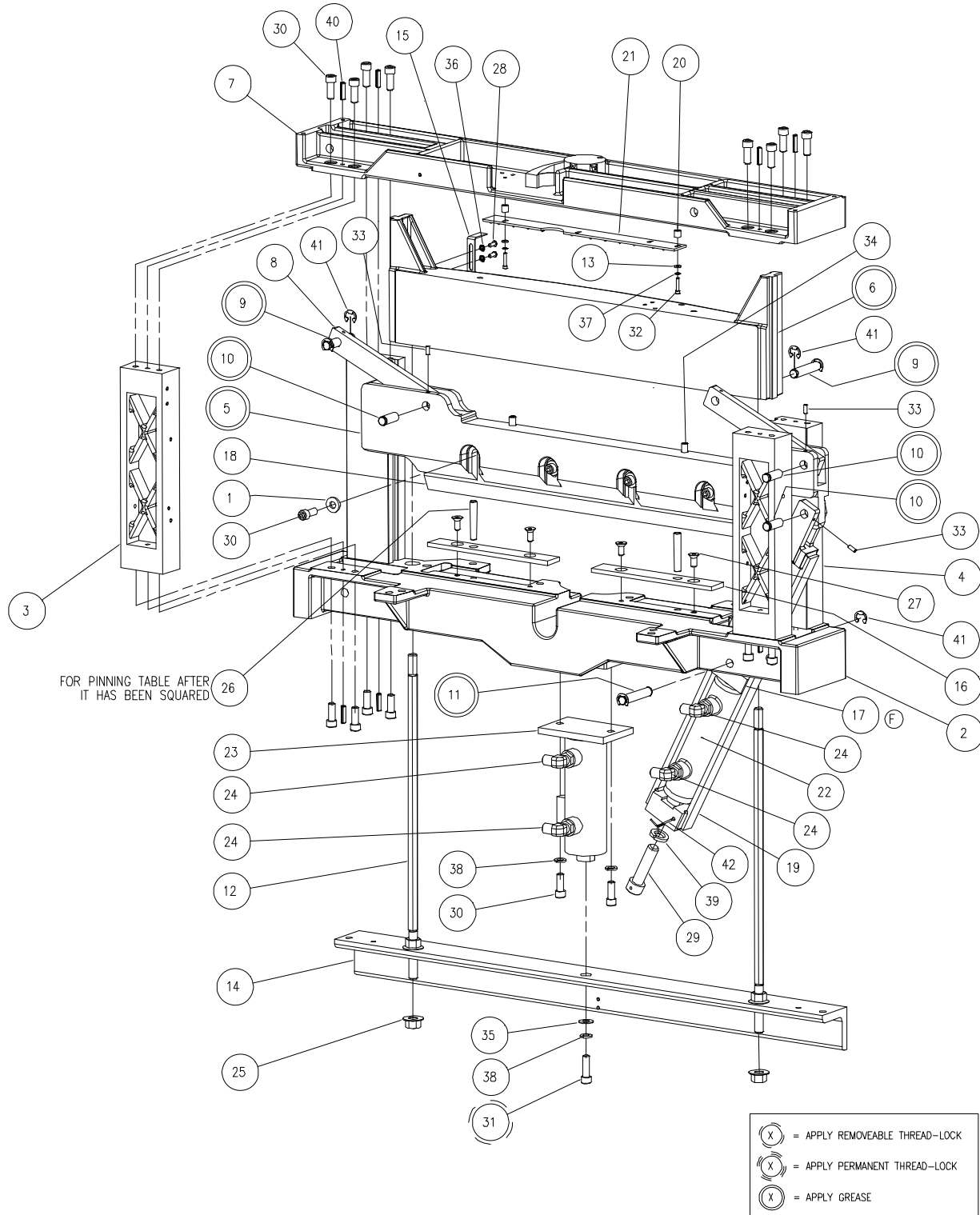


4.0 Schematics & Parts Lists

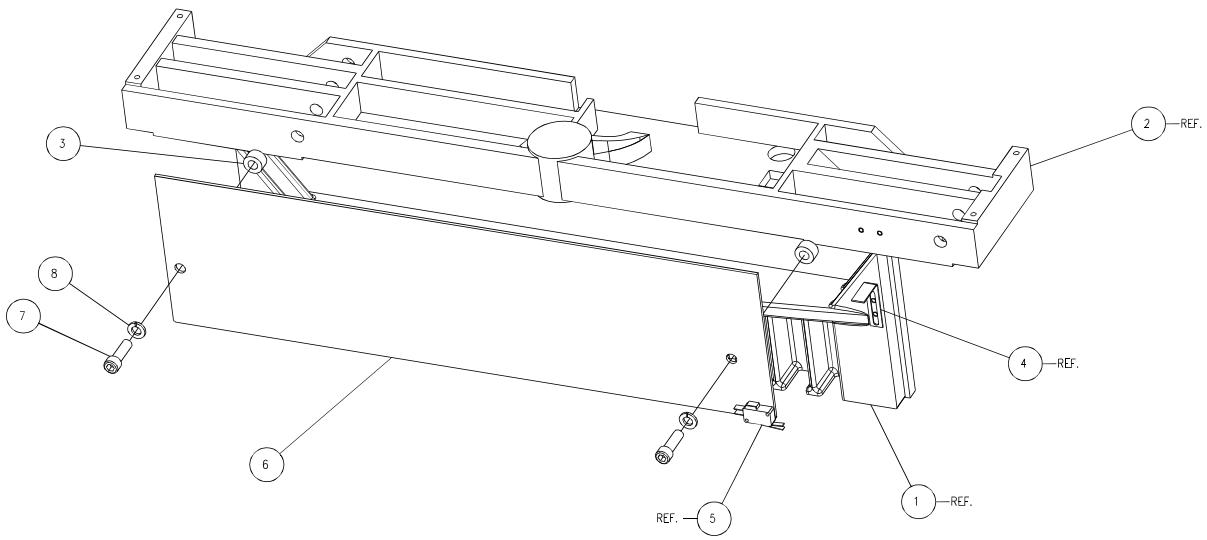
4.1 70000 Main Assembly – Knife/Clamp



70000 Main Assembly – Knife/Clamp Parts List

NO.	PART NO.	DESCRIPTION	QTY
1	8815	WASHER - 3/8 HEAVY	4
2	10001-1	BASE	1
3	10002-2	FRONT GUIDE	2
4	10002-3	REAR GUIDE	2
5	10003	KNIFE BAR	1
6	10004-3	CLAMP - 20"	1
7	10007-2	ARCH	1
8	10008	LINK- KNIFE BAR	2
9	10009	PIN- LINK	2
10	10010	PIN- KNIFE BAR	3
11	10064	PIN -- STRAIGHT ROD END	1
12	10075-1	ROD- CLAMP	2
13	11288-7	WASHER/SPACER	2
14	43030	PULLDOWN- FOOT PEDAL	1
15	43034	ACTUATOR- CLAMP UP	1
16	43056	SPACER- TABLE	2
17	71008	CYL. SPACER BLOCK	1
18	A-10034	KNIFE	1
19	AA-10018-1	CYLINDER BRACKET WELDMENT	1
20	E-1152-73	STANDOFF	2
21	EE-3081-3	BOARD- LED LINE LIGHT	1
22	H-210-3	KNIFE CYL, NPT PORTS (S/N 14xxxxx & BELOW)	1
	H-210-4	KNIFE CYL, O-RING PORTS (S/N 14xxxxx & ABOVE)	
23	H-211-1	CLAMP CYL, NPT PORTS (S/N 14xxxxx & BELOW)	1
	H-211-3	CLAMP CYL, O-RING PORTS (S/N 14xxxxx & ABOVE)	
24	H-237-4	ELBOW- NPT TO TUBE (S/N 14xxxxx & BELOW)	4
	H-230-3	ELBOW- ORING TO TUBE (S/N 14xxxxx & ABOVE)	
25	H-6414-8	NUT - 1/2-13 WHIZ LOCK	4
26	H-6633-718	PIN - TAPER, #7 X 2-1/4	2
27	H-6909-506	SCREW - 5/16-18 X 3/4" FLAT HEAD CAP	4
28	H-6910-102404	SCREW - #10-24 X 1/2 BUTTON HEAD CAP	2
29	H-6918-1020HH	SCREW - 5/8-11 X 2-1/2 SOC HEAD - HOLE IN HEAD	1
30	H-6918-608	SCREW - 3/8-16 X 1 SOCKET HEAD CAP	22
31	H-6918-610	SCREW - 3/8-16 X 1-1/4 SOCKET HEAD CAP	1
32	H-6918-83206	SCREW - #8-32 X 3/4 SOCKET HEAD CAP	2
33	H-6938-102408	SCREW - #10-24 X 1/2 CUP SOC SET	3
34	H-6940-632	SCREW - 3/8-16 X 2 FLAT SOC SET	2
35	H-7321-6	WASHER - 3/8 SAE PLAIN	1
36	H-7324-#10	WASHER - #10 INT TOOTH	2
37	H-7324-#8	WASHER - #8 INT TOOTH	2
38	H-7327-12	WASHER - 3/8 MEDIUM LOCK	3
39	H-7327-20	WASHER - 5/8 MEDIUM LOCK	1
40	H-21S-250-1000	ROLL PIN - 1/4 X 1	8
41	S-1193-50	E-RING - 1/2"	6
42	S-2024	SAFETY WIRE	1

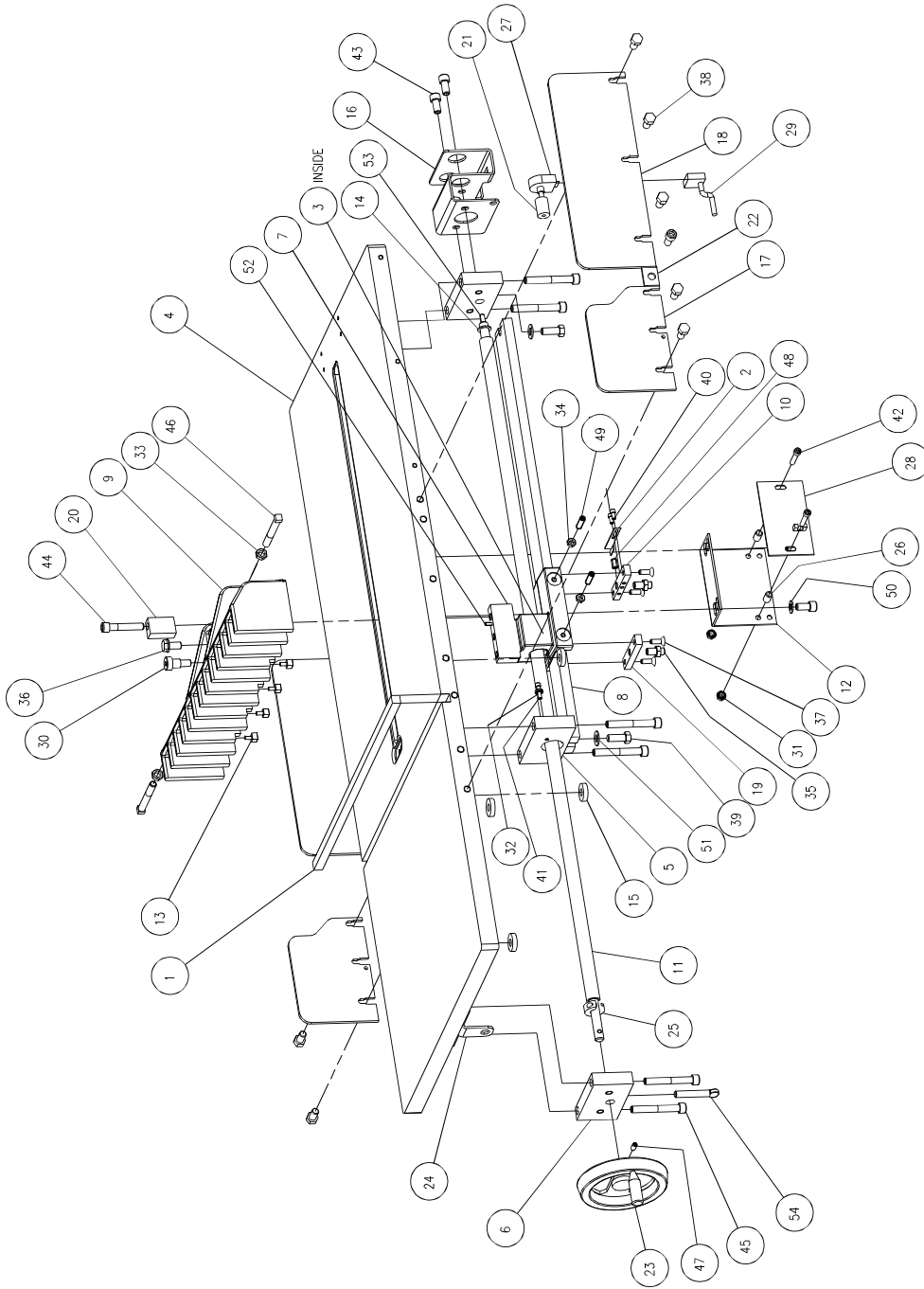
4.2 70000 Main Assembly – Arch



70000 Main Assembly – Arch Parts List

NO.	PART NO.	DESCRIPTION	QTY
1	10004-3	CLAMP	1
2	10007-2	ARCH	1
3	11288-38	WASHER/SPACER	2
4	43034	ACTUATOR- CLAMP UP	1
5	E-866-4	MICROSWITCH	1
6	EE-3416	POWER PANEL W/HOOD	1
6	EE-3442	POWER PANEL W/EYES	1
7	H-6918-610	SCREW - 3/8-16 X 1-1/4 SOCKET HEAD CAP	2
8	H-7327-12	WASHER - 3/8 MEDIUM LOCK	2

4.3 70000 Main Assembly – Table



70000 Main Assembly – Table Parts List

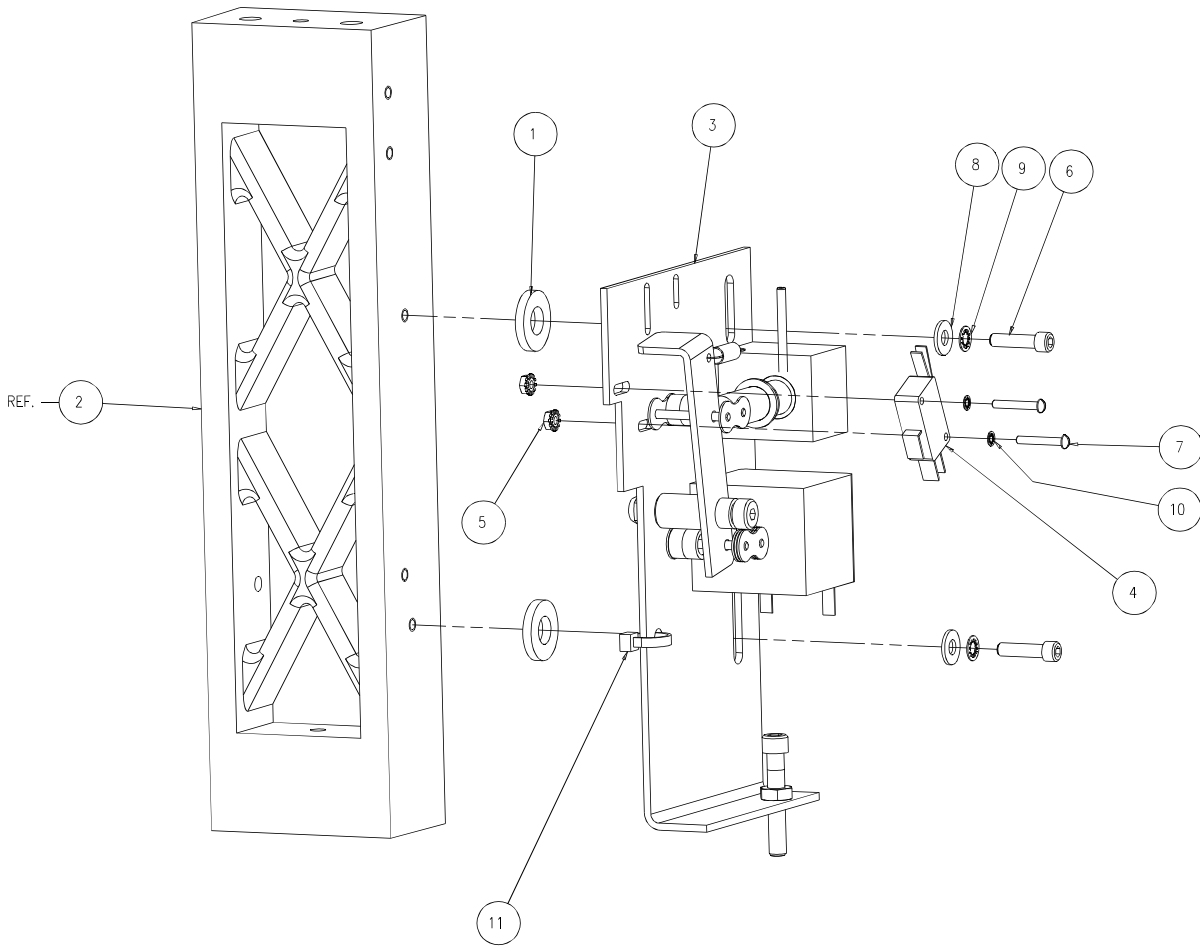
NO.	PART NO.	DESCRIPTION	QTY
1	4166	PLASTIC CUTTING STICK	1
2	8641	ACTUATOR- PRESET	1
3	8826-1	3/4-8 4-START ACME NUT	1
4	10025-2	TABLE	1
5	10026-5	PILLOW BLOCK- MIDDLE	1
6	10026-7	PILLOW BLOCK	2
7	10027-1	BRACKET - BACKGAGE	1
8	10028-2	GUIDE- BACKGAUGE BRACKET	1
9	10031-2	BACKGAGE	1
10	10033	STRAP- PRESET	1
11	10037-2	BACKGAUGE SCREW	1
12	10040-1	BRACKET- PRESET	1
13	10065	PIN- BACKGAGE	4
14	20075-10	SHIM	1
15	20075-9	SHIM	4
16	43027-1	BRACKET- ENCODER	1
17	43058	SIDE GUIDE - FRONT	2
18	43059-1	SIDE GUIDE - REAR	2
19	43060	STRAP	1
20	43107	BACKGAUGE BLOCK	1
21	47053	COUPLING	1
22	47630	CUT STICK STOP	2
23	60093	HANDWHEEL - CLAMP	1
24	70007	LEADSCREW BRACKET- TABLE OUT	1
25	A-10081-2	SPLIT COLLAR	1
26	E-1152-12	STANDOFF	2
27	E-2467-2	ENCODER- 250 PULSE, SLEEVE BEARING	1
28	EE-1688-1	PCB ASM- PRESET	1
29	EE-3105-2	ENCODER CABLE ASM	1
30	H-5254-804	SCREW - 1/2 X 1/2 SHSS	1
31	H-6423-4	NUT - 1/4-20 HEX KEP	2
32	H-6423-#10	NUT - #10-24 HEX KEP	1
33	H-6424-6	NUT - 3/8-16 HEX JAM	4
34	H-6428-4	NUT - 1/4-28 HEX JAM	2
35	H-6890-608	SCREW - 3/8-16 X 1 NYLON SOC SET	2
36	H-6894-606	SCREW - 3/8-16 X 3/4 WHIZ LOCK	1
37	H-6909-406	SCREW - 1/4-20 X 3/4" FLAT HEAD CAP	4
38	H-6913-606	SCREW - 3/8-16 X 3/4 HEX HEAD CAP	10
39	H-6913-608	SCREW - 3/8-16 X 1 HEX HEAD CAP	2
40	H-6918-102403	SCREW - #10-24 X 3/8 SOCKET HEAD CAP	2
41	H-6918-102406	SCREW - #10-24 X 3/4 SOCKET HEAD CAP	1
42	H-6918-410	SCREW - 1/4-20 X 1-1/4 SOCKET HEAD CAP	2
43	H-6918-606	SCREW - 3/8-16 X 3/4 SOCKET HEAD CAP	6
44	H-6918-616	SCREW - 3/8-16 X 2 SOCKET HEAD CAP	1
45	H-6918-622	SCREW - 3/8-16 X 2-3/4 SOCKET HEAD CAP	6
46	H-6931-624	SCREW - 3/8-16 X 3 SQUARE HEAD SET	2

4.0 Schematics & Parts Lists

47	H-6947-405	SCREW - 1/4-20 X 5/8 FULL DOG POINT SOC SET	1
48	H-6968-102408	SCREW - #10-24 X 1/2 NYLOK SOC SET	1
49	H-6974-416	SCREW - 1/4-28 X 1 BRASS TIP SET	2
50	H-7321-5	WASHER - 5/16 SAE PLAIN	2
51	H-7321-6	WASHER - 3/8 SAE PLAIN	2
52	H-21S-187-0750	ROLL PIN - 3/16 X 3/4	1
53	H-21S-250-1000	ROLL PIN - 1/4 X 1	1
54	S-653-1	THUMBSCREW- 3/8 X 1-1/2 MALLABLE	1

NOTES

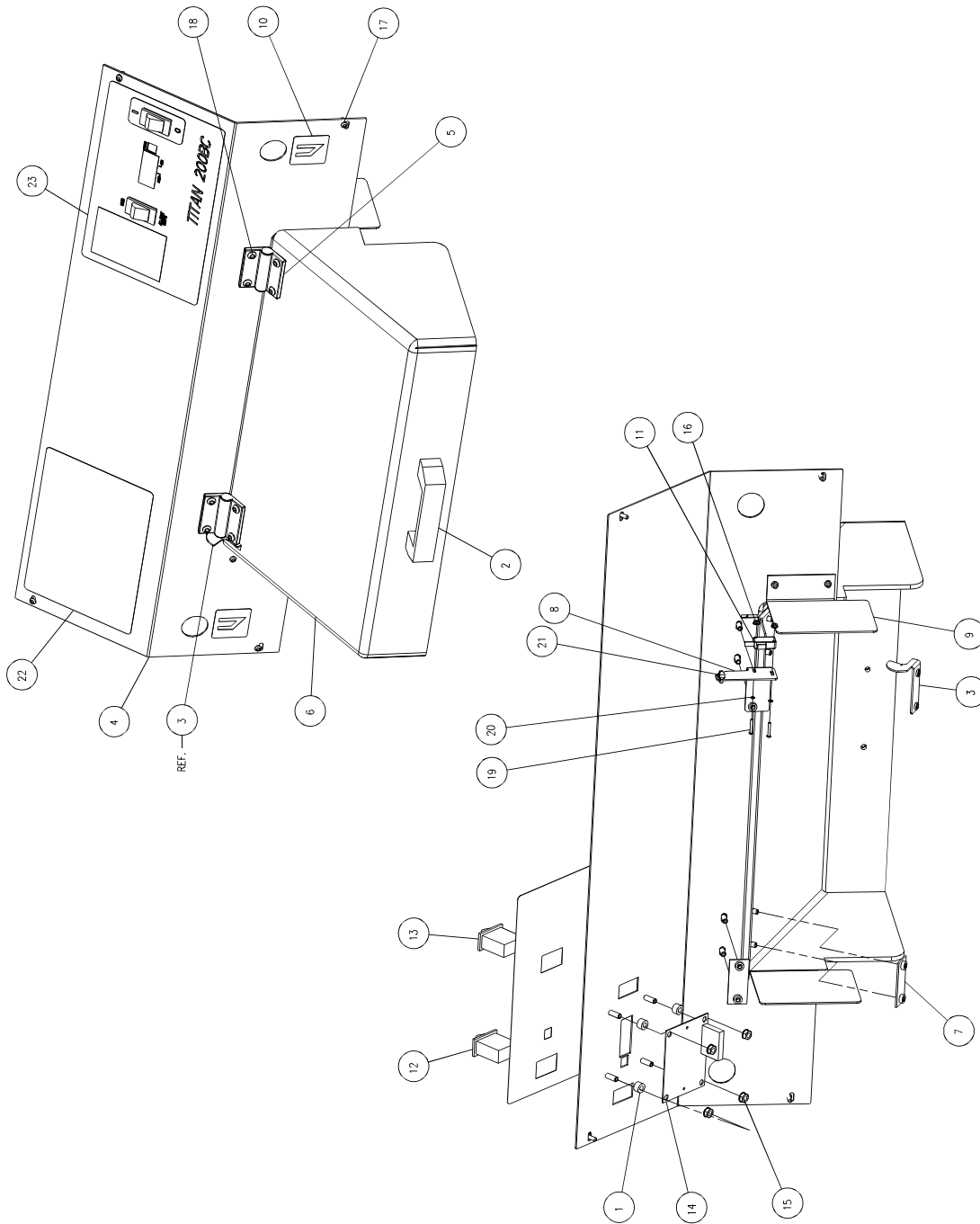
4.4 70000 Main Assembly – Knife Latch



70000 Main Assembly – Knife Latch Parts List

NO.	PART NO.	DESCRIPTION	QTY
1	8815	WASHER - KNIFE SCREWS	2
2	10002-2	FRONT GUIDE	1
3	41120-4	ASSEMBLY- KNIFE LATCH	1
4	E-866-4	MICROSWITCH	1
5	H-6423-#4	NUT - #4-40 HEX KEP	2
6	H-6918-102406	SCREW - #10-24 X 3/4 SOCKET HEAD CAP	2
7	H-6923-44012	SCREW - #4-40 X 3/4 ROUND HD MACH	2
8	H-7321-#10	WASHER - #10 SAE PLAIN	2
9	H-7324-#10	WASHER - #10 INT TOOTH	2
10	H-7324-#4	WASHER - #4 INT TOOTH	2
11	S-1694	TYRAP	1

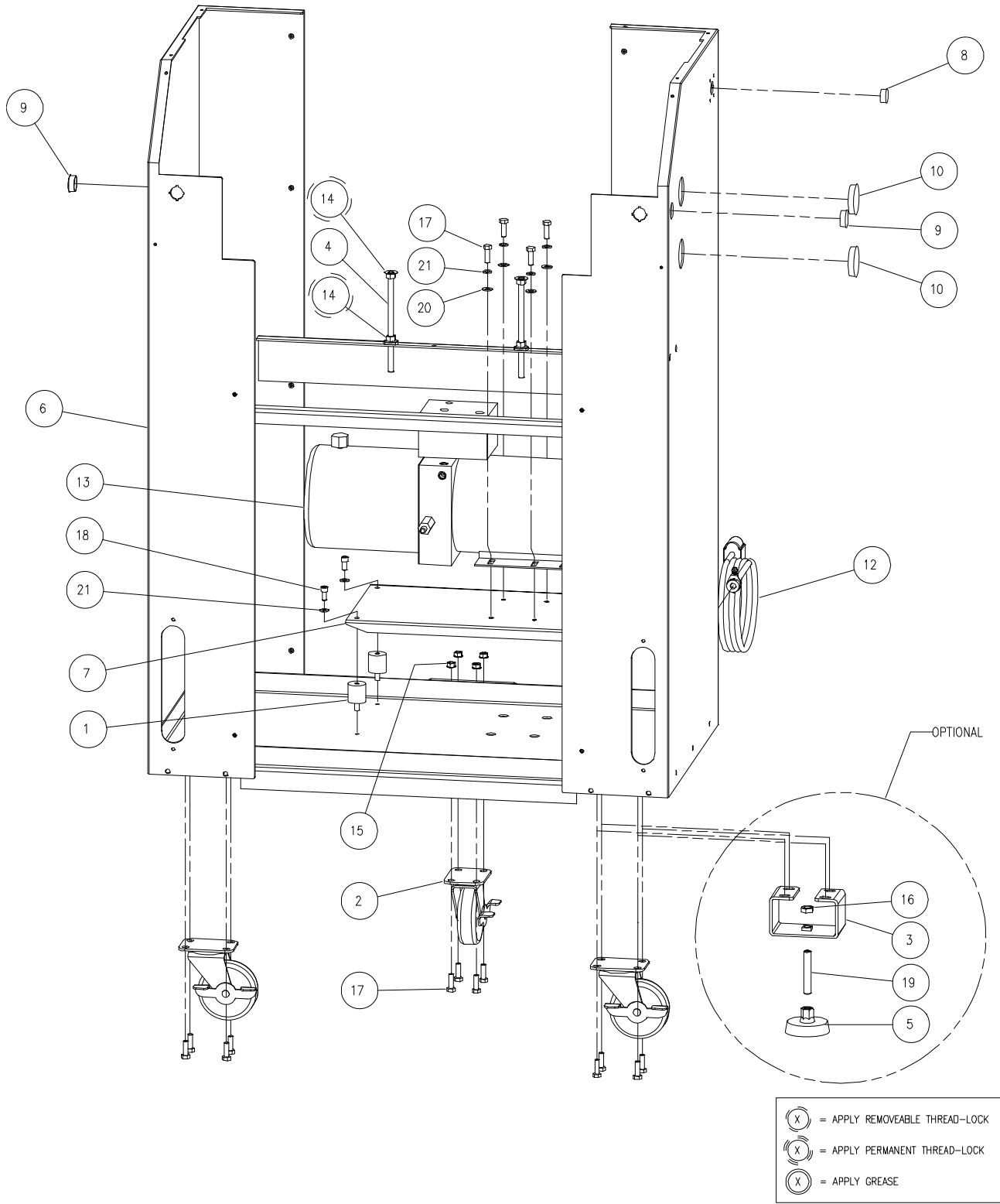
4.5 70000 Main Assembly – Console/Tilt Shield



70000 Main Assembly– Console/Tilt Shield Parts List

NO.	PART NO.	DESCRIPTION	QTY
1	11288-40	WASHER/SPACER	4
2	56657	HANDLE W/ HDW	1
3	70016	SWITCH ACTUATOR	1
4	70017	BEVELED COVER	1
5	70018	POSITIONING HINGE MH14-122	2
6	70019	SHIELD	1
7	70020	HINGE BACKER	2
8	70021	INTERLOCK SWITCH BRACKET	1
9	70030	KNIFE LATCH GUARD	1
10	A-9121	LABEL	2
11	E-866-9	POSITIVE ACTION MICROSWITCH	1
12	E-1140-18	ON-OFF SWITCH	1
13	E-1140-19	KNIFE ADJUST SWITCH	1
14	EE-3418	PCB ASM- LED DISPLAY	1
15	H-6423-4	NUT - 1/4-20 HEX KEP	4
16	H-6423-#4	NUT - #4-40 HEX KEP	2
17	H-6910-102404	SCREW - #10-24 X 1/2 BUTTON HEAD CAP	6
18	H-6910-406	SCREW - 1/4-20 X 3/4 BUTTON HEAD CAP	8
19	H-6923-44012	SCREW - #4-40 X 3/4 ROUND HD MACH	2
20	H-7324-#4	WASHER - #4 INT TOOTH	2
21	S-1694	TYRAP	1
22	S-1781-116	LABEL- WARNING	1
23	S-1781-202	CONSOLE LABEL- TITAN 200BC	1

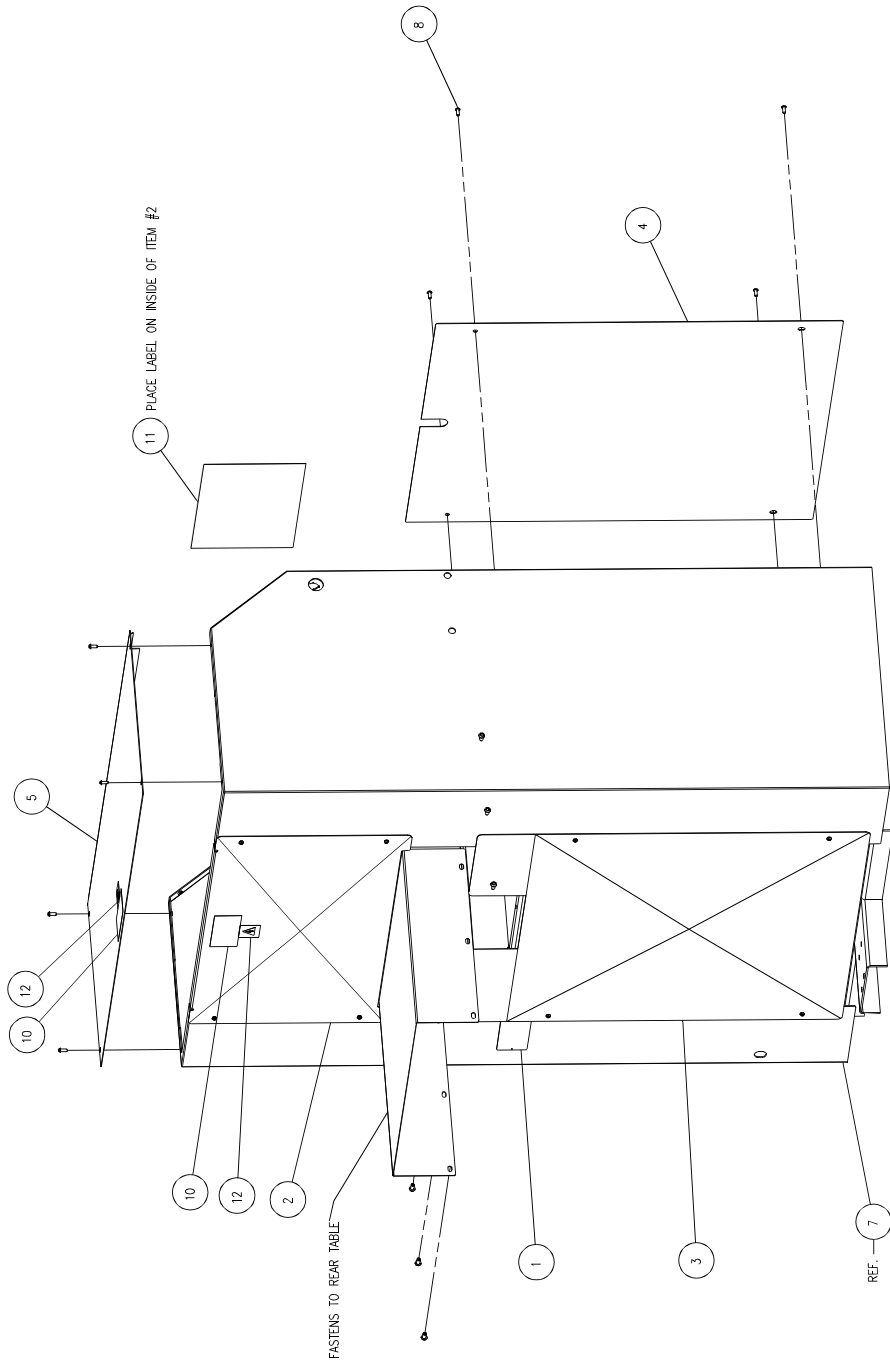
4.6 70000 Main Assembly – Stand



70000 Main Assembly – Stand Parts List

NO.	PART NO.	DESCRIPTION	QTY
1	40016-8	MOUNT - VIBRATION	4
2	41014	SWIVEL CASTER WITH BRAKE	3
3	42057-1	FOOT BRACKET	OPT
4	44084	JACKSCREW - TABLE	2
5	51036	FOOT	OPT
6	70100	STAND WELDMENT - TITAN 200	1
7	71009	HYD. UNIT MOUNTING PLATE	1
8	E-2196-11	HOLE PLUG	1
9	E-2196-15	HOLE PLUG	2
10	E-2196-21	HOLE PLUG	2
11	E-3422-3	PUSHBUTTON SWITCH	1
12	EE-3022-1	POWER CORD ASSEMBLY	1
13	H-477-4	HYDRAULIC POWER UNIT ASSEMBLY- 120V, 60HZ	1
14	H-6414-6	NUT - 3/8-16 WHIZ LOCK	4
15	H-6423-5	NUT - 5/16-18 HEX KEP	12
16	H-6424-8	NUT - 1/2-13 HEX JAM	OPT
17	H-6913-508	SCREW - 5/16-18 X 1 HEX HD	16
18	H-6918-505	SCREW - 5/16-18 X 5/8 SOC HD	4
19	H-6938-848	SCREW - 1/2-13 X 3 CUP SOC SET	OPT
20	H-7321-5	WASHER - 5/16 SAE PLAIN	4
21	H-7327-10	WASHER - 5/16 MEDIUM LOCK	8

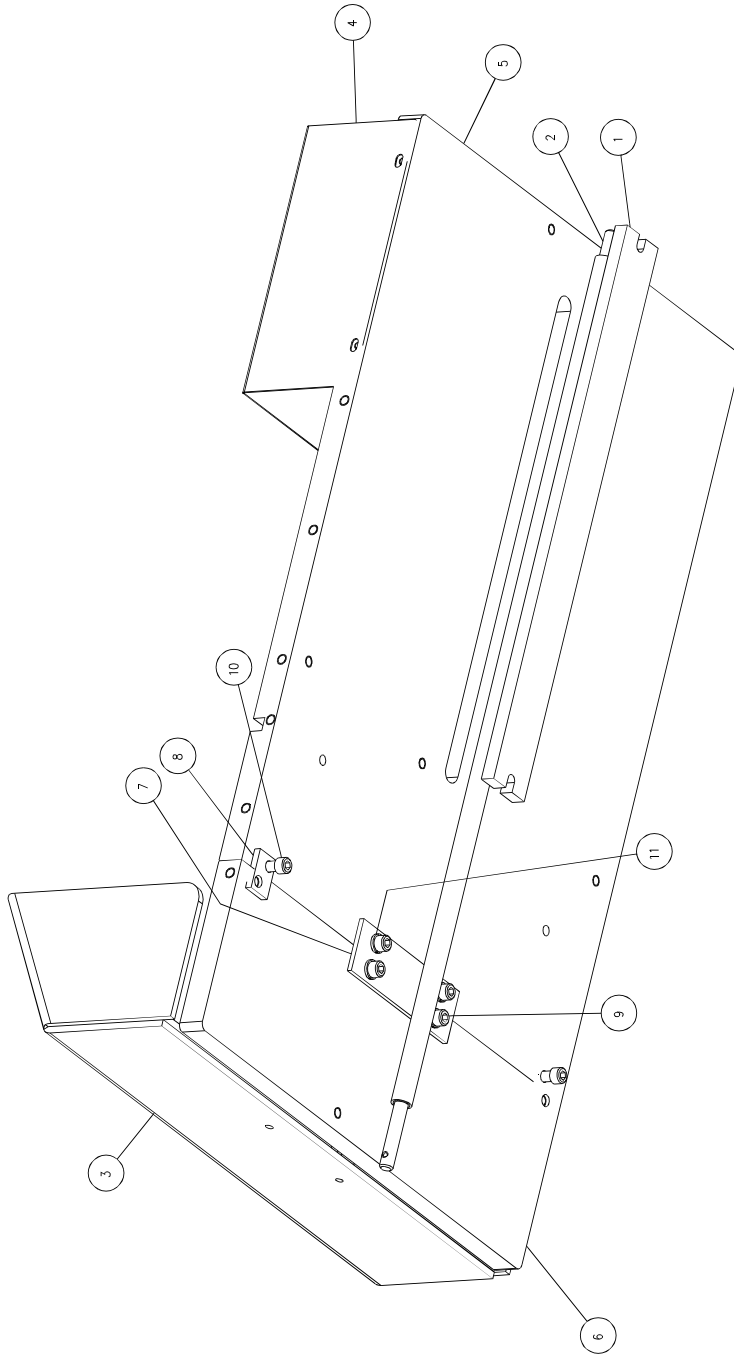
4.7 70000 Main Assembly – Covers



70000 Main Assembly – Covers Parts List

NO.	PART NO.	DESCRIPTION	QTY
1	14050	SERIAL PLATE	1
2	43041-2	COVER- REAR STAND (TOP)	1
3	43044-1	COVER- REAR STAND	1
4	70022	LOWER FRONT COVER	1
5	70023-1	TOP COVER	1
6	70024	BACKGAUGE COVER- SHEET METAL	1
7	70100	STAND WELDMENT - TITAN 200	1
8	H-6910-102404	SCREW - #10-24 X 1/2 BUTTON HEAD CAP	16
9	H-6910-404	SCREW - 1/4-20 X 1/2 BUTTON HEAD CAP	6
10	S-1781-16	LABEL- CRUSH HAZARD	2
11	S-1781-203	LABEL- INTERCONNECTION (W/HOOD)	1
11	S-1781-207	LABEL – INTERCONNECTION (W/EYES)	
12	S-1781-50	LABEL - ELECTRIC SHOCK	2

4.8 70000 Main Assembly – Short Table Option



70000 Main Assembly – Short Table Option Parts List

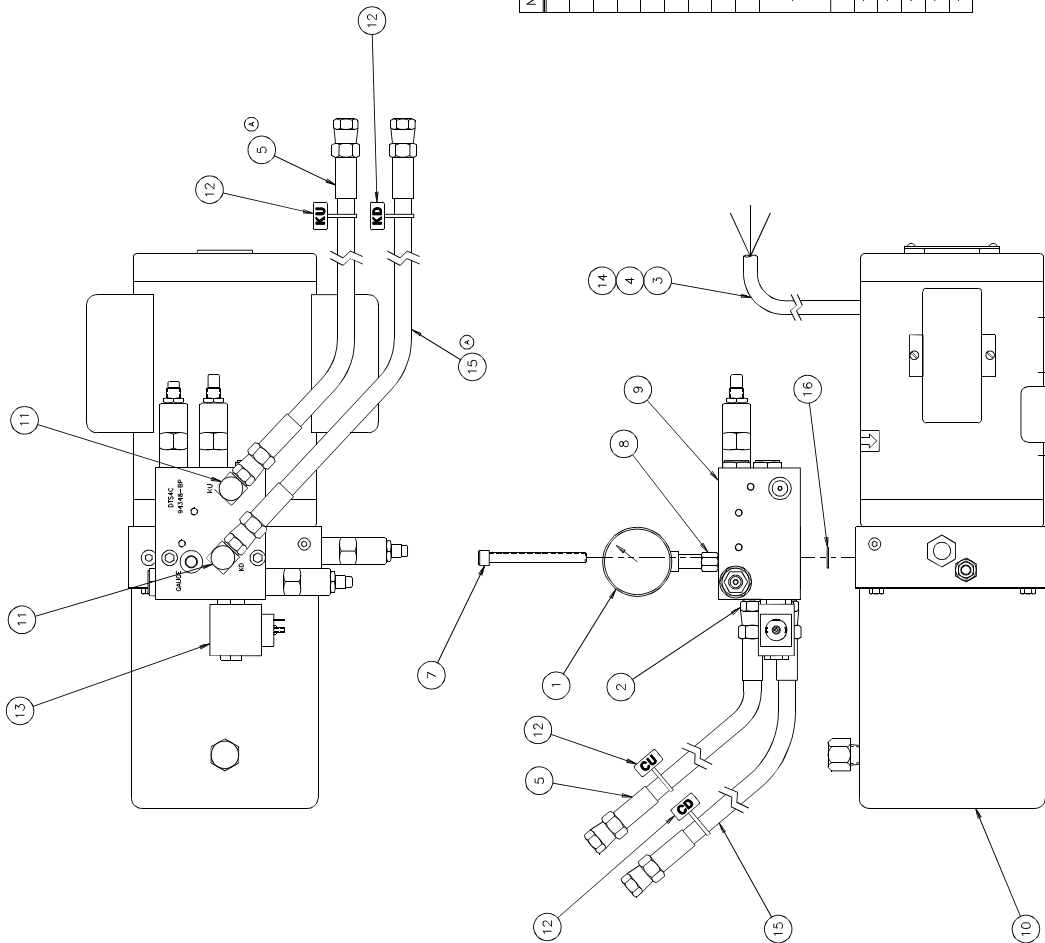
NO.	PART NO.	DESCRIPTION	QTY
1	10028-3	GUIDE- BACKGAUGE SHORT TABLE	1
2	10037-3	BACKGAUGE SCREW- SHORT TABLE	1
3	70019-1	SHIELD- SHORT TABLE	1
4	70024-1	BACKGAUGE COVER- SHORT TABLE	1
5	70026	SHORT TABLE REAR- TITAN 200 BC	1
6	70027	SHORT TABLE FRONT- TITAN 200 BC	1
7	70028	REINFORCEMENT PLATE	1
8	70029	SPACER	2
9	H-6918-606	SCREW - 3/8-16 X 3/4 SOCKET HEAD CAP	4
10	H-6918-608	SCREW - 3/8-16 X 1 SOCKET HEAD CAP	2
11	H-7327-12	WASHER - 3/8 MEDIUM LOCK	4

70000 Main Assembly – Foot Pedal Option Parts List

NO.	PART NO.	DESCRIPTION	QTY
1	40016-3	MOUNT- VIBRATION	2
2	41033	BRACKET- CLAMP UP	1
3	43022	PEDAL	1
4	43023	CLEVIS PIN	2
5	43024	HAIRPIN COTTER	2
6	43074	ROD - CLAMP CYLINDER	1
7	43076	ACTUATOR - HYDRAULIC UP PROX.	1
8	43077	CABLE- FOOT PEDAL	2
9	47086	PIN- BELL CRANK	2
10	47136-3	1-3/4" OD EXTENSION SPRING	2
11	47136-4	7/8" OD EXTENSION SPRING	2
12	E-866-4	MICROSWITCH	1
13	EE-3033	CABLE ASM- CLAMP UP SWITCH EXTENSION	1
14	H-6417-5	NUT - 5/16-18 HEX	4
15	H-6423-4	NUT - 1/4-20 HEX KEP	8
16	H-6423-#4	NUT - #4-40 HEX KEP	2
17	H-6910-403	SCREW - 1/4-20 X 3/8 BUTTON HEAD CAP	2
18	H-6913-406	SCREW - 1/4-20 X 3/4 HEX HEAD CAP	2
19	H-6922-44012	SCREW - #4-40 X 3/4 FLAT HEAD CAP	2
20	H-6938-532	SCREW - 5/16-18 X 2 CUP SOC SET	2
21	H-7321-4	WASHER - 1/4 SAE PLAIN	10
22	H-7324-8	WASHER - 1/4 INT TOOTH	2
23	S-1193-50	E-RING - 1/2"	4
24	S-1884	EYE BOLT W/ NUT	2

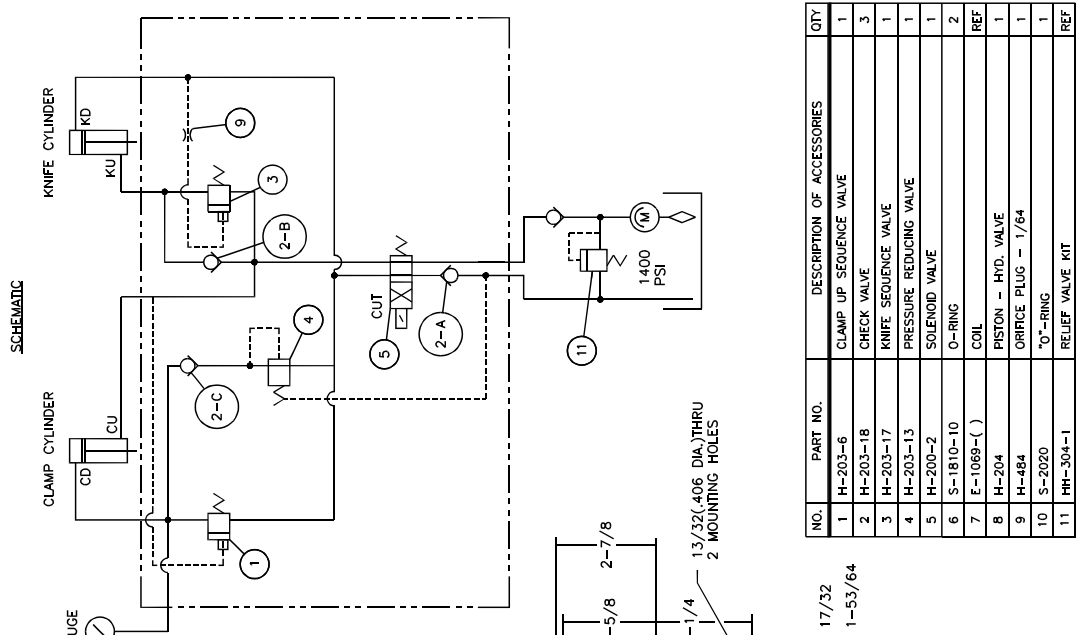
4.10 Hydraulic Power Unit

- H-477-3 – 208/230 60HZ Unit
- H-477-4 – 120V 60HZ Unit
- H-477-5 – 208/230V 50HZ Unit

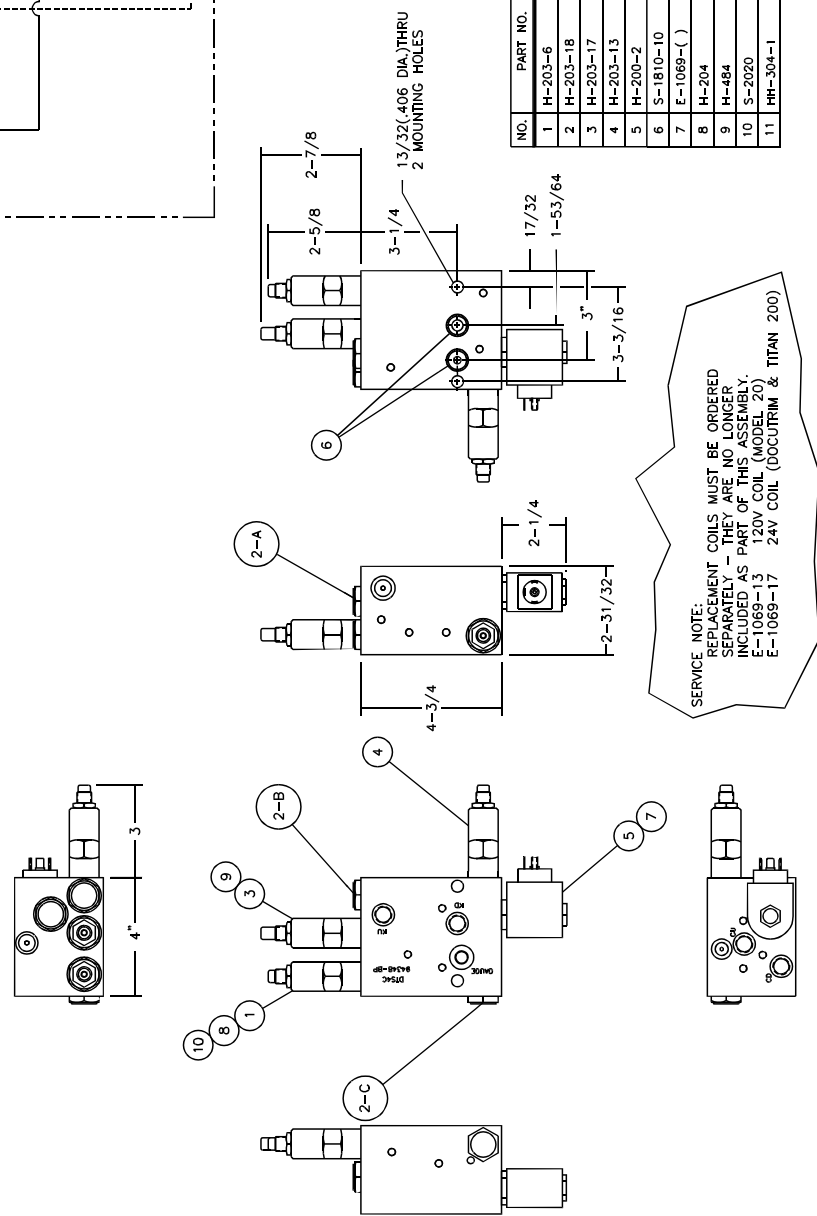


NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	8P-629-3	GAUGE	1
2	H-236-3	ADAPTER, 9/16-18 "O" RING TO 9/16-18 TUBE	2
3	EE-2704-2	CORD ASSEMBLY - HYD. MOTOR	1
4	E-1237-1	WIRE NUT	2
5	H-242-41	HYDRAULIC HOSE ASM., 25" LONG (KU & CU)	2
6			
7	H-6918-628	3/8-16 X 3-1/2 SOCKET HD. CAP. SCREW	2
8	H-233	ADAPTER	1
9	HH-476-1	MANIFOLD ASSEMBLY	1
10	H-220-5	HYDRAULIC POWER UNIT (208/230V 60 HZ)	1
11	H-220-6	HYDRAULIC POWER UNIT (120V 60 HZ)	1
12	H-220-7	HYDRAULIC POWER UNIT (208/230V 50 HZ)	1
13	H-230-3	ELBOW - 9/16-18 "O" RING TO 9/16-18 TUBE	2
14	S-1694-5	TYRAP - IDENTIFICATION	4
15	E-1069-19	COIL - 24V DC	1
16	E-1736-2	QUENCH ARC	1
17	H-242-53	HYDRAULIC HOSE ASSEMBLY, 35" LONG (KD & CD)	2
18	S-1810-10	O-RING	2

4.11 HH-467-1 Hydraulic Manifold Assembly & Schematic



NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	H-203-6	CLAMP UP SEQUENCE VALVE	1
2	H-203-18	CHECK VALVE	3
3	H-203-17	KNIFE SEQUENCE VALVE	1
4	H-203-13	PRESSURE REDUCING VALVE	1
5	H-200-2	SOLENOID VALVE	1
6	S-1810-10	O-RING	2
7	E-1069-()	COIL	REF
8	H-204	PISTON - HYD. VALVE	1
9	H-484	ORIFICE PLUG - 1/64	1
10	S-2020	O-RING	1
11	RHH-304-1	RELIEF VALVE KIT	REF



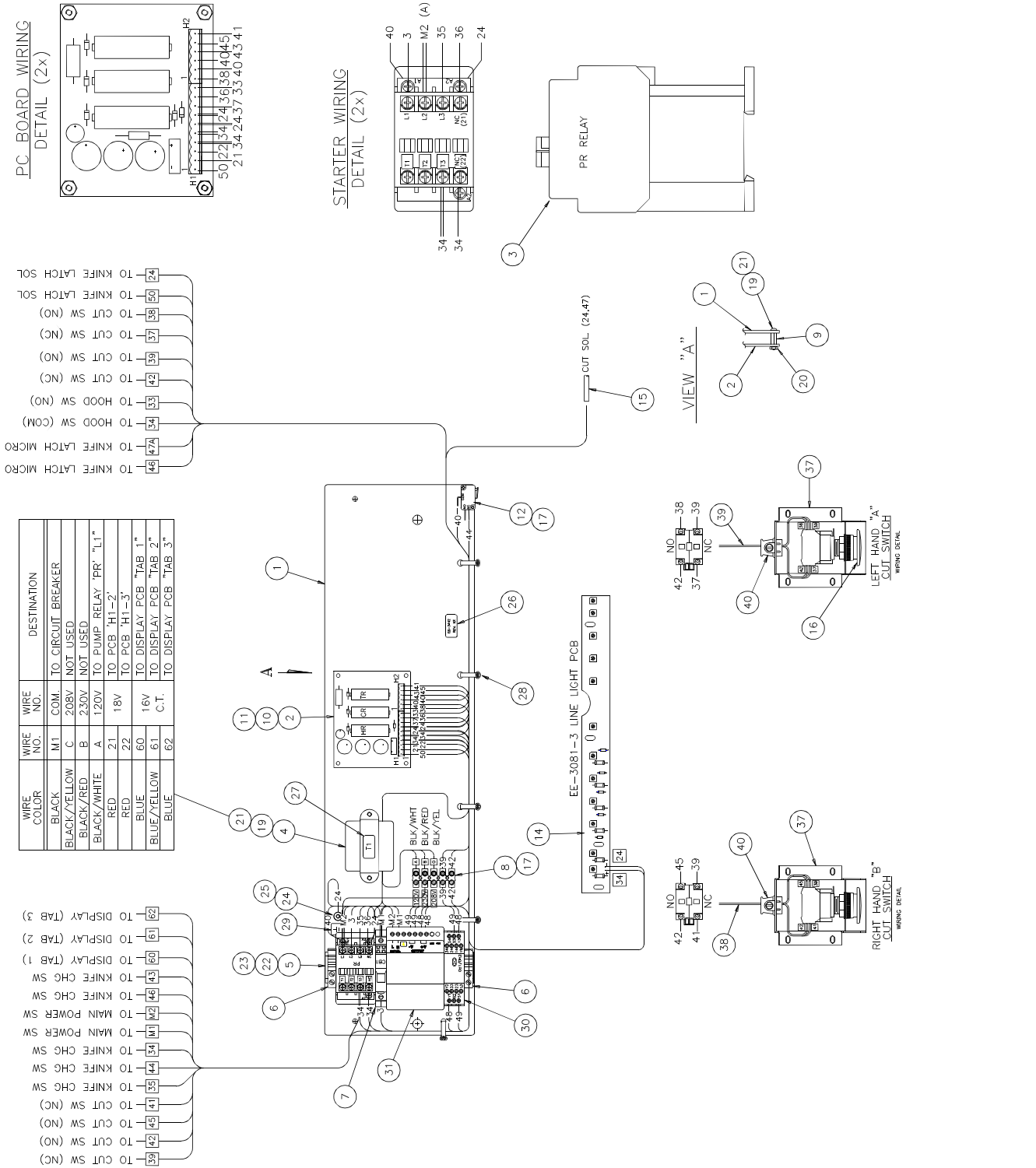
SERVICE NOTE:
 REPLACEMENT COILS MUST BE ORDERED SEPARATELY - THEY ARE NO LONGER INCLUDED AS PART OF THIS ASSEMBLY.
 E-1069-13 120V COIL (MODEL 20)
 E-1069-17 24V COIL (DOCCUTRIM & TITAN 200)

Power Panel Assembly – Parts List
EE-3416 REV. "C"

1	70009	PANEL - ELECTRICAL	1
2	EE-2897-1	P.C.B. ASSEMBLY - CONTROLLER	1
3	E-2805-4	STARTER - CONTACTOR	1
4	E-2742-7	TRANSFORMER - 120/208/230V PRIM.,(T1)	1
5	E-1977-26	RAIL - TERMINAL BLOCK, 4" LONG	1
6	E-2070-1	END BRACKET - TERMINAL BLOCK	2
7	E-3264-14	CIRCUIT BREAKER - 12A (12A 120V OPT. ONLY)	1
8	E-2626-3	TERMINAL STRIP – 3 POS	1
9	E-1152-56	STAND-OFF - 1/2" LONG, #6-32 THR'D	4
10	E-2066-10	CONNECTOR - PLUG IN PCB TERMINAL BLOCK	1
11	E-2066-6	CONNECTOR - PLUG IN PCB TERMINAL BLOCK	1
12	E-866-4	SWITCH - MICRO., CLAMP UP LIMIT	1
13	EE-3419	WIRES - CUT LENGTH CHART	1
14	EE-3081-3	PCB ASM. - LINE LIGHT	1
15	EE-2769-18	CABLE ASM. - CUT SOLENOID	1
16	E-3422-3	SWITCH - CUT BUTTON (1) N.O. & (1) N.C.	2
17	H-6923-44012	SCREW - #4-40X 3/4" RD HD	4
18			
19	H-6910-63203	SCREW - #6-32 X 3/8" BUT HD	6
20	H-6423-#6	NUT - #6-32 HEX (KEP)	4
21	H-7324-#6	WASHER - #6 INT. TOOTHLOCK	6
22	H-6910-102403	SCREW - #10-24 X 3/8" BUT HD	2
23	H-7324-#10	WASHER - #10 INT. TOOTHLOCK	2
24	H-6910-403	SCREW - 1/4-20 X 3/8" BUT HD	1
25	H-7324-8	WASHER - 1/4" INT. TOOTHLOCK	1
26	E-1584-()	LABEL - PART NUMBER/ REVISION LEVEL	1
27	E-1584-51	LABEL - TRANSFORMER, "T1"	1
28	S-1694	CABLE TIE	5
29	S-1781-42	LABEL - GROUND (SECONDARY)	1
30			
31			

4.13 Power Panel Assembly W/EYES (120V)

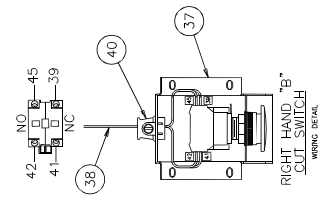
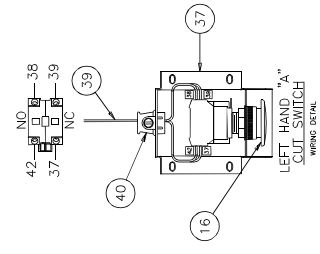
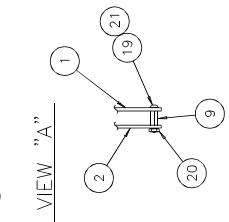
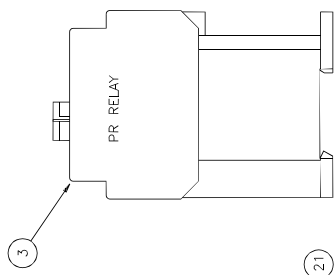
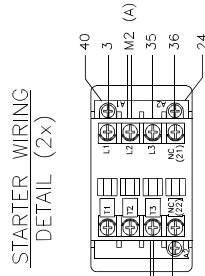
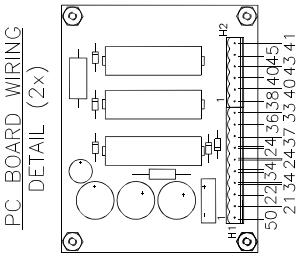
EE-3442 SHEET 1 OF 2 REV. "A"



WIRE COLOR	WIRE NO.	WIRE NO.	DESTINATION
BLACK	M1	COM	TO CIRCUIT BREAKER
BLACK/YELLOW	C	208V	NOT USED
BLACK/RED	B	230V	NOT USED
BLACK/WHITE	A	120V	TO PUMP RELAY "PR" "1-1"
RED	21	18V	TO PCB "H1-2"
RED	22		TO PCB "H1-3"
BLUE	60	16V	TO DISPLAY PCB "TAB 1"
BLUE/YELLOW	61	C.T.	TO DISPLAY PCB "TAB 2"
BLUE	62		TO DISPLAY PCB "TAB 3"

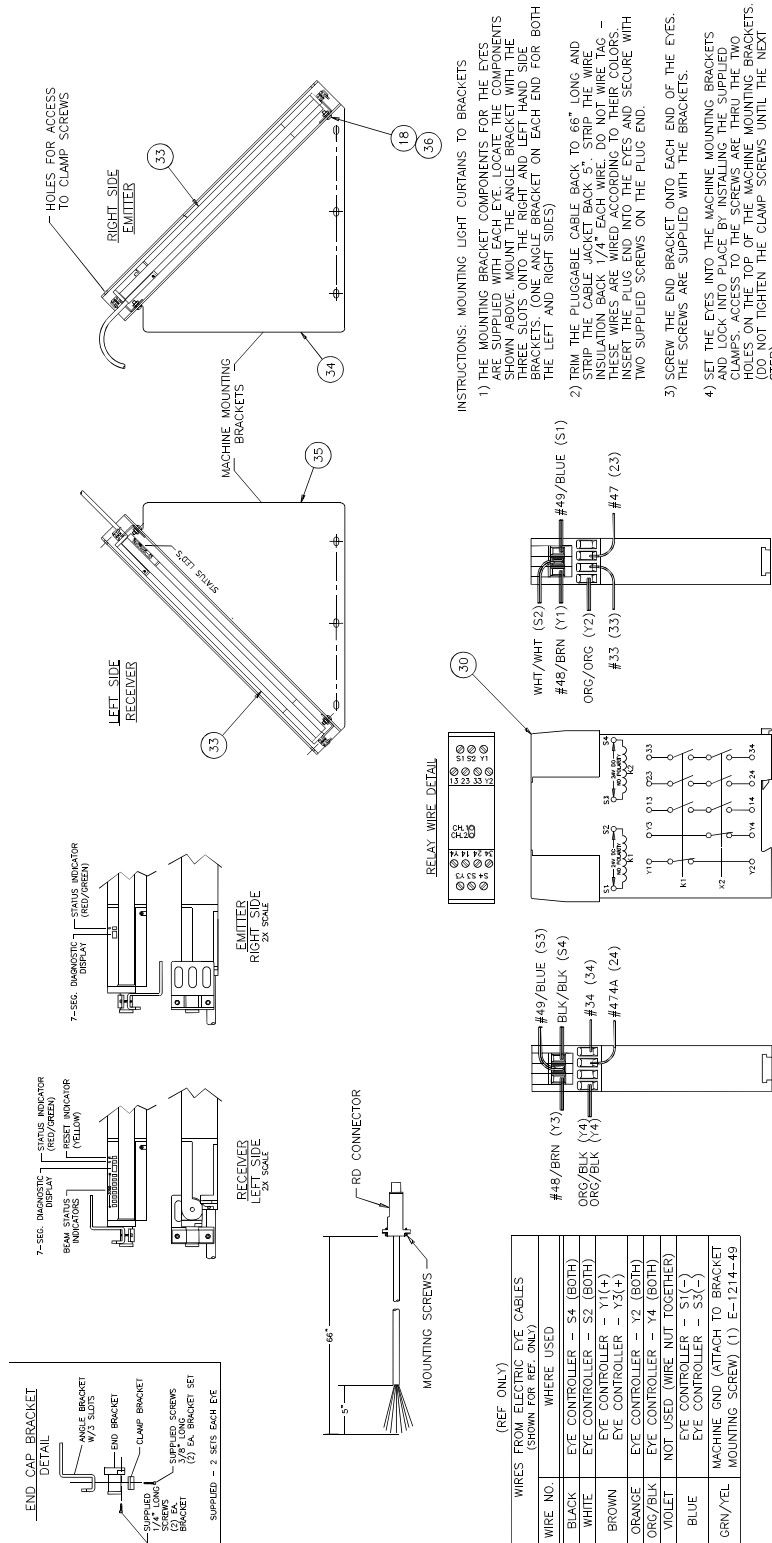
- TO KNIFE LATCH MICRO (48)
- TO KNIFE LATCH MICRO (47A)
- TO HOOD SW (COM) (34)
- TO HOOD SW (NO) (33)
- TO CUT SW (NC) (42)
- TO CUT SW (NO) (43)
- TO KNIFE LATCH SOL (50)
- TO KNIFE LATCH SOL (49)
- TO KNIFE LATCH SOL (48)
- TO KNIFE LATCH SOL (47)
- TO KNIFE LATCH SOL (46)
- TO KNIFE LATCH SOL (45)
- TO KNIFE LATCH SOL (44)
- TO KNIFE LATCH SOL (43)
- TO KNIFE LATCH SOL (42)
- TO KNIFE LATCH SOL (41)
- TO KNIFE LATCH SOL (40)
- TO KNIFE LATCH SOL (39)
- TO KNIFE LATCH SOL (38)
- TO KNIFE LATCH SOL (37)
- TO KNIFE LATCH SOL (36)
- TO KNIFE LATCH SOL (35)
- TO KNIFE LATCH SOL (34)

- TO CUT SW (NC) (39)
- TO CUT SW (NO) (42)
- TO CUT SW (NO) (43)
- TO KNIFE CHG SW (35)
- TO KNIFE CHG SW (44)
- TO KNIFE CHG SW (34)
- TO MAIN POWER SW (M1)
- TO MAIN POWER SW (M2)
- TO KNIFE CHG SW (46)
- TO KNIFE CHG SW (43)
- TO DISPLAY (TAB 1) (61)
- TO DISPLAY (TAB 2) (62)
- TO DISPLAY (TAB 3) (63)



EE-3442 Power Panel Assembly

SHEET 2 OF 2 REV. "A"



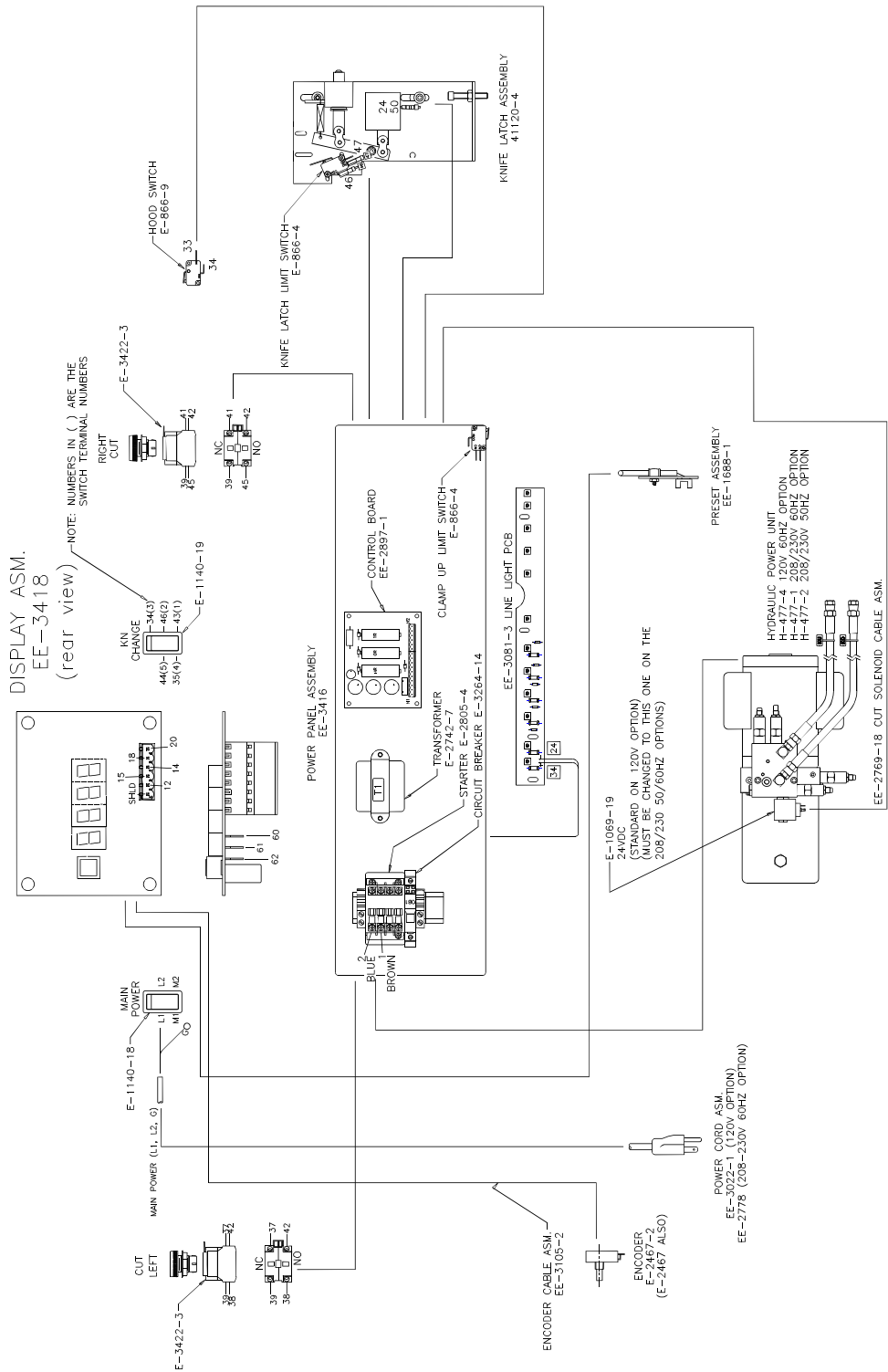
Power Panel Assembly – Parts List
 EE-3442 - REV. "A"

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	70009	PANEL - ELECTRICAL	1
2	EE-2897-1	P.C.B. ASSEMBLY - CONTROLLER	1
3	E-2805-4	STARTER - CONTACTOR	1
4	E-2742-7	TRANSFORMER - 120/208/230V PRIM.,(T1)	1 1
5	E-1977-18	RAIL - TERMINAL BLOCK, 6-1/2" LONG	1 1
6	E-2070-1	END BRACKET - TERMINAL BLOCK	2
7	E-3264-14	CIRCUIT BREAKER - 12A (120V OPT. ONLY)	1
8	E-2626-5	TERMINAL STRIP - 5 POS.	1
9	E-1152-56	STAND-OFF - 1/2" LONG, #6-32 THR'D	4
10	E-2066-10	CONNECTOR - PLUG IN PCB TERMINAL BLOCK	1
11	E-2066-6	CONNECTOR - PLUG IN PCB TERMINAL BLOCK	1
12	E-866-4	SWITCH - MICRO., CLAMP UP LIMIT	1
13	EE-3419-1	WIRES - CUT LENGTH CHART	1
14	EE-3081-3	PCB ASM. - LINE LIGHT	1
15	EE-2769-20	CABLE ASM. - CUT SOLENOID	1
16	E-3437-3	SWITCH - CUT BUTTON (1) N.O. & (1) N.C.	2
17	H-6923-44012	SCREW - #4-40X 3/4" RD HD	4
18	H-6910-102404	SCREW - #10-24 X 1/2 BUT HD	4
19	H-6910-63203	SCREW - #6-32 X 3/8" BUT HD	6
20	H-6423-#6	NUT - #6-32 HEX (KEP)	4
21	H-7324-#6	WASHER - #6 INT. TOOTHLOCK	6
22	H-6910-102403	SCREW - #10-24 X 3/8" BUT HD	2
23	H-7324-#10	WASHER - #10 INT. TOOTHLOCK	2
24	H-6910-403	SCREW - 1/4-20 X 3/8" BUT HD	1
25	H-7324-8	WASHER - 1/4" INT. TOOTHLOCK	1
26	E-1584-()	LABEL - PART NUMBER/ REVISION LEVEL	1
27	E-1584-51	LABEL - TRANSFORMER, "T1"	1
28	S-1694	CABLE TIE	5
29	S-1781-42	LABEL - GROUND (SECONDARY)	1
30	E-3370	RELAY - SAFETY OUTPUT (E-3336 REF)	1
31	E-2810	POWER SUPPLY - 24V OUTPUT	1
32	EE-3105-2	CABLE ASM. - ENCODER (SUPPLY W/PANEL)	1
33	E-3370	LIGHT CURTAIN SET - 16" STANDARD	1
34	43096-1	BRACKET - LIGHT CURTAIN, RH	1
35	43097-1	BRACKET - LIGHT CURTAIN, LH	1
36	H-6423-#10	NUT - #10-24 HEX (KEP)	4
37	16566-1	BOX - CUT BUTTON	2
38	EE-3440	CABLE ASSEMBLY - CUT SWITCH - RH	1
39	EE-3441	CABLE ASSEMBLY - CUT SWITCH - LH	1
40	S-1350-16	STRAIN RELIEF	2

NOTES:

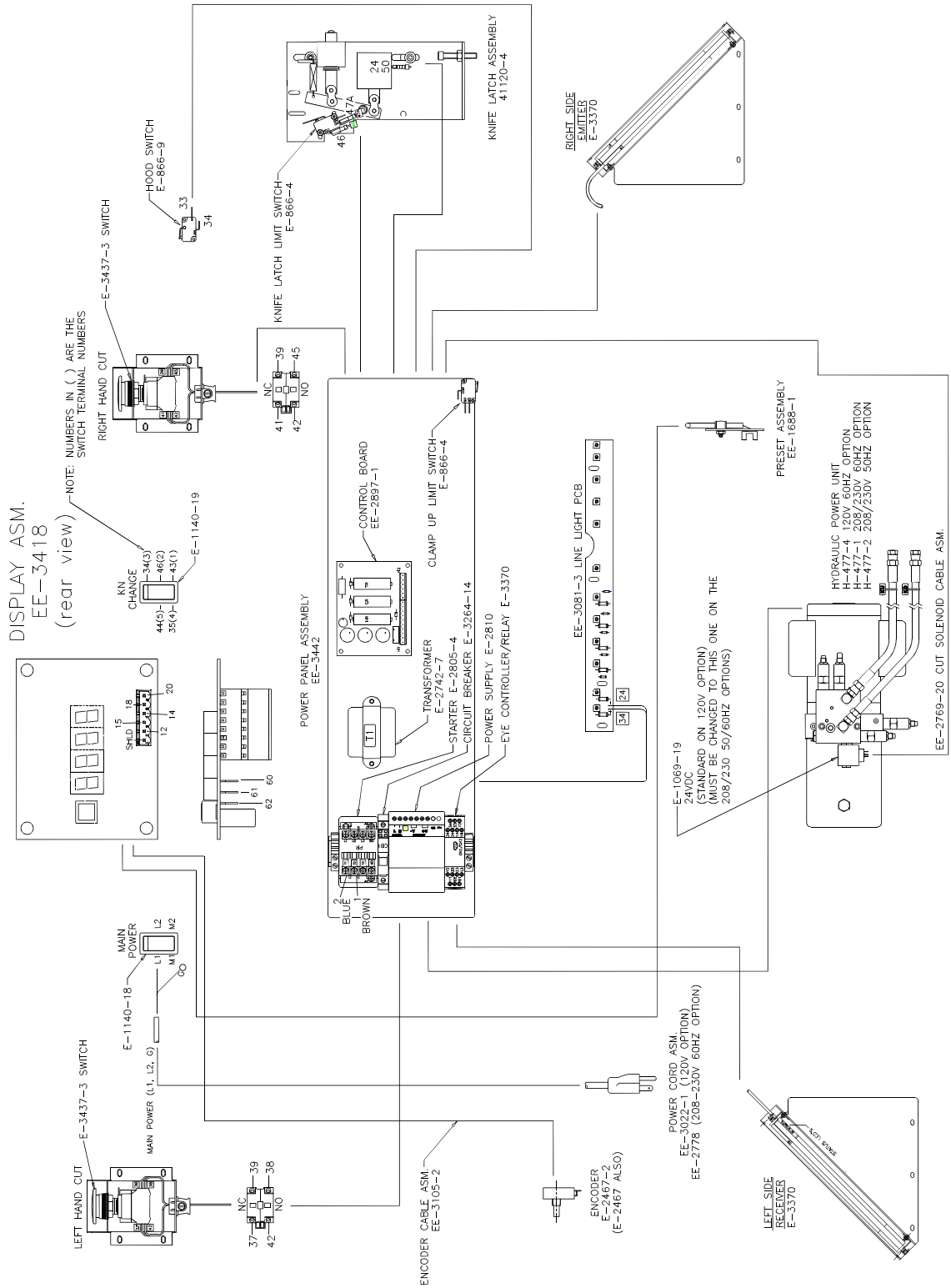
4.14 Interconnection Diagram (Machines w/Hood)

E-3417 – Rev. "A"

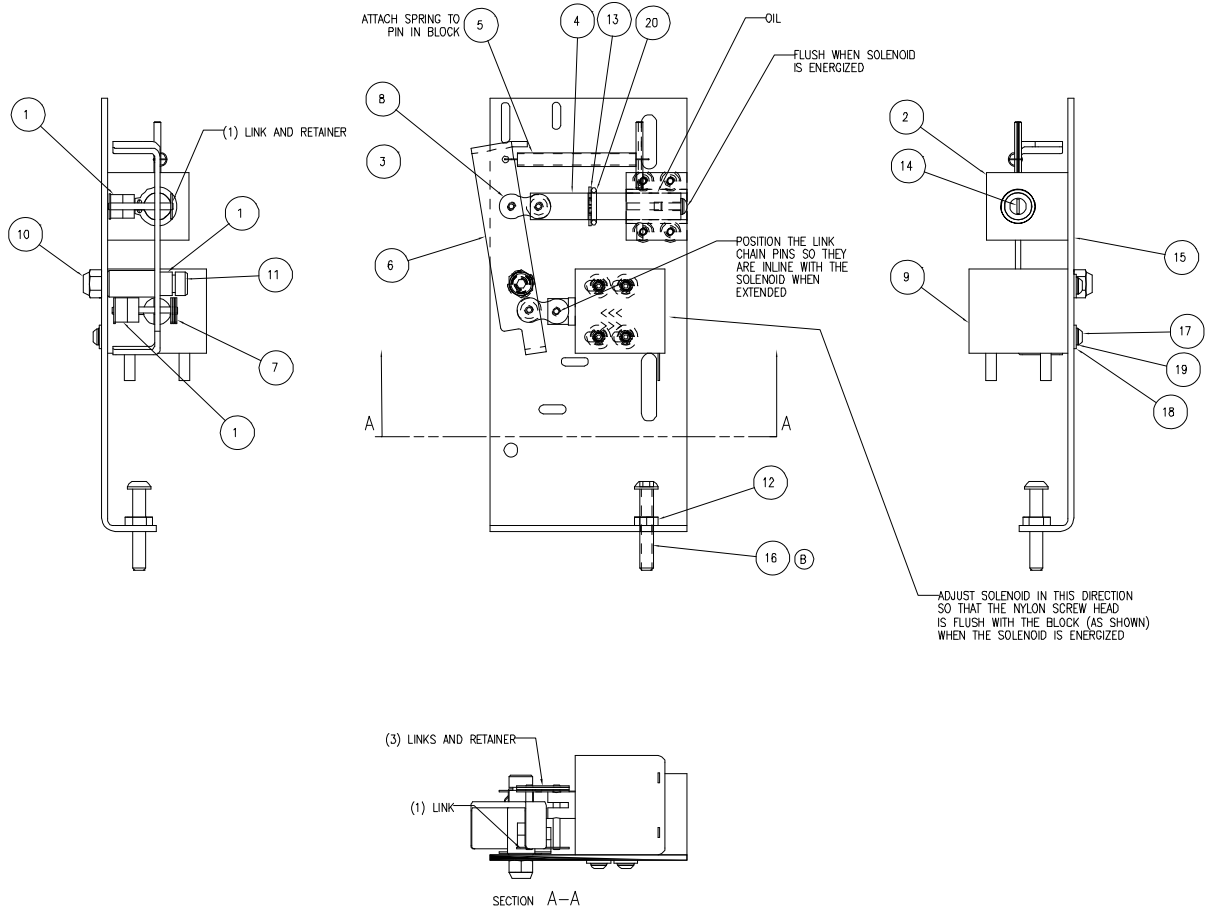


4.15 Interconnection Diagram (Machines w/Eyes)

E-3417-1 – Rev. "A"



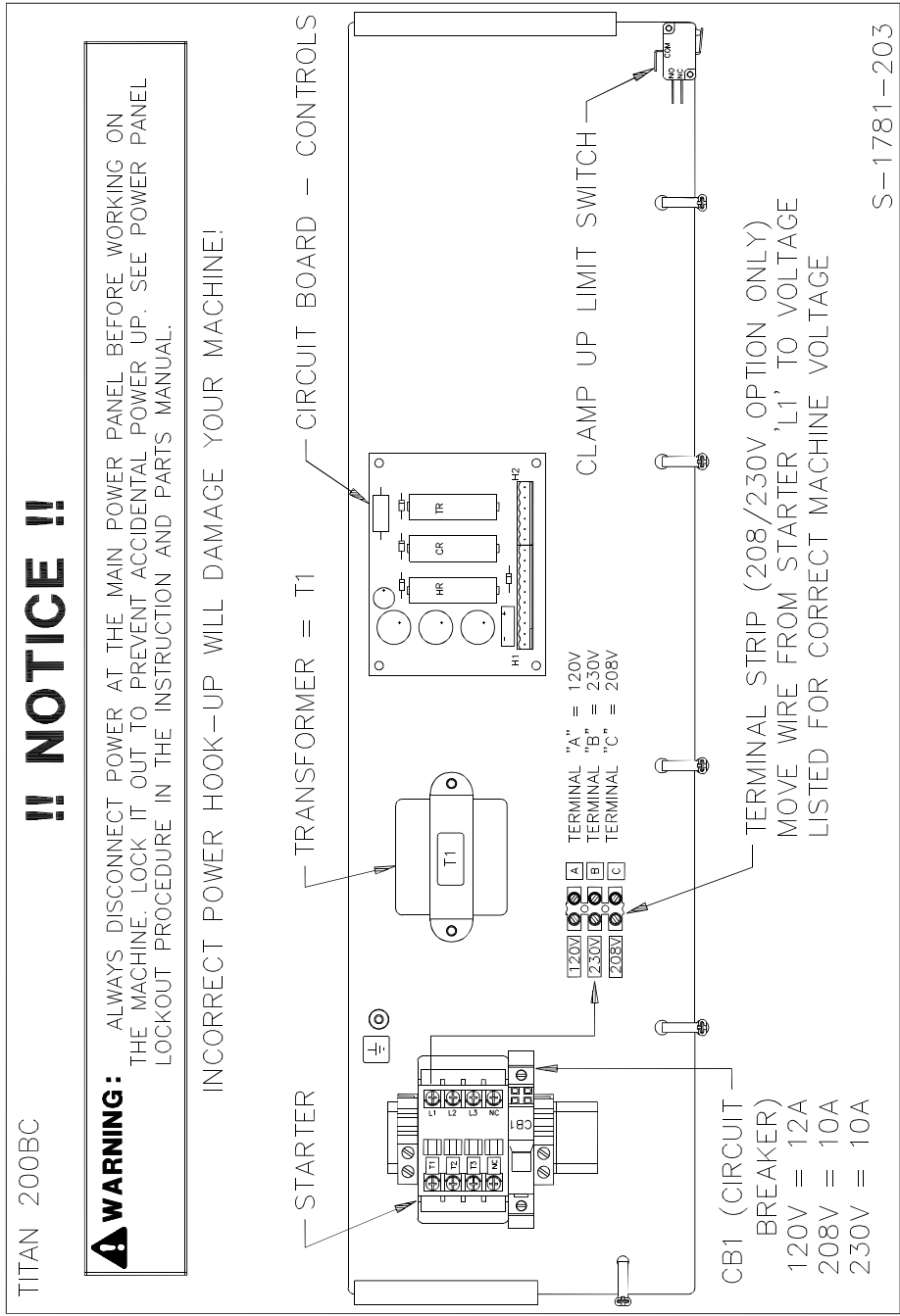
4.17 41120-4 Knife Latch Assembly rev B



NO.	PART NO.	DESCRIPTION	QTY
1	11288-28	WASHER/SPACER	5
2	41112-2	ASSEMBLY - KNIFE LATCH BLOCK	1
3	41115-2	PLATE- KNIFE LATCH	1
4	41116-3	ROD- KNIFE LATCH	1
5	41117-1	SPRING - EXTENSION	1
6	47553-2	LINK ASSEMBLY- KNIFE LATCH	1
7	47567	LINK - CHAIN	1
8	47567	LINK - CHAIN	1
9	E-974-3	SOLENOID	1
10	H-5247-4	NUT - 1/4-20 FLEX LOCK	1
11	H-5254-510	SCREW - 5/16 X 1-1/4 SHSS	1
12	H-6424-4	NUT - 1/4-20 HEX JAM	1
13	H-6451-0500	RING - EXTERNAL GRIPPING	1
14	H-6880-83206	SCREW - #8-32 X 3/8 NYLON ROUND HD MACH	1
15	H-6909-83203	SCREW - #8-32 X 3/8" FLAT HEAD CAP	4
16	H-6910-412	SCREW - 1/4-20 X 1-1/2 BUTTON HEAD CAP	1
17	H-6910-83203	SCREW - #8-32 X 3/8 BUTTON HEAD CAP	4
18	H-7321-N8	WASHER - #8 SAE PLAIN	4
19	H-7324-N8	WASHER - #8 INT TOOTH	4
20	S-1810-9	O-RING	1

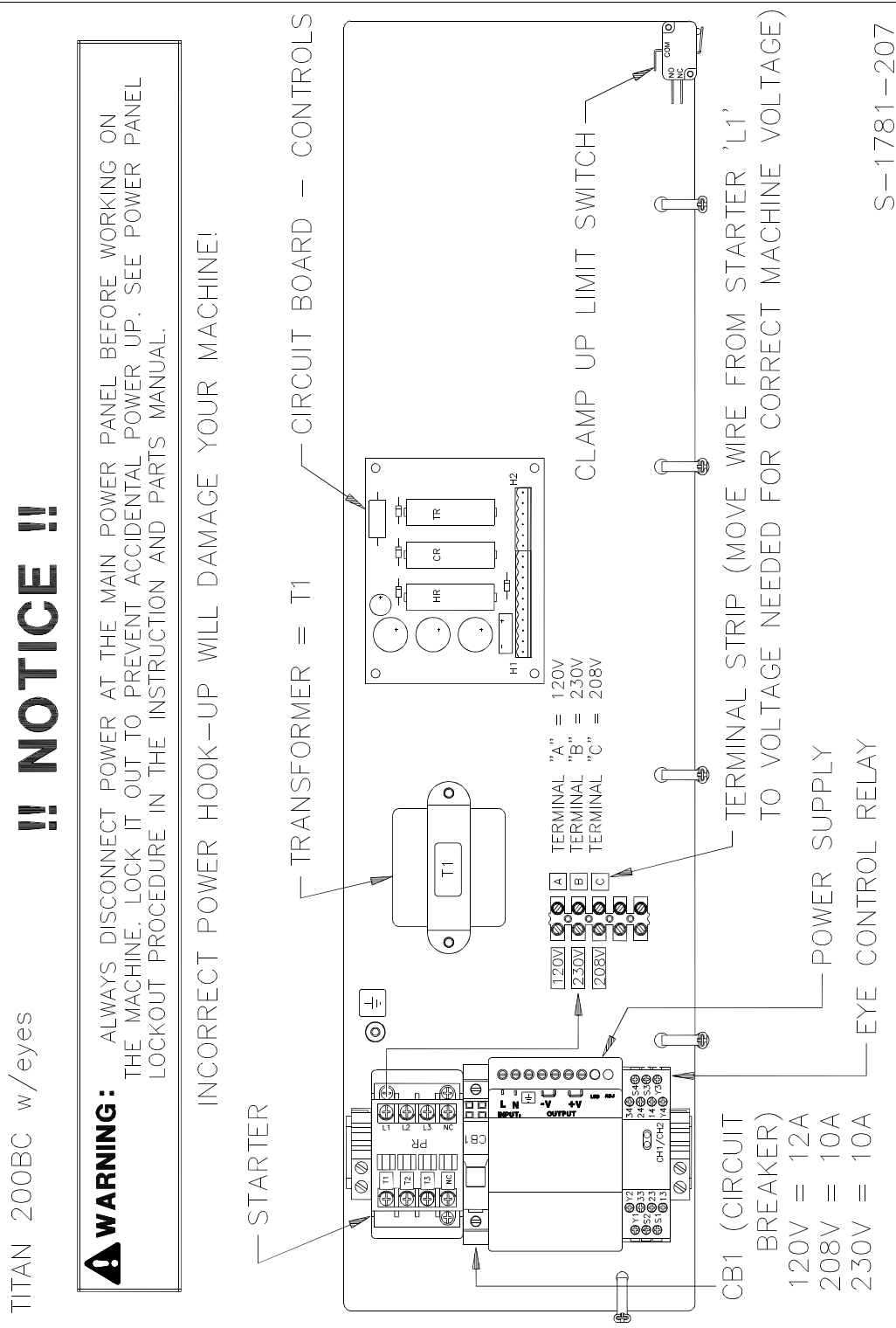
4.18 Power Panel Label – (Machines w/Hood)

S-1781-203 – REV.'A'

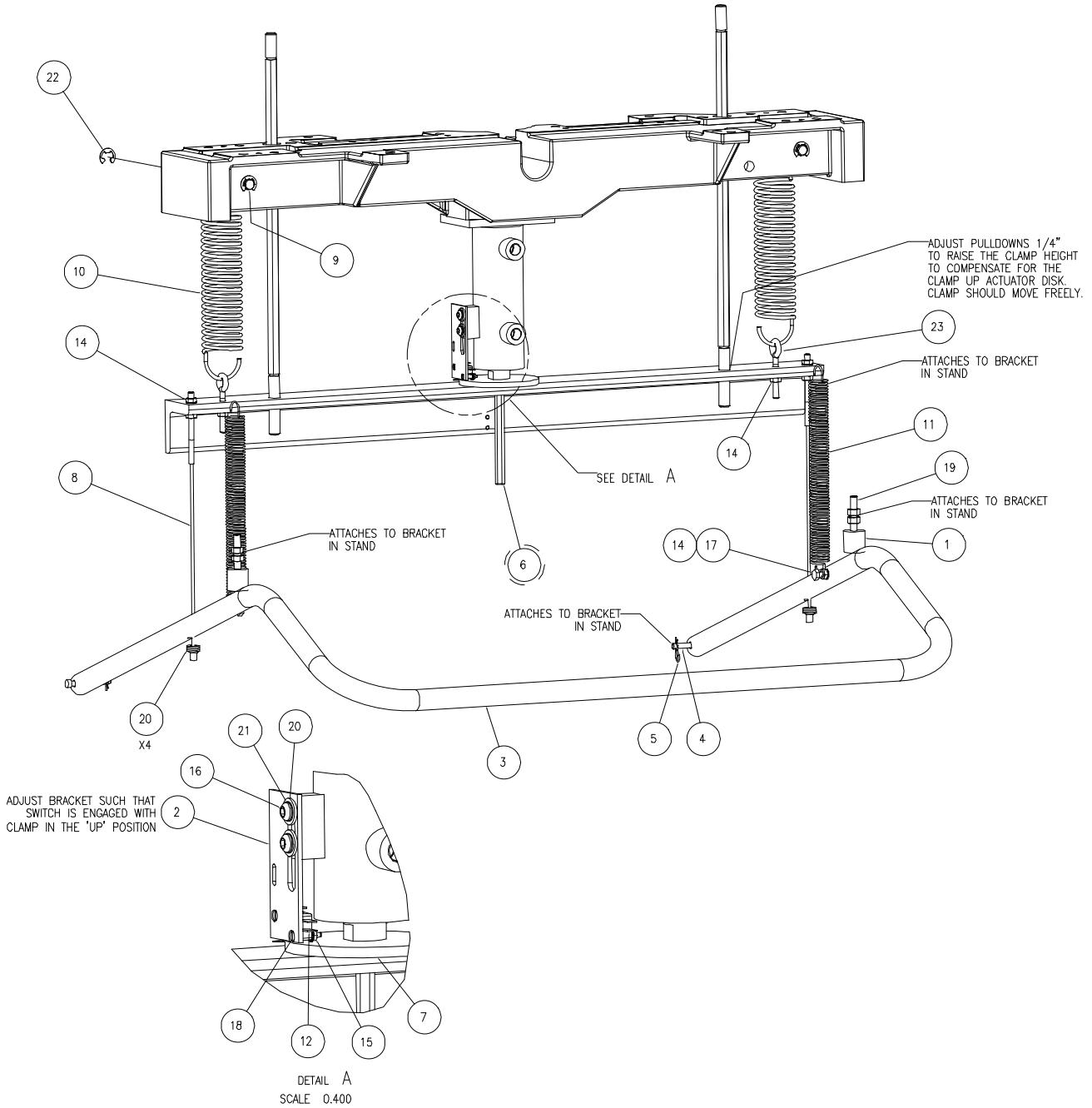
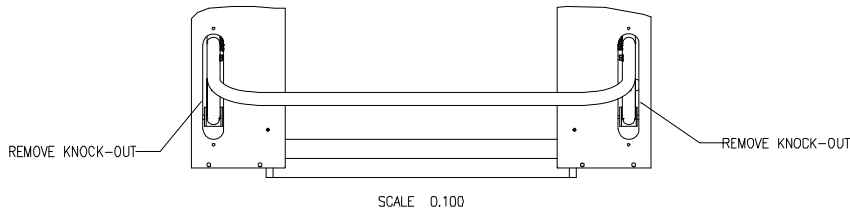


4.19 Power Panel Label – (Machines w/Eyes)

S-1781-207 – REV.'A"



4.20 K-70027 Foot Pedal Kit



K-70027 Foot Pedal Kit Parts List

NO.	PART NO.	DESCRIPTION	QTY
1	40016-3	MOUNT- VIBRATION	2
2	41033	BRACKET- CLAMP UP	1
3	43022	PEDAL	1
4	43023	CLEVIS PIN	2
5	43024	HAIRPIN COTTER	2
6	43074	ROD - CLAMP CYLINDER	1
7	43076	ACTUATOR - HYDRAULIC UP PROX.	1
8	43077	CABLE- FOOT PEDAL	2
9	47086	PIN- BELL CRANK	2
10	47136-3	1-3/4" OD EXTENSION SPRING	2
11	47136-4	7/8" OD EXTENSION SPRING	2
12	E-866-4	MICROSWITCH	1
13	EE-3033	CABLE ASM- CLAMP UP SWITCH EXTENSION	1
14	H-6423-4	NUT - 1/4-20 HEX KEP	8
15	H-6423-#4	NUT - #4-40 HEX KEP	2
16	H-6910-403	SCREW - 1/4-20 X 3/8 BUTTON HEAD CAP	2
17	H-6913-406	SCREW - 1/4-20 X 3/4 HEX HEAD CAP	2
18	H-6922-44012	SCREW - #4-40 X 3/4 FLAT HEAD CAP	2
19	H-6938-532	SCREW - 5/16-18 X 2 CUP SOC SET	2
20	H-7321-4	WASHER - 1/4 SAE PLAIN	10
21	H-7324-8	WASHER - 1/4 INT TOOTH	2
22	S-1193-50	E-RING - 1/2"	4
23	S-1884	EYE BOLT W/ NUT	2

K-70027 Foot Pedal Kit Installation Instructions

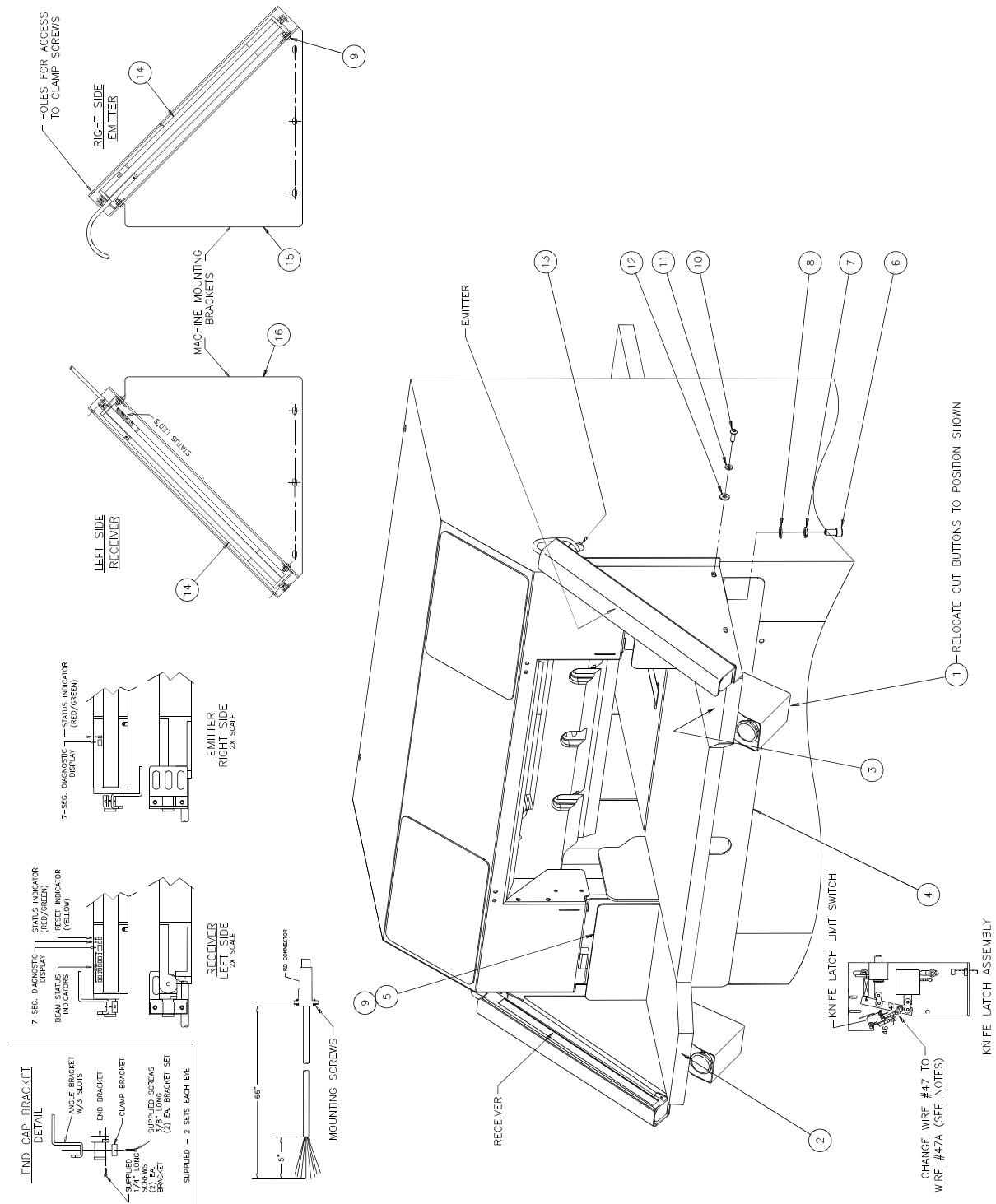
! DISCONNECT ALL POWER FROM THE MACHINE !

1. Remove the front and rear base covers from the machine. Set aside for later re-assembly.
2. Use a screwdriver and hammer to remove the (2) knock-outs from the front lower portion of the stand.
3. Install (6) mounting brackets inside the lower portion of the stand using (12) 1/4-20 x 1/2 button head screws.
4. Locate the foot pedal cables and assemble into the foot pedal.
5. Loosely assemble the bumpers (vibration mounts) as shown using the supplied hardware. They will be tightened after the foot pedal is adjusted later.
6. Remove the bolt from the clamp cylinder rod.
7. Loosen the whiz lock nuts on the clamp pull down rods so that there is enough room to slide the hydraulic up actuator disk between the clamp pull down bar and the cylinder as shown. Apply thread locker (SU-22-109 - removable thread locker or equivalent) to the threads of the clamp cylinder rod and screw into the bottom of the clamp cylinder.
8. Because of the addition of the actuator plate on the clamp cylinder, the clamp opening needs to be checked. The clamp opening needs to be set at 3-1/4". Make needed adjustments to the clamp pull down rods - when complete, tighten the whiz lock nuts.
9. Insert the foot pedal into the knock-out slots and attach to the brackets using supplied hardware as shown. Attach the pull down cables (already attached to the foot pedal) to the clamp pull down angle bar. Screw one 1/4-20 hex nut onto the thread end of the cable, insert the threaded end through the hole in the bar and thread another 1/4-20 hex nut and bring it down until the cable is taught.
10. Gently press down on the foot pedal and watch the pull down cables - one will tighten before the other. Back the nut off from the one that tightened first to match it to the other cable. Once set, bring the bottom nuts up to lock the cables to the clamp pull down bar.
11. Set the bumper (installed earlier in step 4) by setting the bumper between 1/16" to 1/8" away from the foot pedal and tightening the nuts to lock in place.
12. As shown in the detail on sheet one, attach the 1/4-20 hex nut (item #20) on to the 1/4-20 x 3/4 hex head bolt and screw into the foot pedal. Repeat on the opposite side.
13. Attach the light duty spring to the bolt attached in the last step and the bracket in the base. Repeat for the opposite side.
14. Insert the eyebolt into the hole on the clamp pull down bar and lock in place using a 1/4-20 hex nut. Repeat for the other side. Locate the bell crank pin and two retaining rings. There are three slots for the retaining rings on the pin. Snap a retaining ring on the inside slot of the pin and from the back of the machine slide the pin through the hole as shown. Lock the pin in place with another retaining ring. Repeat for the other side.
15. Stretch the larger heavy duty spring from the bell crank pin to the eyebolt. On the spring there is a large end and a smaller end, the larger end attaches to the pin and the smaller end attaches to the eyebolt. Repeat on other side. Using the supplied #10 button head screws and internal tooth washers attach the clamp damper bracket to the clamp pull down bar - as shown.
16. Use detail "B" to install the damper assembly.
17. Locate the hydraulic up switch (small micro switch located on the power panel above the clamp) and remove it from the panel. This switch is being relocated to the hydraulic cylinder. Mount the switch to the supplied bracket. #4-40 screws and nuts are supplied for this purpose. Attach the supplied extension cable to the switch as detailed on sheet 2. Mount the hydraulic up switch bracket to the block on the clamp cylinder.
18. Position the switch such that it is actuated by the hydraulic up actuator and tighten adjustment screws. Attach the loose end of the extension cable to the existing connectors from the power panel.
19. Reinstall all covers and reconnect power to the machine.

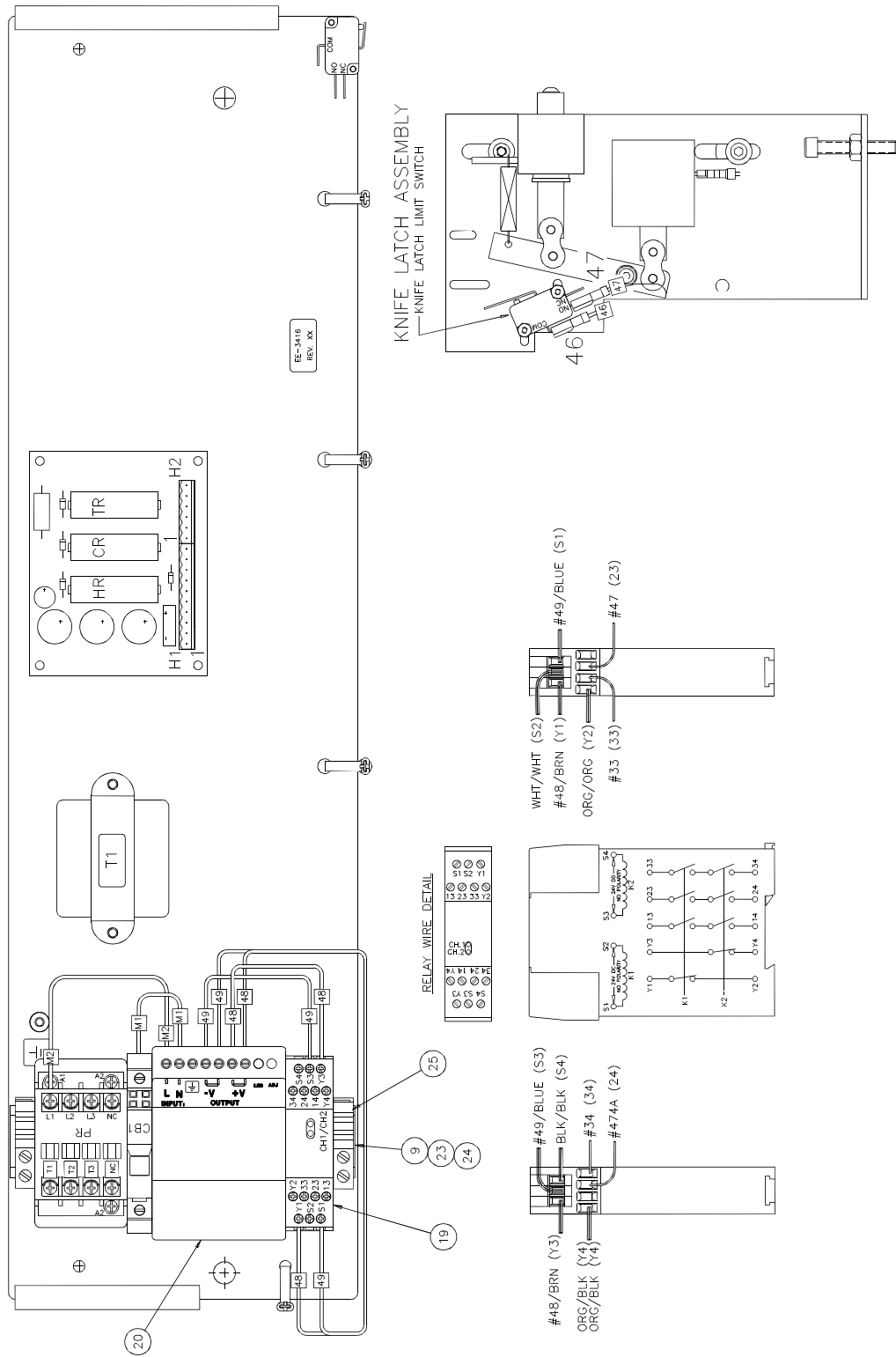
NOTES

4.21 K-3412 Light Curtain Kit

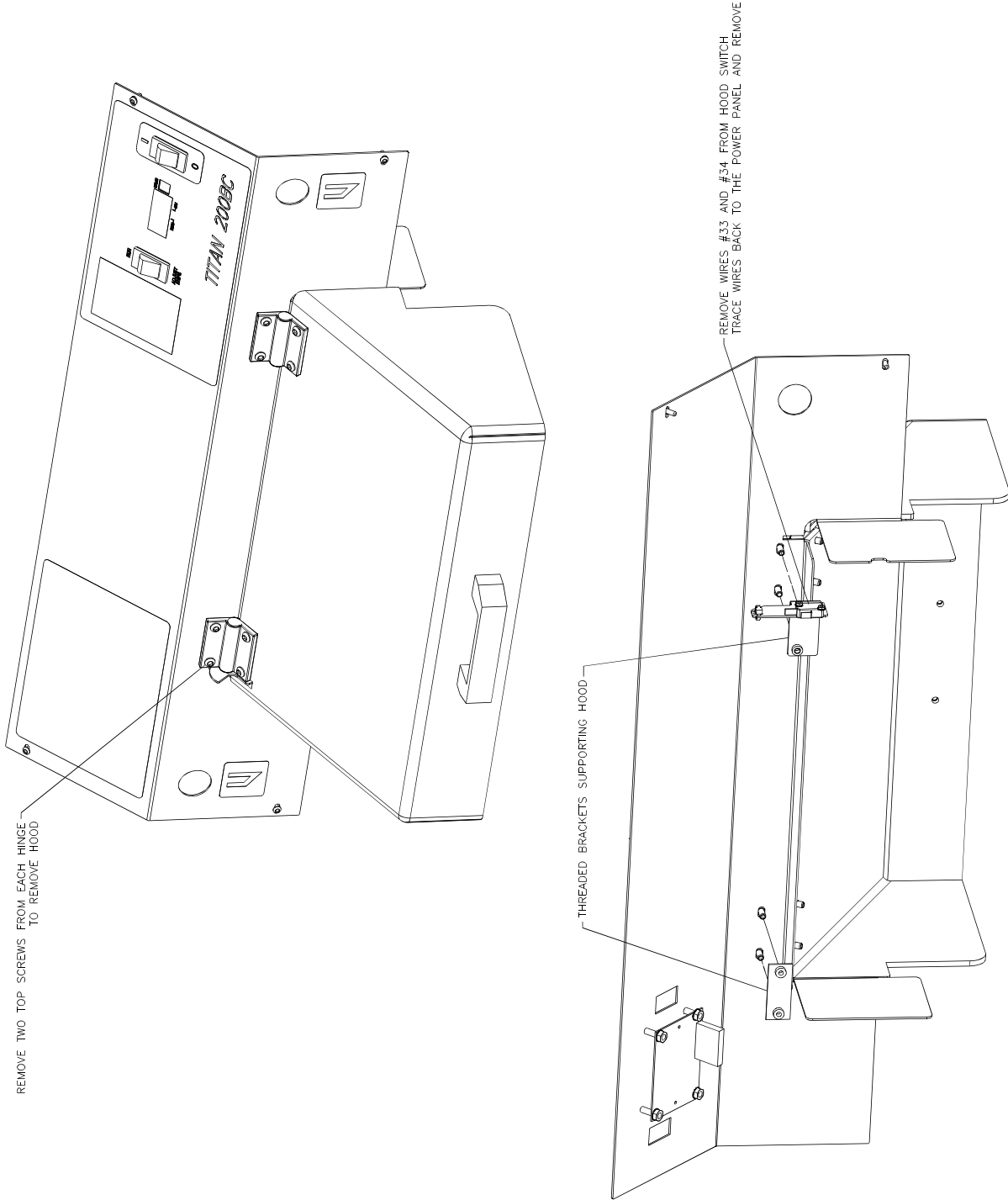
Sheet 1 of 3 Rev. A



K-3412 Light Curtain Kit – Sheet 2 of 3 (continued)



K-3412 Light Curtain Kit – Sheet 3 of 3 (continued)



K-3412 Light Curtain Kit – Installation Instructions

IF THE MACHINE HAS A TILT SHIELD INSTALLED – START WITH SHIELD REMOVAL FIRST

NOTE:

REMOVE THE OLD CUT SWITCHES THAT ARE IN THE FACE OF THE MACHINE. TRACE ALL OF THE OLD WIRES BACK TO THE POWER PANEL AND REMOVE. LOCATE THE NEW CUT SWITCH KIT (ITEM #1) AND FOLLOW THE SUPPLIED INSTALLATION INSTRUCTIONS.

NOTE:

LOCATE THE KNIFE LATCH ASSEMBLY. REMOVE WIRE #47 FROM THE KNIFE LATCH SWITCH. CUT THE CONNECTOR OFF OF WIRE #47 AND STRIP BACK THE WIRE INSULATION – ROUTE TO THE LIGHT CURTAIN RELAY AND INSTALL IN TERMINAL #23. INSTALL WIRE #47A (SEE THE WIRE CHART SHIT2) INTO THE #24 TERMINAL ON THE LIGHT CURTAIN RELAY AND RUN THE LOOSE END BACK TO THE KNIFE LATCH SWITCH.

NOTE:

RE-INSTALL THE FRONT COVER. USE THE SUPPLIED TYRAPs TO NEATLY TIE WIRES AND CABLES BACK OUT OF THE WAY OF ALL MOVING PARTS. CONTINUE ON WITH THE LIGHT CURTAIN INSTALLATION.

INSTRUCTIONS: MOUNTING LIGHT CURTAINS TO BRACKETS

- 1) THE MOUNTING BRACKET COMPONENTS FOR THE EYES ARE SUPPLIED WITH EACH EYE. LOCATE THE COMPONENTS SHOWN ABOVE. MOUNT THE ANGLE BRACKET WITH THE THREE SLOTS ONTO THE RIGHT AND LEFT HAND SIDE BRACKETS. (ONE ANGLE BRACKET ON EACH END FOR BOTH THE LEFT AND RIGHT SIDES)
- 2) TRIM THE PLUGGABLE CABLE BACK TO 66" LONG AND STRIP THE CABLE JACKET BACK 5". STRIP THE WIRE INSULATION BACK 1/4" EACH WIRE. DO NOT WIRE TAG – THESE WIRES ARE WIRED ACCORDING TO THEIR COLORS. INSERT THE PLUG END INTO THE EYES AND SECURE WITH TWO SUPPLIED SCREWS ON THE PLUG END.
- 3) SCREW THE END BRACKET ONTO EACH END OF THE EYES. THE SCREWS ARE SUPPLIED WITH THE BRACKETS.
- 4) SET THE EYES INTO THE MACHINE MOUNTING BRACKETS AND LOCK INTO PLACE BY INSTALLING THE SUPPLIED CLAMPS. ACCESS TO THE SCREWS ARE THRU THE TWO HOLES ON THE TOP OF THE MACHINE MOUNTING BRACKETS. (DO NOT TIGHTEN THE CLAMP SCREWS UNTIL THE NEXT STEP)
- 5) USING A STRAIGHT EDGE – MAKE SURE THAT EACH EYE IS SQUARE WITH THE FRONT OF THE BRACKET – ONCE THIS IS DONE FINISH TIGHTENING THE CLAMP SCREWS.
- 6) THE EYES WILL BE WIRED INTO THE RELAY ON SHEET 2

INSTRUCTIONS – SHIELD REMOVAL

- 1) REMOVE THE TOP COVER OF THE MACHINE.
- 2) LOCATE THE LARGE BUNDLE OF WIRES THAT LEAD TO THE FRONT COVER AND CAREFULLY CUT THE TYRAP – THIS WILL ALLOW ENOUGH WIRE LENGTH TO SET THE FRONT COVER DOWN ON THE TABLE.
- 3) REMOVE THE FRONT COVER (HOOD AND CONTROL PANEL ATTACHED TO IT) AND SET IT ON THE TABLE.
- 4) PULL THE TWO WIRES OFF OF THE HOOD SWITCH. TRACE THESE WIRES BACK TO THE POWER PANEL AND REMOVE.
- 5) REMOVE THE (4) SCREWS THAT HOLD THE HOOD TO THE FRONT COVER.
- 6) CONTINUE WITH INSTRUCTIONS ON SHEET 1 – LEAVE THE FRONT COVER OFF UNTIL JUST BEFORE INSTALLING THE LIGHT CURTAIN MOUNTING BRACKETS.



(REF ONLY)

WIRE NO.	WHERE USED
M1	POWER SUPPLY TERM. "N" TO 'CB1' CIRCUIT BREAKER
M2	POWER SUPPLY TERM. "L" TO 'PR' RELAY "L1"
49	FROM POWER SUPPLY -V TO EYE CONTROLLER S1
49	FROM POWER SUPPLY -V TO EYE CONTROLLER S3
48	FROM POWER SUPPLY +V TO EYE CONTROLLER Y1
48	FROM POWER SUPPLY +V TO EYE CONTROLLER Y3
34	EYE CONTROLLER TERM. #34 TO PCB H1-4
33	EYE CONTROLLER TERM #33 TO PCB H1-10
47A	EYE CONTROLLER TERM. #24 TO KNIFE LATCH SWITCH

WIRES FROM ELECTRIC EYE CABLES (SHOWN FOR REF. ONLY)	
WIRE NO.	WHERE USED
BLACK	EYE CONTROLLER – S4 (BOTH)
WHITE	EYE CONTROLLER – S2 (BOTH)
BROWN	EYE CONTROLLER – Y1(+) EYE CONTROLLER – Y3(+)
ORANGE	EYE CONTROLLER – Y2 (BOTH)
ORG/BLK	EYE CONTROLLER – Y4 (BOTH)
VIOLET	NOT USED (WIRE NUT TOGETHER)
BLUE	EYE CONTROLLER – S1(-) EYE CONTROLLER – S3(-)
GRN/YEL	MACHINE GND (ATTACH TO BRACKET MOUNTING SCREW) (1) E-1214-49

K-3412 Light Curtain Kit – Parts List

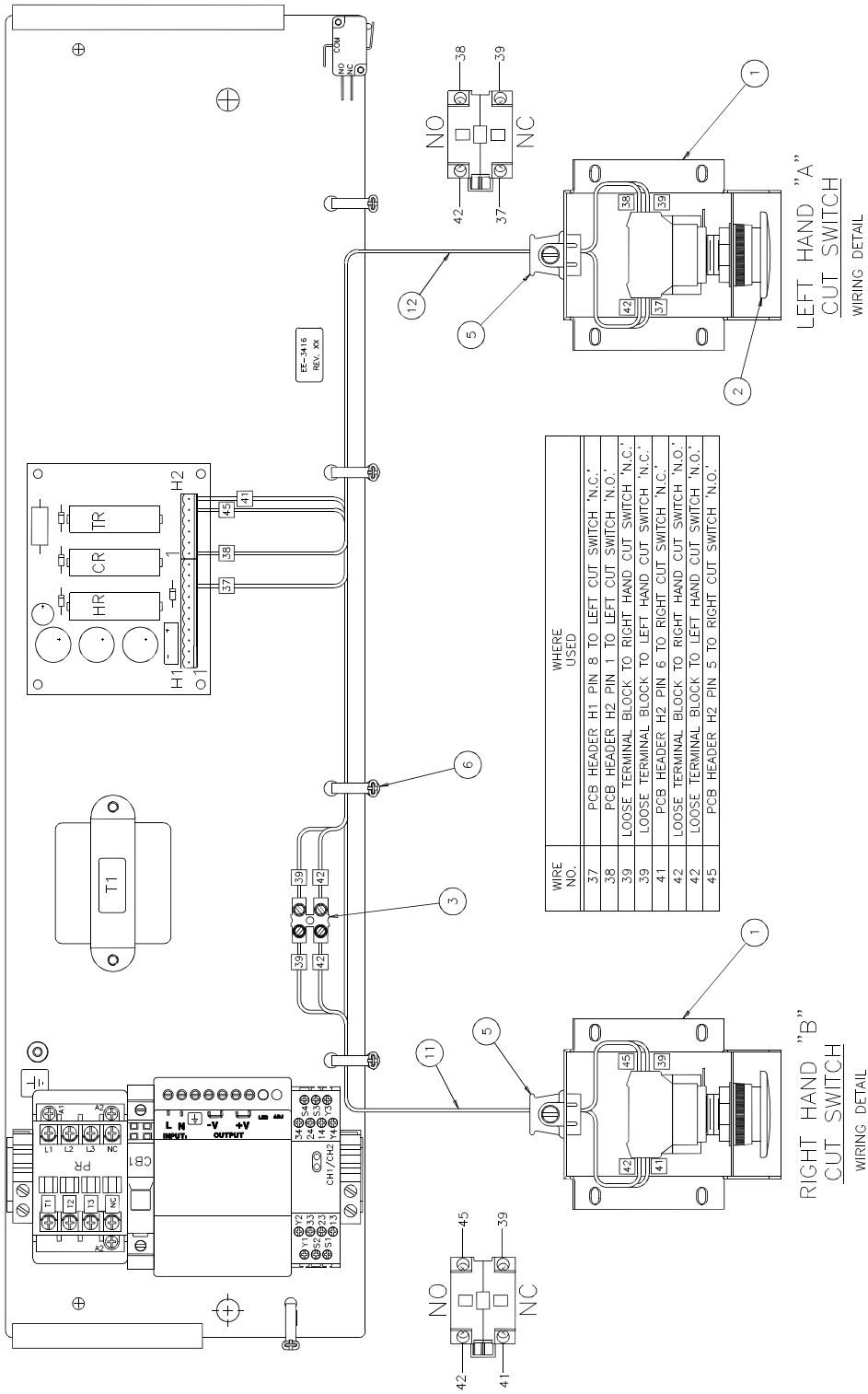
NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	K-3431	KIT - CUT SWITCH UPGRADE	1
2	43094-1	TABLE EXTENSION - LEFT HAND	1
3	43094-2	TABLE EXTENSION - RIGHT HAND	1
4	43098	SUPPORT - TABLE EXTENSIONS	1
5	43095	BACK PLATE	2
6	H-6918-606	SCREW - 3/8-16 X 3/4 SOC HD	10
7	H-7327-12	WASHER - 3/8 MED. LOCK	10
8	H-7321-6	WASHER - 3/8 PLAIN	10
9	H-6910-102404	SCREW - #10-24 X 1/2 BUT HD	11
10	H-6910-406	SCREW - 1/4-20 X 3/4 BUT HD	6
11	H-7327-8	WASHER - 1/4 MED. LOCK	6
12	H-7321-4	WASHER - 1/4 PLAIN	6
13	E-1172-23	STRAIN RELIEF	2
14	E-3370	LIGHT CURTAIN SET - 16" STANDARD	1
15	43096-1	BRACKET - LIGHT CURTAIN, RH	1
16	43097-1	BRACKET - LIGHT CURTAIN, LH	1
17	H-6423-#10	NUT - #10-24 HEX (KEP)	4
18	S-1694	TYRAP	10
19	E-3370	RELAY - SAFETY OUTPUT (E-3336 REF)	1
20	E-2810	POWER SUPPLY - 24V OUTPUT	1
21	E-1163-10	WIRE - #20GA. BLACK HOOK-UP 95" TOTAL	1
22	E-709-R	WIRE - #18GA. RED MTW 64" TOTAL	1
23	E-1977-18	RAIL - TERMINAL, 6-1/2" LONG	1
24	H-7324-#10	WASHER - #10 INT. TOTHLOCK	2
25	E-2070-1	END BRACKET - TERMINAL BLOCK	2

NOTES

4.22 K-3431 Cut Switch Upgrade Option

Rev. B

NOTE: VIEWED FROM REAR OF MACHINE



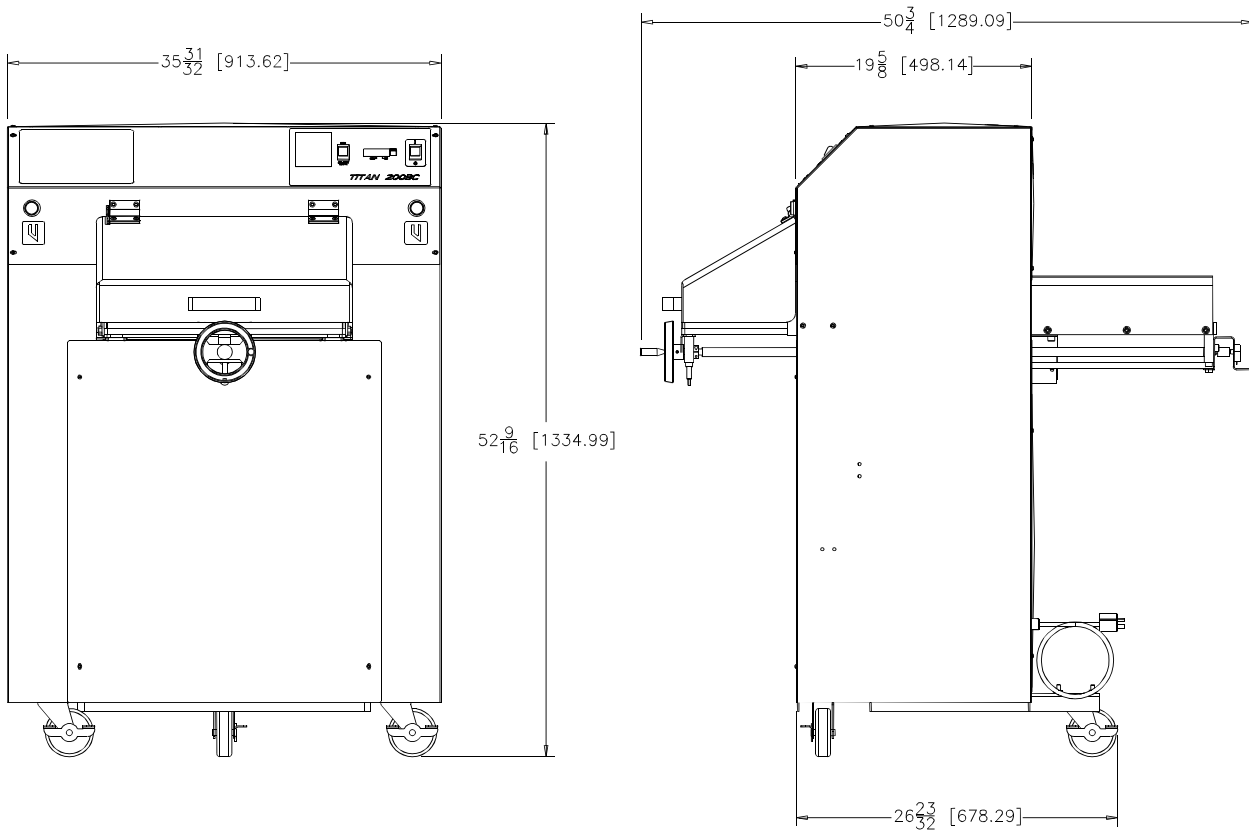
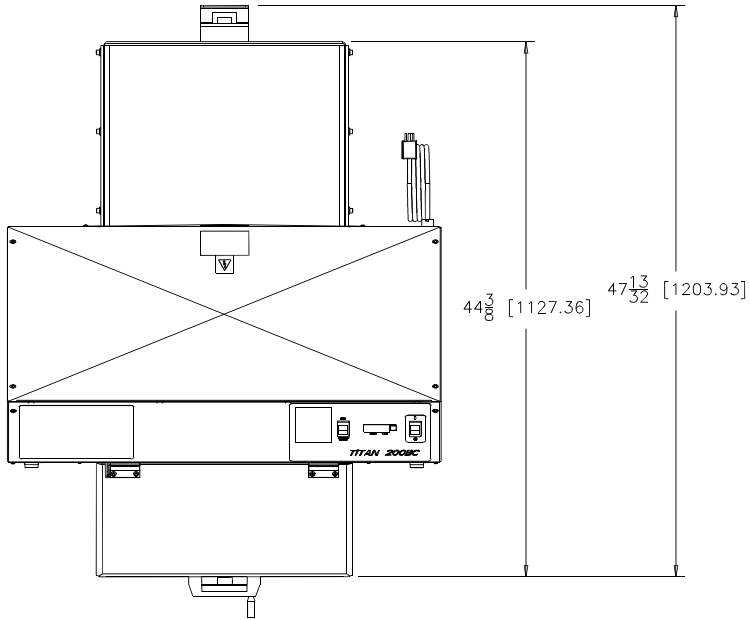
K-3431 Cut Switch Upgrade Option (continued)

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	16566-1	BOX - CUT BUTTON	2
2	E-3437-3	SWITCH - GREEN MUSHROOM PUSHBUTTON	2
3	E-2626-2	TERMINAL BLOCK - 2 POLE	1
4			
5	S-1350-16	STRAIN RELIEF	2
6	S-1694	TYRAP	10
7	H-6910-102403	SCREW - #10-24 x 3/8" BUT HD	8
8	H-7324-#10	WASHER - #10 INT. TOTHLOCK	8
9	E-2196-11	HOLE PLUG	2
10	K-3431	INSTRUCTIONS - PRINT ONLY	1
11	EE-3440	CABLE ASSEMBLY - CUT SWITCH - RH	1
12	EE-3441	CABLE ASSEMBLY - CUT SWITCH - LH	1

INSTALLATION INSTRUCTIONS:

- 1) REMOVE THE OLD CUT SWITCHES AND THE ASSOCIATED WIRES.
- 2) USE THE SUPPLIED HOLE PLUGS TO PLUG OPEN HOLES.
- 3) INSTALL WIRES INTO THE NEW SWITCHES AS SHOWN AND ASSEMBLE THE SWITCHES INTO THE BOXES.
- 4) MOUNT THE CUT BOXES TO THE BOTTOM OF THE TABLE USING THE SUPPLIED HARDWARE.
- 5) ROUTE THE LOOSE WIRES INTO THE MACHINE AND WIRE INTO THE POWER PANEL AS SHOWN.
- 6) USE THE SUPPLIED WIRE TIES (ITEM #6) TO NEATLY SECURE THE WIRES.

4.23 Titan 200BC Floor Plan (Standard Table)



4.24 Titan 200BC Floor Plan (Short Table Option)

