10-32 X $\frac{3}{4}$ BSH.
- 11) ALIGN THE SIDE PANELS ONTO THE EXTRUDED STAND, WITH THE STAND ACORN NUTS FACING THE FRONT. LOOSELY SECURE THE SIDE PANELS THROUGH THE UNDERSIDE OF THE STAND INTO THE FEET MOUNTING SHAFTS WITH $\frac{1}{2}$ -13 X 2 $\frac{1}{2}$ HEX HEAD AS13, EACH WITH A $\frac{1}{2}$ FLAT WASHER.
- 12) CONNECT (2) SPACER BAR C (EP60 OR EHR44 110.4) LOFT 2 (EP30 110.4) AS17 VERTICALLY, BETWEEN THE SIDE PANELS USING (8) $\frac{1}{4}$ -20 X $\frac{3}{4}$ BH EACH WITH A $\frac{1}{4}$ HIGH COLLAR LOCK WASHER AND LOCTITE. LOCATE SPACER BARS ON EACH SIDE OF MOTOR POSITION.
- 13) LOOSELY ATTACH (2) FRONT STABILIZER (EP30, EP60 OR EHR44 216.4) LOFT 2 UNDER FRONT EDGE OF FEEDTABLE BRACKETS WITH (4) $\frac{1}{4}$ -20 X $\frac{3}{4}$ BH, $\frac{1}{4}$ LOCK WASHER AND LOCTITE.
- 14) CUT ELECTRICAL RACEWAY (PRC076) AS10 MEASURED TO RUN BETWEEN MEDIUM SNAP BUSHINGS. USE GEAR MOTOR (PRM1000) AS04 TO GAUGE ENTRANCE OF MOTOR WIRES INTO RACEWAY. CUT AN INCH WIDE SPACE FOR MOTOR WIRES, TRIM EDGES. REMOVE STICKY COVERING AND ALIGN LOWER EDGE WITH INSIDE BOTTOM SPACER BAR BETWEEN BUSHINGS.
- 15) ATTACH A 90 VOLT GEAR MOTOR ALONG WITH MOTOR CLAMP PLATE C (EP30 058.4) RACK 8 ONTO THE OUTER PANEL WITH (4) $\frac{1}{4}$ X $\frac{5}{8}$ X $\frac{1}{8}$ FLAT WASHER AND (4) $\frac{1}{4}$ -28 X 1 BSH. HOLD MOTOR SO IT IS UPWARD TOUCHING EXIT TABLE BRACKET AND IS TOWARD FRONT. SCREWS WILL BE LOOSENED LATER SO MOTOR WEIGHT TIGHTENS CHAINS.
- 16) HEAT SHRINK 6" OF $\frac{3}{8}$ INSULATION TUBING (PRI164) CAB1 OVER MOTOR WIRES TO RACEWAY. CRIMP (3) FIF RED MALE CONNECTORS (PRT330) ONTO THE MOTOR WIRE ENDS.



- 17) TAP (4) IDLER BEARING NYLATRON (PRB086A) AS09 INTO ENDS OF (2) IDLER TUBES (D60 OR EHR44 052.4,) AS14 EP30 052.4 AS18. SLIDE (2) IDLER SHAFTS (D60 110.4, EP30/EHR44 053.4) AS14 THROUGH NYLATRON BEARINGS. ATTACH BETWEEN SIDE PANELS WITH (4) $\frac{1}{4}$ -20 X $\frac{3}{4}$ BH, $\frac{1}{4}$ LOCK WASHERS, **LOCTITE**. LOCATE IDLER TUBES UNDER FEED TABLE BRACKETS IN FRONT AND ABOVE EXIT TABLE BRACKETS IN REAR.
- 18) INSERT REWIND DRIVER ASSEMBLY C (EP30 045.6) RACK 8 FROM INNER RIGHT SIDE PANEL THROUGH BRASS FLANGE. ON OUTER SIDE ADD IN ORDER: FIXED FRICTION PLATE C (EP30 007.4) RACK 8 WITH 10-32 X $\frac{3}{4}$ SET SCREW TIGHTENED INTO REWIND DRIVER ASSEMBLY HOLE. ****BE SURE THINNER SIDE OF FIXED FRICTION PLATE IS TOWARD SIDE PANEL.** ADD A LEATHER DISC (PRW336) RACK 22. THEN A 25B26 $\frac{5}{8}$ BORE SPROCKET (PRS255A) RACK 8 CONTAINING AN ARBOR PRESSED BEARING $\frac{1}{2}$ X $\frac{5}{8}$ X $\frac{1}{2}$ (PRB043) AS07 **HUB OUT/TEETH IN.** ADD ANOTHER LEATHER DISC RACK 22. PUT HD KEY (PRX347) AS08 INTO REWIND DRIVER ASSEMBLY KEYWAY. SLIDE ON A FRICTION PRESSURE PLATE (H685 007.4A) RACK 8 WITH COUNTERBORE OUTWARD. THE EP REWIND SPRING (PRS226) RACK 10 FITS INTO THE COUNTERBORE. ADD $\frac{1}{2}$ " FLAT WASHER SAE (.500KKC01). BRUSH ANTI-SEIZE ONTO THE REWIND DRIVER ASSEMBLY THREADS. SNAP A $\frac{3}{4}$ " RETAINING RING (PRR192) AS07 INTO THE GROOVE OF A TENSION NUT C (EP30 046.4) RACK 8 **WHICH HAS REVERSE THREADS.** THREAD ONTO REWIND DRIVER AND SNUG SPRING.
- 19) INSERT RUBBER ROLL CAM SHAFT (EP60, EP30 OR EHR44 130.4) LOFT 2 **WITH LONGER END & FLAT CUT FOR HANDLE ON RIGHT SIDE,** THROUGH THE REAMED OILITE BEARINGS.
- 20) SLIDE A CAM (H850 133.4) AS07 ONTO EACH END OF THE SHAFT ON THE OUTSIDE OF SIDE PANELS AND SECURE IN SHAFT HOLES. USE A 10-32 X $\frac{3}{4}$ SET SCREW TO SECURE CAMS.

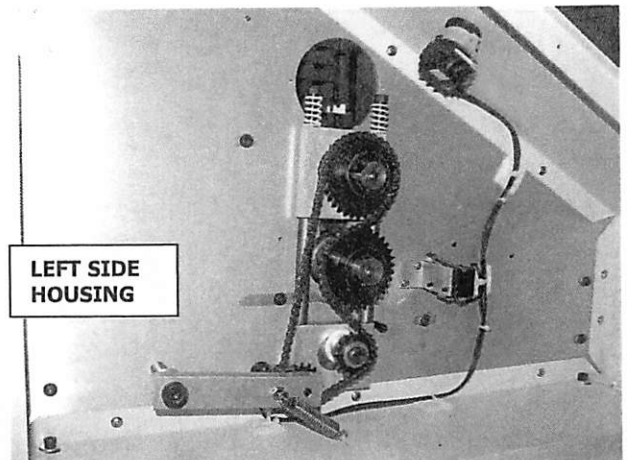
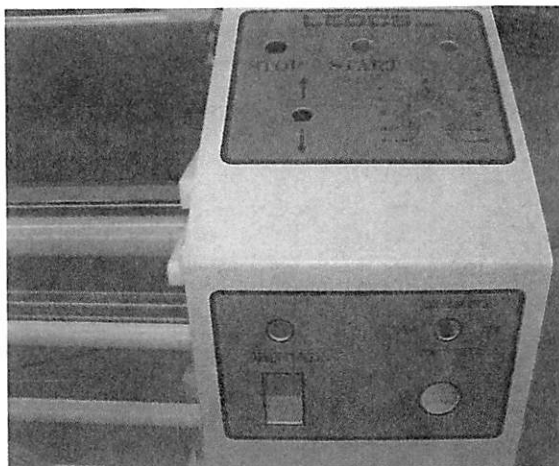
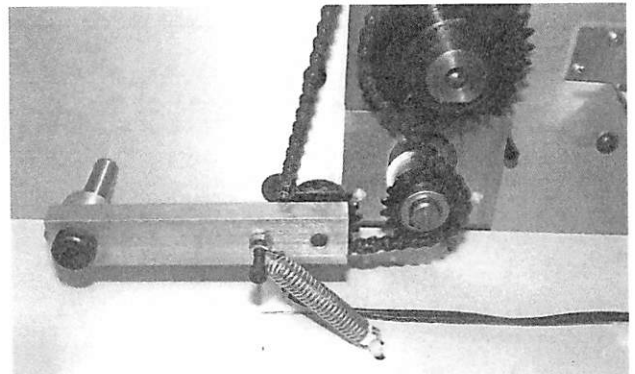
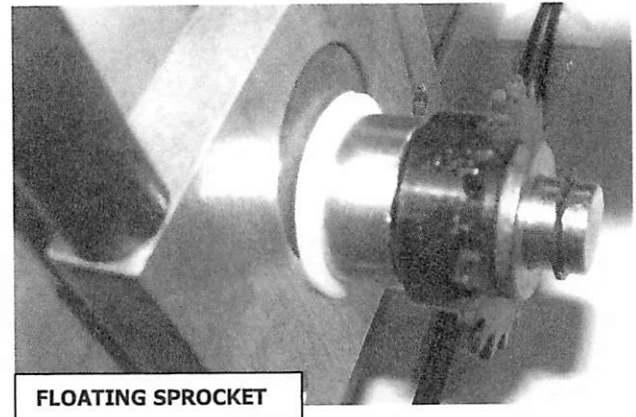
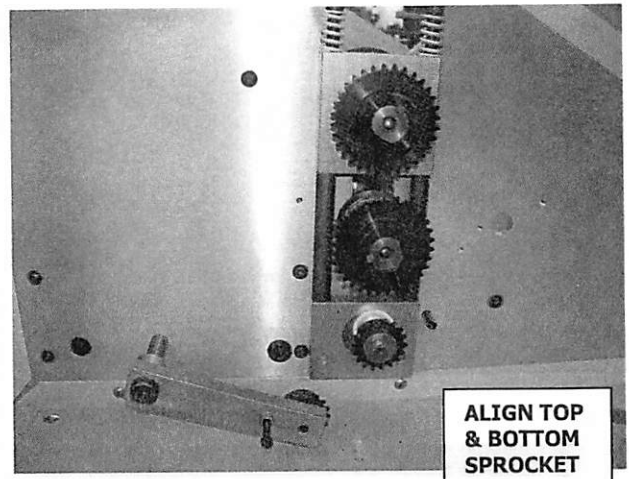


- 21) A 'HEADS UP' BEFORE SECURING LEFT BOTTOM HOUSINGS. FOR EP DUAL SYSTEM USE (TS 096.4) MACH RT BOTTOM LOFT 0. THIS HOUSING HAS A CHAIN CHANNEL. USE 8-32 X 1/4 THMS AND SLIDE OVER GROUND SCREW.
- 22) INSERT A RUBBER ROLL (D60 040.4, EHR44 035.4 OR EP30 040.4) LOFT 5/6 BETWEEN SIDE PANELS. D60 KEYWAY ON RIGHT, EP 44 ON BOTH SIDES, EP30. NONE. USE TWO PEOPLE FOR SAFETY. MEASURE AND ALIGN RUBBER ROLL.
- 23) ON EP60/30 SLIDE A 7/8 SPLIT SHAFT COLLAR (PRC112) RACK 2 ONTO BOTH JOURNALS, ON INSIDE OF SIDE PANELS. ON THE EP44 ONLY SLIDE ON A 7/8" SNAP RING (PRR193) AS07 INTO BOTH JOURNAL GROOVES. THEN ADD A THIN DIGITAL SPACER (LC38 031.4) RACK 2 ON LEFT SIDE BY OUTER SNAP RING.
- 24) TAP A BALL BEARING 1640Z (PRB087A) AS09 ONTO JOURNALS, FLUSH ON OUTER PANEL. SECURE WITH 10-32 X 1/4 THMS. CENTER ROLL. SLIDE 7/8 SPLIT SHAFT COLLAR ON EP60/30 FLUSH WITH INNER BALL BEARING. TIGHTEN SHAFT COLLAR.
- 25) INSERT THE UPPER 60, 44 OR 30 RUBBER ROLL ALIGNING RUBBER WITH BOTTOM RUBBER ROLL. ADD TO EACH JOURNAL A TOP RUBBER ROLL GUIDE BUSHING (EHR44 044.4) RACK 14 THE CHANNEL FITS IN BOTH SIDE PANELS, WITH LONGER SLEEVE ON THE INSIDE.
- 26) BRUSH "ANTI-SEIZE" LUBRICANT ON CIRCUMFERENCE OF RIGHT AND LEFT CAMS. SLIDE CONNECTING PLATE ASSEMBLIES ONTO TOP RUBBER ROLL JOURNALS AND OVER CAMS.
- 27) SLIDE A TEFLON WASHER (PRW337) RACK 8 ONTO BOTH ENDS OF CAM SHAFT FLUSH WITH CAMS.
- 28) SLIDE ON A 1/2" SHAFT COLLAR (PRC096) AS09 NEXT TO BOTH TEFLON WASHERS, LEAVING A SLIGHT GAP AND TIGHTEN.
- 29) ON BOTH TOP RUBBER ROLL JOURNALS SNUG CONNECTING PLATE TO GUIDE BUSHING AND SECURE WITH A 7/8" SPLIT SHAFT COLLAR (PRC112) RACK 2.



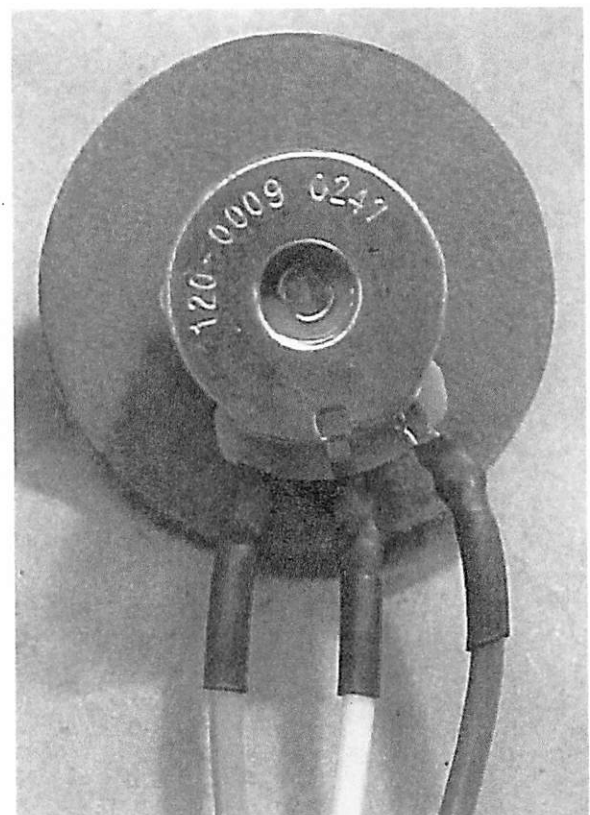
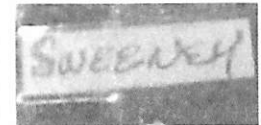
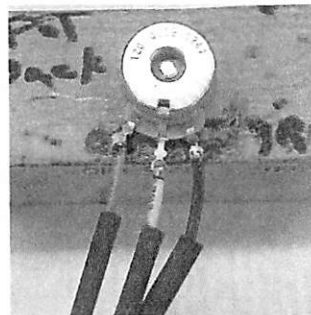
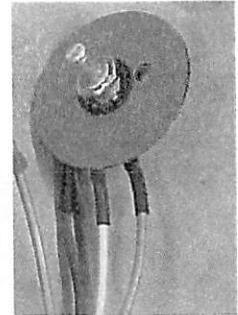
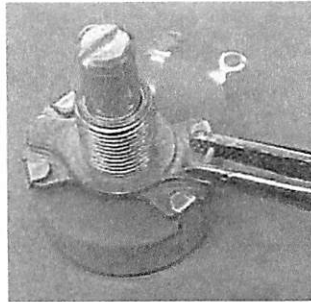
ONTO THE LEFT SIDE CAM SHAFT, WITH THE HUB INWARD, OILITE FLANGE OUTWARD. SECURE SPROCKET WITH A SNAP RING (PRR191) LD05.

- 37) SECURE TENSION SPRING ARM BY HOOKING ONE END OF LEE SPRING (PRS223) RACK 10 BETWEEN OUTER SOCKETHEAD THREADS AND #10 KEPS HEX NUT WITH THE OTHER SPRING END CABEL TIED TO THE HOUSING FLOOR THROUGH (2) HOLES PROVIDED. ALIGN TENSION ARM SPROCKET TEETH WITH BOTTOM ROLL SPROCKET TEETH AND TIGHTEN SET SCREW. ALIGN TEETH ON TOP AND BOTTOM ROLL, TIGHTEN SET SCREWS. ADJUST STOP COLLAR FOR PLAY.
- 38) WITH CONNECTING LINK FACING INWARD, CONNECT THE EP IDLER CHAIN OVER THE TOP SPROCKET, TO THE REAR OF THE LOWER RUBBER ROLL SPROCKET AND TO THE FRONT OF THE FLOATING SPROCKET. PLACE CHAIN AROUND TENSION SPRING ARM SPROCKET.
- 39) ON UPPER RIGHT HOUSING (EP60 094.4RT) AS12 ADHERE FROM RACK 10 A START/STOP CONTROL PANEL LABEL (LAB EP60-1) CENTERED OVER THE UPPER CONTROL OPENINGS. BELOW THE START/STOP LABEL ADHERE THE MAIN POWER LABEL (LAB EP60-2).



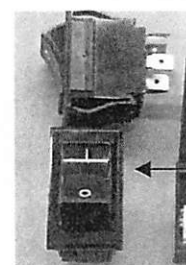
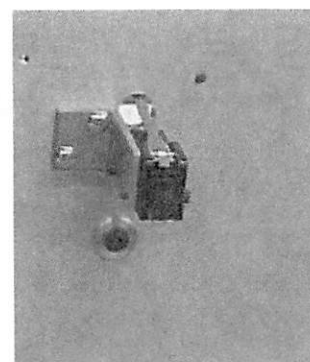
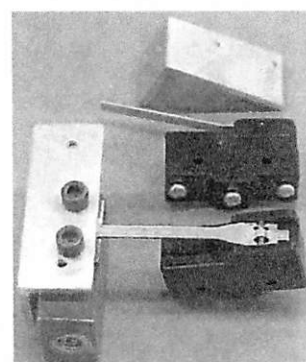
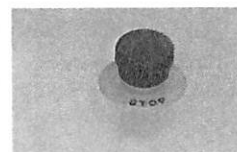
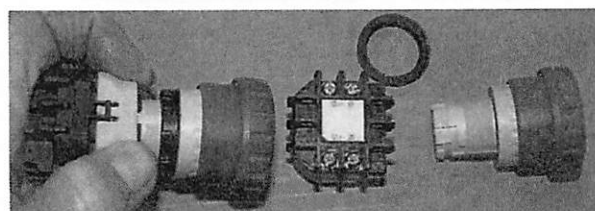
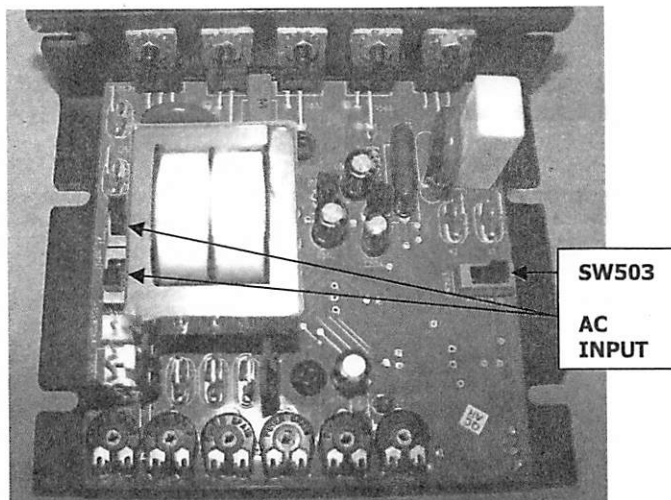
ECONOCRAFT 44, 60 POTENTIOMETER

- 1) BREAK OFF TAB FROM STEM SIDE OF POTENTIOMETER IN MINARIK SPEED CONTROL UNIT (PRM218D) RACK 10.
- 2) CUT (3) $\frac{3}{4}$ INCH PIECES OF $\frac{3}{16}$ INCH BLACK SHRINK INSULATION TUBING (PRI165) CAB1 AND SLIDE ONE PIECE OF TUBING OVER EACH INDEPENDENT OPEN ENDED ORANGE, YELLOW AND GRAY WIRES IN BAG 1 OF 110V NRTL ECONOCRAFT 60 WIRING HARNESS (PRW360U) RACK 8 OR (PRW360U-220) FOR NRTL 220V RACK 10.
- 3) WITH STEM FROM POTENTIOMETER FACING AWAY FROM YOU AND TERMINAL POSTS FACING DOWNWARD, CAREFULLY SOLDER ORANGE WIRE TO LEFT POST, YELLOW WIRE TO MIDDLE POST AND GRAY WIRE TO RIGHT POST.
- 4) SLIDE THE THREE PIECES OF BLACK SHRINK INSULATION TUBING UP OVER SOLDERED CONNECTIONS AND HOLD IN THAT POSITION WITH NEEDLE NOSE PLIERS; SHRINK TUBING OVER SOLDER CONNECTION COVERING AS MUCH TERMINAL AS POSSIBLE.
- 5) TERMINATE THE OPEN END OF THE THREE ATTACHED WIRES WITH (3) RED FULLY INSULATED FEMALE FASTONS (PRT331).
- 6) SLIDE PAPER WASHER, THEN TOOTHED WASHER OVER STEM AND ADD HEX NUT PROVIDED TO HOLD IN POSITION UNTIL NEEDED FOR ASSEMBLY.



ECONOCRAFT 44, 60 HOUSINGS & SWITCH PREPARATIONS 2015

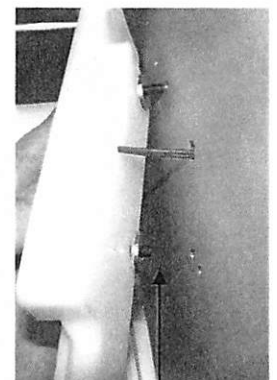
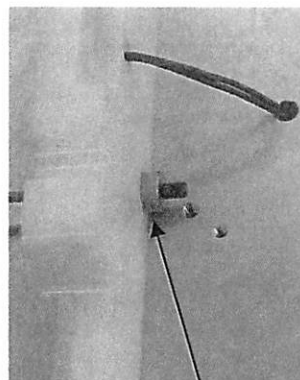
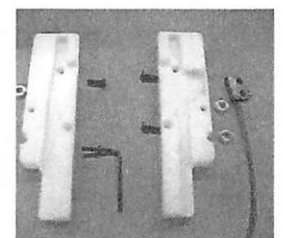
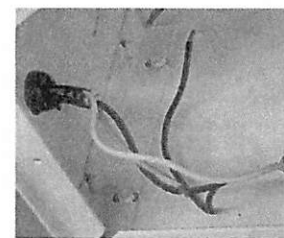
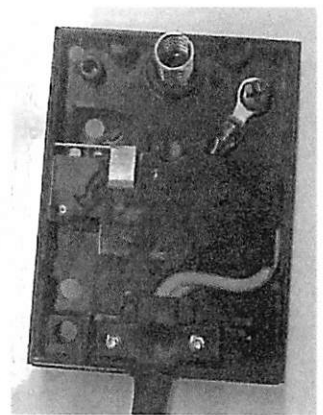
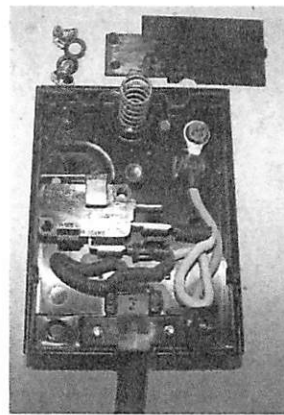
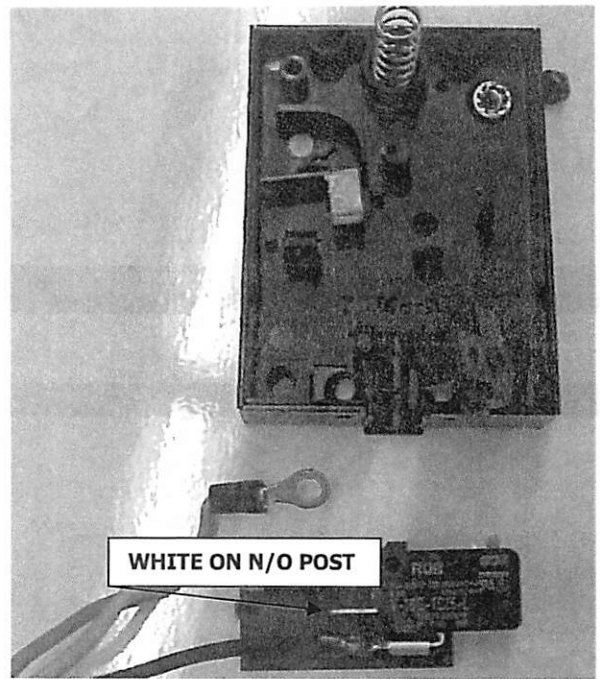
- 1) ATTACH MINARIK MOTOR CONTROL (PRM218D) RACK 10 TO RIGHT SIDE PANEL AFTER ADJUSTING THE (3) SWITCHES ON BOARD: FOR A 110 VOLT MACHINE: SW503 TO 90 AND AC INPUT TO 115 ON BOTH SWITCHES. FOR A 220 VOLT MACHINE: AC INPUT IS 230 ON BOTH AND SW503 TO 90. USE (2) 8-32 X 3/8 TH WITH #8 STAR WASHERS BETWEEN SIDE PANEL AND BOARD.
- 2) TO SEPARATE THE (2) EMERGENCY STOPS (PRS374) AS07 PULL BACK THE YELLOW SPRING LOADED KEEPER AND TWIST THE RED BUTTON SECTION. UNTHREAD THE BROWN NUT. PLACE THE YELLOW EMERGENCY DISC (PRS375) AS07 OVER THE OPENINGS ON THE TOP FRONT RIGHT AND LEFT HOUSINGS (EP60 094.4RT AND EHR44 094.4LTA) AS12 AND AS09. ALIGN DISC AND TEETH ON EMERGENCY STOP AND INSERT BUTTON SECTION WITH "TOP" INDICATION UPWARD. RETHREAD NUT AND TIGHTEN WITH CASTLE TOOL.
- 3) FROM RACK 1 ASSEMBLE LEVER TYPE MICROSWITCH (PRS313) BY BENDING END OF LEVER UPWARD ON SWITCH WITH TOOL PICTURED. INSERT (2) 6-32 X 1 SHCS EACH WITH A #6 FLAT WASHERS THROUGH MICROSWITCH INTO SAFETY SWITCH BRACKET (LC38 170.4). ALIGN BRACKET SO BENT LEVER GOES THROUGH SIDE PANEL, WITH BEND FACING UP TO BE ACTIVATED BY SAFETY SHIELD WHEN PLACED INTO FEEDTABLE BRACKETS. MICROSWITCH BRACKET ATTACHES TO LEFT SIDE PANEL WITH (2) 6-32 X 1/4 RH.
- 4) EP30, 44, AND 60 USE A BROWN DRIVE ROCKER SWITCH, ON/OFF (PRS290) AS07 STAMPED I/O FOR ON/OFF. WITH THE "I" IN THE UPWARD POSITION SNAP THE SWITCH INTO THE RIGHT HOUSING TOP. THE "O" FOR "OFF" IS IN THE DOWNWARD POSITION AND THE



DRIVE ROCKER SWITCH
SNAP INTO HOUSING WITH I/ON INDICATOR IN UPWARD POSITION

TERMINAL POSTS ARE POSITIONED
DOWNWARD IN HOUSING.

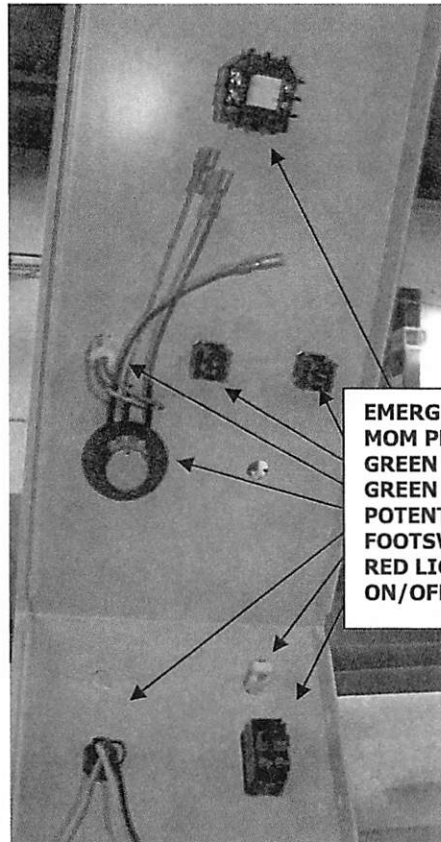
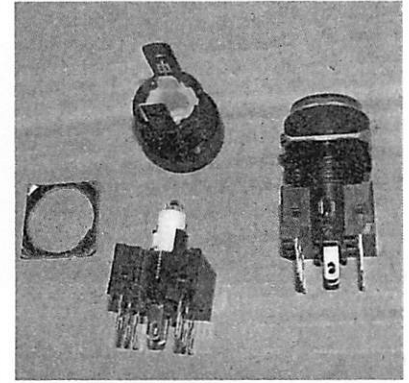
- 5) TO THE ASSEMBLE TREADLINE
FOOTSWITCH (PRS280) RACK 8 FIRST
CUT 12 FEET OF 16/3 BLACK CORD
(PRC115) AS15. STRIP 3 INCHES OF
SHEATHING OFF ONE END, TRIM AND
DISCARD INSULATION. TERMINATE
GREEN GROUND WIRE WITH BLUE RING
(PRT277) AND BLACK AND WHITE WIRES
WITH BLUE FEMALE (PRT292). REMOVE
(2) SIDE SCREWS AND WASHERS FROM
FOOT SWITCH. CATCH AND REMOVE
SPRING INSIDE. ALIGN GREEN INNER
SCREW ON UPPER RIGHT. REMOVE THE
PLASTIC "COM" COVER UNDER METAL
CLICKER. REMOVE (2) SMS SCREWS ON
BOTTOM AND SLIDE OFF COVER.
CONNECT WHITE WIRE TO "N/O" POST
(NORMALLY OPEN) CLOSEST TO "COM"
POST. REMOVE GROUND SCREW AND
SECURE GREEN WIRE USING STAR
WASHER. ATTACH BLACK WIRE TO
SILVER "COM" POST. SNAP ON "COM"
COVER. SECURE CORD WITH CAP.
REPLACE SPRING AND ALL SCREWS.
- 6) ON OTHER END OF FOOTSWITCH CORD
STRIP 9 INCHES OF SHEATHING OFF
WIRES. INSERT INTO FRONT RIGHT
HOUSING TOP USING STRAIN RELEASE
CLAMP (PRB065) AS09. ABOUT ONE
INCH OF SHEATHING SHOULD BE
EXPOSED ON INNER HOUSING.
- 6) ATTACH PROXIMITY SWITCH MAGNET
(PRS351) RACK 1 WITH (2) 4-40 X 1/4 PH
RACK 2 TO RIGHT FEEDTABLE BRACKET
(D60 098.4R) AS09. ADD INSULATION
TUBING AND HEAT SHRINK. ON EP30 &
60 ONLY ATTACH RIGHT/LEFT
FEEDTABLE BRACKETS TO INNER SIDE
PANELS USING (2) 10-32 X 7/8 FHS
RACK 9 WITH A FEEDTABLE SPACER
(EP60 052.4) RACK 10 ON THREADS
BETWEEN BRACKET AND SIDE PANEL.
ON EP44 ONLY USE 10-32 X 3/4 FHS
WITH 1/4 X 5/8 X 18 FLAT WASHERS. THE
MAGNET WIRES RUN THOUGH CLOSEST
HOLE IN BRACKET AND THROUGH SIDE
PANEL. ATTACH LEFT FEED TABLE
BRACKET (D60 098.4L) AS09 TO INNER
LEFT SIDE PANEL USING THE SAME



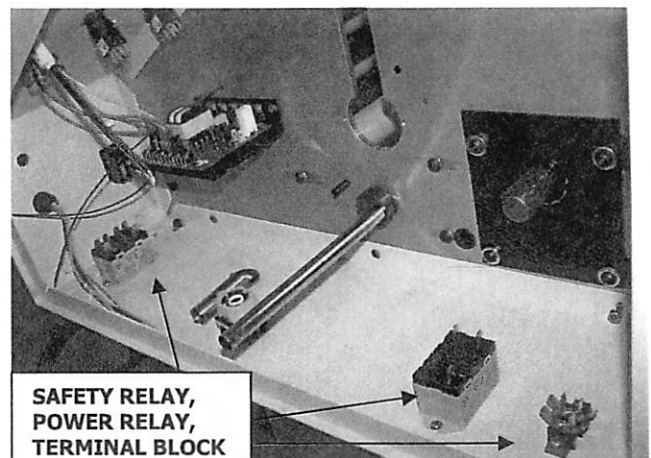
EP60 FEEDTABLE SPACER & EP44 WITH FAT WASHER

SCREWS, SPACERS OR WASHERS AS ON THE RIGHT AND LEFT SIDES.

- 7) ADD POTENTIOMETER WITH SOLDERED WIRES TO RIGHT HOUSING TOP (EP60 094.4RT) AS12 WITH THE PAPER WASHER ON INNER HOUSING AND THE TOOTHED WASHER AND NUT ON OUTER HOUSING. TERMINAL POSTS FACE UPWARD AFTER POTENTIOMETER IS TIGHTENED. ADD A MINARIK KNOB (PRM221A) AS07 ONTO THE STEM. GRAY WIRE GOES TO MOTOR BOARD S1, YELLOW TO S2 AND ORANGE TO S3.
- 8) SEPARATE AND INSERT THE RED N/C MOMENTARY TWO-PIECE SWITCH (PRS077) RACK 1 INTO THE "STOP" OPENING IN HOUSING, WITH THE LARGER TAB UPWARD. RETHREAD NUT AND TIGHTEN WITH CASTLE TOOL. SNAP ON TERMINALS WITH 'C' POST DOWN.
- 9) SEPARATE AND INSERT THE GREEN N/O MOMENTARY SWITCH (PRS078) RACK 1 INTO THE "START" OPENING IN THE HOUSING. LARGER TAB UPWARD, AND 'C' POST DOWNWARD.
- 10) INSERT THE GREEN LOW PROFILE INDICATOR LIGHT (PRL198) RACK 8 RIGHT OF GREEN MOMENTARY LIGHT.
- 11) ABOVE THE MAIN POWER SWITCH INSERT THE 110VAC RED INDICATOR LIGHT (PRL201) RACK 8.
- 12) SECURE (2) 120V RELAYS (PRR150) RACK 12 TO RIGHT HOUSING BOTTOM (EP60 094.4RB) AS12 USING 8-32 X 1/4 RHMS. ORIENT RELAYS WITH DOUBLE POSTS FACING REAR.
- 13) FROM AS08 ADD (2) 45 DEGREE TERMINALS (PRT307) AND (2) 180 DEGREE TERMINALS (PRT306) TO THE 2 COND. TERMINAL BLOCK (PRT304). SECURE BLOCK BETWEEN SPARE FUSE HOLDER AND RELAY, USE 8-32 X 1/2 PH.
- 14) ON THE LEFT HOUSING, CENTER AND ADHERE A LEDCO LABEL (LAB05A) AS08 BETWEEN THE EMERGENCY STOP DISC AND THE LOWER HOUSING BEND.

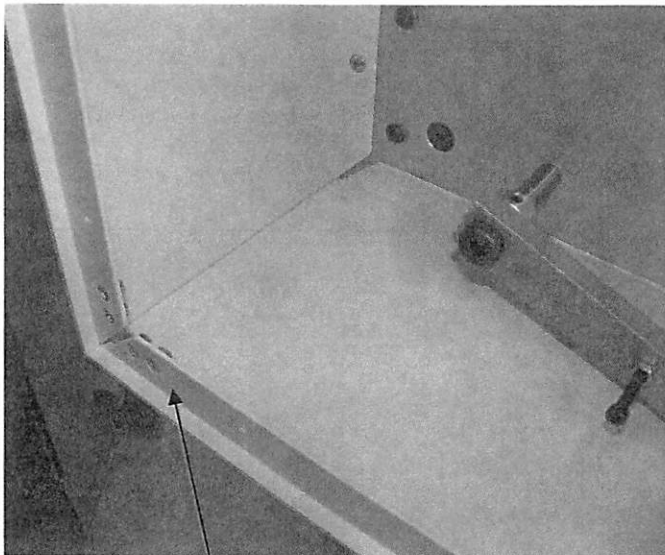
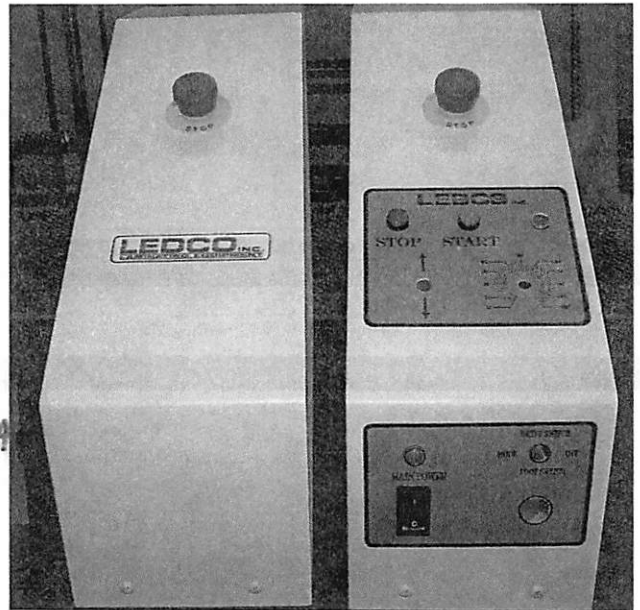


EMERGENCY STOP RED MOM PRS077
GREEN MOM PRS078
GREEN LIGHT PRL198
POTENTIOMETER
FOOTSWITCH WIRES
RED LIGHT PRL201
ON/OFF SWITCH PRS290



SAFETY RELAY,
POWER RELAY,
TERMINAL BLOCK

- 15) SECURE TOP AND BOTTOM HOUSING TO THE RIGHT AND LEFT SIDE PANELS USING 8-32 X 1/4 THMS.
- 16) CONNECT RIGHT HOUSING TOP AND BOTTOMS TOGETHER WITH (2) CORNER HOUSING BRACKETS (D105 098.4) RACK 1 USING 8-32 X 3/8 FHMS AND #8 KEPS NEX NUT ON INSIDE.
- 17) SECURE THE LEFT HOUSING TOP TO THE LEFT HOUSING BOTTOM USING 8-32 X 3/8 FHMS AND #8 KEPS HEX NUTS ON THE INSIDE. *EH244094.4LBA*
A507



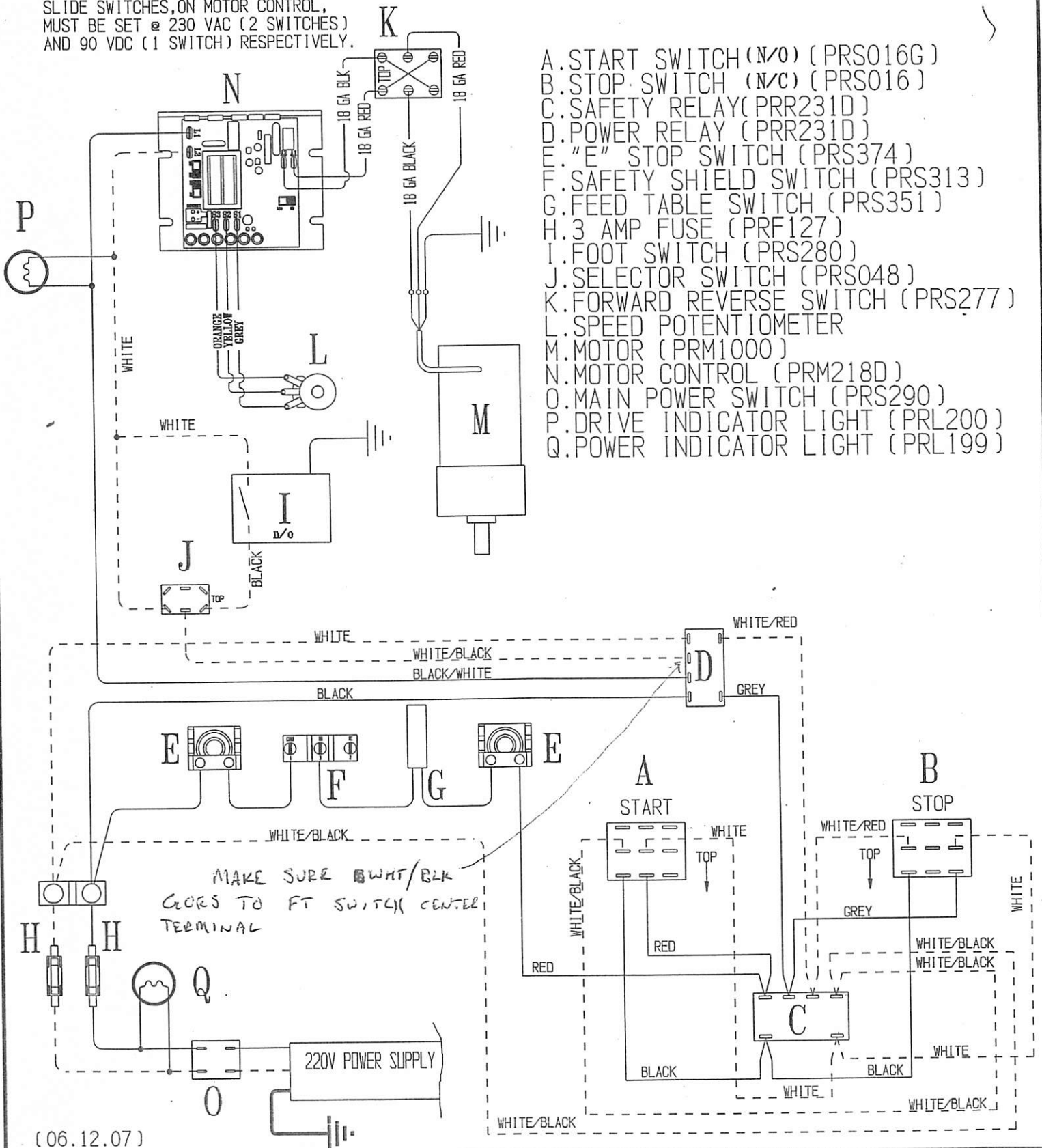
REAR LEFT SIDE CORNER HOUSING BRACKET



WIRING DIAGRAM - EP44/60 V2 LAMINATOR (220 VOLT ONLY) PRM218D MOTOR CONTROL (MINARIK MM23002D)* (NRTL VERSION)

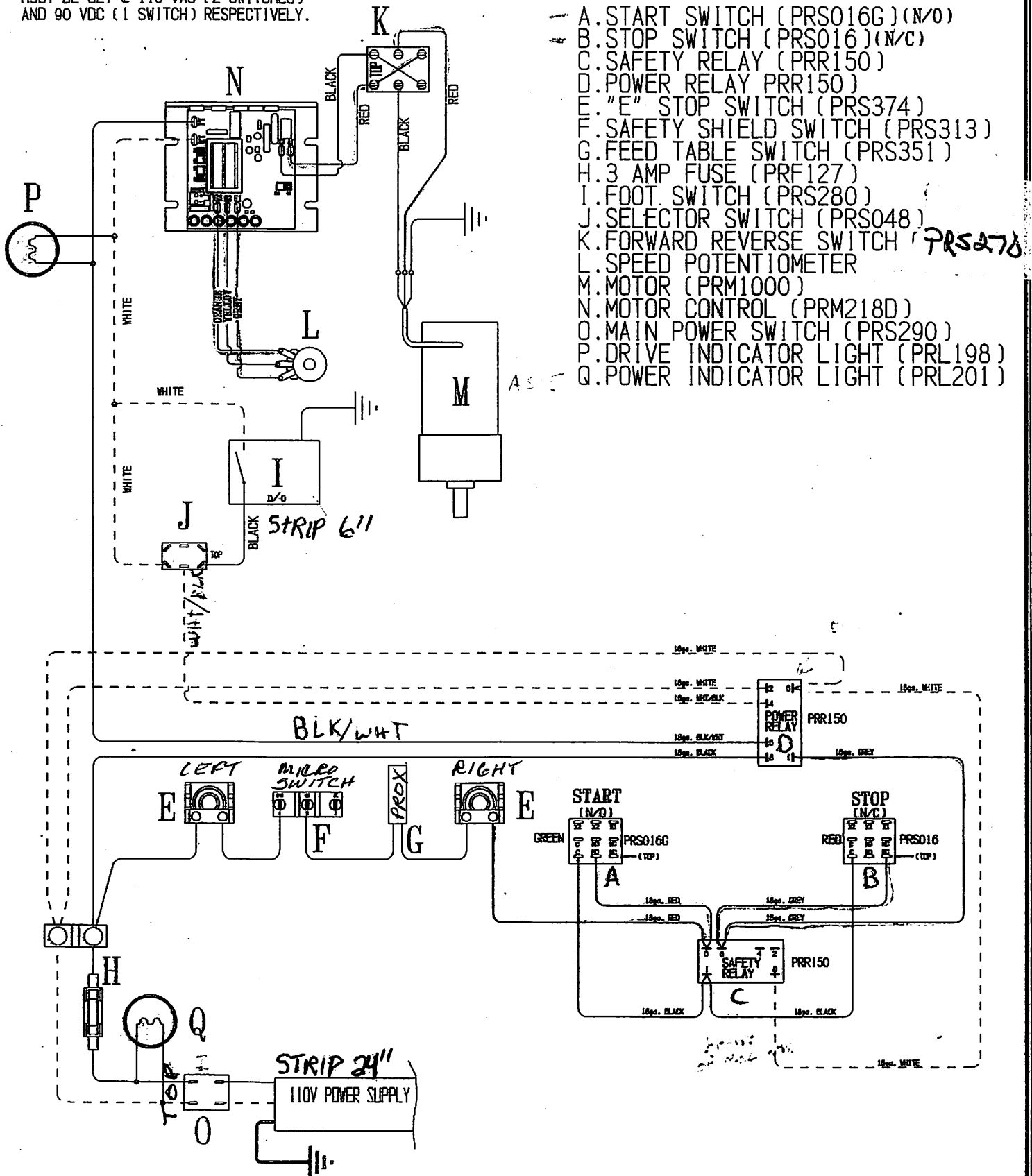
NOTE:

SLIDE SWITCHES, ON MOTOR CONTROL,
MUST BE SET @ 230 VAC (2 SWITCHES)
AND 90 VDC (1 SWITCH) RESPECTIVELY.



NOTE:

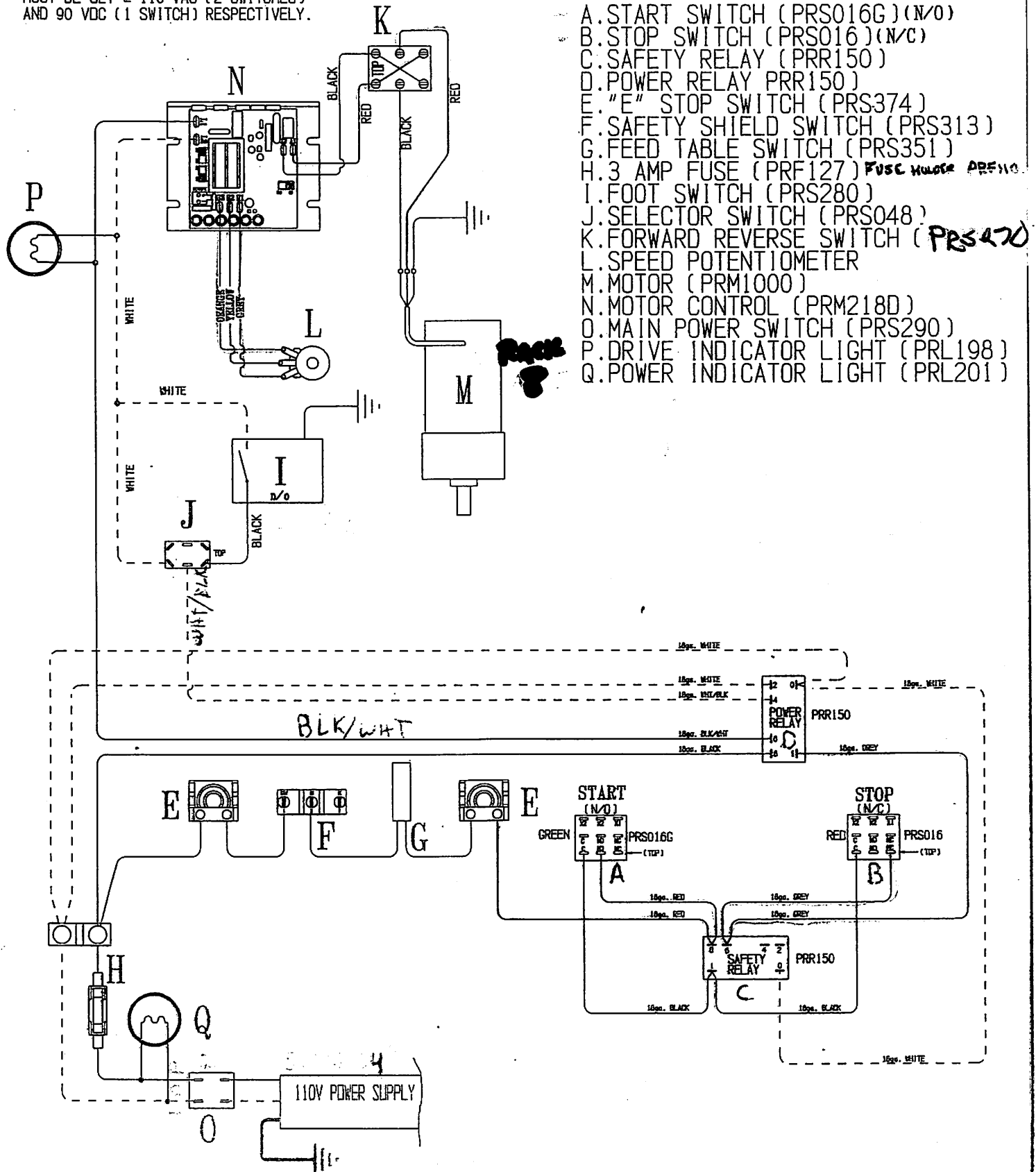
- A. START SWITCH (PRS016G) (N/O)
- B. STOP SWITCH (PRS016) (N/C)
- C. SAFETY RELAY (PRR150)
- D. POWER RELAY (PRR150)
- E. "E" STOP SWITCH (PRS374)
- F. SAFETY SHIELD SWITCH (PRS313)
- G. FEED TABLE SWITCH (PRS351)
- H. 3 AMP FUSE (PRF127)
- I. FOOT SWITCH (PRS280)
- J. SELECTOR SWITCH (PRS048)
- K. FORWARD REVERSE SWITCH (PRS278)
- L. SPEED POTENTIOMETER
- M. MOTOR (PRM1000)
- N. MOTOR CONTROL (PRM218D)
- O. MAIN POWER SWITCH (PRS290)
- P. DRIVE INDICATOR LIGHT (PRL198)
- Q. POWER INDICATOR LIGHT (PRL201)



WIRING DIAGRAM - EP44/60 V2 LAMINATOR (110 VOLT ONLY) PRM218D MOTOR CONTROL (MINARIK MM23002D) (NRTL VERSION)

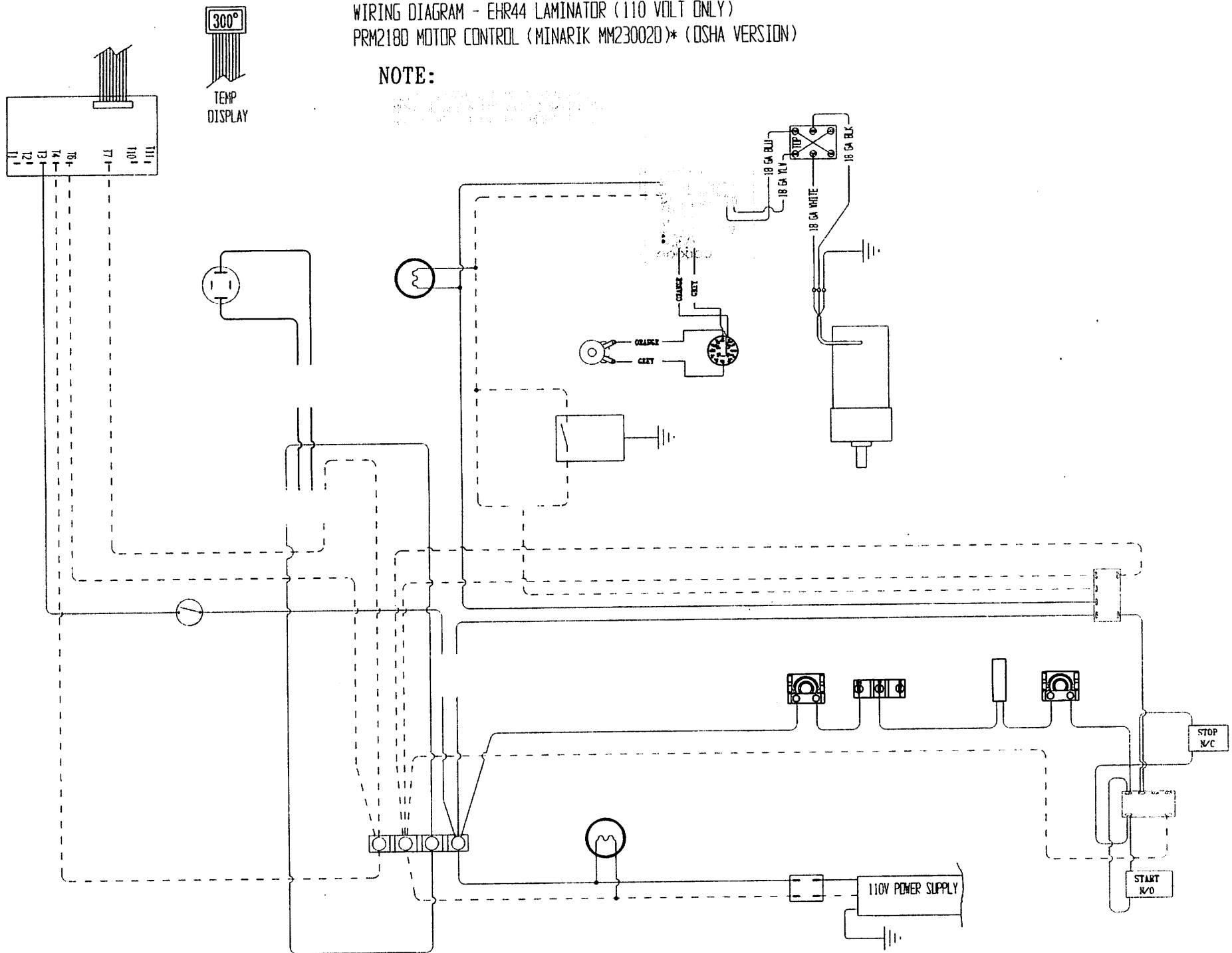
NOTE:

SLIDE SWITCHES, ON MOTOR CONTROL,
MUST BE SET @ 110 VAC (2 SWITCHES)
AND 90 VDC (1 SWITCH) RESPECTIVELY.



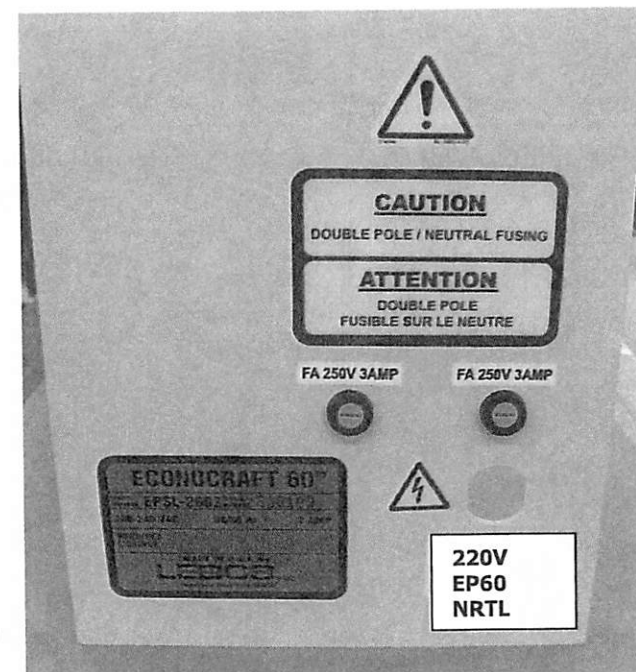
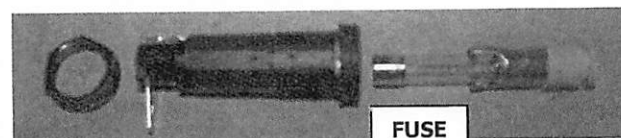
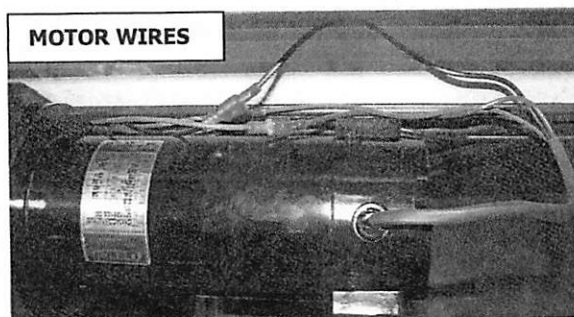
WIRING DIAGRAM - EHR44 LAMINATOR (110 VOLT ONLY)
PRM2180 MOTOR CONTROL (MINARIK MM230020)* (OSHA VERSION)

NOTE:



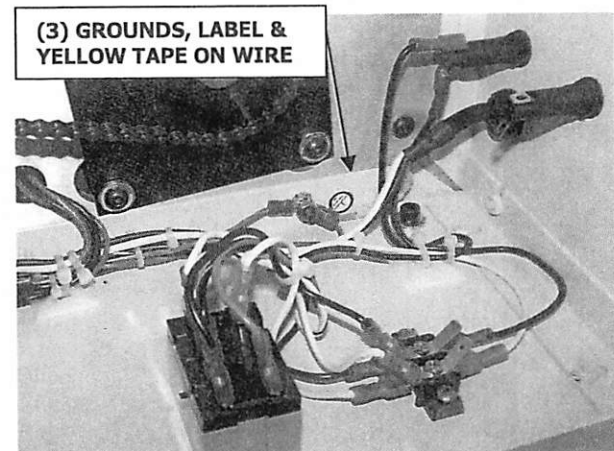
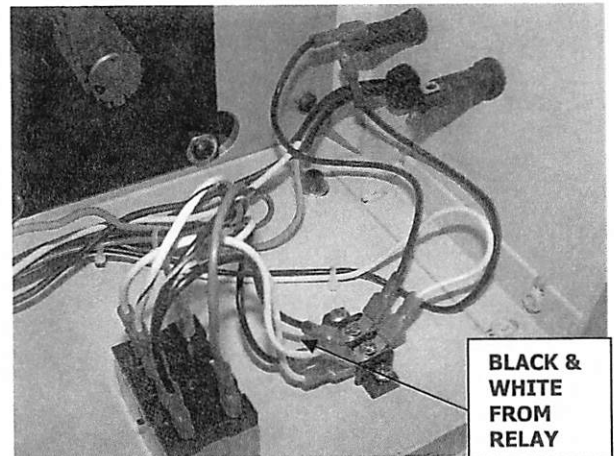
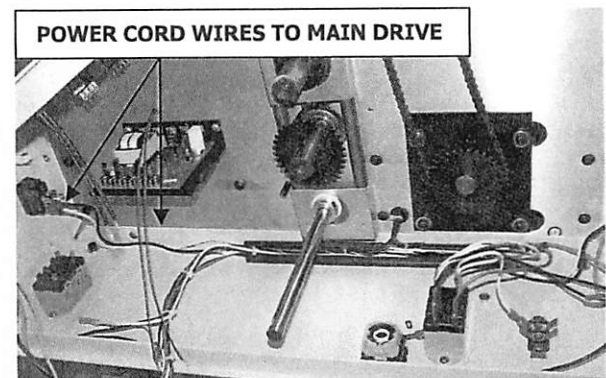
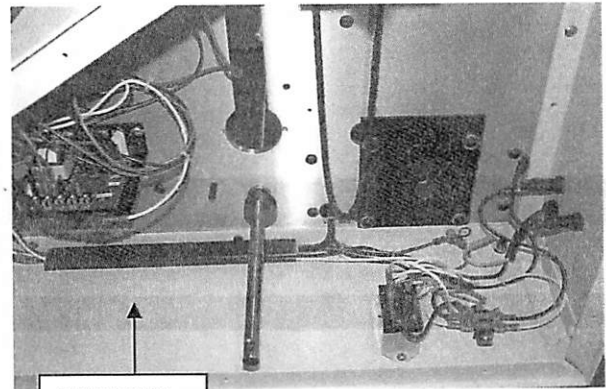
ECONOCRAFT 44, 60 WIRING PROCEDURES 2015

- 1) CONNECT (3) *MOTOR WIRES* TO SIMILAR COLOR HARNESS WIRES IN RACEWAY: RED TO RED, BLACK TO BLACK AND GREEN GROUND TO GREEN. SLIDE WIRE ENDS INTO RACEWAY AND CLAMP SHUT ALONG ENTIRE EDGE OF SPACER BAR.
- 2) ON REAR RIGHT HOUSING INSERT (2) FUSE HOLDERS (PRF110) LD02 WITH VERTICAL TERMINAL POST FACING DOWNWARD. THE THREE PART FUSE HOLDERS INCLUDE THE FUSE HOLDER ITSELF, NUT AND FUSE CARRIER. WRENCH TIGHTENED NUT ON INNER HOUSING. FOR A 110V EP60 FROM THE OUTSIDE, INSERT A LITTLE FUSE 3 AMP FUSE (PRF127) AS09 INTO CARRIER. INSERT CARRIER IN FUSE HOLDER. SECURE CARRIER WITH SCREWDRIVER DEPRESSED AND A QUARTER TURN TO THE RIGHT. FROM AS08 CENTER AN FA 250V 3 AMP FUSE LABEL NRTL LISTED (LAB122) ABOVE THE RIGHT REAR FUSE AND POWER CORD. THE SECOND 3 AMP FUSE IS A SPARE. INSERT THE SPARE 3 AMP FUSE AND ADHERE THE SPARE LABEL (LAB SPARE) ABOVE IT. LEFT OF SPARE FUSE ADHERE THE YELLOW CAUTION LABEL (LAB52). ON EP60 ~~BELOW POWER CORD ADHERE THE BLACK AND WHITE ETL LABEL. THE SERIAL LABEL ADHERES LEFT OF POWER CORD.~~ BOTH LABELS COME WITH JOB.
- 3) THE 220V EP60 REAR LABELS ARE SOMEWHAT DIFFERENT. A 3 AMP FUSE (PRF127) AS09 IS USED IN BOTH FUSE HOLDERS AND A FA 250V 3AMP FUSE LABEL IS CENTERED ABOVE EACH FUSE. ABOVE THE FA 250V 3AMP FUSE LABELS IS A YELLOW NEUTRAL FUSING LABEL (LAB103A) FROM AS08. CENTERED ABOVE THE NEUTRAL FUSING LABEL IS THE YELLOW, TRIANGULAR CAUTION LABEL (LAB52). ADHERE THE YELLOW, TRIANGULAR ELECTRICAL NOTICE LABEL

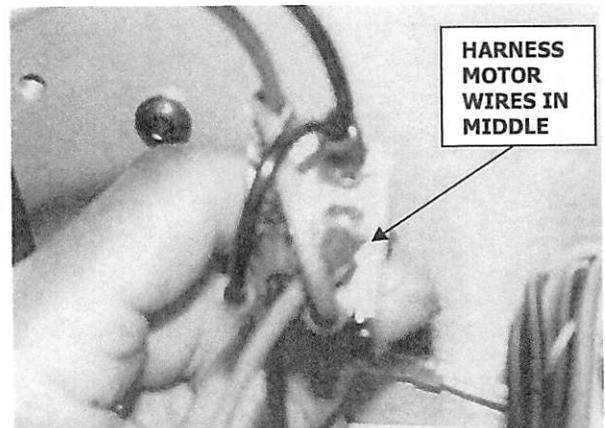
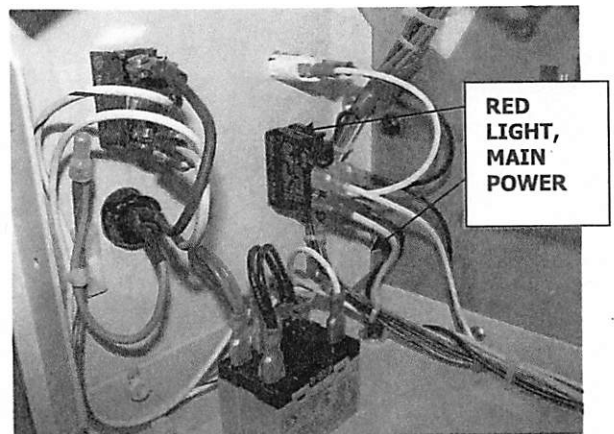
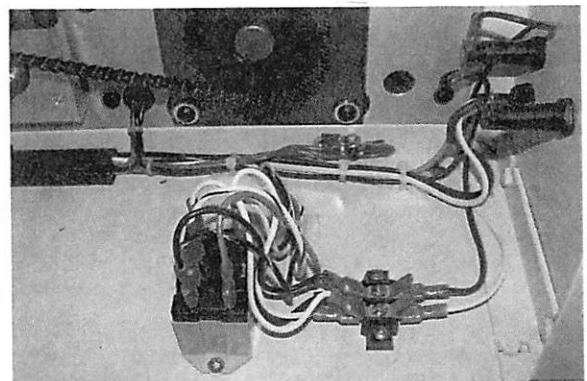
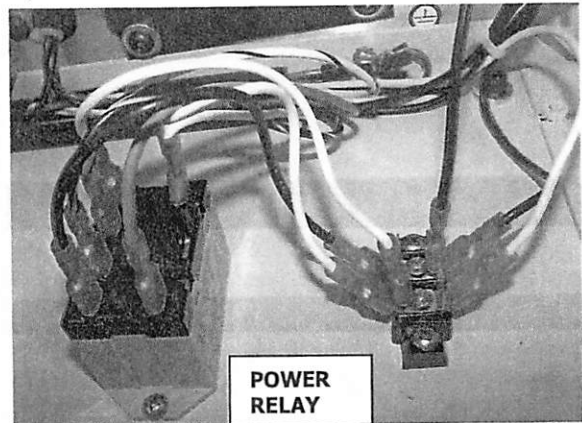


(LAB43) LEFT OF THE POWER CORD OPENING. THE 220V EPSL GRAY AND BLACK SERIAL NUMBER LABEL WITH JOB ADHERES LEFT OF THE POWER CORD.

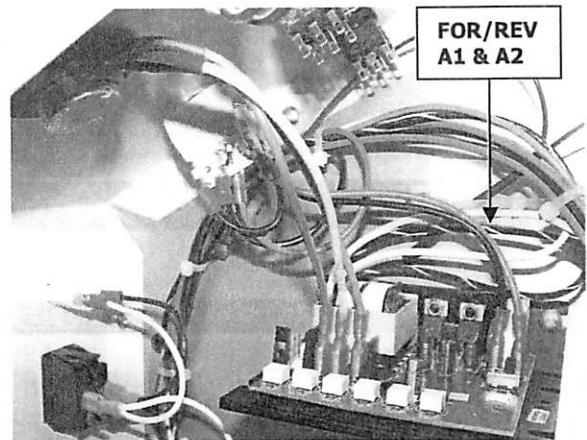
- 4) TRIM AND ADHERE REMAINING SECTION OF RACEWAY UNDER RIGHT SIDE CONNECTING PLATE. CUT A 1" OPENING IN RACEWAY FOR WIRES TO ENTER FROM SIDE PANEL BUSHING.
- 5) STRIP 24" OF BLACK SHEATHING OFF 16/3 POWER CORD 12' (PRC119) RACK 8. DO NOT DAMAGE INDIVIDUAL WIRE COVERING. SLIDE A STRAIN RELIEF BUSHING (PRB065) AS09 ONTO POWER CORD. MEASURE ENOUGH SHEATHING COVERED CORD ON THE INSIDE OF THE HOUSING TO SECURE ON STRAIN RELIEF. FOR 220V, (PRC120) RACK 14.
- 6) CRIMP A FIF (PRT331) ONTO THE BLACK AND WHITE *POWER CORD* WIRES. THESE WIRES WILL RUN THROUGH THE RACEWAY. CONNECT TO THE MAIN POWER ON/OFF ROCKER SWITCH, LOWER TERMINALS, WITH THE BLACK WIRE INSIDE BY THE SIDE PANEL.
- 7) ADHERE THE GROUND LABEL (LAB06) WB09 ABOVE GROUND SCREW.
- 8) TRIM THE GREEN POWER CORD WIRE TO LOOP BY GROUND SCREW. CRIMP A BLUE RING (PRT277) ONTO THE GREEN GROUND POWER CORD WIRE. IF THE GROUND WIRE DOES NOT HAVE A YELLOW STRIPE THROUGH THE GREEN COVERING, ADD YELLOW TAPE TO WIRE WB09.
- 9) PLACE A #8 STAR WASHER ON THE GROUND SCREW THROUGH SIDE PANEL AND HOUSING. ADD THE GREEN *POWER CORD* WIRE AND SECURE WITH #8 KEPS NUT. ADD ANOTHER #8 STAR WASHER AND SECURE GREEN MOTOR WIRE AND EXTENSION OF GREEN FOOTSWITCH WIRE. WRENCH TIGHTEN THESE GROUND WIRES WITH #8 KEPS NUT.



- 10) CONNECT 6" WHITE WIRE FROM BAG 1 BETWEEN INNER, REAR *POWER RELAY* #2 AND FRONT, OUTER 180 TERMINAL POST. CONNECT SHORTER BLACK WIRE FROM BAG BETWEEN *POWER RELAY* #8 AND INNER 45 DEGREE TERMINAL POST.
- 11) CONNECT THE SHORTER BLACK WIRE FROM HARNESS BUNDLE TO THE FRONT, INNER 180 DEGREE TERMINAL BLOCK.
- 12) THE LONGER BLACK WIRE IN BAG 1 CONNECTS BETWEEN THE TOP POST ON 3 AMP FUSE AND THE TERMINAL BLOCK.
- 13) THE SEPARATE WHITE AND BLACK WIRES FROM HARNESS BUNDLE CONNECT: BLACK WITH SMALLER FEMALE END TO LOWER 3 AMP FUSE POST AND WHITE TO OUTER REAR TERMINAL BLOCK. TIE REAR WIRES.
- 14) CONNECT *POWER RELAY*: WHITE/BLACK TO RELAY #4, BLACK/WHITE TO #6, GRAY TO #1, DOUBLED WHITE TO #0 WITH JUMPER ON 45 TERMINAL POST.
- 15) IN THE FRONT HOUSING, CONNECT THE WHITE AND BLACK JUMPER ENDS FROM DOUBLED WIRES WITH BLUE CONNECTORS, TO THE RED *POWER INDICATOR LIGHT* POSTS. THE BLACK WIRE IS CLOSEST TO THE SIDE PANEL.
- 16) CONNECT THE BLUE FIF DOUBLED JUMPER CONNECTOR ENDS FROM THE RED POWER INDICATOR LIGHT TO THE UPPER TERMINAL POSTS ON THE *MAIN POWER SWITCH*. THE BLACK WIRE CONNECTS INWARD, BY SIDE PANEL.
- 17) CONNECT THE *FORWARD/REVERSE SWITCH* (PRS270) RACK 21 TO WIRING HARNESS AS FOLLOWS, WITH KEYWAY FACING DOWNWARD. THE RED AND BLACK FORKED WIRES FROM THE HARNESS CONNECT TO THE *MOTOR*. SECURE RED HARNESS WIRE TO MIDDLE INSIDE SCREW AND BLACK TO MIDDLE OUTSIDE. CONNECT DOUBLE RED WIRES WITH BLUE FORK CONNECTORS TO TOP OUTSIDE TERMINAL AND THE RED

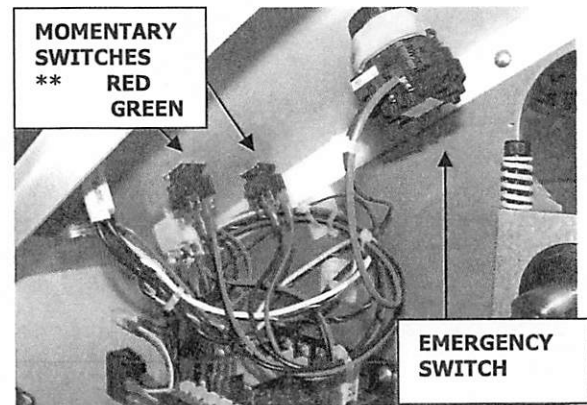


JUMPER FROM THIS CONNECTION TO LOWER INSIDE. CONNECT THE DOUBLE BLACK WIRES WITH FORK TO UPPER INSIDE AND BLACK JUMPER TO LOWER OUTSIDE. JUMPERS CROSS EACH OTHER. DOUBLED RED CONNECTS TO A1 AND DOUBLED BLACK CONNECTS TO A2 ON THE *MOTOR SPEED CONTROL BOARD*.

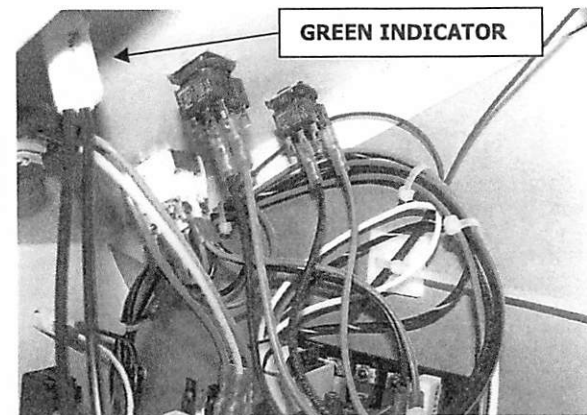


- 18) CRIMP A MALE CONNECTOR (PRT330) ONTO ONE OF THE RED *PROXIMITY SWITCH WIRES* AND UNITE THAT WIRE WITH THE BLACK HARNESS WIRE FOR THE *FEEDTABLE SWITCH*.

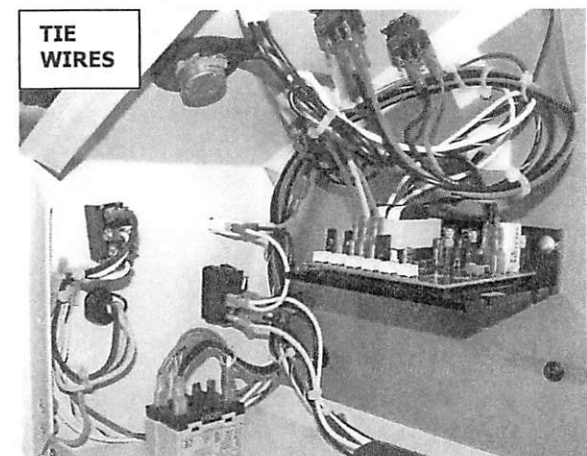
- 19) CONNECT THE SECOND OPEN ENDED RED *PROXIMITY SWITCH WIRE* TO THE *EMERGENCY STOP SWITCH* ON OUTER SCREW. THE OPEN ENDED RED HARNESS WIRE CONNECTS TO THE OTHER 21/22 SCREW ON THE *EMERGENCY STOP SWITCH*. ORIENT *EMERGENCY STOP SWITCH* WITH "R" INDICATION FOR TOP, SNAP AND TWIST WIRED SECTION OF *EMERGENCY SWITCH* ONTO BUTTON SECTION.



- 20) CONNECT THE SMALL RED FULLY INSULATED FEMALE ENDS TO THE RED AND GREEN MOMENTARY SWITCHES: CONNECT THE GRAY WIRE TO RED *STOP SWITCH NC* UPPER, INNER POST AND A BLACK WIRE TO *C* LOWER, INNER POST. CONNECT THE GREEN *START SWITCH* WITH THE RED WIRE TO *NO* INNER, MIDDLE POST AND A BLACK WIRE TO *C* INNER, LOWER POST.

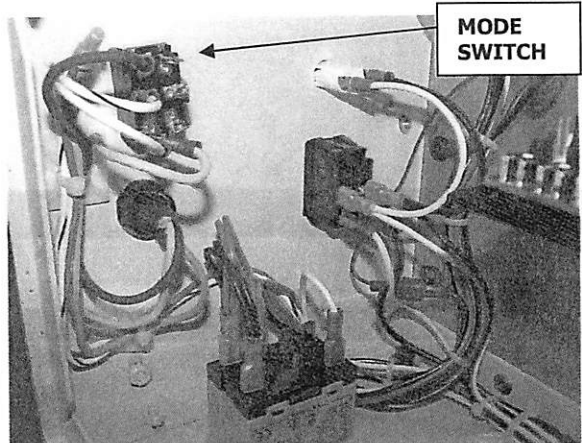


- 21) CRIMP A FIF MALE AND FEMALE CONNECTOR ONTO THE WIRES OF THE *GREEN DRIVE INDICATOR LIGHT*. UNITE THESE ENDS WITH THE HARNESS MALE AND FEMALE WHITE AND BLACK/WHITE WIRES.

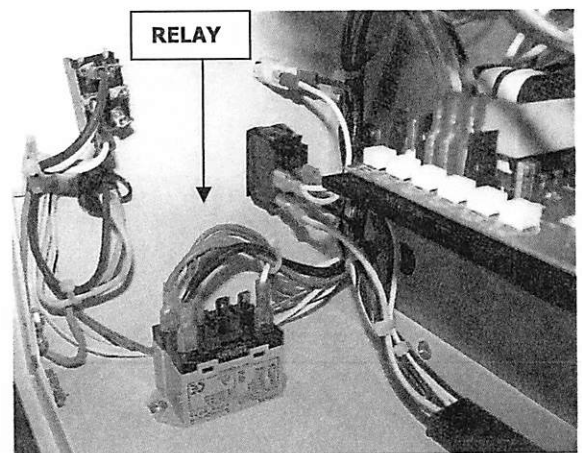


- 22) CONNECT THE DOUBLED WHITE HARNESS WIRES WITH A BLUE FEMALE CONNECTOR TO *MOTOR SPEED CONTROL BOARD* L2 POST AND THE DOUBLED BLACK/WHITE WIRES WITH A BLUE FEMALE CONNECTOR TO THE L1 POST.

- 23) CONNECT WIRES TO THE FRONT ***SAFETY RELAY*** AS FOLLOWS: THE DOUBLED RED HARNESS WIRE TO RELAY #8, THE DOUBLED GRAY WIRE TO RELAY #6, THE DOUBLED BLACK WIRE TO RELAY #1 AND THE SINGLE WHITE WIRE TO RELAY #0. THE #4 AND #2 POSTS ARE NOT USED.



- 24) CONNECT THE ***MODE SELECTOR EP30 FOOT TO DRIVE SWITCH (PRS048)*** RACK 10 TO WIRING HARNESS AND FOOTSWITCH WIRES, BEFORE INSERTING INTO HOUSING. ORIENT WITH KEYWAY FACING DOWNWARD. PUT A SMALL BLUE RING (PRT276) CONNECTOR ONTO THE BLACK FOOT SWITCH WIRE AND CONNECT TO THE TOP OUTER POST WITH MODE SWITCH SCREW. FROM THE HARNESS CONNECT THE OUTER MIDDLE POST WITH THE WHITE/BLACK STRIPED WIRE CONTINUING TO POWER RELAY. CRIMP A BLUE RING (PRT276) ONTO THE WHITE FOOTSWITCH WIRE AND CONNECT ALONG WITH THE WHITE RINGED HARNESS WIRE TO THE LOWER OUTER POST. BOTH WHITE WIRES ARE ON THE SAME LOWER, OUTER POST.

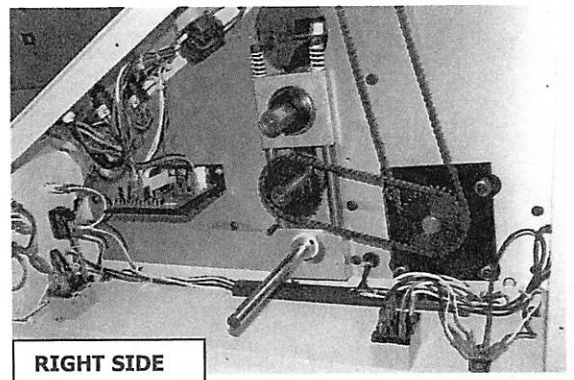


- 25) THREAD THE ROUND WASHER $\frac{3}{4}$ OF THE WAY ONTO THE MODE SWITCH STEM AND INSERT INTO HOUSING. SECURE THE MODE SWITCH ON THE OUTER HOUSING WITH THE HEX NUT. USE A WRENCH TO TIGHTEN THE HEX NUT, WITH KEYWAY DOWNWARD.

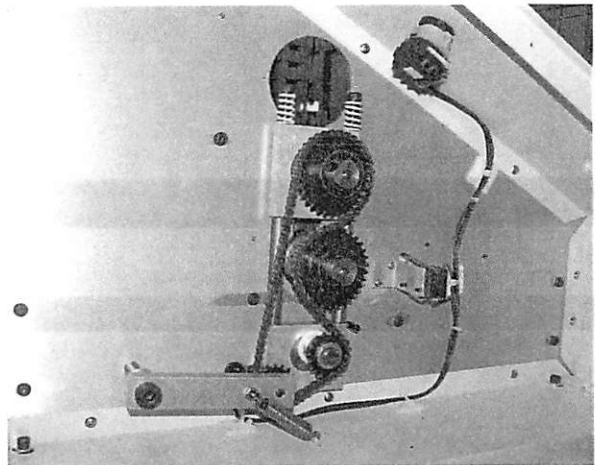


- 26) MEASURE THE GREEN GROUND ***FOOTSWITCH*** WIRE TO COMFORTABLY MEET THE GREEN GROUND WIRE FROM HARNESS. TWIST THESE GREEN WIRES TOGETHER AND CLEAR CAP THEM WITH A (PRT289). USE PRESS CLIPS AND TIE MODE SWITCH WIRES SO THEY DO NOT INTERFERE WITH HOUSING PANEL.

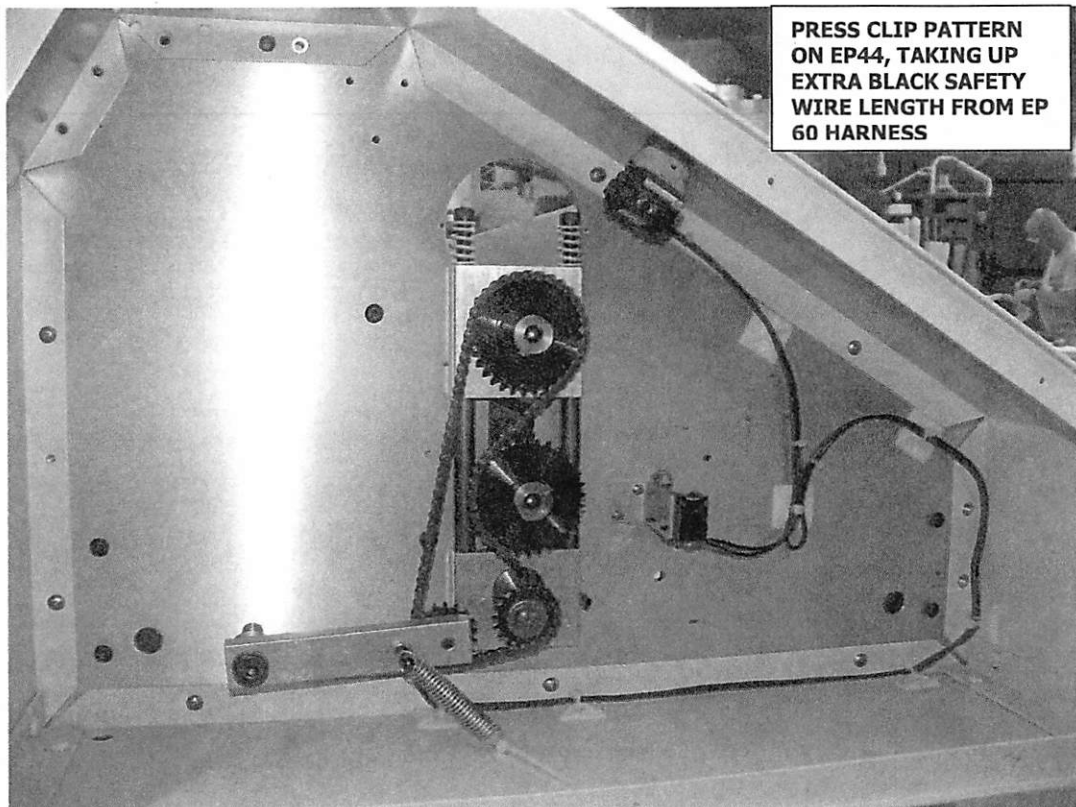
- 27) NOTE THE ***SPEED POTENTIOMETER*** WIRES CONNECT TO ***SPEED MOTOR CONTROL BOARD*** AS FOLLOWS: ORANGE TO S3, YELLOW TO S2 AND GRAY TO S1.



- 28) MOVE TO THE OTHER SIDE OF THE LAMINATOR AND WIRE THE LEFT HOUSING. CONNECT ONE OF THE BLACK FORKED WIRES FROM THE HARNESS TO OUTER SCREW ON MICRO SWITCH. CONNECT THE SECOND BLACK FORKED HARNESS WIRE TO THE MIDDLE SCREW ON THE MICRO SWITCH CONTINUING TO EMERGENCY STOP SWITCH.
- 29) THE LONGER OPEN ENDED WIRES FROM HARNESS CONNECT DIRECTLY TO THE LEFT SIDE EMERGENCY STOP SWITCH ON #11 AND 12.
- 30) NOTE POSITION OF BRADY PRESS CLIPS ON LEFT SIDE HOUSING FOR EP 44 AND EP 60. THE SAME HARNESS IS USED, SO THERE IS EXTRA WIRE ON THE EP44.



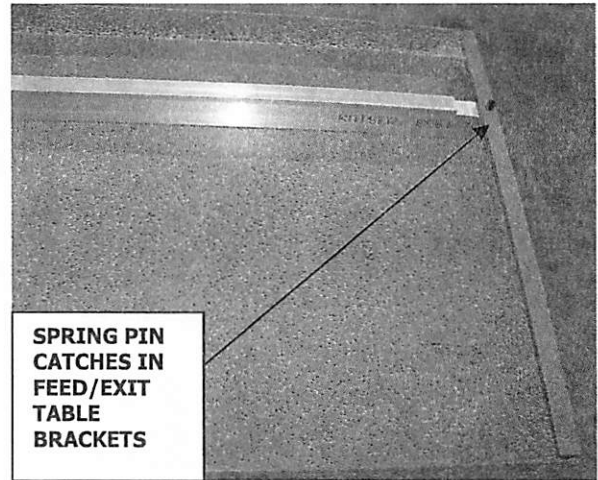
LEFT SIDE EP60 WIRES



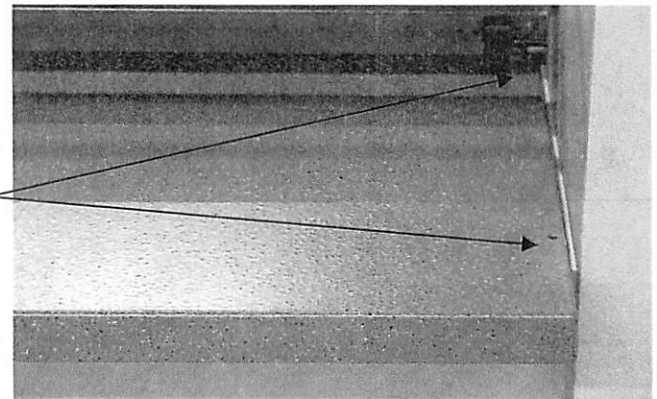
PRESS CLIP PATTERN ON EP44, TAKING UP EXTRA BLACK SAFETY WIRE LENGTH FROM EP 60 HARNESS

ECONOCRAFT 44, 60 EXIT TABLE

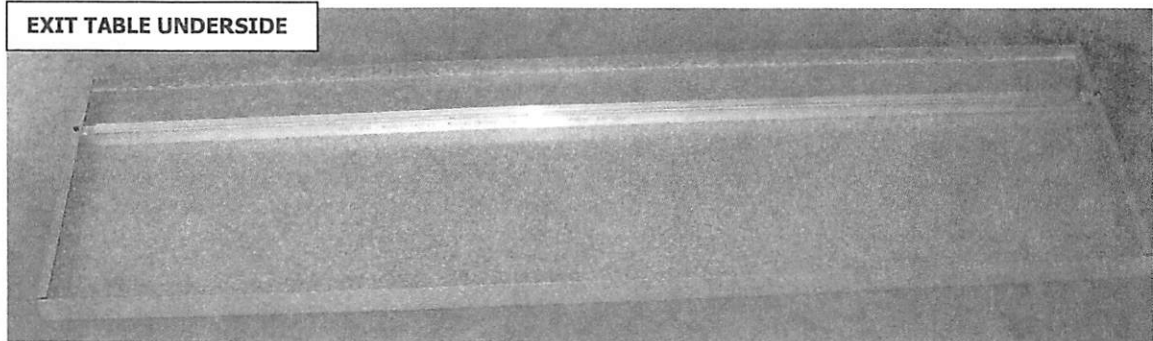
- 1) THE ECONOCRAFT 30, 44 OR 60 EXIT TABLE ASSEMBLY (EP60, EP30 OR EHR44 096.5) D-02 ARE COMPLETED IN THE LEDCO MACHINE SHOP AND REQUIRES NO ADDITIONAL WORK ON THE FLOOR.
- 2) INSTALL THE EXIT TABLE AFTER WIRING. MOUNT FROM REAR OF THE LAMINATOR BY SLIDING *ANGLED* EDGE IN FIRST. LOCK RIGHT AND LEFT PINS INTO OUTER HOLES ON RIGHT AND LEFT FEED/EXIT TABLE BRACKETS.



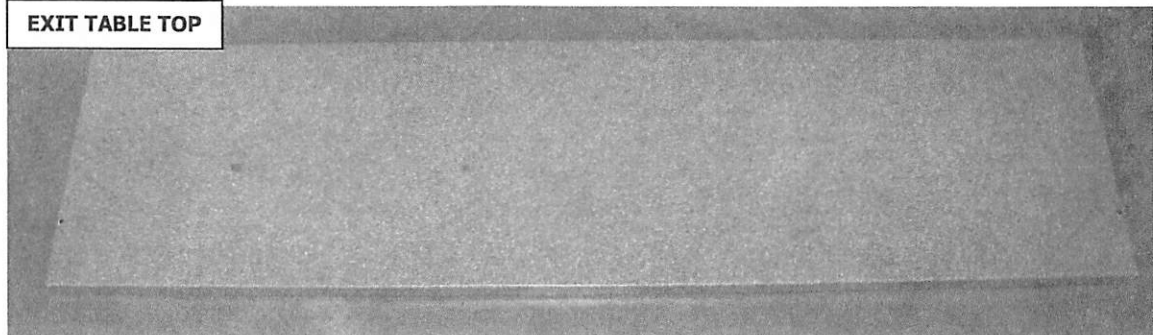
EXIT TABLE
INSTALLED IN EP:
UNDER SIDE PANEL
SPRING PIN AND
EXIT TABLE PIN IN
FEED/EXIT TABLE
BRACKET



EXIT TABLE UNDERSIDE

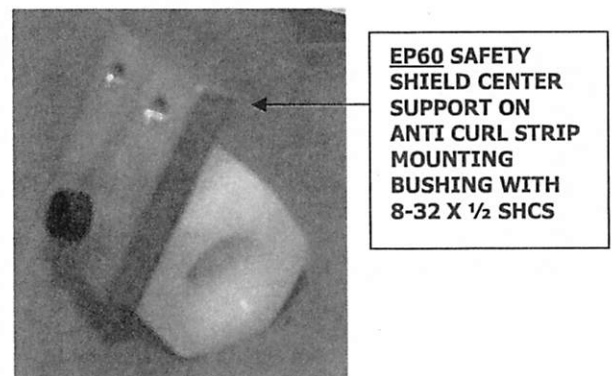
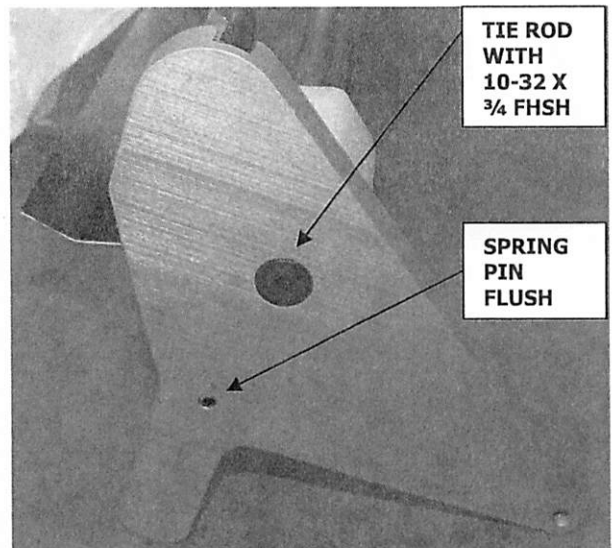


EXIT TABLE TOP

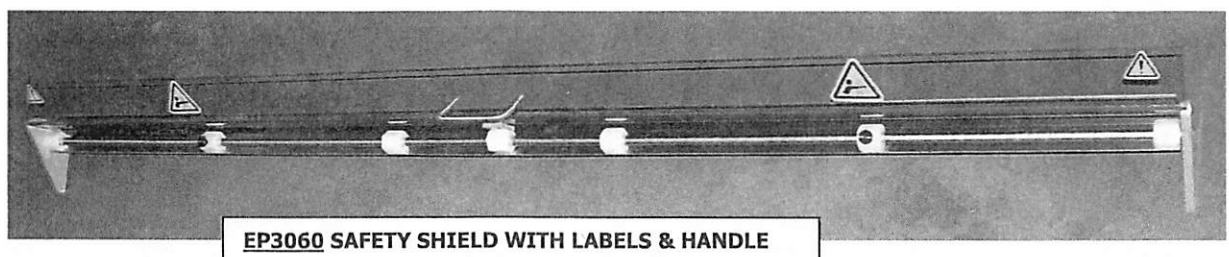
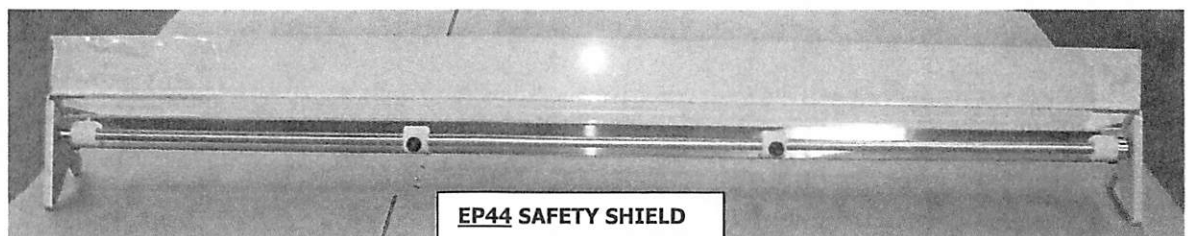
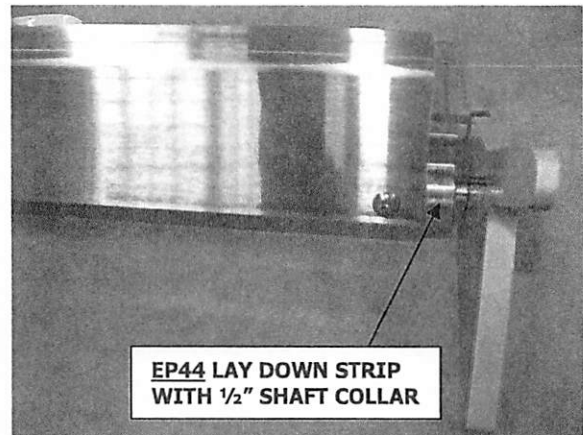
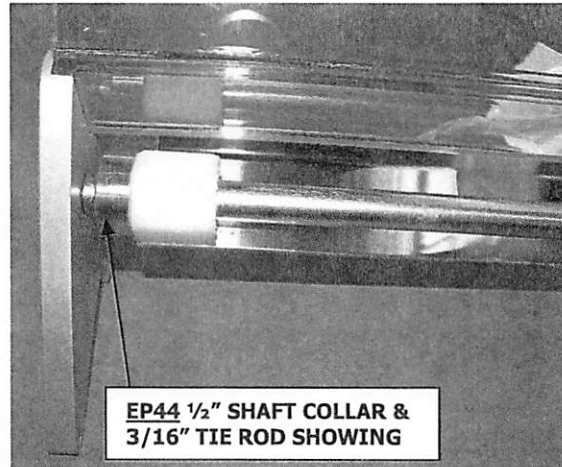
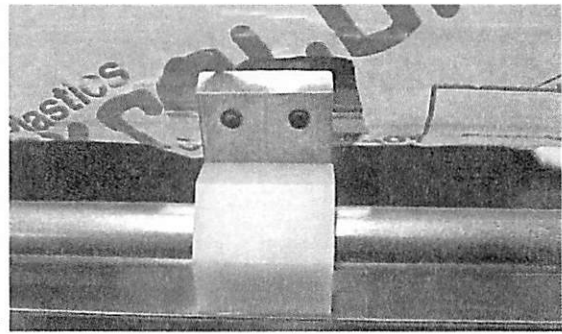


ECONOCRAFT 30, 44, 60 NRTL SAFETY SHIELD

- 1) ARBOR PRESS A 1/8 X 3/4 SPRING PIN INTO RIGHT AND LEFT SAFETY SHIELD BRACKET (D105 091.4R AND D105 091.4L) AS09 FROM GROOVED SIDE. PIN IS FLUSH ON BOTH OUTER BRACKETS.
- 2) FOR EP60 ONLY FROM AS09 ATTACH SAFETY SHIELD CENTER SUPPORT (D60 112.4) TO AN ANTI CURL STRIP MOUNTING BUSHING (D105 099.4) WITH AN 8-32 X 1/2 SHCS.
- 3) FOR EP60 SLIDE (3) ANTI CURL STRIP MOUNTING BUSHINGS ONTO SAFETY SHIELD TIE ROD/SPANNER BAR (D60 103.4) LOFT 2 WITH #10 TAPPED HOLES TO THE BACK ON THE OUTER PAIR AND THE #10 TAPPED HOLE FACING THE FRONT ON THE CENTER ONE. SLIDE ON THE ANTI CURL STRIP MOUNTING BUSHING WITH THE CENTER SUPPORT, TWO HOLES FACING UP AND TOWARD THE BACK. ADD ANOTHER (3) ANTI CURL STRIP MOUNTING BUSHINGS WITH THE #10 TAPPED HOLES FACING THE BACK ON THE OUTER PAIR AND FACING FRONT ON THE MIDDLE ANTI CURL BUSHING. SECURE THE (6) ANTI CURL BUSHINGS TO THE LAY DOWN STRIP 60" (D60 075.4) LOFT 2 WITH (6) 8-32 X 1/4 TH. *THE ANTI CURL BUSHING WITH THE CENTER SUPPORT DOES NOT ATTACH TO THE LAY DOWN SHIELD.*
- 4) EP30/44 SLIDE (4) ANTI CURL STRIP MOUNTING BUSHINGS ONTO A SAFETY SHIELD TIE ROD (EP30/EHR44 103.4) AS15/LOFT 2 WITH #10 TAPPED INNER PAIR FACING FORWARD, OUTER PAIR FACING REAR. SECURE THE ANTI CURL BUSHINGS TO A LAY DOWN STRIP (EP30 EHR44 075.4) AS15 WITH 8-32 X 1/4 TH.
- 5) THREAD (2) SPI KNOBS (PRK178) AS07 INTO #10 TAPPED HOLES ON FRONT FACING ANTI CURL BUSHINGS.

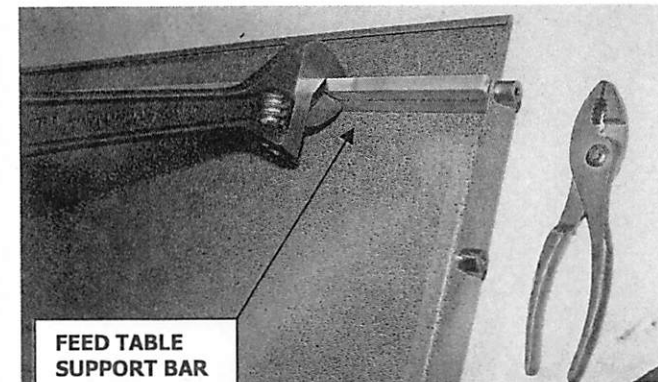
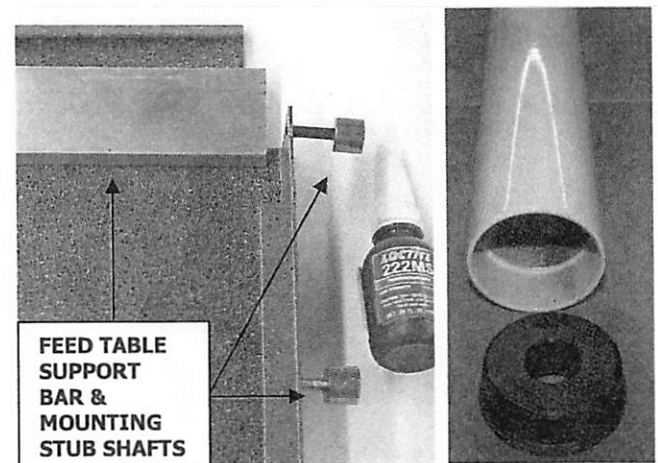
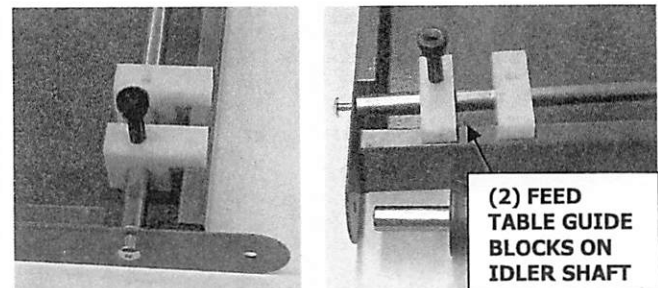
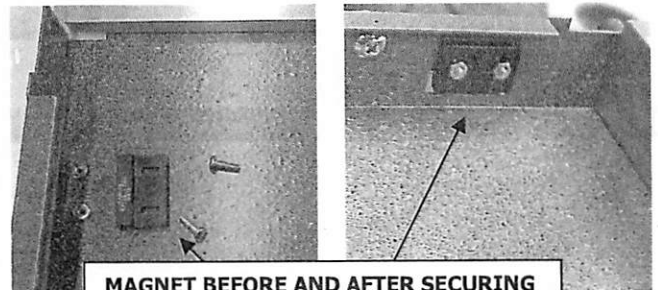


- 6) ON EP60 CUT PLASTIC AROUND CENTER HOLES ON 60" SAFETY SHIELD "A" REVISION (D60 102.4) LOFT 2. PEEL BACK PLASTIC COVERING FROM SAFETY SHIELD ENDS. ON EP30 AS17, EP44 USE SAFETY SHIELD (EHR44 102.4) AS15 AND PEEL BACK END COVERING.
- 7) ON EP44 PLACE A 1/2" SHAFT COLLAR (PRC096) AS09 ON BOTH ENDS OF TIE ROD, BESIDE ANTI CURL BUSHING. SECURE COLLAR WITH 3/16" TIE ROD SHOWING.
- 8) ATTACH RIGHT SAFETY SHIELD BRACKET TO TIE ROD END WITH 10-32 X 3/4 FHSB AND LOCTITE. SET SAFETY SHIELD INTO BOTH BRACKETS *BEFORE* SECURING LEFT SIDE TIE ROD WITH A 10-32 X 3/4 FHSB AND LOCTITE. EP60 LAY DOWN SHIELD RESTS ON THE SPRING PINS.
- 9) ON EP60 ATTACH SAFETY SHIELD CENTER SUPPORT TO SAFETY SHIELD WITH (2) 8-32 X 1/2 SHCS. THE SCREWS ENTER THROUGH THE SAFETY SHIELD AND THREADS INTO CENTER SUPPORT.
- 10) ADHERE (2) YELLOW CAUTION LABELS (LAB52) AS08 TO OUTER ENDS OF SAFETY SHIELD. ADD (2) YELLOW "ARM ENTANGLEMENT" LABELS (LAB51) AS08 CENTERED OVER BOTH OF THE SPI KNOBS ON BOTH EP44 AND EP60.
- 11) EP30/60 ADD HANDLE (PRH141) AS09 ON SAFETY SHIELD, (2) 8-32 X 1/2 PH.



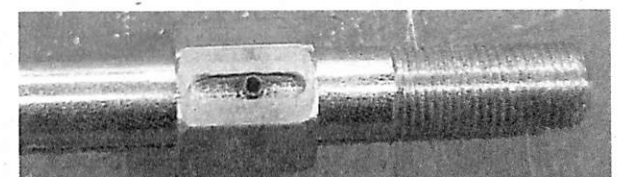
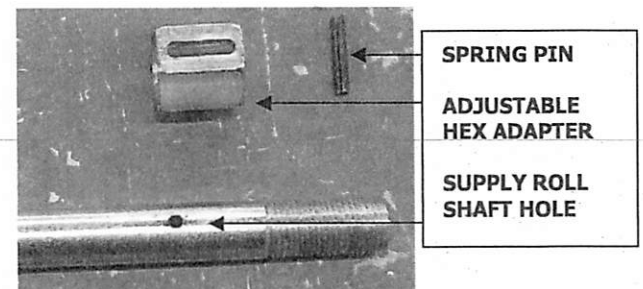
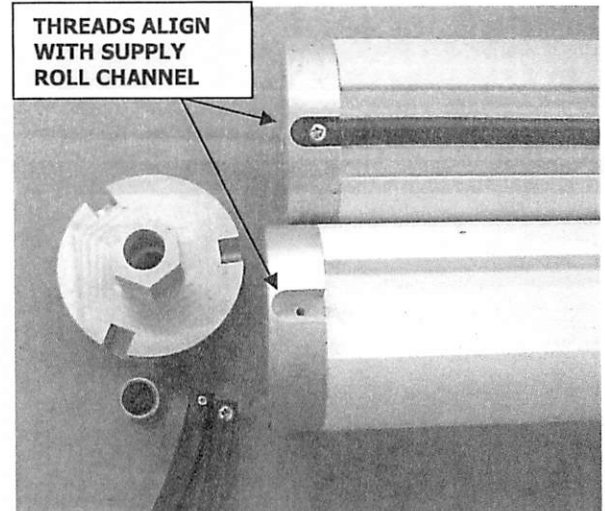
ECONOCRAFT 44, 60 FEED TABLE ASSEMBLY

- 1) LAY DIGITAL 60, EP30 OR EHR44 FEED TABLE (D60, EP30 OR EHR44 108.4) D-02 UPSIDE DOWN ON WORK BENCH. SECURE PROXIMITY SWITCH MAGNET (PRS352) RACK 1 INTO PROVIDED SLOT WITH (2) 4-40 X 3/8 PHMS ON OUTSIDE. TIGHTEN WITH (2) 4-40 NUTS INSIDE.
- 2) SLIDE (4) FEED TABLE GUIDE MOUNTING BRACKETS (D105 104.4) AS09 ONTO FEED TABLE IDLER SHAFT (D60, EP30 OR EHR44 109.4) LOFT 2. NOTE PICTURE POSITION. SECURE SHAFT WITH (2) 10-32 X 1/2 TH WITH LOCTITE ON THREADS. INSERT (2) 5/16-18 X 1 PLASTIC MOLDED THUMBSCREW (PRK184) AS08 INTO OUTSIDE GUIDE BLOCKS.
- 3) TAP (2) IDLER BEARING NYLATRON (PRB086A) AS09 ONTO ENDS OF FEED TABLE IDLER TUBE (D60, EP30 OR EHR44 054.4) D-01, AS17 OR AS15 INSERT 2ND FEED TABLE IDLER SHAFT THROUGH NYLATRON BEARINGS. SECURE TO FEED TABLE ARM IN FRONT OF GUIDE BLOCKS WITH LOCTITE ON 10-32 X 1/2 TH.
- 4) THE FEED TABLE SUPPORT BAR (D60 EP30 OR EHR44 111.4) LOFT 2, AS17 OR AS15 IS ANGLED WHEN FIRST ATTACHING TO THE REAR OF THE FEED TABLE. LOCTITE HALF OF THE THREADS ON (2) 10-32 X 3/4 SHSS AND INSERT THAT HALF THROUGH FEED TABLE AND INTO SUPPORT BAR. FLIP SUPPORT BAR UPRIGHT. LOCTITE REMAINING THREADS AND ATTACH (2) FEED TABLE MOUNTING STUB SHAFTS (D105 101.4) AS09 WITH BEVELED SIDE OF STUB OUT.
- 5) ADD ANOTHER PAIR OF FEED TABLE MOUNTING STUB SHAFTS ON OUTER RIGHT AND LEFT SIDES. SECURE WITH (2) 10-32 X 1/2 TH FROM INNER EDGE, LOCTITE THREADS.

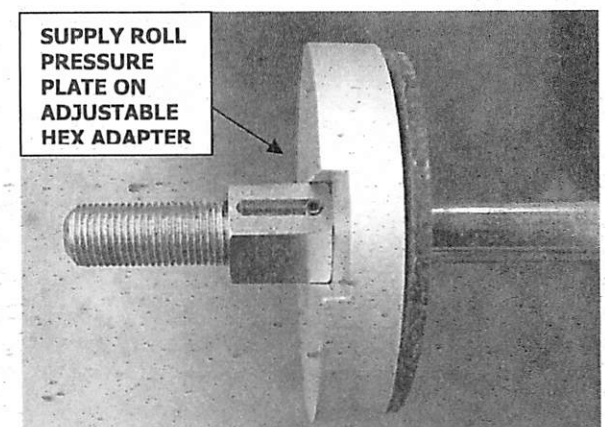


ECONOCRAFT 44, 60 SUPPLY ROLL

- 1) THE EP44 AND EP60 ARE SHIPPED WITH (1) SUPPLY ROLL UNLESS THE ORDER SPECIFIES AN "SUPPLY ROLL KIT."
- 2) INSERT (6) 6-32 X 1/2 RH INTO BOTH ENDS OF (3) RUBBER SUPPLY ROLL GRIPPERS (EP60 OR EHR44 003.4B) LOFT 3. SET RUBBER GRIPPERS ASIDE.
- 3) ALIGN THE SUPPLY ROLL END CAP (I30 008.4) AS07 SO THE THREADED PORTIONS FOR THE GRIPPER SCREWS ARE VISIBLE IN THE RECESSED CHANNELS OF THE SUPPLY ROLL EXTRUSION (EP60 OR EHR44 002.4B) LOFT 3. TAP THE END CAP HEXES INTO THE SUPPLY ROLL CORES.
- 4) SECURE THE SUPPLY ROLL GRIPPERS BETWEEN THE THREADED END CAPS USING THE 6-32 X 1/2 RH IN GRIPPERS.
- 5) SLIDE AN ADJUSTABLE HEX BUSHING ADAPTER (D105 022.4) AS07 ONTO SUPPLY ROLL SHAFT (EP60 OR EHR44 011.4A) LOFT 3. ALIGN HEX BUSHING OPENING OVER SHAFT OPENING. USE TOOL AND START A 1/8 X 3/4 SPRING PIN (.125J0012) AS12 THROUGH HEX CHANNEL INTO SHAFT. REMOVE TOOL PRESS SPRING PIN FLUSH WITH HEX BUSHING ADAPTOR.
- 6) SLIDE SUPPLY ROLL PRESSURE PLATE (LC38 007.4) AS07 ONTO SUPPLY ROLL SHAFT MAKING CERTAIN SPRING PIN ON ADJUSTABLE HEX ADAPTOR IS BETWEEN RECESS ON PRESSURE PLATE.
- 7) SLIDE A 1/8 X 1/2 ID X 2-3/4 OD LEATHER DISC (H380 004.4) AS07 ONTO SUPPLY ROLL SHAFT NEXT TO PRESSURE PLATE. INSERT SHAFT WITH THIS ASSEMBLY THROUGH THE SLEEVE BEARINGS ON THE SUPPLY ROLL END CAPS.
- 8) DUPLICATE THE OTHER END OF THE SUPPLY ROLL WITH ANOTHER LEATHER DISC, PRESSURE PLATE, AND A SUPPLY

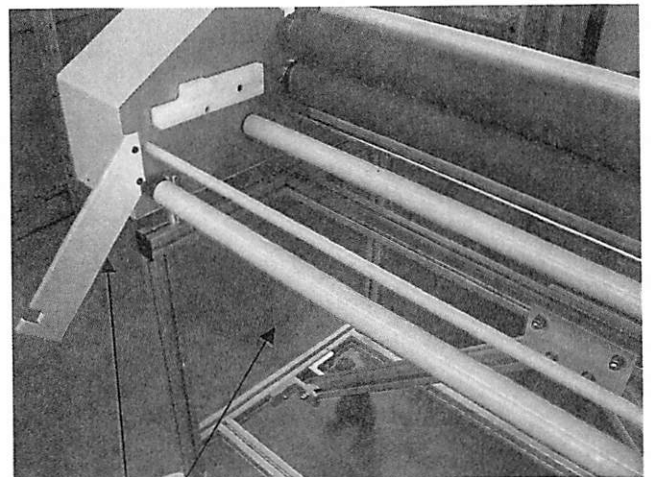
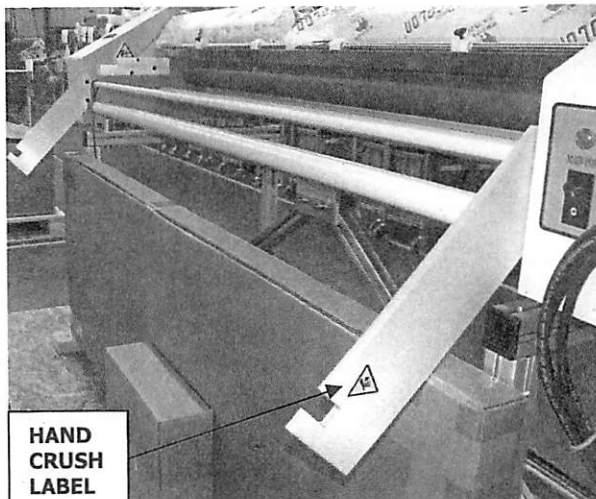
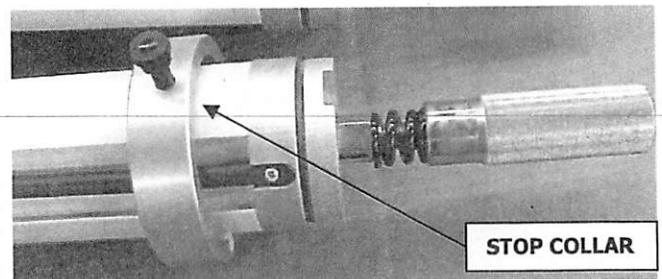
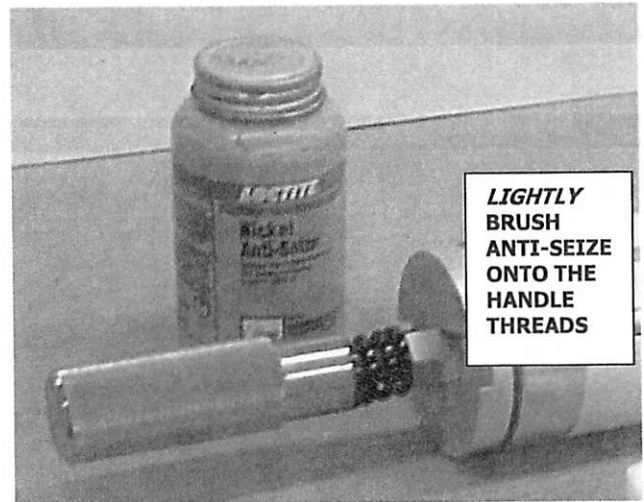
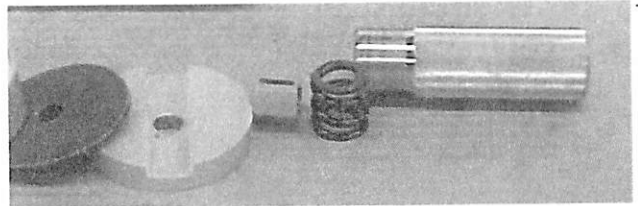


SPRING PIN FLUSH ON ADJUSTABLE HEX ADAPTER



**ROLL HEX ADAPTER (LC38 023.4) AS07
FITTING INTO PRESSURE PLATE RECESS.**

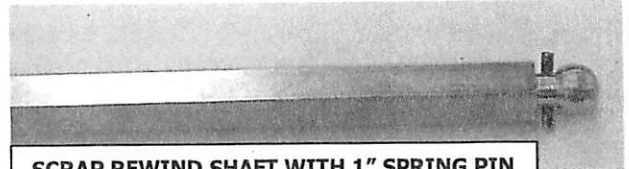
- 9) **BRUSH LOCTITE ANTI-SEIZE ON END
THREADS OF SUPPLY ROLL SHAFT.
SLIDE ON SUPPLY ROLL TENSION
SPRING (PRS222) AS07 AND THREAD ON
KNURLED SUPPLY ROLL TENSION KNOB
(D105 001.4) AS02. IF THREADS ARE
OVER PLATED, TRIM WITH DIE/THREAD
CHASER. TIGHTEN KNOB UNTIL SPRING
PIN IS CENTERED IN ADJUSTABLE HEX.**
- 10) **COMPLETE SUPPLY ROLL ON OTHER END
BY ADDING ANTI-SEIZE TO END
THREADS, ADD A TENSION SPRING AND
KNURLED SUPPLY ROLL TENSION KNOB.**
- 11) **THREAD A 5/16-18 X 1" PLASTIC
MOLDED THUMBSCREW (PRK184) AS08
INTO A STOP COLLAR-CORE CHUCK
(D105 004.4) AS08. SECURE STOP
COLLAR ON ROLL.**
- 12) **A "SUPPLY ROLL KIT" CONSISTS OF (2)
LOWER EXTENSION BRACKETS (EP30
009.4B) *RACK 8* ON INNER SIDE PANELS,
SECURED WITH (4) 1/4-20 X 3/4 BSH. ADHERE A HAND CRUSH LABEL (LAB35)
AS08 ON OUTER BRACKET BY NOTCH.
FROM D-01, LOFT 2 OR AS17 REPLACE
LOWER STABILIZER WITH *FT IDLER
TUBE* (D60 054.4, EHR44 054, EP30
054.4A) AND *IDLER SHAFT/ SPREADER
BAR* (D60 110.4, EHR44 053.4, EP30
053.4). USE (2) RETAINING RINGS
(PRR191) LD05. USE 1/4-20 X 3/4 BSH
AND 1/4" LOCK WASHER PLUS A
COMPLETE *EXTRA SUPPLY ROLL
ASSEMBLY WITH COLLAR.***



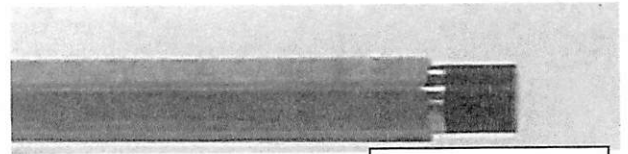
**SUPPLY ROLL KIT: 2ND COMPLETE SUPPLY ROLL WITH
STOP COLLAR, REPLACE LOWER STABILIZER WITH FT
IDLER TUBE COMPLETE, & (2) FRONT SUPPLY ROLL
BRACKETS. SECURE BOTH WITH 1/4-20 X 3/4 BSH.**

ECONOCRAFT 44, 60 NRTL SCRAP REWIND ASSEMBLY

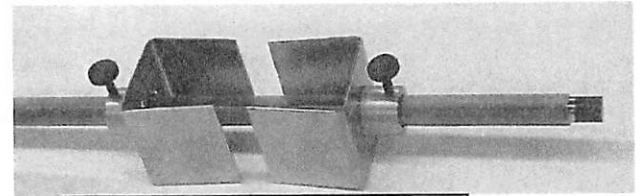
- 1) ASSEMBLE SCRAP REWIND SHAFT C (EP60 056.4) OR (EHR44 056.4) LOFT 2 SHAFT RACK BY TAPPING A 1/8 X 1 SPRING PIN INTO BALL END OF SHAFT, LEAVE EVEN AMOUNT SHOWING.
- 2) SLIDE BLACK PLASTIC BEARING (PRB071) RACK 8 ONTO THE OTHER END OF THE REWIND SHAFT.
- 3) SLIDE (2) CORE GRIPPER AND HUBS (E850 207.6B) RACK 1 WITH BOTH HUBS FACING OUTWARD ONTO THE REWIND SHAFT. SECURE GRIPPERS WITH (2) SPI 3/4" SCREWS (PRK178) AS08.
- 4) TO INSTALL SLIDE SPRING PIN INTO REWIND DRIVER ASSEMBLY ON RIGHT, SHAFT INTO REWIND BRACKET ON LEFT.



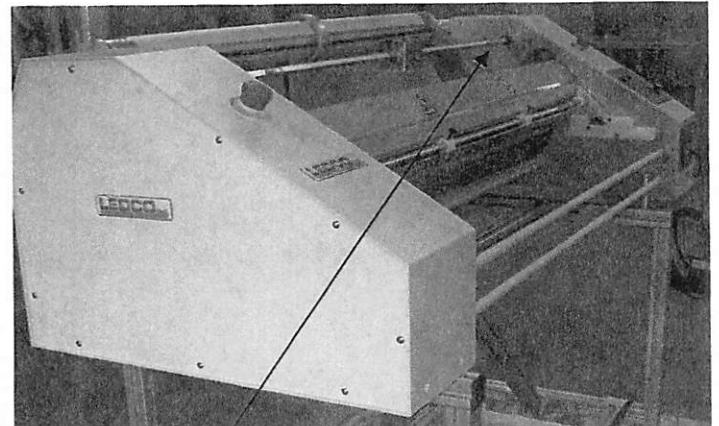
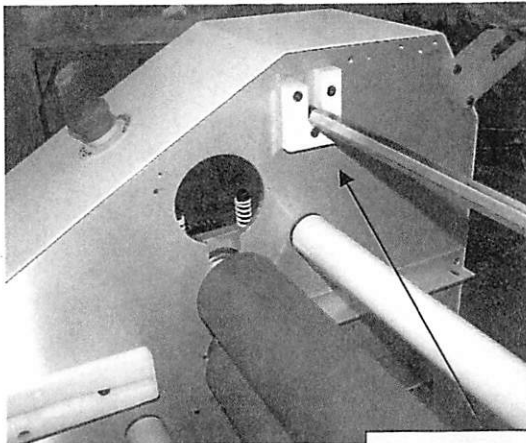
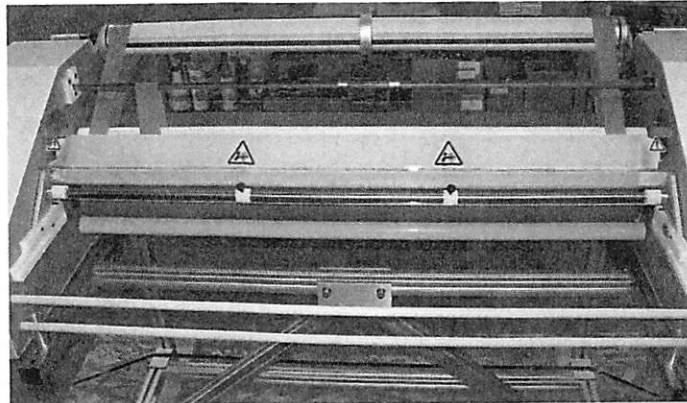
SCRAP REWIND SHAFT WITH 1" SPRING PIN



PLASTIC BEARING



CORE GRIPPERS & 3/4" SPI KNOBS

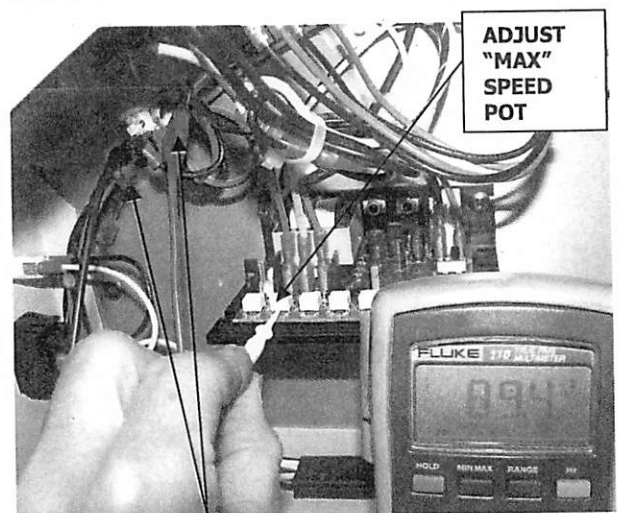
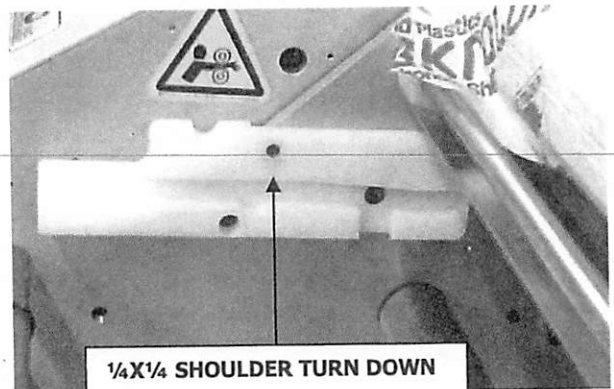


INSERT LEFT SIDE ~~INSERT RIGHT SIDE

ECONOCRAFT 44, 60

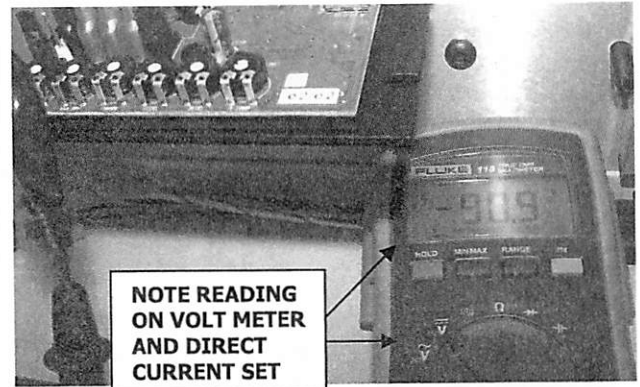
TESTING PROCEDURES 2015

- 1) PLACE EP44 OR EP60 IN AN AREA WITH ENOUGH ROOM TO TEST FILM. LOCK CASTERS SO MACHINE WILL NOT MOVE DURING TESTING. HAVE ADHESIVE TAPE AVAILABLE TO SEPARATE PRESSURE SENSITIVE FILM AND TO ADHERE FILM LINER TO THE CORE CHUCK.
- 2) PLACE THE SAFETY SHIELD ASSEMBLY BRACKETS INTO FEED TABLE BRACKETS. TEST FUNCTION OF LEVER TYPE MICROSWITCH BY OPENING AND CLOSING SAFETY SHIELD. SECURE SAFETY SHIELD BRACKET TO FEED TABLE BRACKETS WITH (2) $\frac{1}{4}$ X $\frac{1}{4}$ SHOULDER TURN DOWN SCREWS (.250IAC04A) RACK 2 INSERTED THROUGH FEED TABLE BRACKETS AND INTO SAFETY SHIELD BRACKET THREADS.
- 3) EP60 ONLY ADHERE (2) ARM ENTANGLEMENT LABELS (LAB51) AS09, ABOVE EACH FEED TABLE BRACKET.
- 4) INSERT FEED TABLE INTO FEED TABLE BRACKETS. THIS ACTIVATES THE PROXIMITY SWITCH MAGNET ON RIGHT SIDE PANEL WITH FEED TABLE MAGNET.
- 5) WITH ALL SWITCHES TURNED OFF AND THE MOTOR SPEED BOARD SWITCHES SHOULD BE SET AT 115 AND 90 FOR A 110V LAMINATOR, PLUG EP44 OR EP60 INTO 110 VOLT OUTLET.
- 6) TURN ON THE MAIN POWER DRIVE SWITCH, PLACE THE DIRECTION SWITCH IN "FORWARD" AND INCREASE THE POTENTIOMETER UNTIL YOU CAN CHECK ROLL DIRECTION. TEST THE MODE SWITCH, ALWAYS TURNING DOWN THE POTENTIOMETER AND THE DRIVE SWITCH OFF WHEN CHANGING MODE.
- 7) TO SET MAXIMUM SPEED ON MOTOR TO 90, USE MULTIMETER ON DIRECT CURRENT WITH ALLEGATOR CLIPS ON

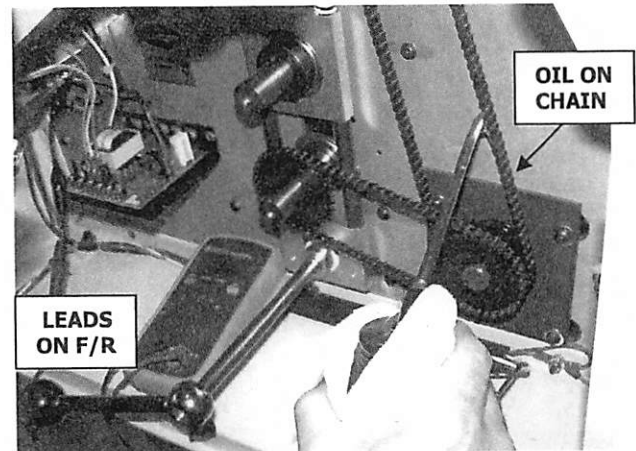


VOLT METER LEADS ON FOR/REV RED & BLACK WIRE

RED & BLACK FORWARD/REVERSE TERMINALS. PLACE FOOTSWITCH IN "ON" POSITION, DRIVE SWITCH ON, POTENTIOMETER DOWN TO ZERO. INCREASE POTENTIOMETER SPEED TO FULL. USE VOLT METER ON DC APPROPRIATE TO REACH 90. CONTACT RED TEST LEAD WITH OUTER DOUBLED RED WIRE SCREW ON FORWARD/REVERSE SWITCH AND CONTACT BLACK TEST LEAD WITH BLACK MIDDLE WIRE SCREW ON FORWARD/REVERSE SWITCH SIMULTANEOUSLY. THE OPTIMUM READING ON METER IS 90 DC VOLT. RANGE BETWEEN 89.5 AND 90.5. BE VERY CAREFUL JEWELRY DOES NOT TOUCH INSIDE, AS SHOCK CAN OCCUR.

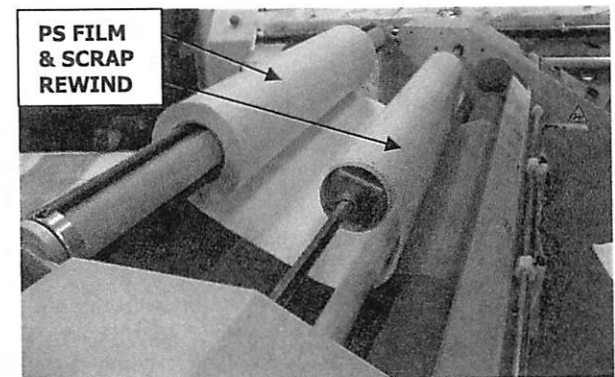


- 8) ADJUST MOTOR SPEED BY TRIMMING POWER IN "MAX" POT USING TRIMMING TOOL. RETEST WITH LEADS ON VOLT METER AGAIN UNTIL YOU HAVE REACHED ACCEPTABLE RANGE, CLOSEST TO 90 VDC.



- 9) TEST FOOTSWITCH FUNCTION F/R.

- 10) WHILE LAMINATOR IS RUNNING, ADD LITHIUM GREASE OR *STPOIL* TO ALL MOVING CHAINS, ON BOTH SIDES OF MACHINE. USE A SHOP RAG AND TAKE CARE NOT TO DRIP OIL ON WIRES OR HOUSING.



- 11) LOAD PRESSURE-SENSITIVE FILM ONTO SUPPLY ROLL. USE A FILM WIDTH APPROPRIATE FOR MATERIAL YOU WISH TO LAMINATE. PLACE THE SCRAP REWIND CORE ON THE SCRAP REWIND SHAFT, SECURING IT WITH THE CORE GRIPPER AND HUBS. CENTER THE SCRAP REWIND WITH THE FILM ON THE SUPPLY ROLL.

- 12) THREAD PRESSURE SENSITIVE FILM UNDER IDLER TUBE AND SEPARATE. THE RELEASE LINER IS ATTACHED UPWARD TO SCRAP REWIND CORE. SECURE LINER WITH ADHESIVE TAPE. THE STICKY FILM LAYER GOES OVER TOP RUBBER ROLL. WITH RUBBER ROLLS IN THE "UP" POSITION ATTACH



STICKY FILM TO SUBSTRATE. CLOSE AND LOCK RUBBER ROLLS AND *SLOWLY* ADVANCE FILM. CHECK REWIND TENSION, ADJUST WITH "INCREASE/DECREASE" KNOB.

- 13) TEST PRESSURE AND ADHESION, THE SECOND SET OF TEST PAPERS WILL BE FLATTER. BE CAREFUL EXCESS STICKY FILM ON OUTER SIDES OF MATERIAL DOES NOT CAUSE A WRAP-AROUND. UNLOAD FILM. REMOVE SCRAP REWIND TENSION KNOB AND SET IT ASIDE.

- 14) PREPARE THE RIGHT HOUSING PANEL COMPLETE AND PAINTED AND LEFT HOUSING PANEL COMPLETE AND PAINTED (EP30 095.4R AND EP30 095.4L) AS18. PLACE PANELS ON TABLE WITH OUTER SIDE SHOWING. MEASURE AND ALIGN BOTH OUTER PANELS AND ADHERE A DOMED LEDCO LABEL (LAB05A) ~~AS09~~ TO EACH.

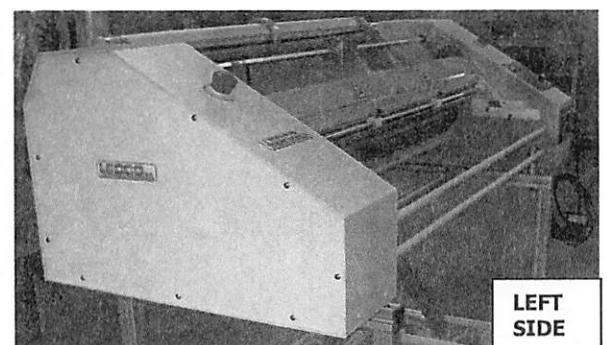
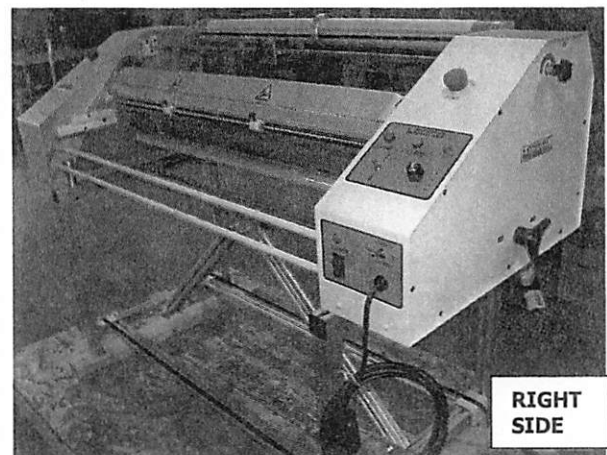
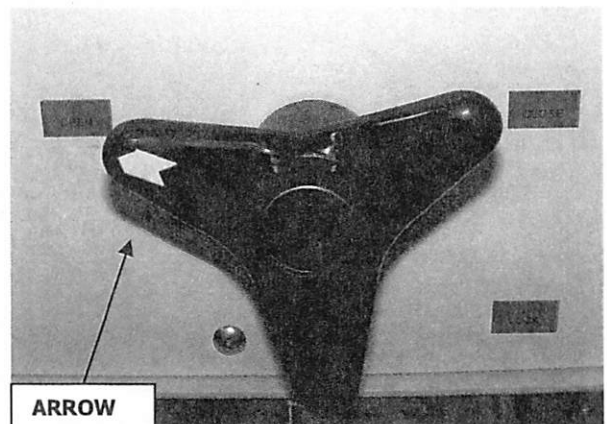
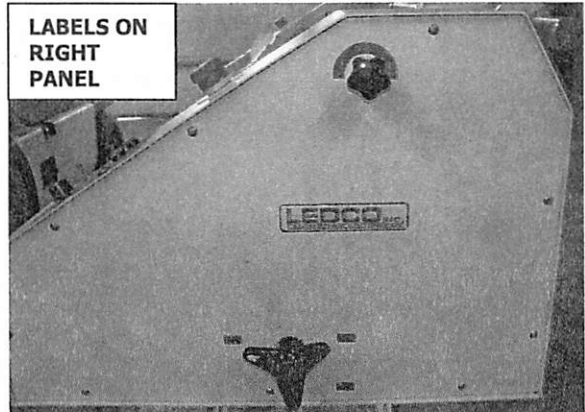
- 15) ON THE RIGHT SIDE SECURE A CAM HANDLE (PRH140) ~~AS07~~ TO THE FLAT SIDE OF THE EXPOSED CAM SHAFT. USE A 1/4-20 X 3/8 SET SCREW. PLACE THE RUBBER ROLLS IN THE OPEN POSITION TO KEEP ROLLS FROM STICKING OR GETTING A FLAT SPOT.

- 16) ADHERE TOP ROLL INDICATION LABELS FOR THE (3) CAM HANDLE POSITIONS; OPEN, CLOSE AND LOCK. ALL (3) LABELS ARE IN RACK 10. ADHERE "OPEN" LABEL (XS13) ON FRONT POSITION. ADHERE "CLOSED" LABEL (XS14) UPPER REAR POSITION AND ADHERE "LOCKED" LABEL (XS15) LOWER REAR POSITION.

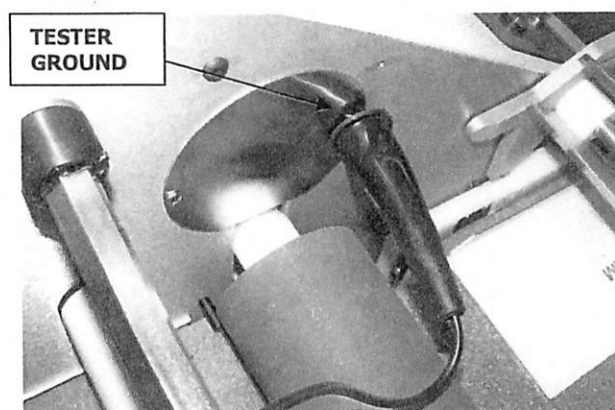
- 17) ATTACH RIGHT AND LEFT PANELS TO RIGHT AND LEFT HOUSINGS USING (9) 8-32 X 1/4 TH EACH.

- 18) WITH THE RUBBER ROLLS IN THE UP POSITION, ADHERE A WHITE ARROW WB08 ONTO THE CAM HANDLE SECTION CLOSEST TO THE "OPEN" LABEL."

- 19) ADD SCRAP REWIND KNOB (PRK173) RACK 8 ONTO FLAT OF REWIND DRIVER. SECURE WITH A 10-32 X 1/4 SET SCREW.

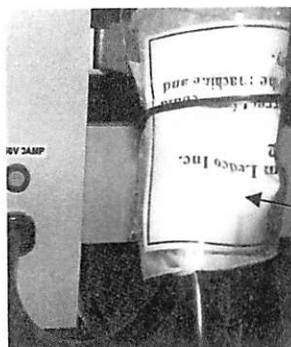
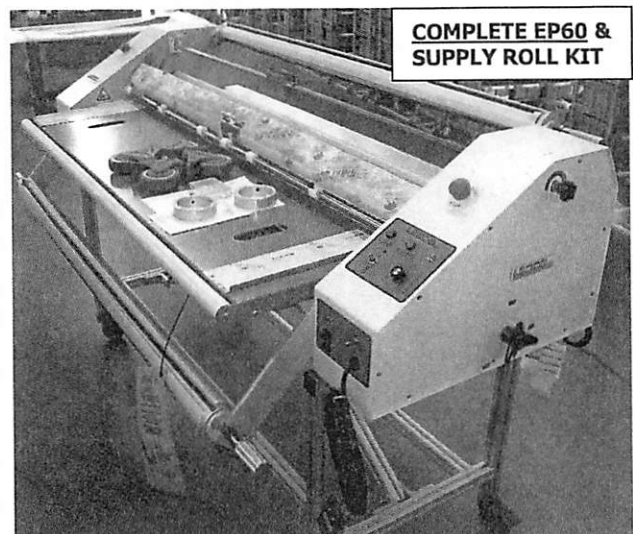
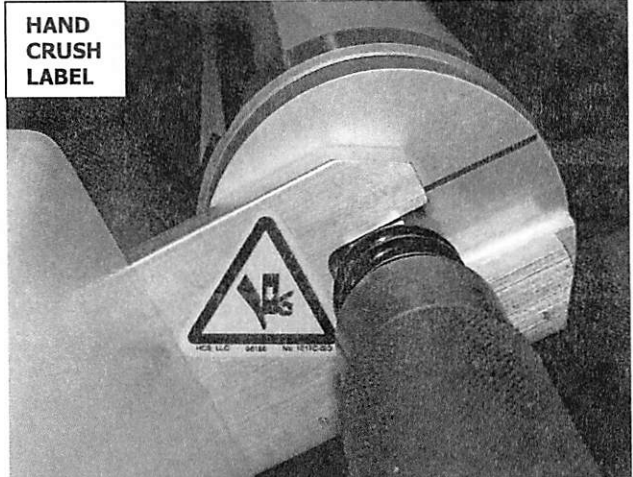


- 20) SECURE A HOLE COVER (EP60 060.4) RACK 8 OVER RIGHT AND LEFT SIDE PANEL OPENINGS USING 6-32 X 1/4 PH.
- 21) ADHERE SERIAL LABEL (LAB01) WITH JOB ORDER ONTO THE OUTER RIGHT REAR HOUSING, LEFT OF POWER CORD.
- 22) HIGH POT TEST THE EP44 OR EP60 FOR POWER LEAKAGE AND GROUND. A) WITH TESTER POWER SWITCH "OFF" CONNECT TESTER POWER/GROUND CORD BETWEEN "INPUT" INLET ON TESTER AND 110 VOLT POWER SOURCE. THE "TESTER GROUND" LAMP GLOWS AMBER, INDICATING TESTER IS GROUNDED. B) CONNECT EP POWER CORD BETWEEN EP RECEPTACLE AND "OUTPUT" INLET ON TESTER. C) WITH "GROUND CHECK" SWITCH UPWARD, PLUG THE TESTER MACHINE GROUND CORD BETWEEN "RETURN" INLET ON TESTER AND PUT THE TOOTHED CLAMP END ON A RIGHT SIDE PANEL HOLE COVER SCREW. D) *CLEAR AREA! DON'T TOUCH MACHINE AS SHOCK MAY OCCUR IF EP FAILS TEST.* E) PRESS HIGH POT ROCKER SWITCH TO "ON" POSITION. THE GREEN "GOOD WHEN LIT" LIGHT GLOWS WHEN EP IS GROUNDED F) WITH ZERO/START ON VOLTAGE DIAL, PRESS BLACK "RESET" BUTTON G) PRESS BLACK "CONT" BUTTON. RED "HV" LIGHT COMES ON H) WITH VOLTAGE CONTROL STILL AT ZERO/START, INCREASE AC KILOVOLT CONTROL DIAL CLOCKWISE TO READ 1.6 AC KILOVOLTS ON REGISTER SCREEN. MAINTAIN 1.6 KILOVOLTS FOR TWO SECONDS. A HIGH POT TEST FAILURE REGISTERS WITH AN AMBER "FAILURE" LIGHT AND A "BEEP." I) TO END HIGH POT TEST, RETURN VOLTAGE DIAL TO ZERO/START, PRESS THE "HV OFF" BUTTON, THE "HV ON" LIGHT GOES OFF. J) TURN "OFF" THE HIGH POT TESTER ROCKER SWITCH, UNPLUG "INPUT" POWER CORD FIRST, THE UNPLUG THE REMAINING CORDS.
- 23) ON AN EP60 220 VOLT POWER CORD ONLY CUT OFF THE PLUG BEFORE



SHIPPING. THE NRTL 110 VOLT PLUG STAYS ON CORD.

- 24) **ADHERE A YELLOW HAND CRUSH/FORCE FROM ABOVE LABEL (LAB35) AS09 TO BOTH OUTER SUPPLY ROLL BRACKETS, BY NOTCH THAT HOLDS SUPPLY ROLL.**
- 25) **COMPLETE PAPERWORK: JOB ORDER WITH DATE, ASSEMBLER NUMBER, EP SERIAL NUMBER AND THE FINAL TEST & INSPECTION CHECK LIST.**
- 26) **CREATE A SPARE FUSE KIT FOR 220V ONLY: BY PLACING (2) 3 AMP FUSES (PRF127) AS07 IN A SMALL, LABELED BAG AS09. INSERT THE BAGGED FUSES AND A SPARE FUSE LABEL (LAB126) AS09 IN A LARGER BAG. CABLE TIE THE BAG TO POWER CORD.**
- 27) **LAY (4) 1/2-13 X 1 1/2 STEM CASTORS (PRC210) AS05 EACH WITH A 1/2-13 HEX NUT AS13, ON THE FEED TABLE.**
- 28) **ADHERE AN INCREASE/DECREASE LABEL (LAB42A) RACK 10 ON RIGHT HOUSING PANEL, ABOVE SCRAP REWIND KNOB.**
- 29) **SNAP LANYARD OF AN ORANGE/YELLOW PRESSURE SENSITIVE OPERATOR SAFETY PRECAUTIONS NOTICE (LIT010) AS05 ONTO FEED TABLE SHAFT.**
- 30) **NOTIFY SHIPPING DEPARTMENT. THEY WILL PLACE ECONOCRAFT OPERATORS MANUAL (XS54) AND ECONOCRAFT INSTRUCTIONAL CD (CD08) WITH UNIT.**

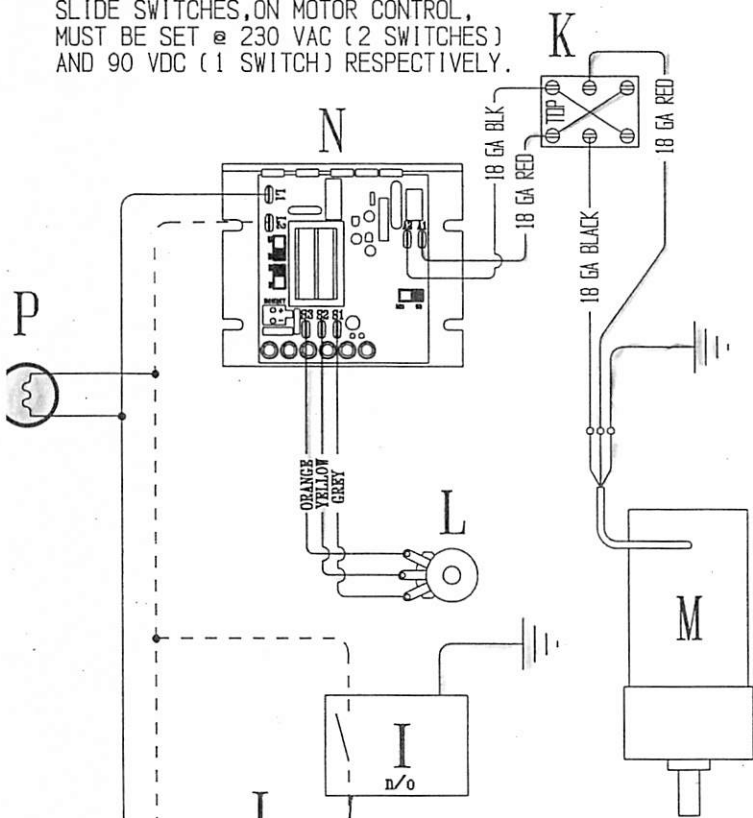


CONVERT 110V TO 220V

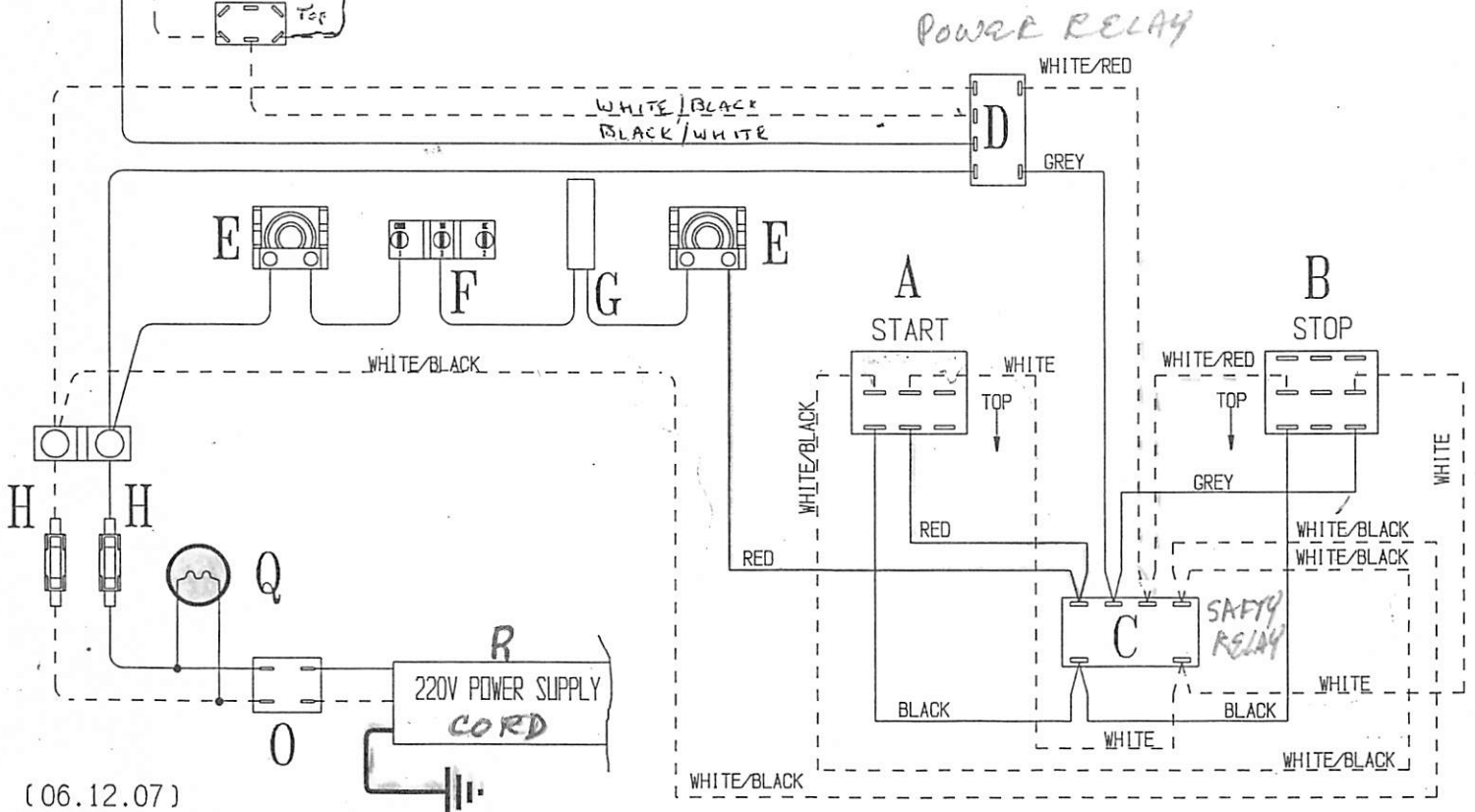
WIRING DIAGRAM - EP44/60 V2 LAMINATOR (220 VOLT ONLY)
PRM218D MOTOR CONTROL (MINARIK MM23002D)* (NRTL VERSION)

NOTE:

SLIDE SWITCHES, ON MOTOR CONTROL,
MUST BE SET @ 230 VAC (2 SWITCHES)
AND 90 VDC (1 SWITCH) RESPECTIVELY.



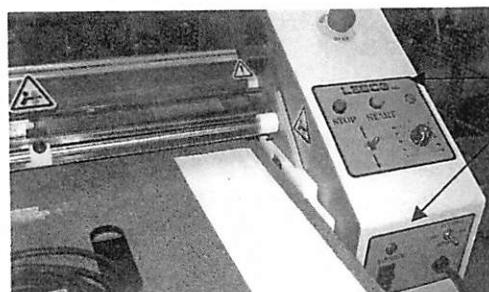
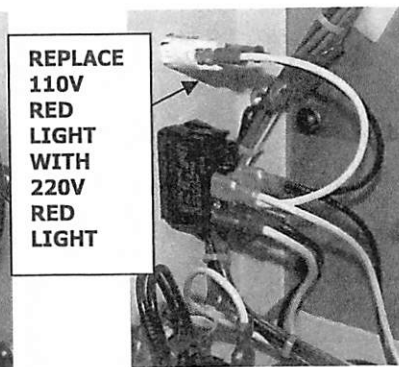
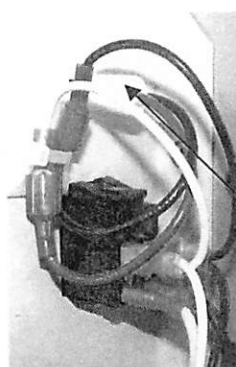
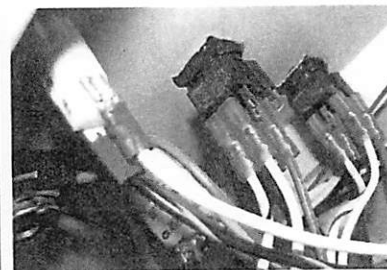
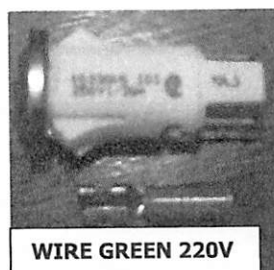
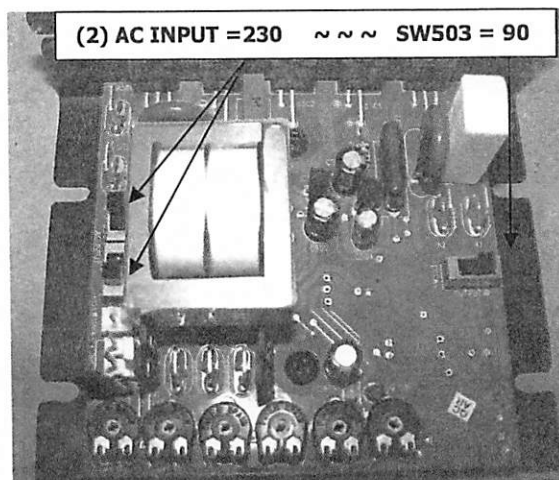
- A. START SWITCH (N/O) PRS016G
- B. STOP SWITCH (N/C) PRS016
- C. SAFETY RELAY PRR231D
- D. POWER RELAY PRR231D
- E. "E" STOP SWITCH PRS374
- F. SAFETY SHIELD SWITCH PRS313
- G. FEED TABLE SWITCH PRS351
- H. 3 AMP FUSE PRF127
- I. FOOT SWITCH PRS280
- J. SELECTOR SWITCH PRS048
- K. FORWARD REVERSE SWITCH PRS277
- L. SPEED POTENTIOMETER
- M. MOTOR PRM1000
- N. MOTOR CONTROL PRM218D
- O. MAIN POWER SWITCH PRS290
- P. DRIVE INDICATOR LIGHT PRL200
- Q. POWER INDICATOR LIGHT PRL199
- ~~R. POWER CORD PRC100~~



ECONOCRAFT 60

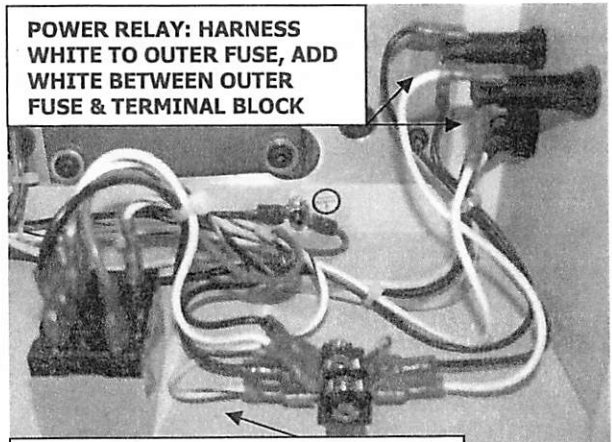
110V TO 220V CONVERSION

- 1) **HIGH POT TEST THE 220V EP30/44/60. USE A 220V TO 110V ADAPTER. CHANGES FROM THE 110 VOLT TO THE 220 VOLT ARE AS FOLLOWS.**
- 2) **CHANGE BOTH (2) MOTOR CONTROL (PRM218D) AC INPUT SWITCHES TO 230. THE SW503 SWITCH SHOULD REMAIN ON 90. THE WIRING REMAINS THE SAME. THE MOTOR (PRM1000) REMAINS THE SAME.**
- 3) **REMOVE THE GREEN LOW PROFILE INDICATOR LIGHT AND REPLACE IT WITH THE DOMED GREEN 220V LIGHT (PRL200) LOFT-0. THE DOMED GREEN 220V LIGHT TERMINALS. REMOVE HARNESS CONNECTORS ON WHITE AND BLACK/WHITE ENDS. CRIMP ON FEMALE (PRT342) AND TERMINATE WIRES. WIRE DESTINATIONS ARE THE SAME.**
- 4) **REPLACE THE 110V RED LIGHT ABOVE THE MAIN POWER SWITCH WITH THE 220V RED DOMED LIGHT (PRL199) LOFT-0. THIS LIGHT HAS ONE BLACK WIRE AND ONE RED WIRE. CONNECT THE RED DOMED LIGHT: USE THE SAME DESTINATION BUT WITH RED DOMED LIGHT'S BLACK WIRE TO THE BLACK FROM MAIN POWER SWITCH AND RED WIRE TO THE WHITE FROM MAIN POWER SWITCH. CRIMP ON MATING CONNECTORS AND FOLD WIRES.**
- 5) **NOTE RIGHT HOUSING LOCATION FOR 220V GREEN DOMED INDICATOR LIGHT ABOVE SPEED CONTROL DIAL AND 220V RED DOMED INDICATOR LIGHT ABOVE DRIVE SWITCH.**
- 6) **REPLACE BOTH 110V POWER AND SAFETY RELAYS WITH (2) COIL 200-240VAC POWER AND SAFETY RELAYS (PRR231D) AS08.**

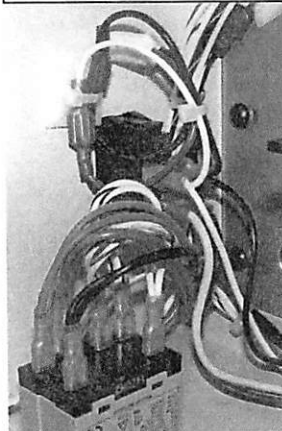


- 7) **ADD A WHITE WIRE BETWEEN OUTER, POSITIVE 3 AMP FUSE AND WHITE SIDE TERMINAL BLOCK. CONNECT WHITE FROM HARNESS ON WHITE 3 AMP FUSE INSTEAD OF ON TERMINAL BLOCK.**
- 8) **WIRES ON THE SAFETY RELAY LOCATED IN THE FRONT: POST #1 IS THE SAME DOUBLE BLACK WIRE WITH THE SAME DESTINATIONS. POST #8 IS THE SAME WITH DOUBLE RED WIRE, SAME DESTINATIONS. POST #6 IS THE SAME DOUBLE GRAY WIRES WITH THE SAME DESTINATIONS. ADD TO POST #4 DOUBLED WHITE/RED WIRES; ONE TERMINATES ON POWER RELAY #0 AND THE OTHER TERMINATES ON N/C STOP SWITCH INWARD FROM BLACK WIRE ON THE MIDDLE LINE OF POSTS. ADD TO POST #2 DOUBLED WHITE/BLACK WIRES; ONE TERMINATES ON N/O START SWITCH INWARD FROM BLACK WIRE ON MIDDLE LINE OF POSTS. THE OTHER WHITE/BLACK TERMINATES ON WHITE SIDE OF TERMINAL BLOCK. POST #0 HAS DOUBLED WHITE WIRES; ONE CONTINUES TO MIDDLE N/O START SWITCH CENTER POST INWARD FROM RED WIRE. THE OTHER TERMINATES ON N/C STOP SWITCH CENTER ROW OF POSTS INWARD FROM GRAY WIRE.**
- 9) **WIRES ON THE POWER RELAY LOCATED POWER CORD: POST #1 IS THE SAME GRAY WIRE, SAME DESTINATION. POST #8 IS THE SAME BLACK WIRE, SAME DESTINATION. POST #6 IS THE SAME BLACK/WHITE WIRE, WITH THE SAME DESTINATION. POST #4 IS THE SAME WHITE/BLACK WIRE WITH THE SAME DESTINATION. POST #2 IS THE SAME WHITE WIRE, SAME DESTINATION. POST #0 HAS THE WHITE/RED WIRE COMING FROM SAFETY RELAY. REMOVE THE DOUBLED WHITE WIRES THAT ARE ON THE 110V. ** THE ONLY POWER RELAY CHANGE IS POST #0.**
- 10) **220V WIRES ON THE RED/STOP SWITCH AS FOLLOWS: INNER, UPPER N/C = GRAY; INNER, LOWER C = BLACK; ADD UPPER, OUTER N/C = WHITE; LOWER, MIDDLE N/C= WHITE/RED. GREEN/START SWITCH AS FOLLOWS: INNER, MIDDLE N/O= RED; INNER,**

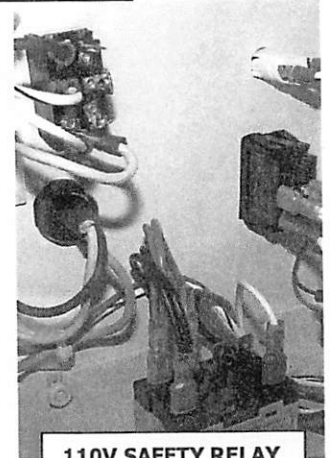
POWER RELAY: HARNESS WHITE TO OUTER FUSE, ADD WHITE BETWEEN OUTER FUSE & TERMINAL BLOCK



220V HARNESS+ WHITE/BLACK WIRE

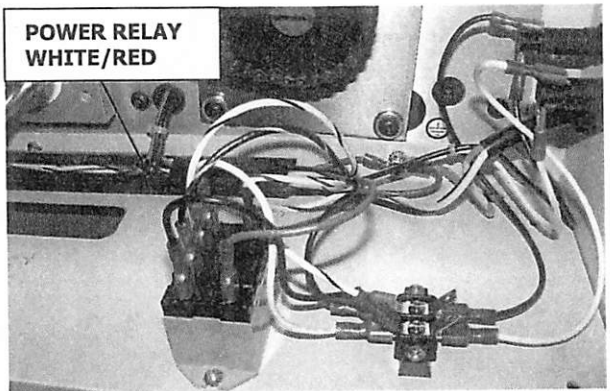


220V SAFETY RELAY

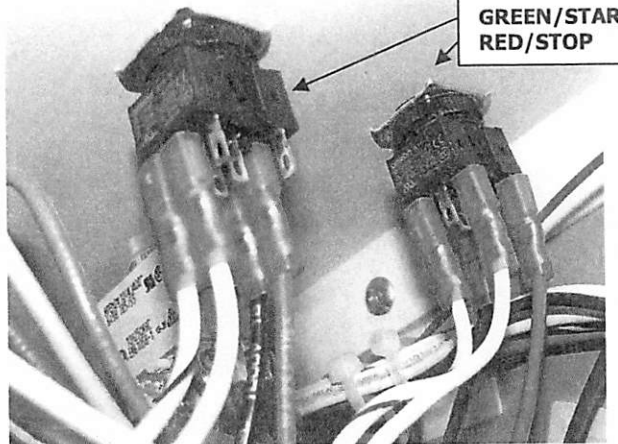


110V SAFETY RELAY

POWER RELAY WHITE/RED

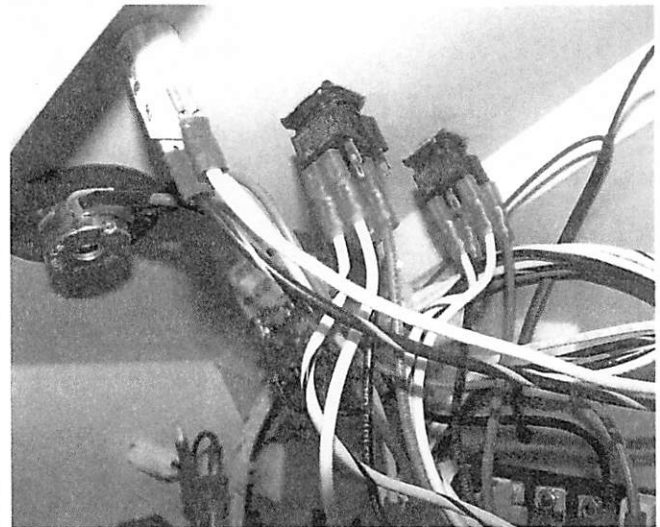


GREEN/START RED/STOP

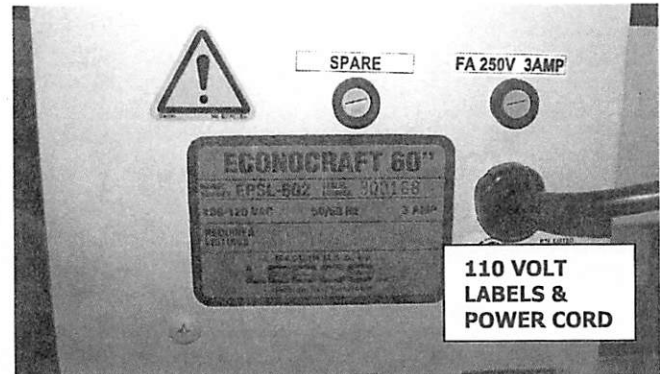


LOWER C = BLACK; ADD OUTER,
MIDDLE N/O = WHITE; OUTER, LOWER
COM = WHITE/BLACK.

- 11) REPLACE THE 110V POWER CORD WITH A 14/3 POWER CORD (PRC120) AS14, THE SAME STRAIN RELIEF BUSHING. THE WHITE AND BLACK POWER CORD WIRES CONNECT THE SAME ON THE MAIN POWER SWITCH.
- 12) CHANGE SOME LABELS AND LABEL LOCATIONS WHEN CONVERTING 110 VOLT EPSL TO A 220 VOLT. THE 3 AMP FUSES (PRF127) REMAIN THE SAME IN 110V AND 220V. FROM AS09 REMOVE AND REPLACE THE SPARE LABEL ABOVE THE OUTER FUSE WITH ANOTHER FA 250V 3 AMP FUSE LABEL (LAB 122). CENTERED ABOVE THE TWO 3 AMP FUSE LABELS, ADHERE A YELLOW CAUTION NEUTRAL FUSING "N" LABEL (LAB103). CENTERED ABOVE THE CAUTION NEUTRAL FUSING "N" LABEL, MOVE AND ADHERE A YELLOW TRIANGULAR CAUTION LABEL (LAB52). THE YELLOW ELECTRICAL NOTICE LABEL (LAB43) IS ADHERED LEFT OF THE POWER CORD. REMOVE THE 110V SERIAL LABEL AND REPLACE IT WITH A 220V SERIAL LABEL, LEFT OF THE YELLOW ELECTRICAL NOTICE LABEL.
- 13) CREATE A SPARE FUSE KIT: LABEL AND BAG (1) 3 AMP FUSE (PRF127) AS07. INSERT THIS FUSE AND A SPARE FUSE LABEL (LAB126) AS09 IN A LARGER BAG, IDENTIFY CONTENT. CABLE TIE SPARE FUSE KIT TO 220VOLT EP60 POWER CORD.



ADD TO RED/STOP SWITCH:
WHITE & WHITE/RED WIRE
ADD TO GREEN/START SWITCH:
WHITE & WHITE/BLACK WIRE



110 VOLT
LABELS &
POWER CORD



SPARE
FUSE
KIT



220V
LABELS