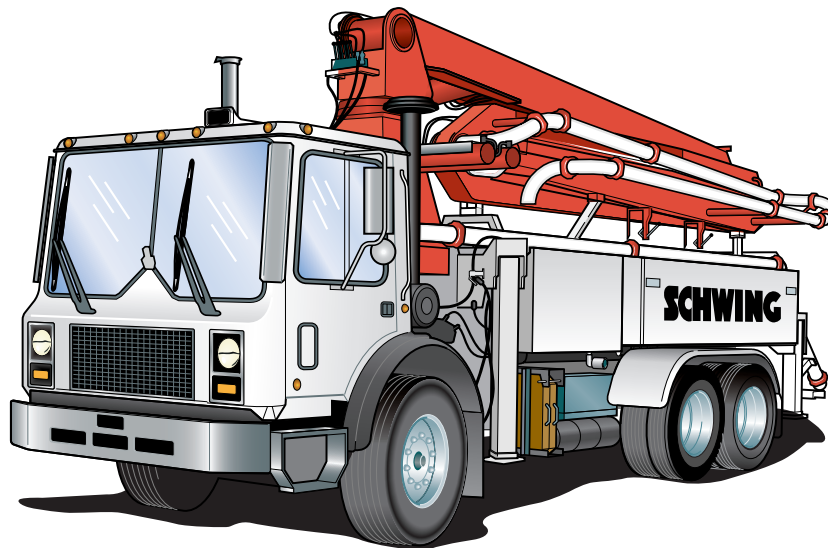




ELECTRICAL SCHEMATICS



Copyright © All rights reserved.

The information and drawings contained herein must not be duplicated, used improperly, or communicated to third parties without the consent of Schwing America Inc.

All Information is subject to revision

SCHWING SERVICE DEPARTMENT

(651) 429-0999

OR

1-888-292-0262

OR

FAX (651) 429-2112

**8:00 A.M. TO 5:00 P.M. (Central Time)
(MONDAY THROUGH FRIDAY)**

SCHWING PARTS DEPARTMENT

1-800-328-9635

OR

FAX (651) 429-2112

**6:00 A.M. - 9:00 P.M. (Central Time)
(MONDAY THROUGH FRIDAY)**

24 Hour Service Hotline

1-888-292-0262

(MONDAY THROUGH SATURDAY)

Branches

Florida.....	1-813-985-8311
Northern California.....	1-925-371-8595
Southern California	1-562-493-1012
Georgia	1-678-560-9801
Texas	1-972-245-5166

<i>iso/dwg#</i>	<i>Description</i>	<i>Page</i>
20016	BPL 500, BPL 2000, BPL 4000	1
20020-1	BPL 500, BPL 2000, BPL 4000	2
20020-2	BPL 500, BPL 2000, BPL 4000	3
20041-1	BPL 500, BPL 2000, BPL 4000	4
20041-2	BPL 500, BPL 2000, BPL 4000	5
20045-1	BPL 500, BPL 2000, BPL 4000 after 01/01/05	6
20045-2	BPL 500, BPL 2000, BPL 4000 after 01/01/05	7
20048-1	BPL 500, BPL 2000, BPL 4000 after 07/10/08	8
20048-2	BPL 500, BPL 2000, BPL 4000 after 07/10/08	9
N/A	BPL 580 FOR KVM 23	10
20021	BPL 750	11
N/A	BPL 801 FOR KVM 28	12
N/A	BPL 1001 FOR KVM 31	13
20029-1	BPL 500, BPL 2000, BPL 4000	14
20029-2	BPL 500, BPL 2000, BPL 4000	15
20001	BPL 2000 and 4000 WITH PILZ RELAY	16
20008	BPL 2000 and 4000 WITH PILZ RELAY	17
N/A	TRUCK AND PUMPKIT CIRCUIT - AS WIRED FOR KVM 28M USA	18
338659	KVM/SPB FLYAWAY POWER CIRCUIT, 3 SECTION, 24 VDC CONTROL	19
338659	KVM/SPB FLYAWAY POWER CIRCUIT, 3 SECTION, 24 VDC CONTROL	20
338659	KVM/SPB FLYAWAY POWER CIRCUIT, 3 SECTION, 24 VDC CONTROL, PANEL LAYOUT	21
340608	FLYWAY POWER CIRCUIT, 3 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, REV A	22
340608	FLYWAY POWER CIRCUIT, 3 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, REV A	23
340608	FLYWAY POWER CIRCUIT, 3 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, PANEL LAYOUT, REV A	24
348558	FLYWAY POWER CIRCUIT, 3 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, REV A	25
348558	FLYWAY POWER CIRCUIT, 3 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, REV A	26
348558	FLYWAY POWER CIRCUIT, 3 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, PANEL LAYOUT, REV A	27
349665	FLYWAY POWER CIRCUIT, 3 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, REV A	28
349665	FLYWAY POWER CIRCUIT, 3 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, REV A	29
349665	FLYWAY POWER CIRCUIT, 3 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, REV A	30
349661	FLYWAY POWER CIRCUIT, 4 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, REV C	31

Table of Contents

<i>iso/dwg#</i>	<i>Description</i>	<i>Page</i>
349661	FLYWAY POWER CIRCUIT, 4 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, REV C	32
349661	FLYWAY POWER CIRCUIT, 4 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, REV C	33
349661	FLYWAY POWER CIRCUIT, 4 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, PANEL LAYOUT, REV C	34
N/A	KVM/SPB 28M FLYAWAY POWER CIRCUIT (CANADIAN VERSION)	35
N/A	KVM/SPB 28M FLYAWAY POWER CIRCUIT (USA 1992 AND CURRENT) REV G	36
N/A	KVM/SPB 28M FLYAWAY POWER CIRCUIT (USA PRE-1992)	37
302539	KVM/SPB 28M FLYAWAY POWER CIRCUIT (USA) REV F	38
302539	KVM/SPB 28M FLYAWAY POWER CIRCUIT (USA) REV F	39
302539	KVM/SPB 28M FLYAWAY PANEL LAYOUT (USA) REV F	40
302539	KVM/SPB 28M FLYAWAY POWER CIRCUIT (USA) REV C	41
302539	KVM/SPB 28M FLYAWAY PANEL LAYOUT (USA) REV F	42
331226	KVMSPB 28X SPECIAL FLYAWAY POWER CIRCUIT, 380 VOLTS, REV A	43
331226	KVMSPB 28X SPECIAL FLYAWAY POWER CIRCUIT, PANEL LAYOUT, 380 VOLTS, REV A	44
338732	KVM/SPB 28X FLYAWAY POWER CIRCUIT, 12 VDC CONTROL	45
338732	KVM/SPB 28X FLYAWAY POWER CIRCUIT, 12 VDC CONTROL	46
338732	KVM/SPB 28X FLYAWAY POWER CIRCUIT, 12 VDC CONTROL, PANEL LAYOUT	47
340546	KVM/SPB 28X FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 12 VDC CONTROL, REV B	48
340546	KVM/SPB 28X FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 12 VDC CONTROL, REV B	49
340546	KVM/SPB 28X FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 12 VDC CONTROL, PANEL LAYOUT. REV B	50
340547	KVM/SPB 28X FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 24 VDC CONTROL, REV B	51
340547	KVM/SPB 28X FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 24 VDC CONTROL, REV B	52
340547	KVM/SPB 28X FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 24 VDC CONTROL, PANEL LAYOUT, REV B	53
340548	KVM/SPB 28X FLYWAY POWER CIRCUIT, 575VOLTS/60HZ, 12 VDC CONTROL, REV B	54
340548	KVM/SPB 28X FLYWAY POWER CIRCUIT, 575VOLTS/60HZ, 12 VDC CONTROL, REV B	55
340548	KVM/SPB 28X FLYWAY POWER CIRCUIT, 575VOLTS/60HZ, 12 VDC CONTROL, PANEL LAYOUT, REV B	56
340549	KVM/SPB 28X FLYWAY POWER CIRCUIT, 575VOLTS/60HZ, 12 VDC CONTROL, REV B	57
340549	KVM/SPB 28X FLYWAY POWER CIRCUIT, 575VOLTS/60HZ, 12 VDC CONTROL, REV B	58
340549	KVM/SPB 28X FLYWAY POWER CIRCUIT, 575VOLTS/60HZ, 12 VDC CONTROL, PANEL LAYOUT, REV B	59
341994	KVM/SPB 28X FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 12 VDC CONTROL, REV C	60
341994	KVM/SPB 28X FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 12 VDC CONTROL, REV C	61
341994	KVM/SPB 28X FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 12 VDC CONTROL, PANEL LAYOUT, REV C	62

<i>iso/dwg#</i>	<i>Description</i>	<i>Page</i>
344178	KVM/SPB 28X FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 12 VDC CONTROL, REV B	63
344178	KVM/SPB 28X FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 12 VDC CONTROL, REV B	64
344178	KVM/SPB 28X FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 12 VDC CONTROL, PANEL LAYOUT, REV B	65
344179	KVM/SPB 28X FLYWAY POWER CIRCUIT, 380VOLTS/60HZ, 24 VDC CONTROL, REV A	66
344179	KVM/SPB 28X FLYWAY POWER CIRCUIT, 380VOLTS/60HZ, 24 VDC CONTROL, REV A	67
344179	KVM/SPB 28X FLYWAY POWER CIRCUIT, 380VOLTS/60HZ, 24 VDC CONTROL, PANEL LAYOUT, REV A	68
326634	KVM/SPB 32XL FLYAWAY POWER CIRCUIT REV D	69
N/A	KVM/SPB 32XL FLYAWAY POWER CIRCUIT (CANADIAN VERSION) REV N/A	70
326634	KVM/SPB 32XL FLYAWAY POWER CIRCUIT REV I	71
326634	KVM/SPB 32XL FLYAWAY POWER CIRCUIT REV I	72
326634	KVM/SPB 32XL FLYAWAY POWER CIRCUIT, PANEL LAYOUT REV I	73
329350	KVM/SPB 32XL FLYAWAY POWER CIRCUIT (CANADIAN VERSION) REV A	74
329350	KVM/SPB 32XL FLYAWAY POWER CIRCUIT (CANADIAN VERSION) REV A	75
329350	KVM/SPB 32XL FLYAWAY POWER CIRCUIT, PANEL LAYOUT (CANADIAN VERSION) REV A	76
329586	KVM/SPB 32XL FLYAWAY POWER CIRCUIT (CANADIAN VERSION) REV A	77
329586	KVM/SPB 32XL FLYAWAY POWER CIRCUIT, PANEL LAYOUT (CANADIAN VERSION) REV A	78
329985	KVM/SPB 32XL FLYAWAY POWER CIRCUIT, REV A	79
329985	KVM/SPB 32XL FLYAWAY POWER CIRCUIT, REV A	80
329985	KVM/SPB 32XL FLYAWAY POWER CIRCUIT, PANEL LAYOUT, REV A	81
332369	KVM/SPB 32XL FLYAWAY POWER CIRCUIT, 3 SECTION, REV E	82
332369	KVM/SPB 32XL FLYAWAY POWER CIRCUIT, 3 SECTION, PANEL LAYOUT, REV E	83
336402'	KVM/SPB 32XL FLYAWAY POWER CIRCUIT, 380 VOLTS/50HZ, REV C	84
336402	KVM/SPB 32XL FLYAWAY POWER CIRCUIT, 380 VOLTS/50HZ, REV C	85
336402	KVM/SPB 32XL FLYAWAY POWER CIRCUIT, 380 VOLTS/50HZ, PANEL LAYOUT REV C	86
339285	KVM/SPB 32 XL FLYAWAY POWER CIRCUIT, CBS EQUIPMENT, REV A	87
339285	KVM/SPB 32 XL FLYAWAY POWER CIRCUIT, CBS EQUIPMENT, REV A	88
339285	KVM/SPB 32 XL FLYAWAY POWER CIRCUIT, CBS EQUIPMENT, PANEL LAYOUT, REV A	89
340538	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 380 VOLTS/50HZ, REV A	90
340538	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 380 VOLTS/50HZ, REV A	91
340538	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 380 VOLTS/50HZ, PANEL LAYOUT, REV A	92
340539	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 480 VOLTS/50HZ, REV A	93

SCHWING

Table of Contents

<i>iso/dwg#</i>	<i>Description</i>	<i>Page</i>
340539	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 480 VOLTS/50HZ, REV A	94
340539	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 480 VOLTS/50HZ, PANEL LAYOUT, REV A	95
340540	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 575 VOLTS/60HZ, REV A	96
340540	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 575 VOLTS/60HZ, REV A	97
340540	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 575 VOLTS/60HZ, PANEL LAYOUT, REV A	98
340541	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 575 VOLTS/60HZ, REV A	99
340541	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 575 VOLTS/60HZ, REV A	100
340541	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 575 VOLTS/60HZ, PANEL LAYOUT REV A	101
340545	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 380VOLTS/50HZ, 24 VDC CONTROL, REV A	102
340545	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 380VOLTS/50HZ, 24 VDC CONTROL, REV A	103
340545	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 380VOLTS/50HZ, 24 VDC CONTROL, PANEL LAYOUT, REV A	104
341993	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 380VOLTS/60HZ, 12 VDC CONTROL, REV B	105
341993	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 380VOLTS/60HZ, 12 VDC CONTROL, REV B	106
341993	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 380VOLTS/60HZ, 12 VDC CONTROL, PANEL LAYOUT, REV B	107
341995	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 575VOLTS/60HZ, 12 VDC CONTROL, REV B	108
341995	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 575VOLTS/60HZ, 12 VDC CONTROL, REV B	109
341995	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 575VOLTS/60HZ, 12 VDC CONTROL, PANEL LAYOUT, REV B	110
341996	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 575VOLTS/60HZ, 12 VDC CONTROL, REV B	111
341996	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 575VOLTS/60HZ, 12 VDC CONTROL, REV B	112
341996	KVM/SPB 32XL FLYWAY POWER CIRCUIT, 575VOLTS/60HZ, 12 VDC CONTROL,PANEL LAYOUT REV B	113
343202	KVM/SPB 42M FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 24 VDC CONTROL, REV A	114
343202	KVM/SPB 42M FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 24 VDC CONTROL, REV A	115
343202	KVM/SPB 42M FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 24 VDC CONTROL, PANEL LAYOUT REV A	116
20018-1	KVM 17, KVM 28EX, KVM 28X, KVM 28 SPLIT, 15 POLE HARTING, 16 POLE INTERCOM, B&W	118
20018-2	KVM 17, KVM 28EX, KVM 28X, KVM 28 SPLIT, 15 POLE HARTING, 16 POLE INTERCOM, B&W	119
20027-1	KVM 17, KVM 28EX, KVM 28X, KVM 28 SPLIT, 15 POLE HARTING, 16 POLE INTERCOM, B&W	120
20027-2	KVM 17, KVM 28EX, KVM 28X, KVM 28 SPLIT, 15 POLE HARTING, 16 POLE INTERCOM, B&W	121
N/A	KVM 17M BLACK AND WHITE BOOM CIRCUIT	122
N/A	KVM 17M BLACK AND WHITE BOOM CIRCUIT (1993 TO CURRENT)	123
N/A	KVM 3 SECTION BOOM FOR 580/650	124
N/A	KVM 3 SECTION BOOM (REMOTE - 12 POLE INTERCOM / 15 POLE HARTING)	125

<i>iso/dwg#</i>	<i>Description</i>	<i>Page</i>
N/A	KVM 3 SECTION BOOM (REMOTE - 12 POLE INTERCOM / 15 POLE HARTING) WITH THROTTLE	126
20024-1	KVM 23M (B & W)	127
10073188	KVM 23/4H	128
20007-1	KVM 24-4, KVM 26 BOOM CIRCUIT, 42 POLE HARTING, 24 POL WEILAND, B&W	130
20007-2	KVM 24-4, KVM 26 BOOM CIRCUIT, 42 POLE HARTING, 24 POL WEILAND, B&W	131
20010-1	KVM 24-4, KVM 26, 42 POLE HARTING, 24 POL WEILAND, B&W	132
20010-2	KVM 24-4, KVM 26, 42 POLE HARTING, 24 POL WEILAND, B&W	133
20025-1	KVM 24-4, KVM 26-4, KVM 32XL, 42 PROPORTIONAL, CPC CONTROLLER, LCD 2 CHANNEL E-STOP	134
20025-2	KVM 24-4, KVM 26-4, KVM 32XL, 42 PROPORTIONAL, CPC CONTROLLER, LCD 2 CHANNEL E-STOP	135
20015-1	KVM 24-4, KVM 26-4, KVM 32XL, 42 POLE HARTING, 24 POL WEILAND, B&W	136
20015-2	KVM 24-4, KVM 26-4, KVM 32XL, 42 POLE HARTING, 24 POL WEILAND, B&W	137
20026-1	KVM 24-4, KVM 26-4, KVM 32XL, 42 POLE HARTING, 24 POL WEILAND, B&W	138
20026-2	KVM 24-4, KVM 26-4, KVM 32XL, 42 POLE HARTING, 24 POL WEILAND, B&W	139
20014-1	KVM 24-4, KVM 26-4, KVM 32XL, KVM 36X, KVM 42, C32 CONTROLLER, PROPORTIONAL	140
20014-2	KVM 24-4, KVM 26-4, KVM 32XL, KVM 36X, KVM 42, C32 CONTROLLER, PROPORTIONAL	141
20022-1	KVM 24-4, KVM 26-4, KVM 32XL, KVM 36X, KVM 42, CPC CONTROLLER, PROPORTIONAL	142
20022-2	KVM 24-4, KVM 26-4, KVM 32XL, KVM 36X, KVM 42, CPC CONTROLLER, PROPORTIONAL	143
20023-1	KVM 24-4, KVM 26-4, KVM 32XL, KVM 36X, KVM 42, CPC CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP	144
20023-2	KVM 24-4, KVM 26-4, KVM 32XL, KVM 36X, KVM 42, CPC CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP	145
20030-1	KVM'S, CPC CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	146
20030-2	KVM'S, CPC CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	147
20030-3	KVM'S, CPC CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	148
20030-4	KVM'S, CPC CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	149
20030-5	KVM'S, CPC CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	150
20030-6	KVM'S, CPC CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	151
20032-1	KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	152
20032-2	KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	153
20032-3	KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	154
20032-4	KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	155
20032-5	KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	156
20032-6	KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	157

Table of Contents

<i>iso/dwg#</i>	<i>Description</i>	<i>Page</i>
20032-7	KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	158
20031-1	KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED, SBP/SPLIT	159
20031-2	KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED, SBP/SPLIT	160
20031-3	KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED, SBP/SPLIT	161
20046-1	KVM 39X, 32 X, CPC2, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LCD, SPLIT	162
20046-2	KVM 39X, 32 X, CPC2, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LCD, SPLIT	163
20046-3	KVM 39X, 32 X, CPC2, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LCD, SPLIT	164
20046-4	KVM 39X, 32 X, CPC2, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LCD, SPLIT	165
N/A	KVM 28M BOOM CIRCUIT (PRE-1989)	166
N/A	KVM 28M BOOM CIRCUIT - AS WIRED (USA)	167
N/A	KVM 28M BOOM CIRCUIT - C POST 1989	168
N/A	KVM 28X BLACK AND WHITE BOOM CIRCUIT (LEFT)	169
N/A	KVM 28X BLACK AND WHITE BOOM CIRCUIT (RIGHT)	170
20003-1	KVM 28X BLACK AND WHITE BOOM CIRCUIT WITH PILZ RELAY (LEFT)	172
20003-2	KVM 28X BLACK AND WHITE BOOM CIRCUIT WITH PILZ RELAY (RIGHT)	173
20006-1	KVM 28X, 28X SPLIT, 15 POLE HARTING, 16 POLE INTERCOM, B&W	174
20006-2	KVM 28X, 28X SPLIT, 15 POLE HARTING, 16 POLE INTERCOM, B&W	175
20012-1	KVM 28X, KVM 28X SPLIT, 15 POLE HARTING, 16 POLE INTERCOM, B&W	176
20012-2	KVM 28X, KVM 28X SPLIT, 15 POLE HARTING, 16 POLE INTERCOM, B&W	177
N/A	KVM 32M & 42M B & W BOOM CIRCUIT WITH REMOTE CONTROL (23 POLE BURNDY/24 POLE WEILAND) (EUROPEAN VERSION) (LEFT)	178
N/A	KVM 32M & 42M B & W BOOM CIRCUIT WITH REMOTE CONTROL (23 POLE BURNDY/24 POLE WEILAND) (EUROPEAN VERSION) (RIGHT)	179
	COMPONENT LIST FOR KVM 32M AND 42M BLACK AND WHITE (EUROPEAN VERSION)	180
N/A	KVM 32M & 42M B & W BOOM CIRCUIT WITH REMOTE CONTROL (42 POLE HARTING/24 POLE WEILAND) (USA VERSION) (LEFT)	182
N/A	KVM 32M & 42M B & W BOOM CIRCUIT WITH REMOTE CONTROL (42 POLE HARTING/24 POLE WEILAND) (USA VERSION) (RIGHT)	183
	COMPONENT LIST FOR KVM 32M AND 42M BLACK AND WHITE (USA VERSION)	184
N/A	KVM 32XL B & W BOOM CIRCUIT WITH REMOTE CONTROL (42 POLE HARTING/24 POLE WEILAND) (PRE 1995) (LEFT)	185
N/A	KVM 32XL B & W BOOM CIRCUIT WITH REMOTE CONTROL (42 POLE HARTING/24 POLE WEILAND) (PRE 1995) (RIGHT)	186
N/A	KVM 32XL B & W BOOM CIRCUIT WITH REMOTE CONTROL (42 POLE HARTING/24 POLE WEILAND) (POST 1995) (LEFT)	188

<i>iso/dwg#</i>	<i>Description</i>	<i>Page</i>
N/A	KVM 32XL B & W BOOM CIRCUIT WITH REMOTE CONTROL (42 POLE HARTING/24 POLE WEILAND) (POST 1995) (RIGHT)	189
20004-1	KVM 32XL B & W BOOM CIRCUIT WITH REMOTE CONTROL AND PILZ RELAY (42 POLE HARTING/24 POLE WEILAND) (LEFT)	190
20004-2	KVM 32XL B & W BOOM CIRCUIT WITH REMOTE CONTROL AND PILZ RELAY (42 POLE HARTING/24 POLE WEILAND) (RIGHT)	191
	COMPONENT LIST FOR KVM 32XL BLACK AND WHITE (USA VERSION)	192
N/A	KVM 32XL B & W FLYAWAY BOOM/POWER PACK CIRCUIT AND REMOTE CONTROL (LEFT)	193
N/A	KVM 32XL B & W FLYAWAY BOOM/POWER PACK CIRCUIT AND REMOTE CONTROL (RIGHT)	194
20009-1	KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W	196
20009-2	KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W	197
20005-1	KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W	198
20005-2	KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W	199
10013-1	KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W	200
10013-2	KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W	201
10019-1	KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W	202
10019-2	KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W	203
20028-1	KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W, ELECTRIC AGITATOR	204
20028-2	KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W, ELECTRIC AGITATOR	205
20011-1	KVM 32XL, 42 POLE HARTING, 24 POLE WEILAND, B&W	206
20011-2	KVM 32XL, 42 POLE HARTING, 24 POLE WEILAND, B&W	207
20017-1	KVM 34X, C32 CONTROLLER, PROPORTIONAL	208
20017-2	KVM 34X, C32 CONTROLLER, PROPORTIONAL	209
N/A	KVM 36M B & W BOOM CIRCUIT (25 POLE HARTING / 19 POLE AMPHENOL REMOTE CONNECTORS)	210
10083112	KVM 36, PROPORTIONAL	211
	KVM 36M, KVM 42, DIGITAL, PROPORTIONAL	212
10037100	KVM 42 L.W.	234
10085480	KVM 42 WITH 2 SPEED TOWER SLEWING	235
10085480	KVM 42 WITH 2 SPEED TOWER SLEWING	236
321724-1	KVM 42M PROPORTIONAL BOOM CIRCUIT AND REMOTE CONTROL (42 POLE HARTING / 24 POLE WEILAND) (SHIELDED USA VERSION) (RIGHT)	238
321724-2	KVM 42M BOOM CIRCUIT AND REMOTE CONTROL, 42 POLE HARTING, 24 POLE WEILAND, SHIELDED, PROPORTIONAL (USA VERSION)	239
321724-3	COMPONENT LIST - KVM 42M PROPORTIONAL (USA VERSION)	240

Table of Contents

<i>iso/dwg#</i>	<i>Description</i>	<i>Page</i>
N/A	ANALOG MOTHER BOARD SCHEMATIC (GREEN CONNECTOR)	241
N/A	ANALOG MOTHER BOARD SCHEMATIC (WHITE CONNECTOR)	242
	52 M, 24v PROPORTIONAL	243
20049-1	KVM PROPORTIONAL W/VECTOR CONTROLLER	244
20049-2	KVM PROPORTIONAL W/VECTOR CONTROLLER	245
20033	MIXER TRUCK, MANUAL CONTROL	246
20037	MIXER TRUCK, MANUAL CONTROL, BYPASS SWITCH, HOPPER UP/DN, CONTROL DRUM START/STOP FROM LOCAL/REMOTE	247
20034	MIXER TRUCK, WITHOUT BOOSTER	248
20038	MIXER TRUCK, WITHOUT BOOSTER, BYPASS SWITCH, HOPPER UP/DN, CONTROL DRUM START/STOP FROM LOCAL/REMOTE	249
20035	MIXER TRUCK, WITH BOOSTER	250
20039	MIXER TRUCK, WITH BOOSTER, BYPASS SWITCH, HOPPER UP/DN, CONTROL DRUM START/STOP FROM LOCAL/REMOTE	251
20043-1	MIXER w/OMNEX REMOTE	252
20043-2	MIXER w/OMNEX REMOTE	253
20043-3	MIXER w/OMNEX REMOTE	254
20047-1	MIXER w/SMART DRUM CONTROL	255
20036	BARNACLE CLEANER BARGE	256
350891	ELECTRIC ENGINE CONTROL - CAT	257
342465	ELECTRIC ENGINE CONTROL - CUMMINS/NAVISTAR	258
342365	THROTTLE CONTROL - CUMMINS ENGINE	259
N/A	THROTTLE CONTROL - DETROIT ENGINE	260
343940	THROTTLE CONTROL - "V" MACK ENGINE	261

<i>iso</i>	<i>Description</i>	<i>Page</i>
20001	BPL 2000 and 4000 WITH PILZ RELAY	15
20002	KVM 36M, KVM 42, DIGITAL, PROPORTIONAL	212
20003-1	KVM 28X BLACK AND WHITE BOOM CIRCUIT WITH PILZ RELAY (LEFT)	172
20003-2	KVM 28X BLACK AND WHITE BOOM CIRCUIT WITH PILZ RELAY (RIGHT)	173
20004-1	KVM 32XL BOOM CIRCUIT WITH REMOTE CONTROL, PILZ RELAY, 42 POLE HARTING 24 POLE WEILAND, B&W	190
20004-2	KVM 32XL BOOM CIRCUIT WITH REMOTE CONTROL, PILZ RELAY, 42 POLE HARTING 24 POLE WEILAND, B&W	191
20005-1	KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W	198
20005-2	KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W	199
20006-1	KVM 28X, 28X SPLIT, 15 POLE HARTING, 16 POLE INTERCOM, B&W	174
20006-2	KVM 28X, 28X SPLIT, 15 POLE HARTING, 16 POLE INTERCOM, B&W	175
20007-1	KVM 24-4, KVM 26 BOOM CIRCUIT, 42 POLE HARTING, 24 POL WEILAND, B&W	130
20007-2	KVM 24-4, KVM 26 BOOM CIRCUIT, 42 POLE HARTING, 24 POL WEILAND, B&W	131
20008	BPL 2000 and 4000 WITH PILZ RELAY	16
20009-1	KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W	196
20009-2	KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W	197
20010-1	KVM 24-4, KVM 26, 42 POLE HARTING, 24 POL WEILAND, B&W	132
20010-2	KVM 24-4, KVM 26, 42 POLE HARTING, 24 POL WEILAND, B&W	133
20011-1	KVM 32XL, 42 POLE HARTING, 24 POLE WEILAND, B&W	206
20011-2	KVM 32XL, 42 POLE HARTING, 24 POLE WEILAND, B&W	207
20012-1	KVM 28X, KVM 28X SPLIT, 15 POLE HARTING, 16 POLE INTERCOM, B&W	176
20012-2	KVM 28X, KVM 28X SPLIT, 15 POLE HARTING, 16 POLE INTERCOM, B&W	177
20013-1	KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W	200
20013-2	KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W	201
20014-1	KVM 32XL BOOM CIRCUIT WITH REMOTE CONTROL, PILZ RELAY, 42 POLE HARTING, 24 POLE WEILAND, B&W	140
20014-2	KVM 32XL BOOM CIRCUIT WITH REMOTE CONTROL, PILZ RELAY, 42 POLE HARTING, 24 POLE WEILAND, B&W	141
20015-1	KVM 24-4, KVM 26-4, KVM 32XL, 42 POLE HARTING, 24 POL WEILAND, B&W	136
20015-2	KVM 24-4, KVM 26-4, KVM 32XL, 42 POLE HARTING, 24 POL WEILAND, B&W	137
20016	BPL 500, BPL 2000, BPL 4000	1
20017-1	KVM 34X, C32 CONTROLLER, PROPORTIONAL	208
20017-2	KVM 34X, C32 CONTROLLER, PROPORTIONAL	209
20018-1	KVM 17, KVM 28EX, KVM 28X, KVM 28 SPLIT, 15 POLE HARTING, 16 POLE INTERCOM, B&W	118

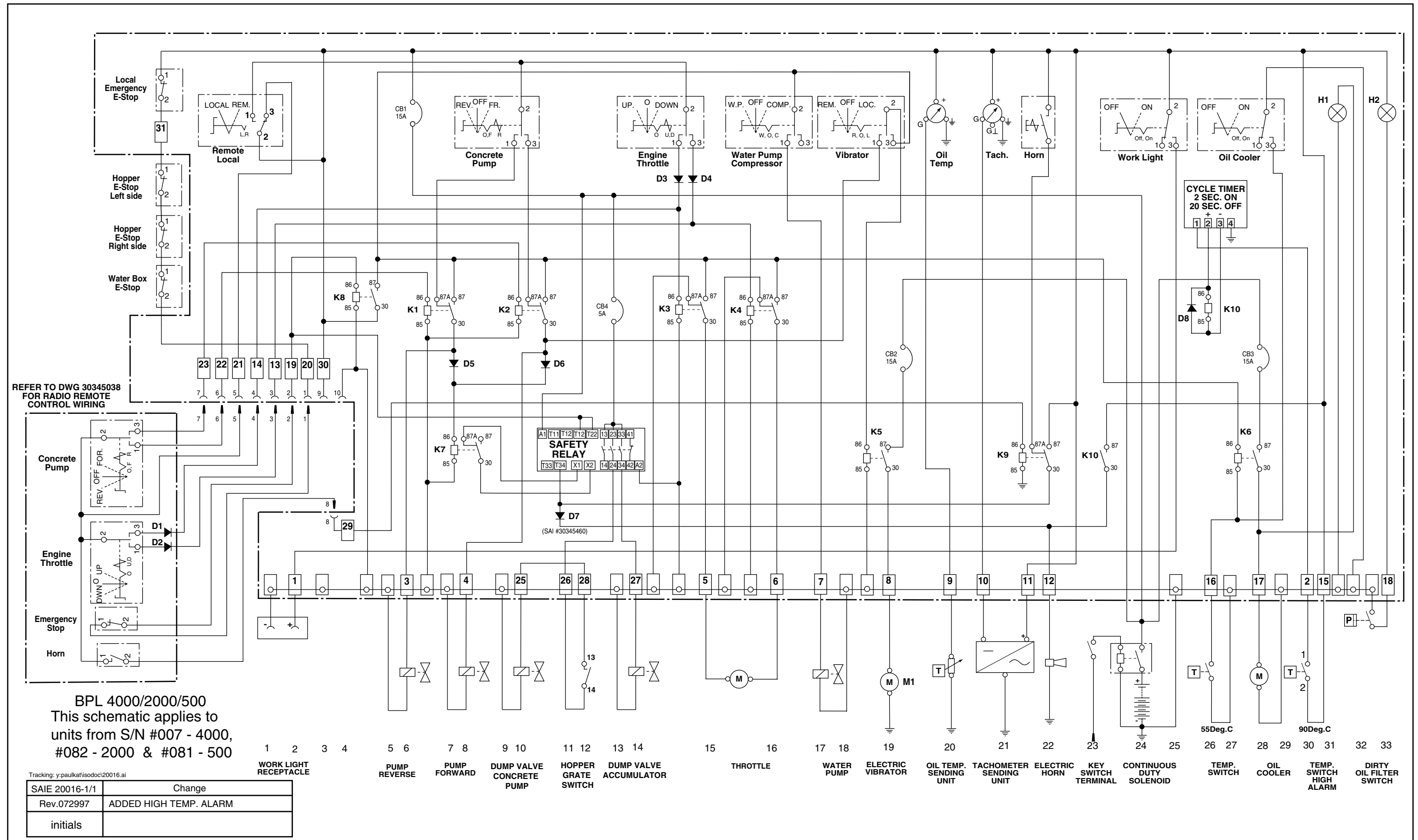
ISO Standards List

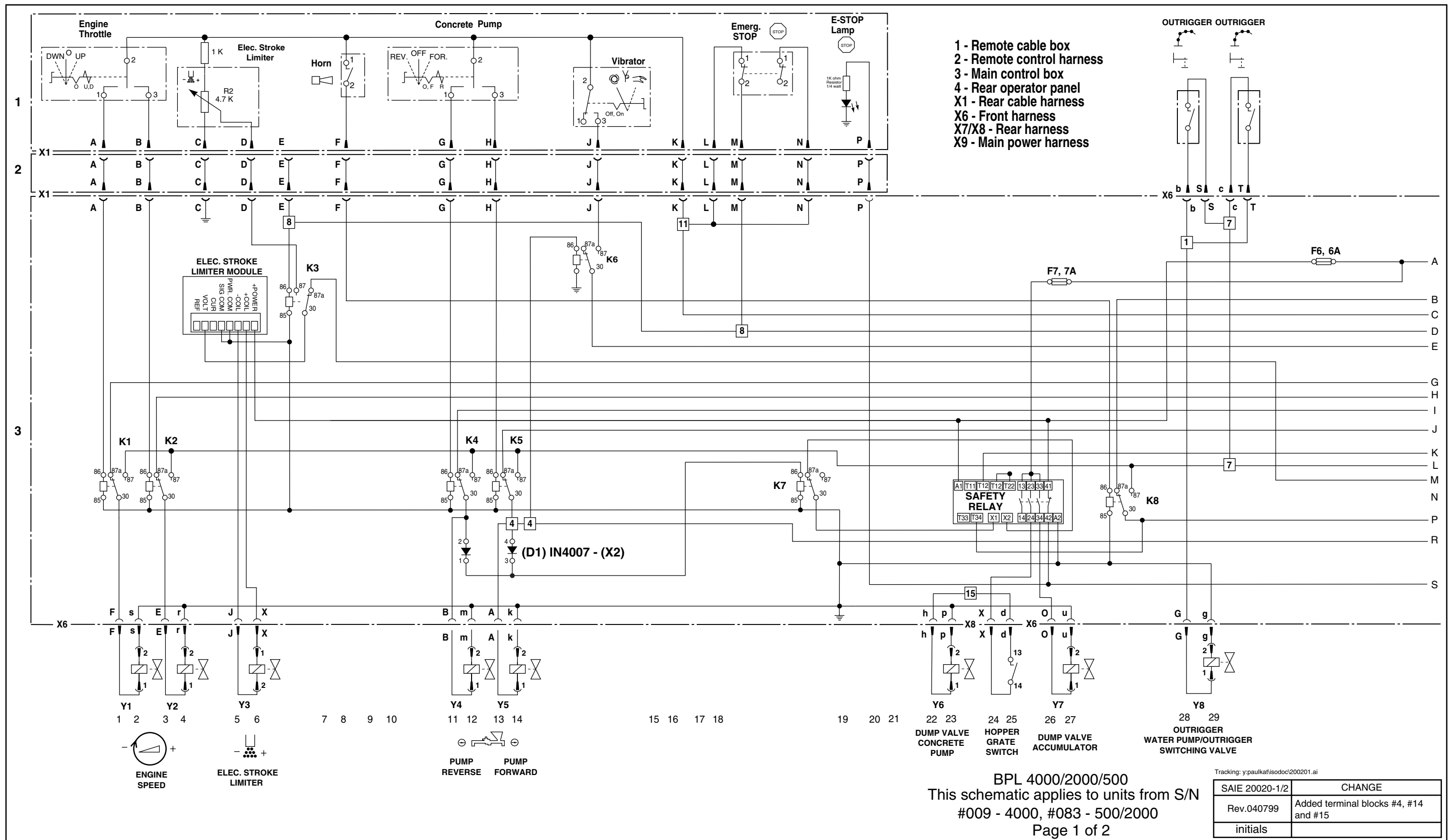
<i>iso</i>	<i>Description</i>	<i>Page</i>
20018-2	KVM 17, KVM 28EX, KVM 28X, KVM 28 SPLIT, 15 POLE HARTING, 16 POLE INTERCOM, B&W	119
20019-1	KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W	202
20019-2	KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W	203
20020-1	BPL 500, BPL 2000, BPL 4000	2
20020-2	BPL 500, BPL 2000, BPL 4000	3
20021	BPL 750	11
20022-1	KVM 24-4, KVM 26-4, KVM 32XL, KVM 36X, KVM 42, CPC CONTROLLER, PROPORTIONAL	142
20022-2	KVM 24-4, KVM 26-4, KVM 32XL, KVM 36X, KVM 42, CPC CONTROLLER, PROPORTIONAL	143
20023-1	KVM 24-4, KVM 26-4, KVM 32XL, KVM 36X, KVM 42, CPC CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP	144
20023-2	KVM 24-4, KVM 26-4, KVM 32XL, KVM 36X, KVM 42, CPC CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP	145
20024	KVM 23M (B & W)	127
20025-1	KVM 24-4, KVM 26-4, KVM 32XL, 42 POLE HARTING, 24 POL WEILAND, B&W	134
20025-2	KVM 24-4, KVM 26-4, KVM 32XL, 42 POLE HARTING, 24 POL WEILAND, B&W	135
20026-1	KVM 24-4, KVM 26-4, KVM 32XL, 42 POLE HARTING, 24 POL WEILAND, B&W	138
20026-2	KVM 24-4, KVM 26-4, KVM 32XL, 42 POLE HARTING, 24 POL WEILAND, B&W	139
20027-1	KVM 17, KVM 28EX, KVM 28X, KVM 28 SPLIT, 15 POLE HARTING, 16 POLE INTERCOM, B&W	121
20027-2	KVM 17, KVM 28EX, KVM 28X, KVM 28 SPLIT, 15 POLE HARTING, 16 POLE INTERCOM, B&W	122
20028-1	KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W, ELECTRIC AGITATOR	204
20028-2	KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W, ELECTRIC AGITATOR	205
20029-1	BPL 500, BPL 2000, BPL 4000	14
20029-2	BPL 500, BPL 2000, BPL 4000	15
20030-1	KVM'S, CPC CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	146
20030-2	KVM'S, CPC CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	147
20030-3	KVM'S, CPC CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	148
20030-4	KVM'S, CPC CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	149
20030-5	KVM'S, CPC CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	150
20030-6	KVM'S, CPC CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	151
20031-1	KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED, SBP/SPLIT	159
20031-2	KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED, SBP/SPLIT	160
20031-3	KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED, SBP/SPLIT	161

<i>iso</i>	<i>Description</i>	<i>Page</i>
20032-1	KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	152
20032-2	KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	153
20032-3	KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	154
20032-4	KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	155
20032-5	KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	156
20032-6	KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	157
20032-7	KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED	158
20033	MIXER TRUCK MANUAL CONTROL	245
20034	MIXER TRUCK WITHOUT BOOSTER	248
20035	MIXER TRUCK WITH BOOSTER	250
20036	BARNACLE CLEANER BARGE	255
20037	MIXER TRUCK, MANUAL CONTROL, BYPASS SWITCH, HOPPER UP/DN, CONTROL DRUM START/STOP FROM LOCAL/REMOTE	247
20038	MIXER TRUCK, WITHOUT BOOSTER, BYPASS SWITCH, HOPPER UP/DN, CONTROL DRUM START/STOP FROM LOCAL/REMOTE	249
20039	MIXER TRUCK, WITH BOOSTER, BYPASS SWITCH, HOPPER UP/DN, CONTROL DRUM START/STOP FROM LOCAL/REMOTE	251
20041-1	BPL 500, BPL 2000, BPL 4000	4
20041-2	BPL 500, BPL 2000, BPL 4000	5
20043-1	MIXER w/OMNEX REMOTE	252
20043-2	MIXER w/OMNEX REMOTE	253
20043-3	MIXER w/OMNEX REMOTE	254
20045-1	BPL 500, BPL 2000, BPL 4000 after 01/01/05	6
20045-2	BPL 500, BPL 2000, BPL 4000 after 01/01/05	7
20046-1	KVM 39X, 32 X, CPC2, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LCD, SPLIT	162
20046-2	KVM 39X, 32 X, CPC2, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LCD, SPLIT	163
20046-3	KVM 39X, 32 X, CPC2, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LCD, SPLIT	164
20046-4	KVM 39X, 32 X, CPC2, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LCD, SPLIT	165
20047-1	MIXER w/SMART DRUM CONTROL	255
20048-1	BPL 500, BPL 2000, BPL 4000 after 07/10/08	8
20048-2	BPL 500, BPL 2000, BPL 4000 after 07/10/08	9
920049-1	KVM PROPORTIONAL W/VECTOR CONTROLLER	244
20049-2	KVM PROPORTIONAL W/VECTOR CONTROLLER	245

ISO Standards List

<i>iso</i>	<i>Description</i>	<i>Page</i>
------------	--------------------	-------------





BPL 4000/2000/500
 This schematic applies to units from S/N
 #009 - 4000, #083 - 500/2000
 Page 1 of 2

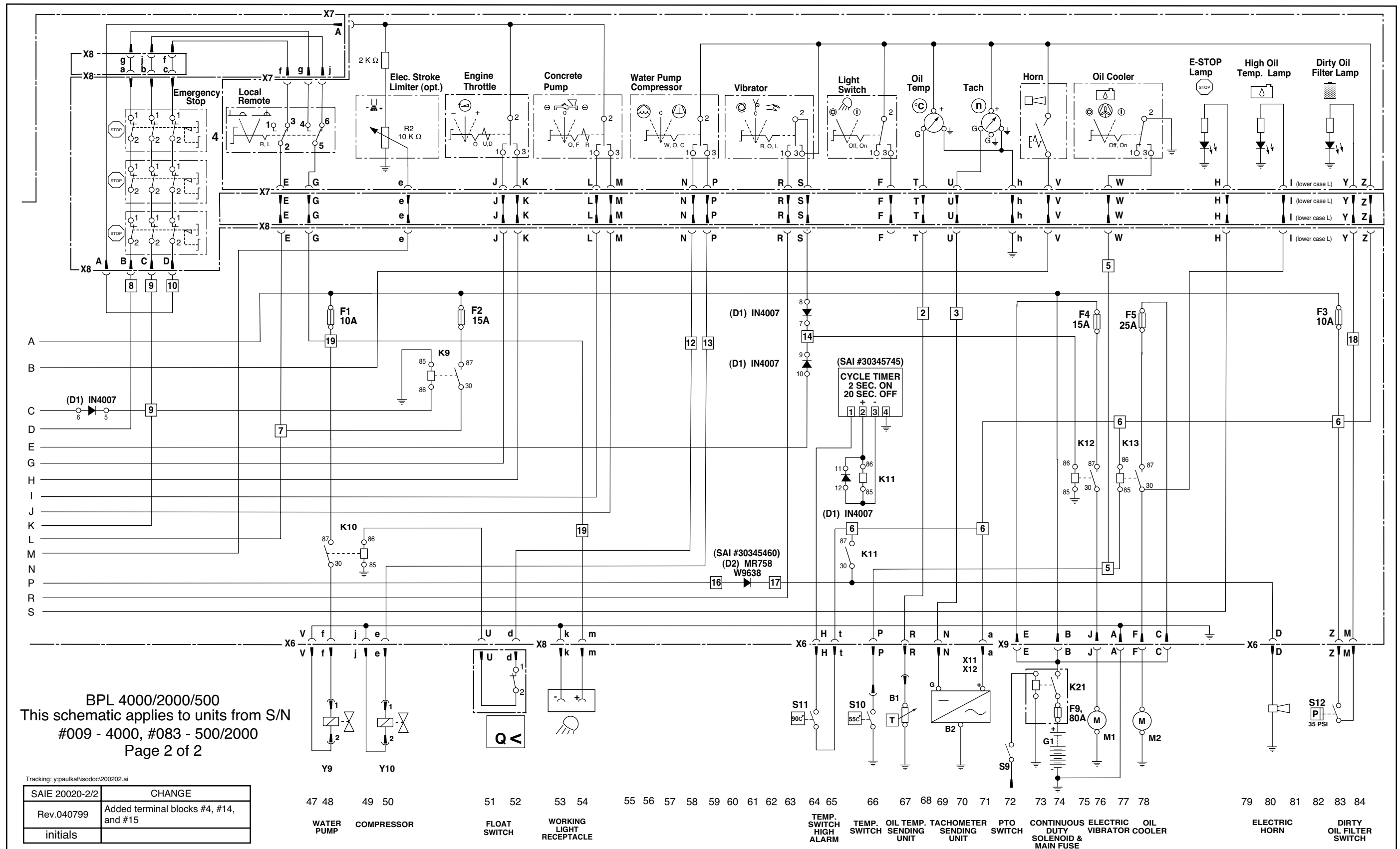
Tracking: y:paulkat/sodoc/200201.ai

SAIE 20020-1/2	CHANGE
Rev.040799	Added terminal blocks #4, #14 and #15
initials	

ELECTRICAL SCHEMATICS

20020-2

BPL 500, BPL 2000, BPL 4000

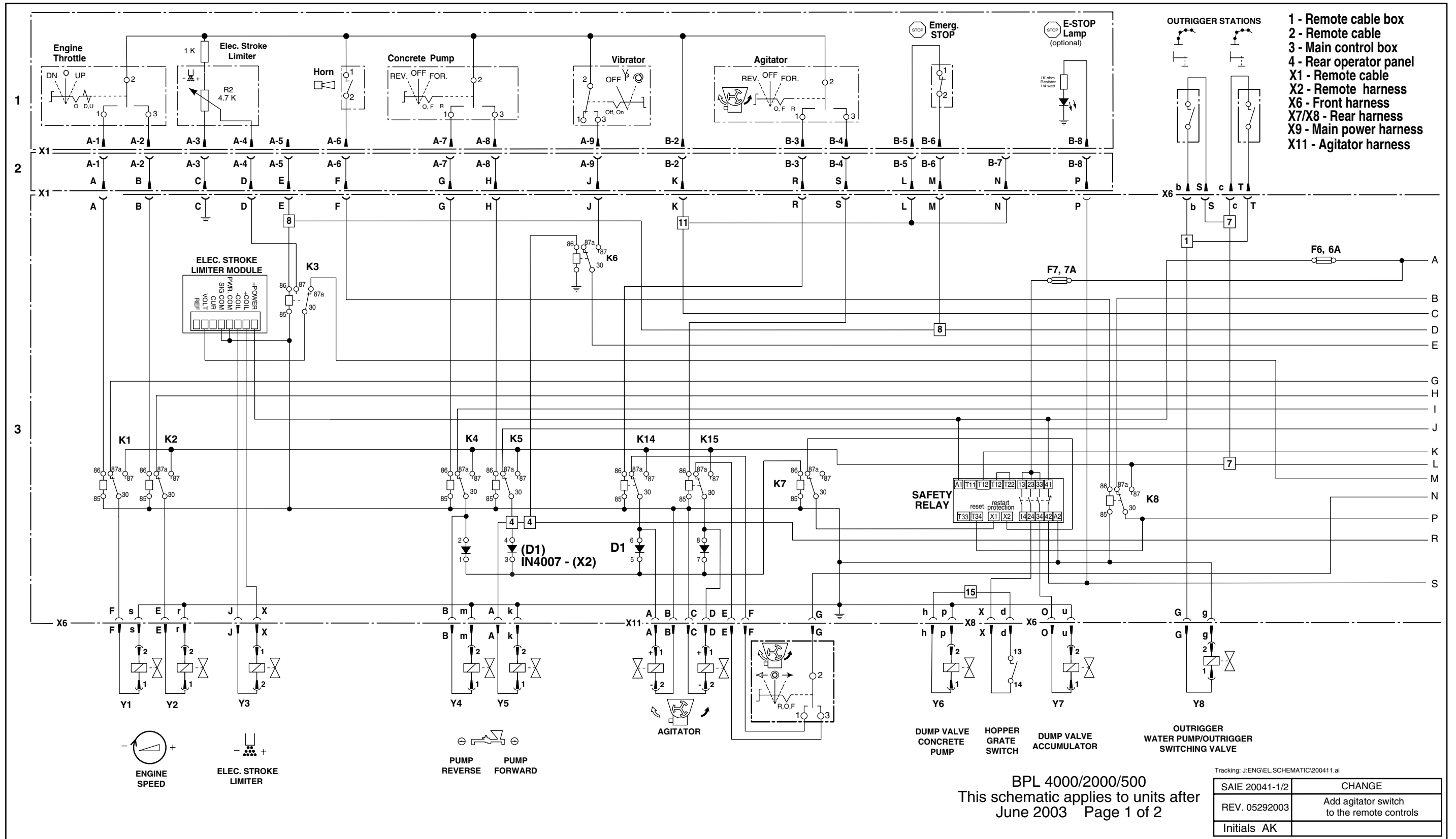


BPL 4000/2000/500
This schematic applies to units from S/N
#009 - 4000, #083 - 500/2000
Page 2 of 2

Tracking: y:paukat\isodoc\200202.ai

SAIE 20020-2/2	CHANGE
Rev.040799	Added terminal blocks #4, #14, and #15
initials	

47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84
		WATER PUMP	COMPRESSOR		FLOAT SWITCH	WORKING LIGHT RECEPTACLE												TEMP. SWITCH HIGH ALARM	TEMP. SWITCH	OIL TEMP. SENDING UNIT	TACHOMETER SENDING UNIT	PTO SWITCH				CONTINUOUS ELECTRIC DUTY SOLENOID & MAIN FUSE										ELECTRIC HORN	DIRTY OIL FILTER SWITCH



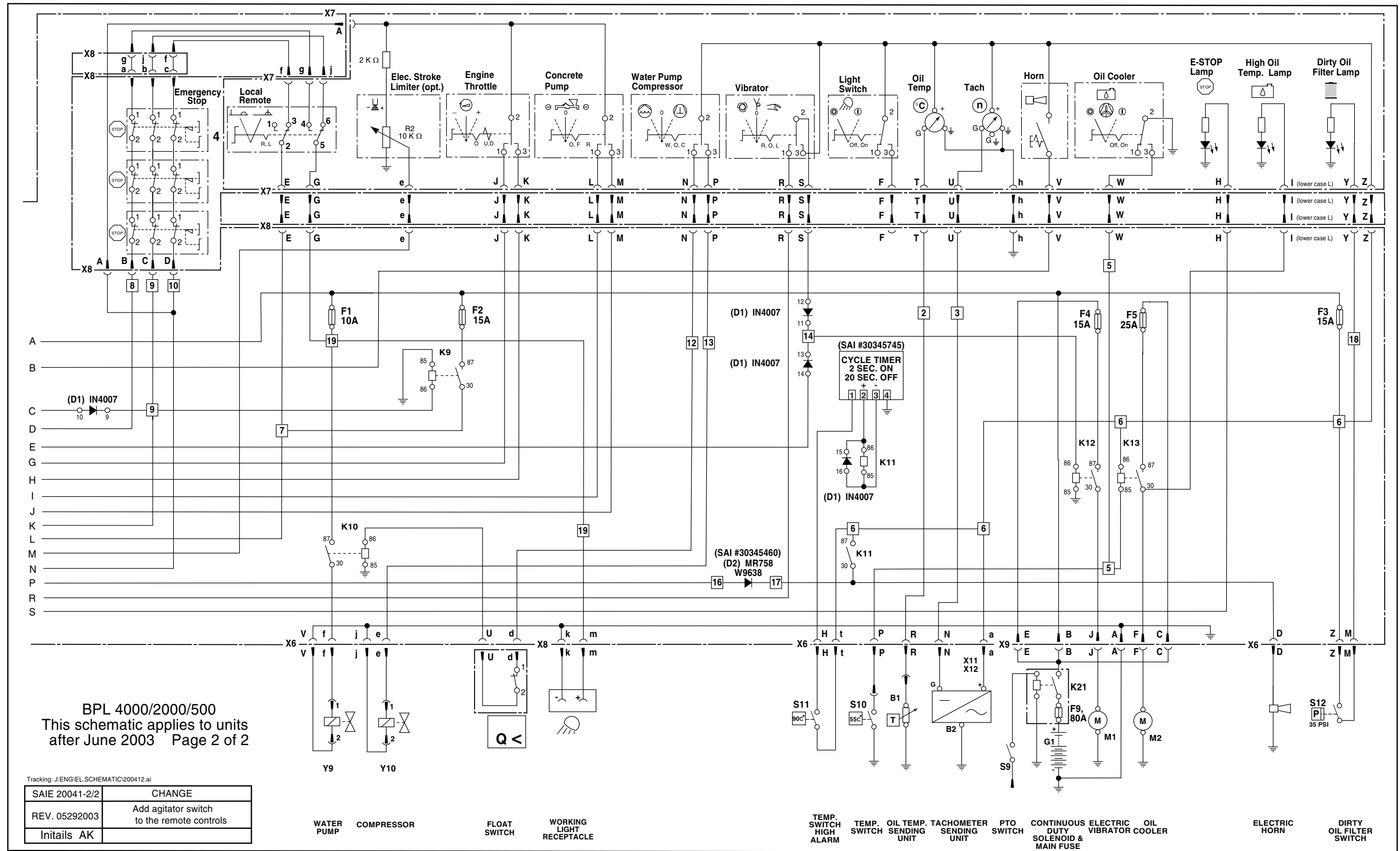
BPL 4000/2000/500
 This schematic applies to units after
 June 2003 Page 1 of 2

Tracking: J-ENGI/EL SCHEMATIC/200411.ai	
SAIE 20041-1/2	CHANGE
REV. 05292003	Add agitator switch to the remote controls
Initials AK	

ELECTRICAL SCHEMATICS

20041-2

BPL 500, BPL 2000, BPL 4000

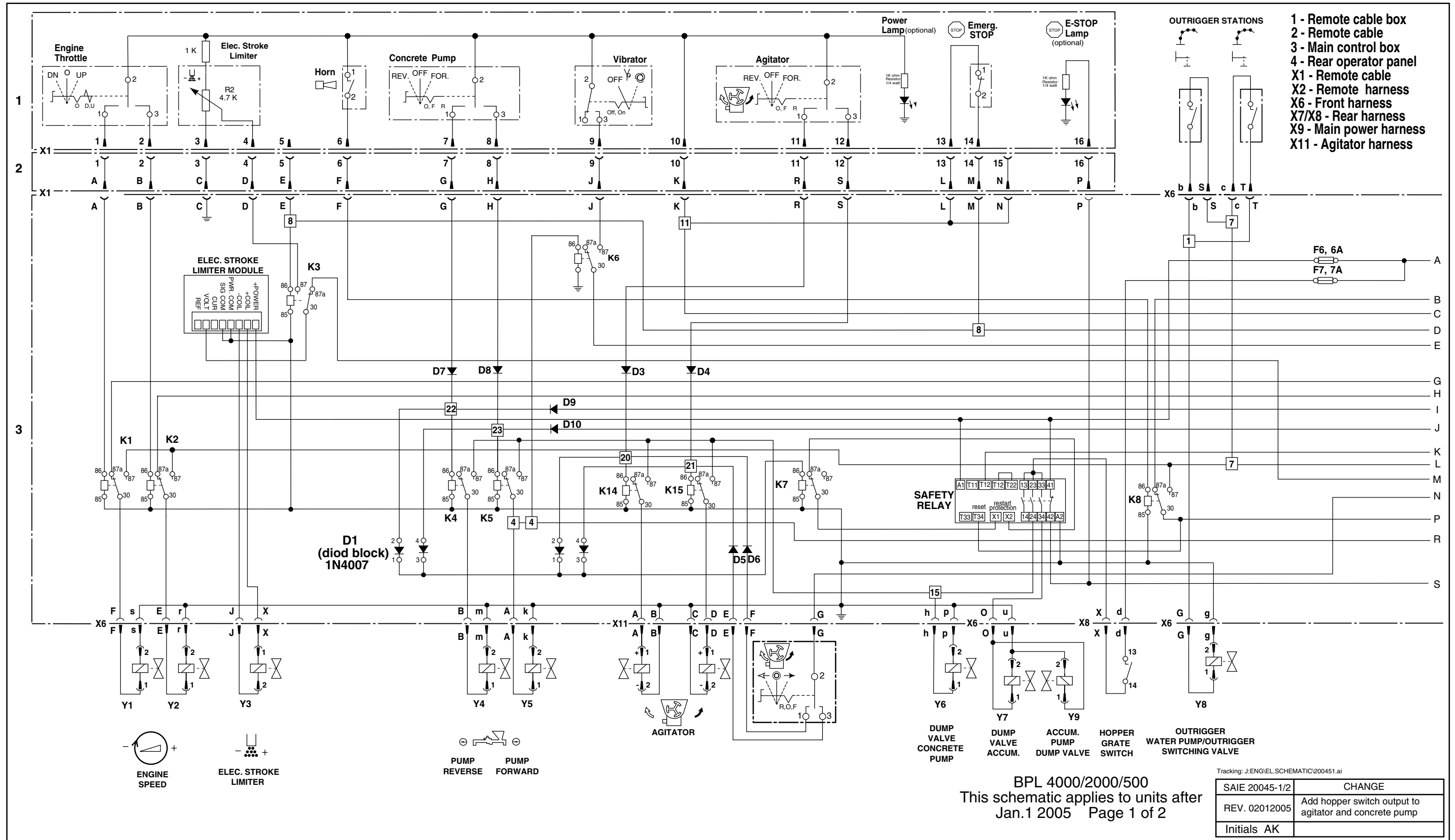


BPL 4000/2000/500
This schematic applies to units
after June 2003 Page 2 of 2

Tracking: J:ENGL.SCHEMATIC\200412.ai

SAIE 20041-2/2	CHANGE
REV. 05292003	Add agitator switch to the remote controls
Initials AK	

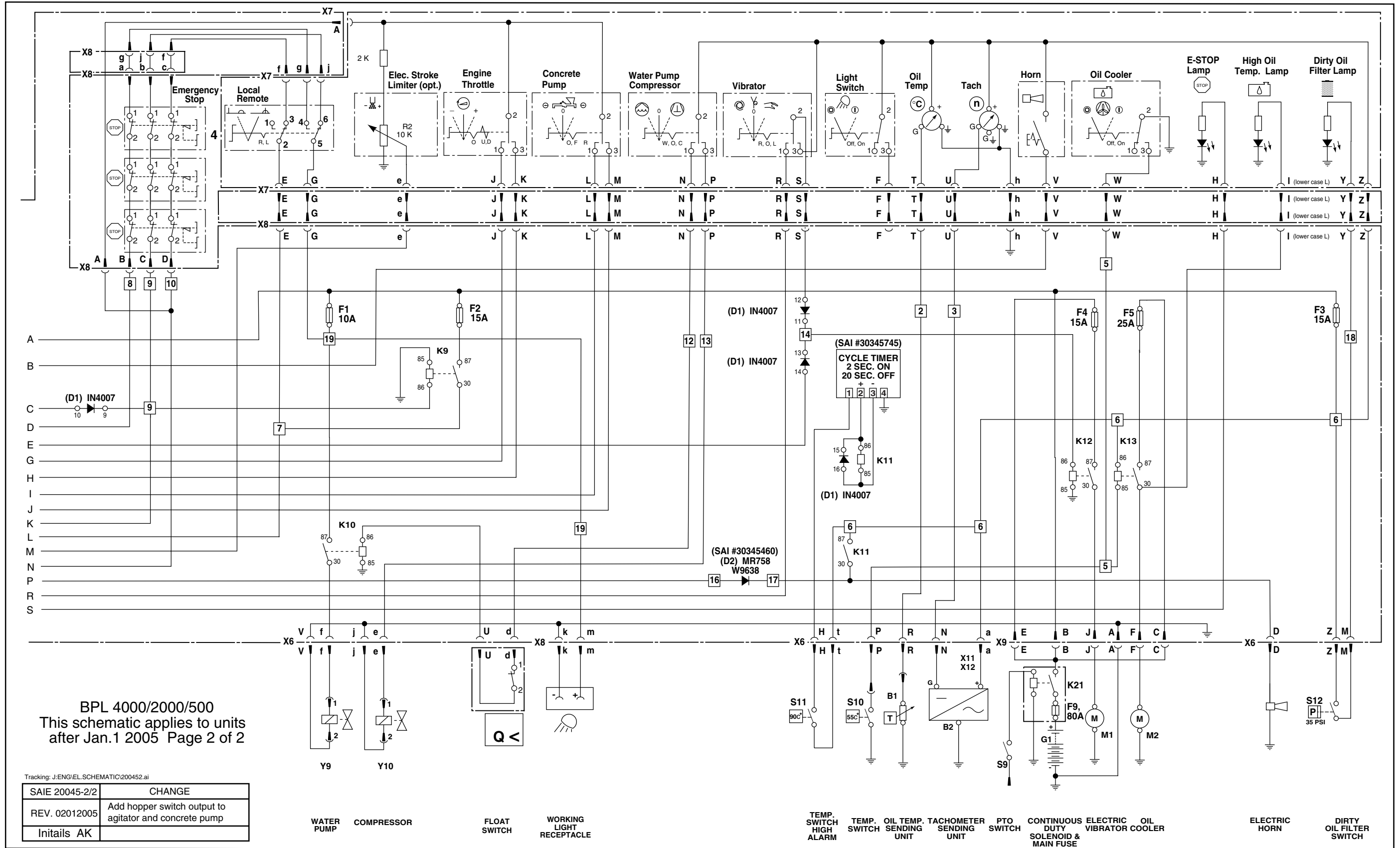
- WATER PUMP
- COMPRESSOR
- FLOAT SWITCH
- WORKING LIGHT RECEPTACLE
- TEMP. SWITCH HIGH ALARM
- TEMP. OIL TEMP. SWITCH SENDING UNIT
- TACHOMETER SENDING UNIT
- PTO SWITCH
- CONTINUOUS ELECTRIC SOLENOID & MAIN FUSE
- OIL VIBRATOR COOLER
- ELECTRIC HORN
- DIRTY OIL FILTER SWITCH



BPL 4000/2000/500
 This schematic applies to units after
 Jan.1 2005 Page 1 of 2

Tracking: J:ENG\EL.SCHEMATIC\200451.ai

SAIE 20045-1/2	CHANGE
REV. 02012005	Add hopper switch output to agitator and concrete pump
Initials AK	

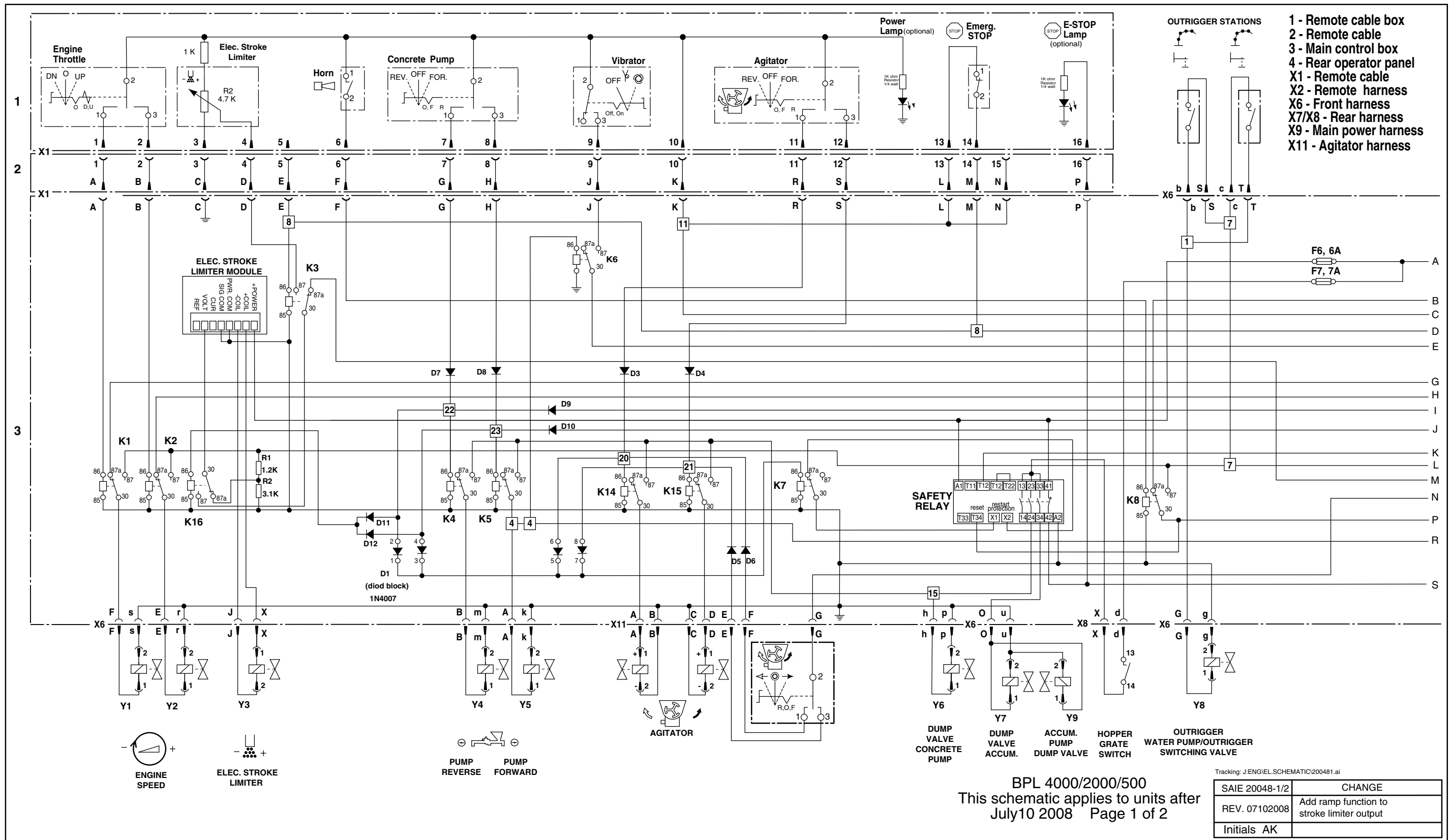


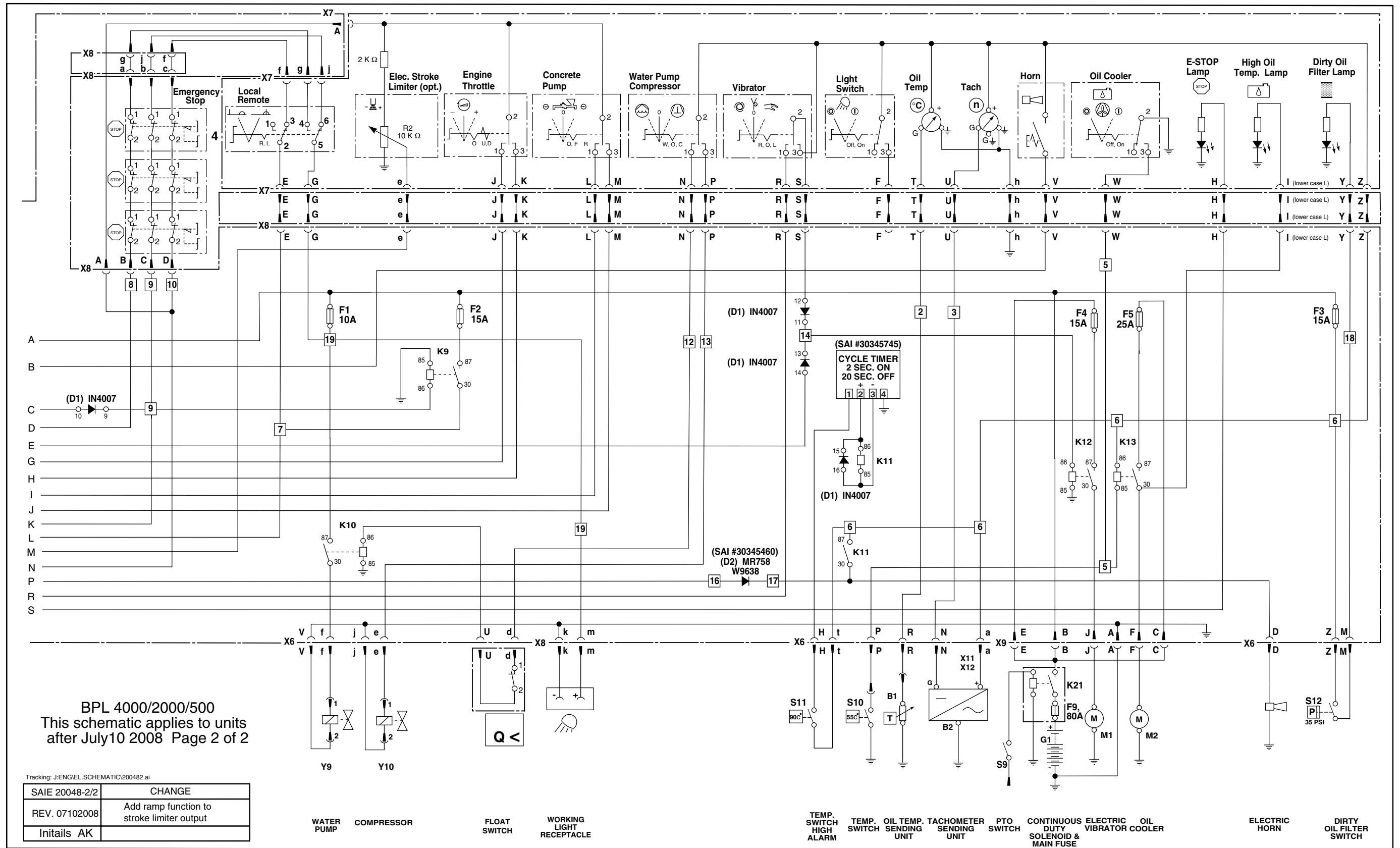
BPL 4000/2000/500
 This schematic applies to units
 after Jan.1 2005 Page 2 of 2

Tracking: J:ENGL.SCHEMATIC\200452.ai

SAIE 20045-2/2	CHANGE
REV. 02012005	Add hopper switch output to agitator and concrete pump
Initials AK	

- WATER PUMP
- COMPRESSOR
- FLOAT SWITCH
- WORKING LIGHT RECEPTACLE
- TEMP. SWITCH HIGH ALARM
- TEMP. OIL TEMP. SWITCH SENDING UNIT
- TACHOMETER SENDING UNIT
- PTO SWITCH
- CONTINUOUS ELECTRIC DUTY SOLENOID & MAIN FUSE
- OIL VIBRATOR COOLER
- ELECTRIC HORN
- DIRTY OIL FILTER SWITCH



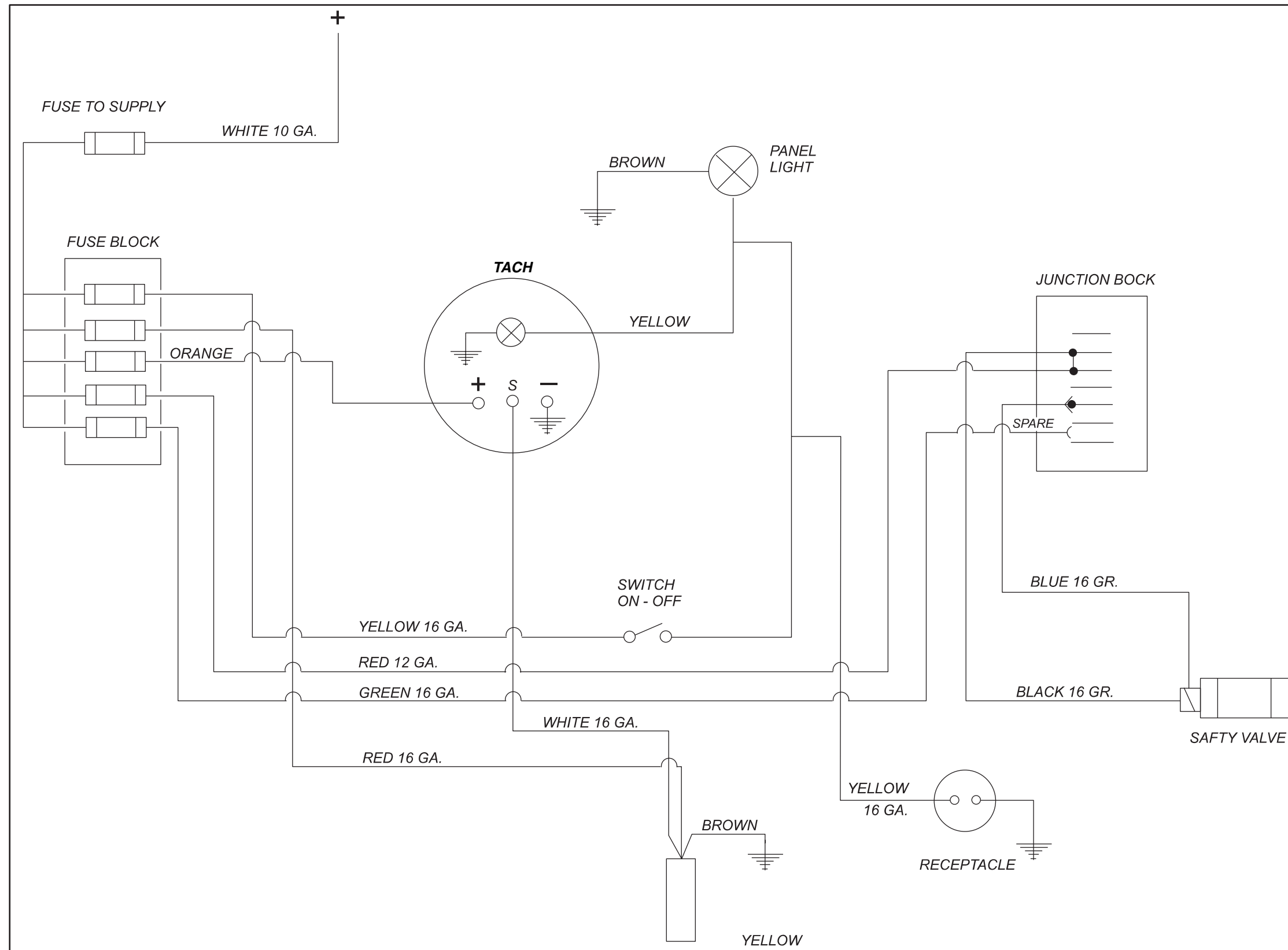


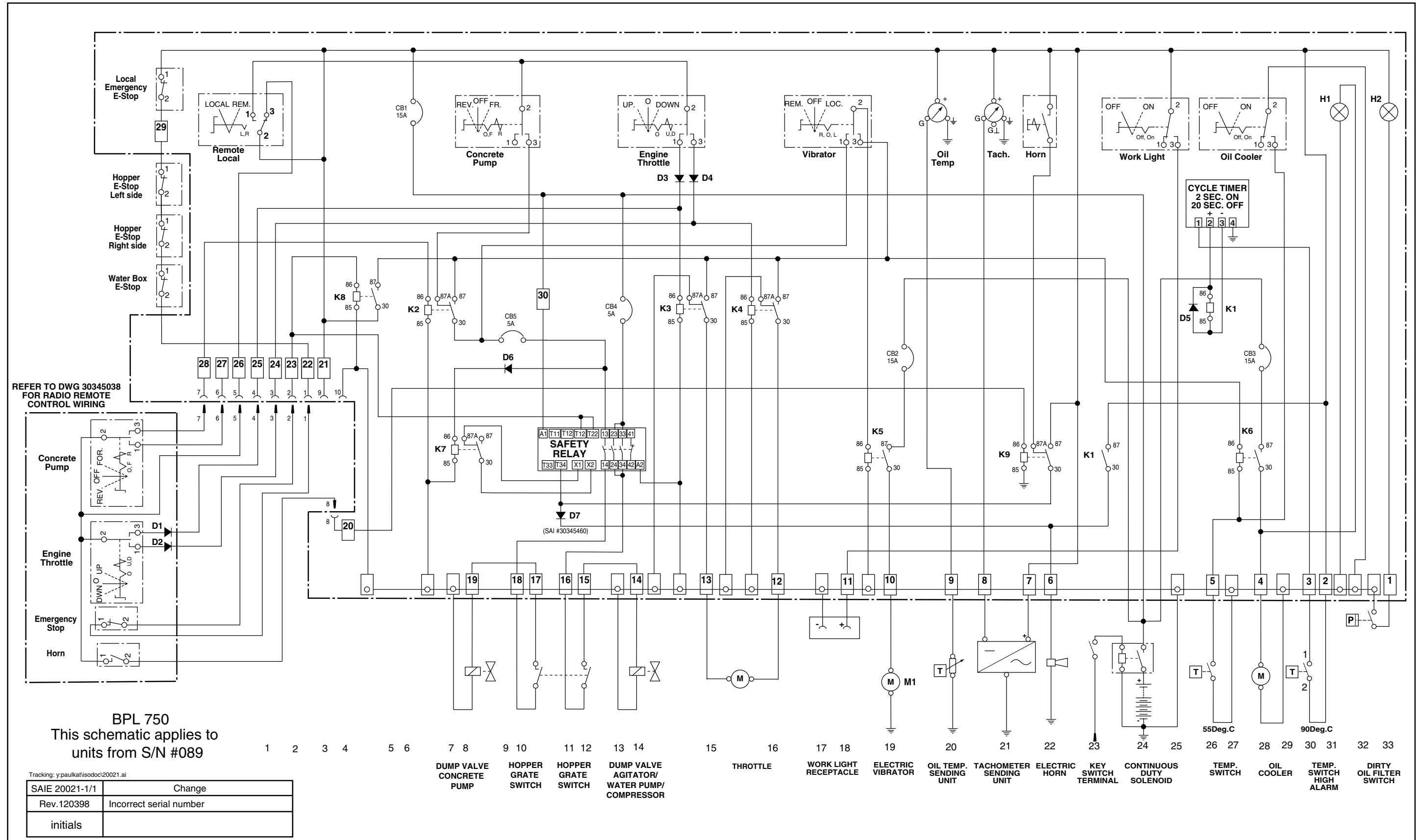
BPL 4000/2000/500
 This schematic applies to units
 after July10 2008 Page 2 of 2

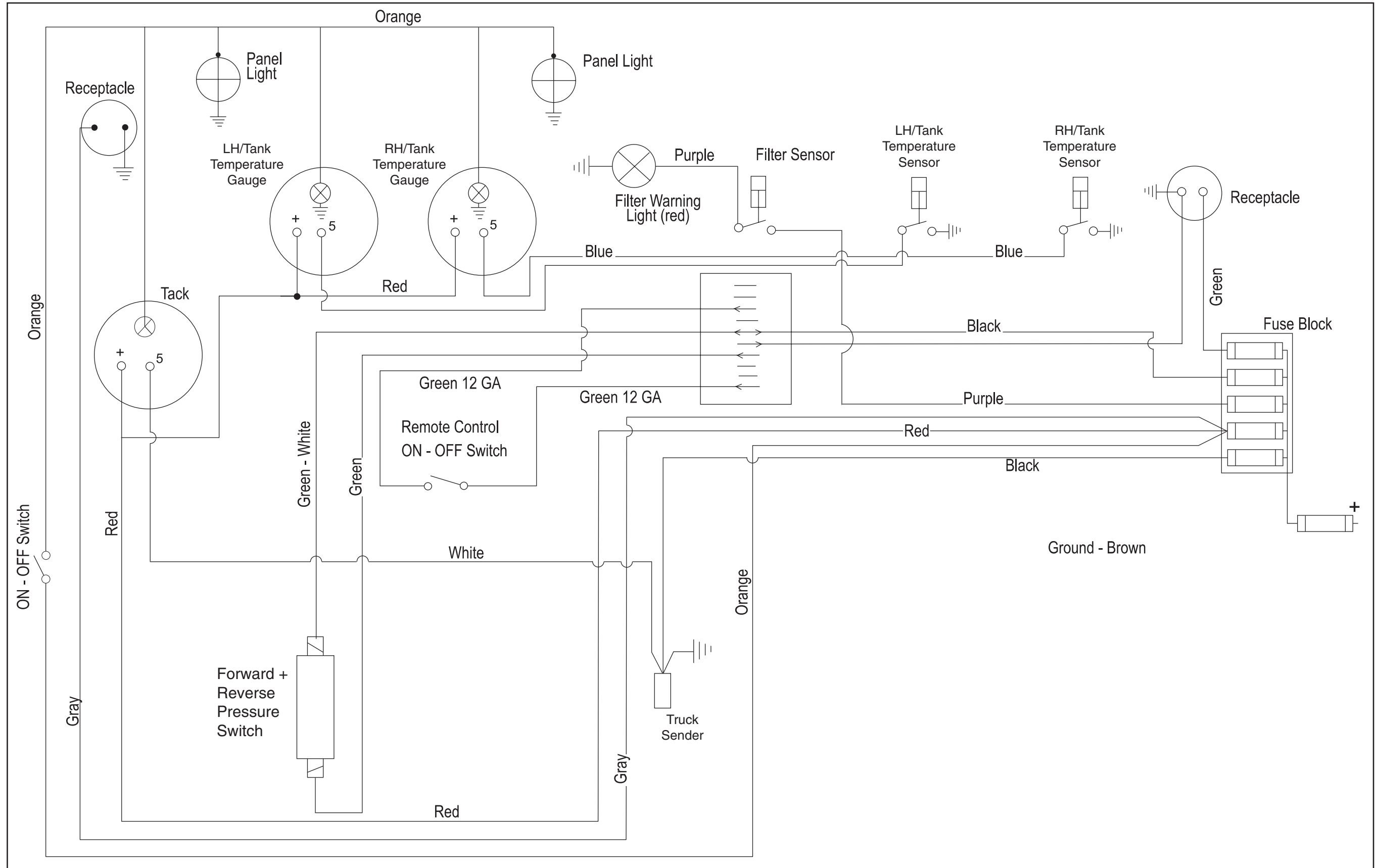
Tracking: J:ENGIELSCHEMATIC/200482.ai

SAIE 20048-2/2	CHANGE
REV. 07102008	Add ramp function to stroke limiter output
Initails AK	

- WATER PUMP
- COMPRESSOR
- FLOAT SWITCH
- WORKING LIGHT RECEPTACLE
- TEMP. SWITCH HIGH ALARM
- TEMP. SWITCH
- OIL TEMP. SENDING UNIT
- TACHOMETER SENDING UNIT
- PTO SWITCH
- CONTINUOUS DUTY SOLENOID & VIBRATOR
- ELECTRIC HORN
- OIL COOLER
- DIRTY OIL FILTER SWITCH

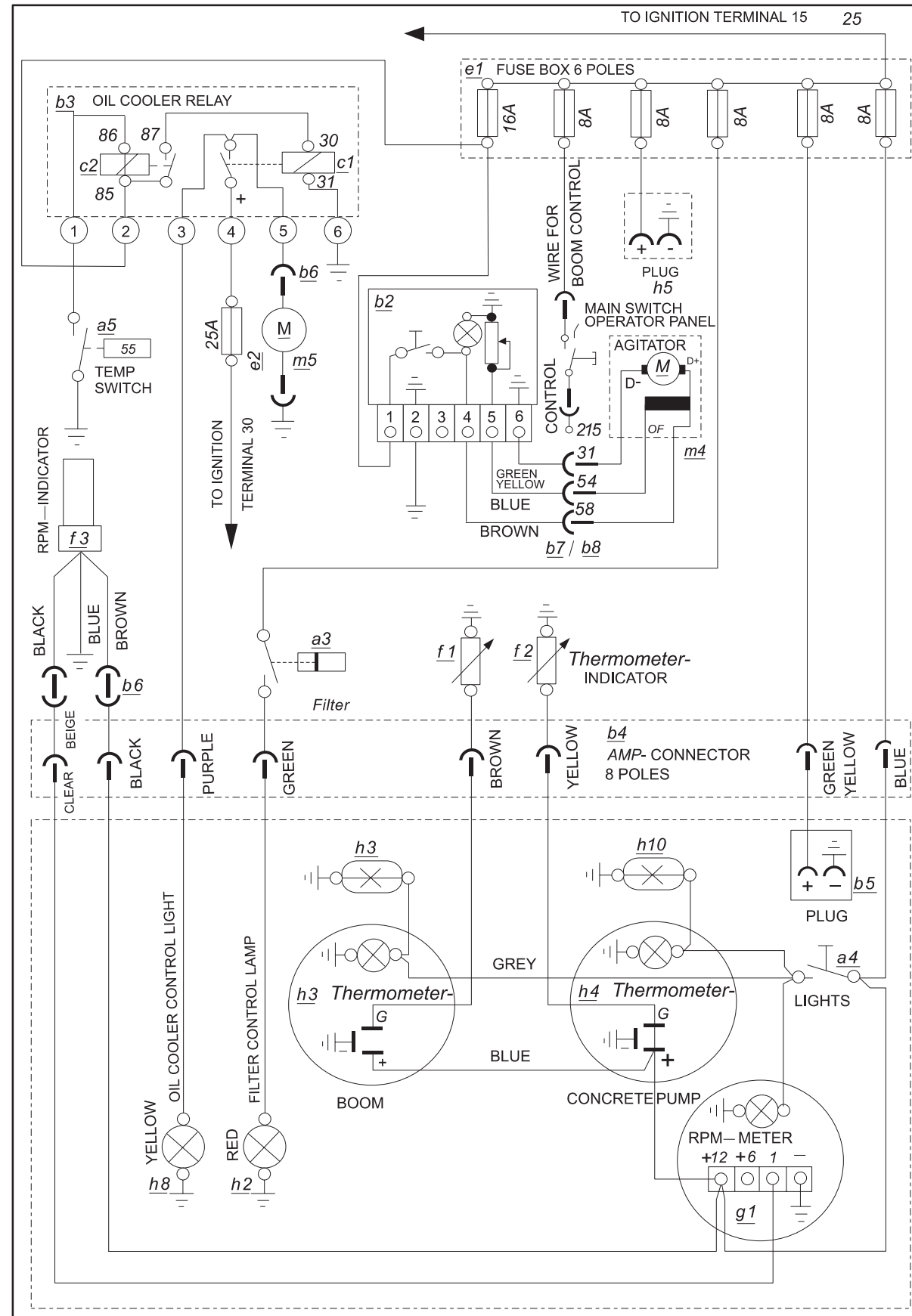


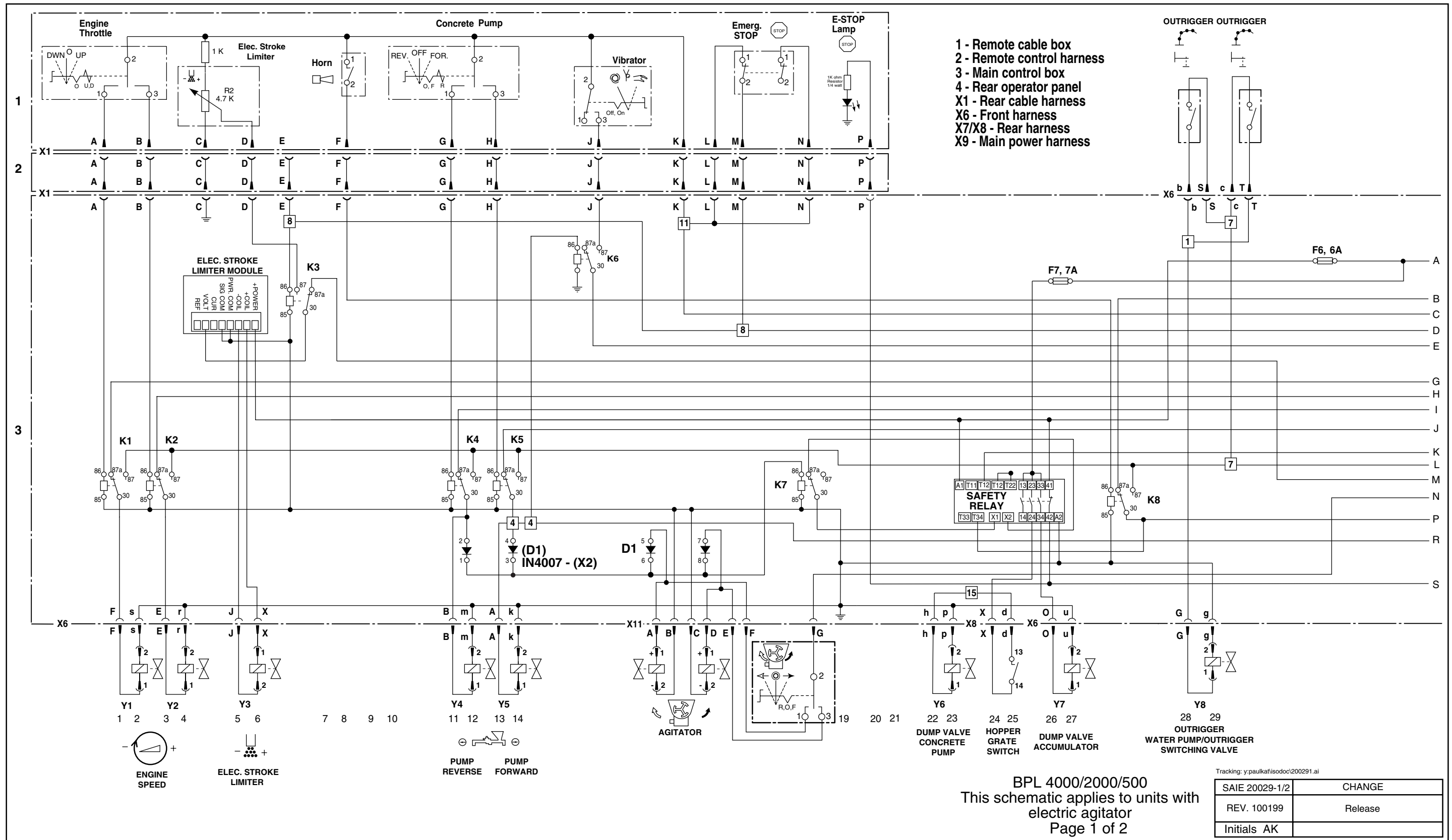


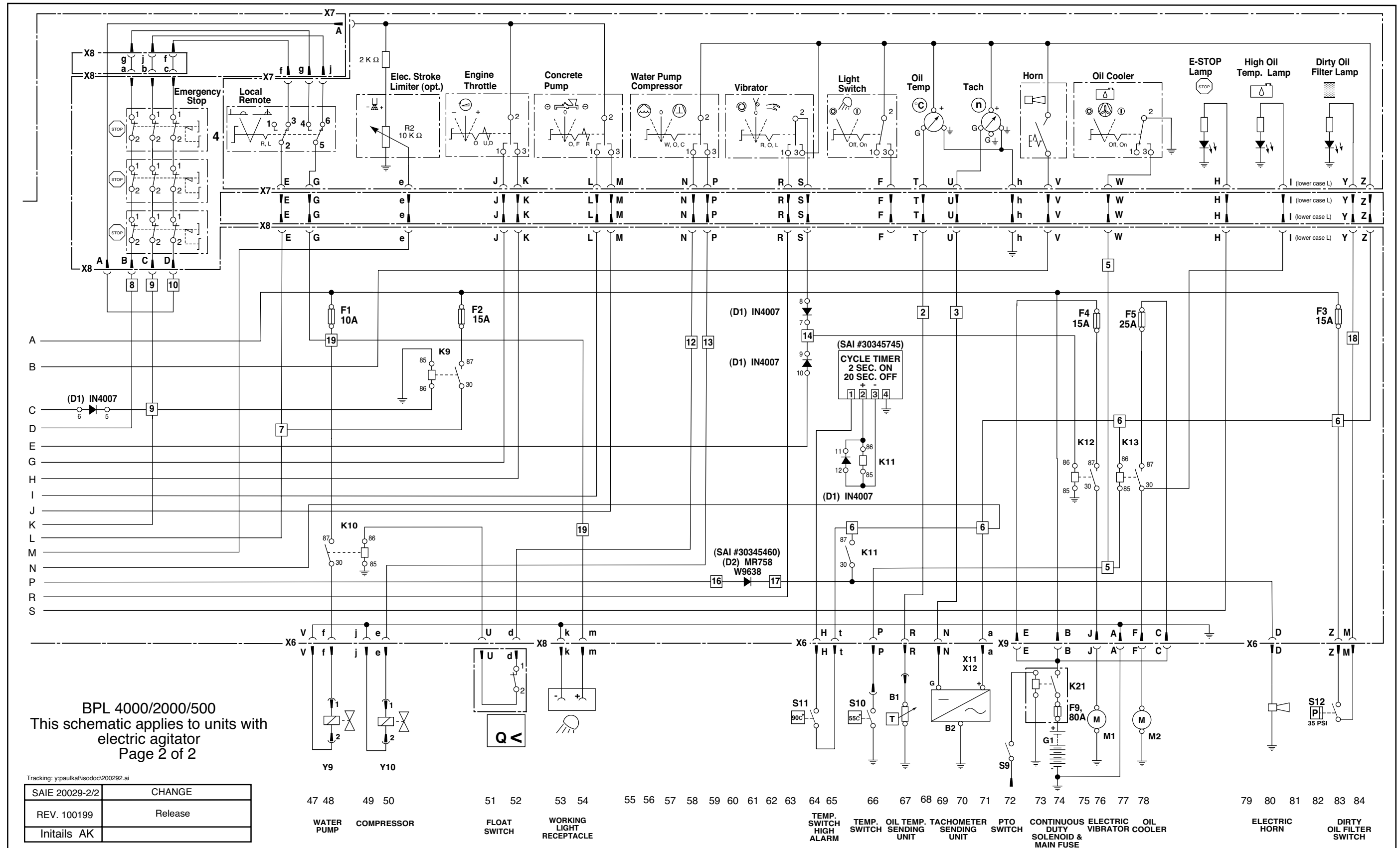


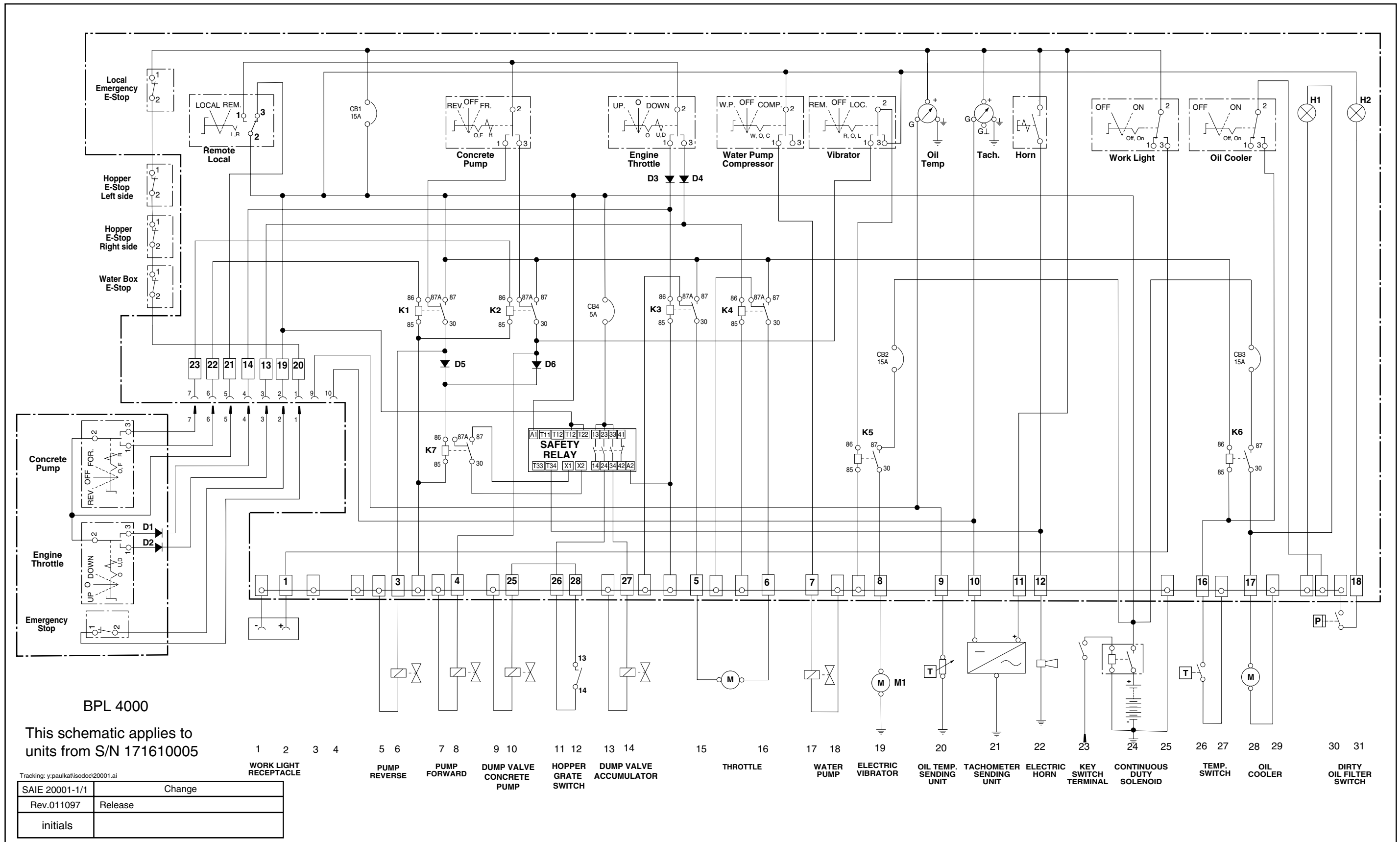
N/A

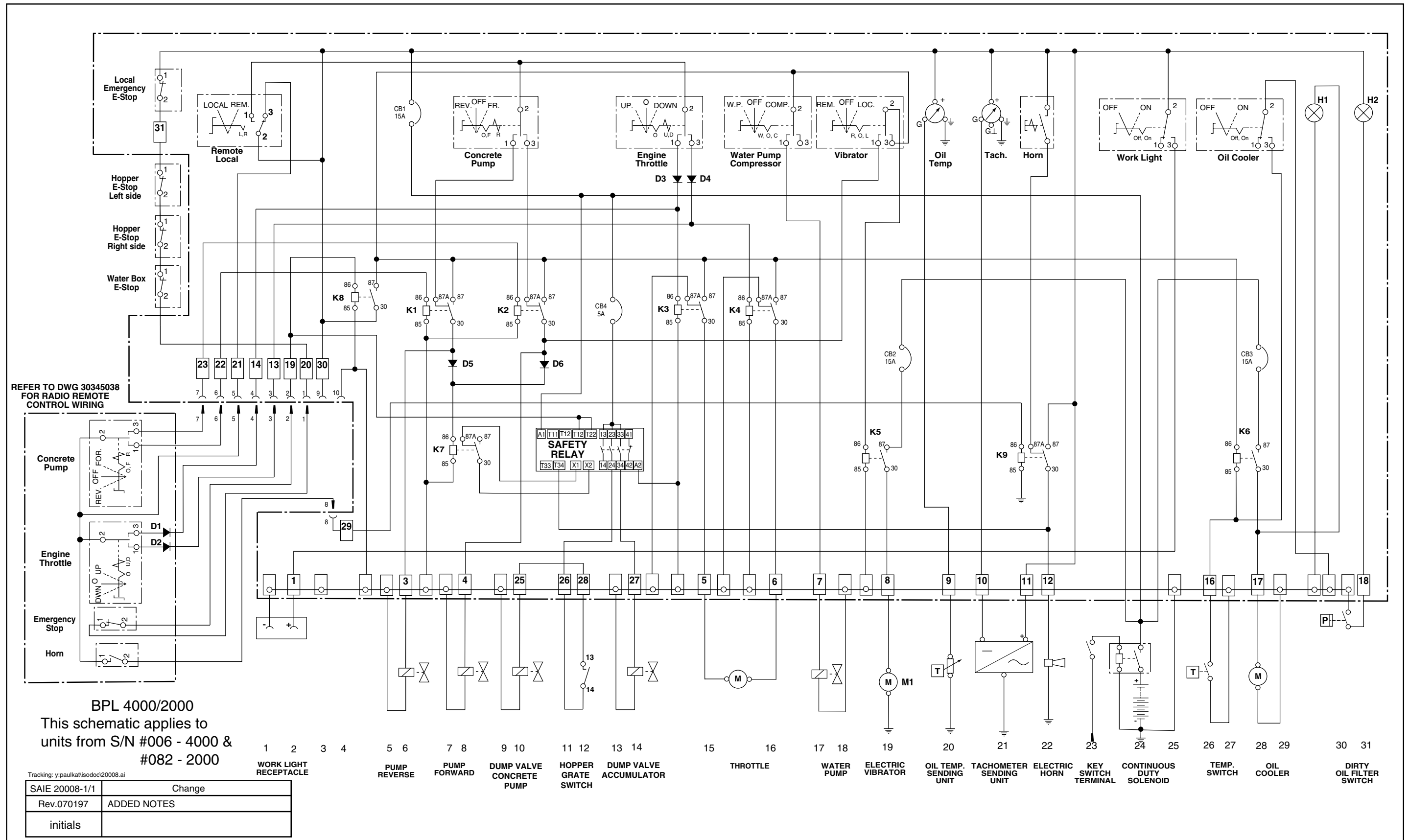
BPL 1001 FOR KVM 31



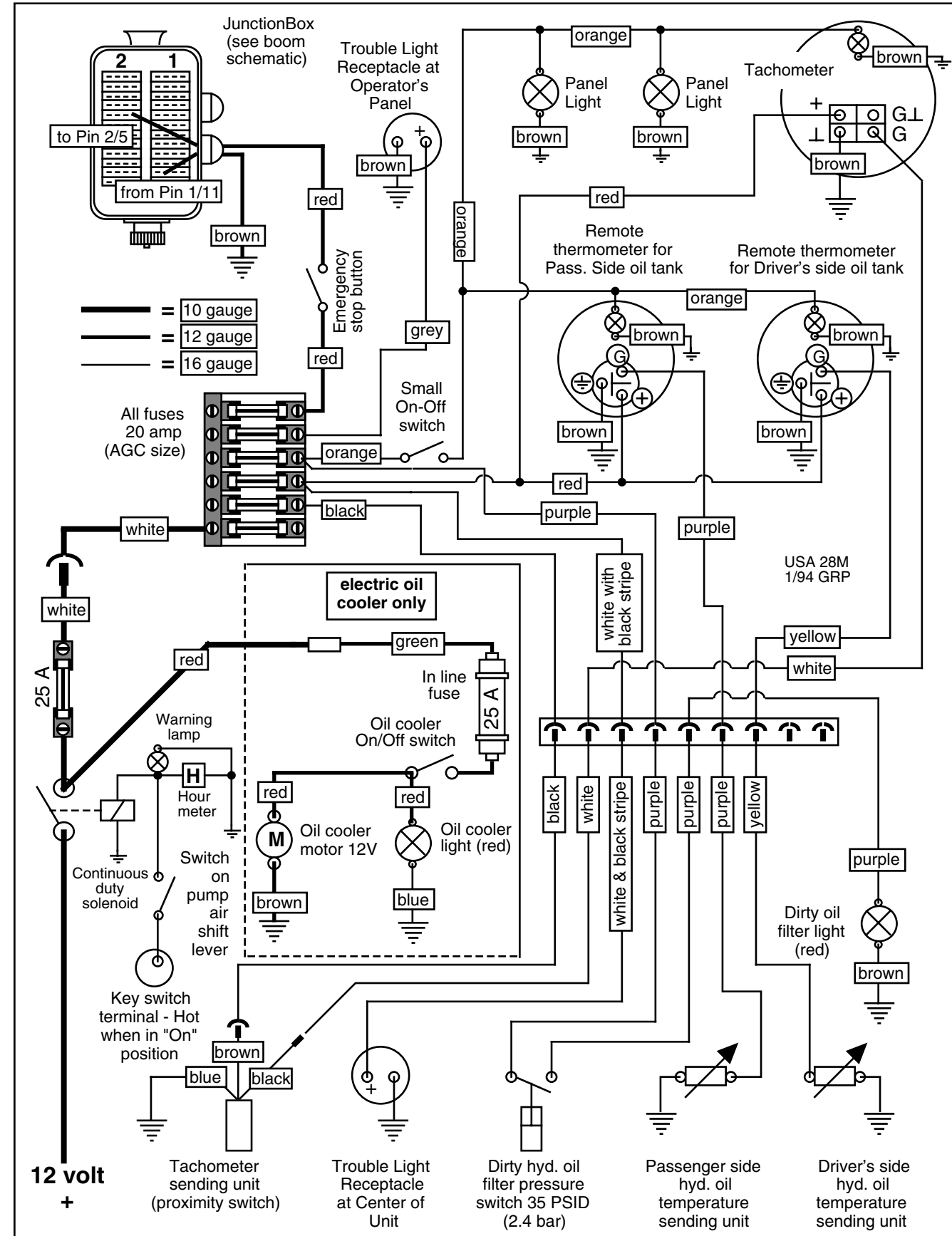






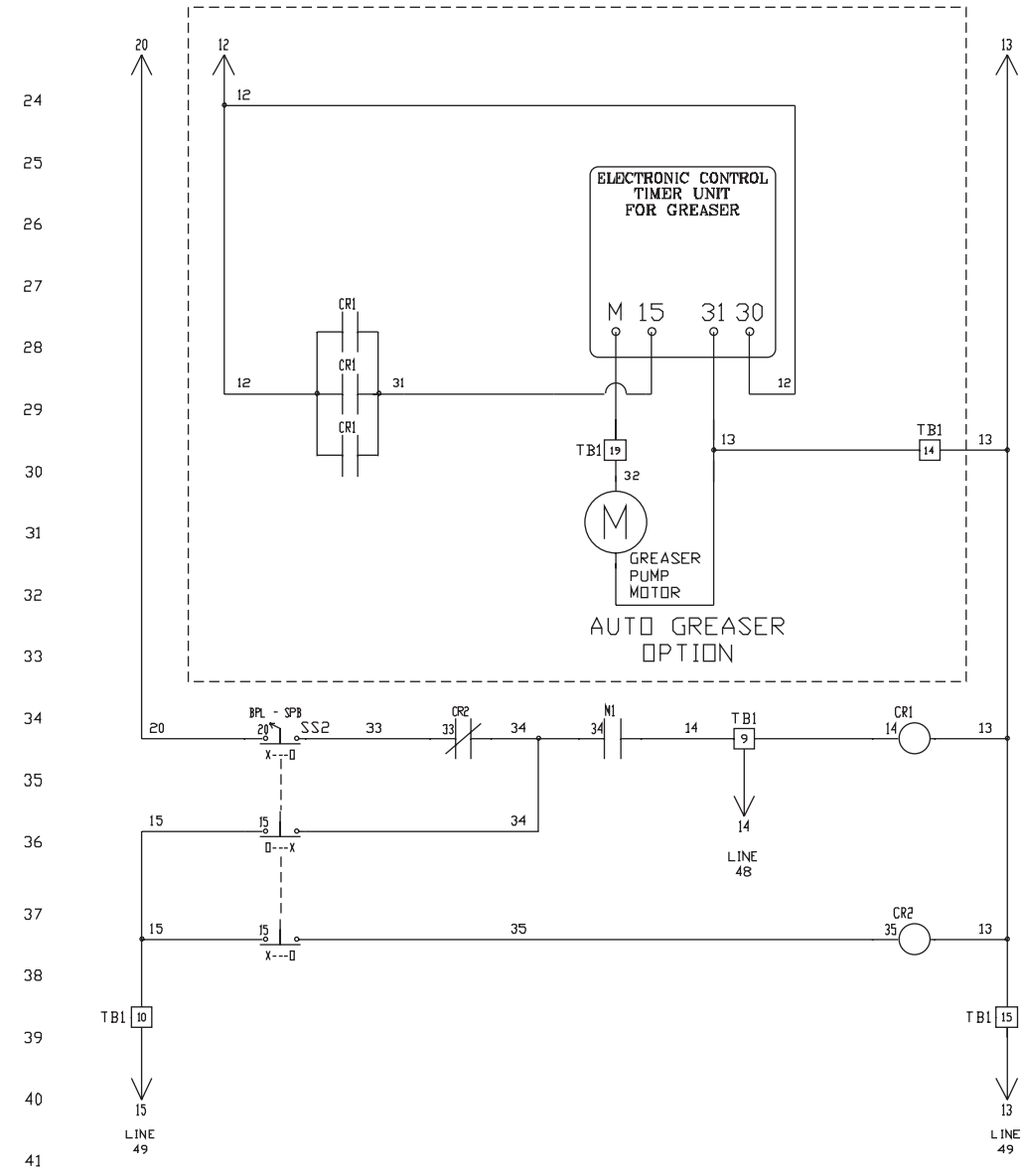
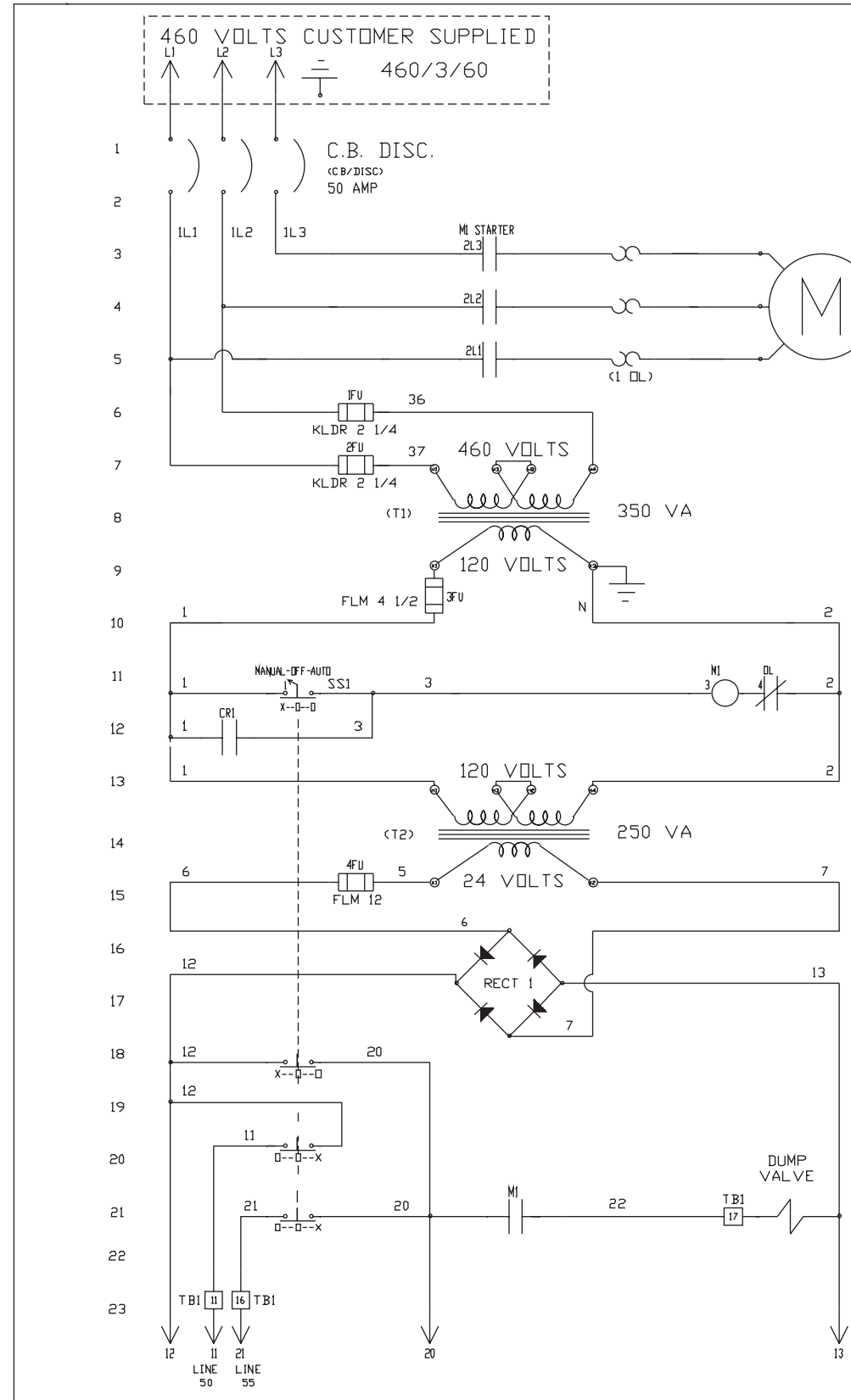


TRUCK AND PUMPKIT CIRCUIT - AS WIRED FOR KVM 28M USA



338659

KVM/SPB FLYAWAY POWER CIRCUIT, 3 SECTION, 24 VDC CONTROL



24 VDC CONTROL

WIRE COLOR CODE

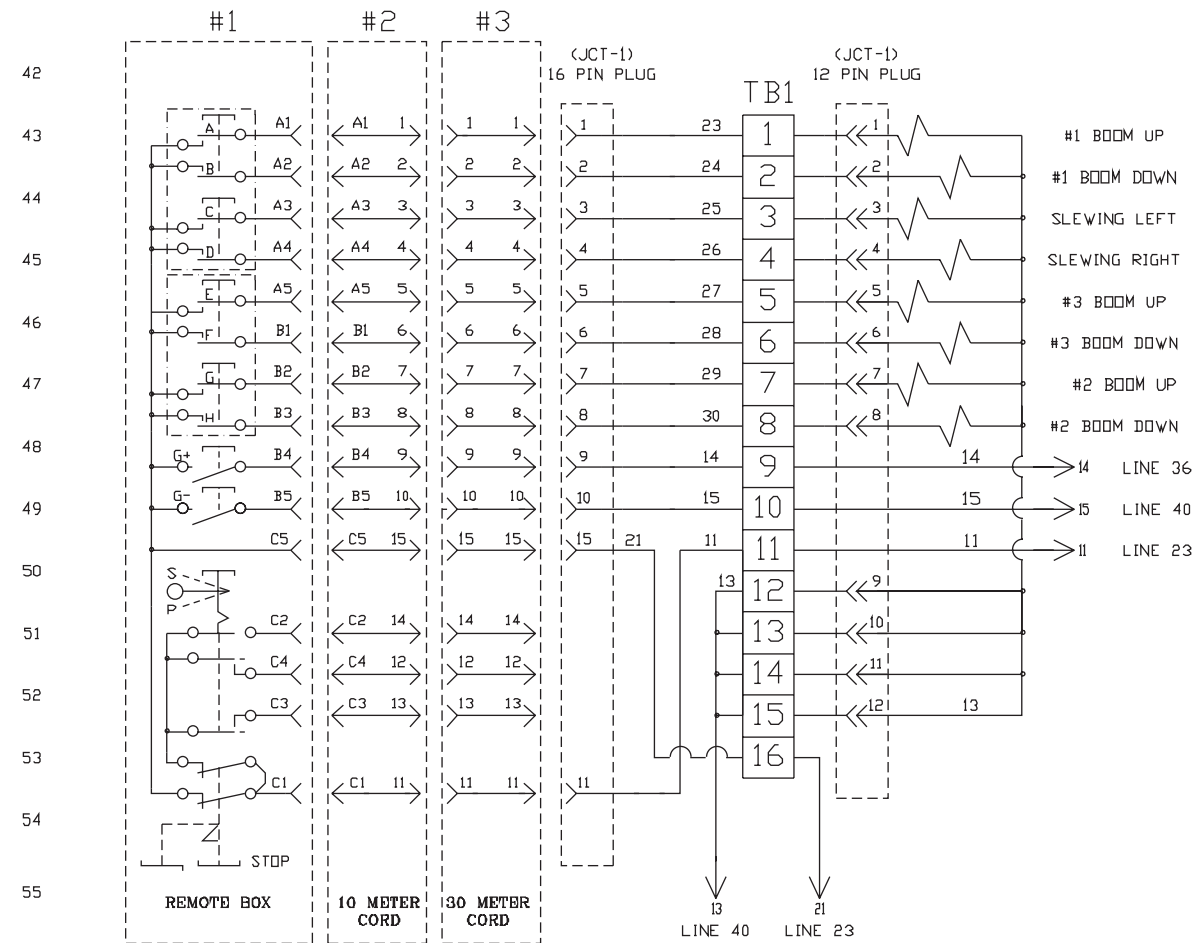
ALL 120 VOLTS CONTROL WIRE AWG#16 RED MTW.
ALL NEUTRAL SIDE CONTROL WIRE WHITE AWG#16 MTW.
ALL LINE VOLTAGE WIRES BLACK COLOR
ALL WIRING FOR 1MTR IS BLACK COLOR
ALL D.C. VOLTAGE, GROUNDED SHIELDED CABLE AWG#18
ALL EXTERNAL DEVICES RED, WHITE OR BLUE #14 MTW

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

TOLERANCE:
WELDMENTS ± 1/8
HOLES +.008
-.000

.XXX ±.005
.XX ±.040
.X ±.080

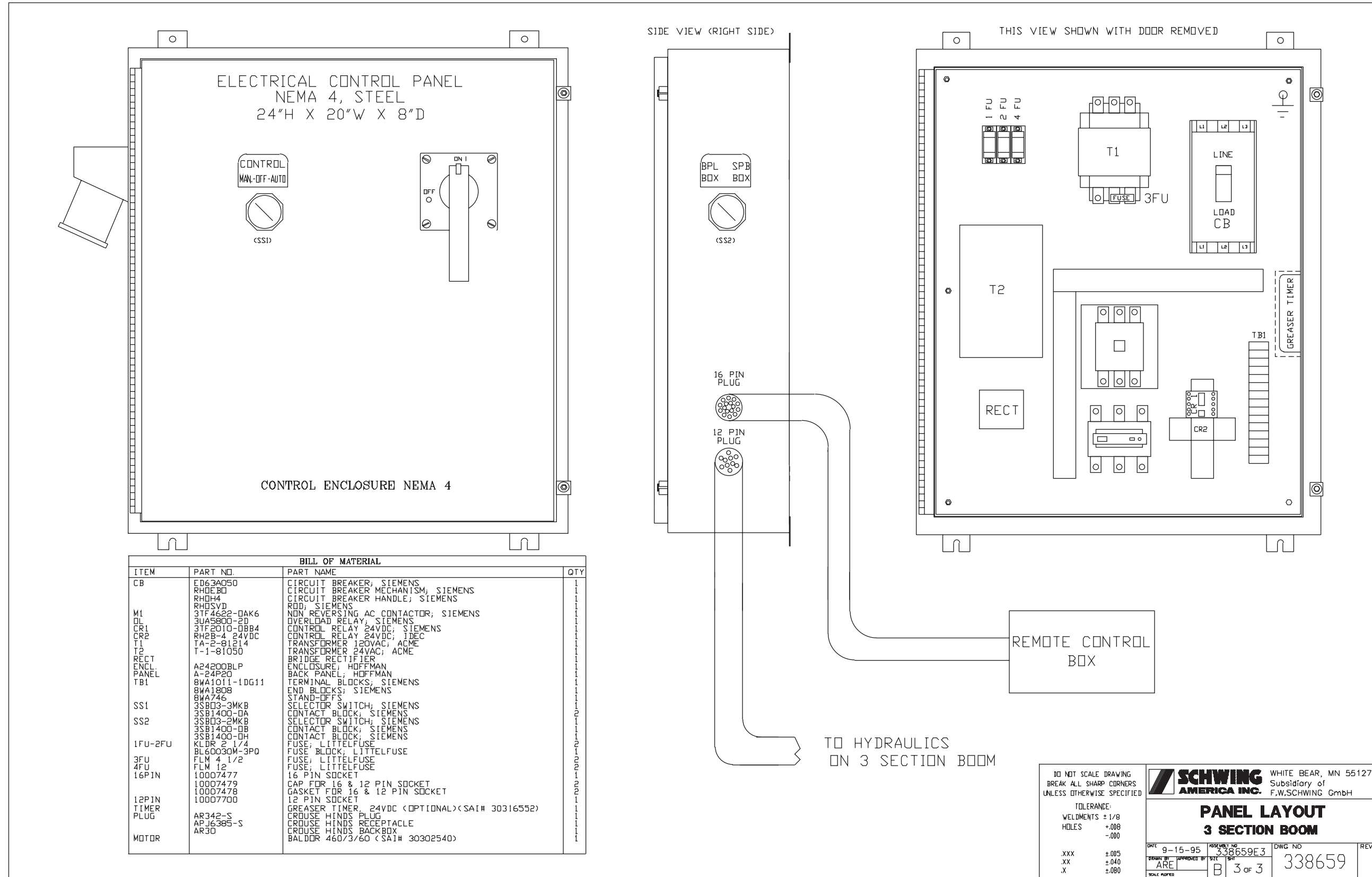
		WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH
ELECTRICAL CONTROL 3 SECTION BOOM		
DATE	ASSEMBLY NO.	DWG NO.
9-15-95	338659E1	338659
DRAWN BY	APPROVED BY	SCALE
ARE	TSP	B 1 of 3



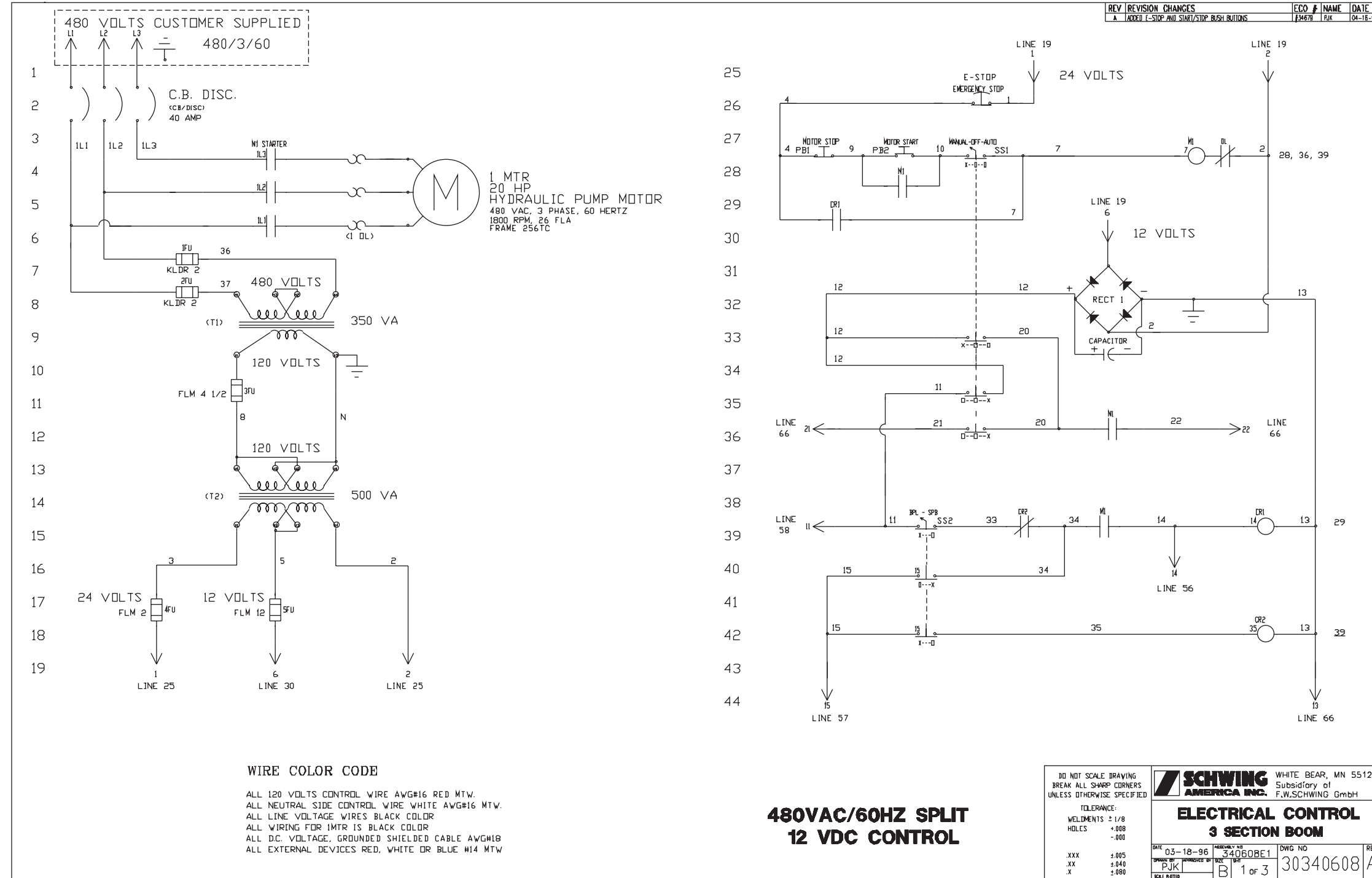
DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED		SCHWING AMERICA INC.		WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH	
TOLERANCE: WELDMENTS ± 1/8 HOLES +.008 -.000		ELECTRICAL CONTROL 3 SECTION BOOM			
DATE 9-15-95	ASSEMBLY NO. 338659E2	DWG NO.	REV		
DRAWN BY ARE	CHECKED BY	SCALE	338659		
		B	2 of 3		

338659

KVM/SPB FLYAWAY POWER CIRCUIT, 3 SECTION, 24 VDC CONTROL, PANEL LAYOUT

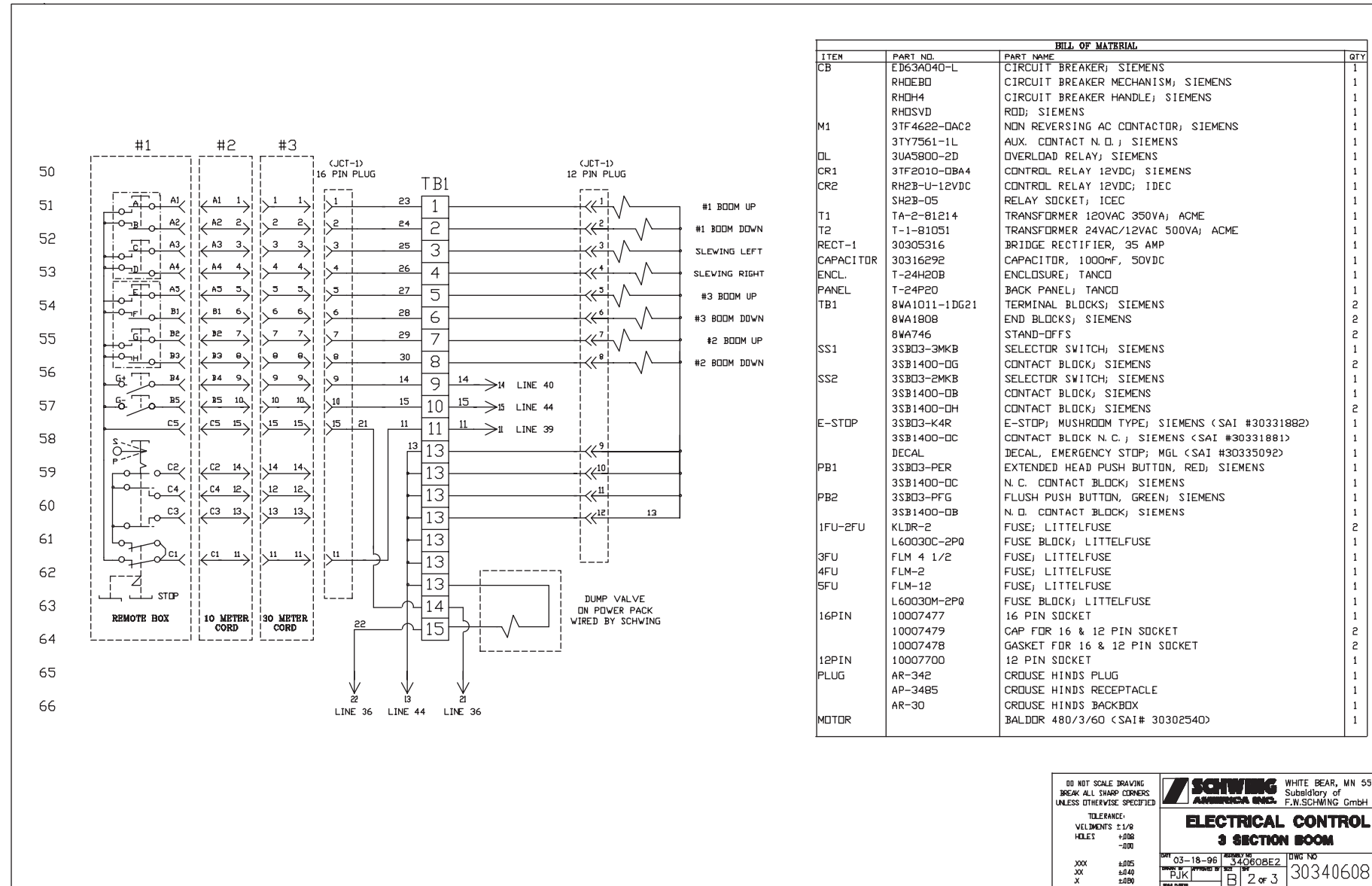


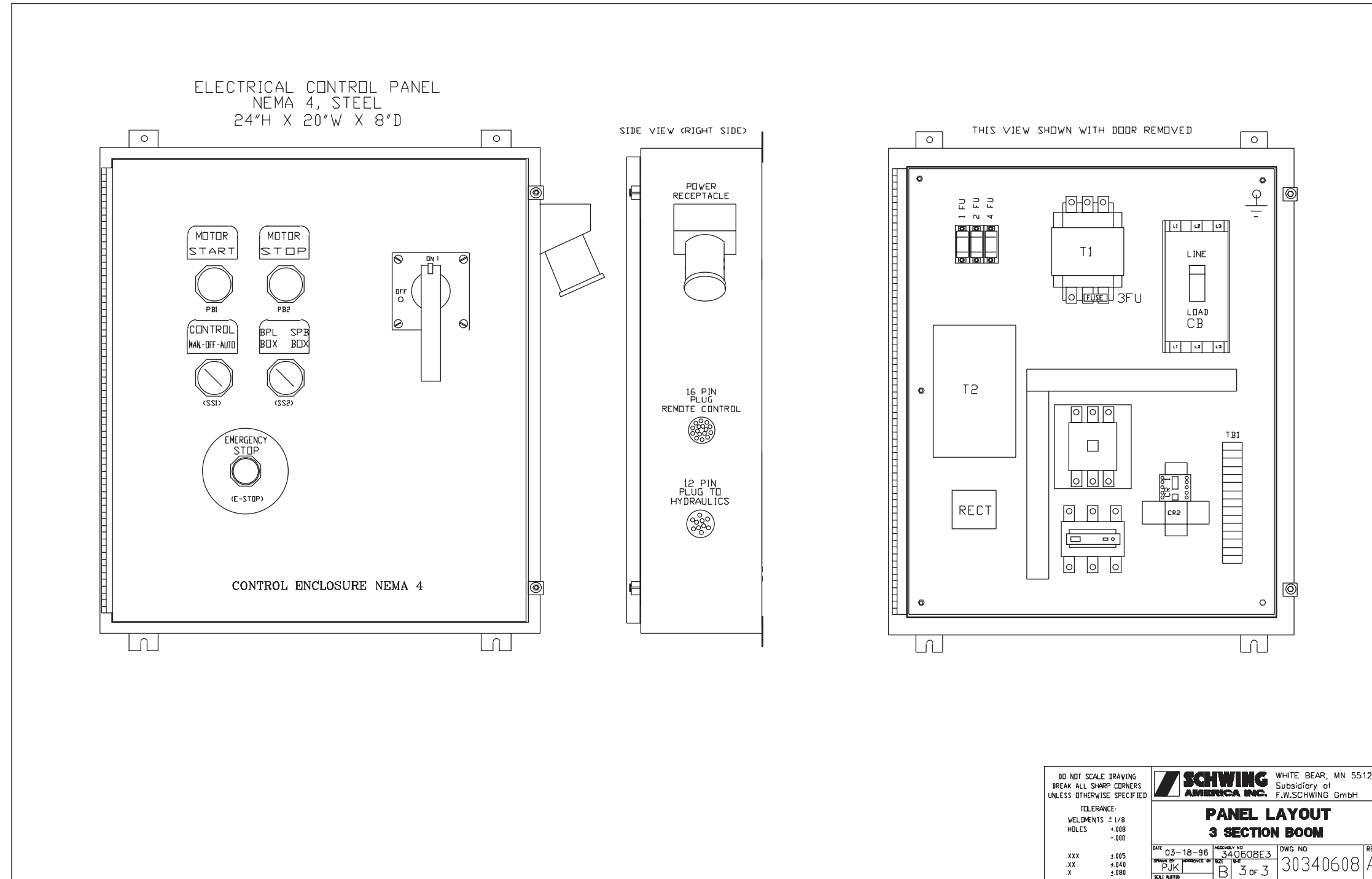
FLYWAY POWER CIRCUIT, 3 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, REV A



340608

FLYWAY POWER CIRCUIT, 3 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, REV A

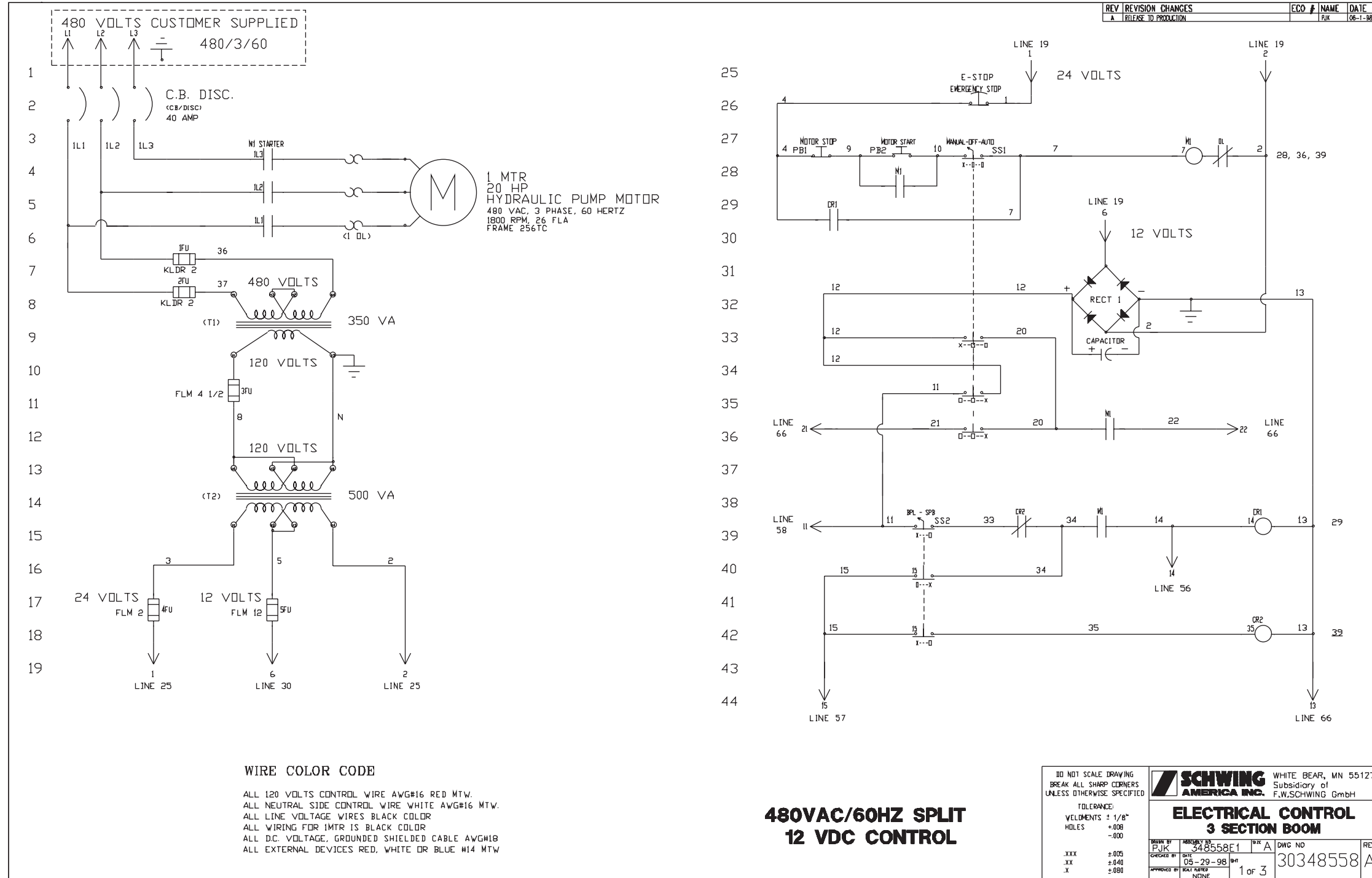




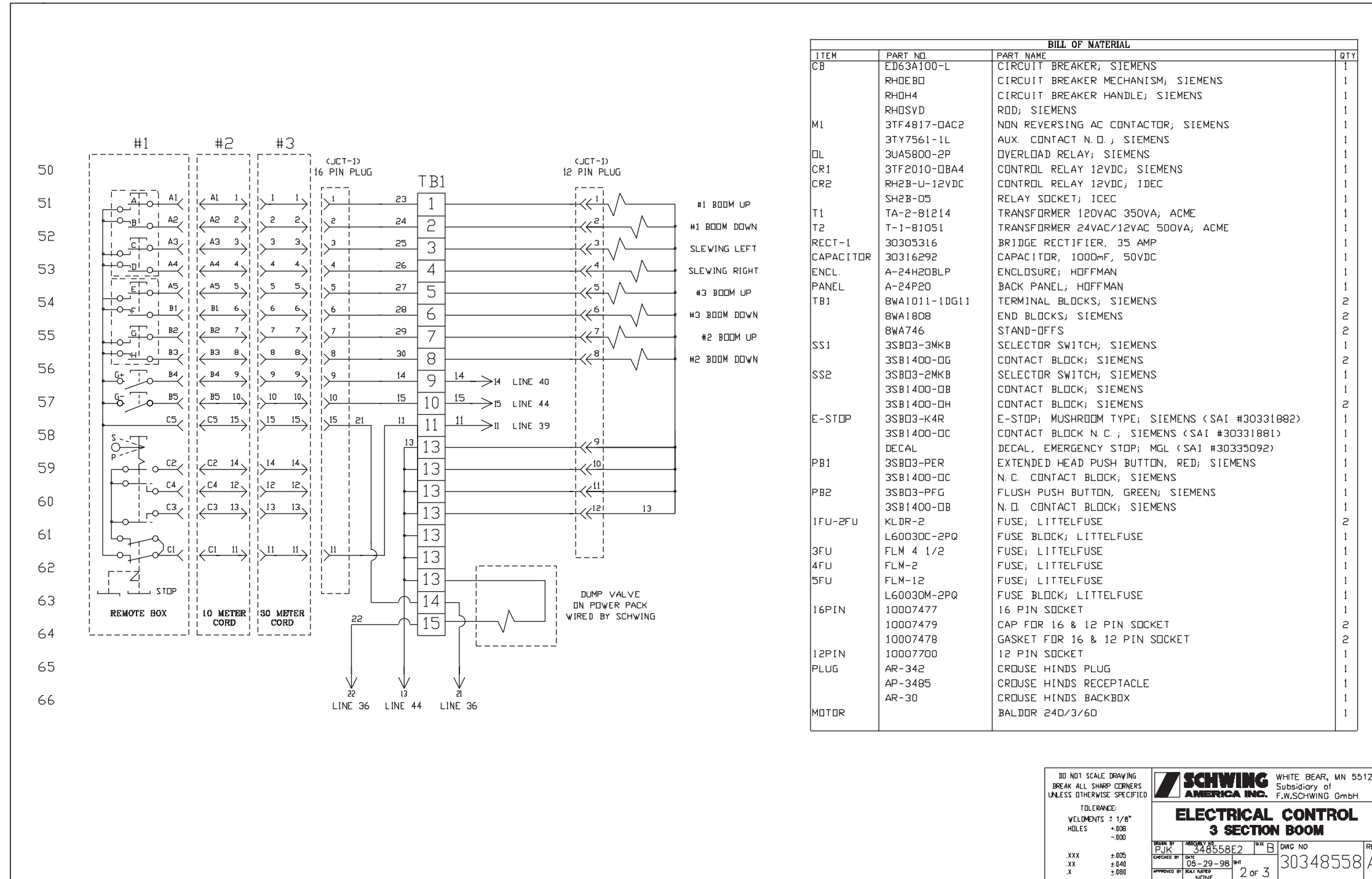
DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED		SCHWING AMERICA INC.		WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH	
TOLERANCE: WELDMENTS ± 1/8 HOLES +.008 -.000		PANEL LAYOUT 3 SECTION BOOM			
.XXX ±.005	.XX ±.040	DATE 03-18-96	REVISION NO 340608E3	DWG NO 30340608	REV A
.X ±.080		DESIGNED BY PJK	PRODUCED BY B	3 of 3	
		SCALE NOTED			

348558

FLYWAY POWER CIRCUIT, 3 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, REV A



FLYWAY POWER CIRCUIT, 3 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, REV A



BILL OF MATERIAL			
ITEM	PART NO.	PART NAME	QTY
CB	ED63A100-L	CIRCUIT BREAKER; SIEMENS	1
	RHDEB0	CIRCUIT BREAKER MECHANISM; SIEMENS	1
	RHDH4	CIRCUIT BREAKER HANDLE; SIEMENS	1
	RHDSVD	RDD; SIEMENS	1
M1	3TF4817-DAC2	NON REVERSING AC CONTACTOR; SIEMENS	1
	3TY7561-1L	AUX. CONTACT N.O.; SIEMENS	1
OL	3UA5800-2P	OVERLOAD RELAY; SIEMENS	1
CR1	3TF2010-DBA4	CONTROL RELAY 12VDC; SIEMENS	1
CR2	RH2B-U-12VDC	CONTROL RELAY 12VDC; IDEC	1
	SH2B-05	RELAY SOCKET; ICEC	1
T1	TA-2-81214	TRANSFORMER 120VAC 350VA; ACME	1
T2	T-1-81051	TRANSFORMER 24VAC/12VAC 500VA; ACME	1
RECT-1	30305316	BRIDGE RECTIFIER, 35 AMP	1
CAPACITOR	30316292	CAPACITOR, 1000mF, 50VDC	1
ENCL.	A-24H20BLP	ENCLOSURE; HOFFMAN	1
PANEL	A-24P20	BACK PANEL; HOFFMAN	1
TB1	8WA1011-1DG11	TERMINAL BLOCKS; SIEMENS	2
	8WA1808	END BLOCKS; SIEMENS	2
	8WA746	STAND-OFFS	2
SS1	3SB03-3MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-DG	CONTACT BLOCK; SIEMENS	2
SS2	3SB03-2MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-DB	CONTACT BLOCK; SIEMENS	1
E-STOP	3SB1400-DH	CONTACT BLOCK; SIEMENS	2
	3SB03-K4R	E-STOP; MUSHROOM TYPE; SIEMENS (SAI #30331882)	1
PB1	3SB1400-DC	CONTACT BLOCK N.C.; SIEMENS (SAI #30331881)	1
	DECAL	DECAL, EMERGENCY STOP; MGL (SAI #30335092)	1
PB2	3SB03-PER	EXTENDED HEAD PUSH BUTTON, RED; SIEMENS	1
	3SB1400-DC	N.C. CONTACT BLOCK; SIEMENS	1
1FU-2FU	3SB03-PFG	FLUSH PUSH BUTTON, GREEN; SIEMENS	1
	3SB1400-DB	N.O. CONTACT BLOCK; SIEMENS	1
3FU	KLDR-2	FUSE; LITTELFUSE	2
	L6003DC-2PQ	FUSE BLOCK; LITTELFUSE	1
4FU	FLM 4 1/2	FUSE; LITTELFUSE	1
	FLM-2	FUSE; LITTELFUSE	1
5FU	FLM-12	FUSE; LITTELFUSE	1
	L6003OM-2PQ	FUSE BLOCK; LITTELFUSE	1
16PIN	10007477	16 PIN SOCKET	1
	10007479	CAP FOR 16 & 12 PIN SOCKET	2
12PIN	10007478	GASKET FOR 16 & 12 PIN SOCKET	2
	10007700	12 PIN SOCKET	1
PLUG	AR-342	CROUSE HINDS PLUG	1
	AP-3485	CROUSE HINDS RECEPTACLE	1
	AR-30	CROUSE HINDS BACKBOX	1
MOTOR		BALDOR 240/3/60	1

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

TOLERANCE:
VELDMENTS ± 1/8"
HOLES +.008
-.000

XXX ±.005
XX ±.040
X ±.080

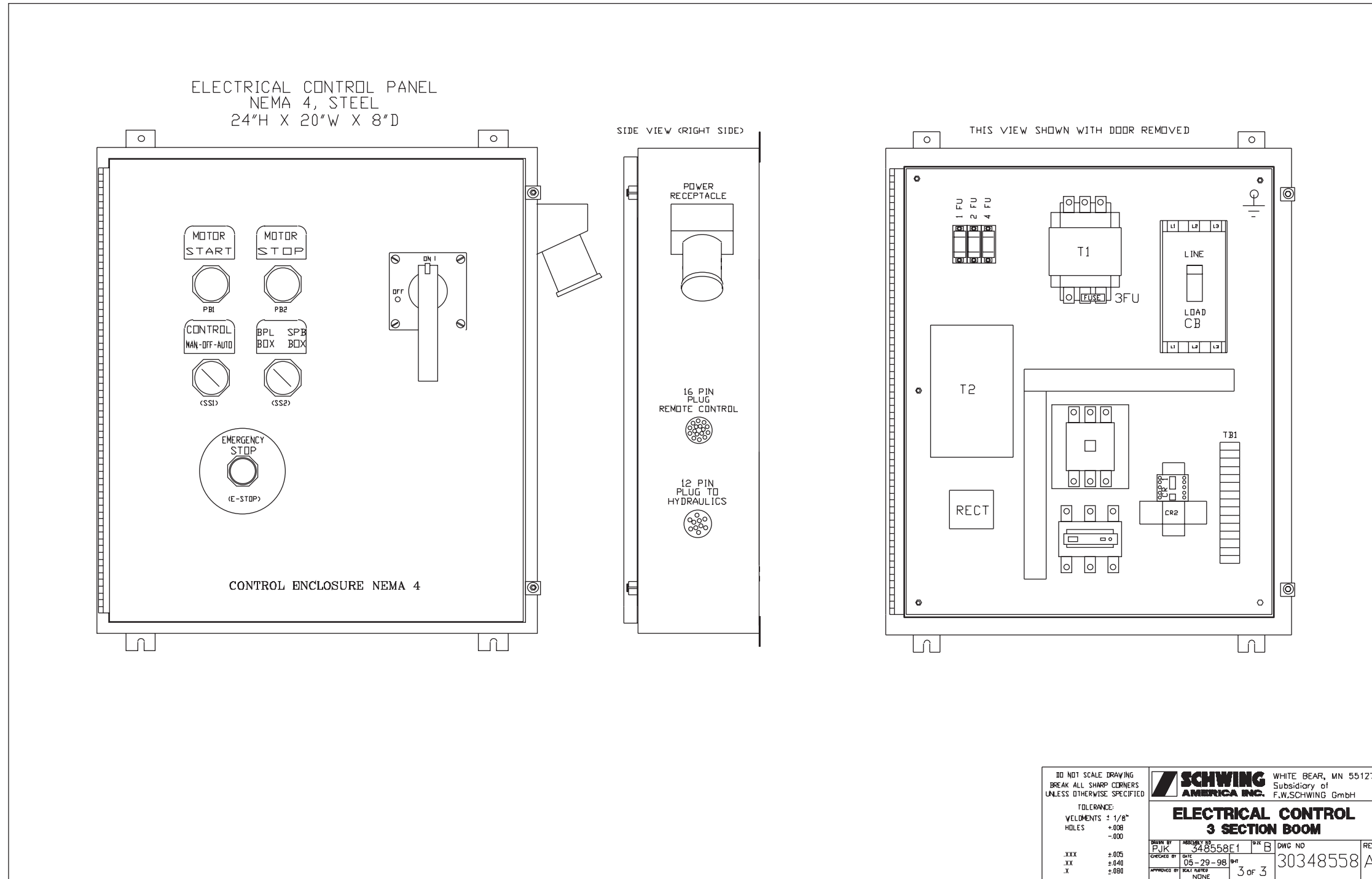
SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

**ELECTRICAL CONTROL
3 SECTION BOOM**

DATE: 05-29-98
DWG NO: 30348558
REV: A
2 of 3

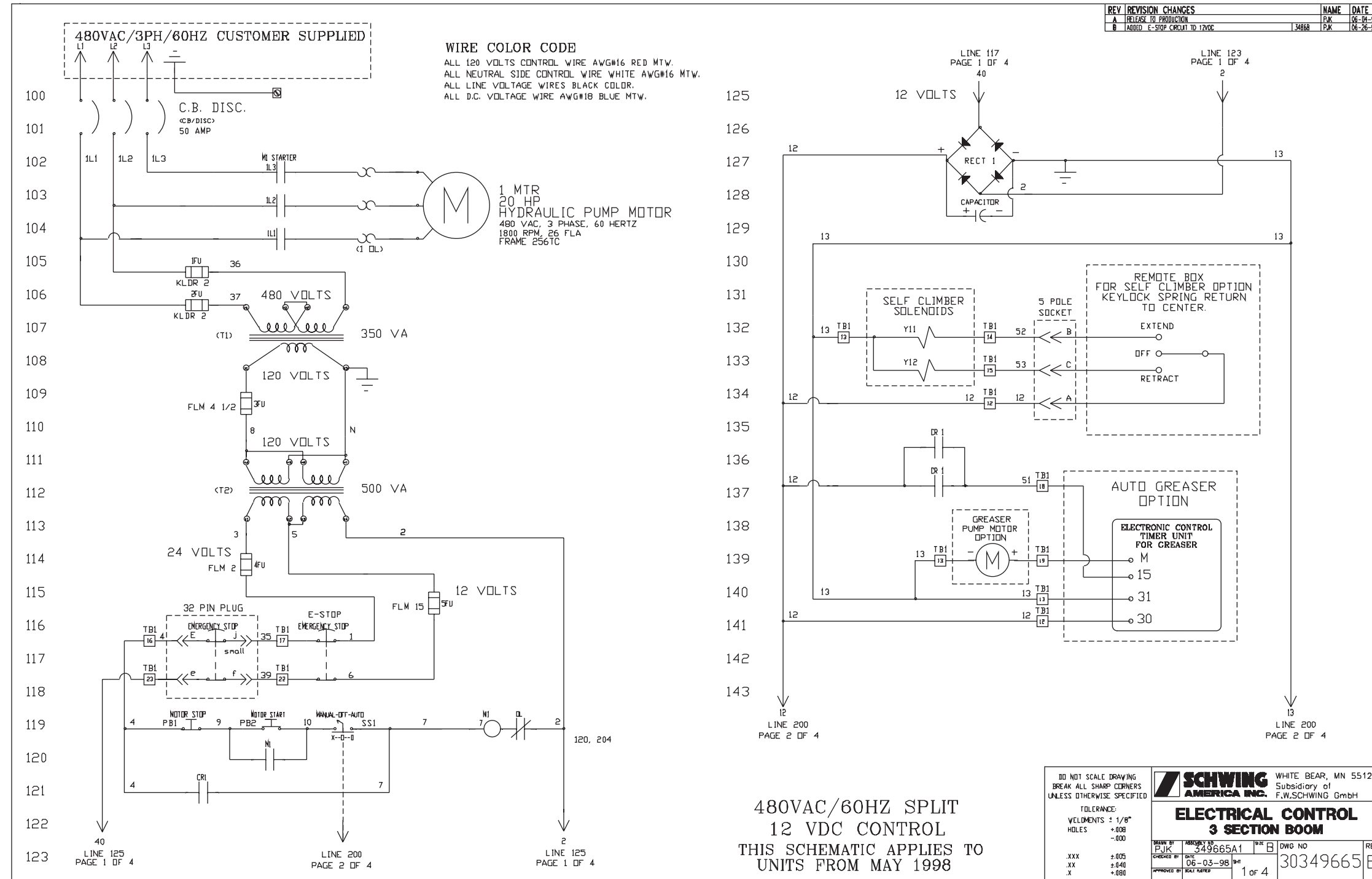
348558

FLYWAY POWER CIRCUIT, 3 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, PANEL LAYOUT, REV A



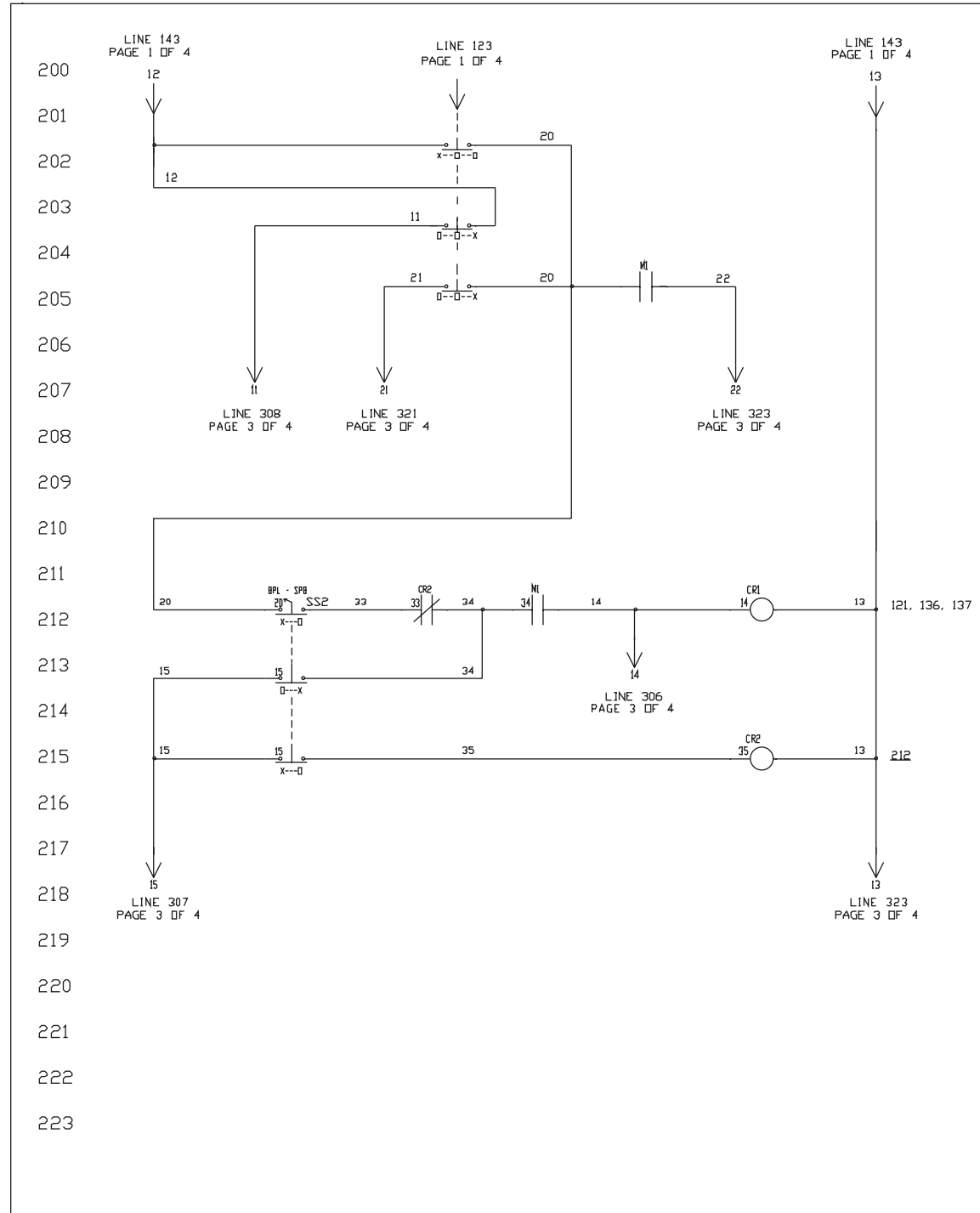
DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED		SCHWING AMERICA INC. WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH	
TOLERANCE: VELDMENTS ± 1/8" HOLES +.008 -.000		ELECTRICAL CONTROL 3 SECTION BOOM	
XXX ±.005	CREATED BY PJK	DATE 05-29-98	DWG NO 30348558
.XX ±.040	ASSEMBLY NO 348558E1	REV A	REV
X ±.000	APPROVED BY NONE	3 of 3	

FLYWAY POWER CIRCUIT, 3 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, REV A



349665

FLYWAY POWER CIRCUIT, 3 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, REV A



BILL OF MATERIAL			
ITEM	PART NO.	PART NAME	QTY
CB	ED63A050L	CIRCUIT BREAKER 50 AMP; SIEMENS	1
	RHDEB0	CIRCUIT BREAKER MECHANISM; SIEMENS	1
	RHDH4	CIRCUIT BREAKER HANDLE; SIEMENS	1
	RHDSVD	ROD; SIEMENS	1
M1	3TF4622-0AC2	NON REVERSING 24VAC CONTACTOR; SIEMENS	1
	3TY7561-1L	AUX. CONTACT N.O.; SIEMENS	1
OL	3UA5800-2D	OVERLOAD RELAY; SIEMENS	1
CR1	3TF2010-0BA4	CONTROL RELAY 12VDC; SIEMENS	1
CR2	RH2B-U-12VDC	CONTROL RELAY 12VDC; IDEC	1
	SH2B-05	RELAY SOCKET; ICEC	1
T1	TA-2-81214	TRANSFORMER 120VAC; ACME	1
T2	T-1-81051	TRANSFORMER 12VAC; ACME	1
	PL-112601	FUSE CLIP	1
RECT-1	30305316	BRIDGE RECTIFIER, 35 AMPS	1
CAPACITOR	30316292	CAPACITOR, 1000mF, 50VDC	1
ENCL.	A-24H20BLP	ENCLOSURE; HOFFMAN	1
PANEL	A-24P20	BACK PANEL; HOFFMAN	1
TB1	8WA1011-1DG11	TERMINAL BLOCKS; SIEMENS	3
	8WA1808	END BLOCKS; SIEMENS	2
	8WA746	STAND-OFFS	2
SS1	3SB03-3MKB	SELECTOR SWITCH; SIEMENS (SAI 30327218)	1
	3SB1400-0G	CONTACT BLOCK; SIEMENS	2
	3SB03-2MKB	SELECTOR SWITCH; SIEMENS (SAI 30327217)	1
	3SB1400-0B	CONTACT BLOCK; SIEMENS	1
	3SB1400-0H	CONTACT BLOCK; SIEMENS	2
E-STOP	30331882	EMERGENCY STOP, MUSHROOM TYPE; SIEMENS 3SB03-K4R	1
	30331881	CONTACT BLOCK N.C.; SIEMENS 3SB1400-0C	2
PB1	30335092	DECAL, EMERGENCY STOP; MGL	2
	3SB03-PER	EXTENDED HEAD PUSHBUTTON, RED; SIEMENS	1
PB2	3SB1400-0C	N.C. CONTACT BLOCK; SIEMENS	1
	3SB03-PFG	FLUSH PUSHBUTTON, GREEN; SIEMENS	1
1FU-2FU	3SB1400-0B	N.O. CONTACT BLOCK; SIEMENS	1
	KLDR 2	FUSE; LITTELFUSE	2
	L60030C-2P0	FUSE BLOCK; LITTELFUSE	1
	FLM 4 1/2	FUSE; LITTELFUSE	2
3FU	FLM 4 1/2	FUSE; LITTELFUSE	2
4FU	FLM 2	FUSE; LITTELFUSE	2
5FU	FLM 15	FUSE; LITTELFUSE	1
16PIN	L60030M-2P0	FUSE BLOCK; LITTELFUSE	1
	10007477	16 PIN SOCKET	1
	10007479	CAP FOR 16 PIN SOCKET	1
	10007478	GASKET FOR 16 PIN SOCKET	1
32PIN	30341973	32 PIN SOCKET, FEMALE INSERT; SINE #V532-2P00-A7	1
	30341974	32 PIN RECEPTACLE COVER; SINE #CV5618-ZB	1
	10023464	5 POLE SOCKET SPool (FOR SELF CLIMBER)	1
SOCKET			
TIMER		GREASER TIMER, 12VDC (OPTIONAL) (SAI# 30316211)	1
GREASE PUMP		GREASER PUMP, 12VDC (OPTIONAL) (SAI# 30316518)	1
PLUG	AR-342	CROUSE HINDS PLUG	1
	AP-3485	CROUSE HINDS RECEPTACLE	1
	AR-30	CROUSE HINDS BACKBOX	1
MOTOR		BALDOR 480/3/60 (SAI# 30302540)	1

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

TOLERANCE:
DIMENSIONS ± 1/8"
HOLES +.008
-.000

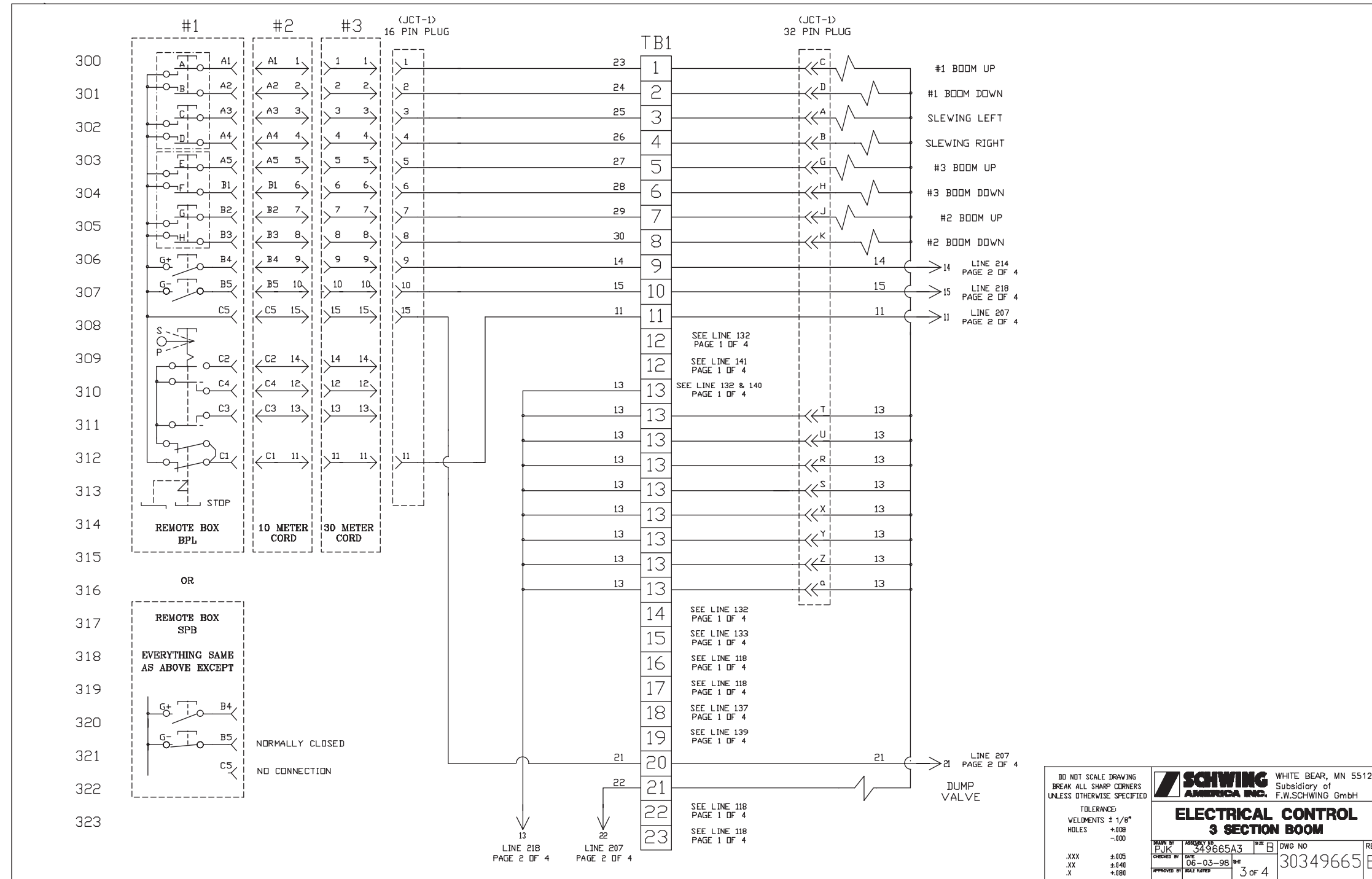
XXX ±.005
XX ±.040
X ±.080

SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

**ELECTRICAL CONTROL
3 SECTION BOOM**

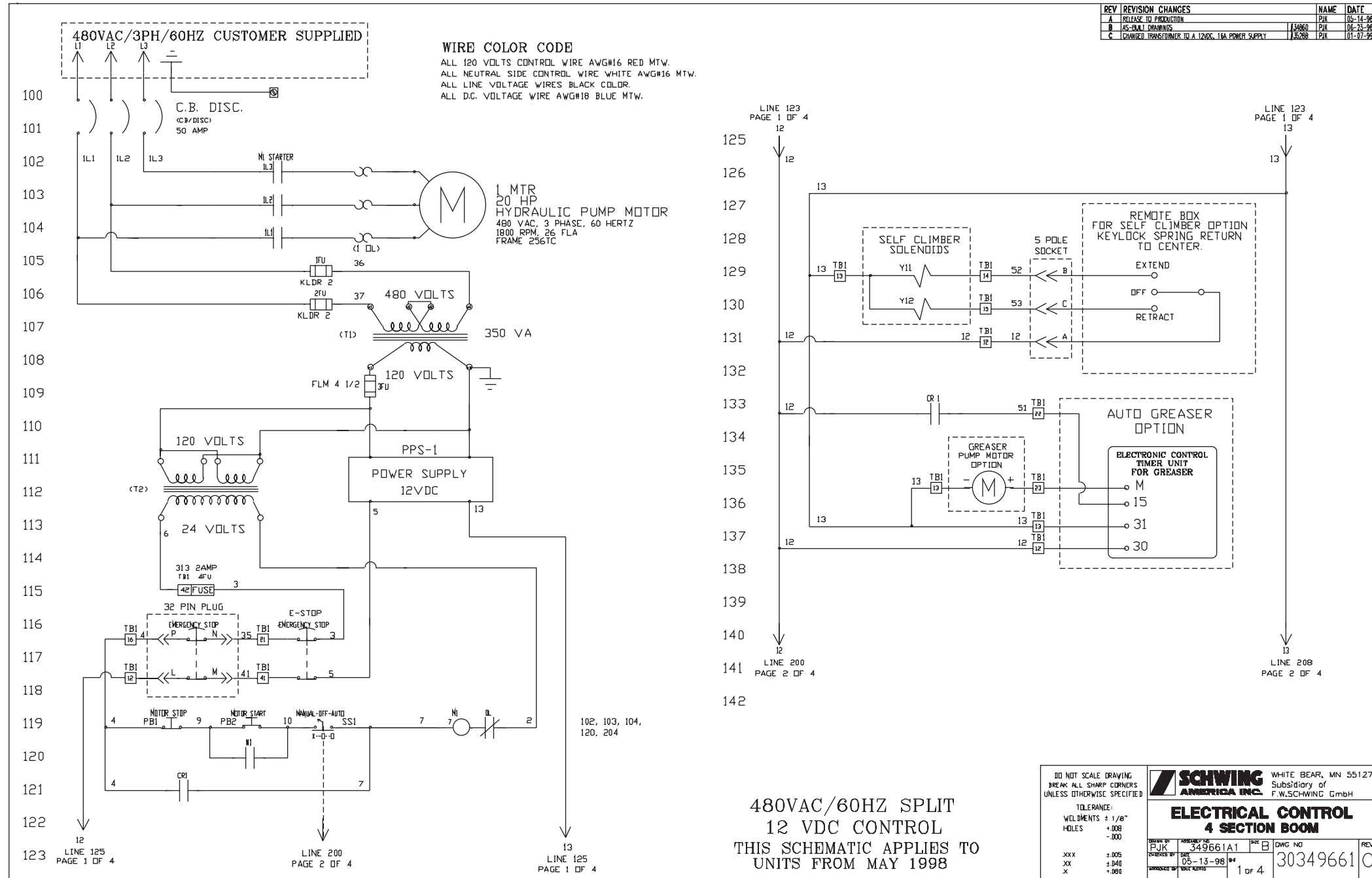
DWG NO: 30349665
REV: B
2 of 4

FLYWAY POWER CIRCUIT, 3 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, REV A

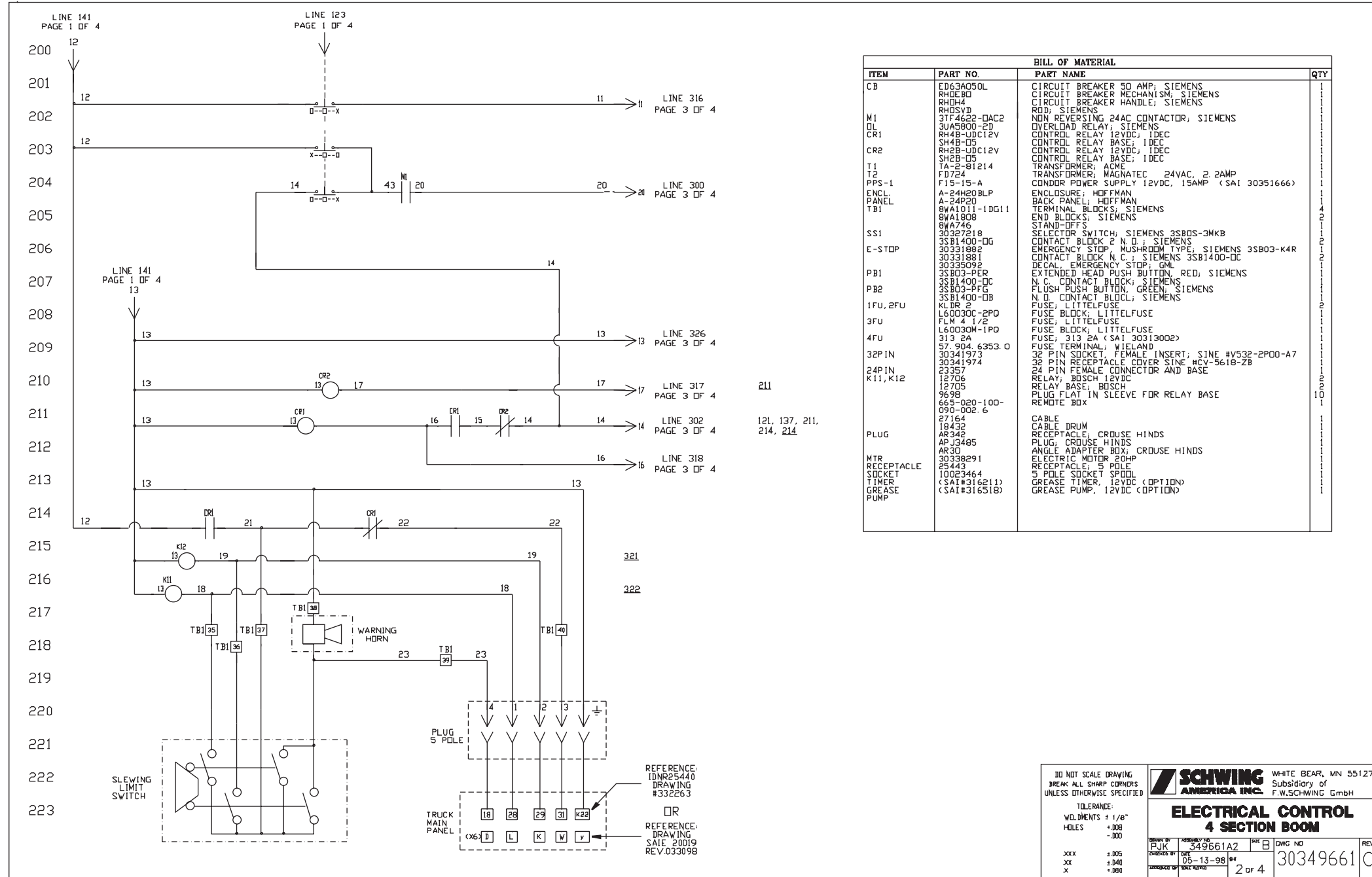


349661

FLYWAY POWER CIRCUIT, 4 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, REV C



FLYWAY POWER CIRCUIT, 4 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, REV C



BILL OF MATERIAL			
ITEM	PART NO.	PART NAME	QTY
CB	ED63A050L	CIRCUIT BREAKER 50 AMP; SIEMENS	1
	RHBE80	CIRCUIT BREAKER MECHANISM; SIEMENS	1
	RH044	CIRCUIT BREAKER HANDLE; SIEMENS	1
	RH05VD	ROD; SIEMENS	1
M1	3TF4622-0AC2	NON REVERSING 24AC CONTACTOR; SIEMENS	1
DL	3UA5900-2D	OVERLOAD RELAY; SIEMENS	1
CR1	RH4B-UDC12V	CONTROL RELAY 12VDC; IDEC	1
	SH4B-05	CONTROL RELAY BASE; IDEC	1
CR2	RH2B-UDC12V	CONTROL RELAY 12VDC; IDEC	1
	SH2B-05	CONTROL RELAY BASE; IDEC	1
T1	TA-2-81214	TRANSFORMER; ACME	1
T2	FD724	TRANSFORMER; MAGNATEC 24VAC, 2 AMP	1
PPS-1	F15-15-A	CONDOR POWER SUPPLY 12VDC, 15AMP (SAI 30351666)	1
ENCL	A-24H50BLP	ENCLOSURE; HOFFMAN	1
PANEL	A-24P20	BACK PANEL; HOFFMAN	1
TBI	8WA1011-1DG11	TERMINAL BLOCKS; SIEMENS	4
	8WA1808	END BLOCKS; SIEMENS	2
	8WA746	STAND-OFFS	1
SS1	30327218	SELECTOR SWITCH; SIEMENS 3SB05-3MKB	1
	3SB1400-0G	CONTACT BLOCK 2 N.O.; SIEMENS	2
E-STOP	30331882	EMERGENCY STOP MUSHROOM TYPE; SIEMENS 3SB03-K4R	1
	30331881	CONTACT BLOCK N.C.; SIEMENS 3SB1400-DC	1
	30335092	DECAL EMERGENCY STOP; GML	1
PB1	3SB03-PER	EXTENDED HEAD PUSH BUTTON, RED; SIEMENS	1
PB2	3SB1400-0C	N.C. CONTACT BLOCK; SIEMENS	1
	3SB03-PT6	FLUSH PUSH BUTTON, GREEN; SIEMENS	1
	3SB1400-0B	N.O. CONTACT BLOCK; SIEMENS	1
1FU, 2FU	KLDR 2	FUSE; LITTELFUSE	2
	L60030C-2P0	FUSE BLOCK; LITTELFUSE	1
3FU	FLM 4 1/2	FUSE; LITTELFUSE	1
	L60030M-1P0	FUSE BLOCK; LITTELFUSE	1
4FU	313 2A	FUSE; 313 2A (SAI 30313002)	1
	57 904 6353.0	FUSE TERMINAL; WIELAND	1
32PIN	30341973	32 PIN SOCKET, FEMALE INSERT; SINE #V532-2P00-A7	1
	30341974	32 PIN RECEPTACLE COVER SINE HCV-5618-ZB	1
24PIN	23357	24 PIN FEMALE CONNECTOR AND BASE	1
K11, K12	12706	RELAY; BOSCH 12VDC	2
	9698	PLUG FLAT IN SLEEVE FOR RELAY BASE	10
	665-020-100-090-002.6	REMOTE BOX	1
	27164	CABLE	1
	18432	CABLE DRUM	1
PLUG	AR342	RECEPTACLE, CROUSE HINDS	1
	AP13485	PLUG; CROUSE HINDS	1
	AR30	ANGLE ADAPTER BOX; CROUSE HINDS	1
MTR	30338291	ELECTRIC MOTOR 20HP	1
RECEPTACLE	25443	RECEPTACLE; 5 POLE	1
SOCKET	10023464	5 POLE SOCKET SPOOL	1
TIMER	(SAI#316211)	GREASE TIMER, 12VDC (OPTION)	1
GREASE PUMP	(SAI#316518)	GREASE PUMP, 12VDC (OPTION)	1

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

TOLERANCE:
DIMENSIONS 1/8"
HOLES +.008
-.000

XXX ±.005
XX ±.040
X ±.008

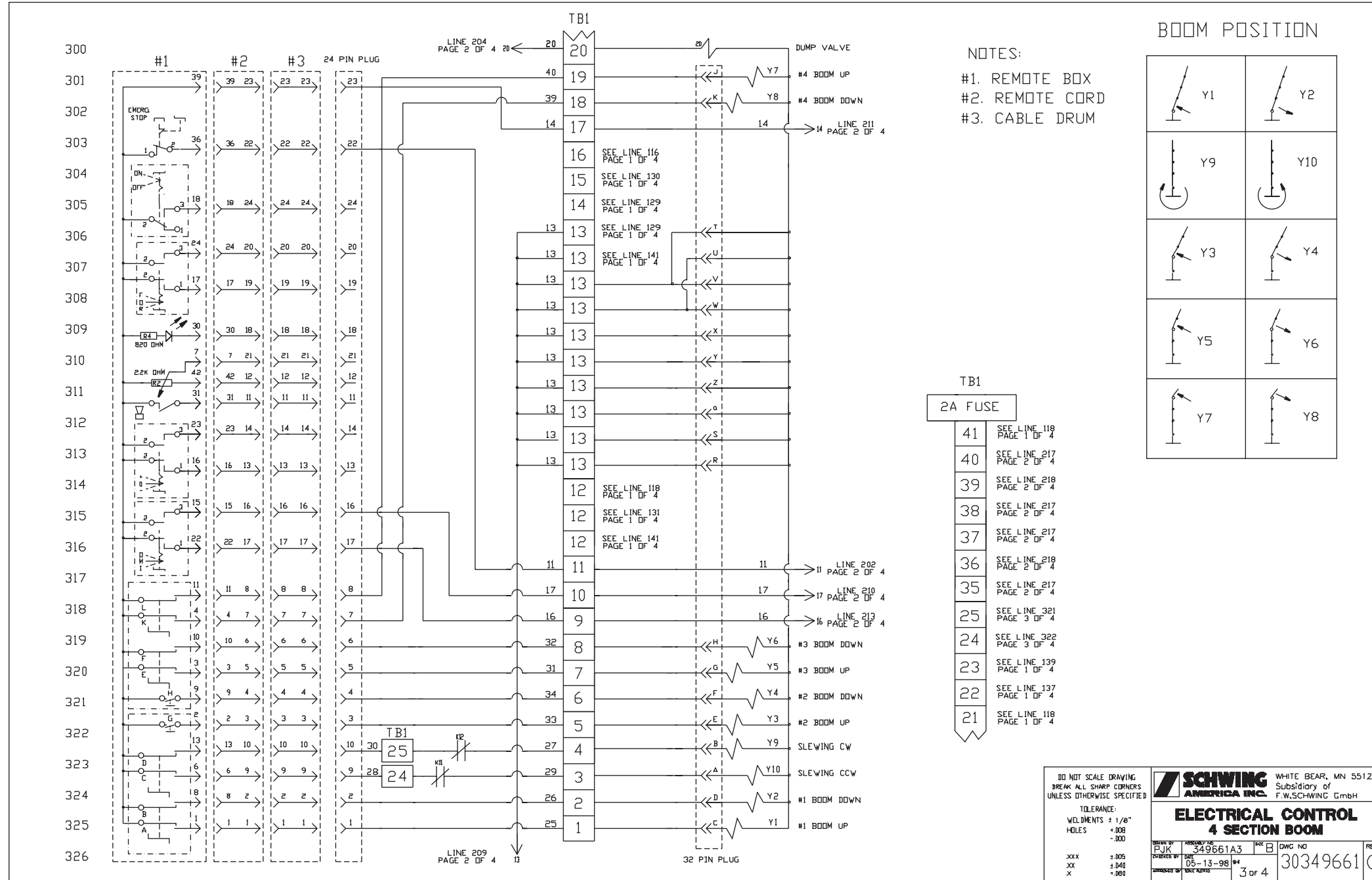
SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

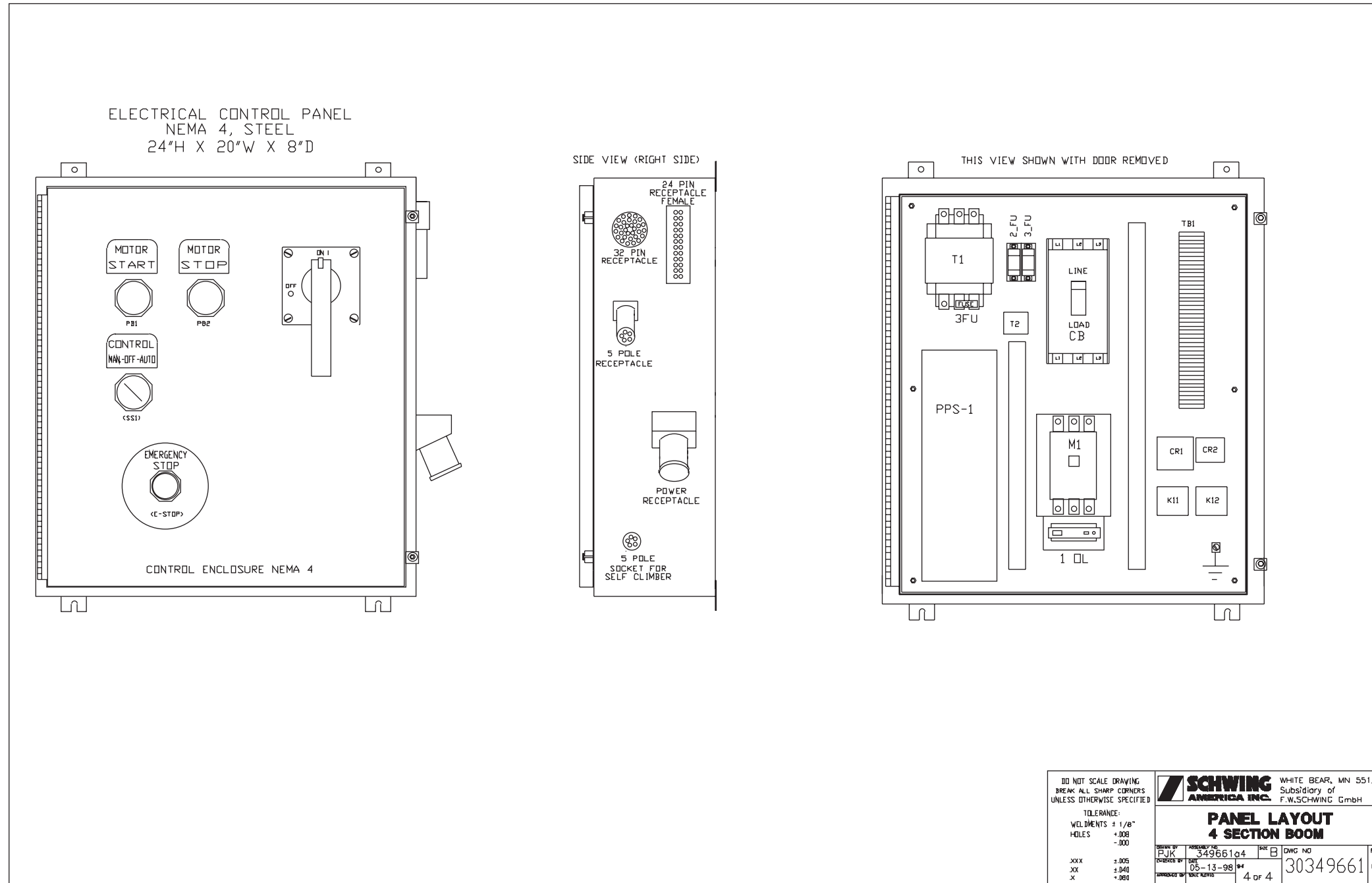
ELECTRICAL CONTROL 4 SECTION BOOM

DESIGN BY PJK 349661A2 PREP BY B DWG NO 30349661C
CHECKED BY JDE 06-13-98
DATE 2 OF 4

349661

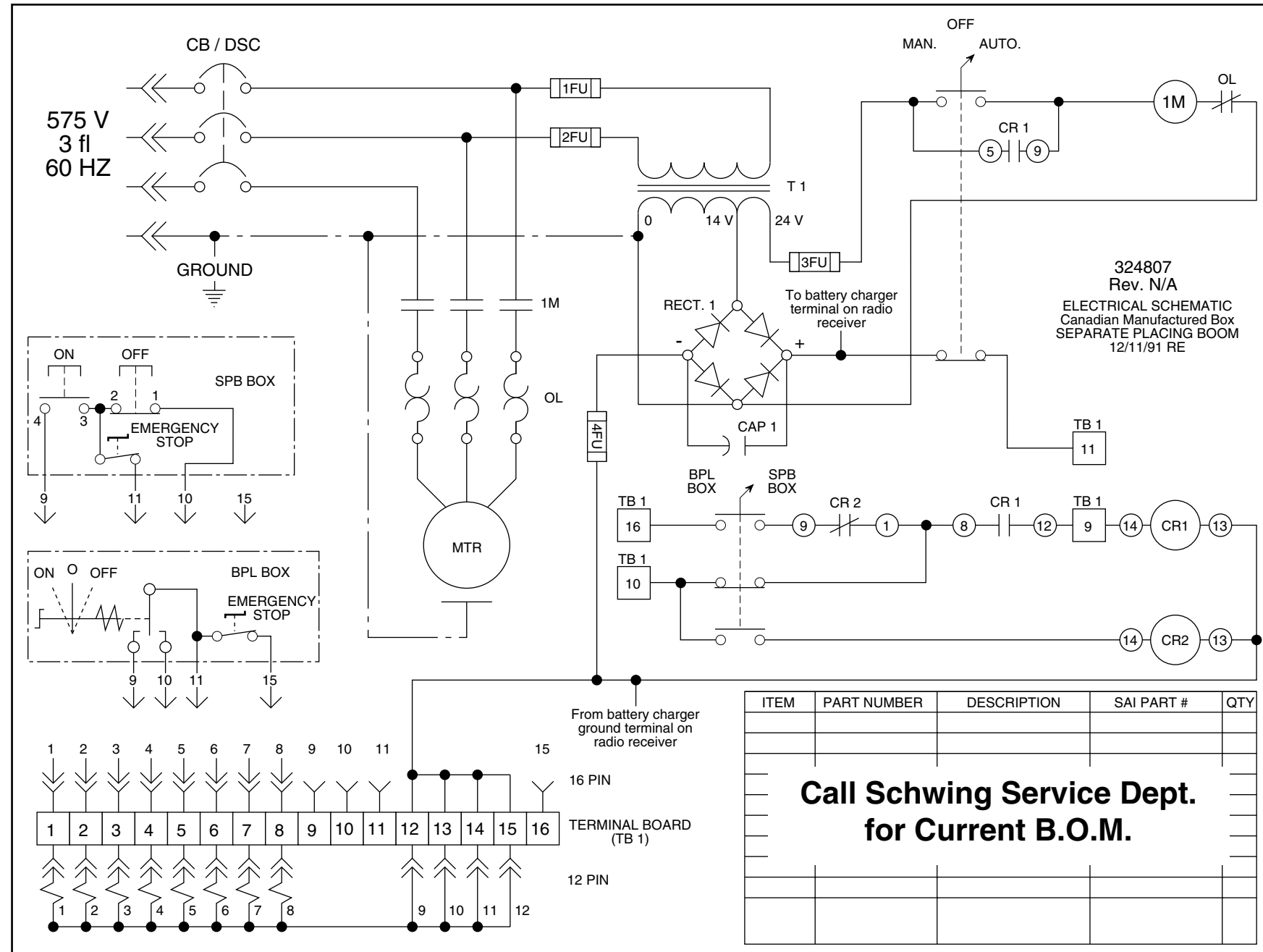
FLYWAY POWER CIRCUIT, 4 SECTION BOOM, 480VOLTS/60HZ, 12 VDC CONTROL, REV C



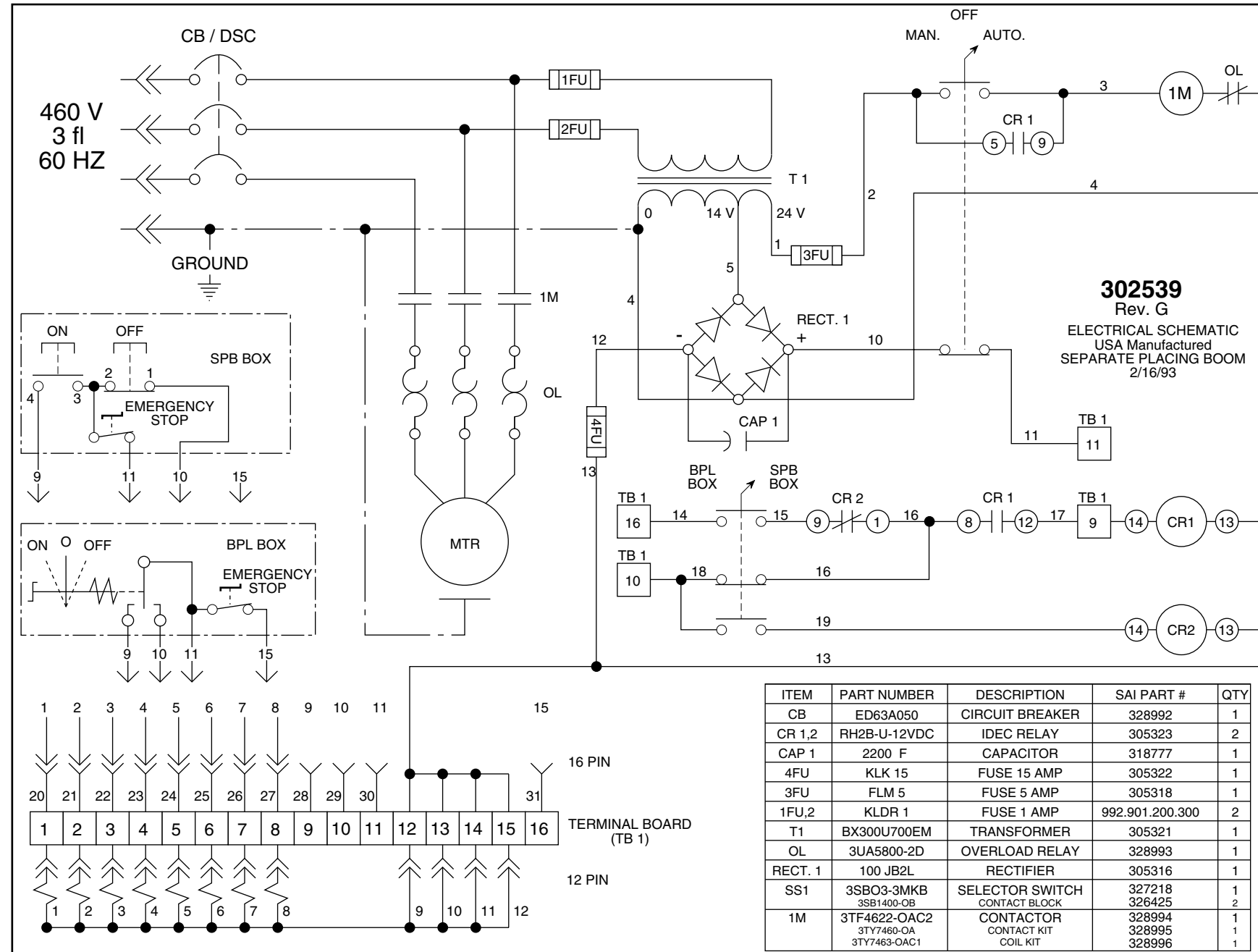


N/A

KVM/SPB 28M FLYAWAY POWER CIRCUIT (CANADIAN VERSION)

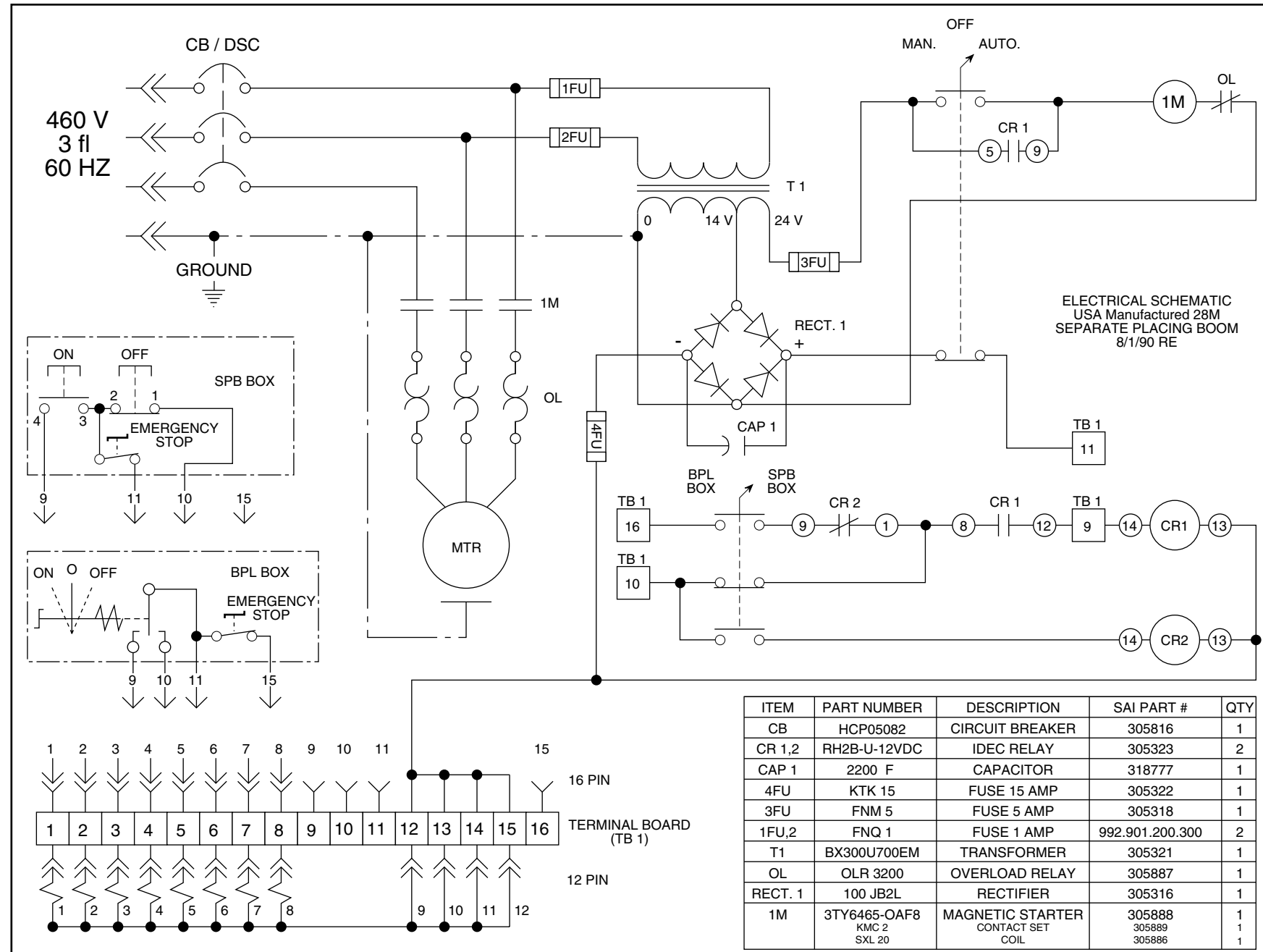


KVM/SPB 28M FLYAWAY POWER CIRCUIT (USA 1992 AND CURRENT) REV G

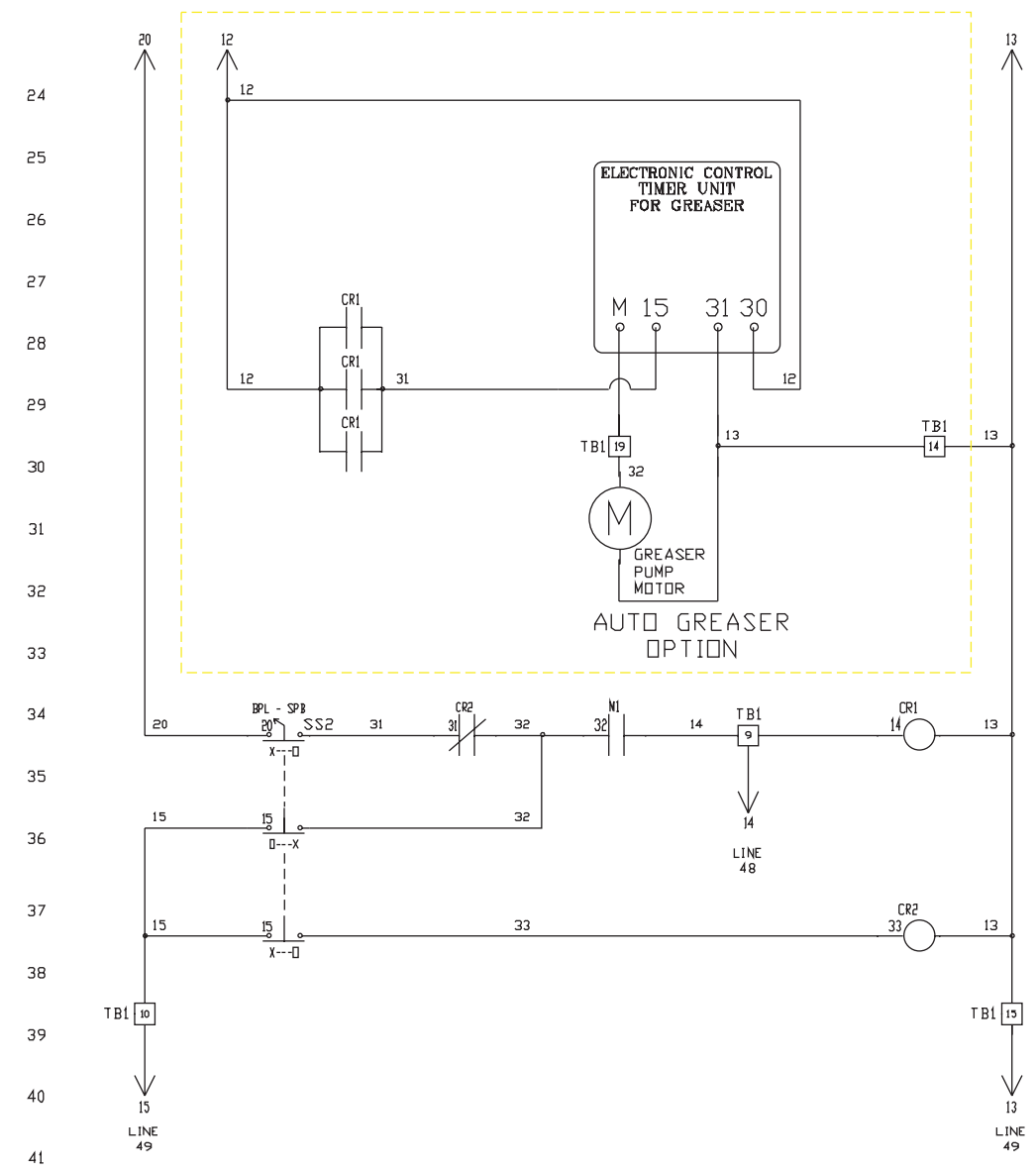
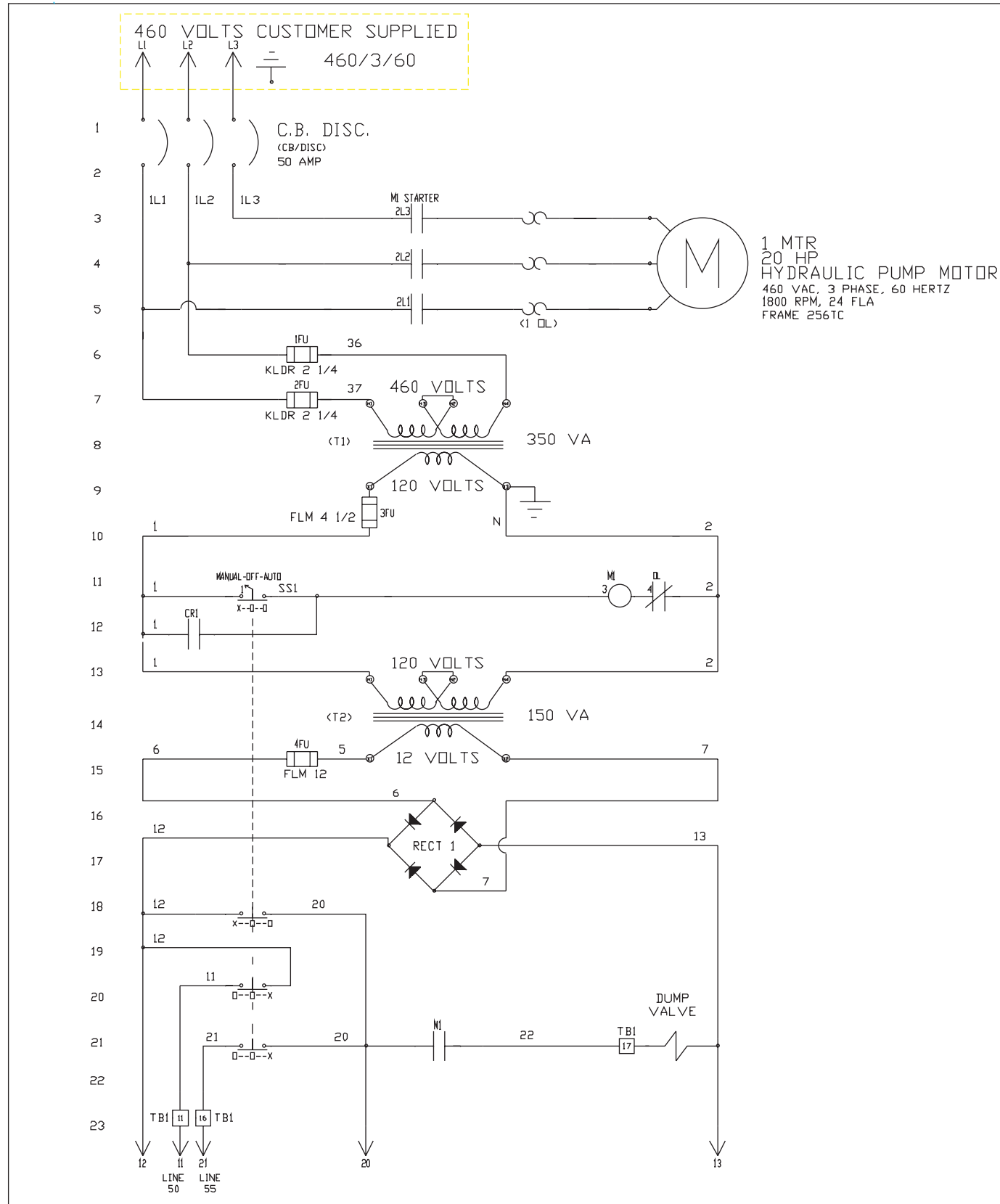


N/A

KVM/SPB 28M FLYAWAY POWER CIRCUIT (USA PRE-1992)



REV	REVISION CHANGES	ECO #	NAME	DATE
D	REDRAWN	30860	P.KATKA	12-30-93
E	ADDED SS2 AND REPLACED PPS1 WITH T2 & RECT		T. EKUNDI	8-24-95
F	ADDED PLUG ON SIDE OF PANEL		PKC	10-10-96



12 VDC CONTROL

WIRE COLOR CODE

ALL 120 VOLTS CONTROL WIRE AWG#16 RED MTW.
ALL NEUTRAL SIDE CONTROL WIRE WHITE AWG#16 MTW.
ALL LINE VOLTAGE WIRES BLACK COLOR
ALL WIRING FOR IMTR IS BLACK COLOR
ALL D.C. VOLTAGE, GROUNDED SHIELDED CABLE AWG#18
ALL EXTERNAL DEVICES RED, WHITE OR BLUE #14 MTW

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

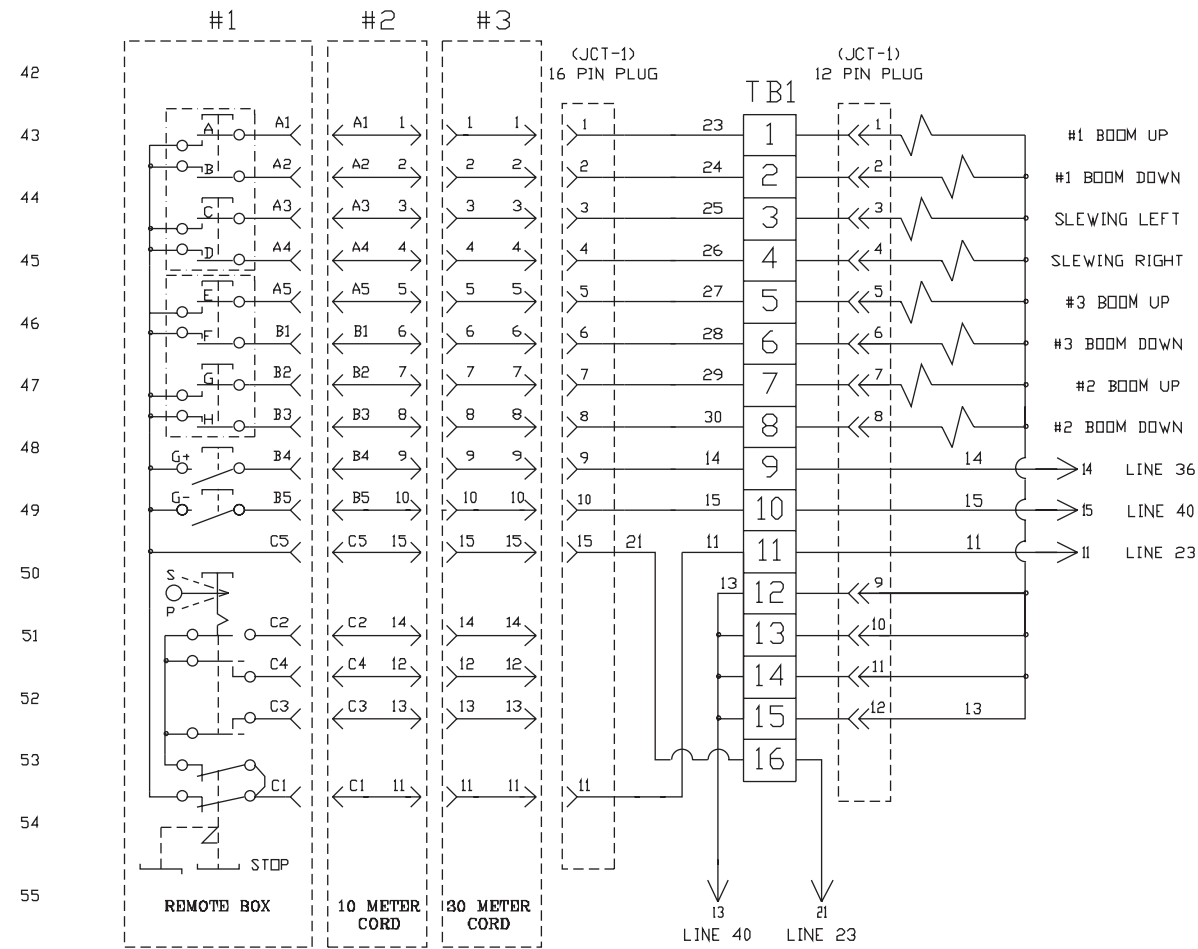
TOLERANCE:
WELDMENTS ± 1/8
HOLES +.008
-.000

XXX ±.005
XX ±.040
.X ±.080

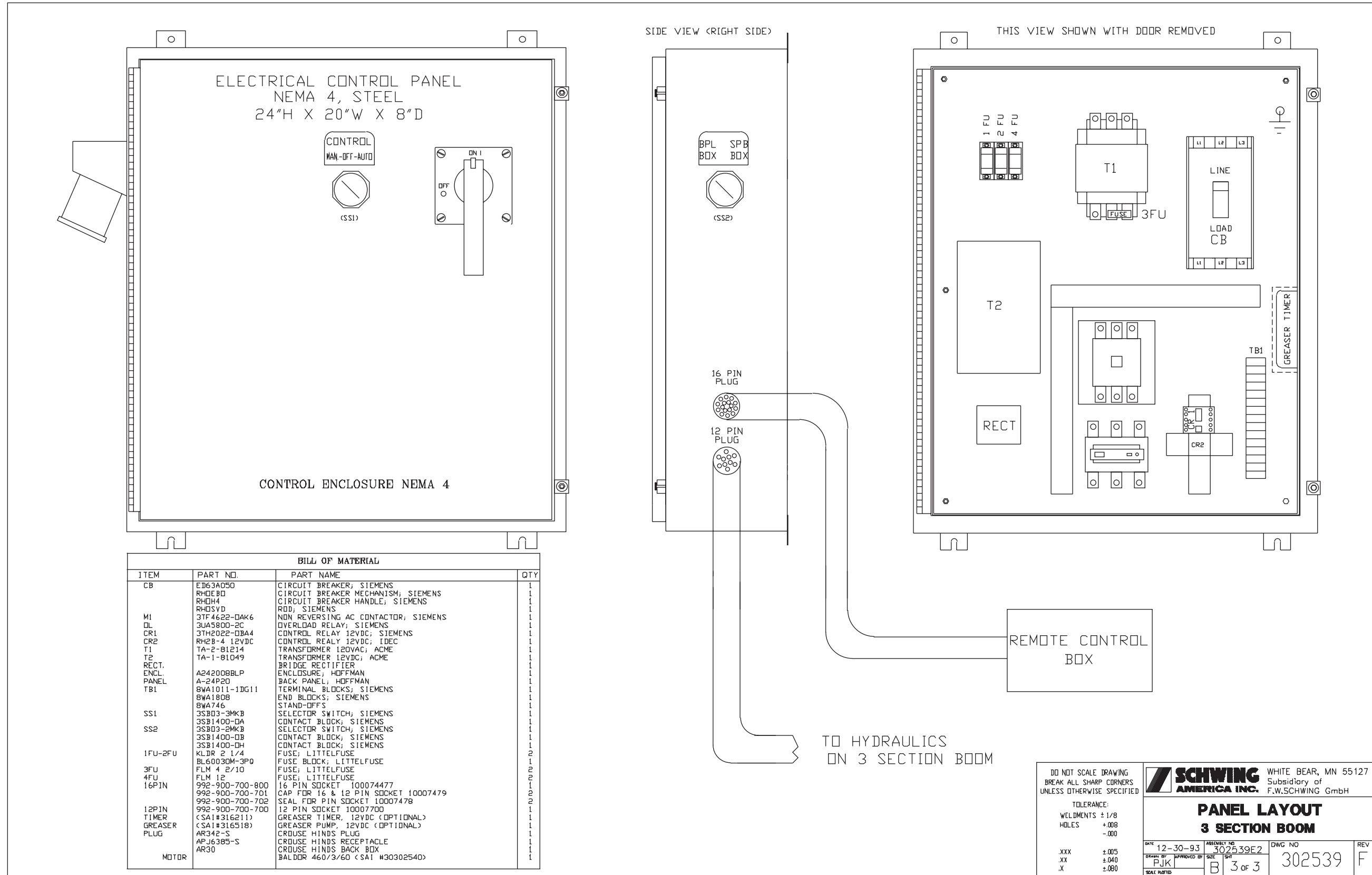
SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

**ELECTRICAL CONTROL
3 SECTION BOOM**

DATE 12-30-93 ASSEMBLY NO 302539E1 DWG NO 302539 REV F
DRAWN BY PJK APPROVED BY [Signature] SIZE B 1 of 3
SCALE PLOTTED

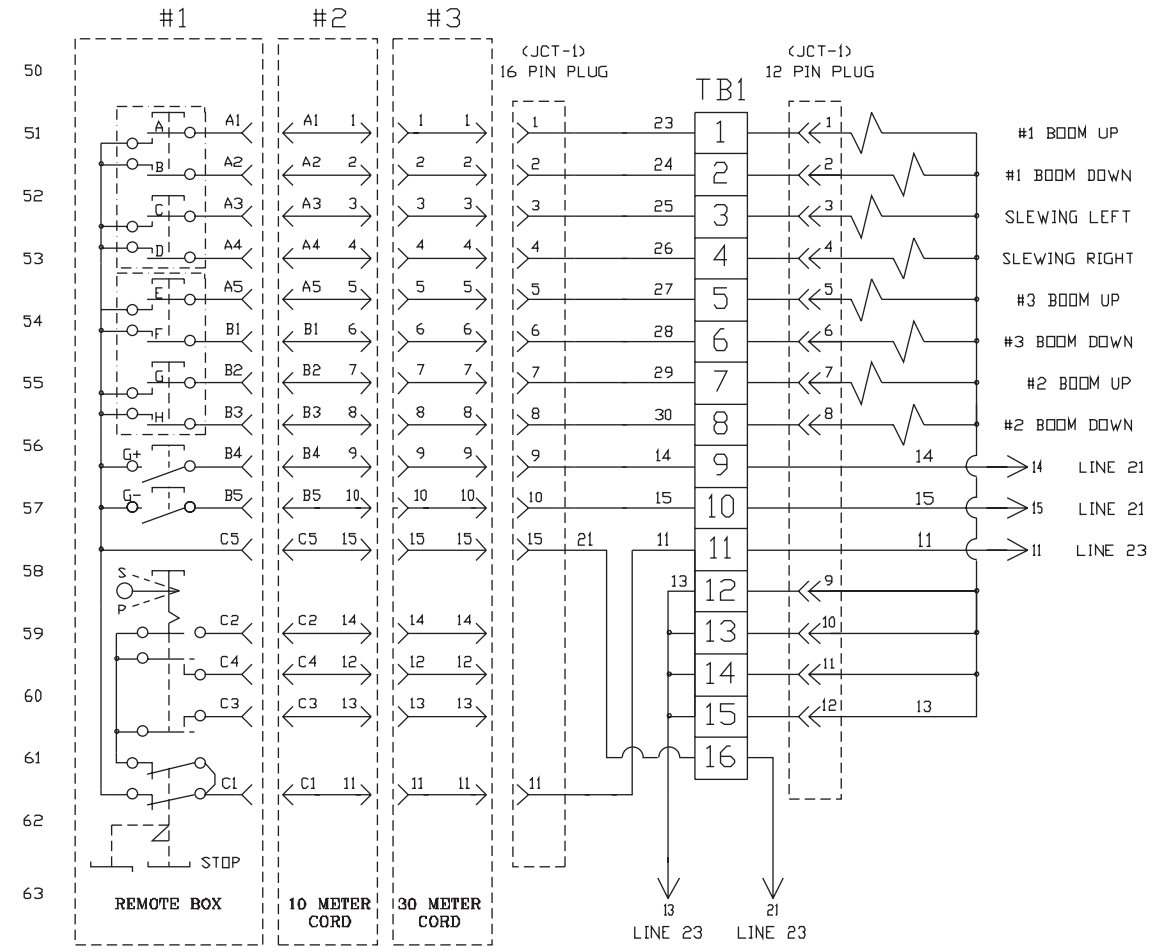
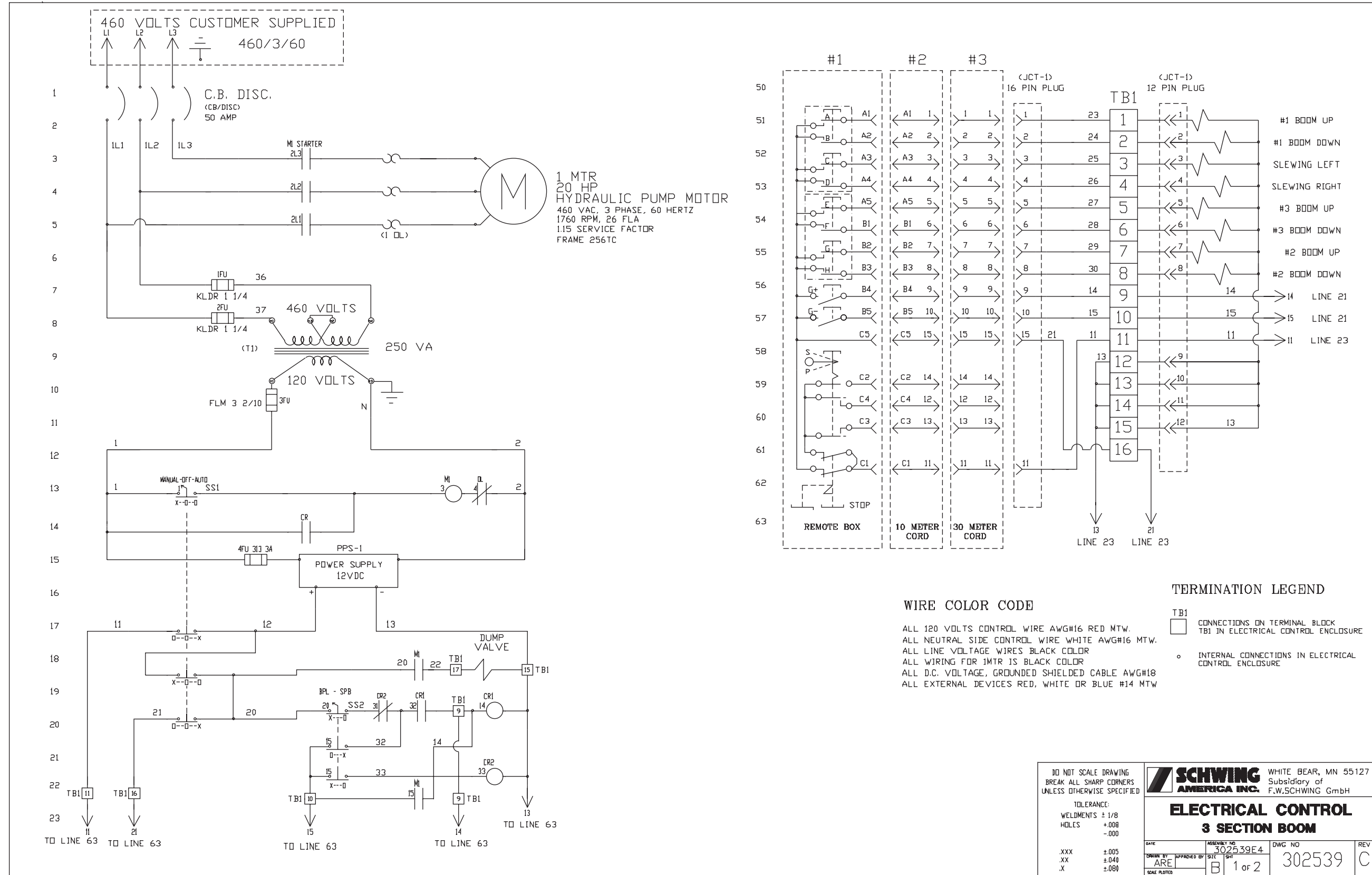


DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED		SCHWING AMERICA INC.		WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH
TOLERANCE: WELDMENTS ± 1/8 HOLES +.008 -.000				
ELECTRICAL CONTROL 3 SECTION BOOM				
DATE 12-30-93	DESIGNED BY PJK	APPROVED BY [Signature]	ASSEMBLY NO. 302539E2	DWG NO. 302539
SCALE PLOTTED			B	2 of 3
				REV F



302539

KVM/SPB 28M FLYAWAY POWER CIRCUIT (USA) REV C



WIRE COLOR CODE

ALL 120 VOLTS CONTROL WIRE AWG#16 RED MTW.
ALL NEUTRAL SIDE CONTROL WIRE WHITE AWG#16 MTW.
ALL LINE VOLTAGE WIRES BLACK COLOR
ALL WIRING FOR 1MTR IS BLACK COLOR
ALL D.C. VOLTAGE, GROUNDED SHIELDED CABLE AWG#18
ALL EXTERNAL DEVICES RED, WHITE OR BLUE #14 MTW

TERMINATION LEGEND

TB1
□ CONNECTIONS ON TERMINAL BLOCK TB1 IN ELECTRICAL CONTROL ENCLOSURE
○ INTERNAL CONNECTIONS IN ELECTRICAL CONTROL ENCLOSURE

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

TOLERANCE:
WELDMENTS ± 1/8
HOLES +.008
-.000

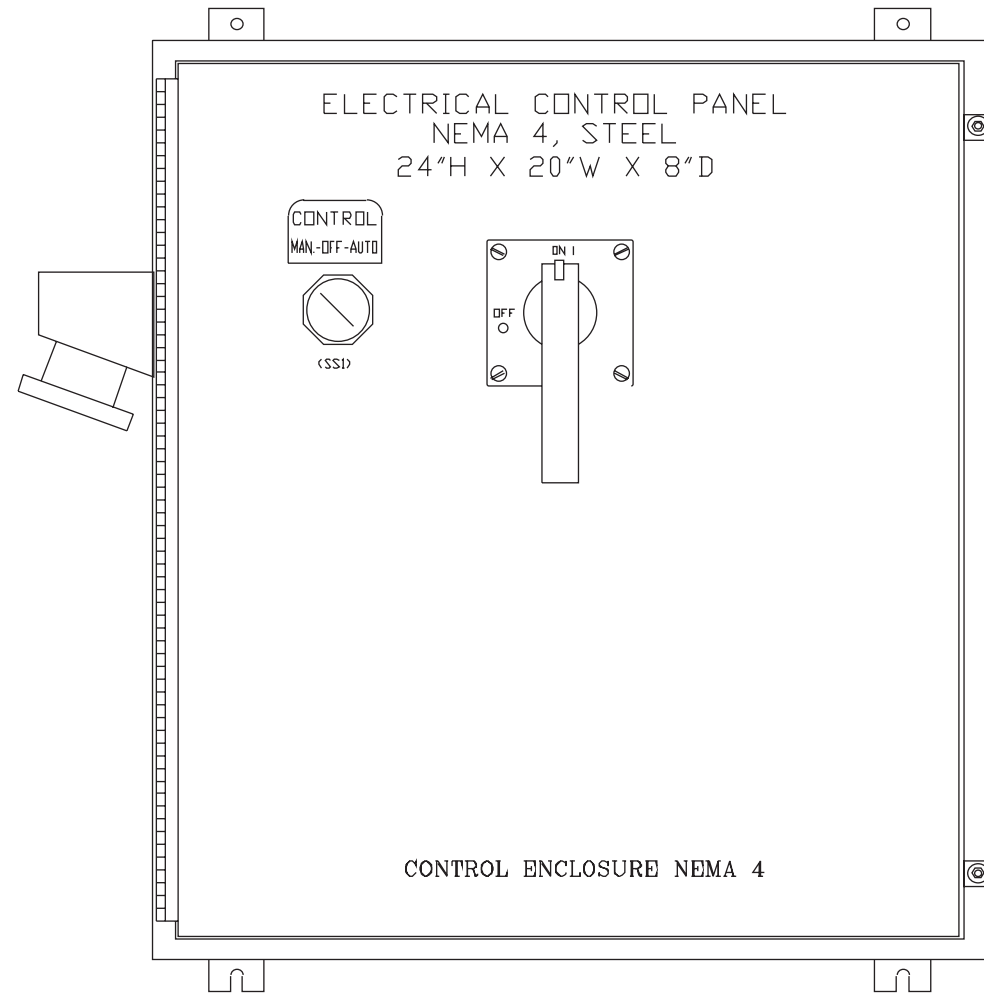
DATE: .XXX ±.005
.XX ±.040
.X ±.080

SCALE PLotted

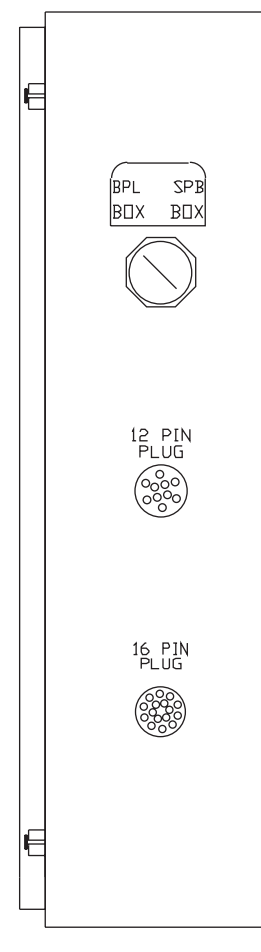
SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

ELECTRICAL CONTROL
3 SECTION BOOM

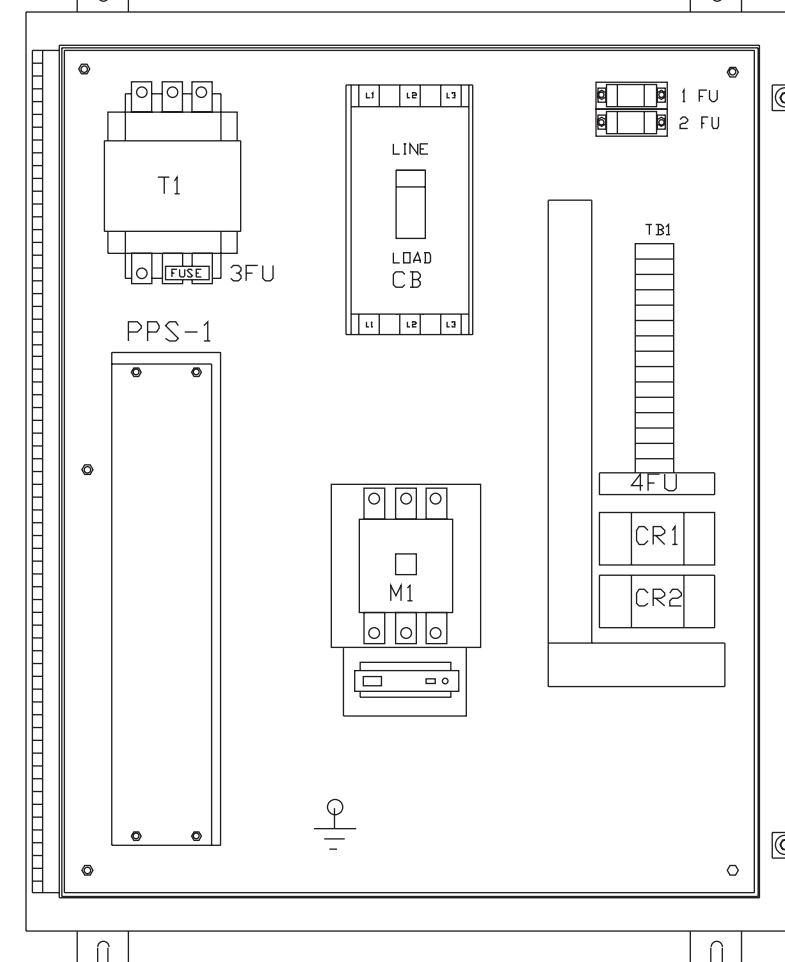
DATE	ASSEMBLY NO.	DWG NO.	REV
ARE	302539E4	302539	C
SCALE PLotted	B	1 of 2	



SIDE VIEW (RIGHT SIDE)



THIS VIEW SHOWN WITH DOOR REMOVED



BILL OF MATERIAL			
ITEM	PART NO	PART NAME	QTY
CB	ED63A050	CIRCUIT BREAKER; SIEMENS	1
	RH0EB0	CIRCUIT BREAKER MECHANISM; SIEMENS	1
	RH0H4	CIRCUIT BREAKER HANDLE; SIEMENS	1
M1	RH0SV0	R0D; SIEMENS	1
	3TF4622-DAK6	NON REVERSING AC CONTACTOR; SIEMENS	1
OL	3UA5800-2D	OVERLOAD RELAY; SIEMENS	1
CR1, 2	RH2BU 12VDC	CONTROL RELAY; IDEC	2
PSS-1	HE12-10.2-A+	POWER SUPPLY; CONDOR	1
T1	TA-2-81213	TRANSFORMER 120VAC; ACME	1
ENCL.	A242008BLP	ENCLOSURE; HOFFMAN	1
PANEL	A-24P20	BACK PANEL; HOFFMAN	1
TB1	8WA1011-1DG11	TERMINAL BLOCKS; SIEMENS	2
	8WA1808	END BLOCKS; SIEMENS	1
SS1	8WA746	STAND-OFFS	1
	3SB03-3MK8	SELECTOR SWITCH; SIEMENS	1
SS2	3SB1400-0G	CONTACT BLOCK; SIEMENS	1
	3SB03-2MK8	SELECTOR SWITCH; SIEMENS	1
	3SB1400-0B	CONTACT BLOCK; SIEMENS	1
	3SB1400-0C	CONTACT BLOCK; SIEMENS	1
1FU-2FU	3SB1400-0A	CONTACT BLOCK; SIEMENS	1
	KLDR 1 1/4	FUSE; LITTELFUSE	2
3FU	BL60030M-2P0	FUSE BLOCK; LITTELFUSE	1
	FLM 3 2/10	FUSE; LITTELFUSE	2
4FU	313 3A	FUSE; LITTELFUSE	2
	10021986	16 PIN SOCKET	1
16PIN	10007700	12 PIN SOCKET	1
	10007479	COVER FOR 12 PIN SOCKET	1
12PIN	10007478	SEALING GASKET FOR 12 PIN SOCKET	1
	AR342-S	CRDUSE HINDS PLUG	1
	APJ6385-S	CRDUSE HINDS RECEPTACLE	1
	AR30	CRDUSE HINDS BACKBOX	1

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

TOLERANCE:
WELDMENTS ± 1/8
HOLES +.008
-.000

XXX ±.005
XX ±.040
.X ±.080

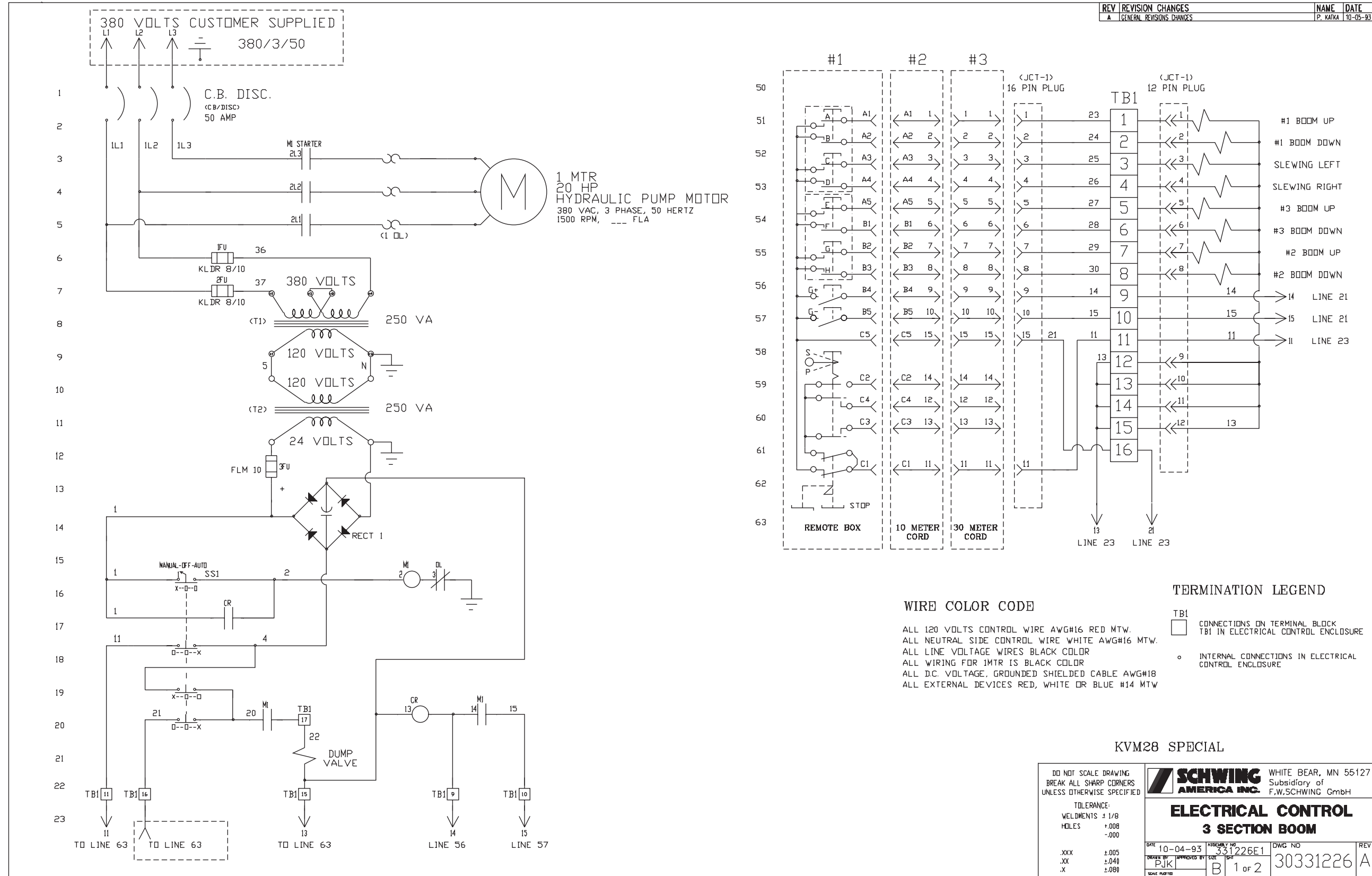
SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

PANEL LAYOUT 3 SECTION BOOM

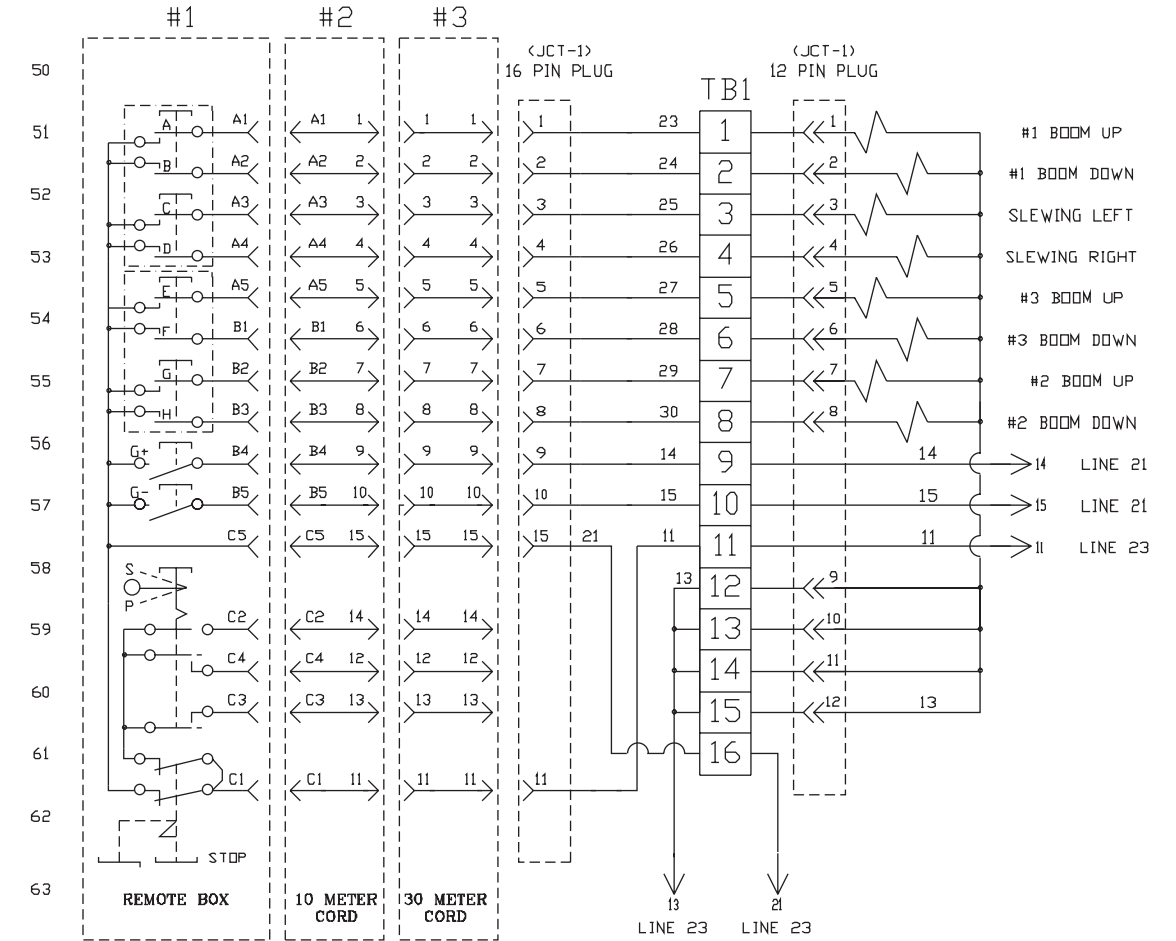
DATE	ASSEMBLY NO. 302539E5	DWG NO. 302539	REV. C
DESIGNED BY ARE	APPROVED BY	SIZE B	SHT 2 OF 2

331226

KVMSPB 28X SPECIAL FLYAWAY POWER CIRCUIT, 380 VOLTS, REV A



REV	REVISION CHANGES	NAME	DATE
A	GENERAL REVISIONS CHANGES	P. KATKA	10-05-93



WIRE COLOR CODE

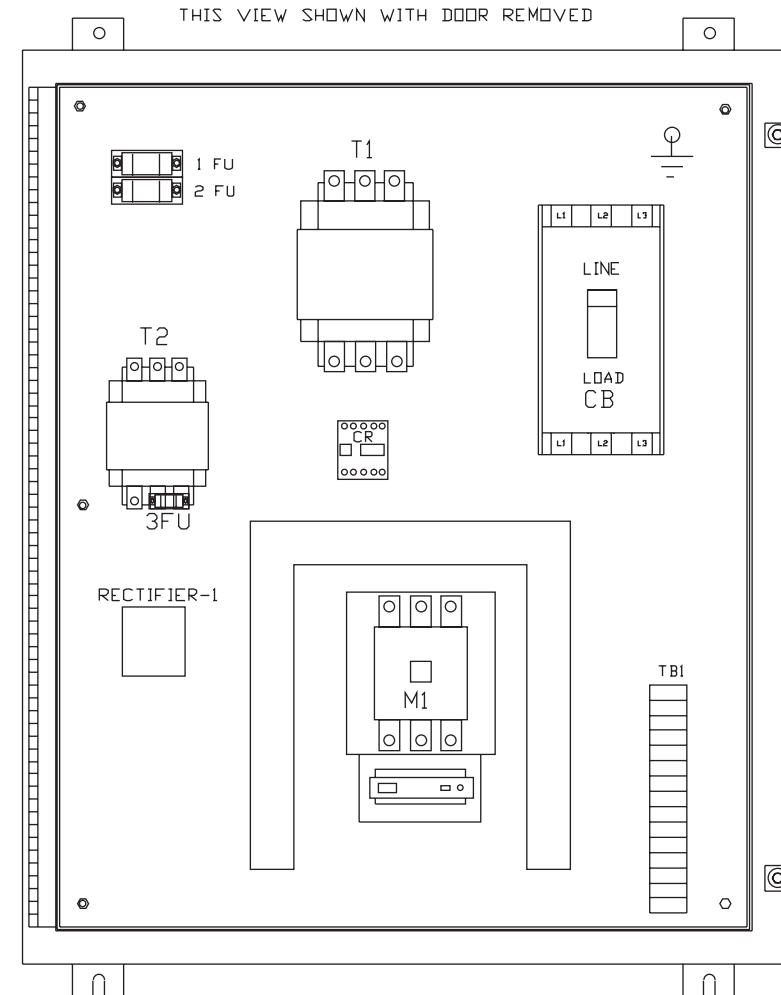
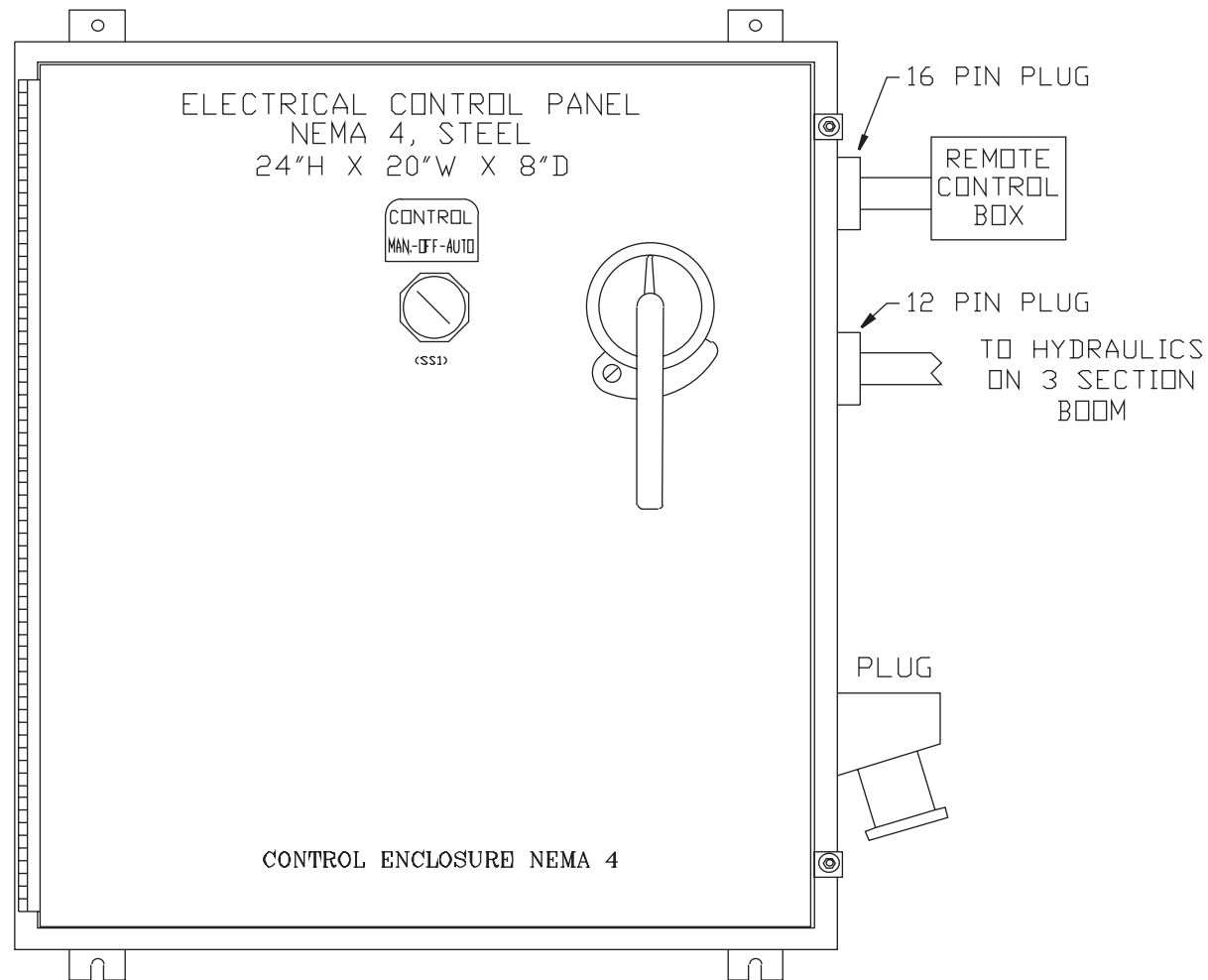
- ALL 120 VOLTS CONTROL WIRE AWG#16 RED MTW.
- ALL NEUTRAL SIDE CONTROL WIRE WHITE AWG#16 MTW.
- ALL LINE VOLTAGE WIRES BLACK COLOR
- ALL WIRING FOR 1MTR IS BLACK COLOR
- ALL DC. VOLTAGE, GROUNDED SHIELDED CABLE AWG#18
- ALL EXTERNAL DEVICES RED, WHITE OR BLUE #14 MTW

TERMINATION LEGEND

- TB1 CONNECTIONS ON TERMINAL BLOCK
- TB1 IN ELECTRICAL CONTROL ENCLOSURE
- INTERNAL CONNECTIONS IN ELECTRICAL CONTROL ENCLOSURE

KVM28 SPECIAL

DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED		<p>WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH</p>
<p>ELECTRICAL CONTROL 3 SECTION BOOM</p>		
DATE 10-04-93	ASSEMBLY NO. 331226E1	DWG NO. 30331226
ORDER BY PJK	APPROVED BY [Signature]	REV A
SCALE 1:1	1 OF 2	



BILL OF MATERIAL			
ITEM	PART NO.	PART NAME	QTY
CB	ED63A050	CIRCUIT BREAKER; SIEMENS	1
	RHDEB0	CIRCUIT BREAKER MECHANISM; SIEMENS	1
	RHDH4	CIRCUIT BREAKER HANDLE; SIEMENS	1
	RHDSVD	ROD; SIEMENS	1
M1	3TF4622-DAC1	NON REVERSING AC CONTACTOR; SIEMENS	1
OL	3UA5800-2D	OVERLOAD RELAY; SIEMENS	1
CR	RH2B	CONTROL RELAY 24VDC; IDEC	1
T1	TA-2-32405	TRANSFORMER 380/120, 250VA; ACME	1
T2	E275 FORM E	TRANSFORMER HEAVY DUTY 250VA MACHINE TOOL, 120-24V.	1
RECT-1	DB3504	RECTIFIER	1
IMTR	3033125	ELECTRIC MOTOR 380/3/50 20HP	1
ENCL.	A242008BLP	ENCLOSURE; HOFFMAN	1
PANEL	A-24P20	BACK PANEL; HOFFMAN	1
TBI	8WA1011-1DG11	TERMINAL BLOCKS; SIEMENS	1
	8WA1808	END BLOCKS; SIEMENS	1
	8WA746	STAND-OFFS	1
SS1	3SB03-3MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-DG	CONTACT BLOCK; SIEMENS	1
1FU-2FU	KLDR 1 1/4	FUSE; LITTELFUSE	2
	BL60030M-2PQ	FUSE BLOCK; LITTELFUSE	1
3FU	FLM 3 2/10	FUSE; LITTELFUSE	2
4FU	313 3A	FUSE; LITTELFUSE	2
16PIN	992-900-700-800	16 PIN SOCKET	1
	992-900-700-701	CAP FOR 16 PIN SOCKET	1
	992-900-700-702	SEAL FOR PIN SOCKET	2
	992-900-700-700	12 PIN SOCKET	1
12PIN PLUG	AR 342-S	CROUSE HINDS PLUG	1
	APJ 6385-S	CROUSE HINDS RECEPTACLE	1
	AR30	CROUSE HINDS BACK BOX	1

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

TOLERANCE:
WELDMENTS ± 1/8
HOLES +.008
-.000

.XXX ±.005
.XX ±.040
.X ±.080

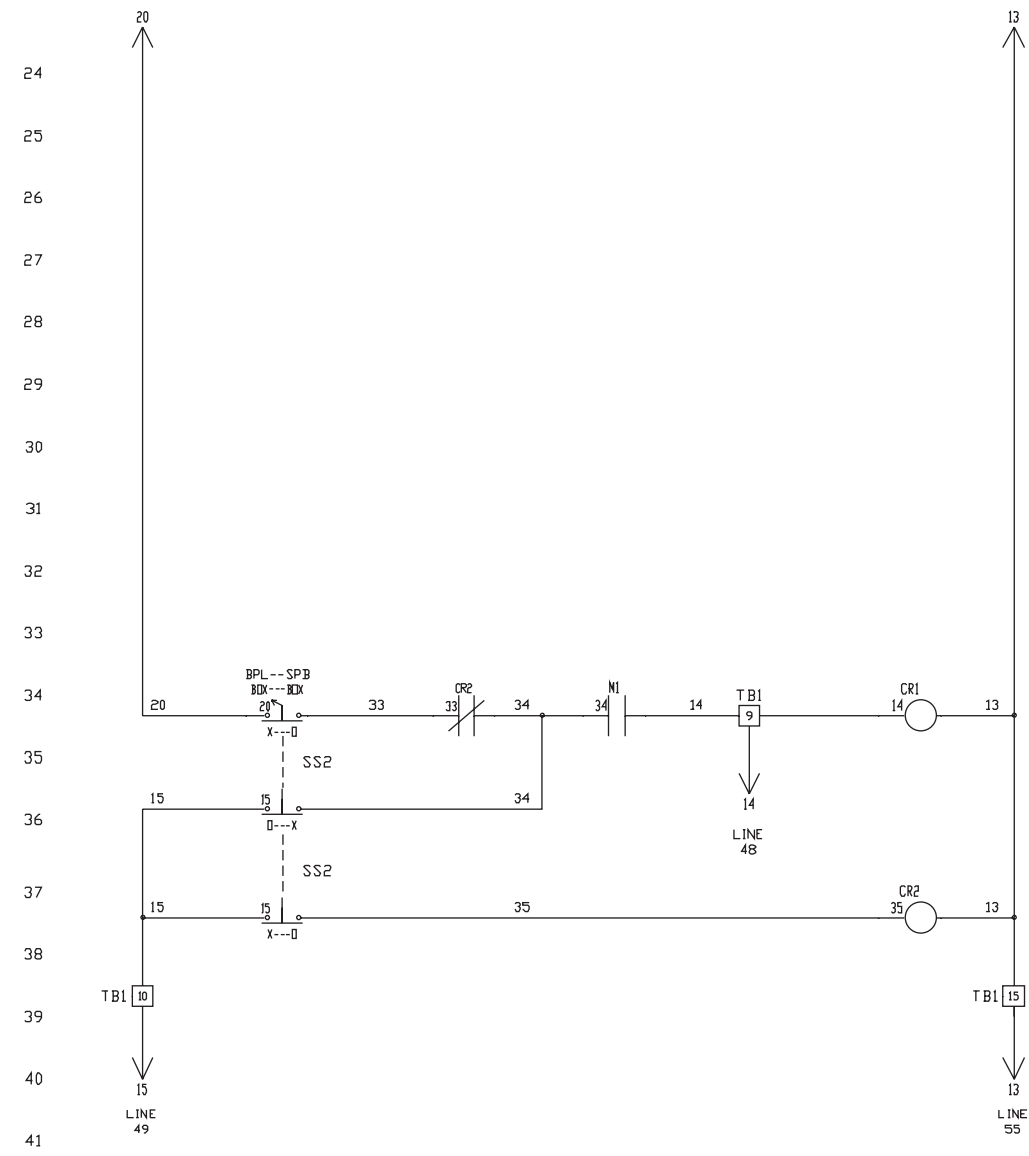
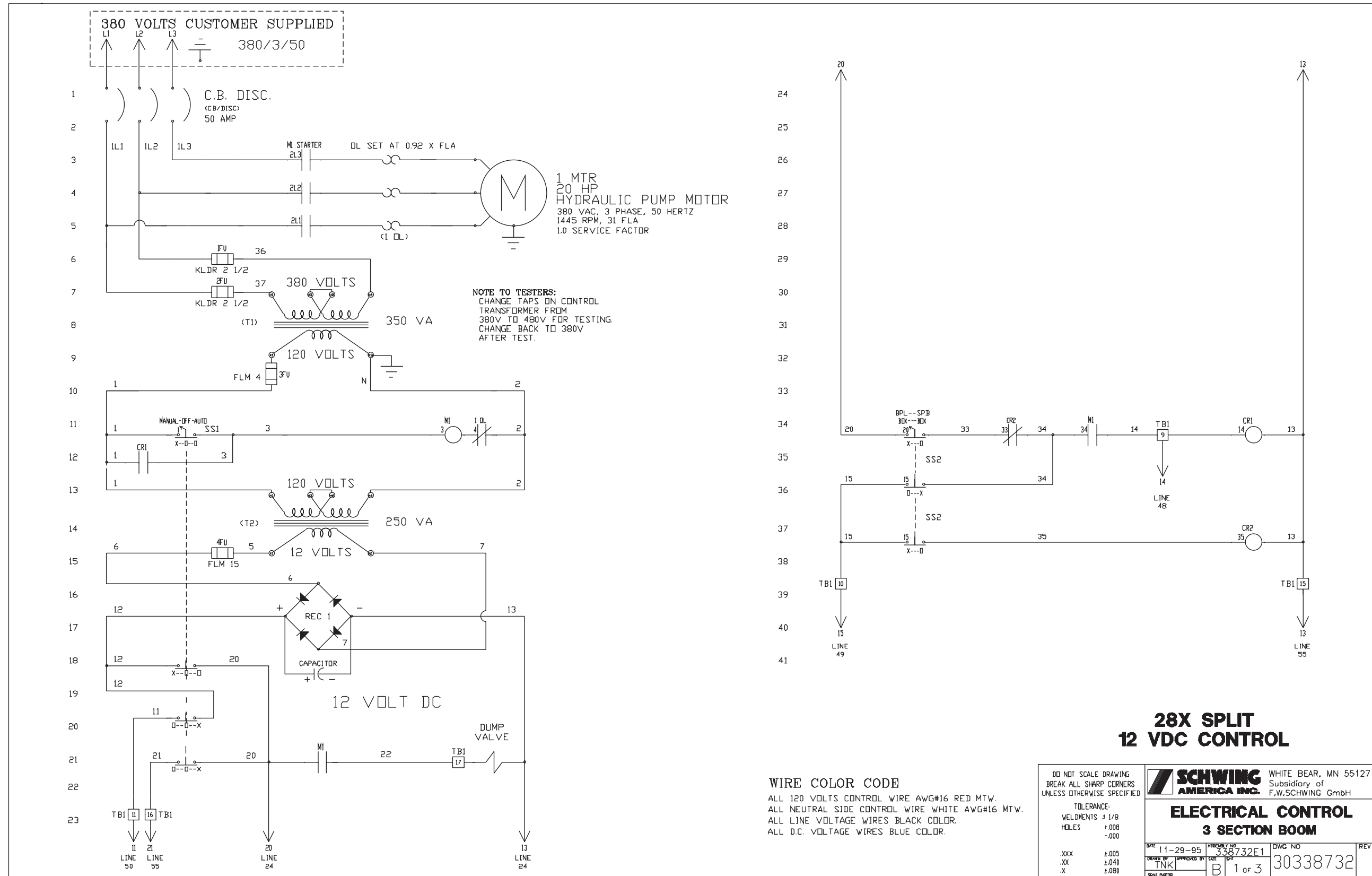
SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

**PANEL LAYOUT
3 SECTION BOOM**

DATE 10-04-93 ASSEMBLY NO. 331226E2 DWG. NO. 30331226 REV. A
PREPARED BY PJK APPROVED BY B DATE 10-04-93
SCALE ADDED B 2 OF 2

338732

KVM/SPB 28X FLYAWAY POWER CIRCUIT, 12 VDC CONTROL

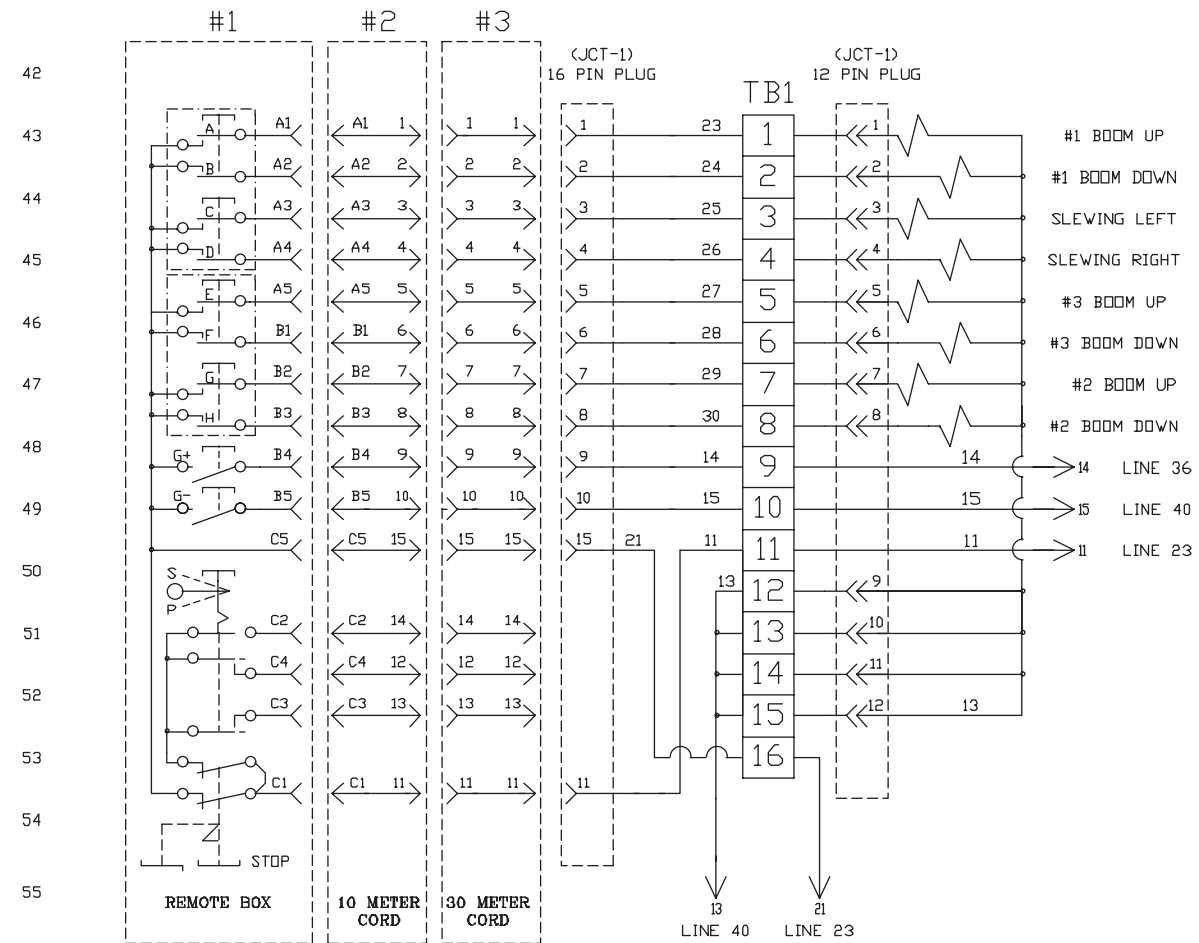


**28X SPLIT
12 VDC CONTROL**

WIRE COLOR CODE

ALL 120 VOLTS CONTROL WIRE AWG#16 RED MTW.
ALL NEUTRAL SIDE CONTROL WIRE WHITE AWG#16 MTW.
ALL LINE VOLTAGE WIRES BLACK COLOR.
ALL D.C. VOLTAGE WIRES BLUE COLOR.

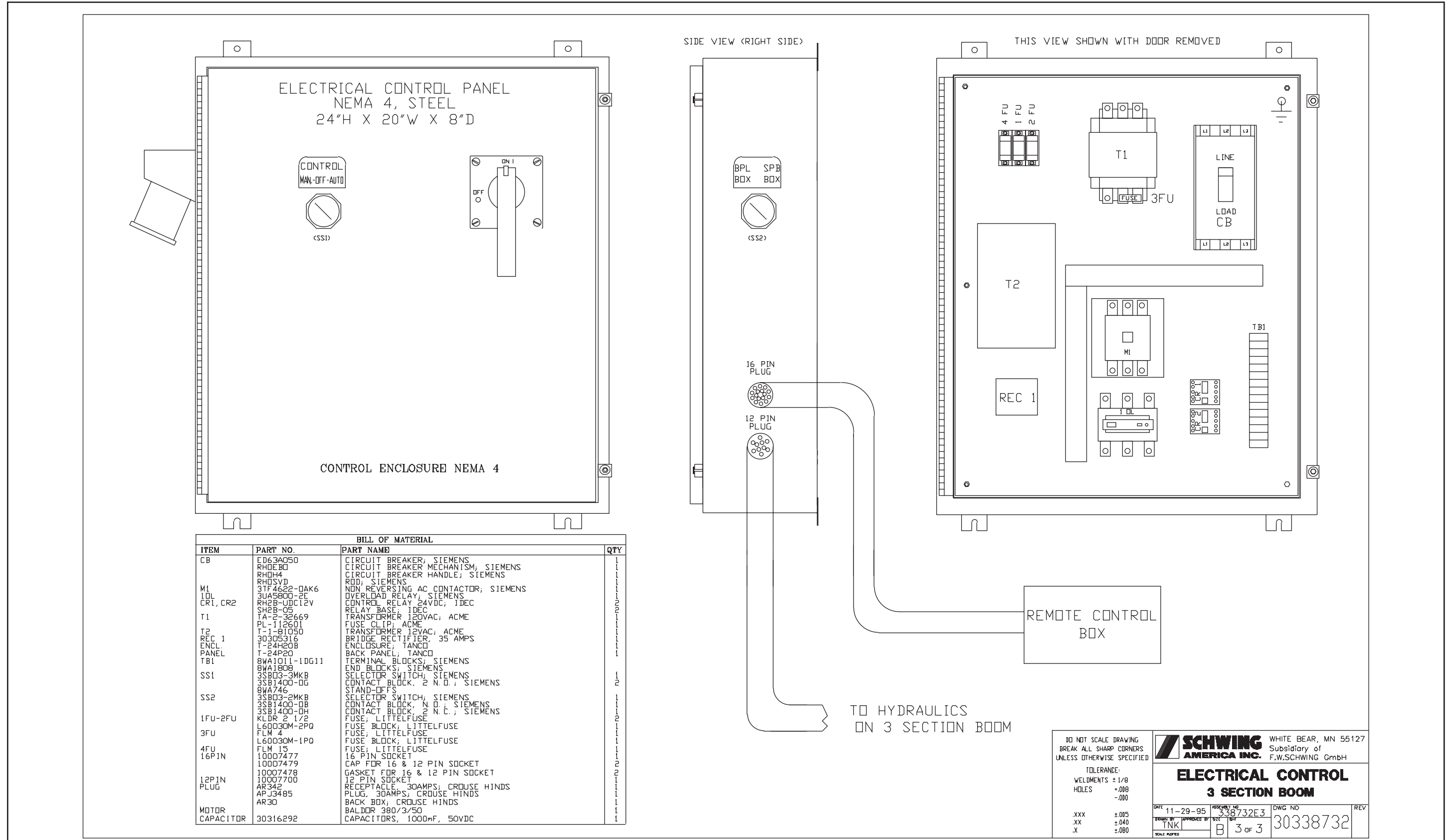
DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED		SCHWING AMERICA INC. WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH	
TOLERANCE: WELDMENTS ± 1/8 HOLES +.008 -.000		ELECTRICAL CONTROL 3 SECTION BOOM	
DATE 11-29-95	ASSEMBLY NO. 338732E1	DWG NO. 30338732	REV.
DRAWN BY INK	APPROVED BY TBI	SCALE 1 OF 3	



DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED		SCHWING AMERICA INC. WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH	
TOLERANCE: WELDMENTS ± 1/8 HOLES +.008 -.000		ELECTRICAL CONTROL 3 SECTION BOOM	
DATE 11-29-95	ASSEMBLY NO. 338732E2	DWG NO. 30338732	REV.
DRAWN BY TJK	APPROVED BY TJK	SCALE 2 of 3	

338732

KVM/SPB 28X FLYAWAY POWER CIRCUIT, 12 VDC CONTROL, PANEL LAYOUT



BILL OF MATERIAL			
ITEM	PART NO.	PART NAME	QTY
CB	ED63A050	CIRCUIT BREAKER, SIEMENS	1
	RHD0B0	CIRCUIT BREAKER MECHANISM, SIEMENS	1
	RHD0H4	CIRCUIT BREAKER HANDLE, SIEMENS	1
	RHD0YD	RDD, SIEMENS	1
M1	3TF4622-DAK6	NON REVERSING AC CONTACTOR, SIEMENS	1
10L	3UA5800-2E	OVERLOAD RELAY, SIEMENS	1
CR1, CR2	RH2B-UDC12V	CONTROL RELAY 24VDC; IDEC	2
	SH2B-05	RELAY BASE, IDEC	2
T1	TA-2-32669	TRANSFORMER 120VAC; ACME	1
	PL-112601	FUSE CLIP; ACME	1
T2	T-1-91050	TRANSFORMER 12VAC; ACME	1
REC 1	30305316	BRIDGE RECTIFIER, 35 AMPS	1
ENCL.	T-24H20B	ENCLOSURE, TANCO	1
PANEL	T-24P20	BACK PANEL, TANCO	1
TB1	8WA1011-1DG11	TERMINAL BLOCKS; SIEMENS	1
	8WA1808	END BLOCKS; SIEMENS	1
SS1	3SB03-3MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-DG	CONTACT BLOCK, 2 N.O.; SIEMENS	2
	8WA746	STAND-OFFS	1
SS2	3SB03-2MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-0B	CONTACT BLOCK, N.O.; SIEMENS	1
	3SB1400-DH	CONTACT BLOCK, 2 N.C.; SIEMENS	1
1FU-2FU	KLDR 2 1/2	FUSE; LITTELFUSE	2
	L60030M-2PQ	FUSE BLOCK; LITTELFUSE	1
3FU	FLM 4	FUSE; LITTELFUSE	1
	L60030M-1PQ	FUSE BLOCK; LITTELFUSE	1
4FU	FLM 15	FUSE; LITTELFUSE	1
16PIN	10007477	16 PIN SOCKET	2
	10007479	CAP FOR 16 & 12 PIN SOCKET	2
12PIN	10007478	GASKET FOR 16 & 12 PIN SOCKET	2
PLUG	10007700	12 PIN SOCKET	1
	AR342	RECEPTACLE, 30AMPS; CROUSE HINDS	1
	APJ3485	PLUG, 30AMPS; CROUSE HINDS	1
	AR30	BACK BOX; CROUSE HINDS	1
MOTOR		BALDOR 380/3/50	1
CAPACITOR	30316292	CAPACITORS, 1000mF, 50VDC	1

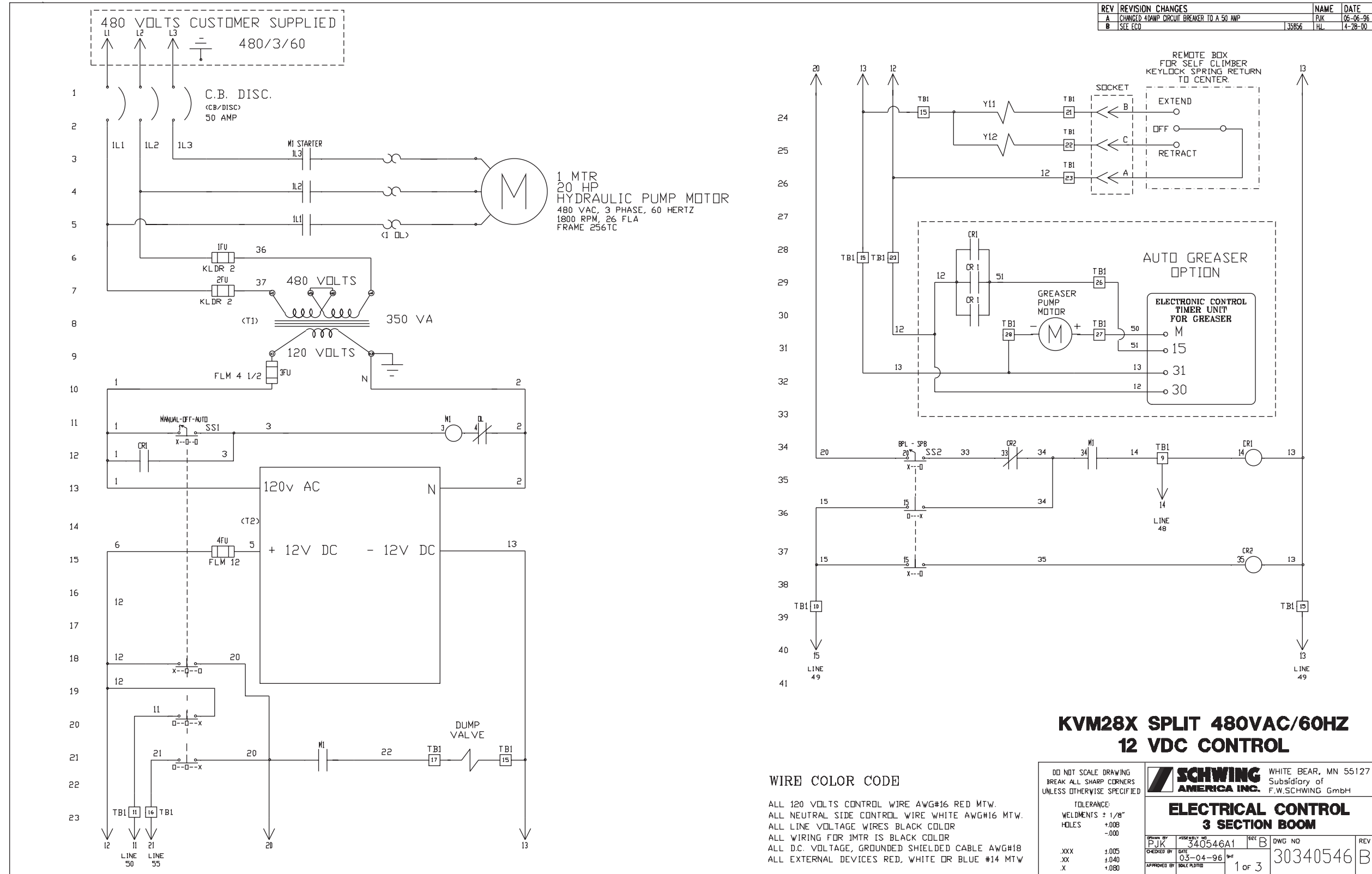
DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

**ELECTRICAL CONTROL
3 SECTION BOOM**

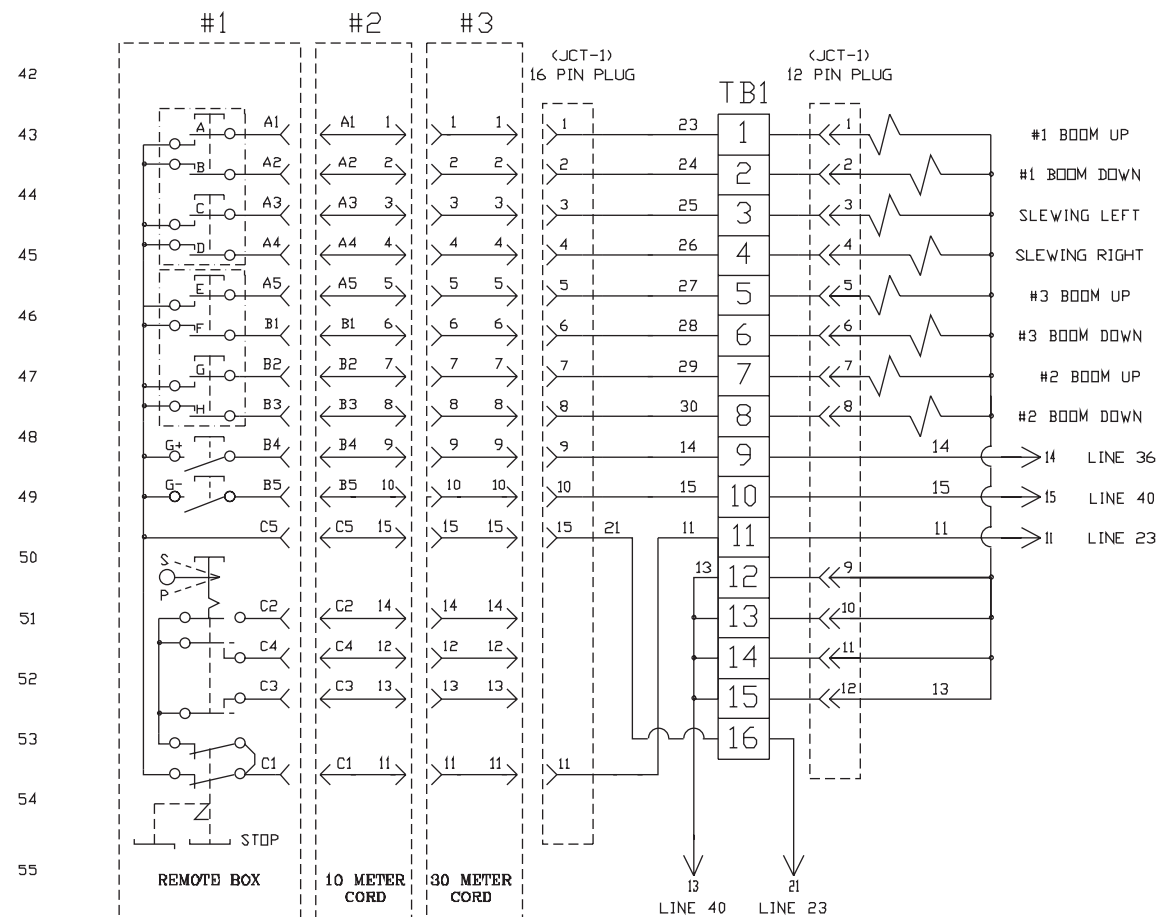
TOLERANCE:
WELDMENTS ± 1/8
HOLES +.008
-.000

DATE 11-29-95 ASSEMBLY NO. 338732E3 DWG NO. 30338732
DRAWN BY TNK APPROVED BY B 3 OF 3
SCALE AS SHOWN



340546

KVM/SPB 28X FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 12 VDC CONTROL, REV B



BILL OF MATERIAL			
ITEM	PART NO.	PART NAME	QTY
CB	ED63A050L	CIRCUIT BREAKER 50 AMP; SIEMENS	1
	RHOEB0	CIRCUIT BREAKER MECHANISM; SIEMENS	1
	RHOH4	CIRCUIT BREAKER HANDLE; SIEMENS	1
	RHOSVD	RDD; SIEMENS	1
M1	3TF4622-DAK6	NON REVERSING AC CONTACTOR; SIEMENS	1
DL	3UA5800-2D	OVERLOAD RELAY; SIEMENS	1
CR1	3TF2010-DBA4	CONTROL RELAY 12VDC; SIEMENS	1
CR2	RH2B-U-12VDC	CONTROL RELAY 12VDC; IDEC	1
T1	SH2B-05	RELAY SOCKET; ICEC	1
	TA-2-81214	TRANSFORMER 120VAC; ACME	1
POWER SUP	PL-112601	FUSE CLIP	1
		CONDOR 12 VOLT POWER SUPPLY	1
ENCL.	T-24H20B	ENCLOSURE; TANCO	1
PANEL	T-24P20	BACK PANEL; TANCO	1
TB1	8WA1011-1DG21	TERMINAL BLOCKS; SIEMENS	2
	8WA1808	END BLOCKS; SIEMENS	2
	8WA746	STAND-OFFS	2
SS1	3SB03-3MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-DG	CONTACT BLOCK; SIEMENS	2
	3SB03-2MKB	SELECTOR SWITCH; SIEMENS	1
SS2	3SB1400-DB	CONTACT BLOCK; SIEMENS	1
	3SB1400-DH	CONTACT BLOCK; SIEMENS	2
	1FU-2FU	KLDR 2	2
3FU	L60030C-2PQ	FUSE BLOCK; LITTELFUSE	1
	FLM 4 1/2	FUSE; LITTELFUSE	2
4FU	FLM 12	FUSE; LITTELFUSE	2
	L60030M-1PQ	FUSE BLOCK; LITTELFUSE	1
16PIN	10007477	16 PIN SOCKET	1
	10007479	CAP FOR 16 & 12 PIN SOCKET	2
	10007478	GASKET FOR 16 & 12 PIN SOCKET	2
12PIN	10007700	12 PIN SOCKET	1
SOCKET	10023464	5 POLE SOCKET SPOOL (FOR SELF CLIMBER)	1
TIMER		GREASER TIMER, 12VDC (OPTIONAL) (SAI# 30316211)	1
GREASE PUMP		GREASER PUMP, 12VDC (OPTIONAL) (SAI# 30316518)	1
PLUG	AR-342	CROUSE HINDS PLUG	1
	AP-3485	CROUSE HINDS RECEPTACLE	1
	AR-30	CROUSE HINDS BACKBOX	1
MOTOR		BALDOR 480/3/60 (SAI# 30302540)	1

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

TOLERANCE:
WELDMENTS ± 1/8"
HOLES +.008
-.000

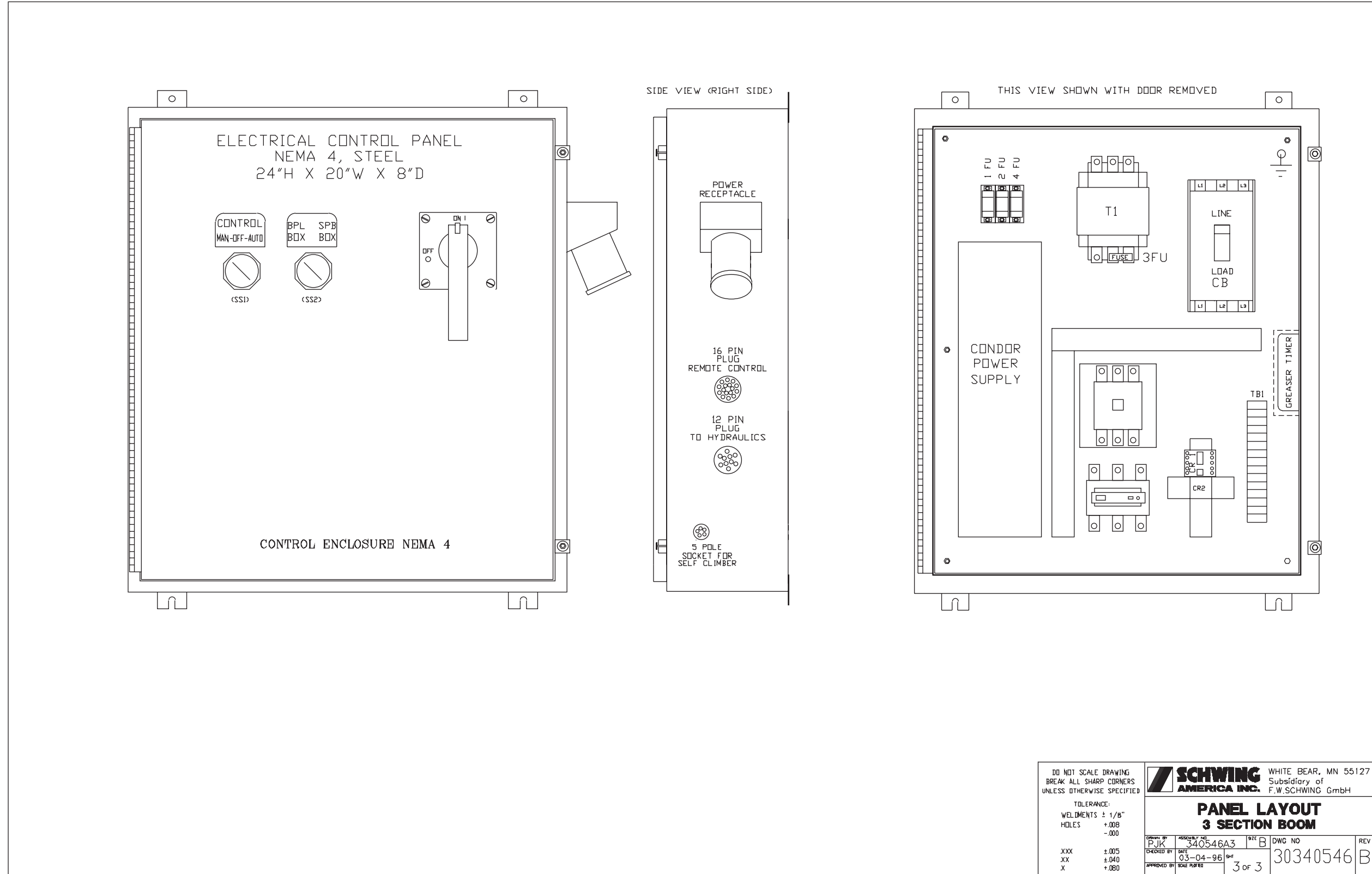
XXX ±.005
XX ±.040
X ±.080

SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

**ELECTRICAL CONTROL
3 SECTION BOOM**

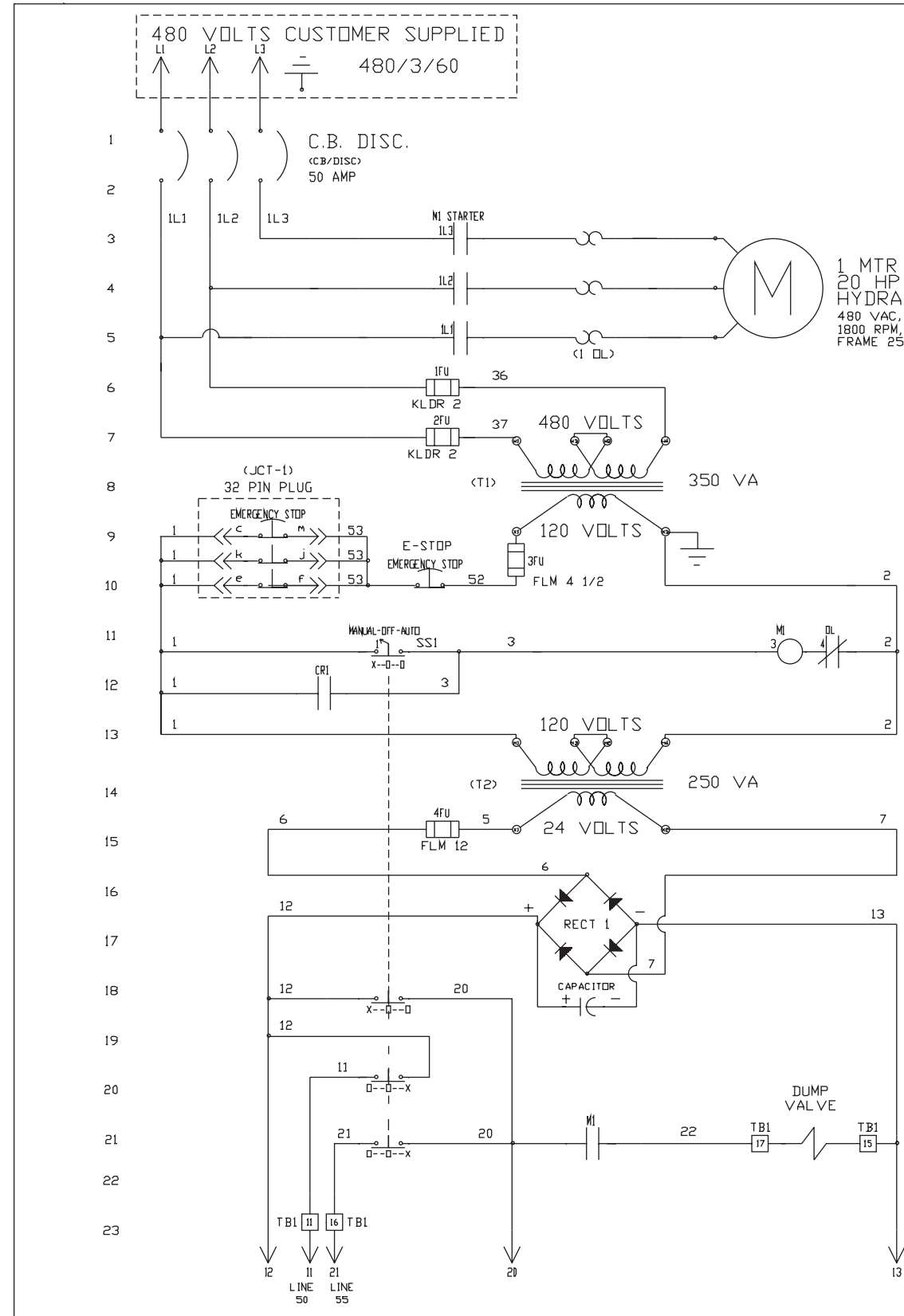
DESIGNED BY: PJK
CHECKED BY: DATE: 03-04-96
APPROVED BY: SCALE: 1/8"

ASSEMBLY NO: 340546A2
REV: B
DWG NO: 30340546
REV: B
2 of 3

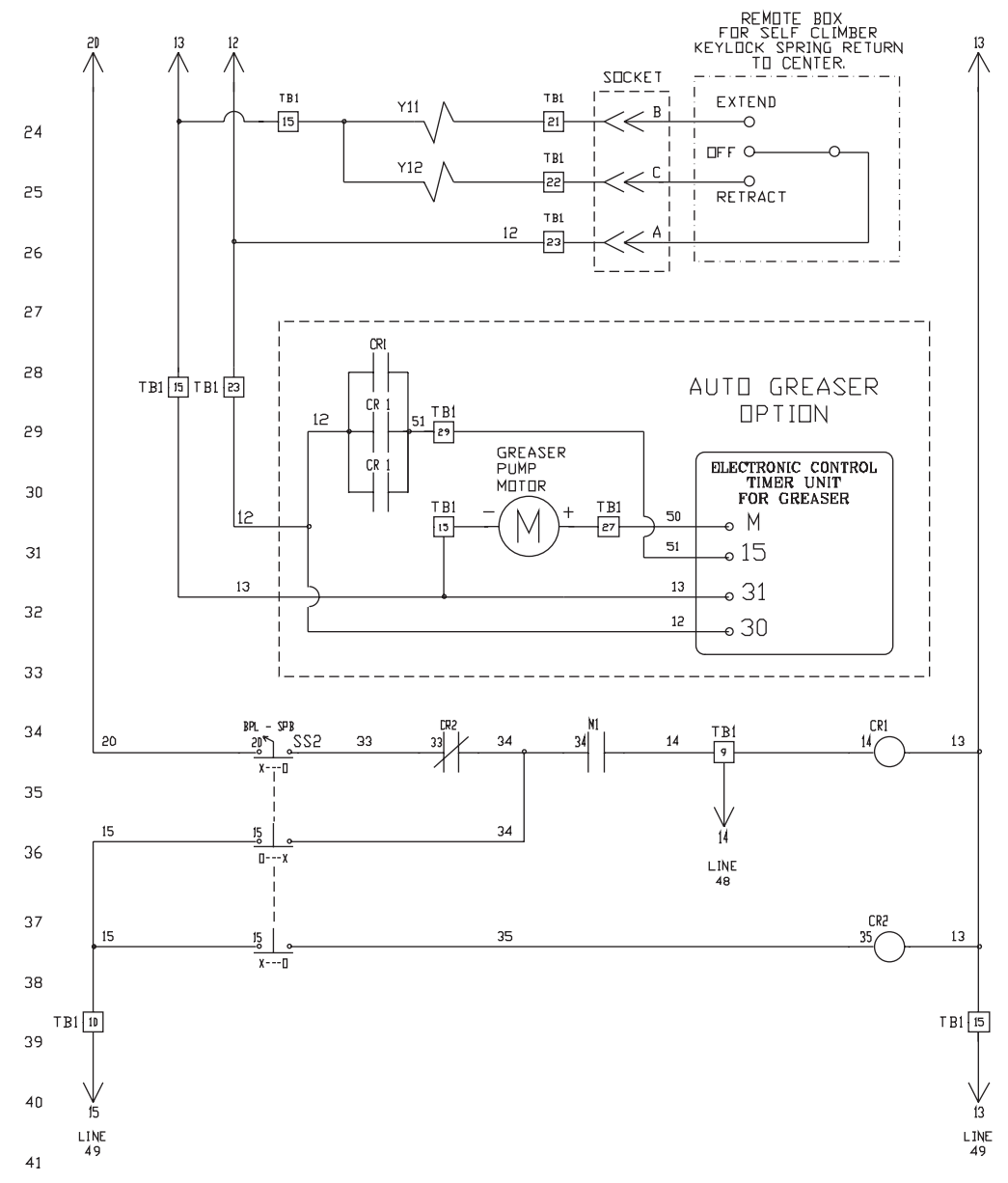


340547

KVM/SPB 28X FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 24 VDC CONTROL, REV B



REV	REVISION CHANGES	NAME	DATE
A	CHANGED 40 AMP CIRCUIT BREAKER TO A 50 AMP	PJK	05-10-96
B	ADDED E-STOP TO FRONT PANEL	PJK	02-26-97



KVM28X SPLIT 480VAC/60HZ
24 VDC CONTROL

WIRE COLOR CODE

ALL 120 VOLTS CONTROL WIRE AWG#16 RED MTW.
ALL NEUTRAL SIDE CONTROL WIRE WHITE AWG#16 MTW.
ALL LINE VOLTAGE WIRES BLACK COLOR
ALL WIRING FOR INTR IS BLACK COLOR
ALL D.C. VOLTAGE, GROUNDED SHIELDED CABLE AWG#18
ALL EXTERNAL DEVICES RED, WHITE OR BLUE #14 MTW

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

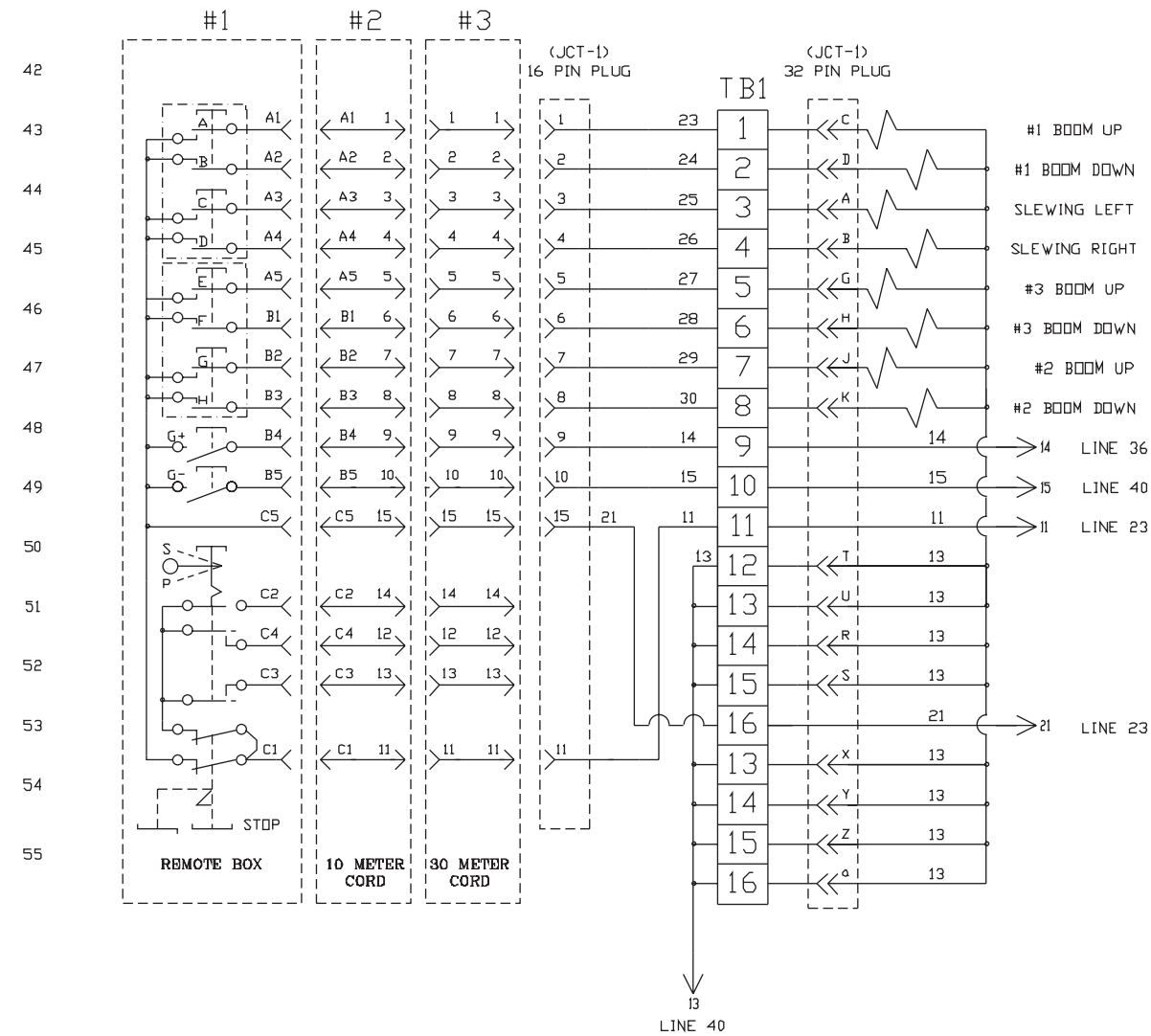
TOLERANCE:
WELDMENTS ± 1/8"
HOLES
+0.08
-0.00

...XX ±0.05
...XX ±0.040
...X ±0.080

SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

**ELECTRICAL CONTROL
3 SECTION BOOM**

DRAWN BY PJK	ASSEMBLY NO 340547A1	SIZE B	DWG NO 30340547	REV B
CHECKED BY	DATE 03-04-96	SHEET 1 of 3		



BILL OF MATERIAL			
ITEM	PART NO.	PART NAME	QTY
CB	ED63A050L	CIRCUIT BREAKER 50 AMP; SIEMENS	1
	RH0E80	CIRCUIT BREAKER MECHANISM; SIEMENS	1
	RH0H4	CIRCUIT BREAKER HANDLE; SIEMENS	1
	RH0SVD	ROD; SIEMENS	1
M1	3TF4622-0AK6	NON REVERSING AC CONTACTOR; SIEMENS	1
OL	3UA5800-2D	OVERLOAD RELAY; SIEMENS	1
CR1	3TF2010-0BB4	CONTROL RELAY 24VDC; SIEMENS	1
CR2	RH2B-U-24VDC	CONTROL RELAY 24VDC; IDEC	1
	SH2B-05	RELAY SOCKET; ICEC	1
T1	TA-2-81214	TRANSFORMER 120VAC; ACME	1
T2	T-1-81050	TRANSFORMER 24VAC; ACME	1
	PL-112601	FUSE CLIP	1
RECT-1	30305316	BRIDGE RECTIFIER, 35 AMPS	1
CAPACITOR	30316292	CAPACITOR, 1000mF, 50VDC	1
ENCL.	T-24H20B	ENCLOSURE; TANCO	1
PANEL	T-24P20	BACK PANEL; TANCO	1
TB1	8WA1011-1DG21	TERMINAL BLOCKS; SIEMENS	3
	8WA1808	END BLOCKS; SIEMENS	2
	8WA746	STAND-OFFS	2
SS1	3SB03-3MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-DG	CONTACT BLOCK; SIEMENS	2
SS2	3SB03-2MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-0B	CONTACT BLOCK; SIEMENS	1
	3SB1400-0H	CONTACT BLOCK; SIEMENS	2
E-STOP	30331882	EMERGENCY STOP, MUSHROOM TYPE; SIEMENS 3SB03-K4R	1
	30331881	CONTACT BLOCK N.C.; SIEMENS 3SB1400-0C	1
	30335092	DECAL, EMERGENCY STOP; MGL	2
1FU-2FU	KLDR 2	FUSE; LITTELFUSE	2
	L60030C-2PQ	FUSE BLOCK; LITTELFUSE	1
3FU	FLM 4 1/2	FUSE; LITTELFUSE	2
4FU	FLM 12	FUSE; LITTELFUSE	2
	L60030M-1PQ	FUSE BLOCK; LITTELFUSE	1
16PIN	10007477	16 PIN SOCKET	1
	10007479	CAP FOR 16 PIN SOCKET	1
	10007478	GASKET FOR 16 PIN SOCKET	1
32PIN	30341973	32 PIN SOCKET, FEMALE INSERT; SINE HV532-2P00-A7	1
	30341974	32 PIN RECEPTACLE COVER; SINE #CV5618-ZB	1
SOCKET	10023464	5 POLE SOCKET SPOOL (FOR SELF CLIMBER)	1
TIMER		GREASER TIMER, 24VDC (OPTIONAL)<SAI# 30316552>	1
GREASE PUMP		GREASER PUMP, 24VDC (OPTIONAL)<SAI# 30340551>	1
PLUG	AR-342	CROUSE HINDS PLUG	1
	AP-3485	CROUSE HINDS RECEPTACLE	1
	AR-30	CROUSE HINDS BACKBOX	1
MOTOR		BALDOR 480/3/60 (SAI# 30302540)	1

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

TOLERANCE:
WELDMENTS ± 1/16"
HOLES
+008
-000
...XX ±005
...XX ±040
...X +080

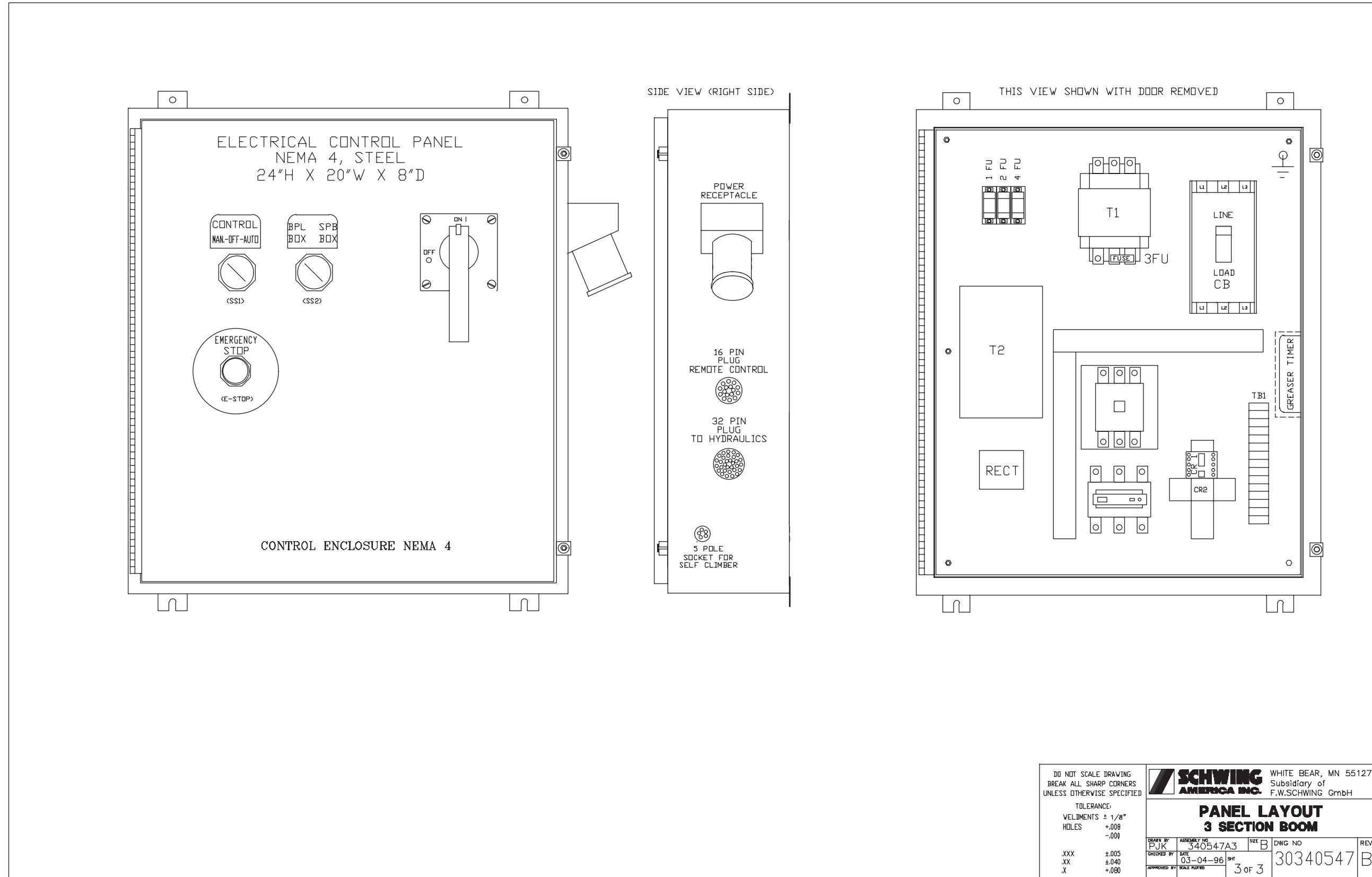
SCHWING WHITE BEAR, MN 55127
AMERICA INC. Subsidiary of
F.W.SCHWING GmbH

**ELECTRICAL CONTROL
3 SECTION BOOM**

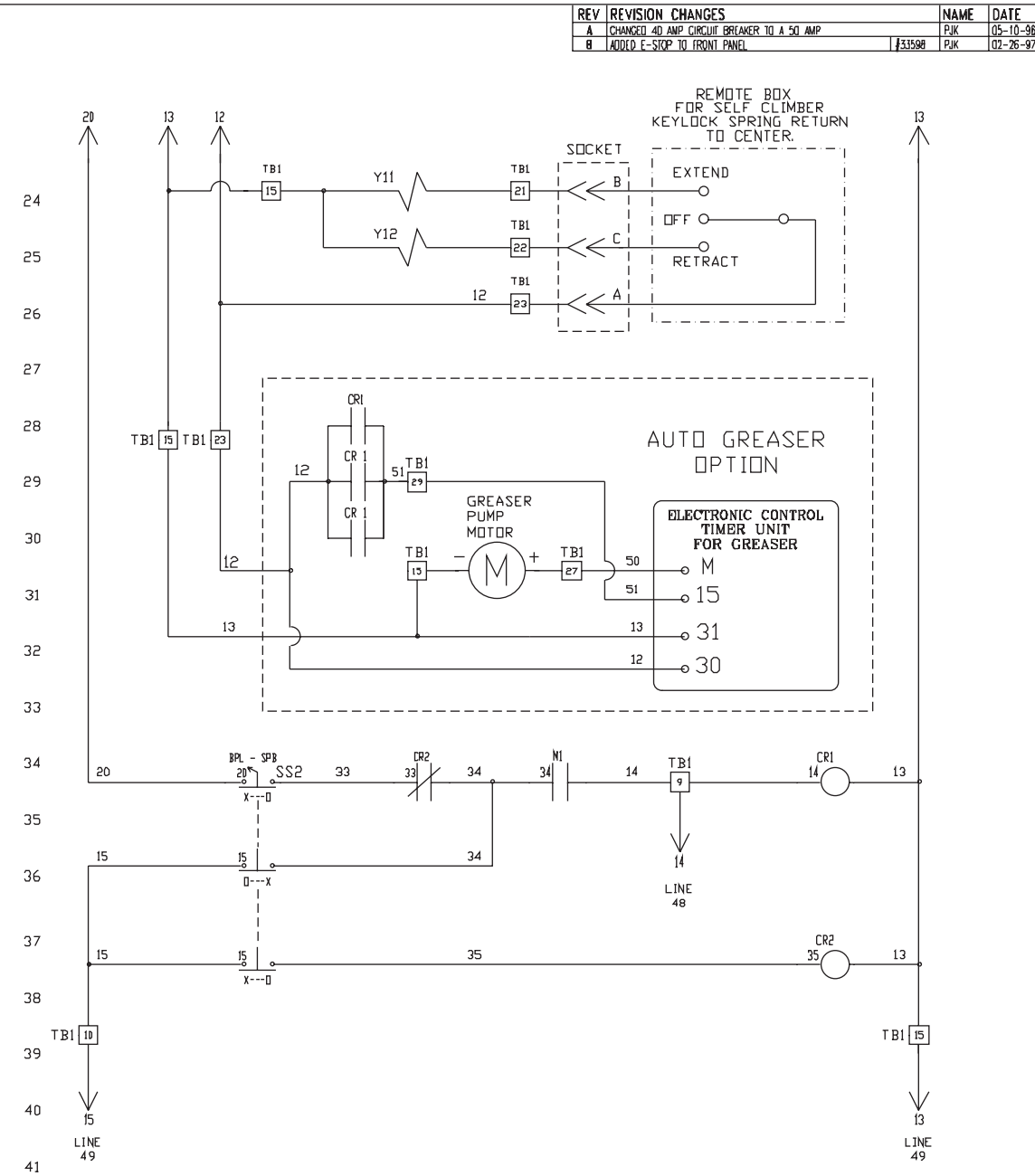
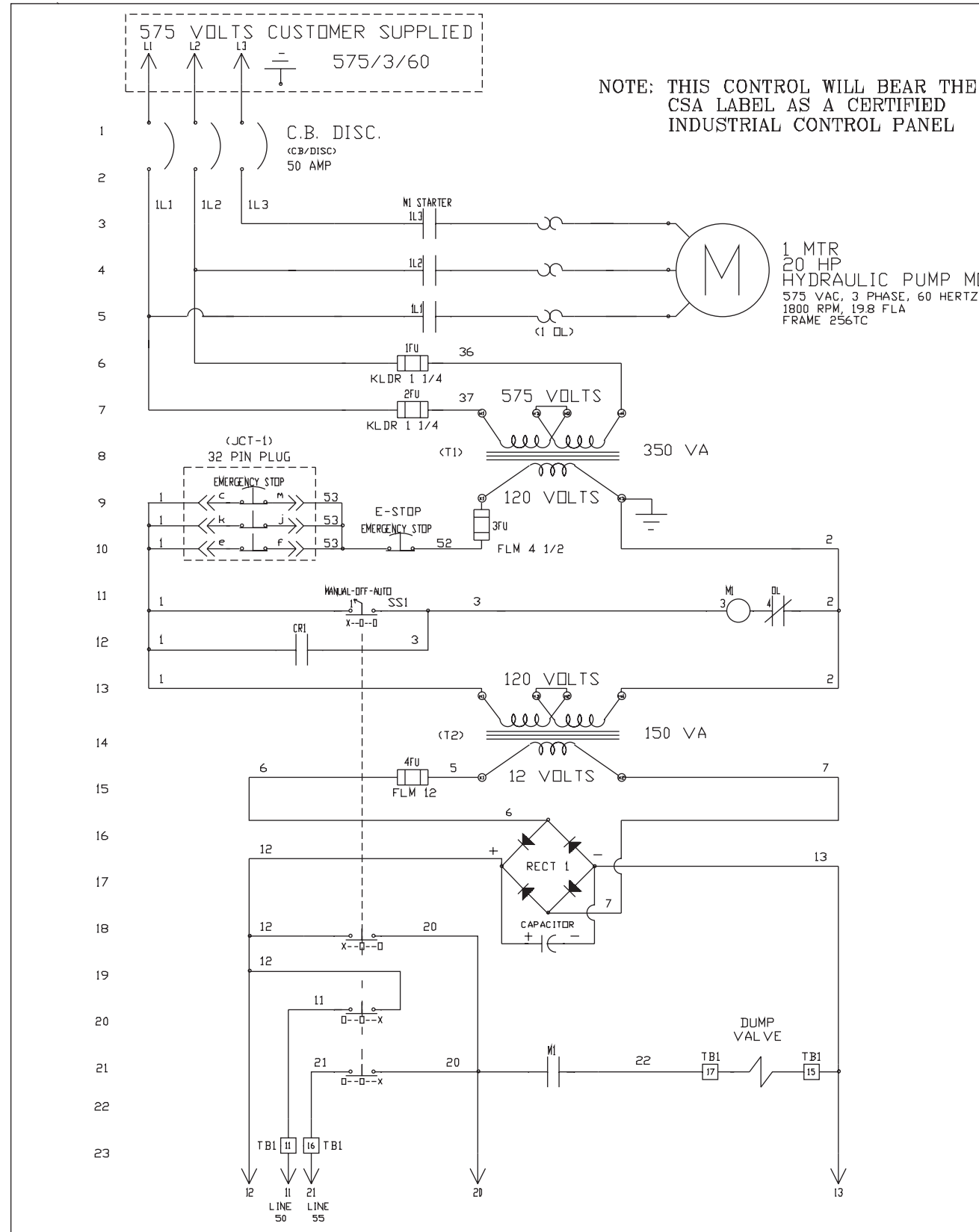
DRAWN BY PJK ASSEMBLY NO 340547A2 SIZE B DWG NO 30340547 REV B
CHECKED BY DATE 03-04-96 SHEET 2 OF 3
APPROVED BY DATE PASTE

340547

KVM/SPB 28X FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 24 VDC CONTROL, PANEL LAYOUT, REV B



KVM/SPB 28X FLYWAY POWER CIRCUIT, 575VOLTS/60HZ, 12 VDC CONTROL, REV B



REV	REVISION CHANGES	NAME	DATE
A	CHANGED 40 AMP CIRCUIT BREAKER TO A 50 AMP	PJK	05-10-96
B	ADDED E-STOP TO FRONT PANEL	PJK	07-26-97

**KVM28X SPLIT 575VAC/60HZ
12 VDC CONTROL**

WIRE COLOR CODE

ALL 120 VOLTS CONTROL WIRE AWG#16 RED MTW.
ALL NEUTRAL SIDE CONTROL WIRE WHITE AWG#16 MTW.
ALL LINE VOLTAGE WIRES BLACK COLOR
ALL WIRING FOR IMTR IS BLACK COLOR
ALL D.C. VOLTAGE, GROUNDED SHIELDED CABLE AWG#18
ALL EXTERNAL DEVICES RED, WHITE OR BLUE #14 MTW

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

TOLERANCE:
WELDMENTS ± 1/8"
HOLES
+ .008
- .000

XXX ± .005
XX ± .040
X + .080

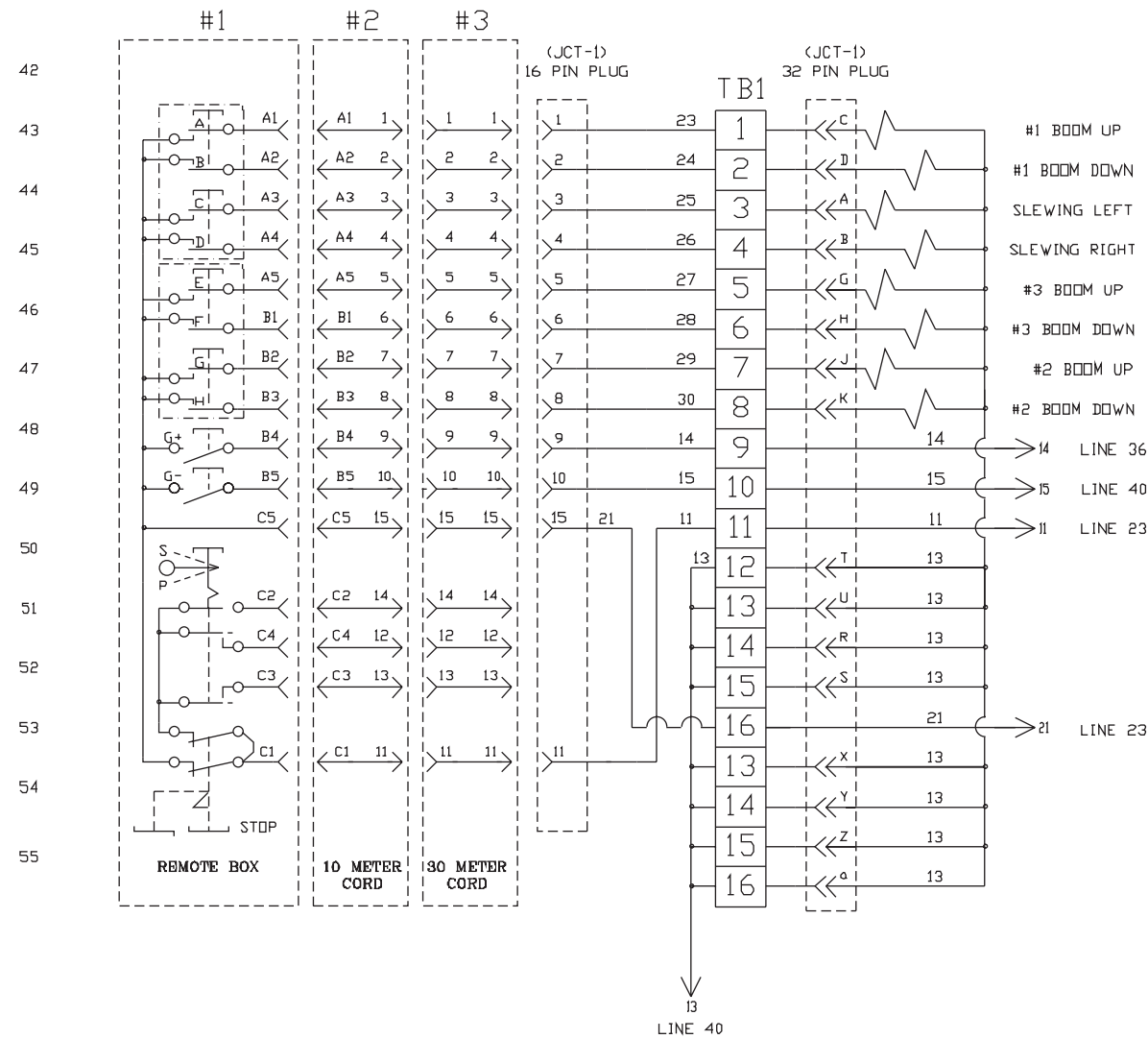
SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

**ELECTRICAL CONTROL
3 SECTION BOOM**

DRAWN BY PJK	ASSEMBLY NO. 340548A1	SIZE B	DWG NO. 30340548	REV B
CREATED BY PJK	DATE 03-04-96	1 of 3		

340548

KVM/SPB 28X FLYWAY POWER CIRCUIT, 575VOLTS/60HZ, 12 VDC CONTROL, REV B



BILL OF MATERIAL			
ITEM	PART NO	PART NAME	QTY
CB	ED63A050L	CIRCUIT BREAKER 50 AMP; SIEMENS	1
	RHDEB0	CIRCUIT BREAKER MECHANISM; SIEMENS	1
	RH0H4	CIRCUIT BREAKER HANDLE; SIEMENS	1
	RH0SV0	ROD; SIEMENS	1
M1	3TF4622-0AK6	NON REVERSING AC CONTACTOR; SIEMENS	1
OL	3UA5800-2D	OVERLOAD RELAY; SIEMENS	1
CR1	3TF2010-0BA4	CONTROL RELAY 12VDC; SIEMENS	1
CR2	RH2B-U-12VDC	CONTROL RELAY 12VDC; IDEC	1
	SH2B-05	RELAY SOCKET; ICEC	1
T1	TA-2-32669	TRANSFORMER 120VAC; ACME	1
T2	T-1-81049	TRANSFORMER 12VAC; ACME	1
	PL-112601	FUSE CLIP	1
RECT-1	30305316	BRIDGE RECTIFIER, 35 AMPS	1
CAPACITOR	30316292	CAPACITOR, 1000mF, 50VDC	1
ENCL.	T-24H20B	ENCLOSURE; TANCO	1
PANEL	T-24P20	BACK PANEL; TANCO	1
JCT-1	A-808CH	JIC BOX; HOFFMAN	1
TB1	8WA1011-1DG21	TERMINAL BLOCKS; SIEMENS	3
	8WA1808	END BLOCKS; SIEMENS	2
	8WA746	STAND-OFFS	2
SS1	3SB03-3MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-0G	CONTACT BLOCK; SIEMENS	2
SS2	3SB03-2MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-0B	CONTACT BLOCK; SIEMENS	1
E-STOP	30331882	CONTACT BLOCK; SIEMENS	2
	30331881	CONTACT BLOCK; SIEMENS	1
IFU-2FU	30335092	EMERGENCY STOP, MUSHROOM TYPE; SIEMENS 3SB03-K4R	1
	30331881	CONTACT BLOCK N.C.; SIEMENS 3SB1400-0C	1
3FU	30335092	DECAL, EMERGENCY STOP; MGL	2
	KLDR 1 1/4	FUSE; LITTELFUSE	2
4FU	L60030C-2PQ	FUSE BLOCK; LITTELFUSE	1
	FLM 4 1/2	FUSE; LITTELFUSE	2
16PIN	FLM 12	FUSE; LITTELFUSE	2
	L60030M-1PQ	FUSE BLOCK; LITTELFUSE	1
32PIN	10007477	16 PIN SOCKET	1
	10007479	CAP FOR 16 PIN SOCKET	1
SOCKET	10007478	GASKET FOR 16 PIN SOCKET	1
	30341973	32 PIN SOCKET, FEMALE INSERT; SINE #V532-2P00-A7	1
TIMER	30341974	32 PIN RECEPTACLE COVER; SINE #CV5618-ZB	1
	10023464	5 POLE SOCKET SP00L <FOR SELF CLIMBER>	1
GREASE PUMP		GREASER TIMER, 12VDC <OPTIONAL><SAI# 30316211>	1
PLUG		GREASER PUMP, 12VDC <OPTIONAL><SAI# 30316518>	1
	AR-342	CROUSE HINDS PLUG	1
	AP-3485	CROUSE HINDS RECEPTACLE	1
	AR-30	CROUSE HINDS BACKBOX	1

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

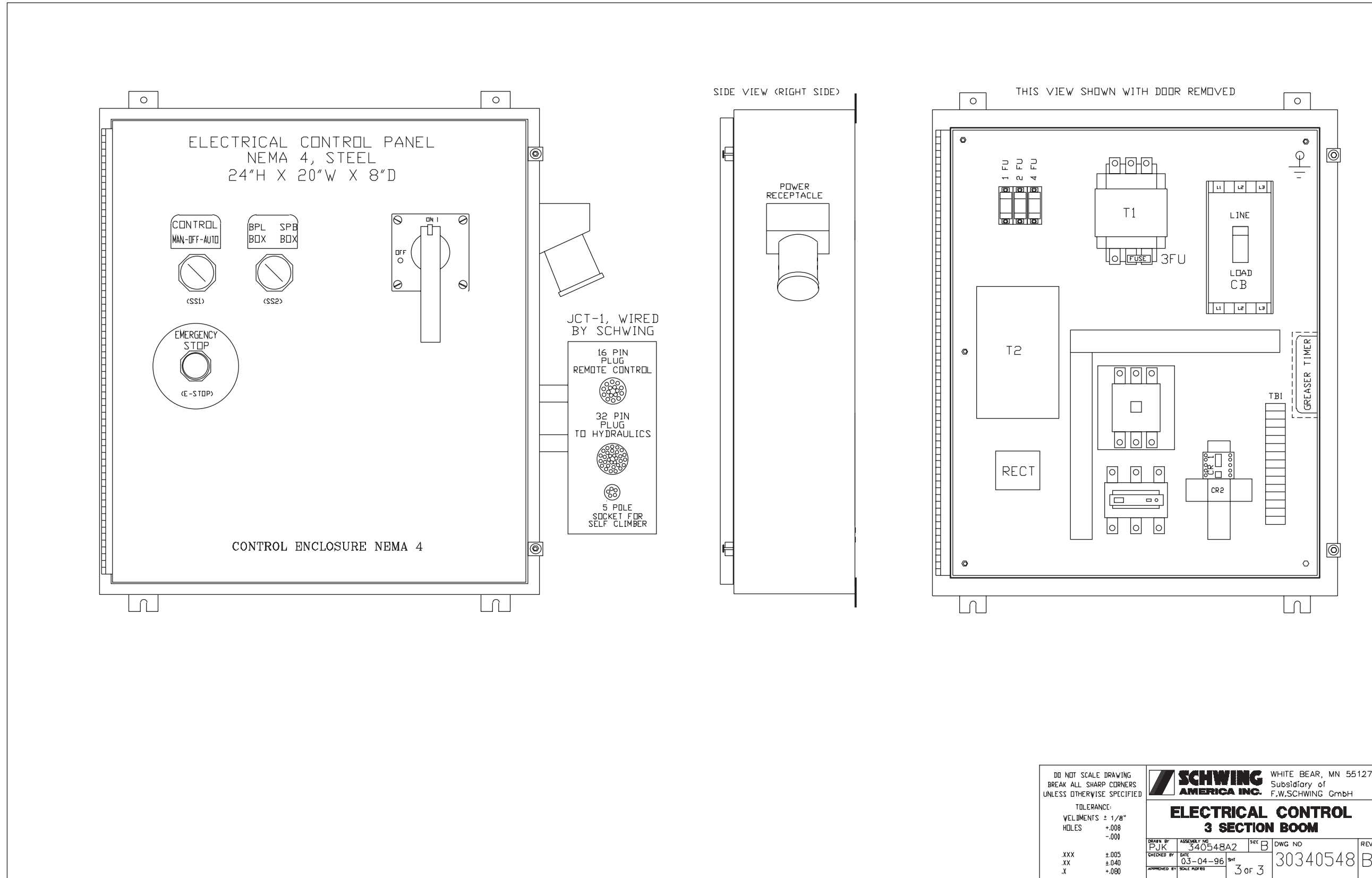
TOLERANCE:
WELDMENTS ± 1/8"
HOLES +.008
-.000

.XXX ±.005
.XX ±.040
.X ±.080

SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

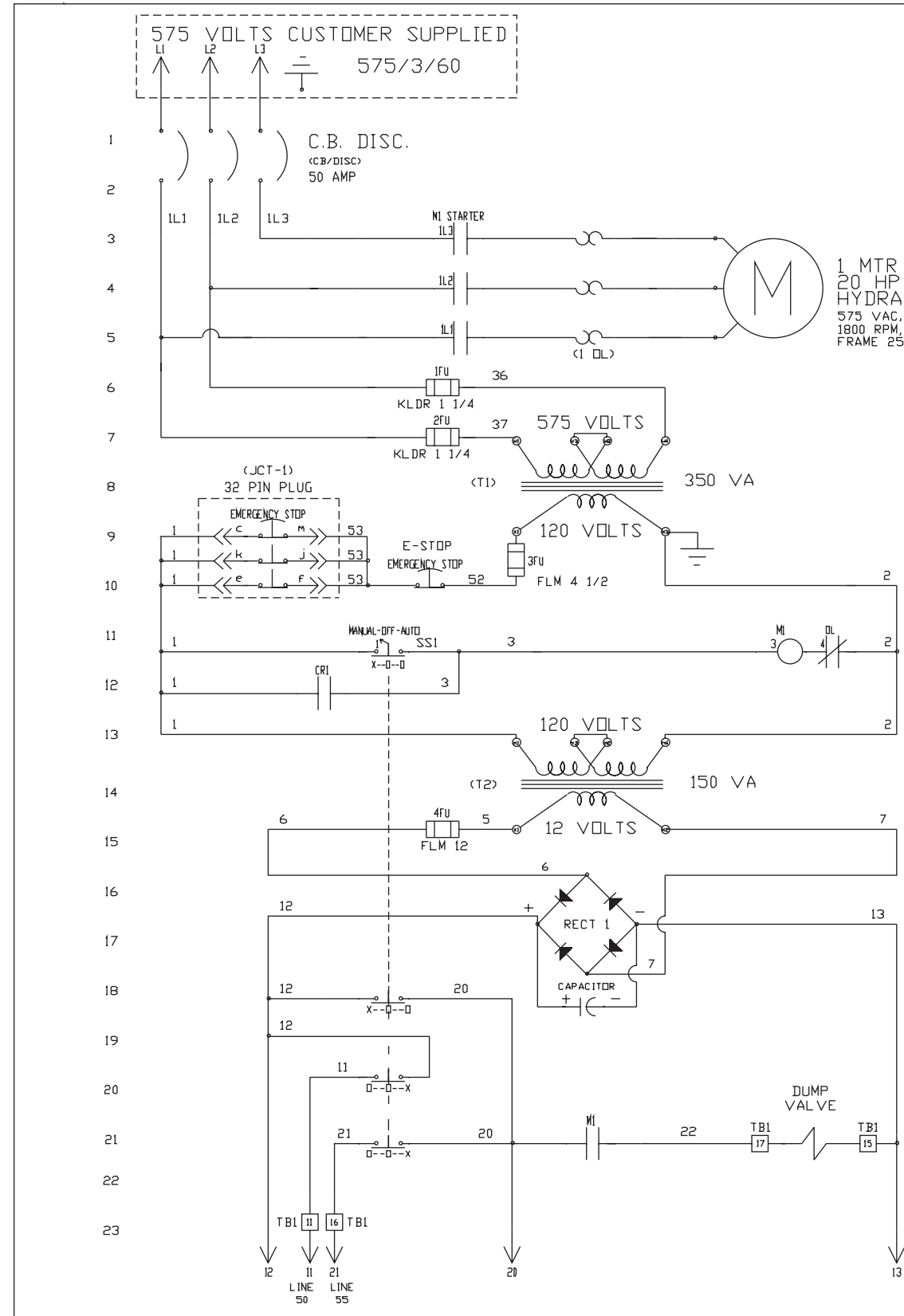
**ELECTRICAL CONTROL
3 SECTION BOOM**

DRAWN BY PJK ASSEMBLY NO 340548A2 SIZE B DWG NO 30340548 REV B
CHECKED BY DATE 03-04-96 DWG 2 OF 3
APPROVED BY DATE PARTS

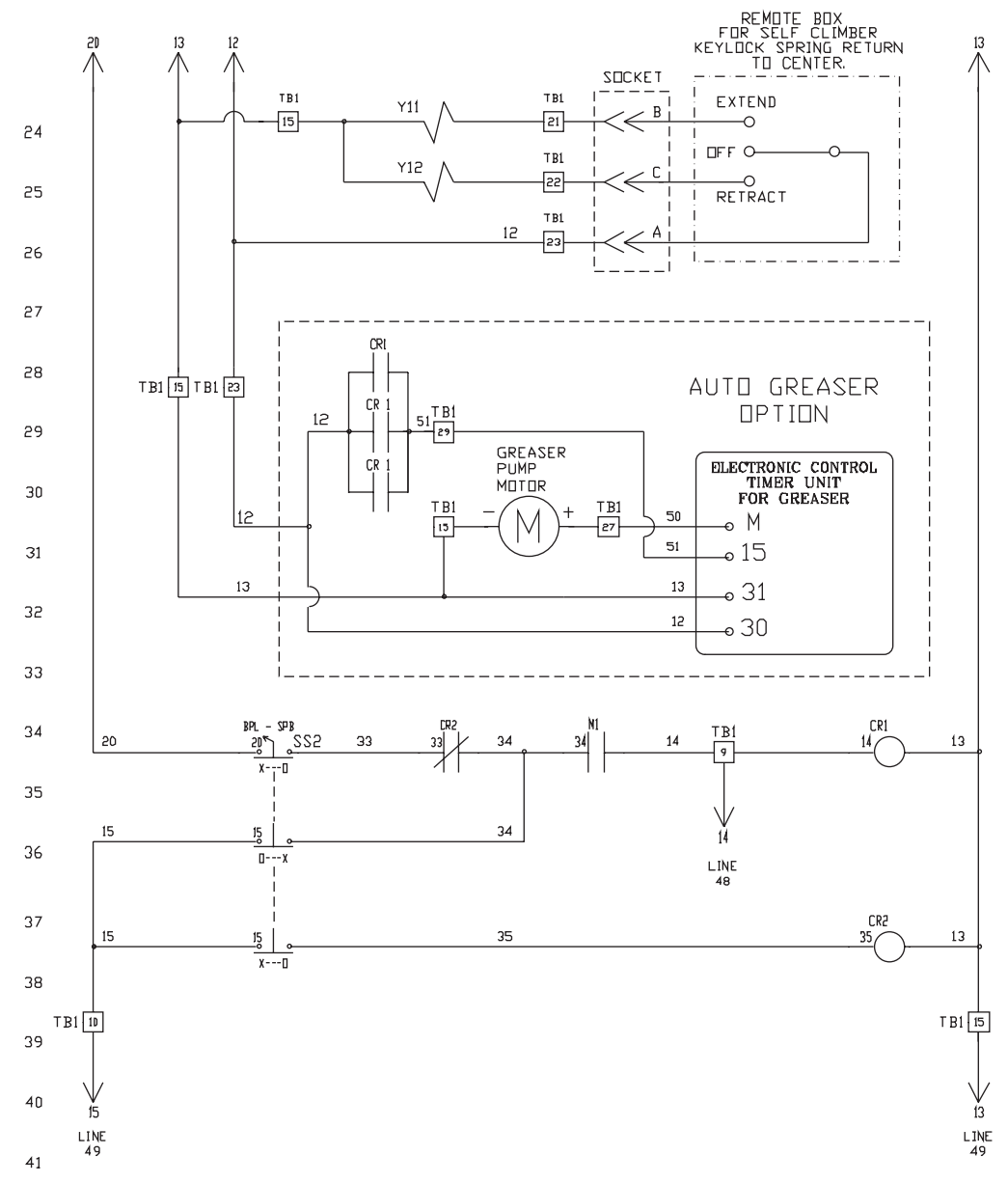


340549

KVM/SPB 28X FLYWAY POWER CIRCUIT, 575VOLTS/60HZ, 12 VDC CONTROL, REV B



REV	REVISION CHANGES	NAME	DATE
A	CHANGED 40 AMP BREAKER TO A 50 AMP	PJK	05-10-96
B	ADDED E-STOP TO FRONT PANEL	PJK	02-25-97



**KVM28X SPLIT 575VAC/60HZ
12 VDC CONTROL**

WIRE COLOR CODE
 ALL 120 VOLTS CONTROL WIRE AWG#16 RED MTW.
 ALL NEUTRAL SIDE CONTROL WIRE WHITE AWG#16 MTW.
 ALL LINE VOLTAGE WIRES BLACK COLOR
 ALL WIRING FOR INTR IS BLACK COLOR
 ALL D.C. VOLTAGE, GROUND SHIELDED CABLE AWG#18
 ALL EXTERNAL DEVICES RED, WHITE OR BLUE #14 MTW

DO NOT SCALE DRAWING
 BREAK ALL SHARP CORNERS
 UNLESS OTHERWISE SPECIFIED

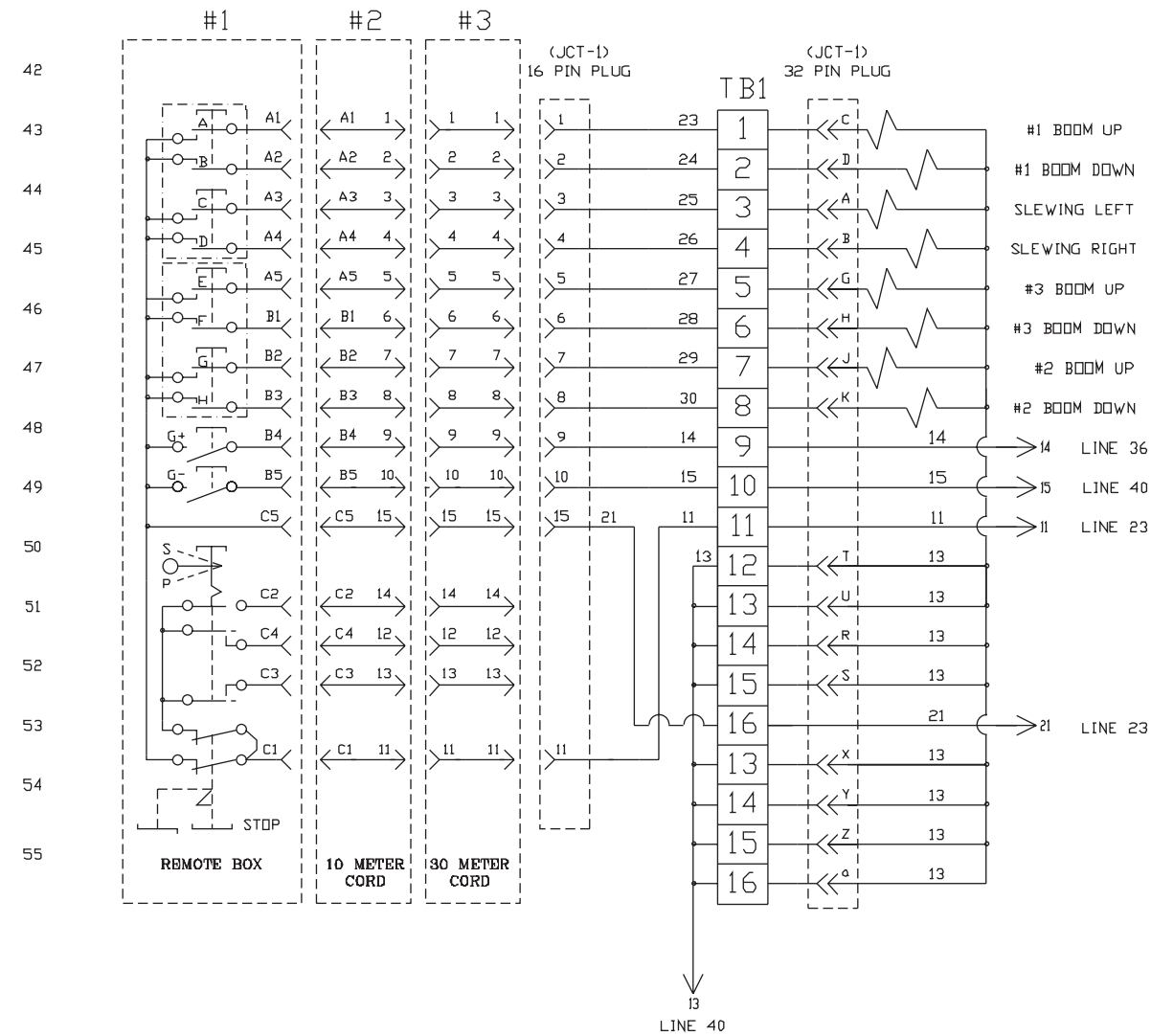
TOLERANCE:
 WELDMENTS ± 1/8"
 HOLES
 +.008
 -.000

.xxx ±.005
 .xx ±.040
 .x ±.080

SCHWING AMERICA INC. WHITE BEAR, MN 55127
 Subsidiary of F.W.SCHWING GmbH

**ELECTRICAL CONTROL
 3 SECTION BOOM**

DRAWN BY PJK	ASSEMBLY NO 340549A1	SIZE B	DWG NO 30340549	REV B
CHECKED BY	DATE 03-04-96	SHEET 1 of 3		
APPROVED BY	DATE			



BILL OF MATERIAL			
ITEM	PART NO.	PART NAME	QTY
CB	ED63A050L	CIRCUIT BREAKER 50 AMP; SIEMENS	1
	RHDEB0	CIRCUIT BREAKER MECHANISM; SIEMENS	1
	RHDH4	CIRCUIT BREAKER HANDLE; SIEMENS	1
	RHDSVD	RDD; SIEMENS	1
M1	3TF4622-0AK6	NON REVERSING AC CONTACTOR; SIEMENS	1
OL	3UA5800-2D	OVERLOAD RELAY; SIEMENS	1
CR1	3TF2010-0BA4	CONTROL RELAY 12VDC; SIEMENS	1
CR2	RH2B-U-12VDC	CONTROL RELAY 12VDC; IDEC	1
	SH2B-05	RELAY SOCKET; ICEC	1
T1	TA-2-32669	TRANSFORMER 120VAC; ACME	1
T2	T-1-81049	TRANSFORMER 12VAC; ACME	1
	PL-112601	FUSE CLIP	1
RECT-1	30305316	BRIDGE RECTIFIER, 35 AMPS	1
CAPACITOR	30316292	CAPACITOR, 1000mF, 50VDC	1
ENCL.	T-24H20B	ENCLOSURE; TANCO	1
PANEL	T-24P20	BACK PANEL; TANCO	1
TB1	8WA1011-1DG21	TERMINAL BLOCKS; SIEMENS	3
	8WA1808	END BLOCKS; SIEMENS	2
	8WA746	STAND-OFFS	2
SS1	3SB03-3MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-0G	CONTACT BLOCK; SIEMENS	2
SS2	3SB03-2MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-0B	CONTACT BLOCK; SIEMENS	1
	3SB1400-0H	CONTACT BLOCK; SIEMENS	2
E-STOP	30331882	EMERGENCY STOP, MUSHROOM TYPE; SIEMENS 3SB03-K4R	1
	30331881	CONTACT BLOCK N.C.; SIEMENS 3SB1400-0C	1
1FU-2FU	30335092	DECAL, EMERGENCY STOP; MGL	2
	KLDR 1 1/4	FUSE; LITTELFUSE	2
3FU	L60030C-2PQ	FUSE BLOCK; LITTELFUSE	1
	FLM 4 1/2	FUSE; LITTELFUSE	2
4FU	FLM 12	FUSE; LITTELFUSE	2
	L60030M-1PQ	FUSE BLOCK; LITTELFUSE	1
16PIN	10007477	16 PIN SOCKET	1
	10007479	CAP FOR 16 PIN SOCKET	1
	10007478	GASKET FOR 16 PIN SOCKET	1
32PIN	30341973	32 PIN SOCKET, FEMALE INSERT; SINE #V532-2P00-A7	1
	30341974	32 PIN RECEPTACLE COVER; SINE #CV5618-ZB	1
SOCKET	10023464	5 POLE SOCKET SPOOL (FOR SELF CLIMBER)	1
TIMER		GREASER TIMER, 12VDC (OPTIONAL)<SAI# 30316211>	1
GREASE PUMP		GREASER PUMP, 12VDC (OPTIONAL)<SAI# 30316518>	1
PLUG	AR-342	CROUSE HINDS PLUG	1
	AP-3485	CROUSE HINDS RECEPTACLE	1
	AR-30	CROUSE HINDS BACKBOX	1

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

TOLERANCE:
WELDMENTS ± 1/8"
HOLES
+008
-000

...XX ±005
..XX ±040
..X +080

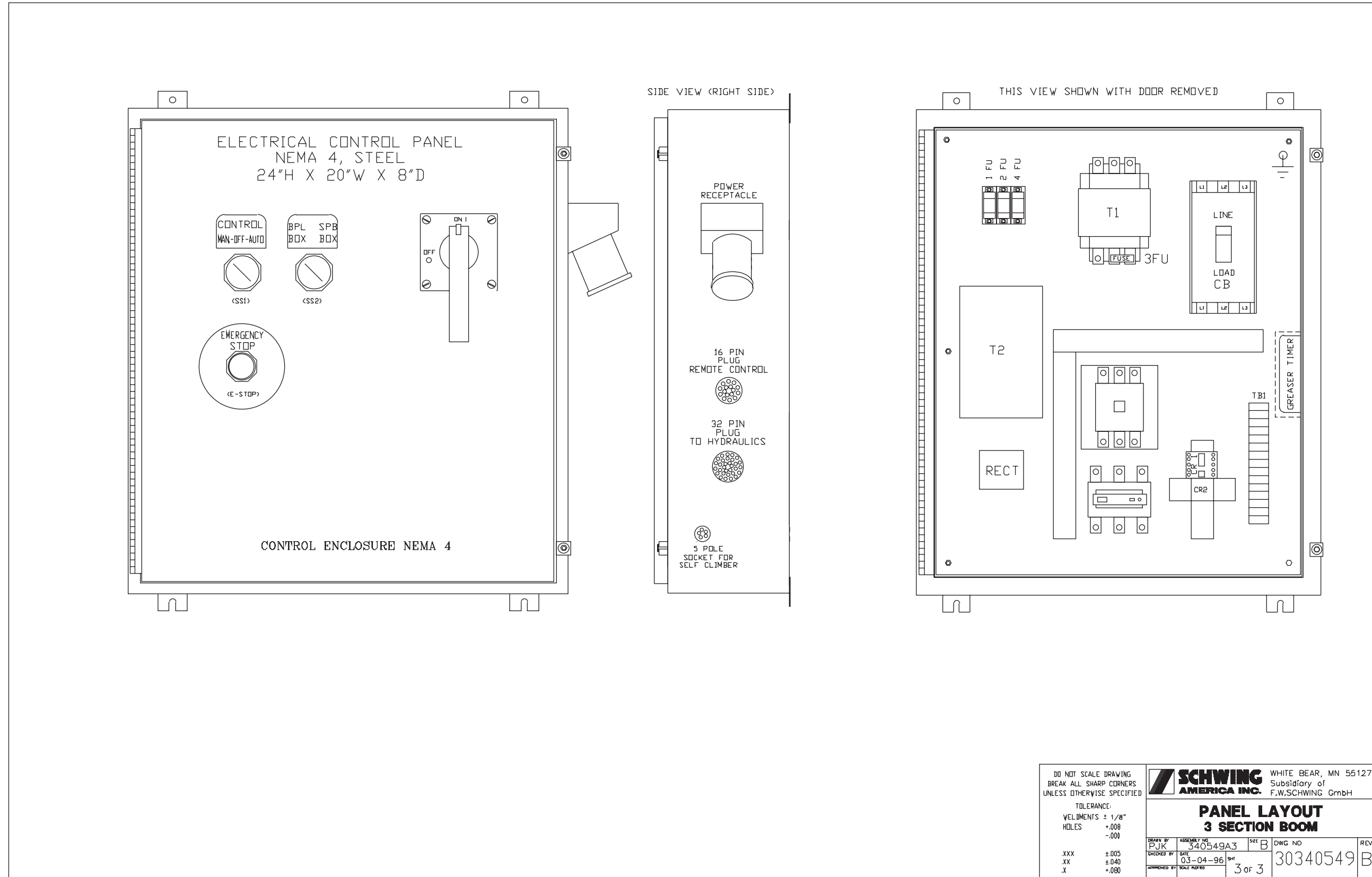
SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

**ELECTRICAL CONTROL
3 SECTION BOOM**

DRAWN BY PJK ASSEMBLY NO. 340549A2 SIZE B DWG NO. 30340549 REV B
CHECKED BY DATE 03-04-96 SHEET 2 OF 3
APPROVED BY DATE

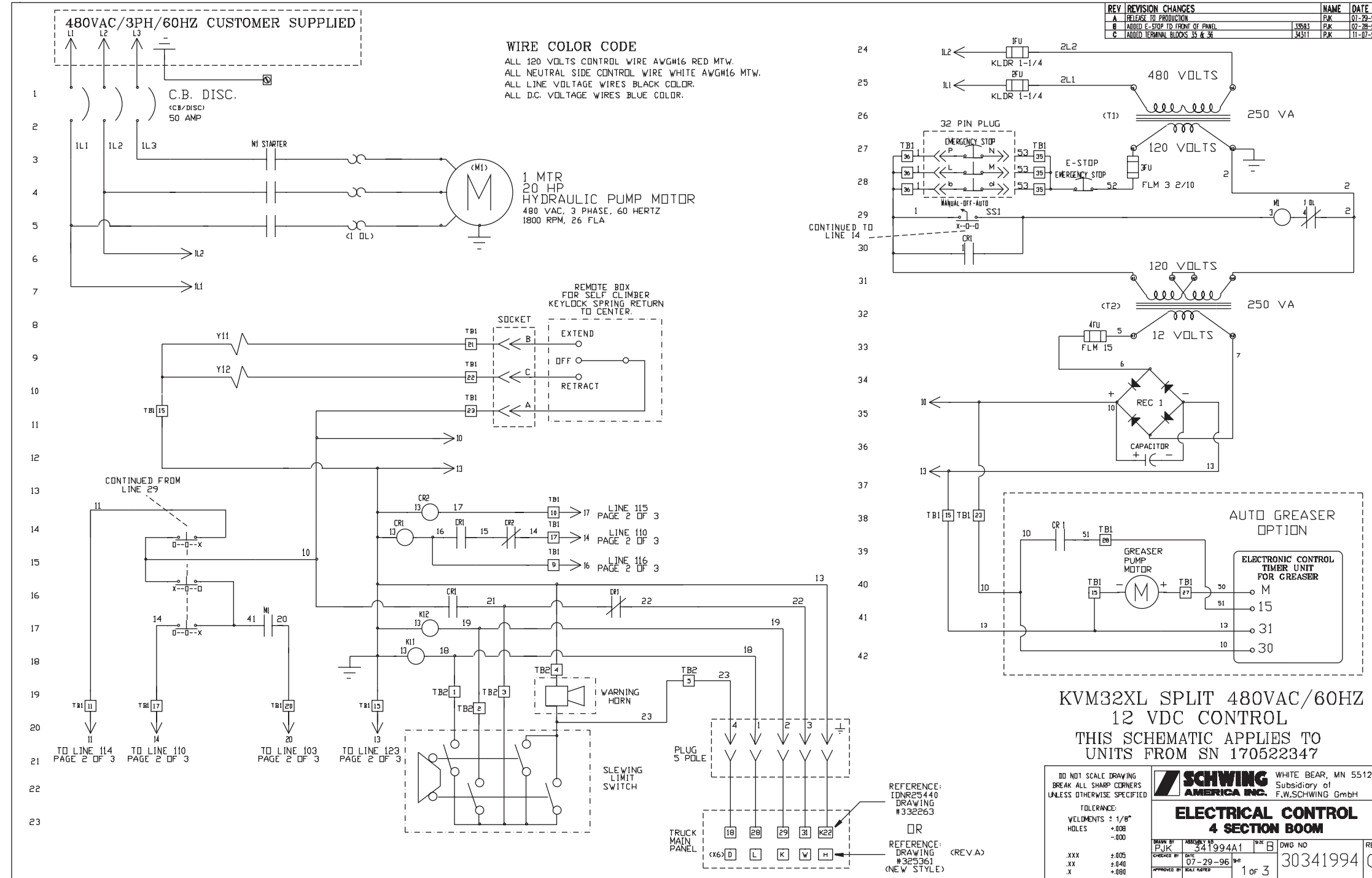
340549

KVM/SPB 28X FLYWAY POWER CIRCUIT, 575VOLTS/60HZ, 12 VDC CONTROL, PANEL LAYOUT, REV B



DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED		SCHWING AMERICA INC.		WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH
TOLERANCE: VELDMENTS ± 1/8" HOLES +008 -000				
.XXX	±.005			
.XX	±.040			
.X	+080			
		PANEL LAYOUT 3 SECTION BOOM		
DRAWN BY PJK	ASSEMBLY NO. 340549A3	REV B	DWG NO. 30340549	REV B
CHECKED BY	DATE 03-04-96	3 of 3		
APPROVED BY	SHEET NUMBER			

KVM/SPB 28X FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 12 VDC CONTROL, REV C



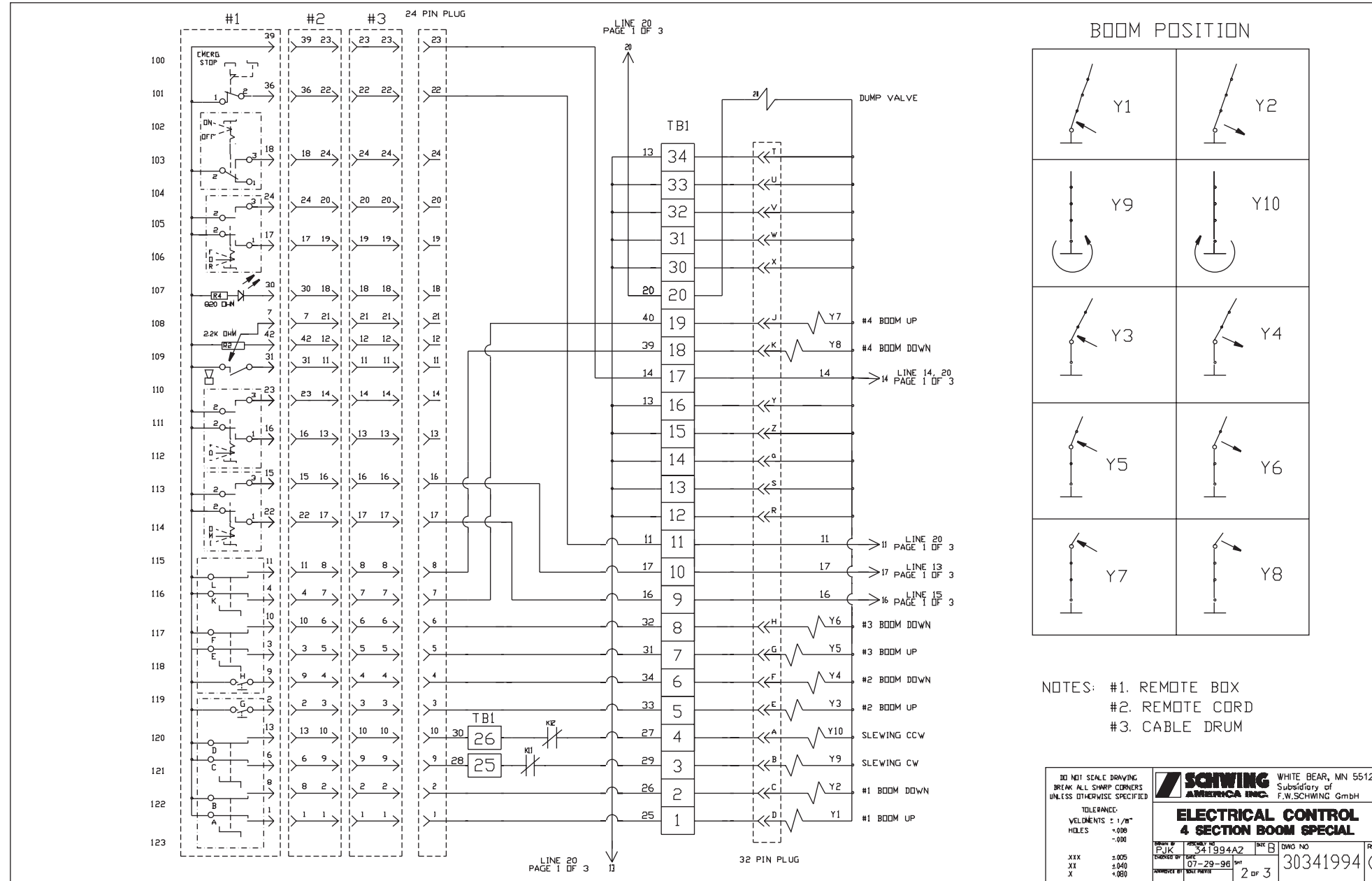
REV	REVISION CHANGES	NAME	DATE
A	RELEASE TO PRODUCTION	FJK	07-29-96
B	ADDED E-STOP TO FRONT OF PANEL	SSB1	07-28-97
C	ADDED TERMINAL BLOCKS 15 & 36	SSB1	11-07-97

**KVM32XL SPLIT 480VAC/60HZ
 12 VDC CONTROL
 THIS SCHEMATIC APPLIES TO
 UNITS FROM SN 170522347**

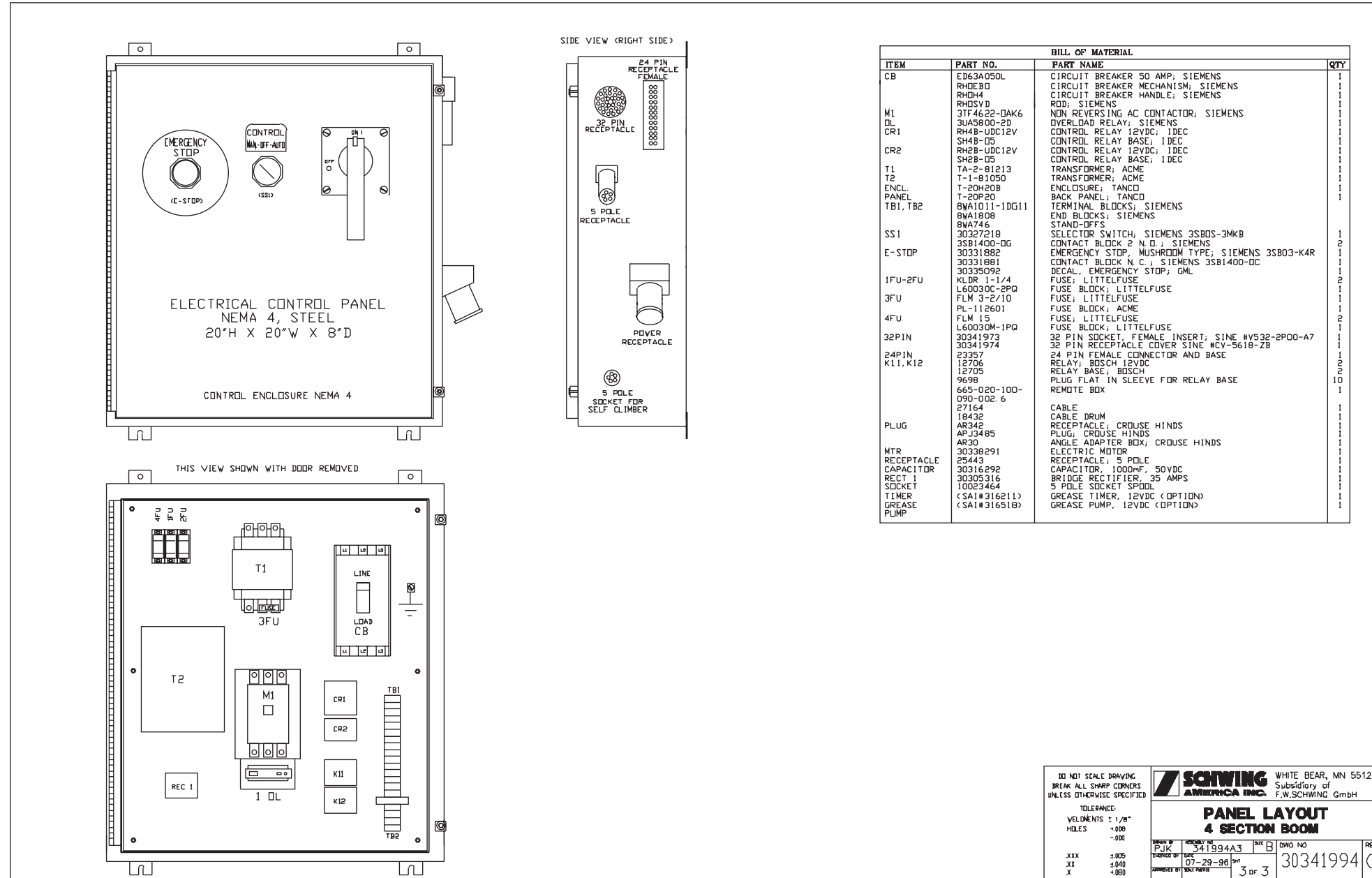
DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED		SCHWING AMERICA INC.		WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH	
TOLERANCE: DIMENSIONS ± 1/8" HOLES +.003 -.000		ELECTRICAL CONTROL 4 SECTION BOOM			
DRAWN BY FJK	CHECKED BY DATE 07-29-96	APPROVED BY DATE 11-07-97	DWG NO 30341994	REV C	1 of 3

341994

KVM/SPB 28X FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 12 VDC CONTROL, REV C



KVM/SPB 28X FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 12 VDC CONTROL, PANEL LAYOUT, REV C



DO NOT SCALE DRAWING
 BREAK ALL SHARP CORNERS
 UNLESS OTHERWISE SPECIFIED

TOLERANCE:
 DIMENSIONS ± 1/16"
 HOLES +.008
 -.000

XXX ±.005
 XX ±.040
 X +.020

SCHWING AMERICA INC. WHITE BEAR, MN 55127
 Subsidiary of F.W.SCHWING GmbH

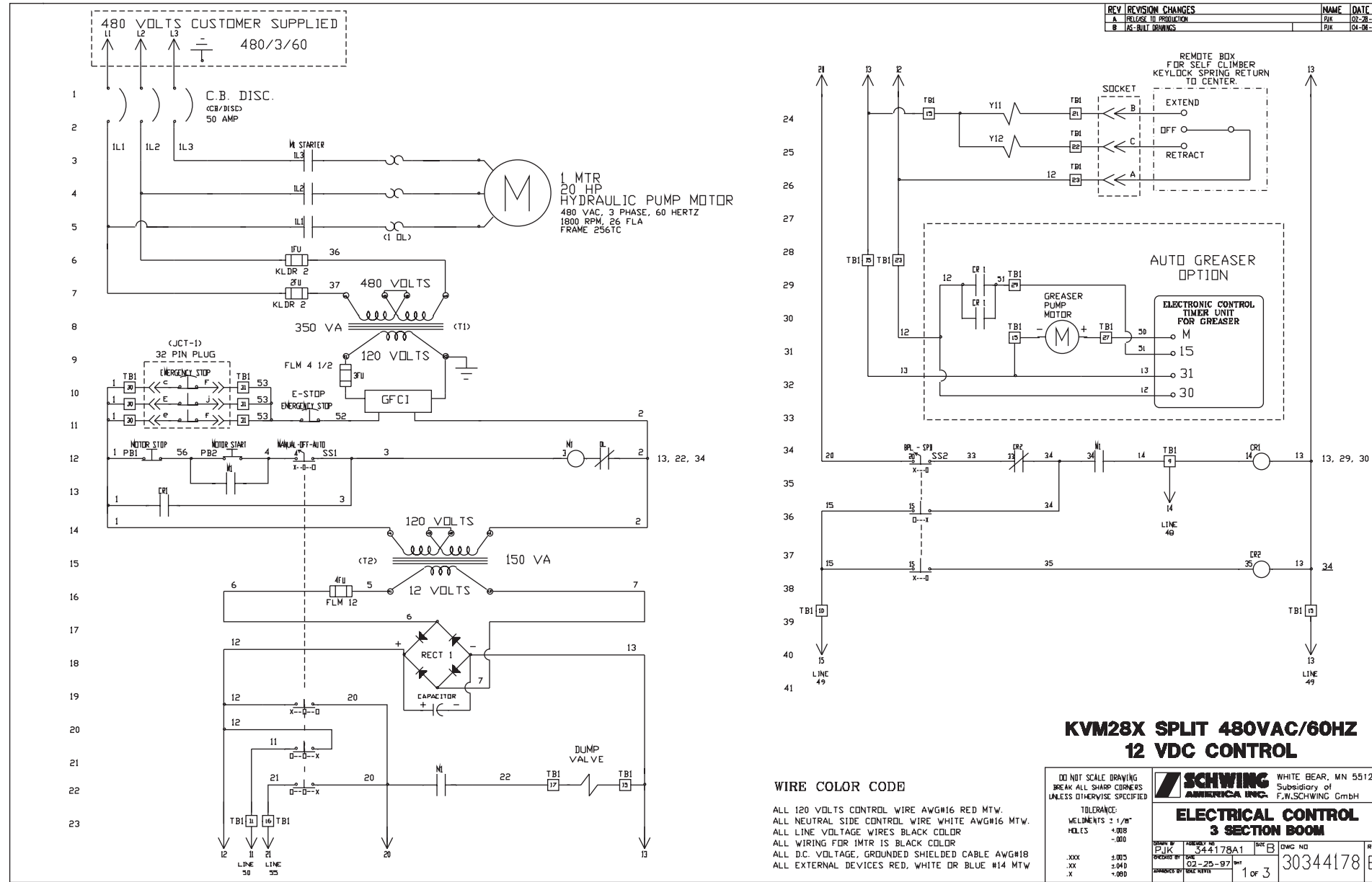
PANEL LAYOUT 4 SECTION BOOM

DESIGNED BY: PJK
 CHECKED BY: JAC
 APPROVED BY: [Signature]

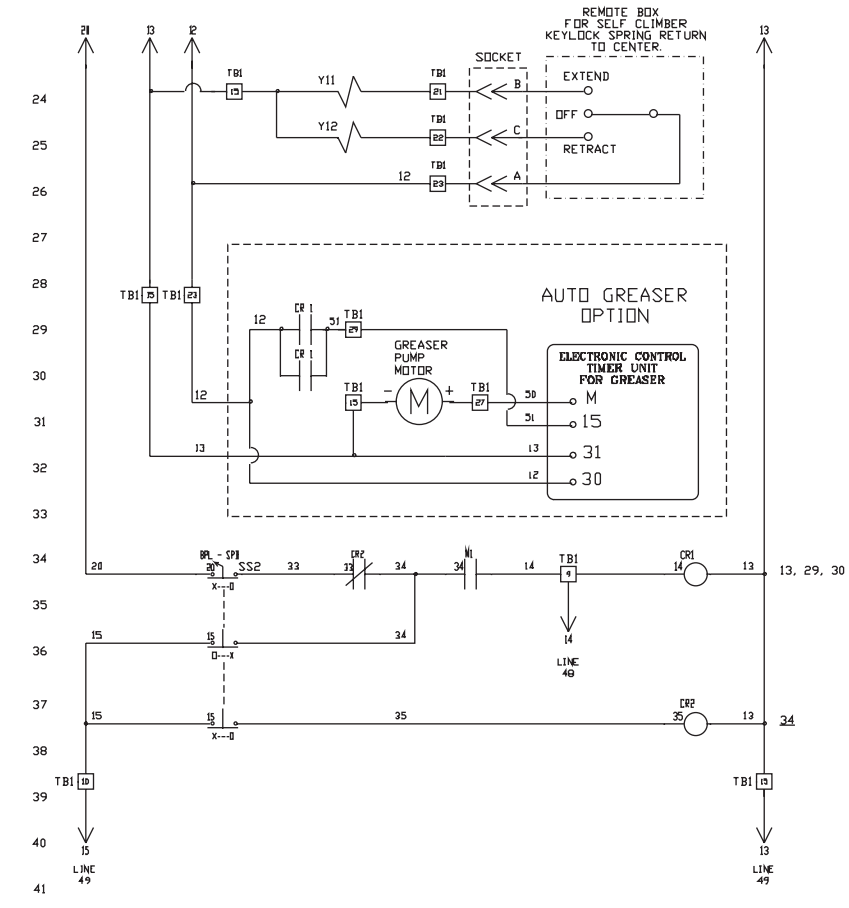
REV B
 DWG NO. 30341994
 3 of 3

344178

KVM/SPB 28X FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 12 VDC CONTROL, REV B



REV	REVISION CHANGES	NAME	DATE
1	RELEASE TO PRODUCTION	PK	03-26-97
2	REV-SHIFT DRAWINGS	PK	04-06-98



**KVM28X SPLIT 480VAC/60HZ
12 VDC CONTROL**

WIRE COLOR CODE

ALL 120 VOLTS CONTROL WIRE AWG#16 RED MTW.
ALL NEUTRAL SIDE CONTROL WIRE WHITE AWG#16 MTW.
ALL LINE VOLTAGE WIRES BLACK COLOR
ALL WIRING FOR 1MTR IS BLACK COLOR
ALL D.C. VOLTAGE, GROUNDED SHIELDED CABLE AWG#18
ALL EXTERNAL DEVICES RED, WHITE OR BLUE #14 MTW

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

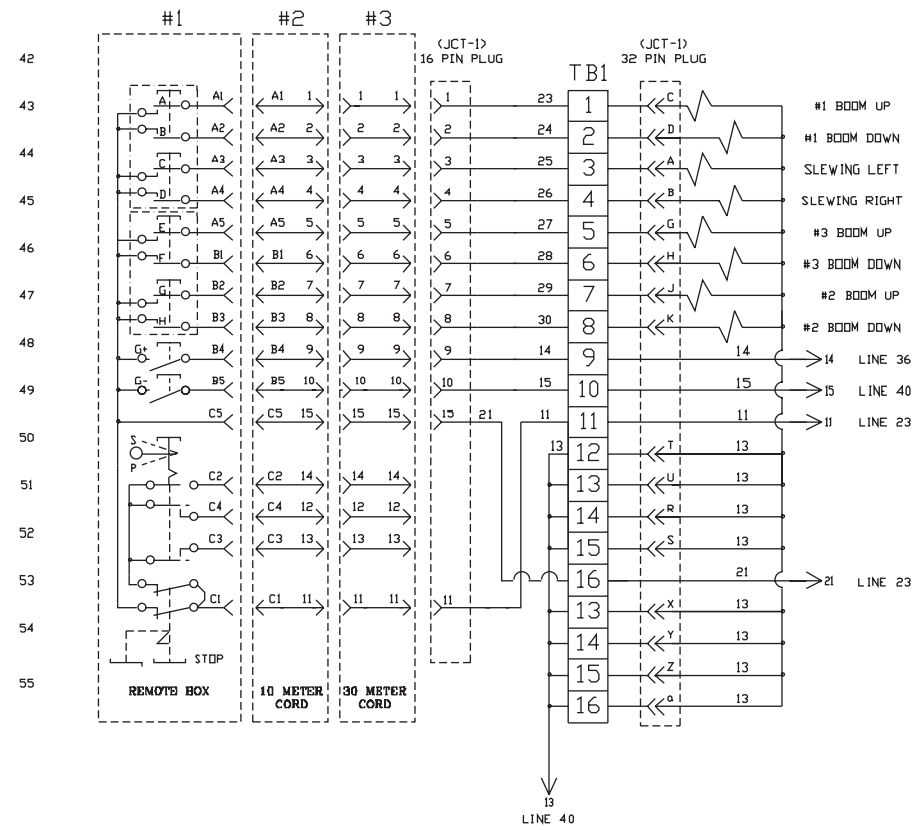
TOLERANCE:
DIMENSIONS ± 1/8"
HOLE'S +.003
-.000

XXX ±.003
XX ±.040
X ±.000

SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

**ELECTRICAL CONTROL
3 SECTION BOOM**

PK 344178A1
DWG NO 30344178
REV B
1 of 3



BILL OF MATERIAL			
ITEM	PART NO.	PART NAME	QTY
CB	ED63A050L	CIRCUIT BREAKER 50 AMP; SIEMENS	1
	RHOE80	CIRCUIT BREAKER MECHANISM; SIEMENS	1
	RHDH4	CIRCUIT BREAKER HANDLE; SIEMENS	1
	RHDSVD	RDD; SIEMENS	1
M1	3TF4622-DAK6	NON REVERSING AC CONTACTOR; SIEMENS	1
	3TY7561-1L	AUX. CONTACT N.O.; SIEMENS	1
OL	3UA5800-2D	OVERLOAD RELAY; SIEMENS	1
CR1	3TF2010-DBA4	CONTROL RELAY 12VDC; SIEMENS	1
CR2	RH2B-U-12VDC	CONTROL RELAY 12VDC; IDEC	1
	SH2B-05	RELAY SOCKET; ICEC	1
T1	TA-2-81214	TRANSFORMER 120VAC; ACME	1
T2	T-1-81049	TRANSFORMER 12VAC; ACME	1
	PL-112601	FUSE CLIP	1
RECT-1	30305316	BRIDGE RECTIFIER, 35 AMPS	1
CAPACITOR	30316292	CAPACITOR, 1000µF, 50VDC	1
ENCL.	T-24H20B	ENCLOSURE; Tanco	1
PANEL	T-24P20	BACK PANEL; Tanco	1
TB1	8WA1011-1DG21	TERMINAL BLOCKS; SIEMENS	3
	8WA1808	END BLOCKS; SIEMENS	2
	8WA746	STAND-OFFS	2
SS1	3SB03-3MK8	SELECTOR SWITCH; SIEMENS	1
	3SB1400-DG	CONTACT BLOCK; SIEMENS	2
SS2	3SB03-2MK8	SELECTOR SWITCH; SIEMENS	1
	3SB1400-DB	CONTACT BLOCK; SIEMENS	1
E-STOP	3SB1400-DH	CONTACT BLOCK; SIEMENS	2
	30331882	EMERGENCY STOP, MUSHROOM TYPE; SIEMENS 3SB03-K4R	1
PB1	30331881	CONTACT BLOCK N.C.; SIEMENS 3SB1400-DC	1
	30335092	DECAL, EMERGENCY STOP; MGL	2
PB2	3SB03-PER	EXTENDED HEAD PUSHBUTTON, RED; SIEMENS	1
	3SB1400-DC	N.C. CONTACT BLOCK; SIEMENS	1
1FU-2FU	3SB03-PFG	FLUSH PUSHBUTTON, GREEN; SIEMENS	1
	3SB1400-DB	N.O. CONTACT BLOCK; SIEMENS	1
3FU	KLDR 2	FUSE; LITTELFUSE	2
	L60030C-2PQ	FUSE BLOCK; LITTELFUSE	1
4FU	FLM 4 1/2	FUSE; LITTELFUSE	2
	FLM 12	FUSE; LITTELFUSE	2
16PIN	L60030M-1PQ	FUSE BLOCK; LITTELFUSE	1
	10007477	16 PIN SOCKET	1
32PIN	10007479	CAP FOR 16 PIN SOCKET	1
	10007478	GASKET FOR 16 PIN SOCKET	1
SOCKET	30341973	32 PIN SOCKET, FEMALE INSERT; SINE #V532-2P00-A7	1
	30341974	32 PIN RECEPTACLE COVER; SINE #CV5618-ZB	1
TIMER	10023464	5 POLE SOCKET SPOOL (FOR SELF CLIMBER)	1
GREASE PUMP		GREASER TIMER, 12VDC (OPTIONAL) (SAI# 30316211)	1
		GREASER PUMP, 12VDC (OPTIONAL) (SAI# 30316518)	1
PLUG	AR-342	CROUSE HINDS PLUG	1
	AP-3485	CROUSE HINDS RECEPTACLE	1
	AR-30	CROUSE HINDS BACKBOX	1
MOTOR		BALDOR 480/3/60 (SAI# 30302540)	1
GFCI	GF2091M1	GROUND FAULT; ARROW HART (SAI #30322873)	1

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

TOLERANCE:
DIMENSIONS ± 1/16"
HOLES +.008
 -.000

XXX ±.005
XX ±.040
X ±.080

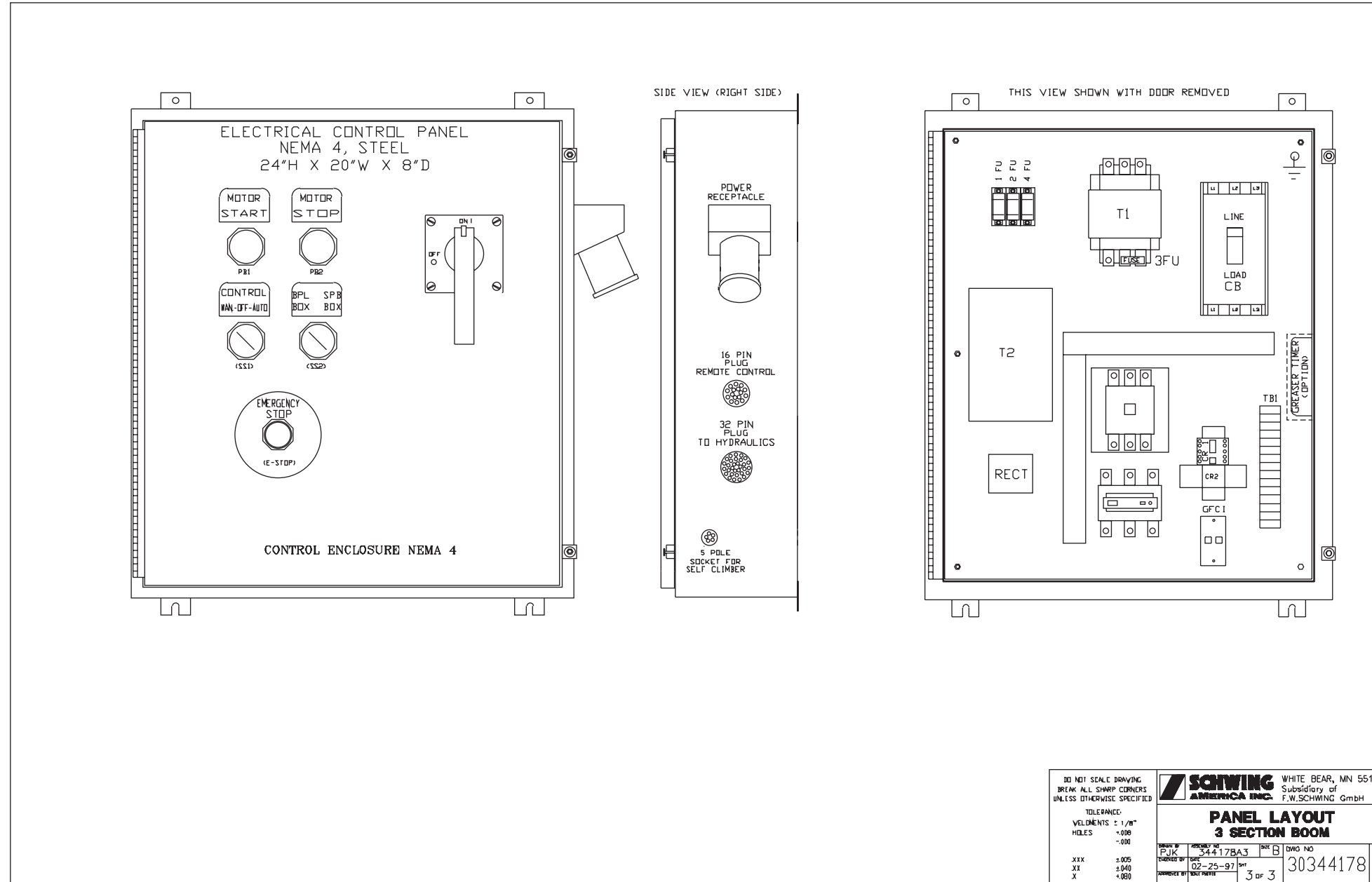
SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

ELECTRICAL CONTROL
3 SECTION BOOM

DATE: 02-25-97
DWG NO: 30344178
REV: B
2 OF 3

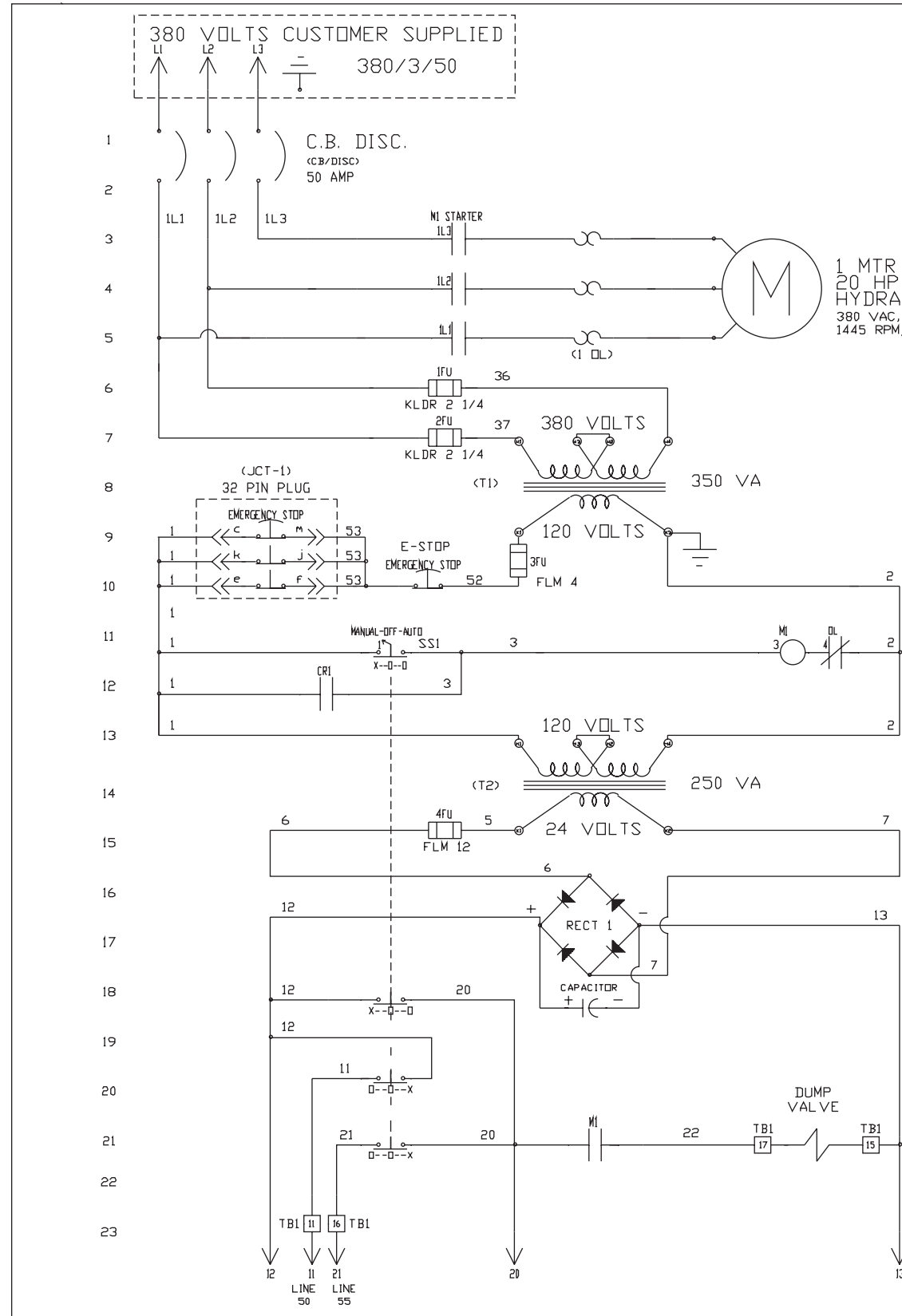
344178

KVM/SPB 28X FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 12 VDC CONTROL, PANEL LAYOUT, REV B



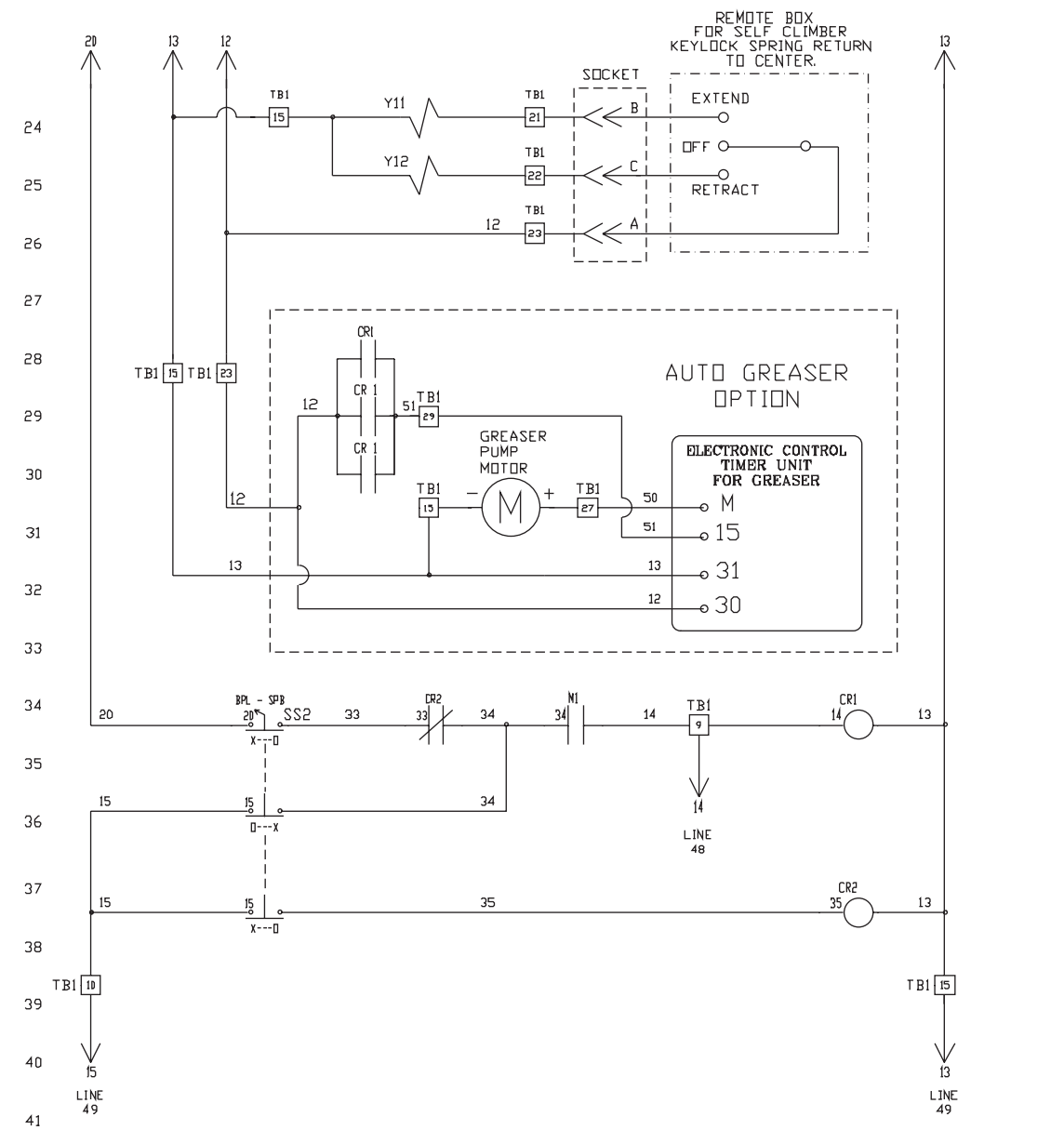
DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED		SCHWING AMERICA INC. WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH	
TOLERANCE: VELDMENTS ± 1/8" HOLES +.008 -.004		PANEL LAYOUT 3 SECTION BOOM	
XXX	±.005	DESIGNED BY FJJK	344-178A3
XI	±.040	DATE	02-25-97
X	±.050	REVISIONS	3 of 3
		DWG NO	30344178
		REV	B

KVM/SPB 28X FLYWAY POWER CIRCUIT, 380VOLTS/60HZ, 24 VDC CONTROL, REV A



1 MTR
20 HP
HYDRAULIC PUMP MOTOR
380 VAC, 3 PHASE, 50 HERTZ
1445 RPM, 31 FLA

REV	REVISION CHANGES	NAME	DATE
A	RELEASE TO PRODUCTION	PJK	02-28-97



**KVM28X SPLIT 380VAC/50HZ
24 VDC CONTROL**

WIRE COLOR CODE
 ALL 120 VOLTS CONTROL WIRE AWG#16 RED MTW.
 ALL NEUTRAL SIDE CONTROL WIRE WHITE AWG#16 MTW.
 ALL LINE VOLTAGE WIRES BLACK COLOR
 ALL WIRING FOR INTR IS BLACK COLOR
 ALL D.C. VOLTAGE, GROUNDED SHIELDED CABLE AWG#18
 ALL EXTERNAL DEVICES RED, WHITE OR BLUE #14 MTW

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

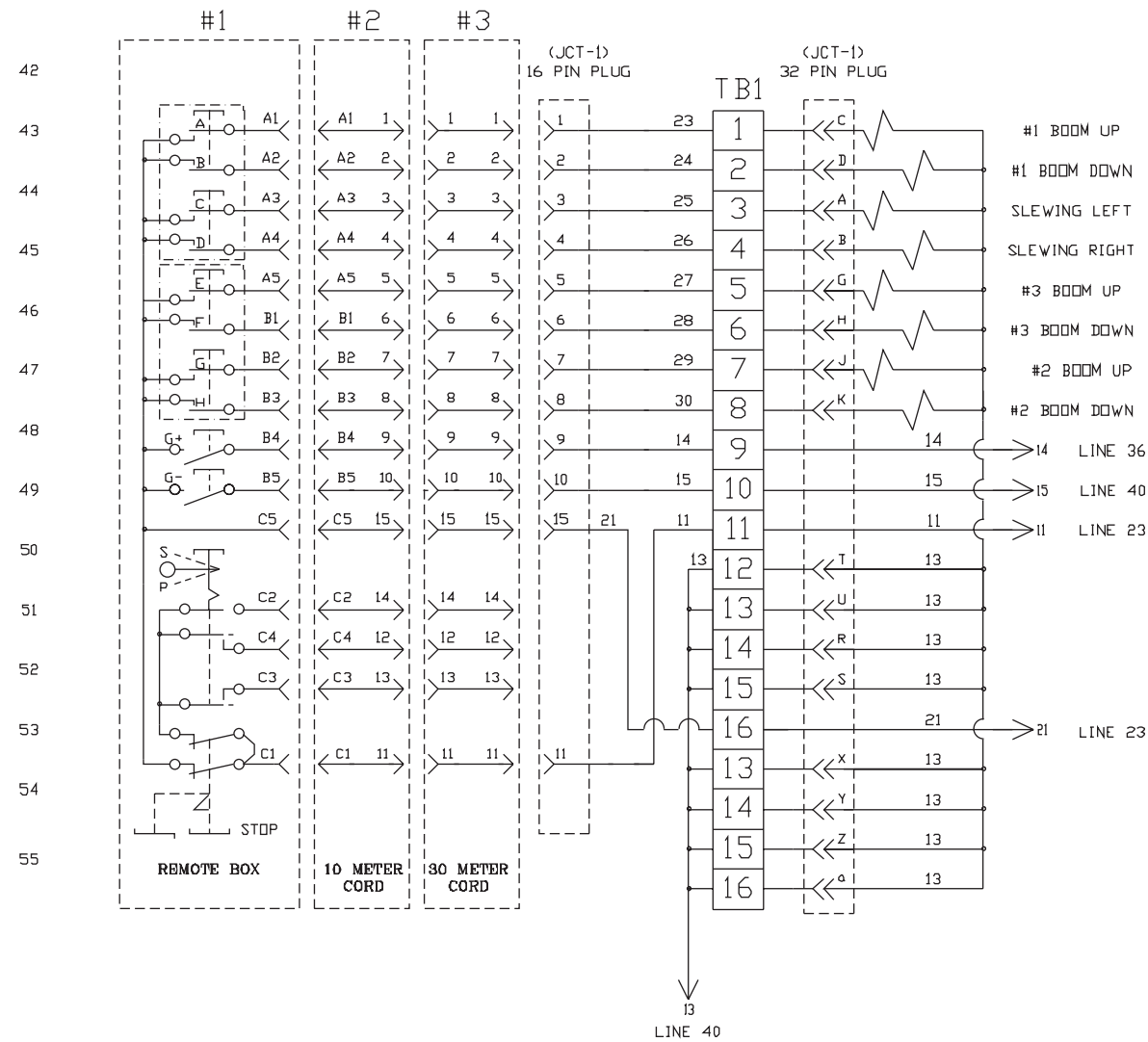
SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

**ELECTRICAL CONTROL
3 SECTION BOOM**

DESIGNED BY PJK	ASSEMBLY NO. 344179A1	SIZE B	DWG NO. 30344179	REV A
CHECKED BY XX	DATE 02-25-97	1 of 3		

344179

KVM/SPB 28X FLYWAY POWER CIRCUIT, 380VOLTS/60HZ, 24 VDC CONTROL, REV A



BILL OF MATERIAL			
ITEM	PART NO	PART NAME	QTY
CB	ED63A050L	CIRCUIT BREAKER 50 AMP; SIEMENS	1
	RHOEB0	CIRCUIT BREAKER MECHANISM; SIEMENS	1
	RHOH4	CIRCUIT BREAKER HANDLE; SIEMENS	1
	RHOSVD	ROD; SIEMENS	1
M1	3TF4622-0AK6	NON REVERSING AC CONTACTOR; SIEMENS	1
OL	3UA5800-2E	OVERLOAD RELAY; SIEMENS	1
CR1	3TF2010-0BB4	CONTROL RELAY 24VDC; SIEMENS	1
CR2	RH2B-U-24VDC	CONTROL RELAY 24VDC; IDEC	1
	SH2B-05	RELAY SOCKET; ICEC	1
T1	TA-2-32669	TRANSFORMER 120VAC; ACME	1
T2	T-1-81050	TRANSFORMER 24VAC; ACME	1
	FL-112601	FUSE CLIP	1
RECT-1	30305316	BRIDGE RECTIFIER, 35 AMPS	1
CAPACITOR	30316292	CAPACITOR, 1000mF, 50VDC	1
ENCL.	T-24H20B	ENCLOSURE; TANCO	1
PANEL	T-24P20	BACK PANEL; TANCO	1
TB1	8WA1011-1DG21	TERMINAL BLOCKS; SIEMENS	3
	8WA1808	END BLOCKS; SIEMENS	2
	8WA746	STAND-OFFS	2
SS1	3SB03-3MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-DG	CONTACT BLOCK; SIEMENS	2
SS2	3SB03-2MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-DB	CONTACT BLOCK; SIEMENS	1
	3SB1400-DH	CONTACT BLOCK; SIEMENS	2
E-STOP	30331882	EMERGENCY STOP, MUSHROOM TYPE; SIEMENS 3SB03-K4R	1
	30331881	CONTACT BLOCK N.C.; SIEMENS 3SB1400-DC	1
	30335092	DECAL, EMERGENCY STOP; MGL	2
1FU-2FU	KLDR 2 1/4	FUSE; LITTELFUSE	2
	L60030C-2PQ	FUSE BLOCK; LITTELFUSE	1
3FU	FLM 4	FUSE; LITTELFUSE	2
4FU	FLM 12	FUSE; LITTELFUSE	2
	L60030M-1PQ	FUSE BLOCK; LITTELFUSE	1
16PIN	10007477	16 PIN SOCKET	1
	10007479	CAP FOR 16 PIN SOCKET	1
	10007478	GASKET FOR 16 PIN SOCKET	1
32PIN	30341973	32 PIN SOCKET, FEMALE INSERT; SINE #V532-2P00-A7	1
	30341974	32 PIN RECEPTACLE COVER; SINE #CV5618-ZB	1
SOCKET	10023464	5 POLE SOCKET SPOOL (FOR SELF CLIMBER)	1
TIMER		GREASER TIMER, 24VDC (OPTIONAL)(SAI# 30316552)	1
GREASE		GREASER PUMP, 24VDC (OPTIONAL)(SAI# 30340551)	1
PUMP			
PLUG	AR-342	CROUSE HINDS PLUG	1
	AP-3485	CROUSE HINDS RECEPTACLE	1
	AR-30	CROUSE HINDS BACKBOX	1

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

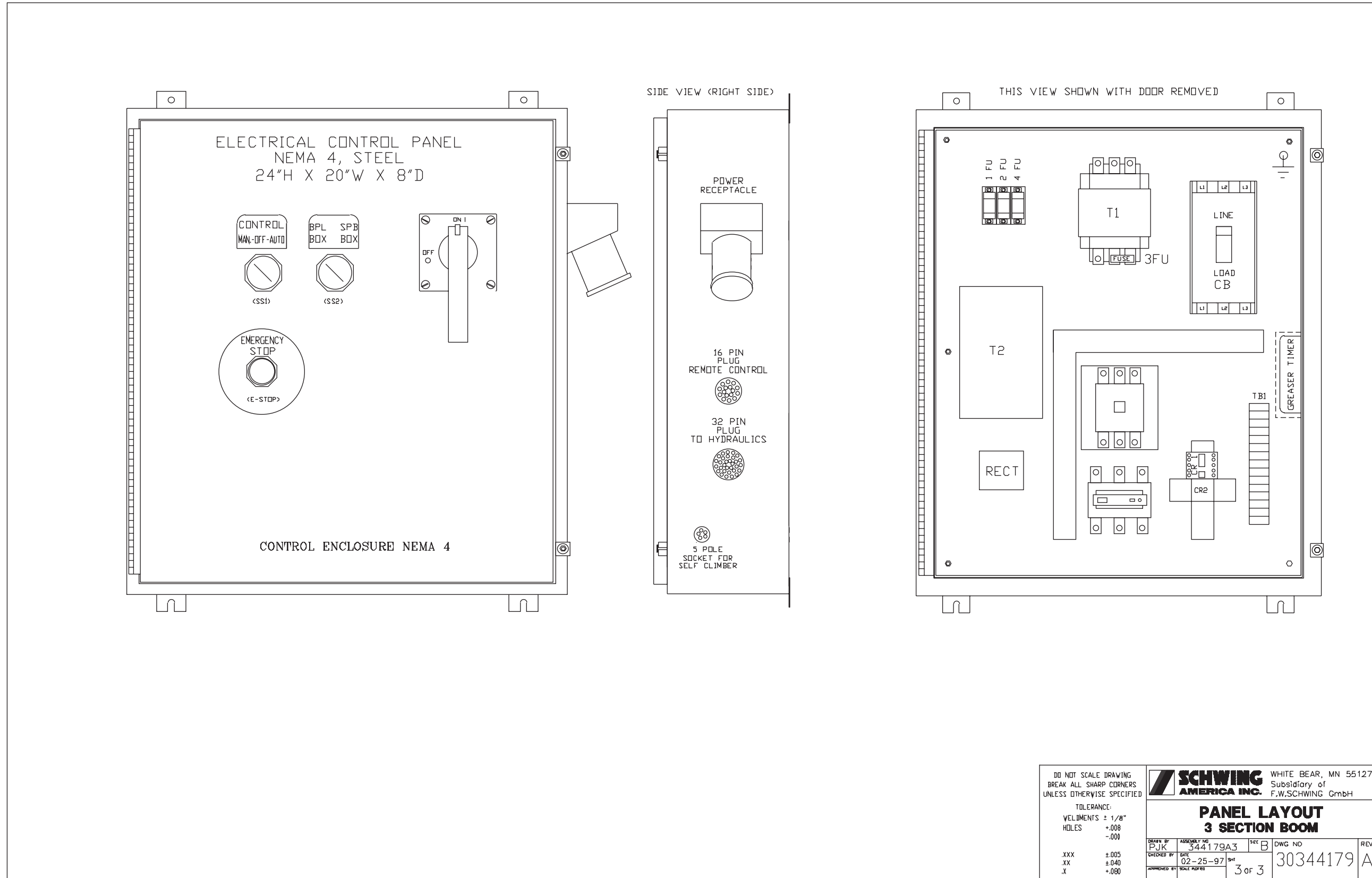
TOLERANCE:
WELDMENTS ± 1/8"
HOLES
+008
-000

.XXX ±005
.XX ±040
.X ±080

SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

**ELECTRICAL CONTROL
3 SECTION BOOM**

DRAWN BY: PJK ASSEMBLY NO: 344179A2 SIZE: B DWG NO: 30344179 REV: A
CHECKED BY: DATE: 02-25-97 DWG: 2 OF 3
APPROVED BY: DATE: PART: 2 OF 3



DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

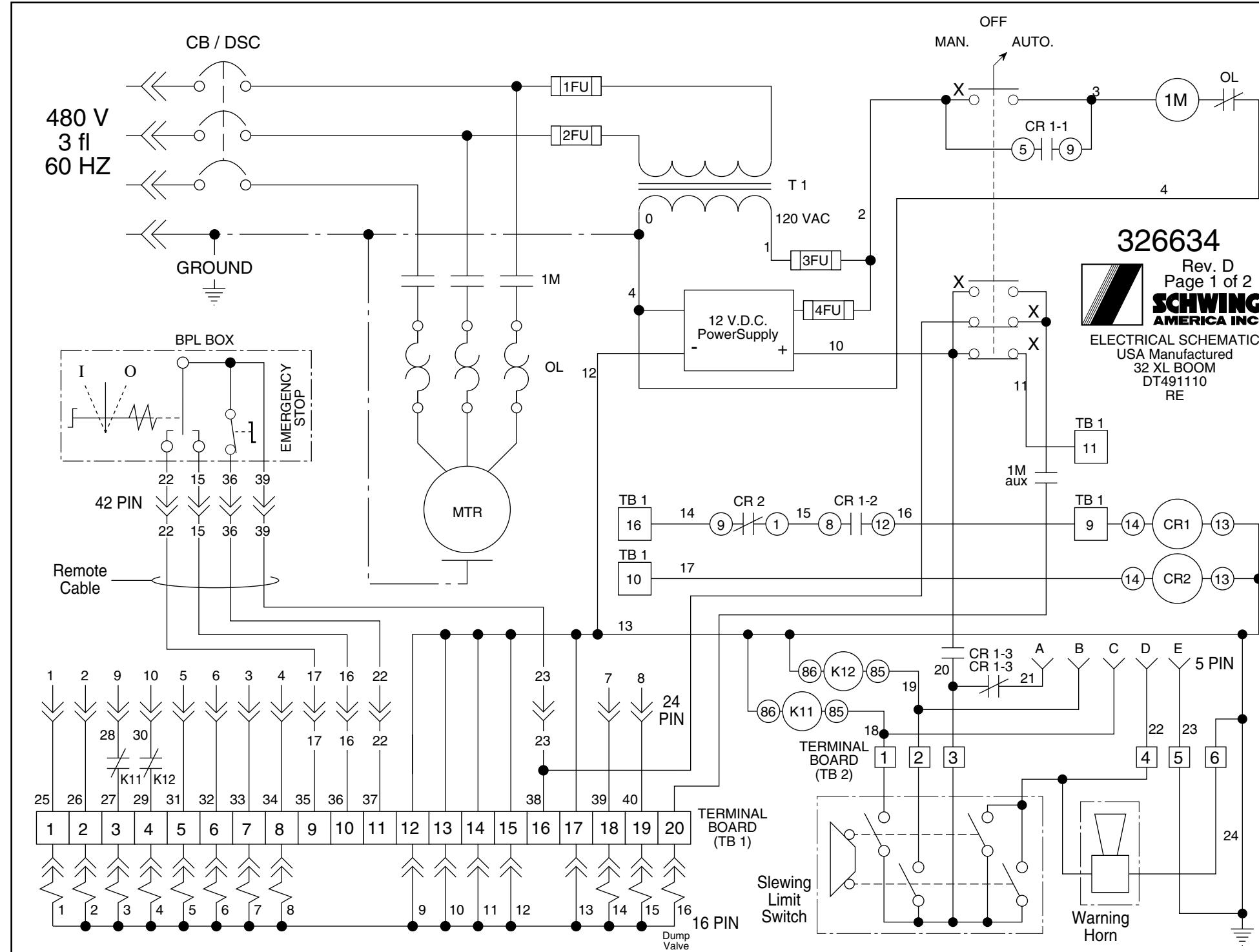
TOLERANCE:
VELDMENTS ± 1/8"
HOLES +.008
-.001

.XXX ±.005
.XX ±.040
.X ±.080

SCHWING AMERICA INC.		WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH	
PANEL LAYOUT 3 SECTION BOOM			
DRAWN BY PJK	ASSEMBLY NO. 344179A3	SEC B	DWG NO 30344179
CHECKED BY XX	DATE 02-25-97	REV A	
APPROVED BY SOLE PAPER		3 of 3	

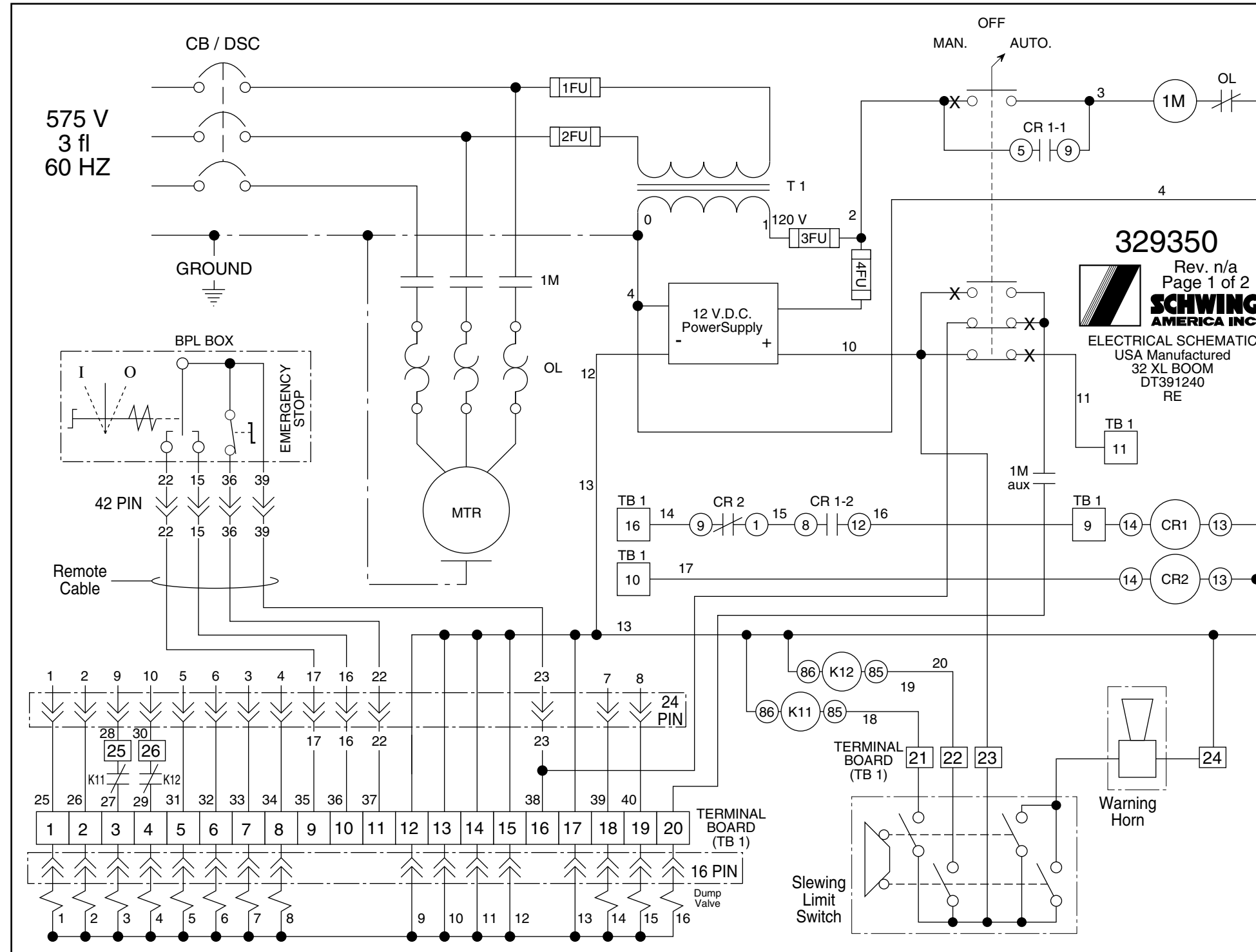
326634

KVM/SPB 32XL FLYAWAY POWER CIRCUIT REV D

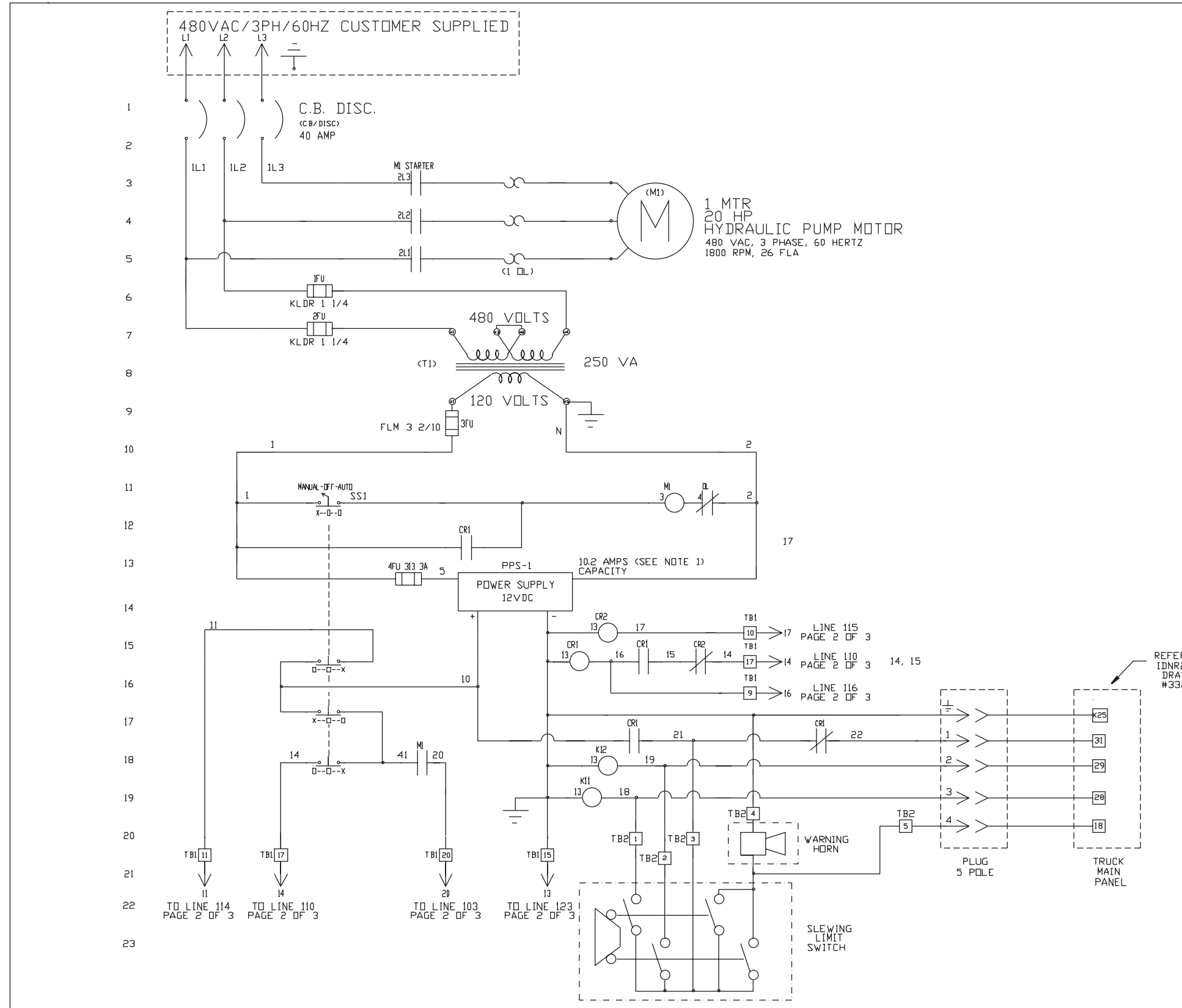


326634
 Rev. D
 Page 1 of 2
SCHWING
 AMERICA INC.
 ELECTRICAL SCHEMATIC
 USA Manufactured
 32 XL BOOM
 DT491110
 RE

KVM/SPB 32XL FLYAWAY POWER CIRCUIT (CANADIAN VERSION) REV N/A



REV	REVISION CHANGES	NAME	DATE
A	GENERAL REVISIONS CHANGES	P. KATKA	10-1-93
E	REDRAWN	P. KATKA	1-21-94
F	CHANGED SAI NUMBER FOR 16PIN ON BOB (SH 3 OF 3)	WW	4-6-94
G	CHANGED PART NUMBER FOR 5 POLE PLUG ON BOB (SH 3 OF 3)	PK	9-2-94
H	GENERAL REVISIONS CHANGES	T. EKUNDI	9-26-94
I	GENERAL REVISIONS CHANGES	T. EKUNDI	2-10-95



NOTE 1.
POWER SUPPLY INRUSH CURRENT=9 AMPS,
OPERATING CURRENT=6-8 AMPS.

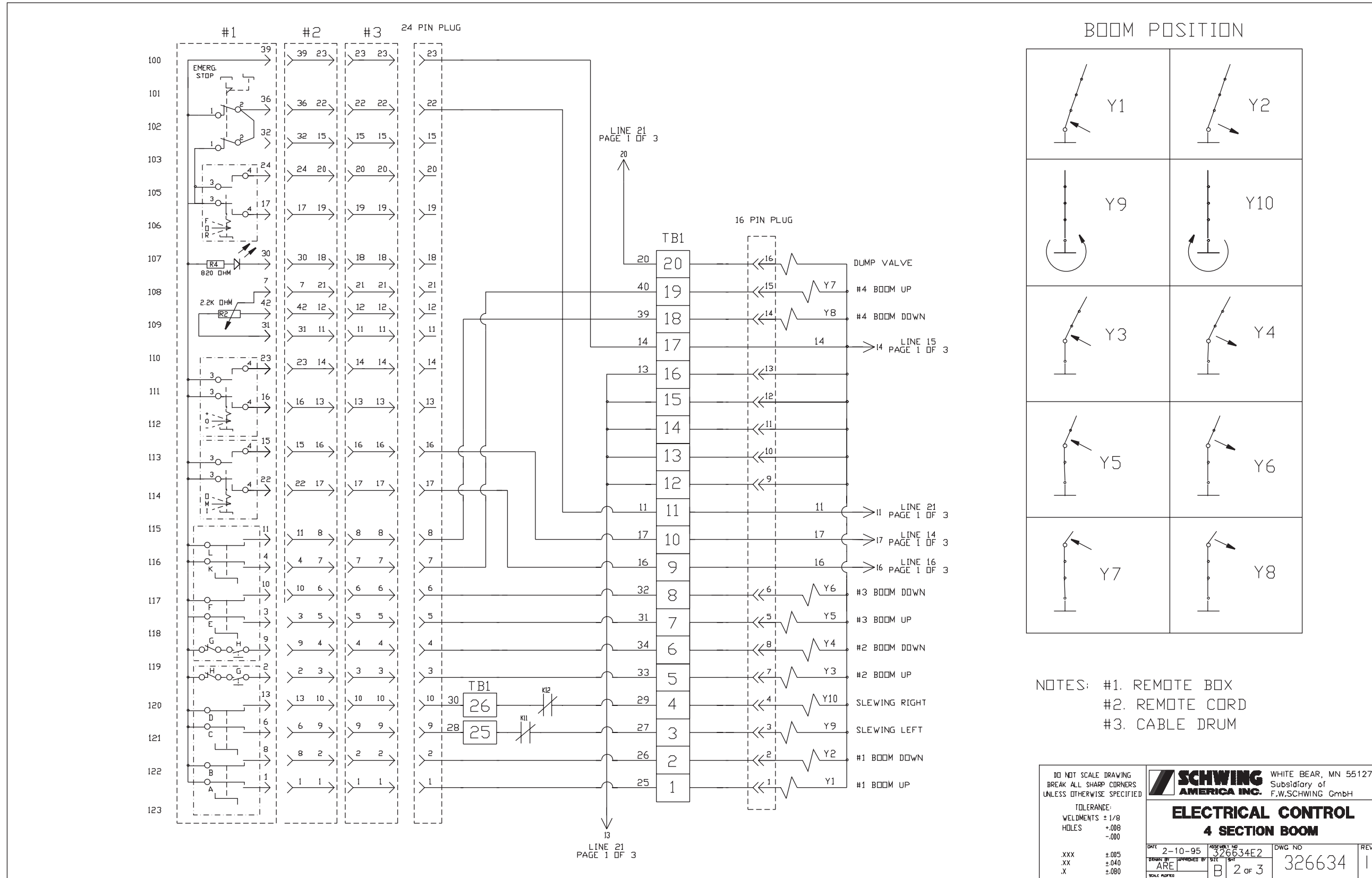
WIRE COLOR CODE
ALL 120 VOLTS CONTROL WIRE AWG#16 RED MTW.
ALL NEUTRAL SIDE CONTROL WIRE WHITE AWG#16 MTW.
ALL LINE VOLTAGE WIRES BLACK COLOR
ALL WIRING FOR 1MTR IS BLACK COLOR
ALL D.C. VOLTAGE, BLUE AWG#16
ALL EXTERNAL DEVICES RED, WHITE OR BLUE #14 MTW

TERMINATION LEGEND
TB1 CONNECTIONS ON TERMINAL BLOCK
TB1 IN ELECTRICAL CONTROL ENCLOSURE
INTERNAL CONNECTIONS IN ELECTRICAL CONTROL ENCLOSURE

REFERENCE:
IDNR25440
DRAWING
#332263

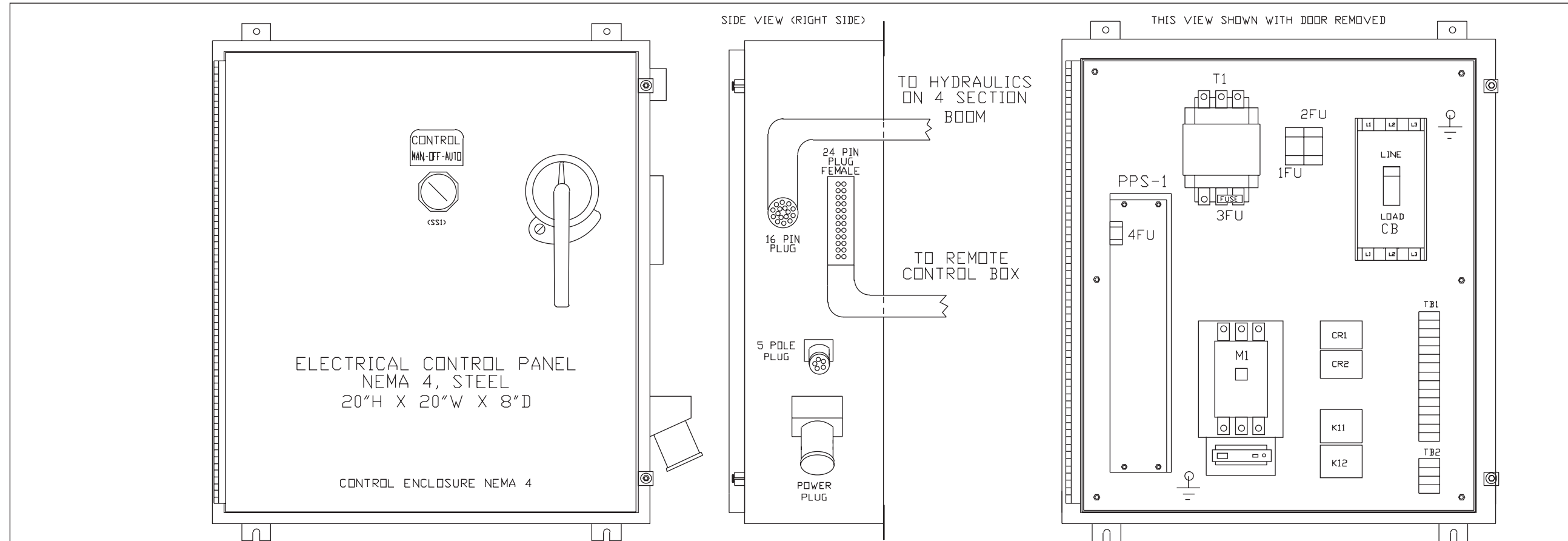
KVM32XL SPLIT

DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED		WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH	
TOLERANCE: WELDMENTS ± 1/8 HOLES +.008 -.000		ELECTRICAL CONTROL 4 SECTION BOOM	
DATE 2-10-95	ASSEMBLY NO 326634E1	DWG NO 326634	REV 1
DRAWN BY ARE	APPROVED BY [Signature]	SCALE 1 of 3	



326634

KVM/SPB 32XL FLYAWAY POWER CIRCUIT, PANEL LAYOUT REV I



BILL OF MATERIAL			
ITEM	PART NO.	PART NAME	QTY
CB	ED63A040	CIRCUIT BREAKER; SIEMENS	1
	RH0EB0	CIRCUIT BREAKER MECHANISM; SIEMENS	1
	RH0H4	CIRCUIT BREAKER HANDLE; SIEMENS	1
	RH0SVD	ROD; SIEMENS	1
M1	3TF4622-DAK6	NON REVERSING AC CONTACTOR; SIEMENS	1
	3UA5800-2D	OVERLOAD RELAY; SIEMENS	1
CR1	RH4BULDC12V	CONTROL RELAY 12VDC; IDEC	1
	SH4B-DSV	CONTROL RELAY BASE; IDEC	1
CR2	RH2B	CONTROL RELAY 12VDC; IDEC	1
	SH2B-DSV	CONTROL RELAY BASE; IDEC	1
PSS-1	HE12-10-2-A+	POWER SUPPLY; CONDOR	1
T1	TA-2-81213	TRANSFORMER; ACME	1
ENCL.	A202008BLP	ENCLOSURE; HOFFMAN	1
PANEL	A-20P20	BACK PANEL; HOFFMAN	1
TB1	8WA1011-1DG11	TERMINAL BLOCKS; SIEMENS	26
	8WA1808	END BLOCKS; SIEMENS	2
	8WA746	STAND-OFFS	2
SS1	3SB03-3MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-0G	CONTACT BLOCK; SIEMENS	1
1FU-2FU	KLDR 1 1/4	FUSE; LITTELFUSE	2
	BL60030M-2PQ	FUSE BLOCK; LITTELFUSE	1
3FU	FLM 3 2/10	FUSE; LITTELFUSE	1
4FU	313 3A	FUSE; LITTELFUSE	2
16PIN	21986	16 PIN SOCKET	1
24PIN	23357	24 PIN FEMALE CONNECTOR AND BASE	1
K11, K12	12706	RELAY; BOSCH 12VDC	2
	12705	RELAY BASE; BOSCH	2
	9698	PLUG FLAT IN SLEEVE FOR RELAY BASE	10
	665-020-100-090-002.6	REMOTE BOX	1
PLUG	27164	CABLE	1
	18432	CABLE DRUM	1
	AR342-S	CROUSE HINDS PLUG	1
	APJ6385-S	CROUSE HINDS RECEPTACLE	1
MTR	AR30	CROUSE HINDS BACKBOX	1
	325734	ELECTRIC MOTOR	1
PLUG	25443	PLUG, 4 POLE	1

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

TOLERANCE:
WELDMENTS ± 1/8
HOLES +.008
-.000

DATE: 2-10-95
DRAWN BY: ARE
SCALE: AS SHOWN

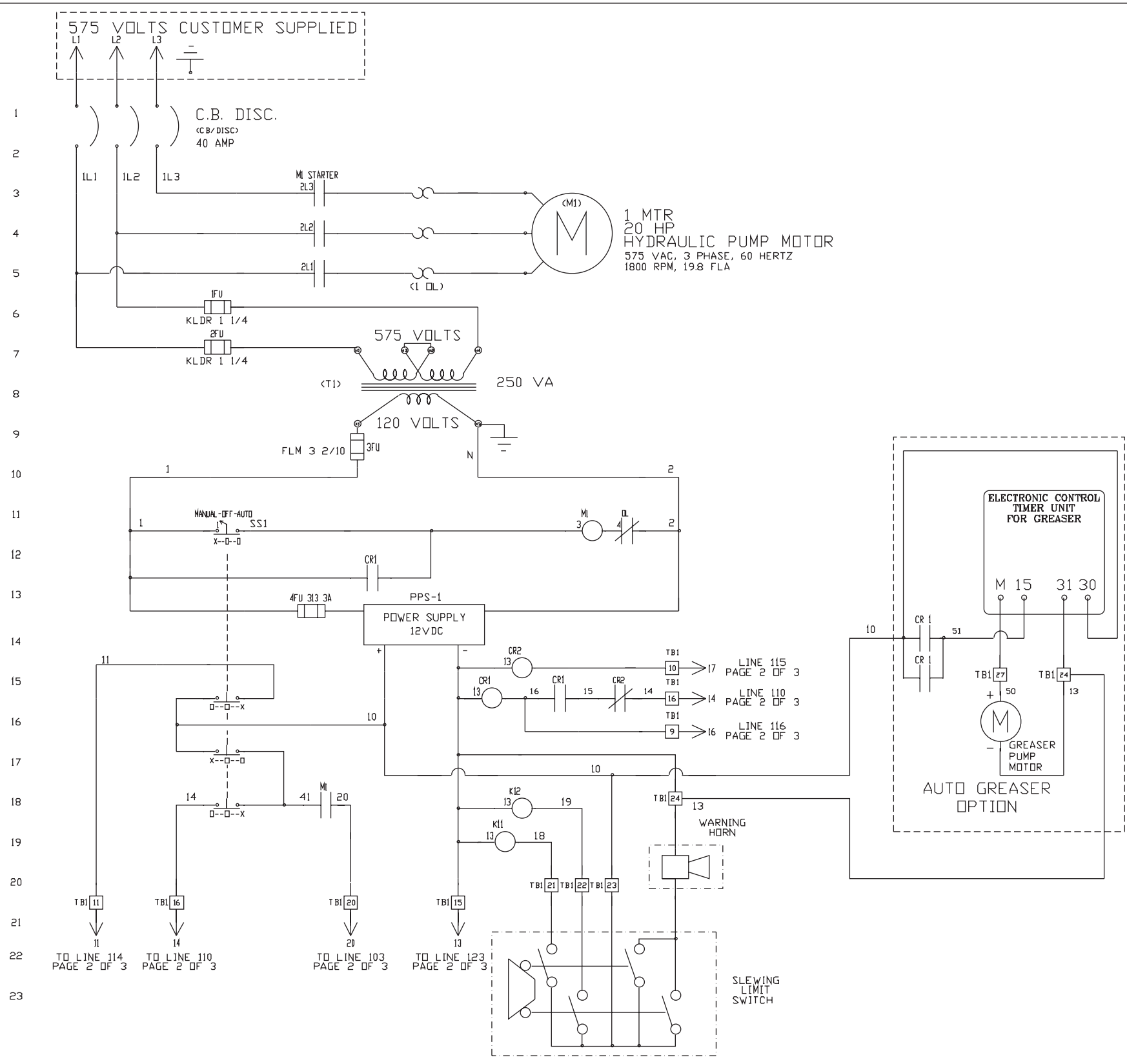
ASSEMBLY NO.: 326634E3
APPROVED BY: [Signature]
DATE: [Date]

WHITE BEAR, MN 55127
Subsidiary of
F.W.SCHWING GmbH

**PANEL LAYOUT
4 SECTION BOOM**

DWG NO: 326634
REV: 1
3 OF 3

REV	REVISION CHANGES	NAME	DATE
A	ADD GREASER MOTOR OPTION	T. KELLEY	9-24-93



WIRE COLOR CODE

ALL 120 VOLTS CONTROL WIRE AWG#16 RED MTW.
 ALL NEUTRAL SIDE CONTROL WIRE WHITE AWG#16 MTW.
 ALL LINE VOLTAGE WIRES BLACK COLOR
 ALL WIRING FOR IMTR IS BLACK COLOR
 ALL D.C. VOLTAGE, GROUNDED SHIELDED CABLE AWG#18
 ALL EXTERNAL DEVICES RED, WHITE OR BLUE #14 MTW

COUNTRY OF ORIGIN USA
 MAIN ELECTRICAL CONTROL PANEL
 IS COMPLETELY "CSA" CERTIFIED

TERMINATION LEGEND

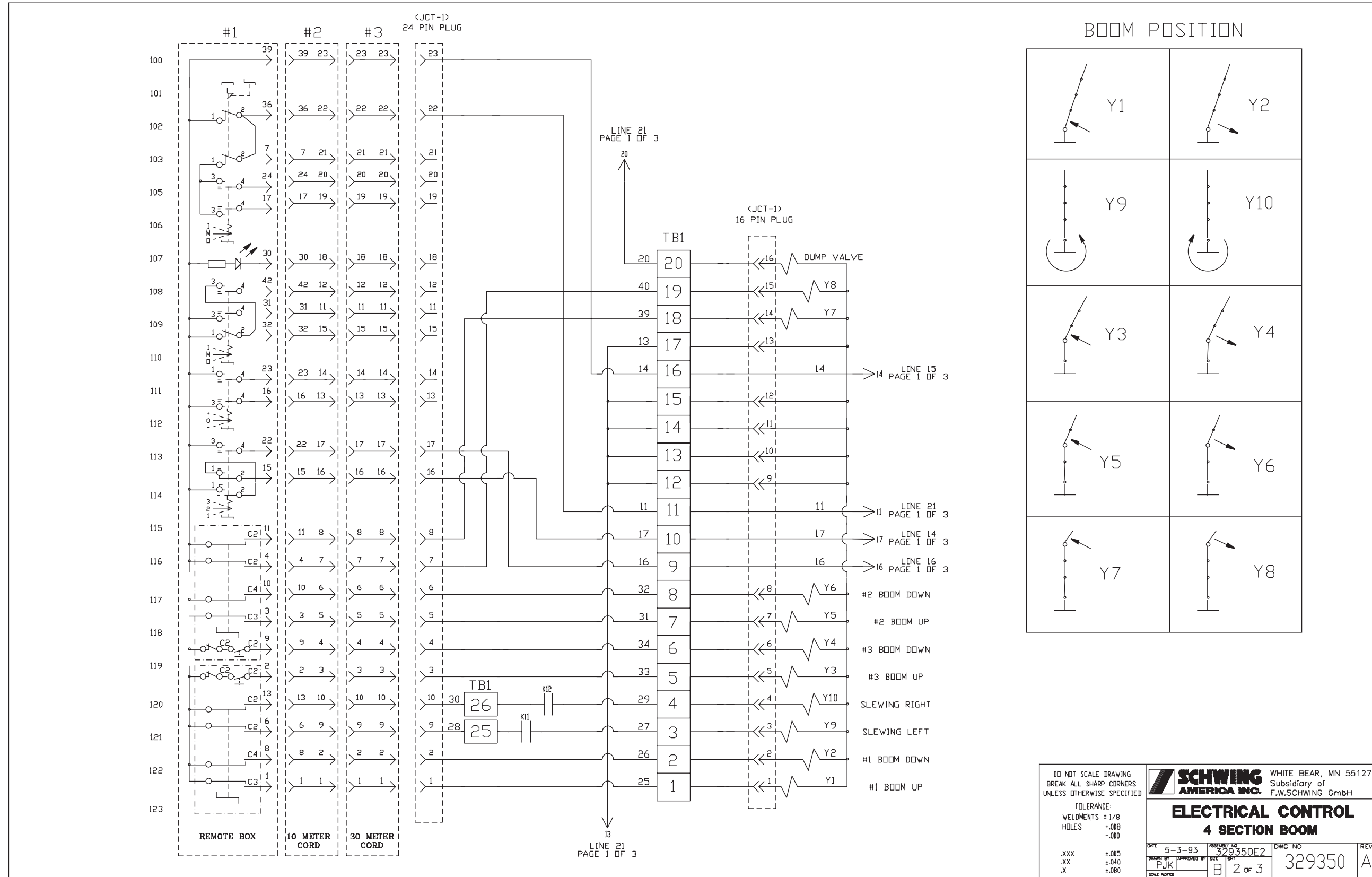
TBI CONNECTIONS ON TERMINAL BLOCK TBI IN ELECTRICAL CONTROL ENCLOSURE

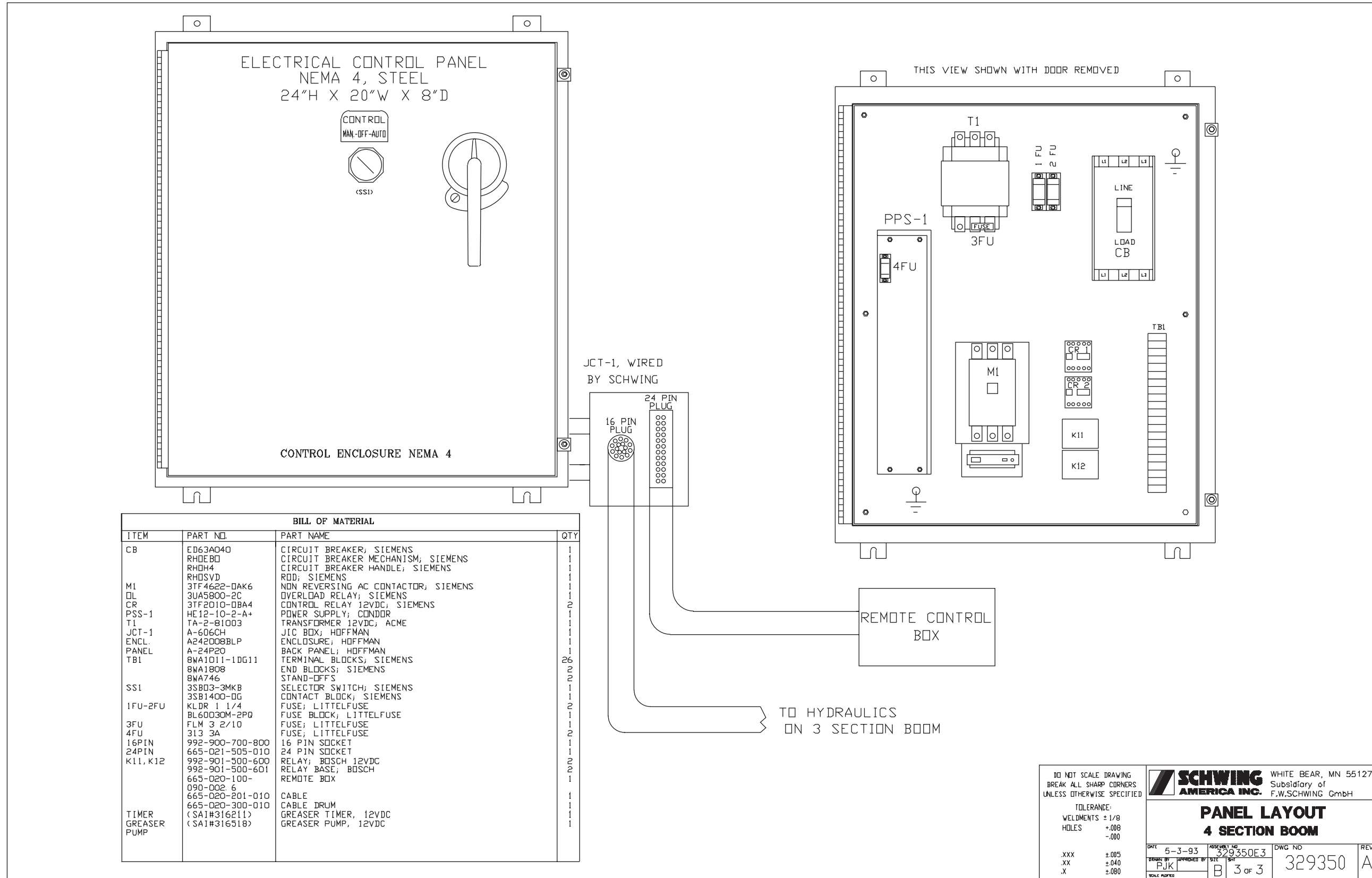
○ INTERNAL CONNECTIONS IN ELECTRICAL CONTROL ENCLOSURE

DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED	<p>WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH</p>
<p>ELECTRICAL CONTROL 4 SECTION BOOM</p>	
<p>TOLERANCE: VELEMENTS ± 1/8 HOLES +.008 -.000</p>	<p>DATE 5-3-93 ASSEMBLY NO. 329350E1 DWG. NO. 329350 REV. A</p> <p>DESIGNED BY PJK CHECKED BY TJK SCALE 1 OF 3</p>

329350

KVM/SPB 32XL FLYAWAY POWER CIRCUIT (CANADIAN VERSION) REV A





DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

TOLERANCE:
WELDMENTS ± 1/8
HOLES +.008
-.000

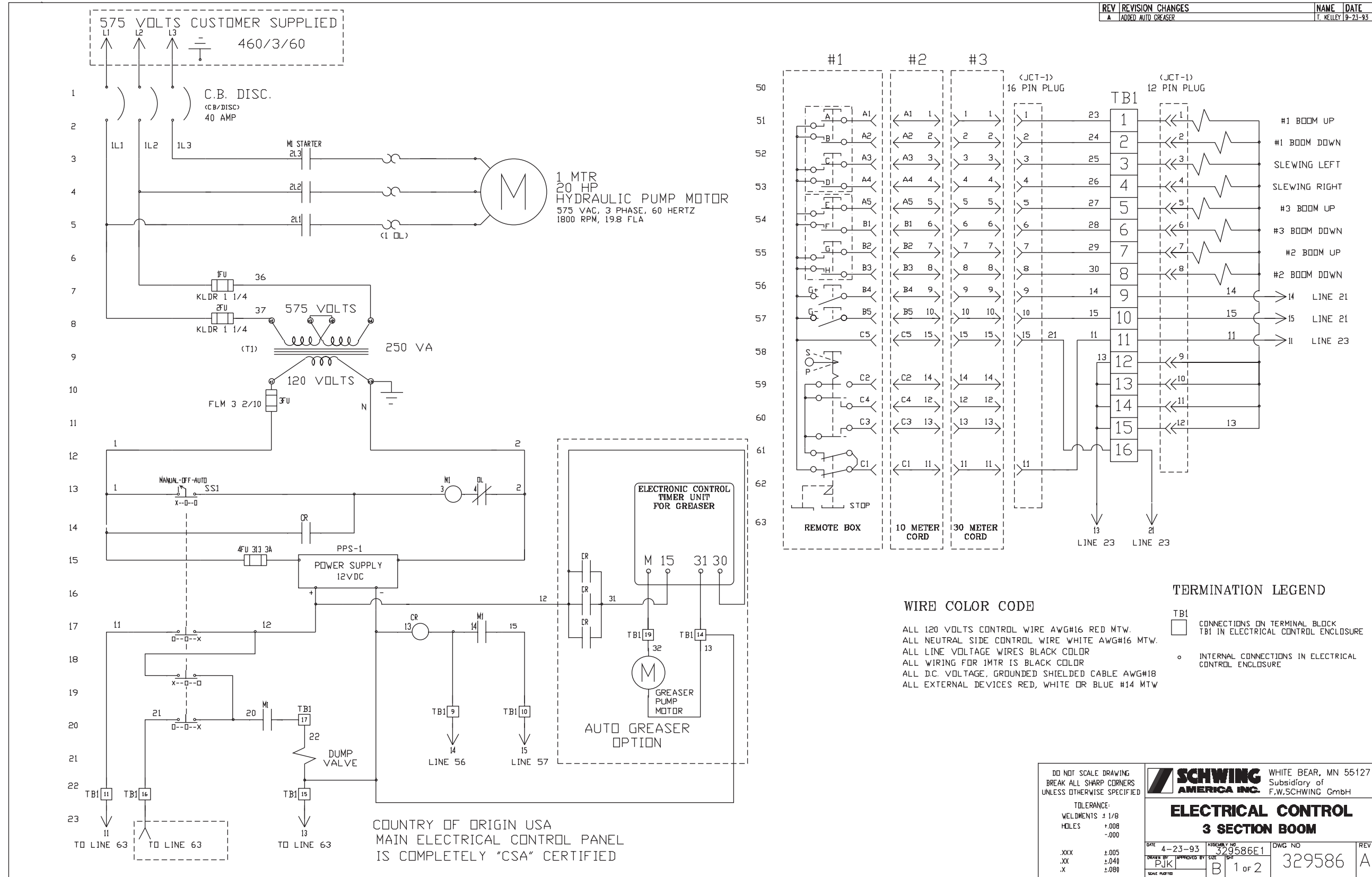
DATE 5-3-93 ASSEMBLY NO. 329350E3 DWG. NO. 329350 REV. A
PREPARED BY PJK CHECKED BY B SCALE ADDED 3 OF 3

SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

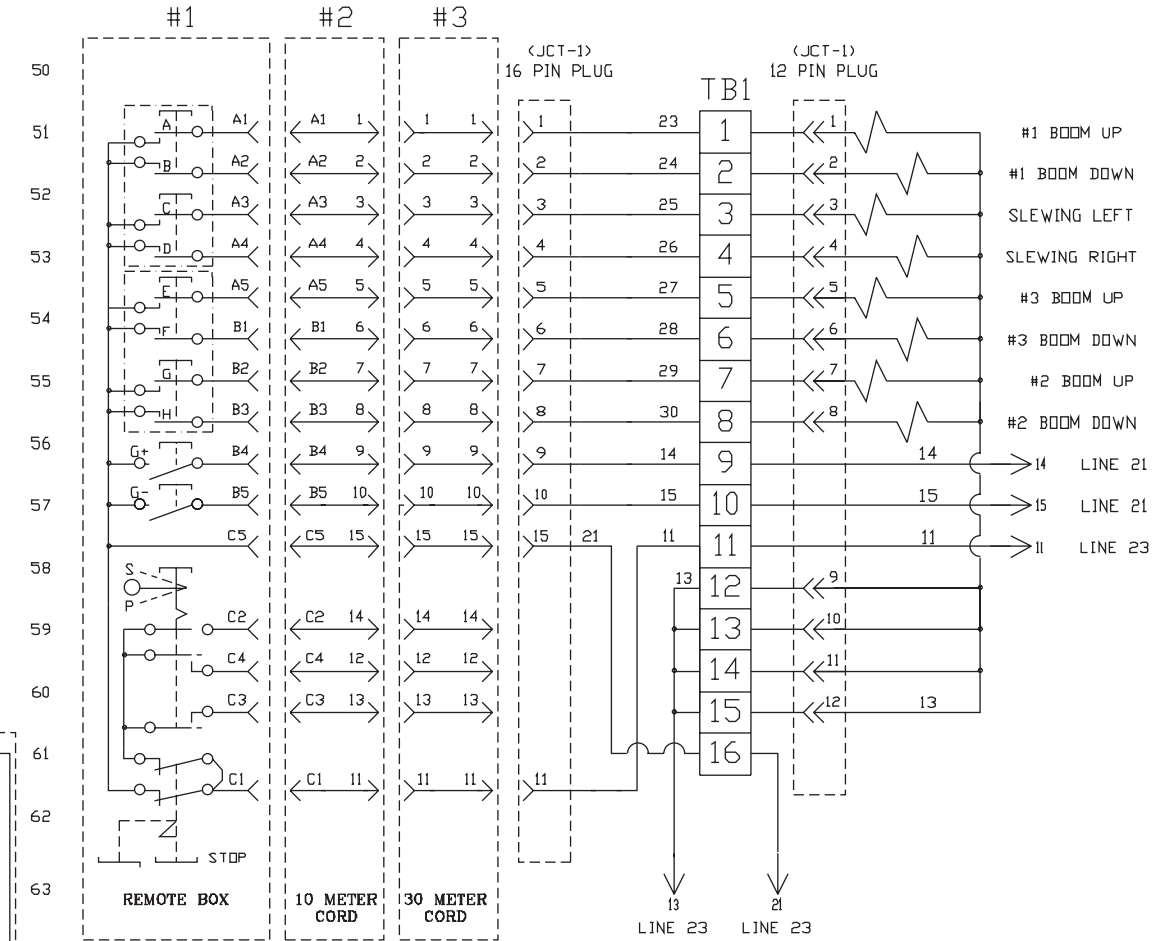
**PANEL LAYOUT
4 SECTION BOOM**

329586

KVM/SPB 32XL FLYAWAY POWER CIRCUIT (CANADIAN VERSION) REV A



REV	REVISION CHANGES	NAME	DATE
A	ADDED AUTO GREASER	T. KELLEY	9-21-93



WIRE COLOR CODE

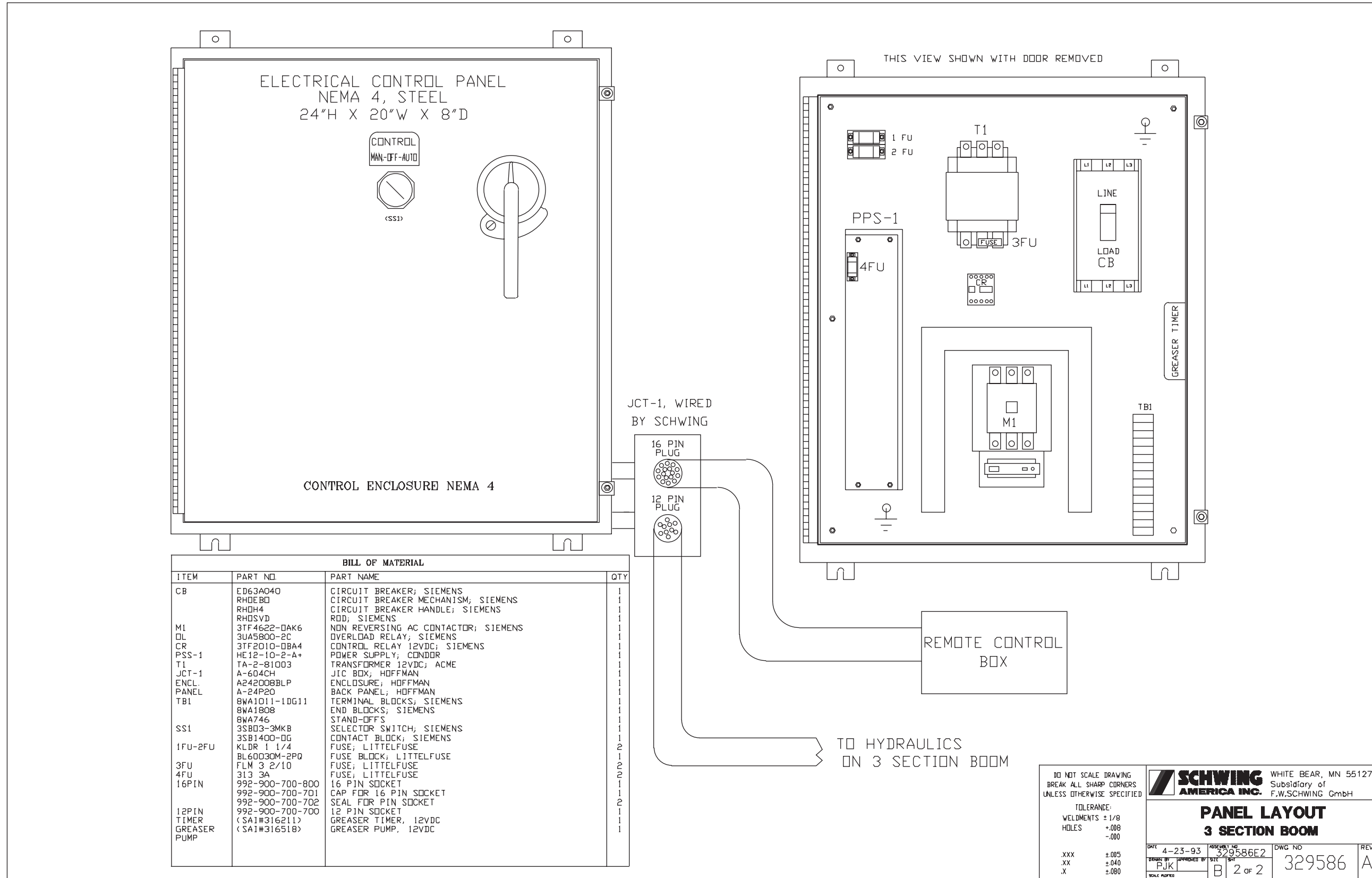
- ALL 120 VOLTS CONTROL WIRE AWG#16 RED MTW.
- ALL NEUTRAL SIDE CONTROL WIRE WHITE AWG#16 MTW.
- ALL LINE VOLTAGE WIRES BLACK COLOR
- ALL WIRING FOR 1MTR IS BLACK COLOR
- ALL DC. VOLTAGE, GROUNDED SHIELDED CABLE AWG#18
- ALL EXTERNAL DEVICES RED, WHITE OR BLUE #14 MTW

TERMINATION LEGEND

- TB1 CONNECTIONS ON TERMINAL BLOCK TB1 IN ELECTRICAL CONTROL ENCLOSURE
- INTERNAL CONNECTIONS IN ELECTRICAL CONTROL ENCLOSURE

COUNTRY OF ORIGIN USA
MAIN ELECTRICAL CONTROL PANEL
IS COMPLETELY "CSA" CERTIFIED

DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED		SCHWING AMERICA INC. WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH	
TOLERANCE: WELDMENTS ± 1/8 HOLES +.008 -.000		ELECTRICAL CONTROL 3 SECTION BOOM	
DATE 4-23-93	ASSEMBLY NO. 329586E1	DWG NO. 329586	REV A
DRAWN BY PJK	APPROVED BY [Signature]	SCALE PARTS B 1 of 2	



DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

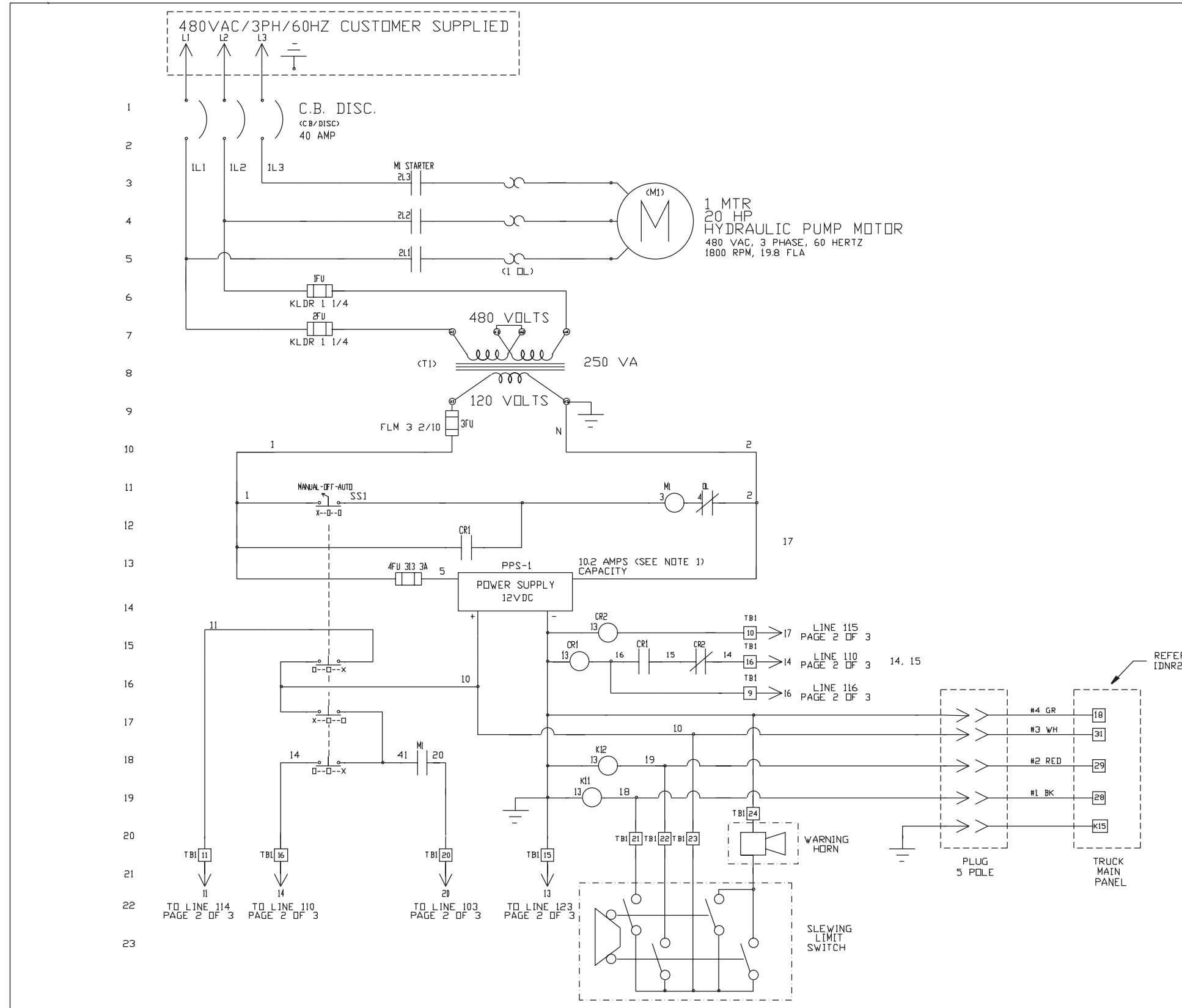
TOLERANCE:
WELDMENTS ± 1/8
HOLES +.008
-.000

DATE 4-23-93 ASSEMBLY NO. 329586E2 DWG. NO. 329586 REV. A
PREPARED BY PJK APPROVED BY B 2 OF 2

SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

**PANEL LAYOUT
3 SECTION BOOM**

REV	REVISION CHANGES	NAME	DATE
A	GENERAL REVISIONS CHANGES	P. KAIFA	10-1-93



NOTE 1.
ACTUAL INRUSH 9 AMPS,
RUNNING ACTUAL 6-8 AMPS.

WIRE COLOR CODE
ALL 120 VOLTS CONTROL WIRE AWG#16 RED MTW.
ALL NEUTRAL SIDE CONTROL WIRE WHITE AWG#16 MTW.
ALL LINE VOLTAGE WIRES BLACK COLOR
ALL WIRING FOR IMTR IS BLACK COLOR
ALL D.C. VOLTAGE, GROUNDED SHIELDED CABLE AWG#18
ALL EXTERNAL DEVICES RED, WHITE OR BLUE #14 MTW

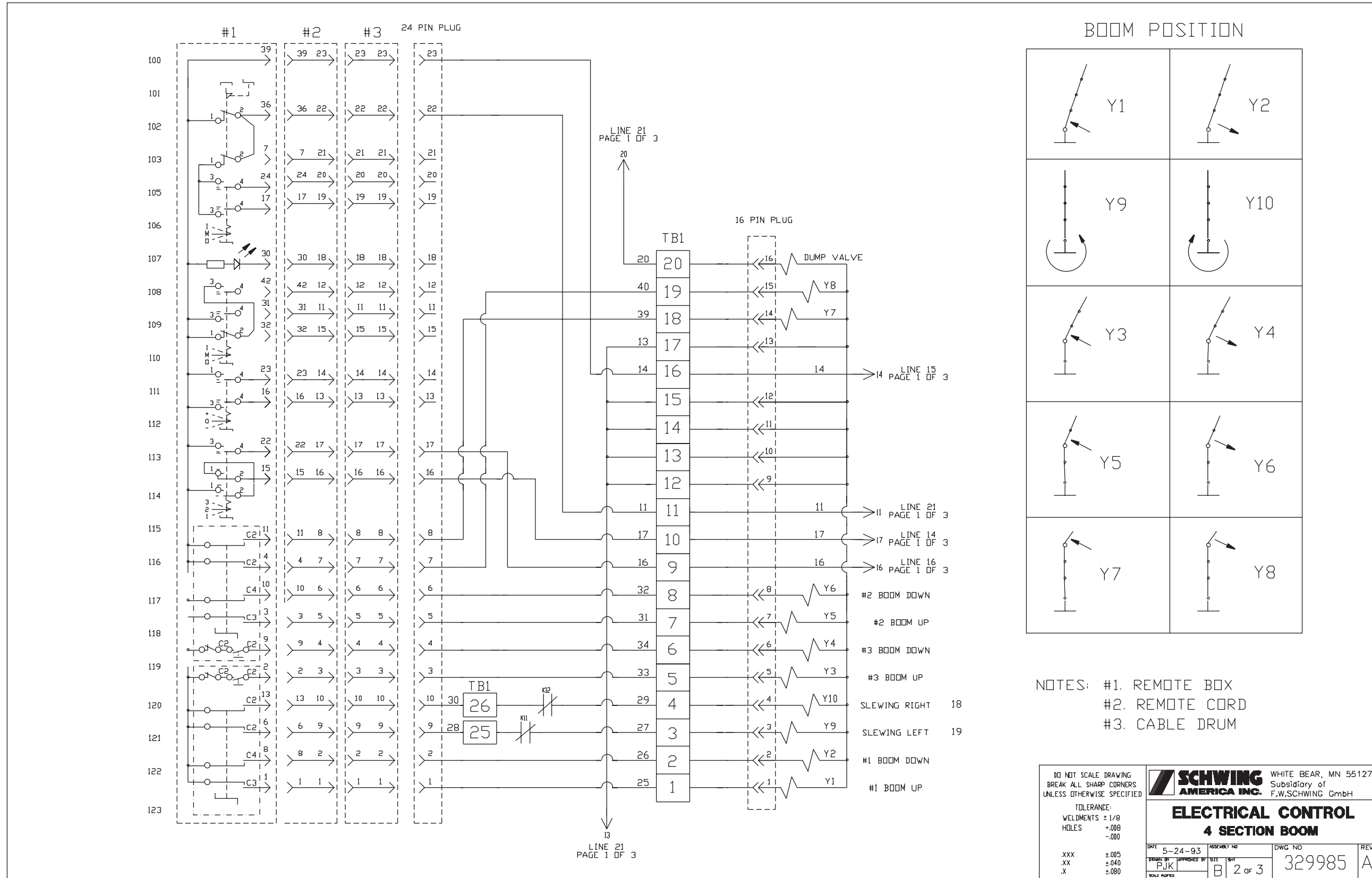
TERMINATION LEGEND
 TB1 CONNECTIONS ON TERMINAL BLOCK
 TB1 IN ELECTRICAL CONTROL ENCLOSURE
 ○ INTERNAL CONNECTIONS IN ELECTRICAL CONTROL ENCLOSURE

REFERENCE: IDNR25440

PROJECT / OWNER

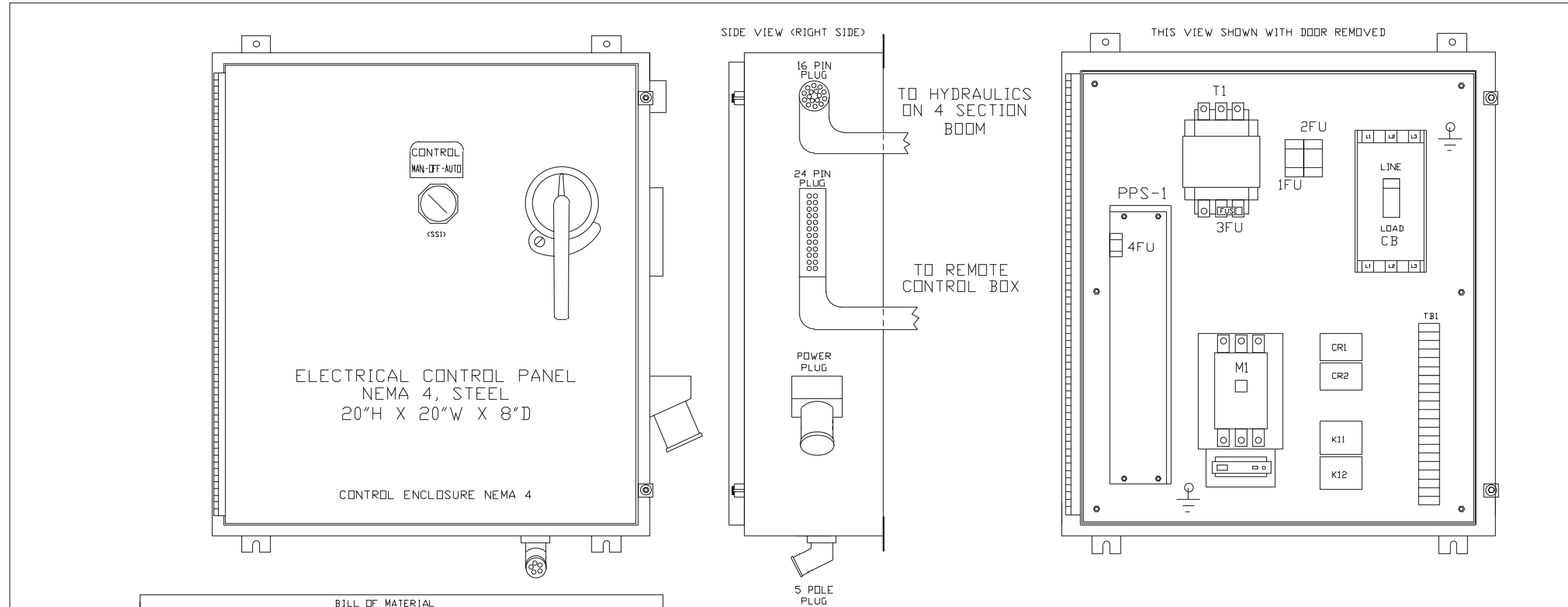
KVM32XL

DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED	SCHWING AMERICA INC. WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH
ELECTRICAL CONTROL 4 SECTION BOOM	
DATE 5-24-93 DRAWN BY PJK SCALE 1/8"	ASSEMBLY NO. 101 APPROVED BY [Signature] SIZE 1/8" SCALE 1/8"
DWG NO. 329985	REV. A



329985

KVM/SPB 32XL FLYAWAY POWER CIRCUIT, PANEL LAYOUT, REV A

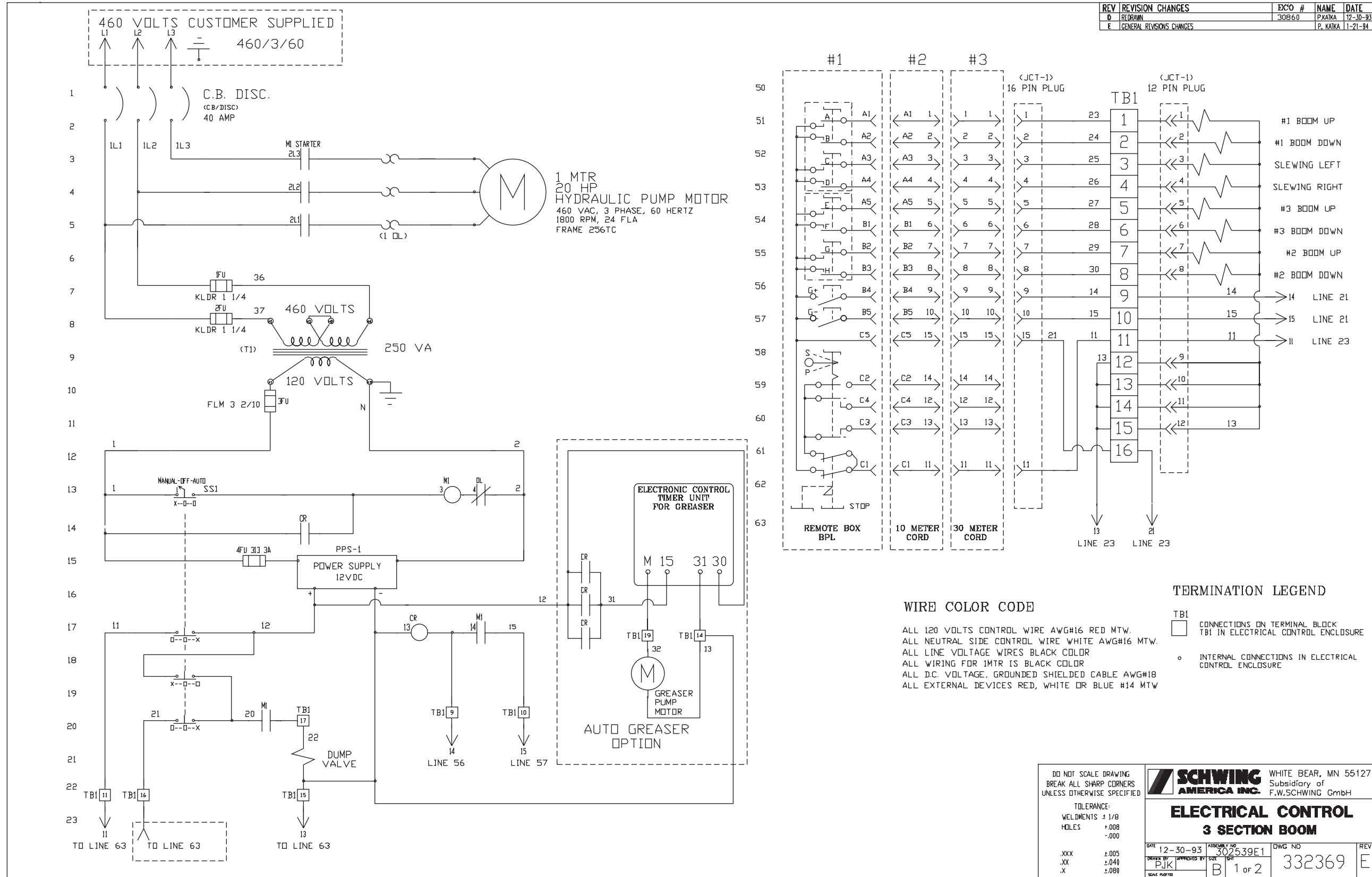


BILL OF MATERIAL			
ITEM	PART NO.	PART NAME	QTY
CB	ED63A040	CIRCUIT BREAKER; SIEMENS	1
	RHDEB0	CIRCUIT BREAKER MECHANISM; SIEMENS	1
	RHDH4	CIRCUIT BREAKER HANDLE; SIEMENS	1
	RHDSVD	RDD; SIEMENS	1
M1	3TF4622-0AK6	NON REVERSING AC CONTACTOR; SIEMENS	1
	3UA5800-2C	OVERLOAD RELAY; SIEMENS	1
	RH2B	CONTROL RELAY 12VDC; IDEC	2
PSS-1	SH2B-DSV	CONTROL RELAY BASE; IDEC	2
	HE12-10-2-A+	POWER SUPPLY; CONDOR	1
T1	TA-2-81213	TRANSFORMER; ACME	1
ENCL. PANEL	A202008BLP	ENCLOSURE; HOFFMAN	1
	A-20P20	BACK PANEL; HOFFMAN	1
TB1	8WA1011-1DG11	TERMINAL BLOCKS; SIEMENS	26
	8WA1808	END BLOCKS; SIEMENS	2
	8WA746	STAND-OFFS	2
	3SB03-3MKB	SELECTOR SWITCH; SIEMENS	1
SS1	3SB1400-DG	CONTACT BLOCK; SIEMENS	1
	KLDR 1 1/4	FUSE; LITTELFUSE	2
1FU-2FU	BL60030M-2PQ	FUSE BLOCK; LITTELFUSE	1
	FLM 3 2/10	FUSE; LITTELFUSE	1
3FU	313 3A	FUSE; LITTELFUSE	2
	992-900-700-800	16 PIN SOCKET	1
16PIN	665-021-505-010	24 PIN SOCKET	1
	992-901-500-600	RELAY; BOSCH 12VDC	2
K11, K12	992-901-500-601	RELAY BASE; BOSCH	2
	992-900-703-300	15 PIN CONNECTOR	1
PLUG	665-020-100-090-002 6	REMOTE BOX	1
	665-020-201-010	CABLE	1
	665-020-300-010	CABLE DRUM	1
	AR342-S	CRUISE HINDS PLUG	1
MTR	APJ6385-S	CRUISE HINDS RECEPTACLE	1
	AR30	CRUISE HINDS BACKBOX	1
	325734	ELECTRIC MOTOR	1
PLUG	25443	PLUG, 5 POLE	1

DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED	SCHWING AMERICA INC.	WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH
TOLERANCE: WELDMENTS ± 1/8 HOLES +.008 -.000	PANEL LAYOUT 4 SECTION BOOM	
.XXX ±.005 .XX ±.040 .X ±.080	DATE 5-24-93 DRAWN BY PJK SCALE NONE	ASSEMBLY NO. B DWG NO. 329985 REV A

KVM/SPB 32XL FLYAWAY POWER CIRCUIT, 3 SECTION, REV E

REV	REVISION CHANGES	ECO #	NAME	DATE
D	REDRAWN	30860	P. KAIKA	12-30-93
E	GENERAL REVISIONS CHANGES		P. KAIKA	11-21-94



DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

TOLERANCE:
 WELDMENTS ± 1/8
 HOLES +.008
 -.000

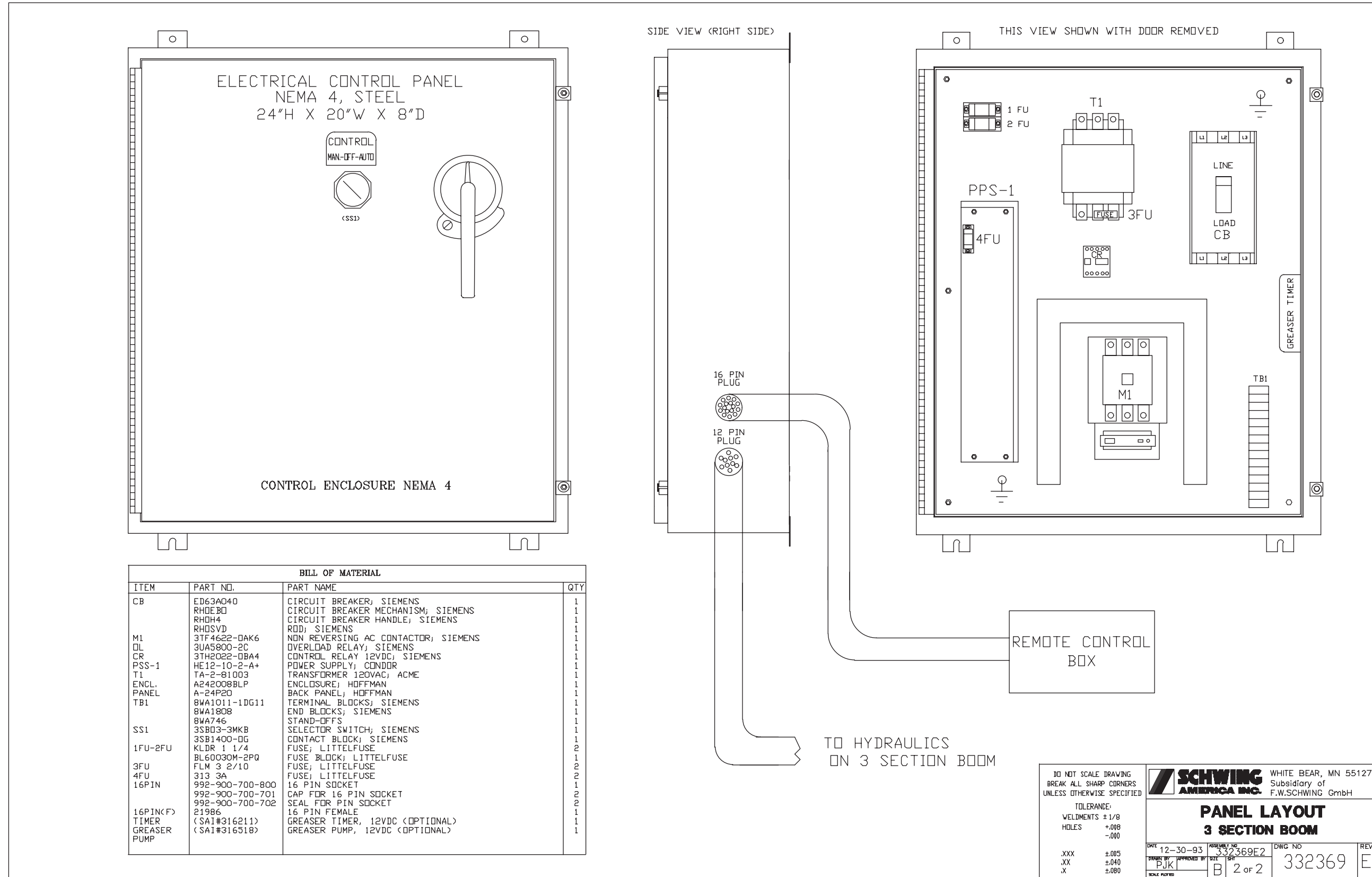
DATE 12-30-93 ASSEMBLY NO. 302539E1 DWG NO. 332369 REV E
 DRAWN BY PJK CHECKED BY B SCALE 1 of 2

SCHWING AMERICA INC. WHITE BEAR, MN 55127
 Subsidiary of F.W.SCHWING GmbH

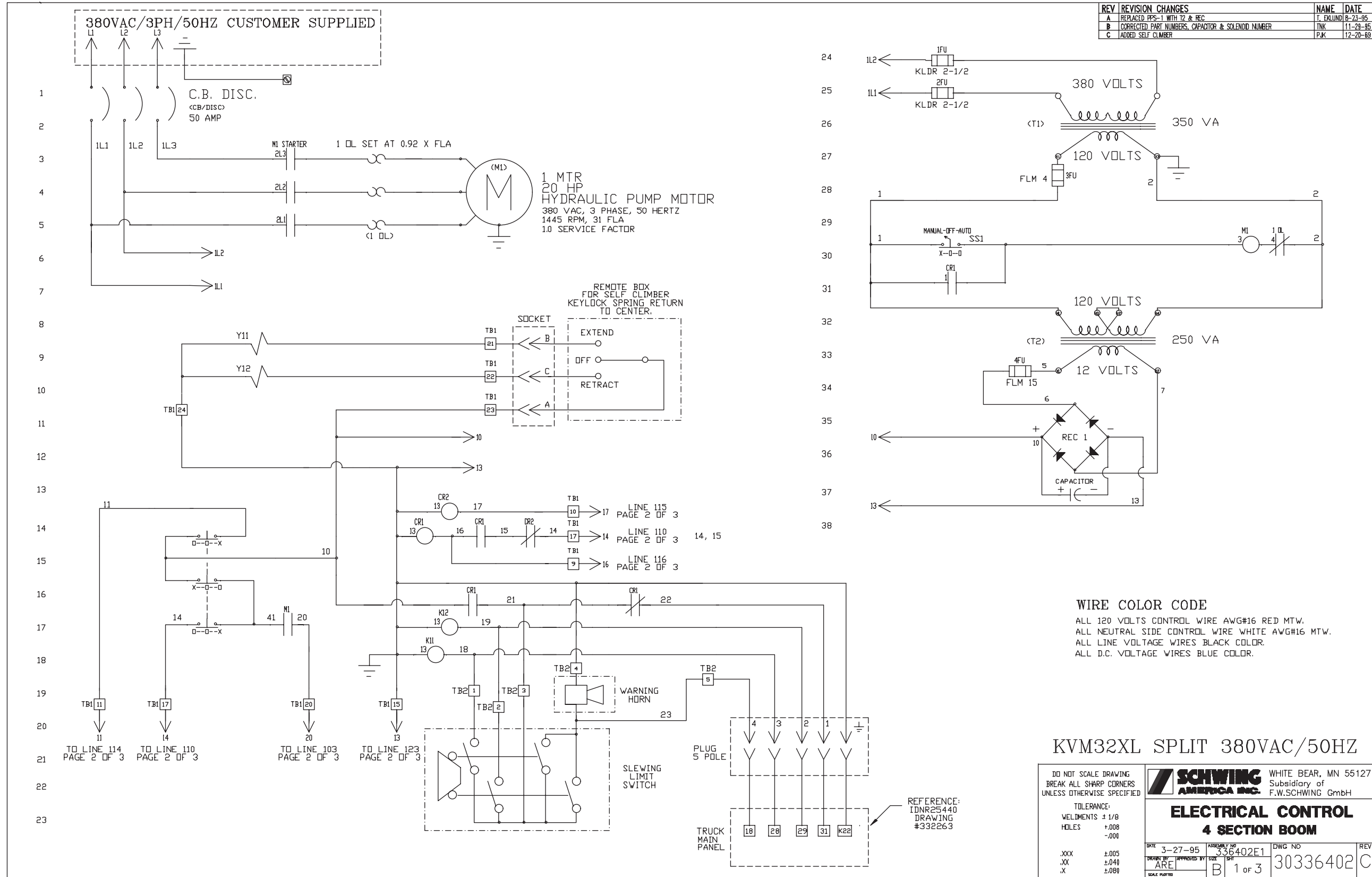
ELECTRICAL CONTROL 3 SECTION BOOM

332369

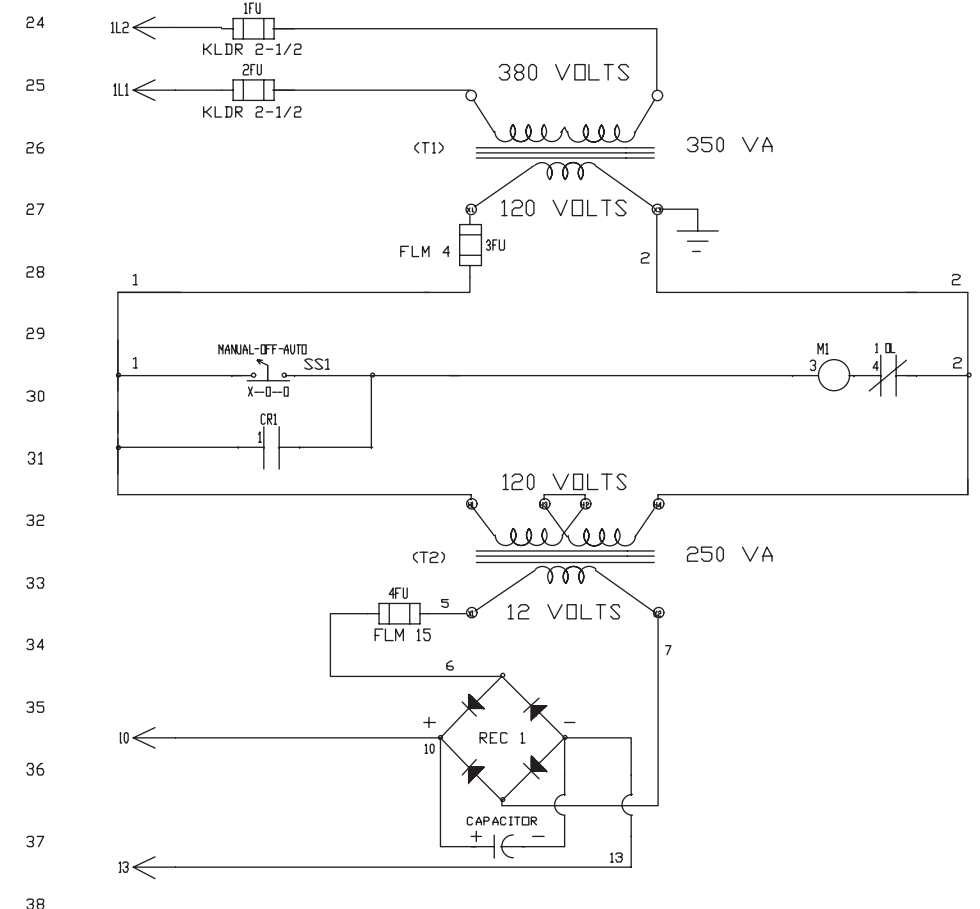
KVM/SPB 32XL FLYAWAY POWER CIRCUIT, 3 SECTION, PANEL LAYOUT, REV E



KVM/SPB 32XL FLYAWAY POWER CIRCUIT, 380 VOLTS/50HZ, REV C



REV	REVISION CHANGES	NAME	DATE
A	REPLACED PPS-1 WITH T2 & REC	T. EKUND	8-23-95
B	CORRECTED PART NUMBERS, CAPACITOR & SOLENOID NUMBER	TNK	11-28-95
C	ADDED SELF CLIMBER	P.K	12-20-99



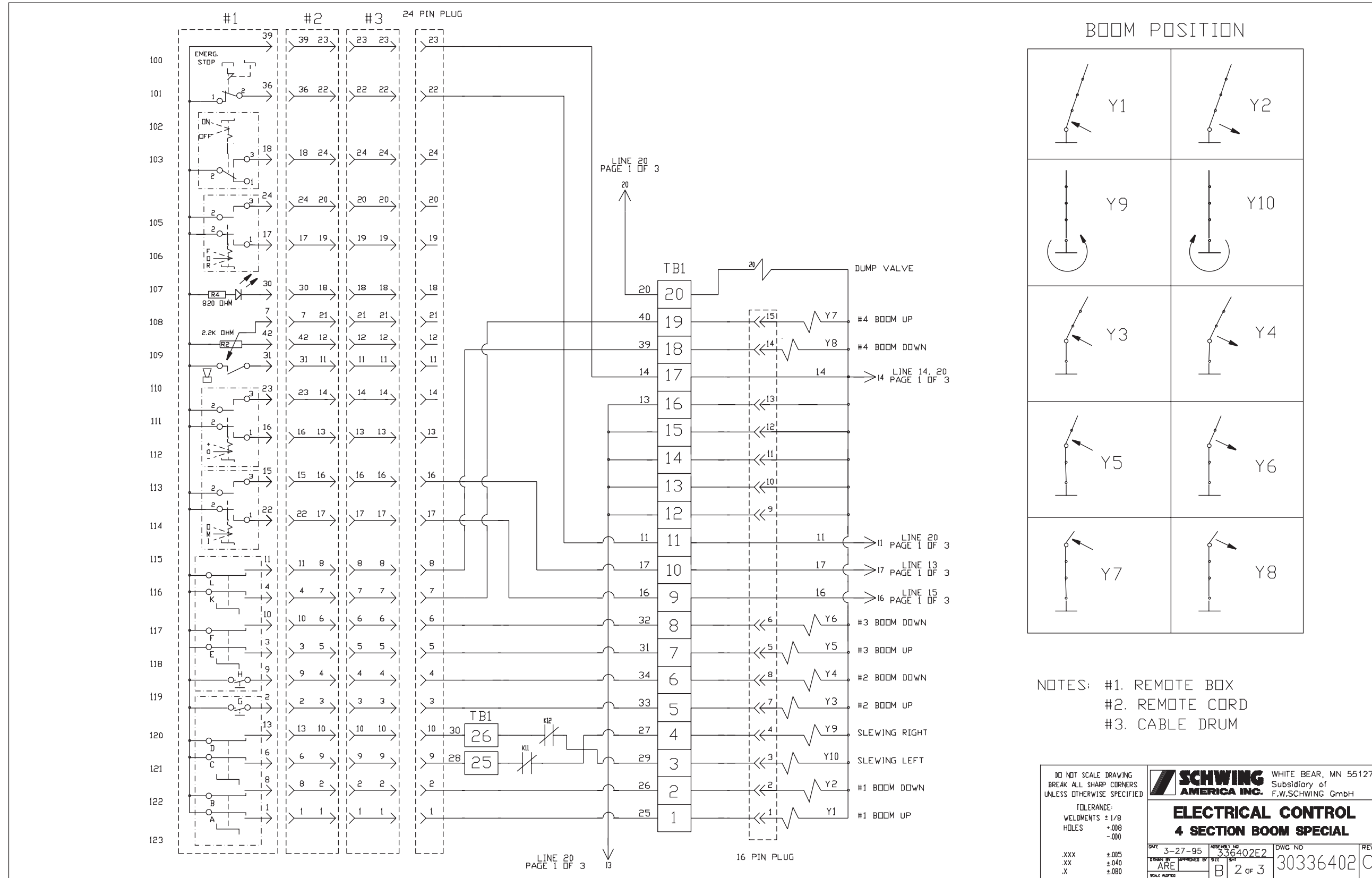
WIRE COLOR CODE
 ALL 120 VOLTS CONTROL WIRE AWG#16 RED MTW.
 ALL NEUTRAL SIDE CONTROL WIRE WHITE AWG#16 MTW.
 ALL LINE VOLTAGE WIRES BLACK COLOR.
 ALL D.C. VOLTAGE WIRES BLUE COLOR.

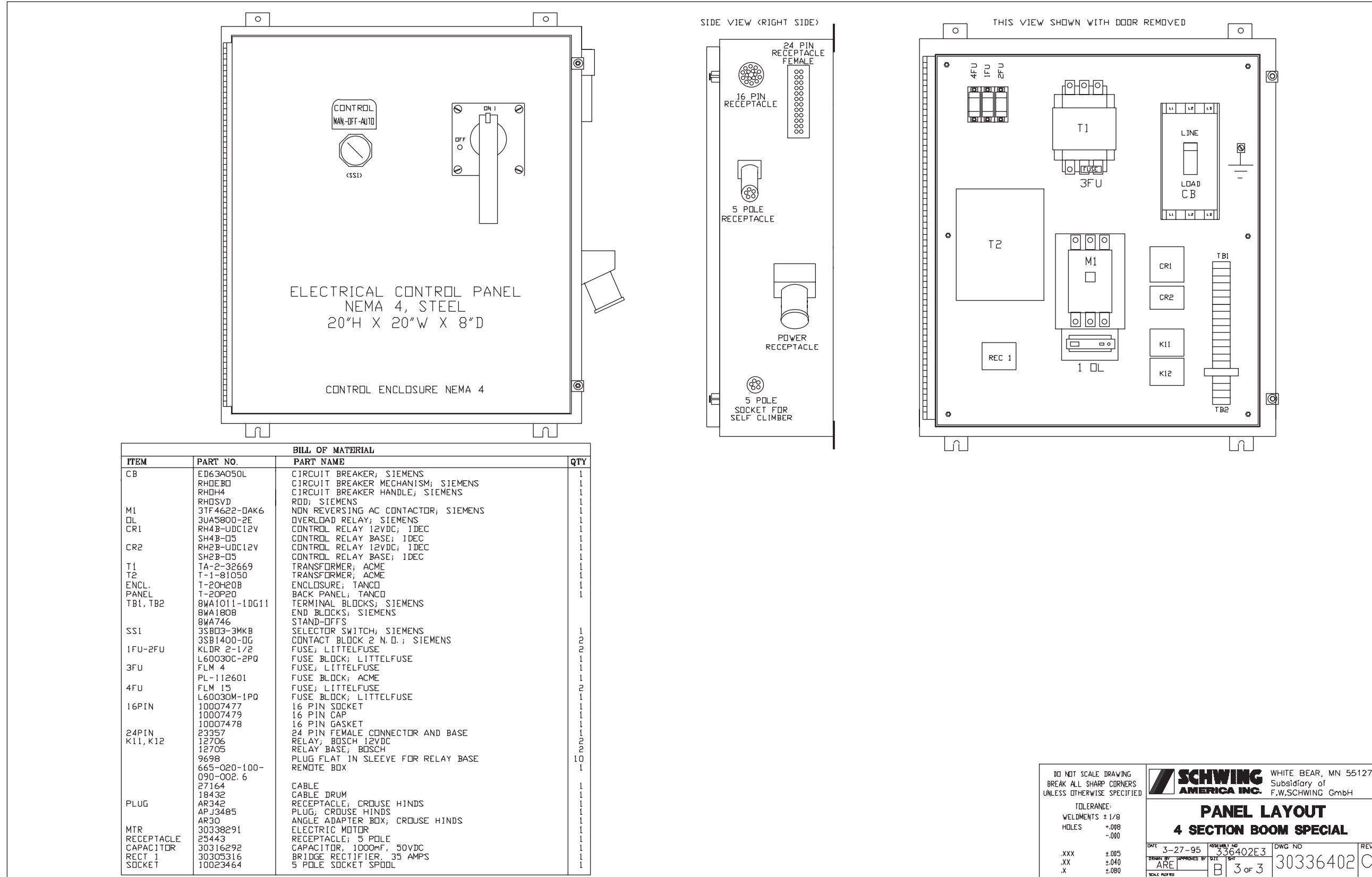
KVM32XL SPLIT 380VAC/50HZ

DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED		WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH
TOLERANCE: VELEMENTS ± 1/8 HOLES +.008 -.000		
.XXX ±.005 .XX ±.040 .X ±.080		ELECTRICAL CONTROL 4 SECTION BOOM
DATE 3-27-95	ASSEMBLY NO 336402E1	DWG NO 30336402
DRAWN BY ARE	APPROVED BY TPK	REV C
SCALE NONE	1 of 3	

336402

KVM/SPB 32XL FLYAWAY POWER CIRCUIT, 380 VOLTS/50HZ, REV C





DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

TOLERANCE:
WELDMENTS ± 1/8
HOLES +.008
-.000

DATE 3-27-95 ASSEMBLY NO. 336402E3 DWG. NO. 30336402 REV. B 3 OF 3 C

WHITE BEAR, MN 55127
Subsidiary of
F.W.SCHWING GmbH

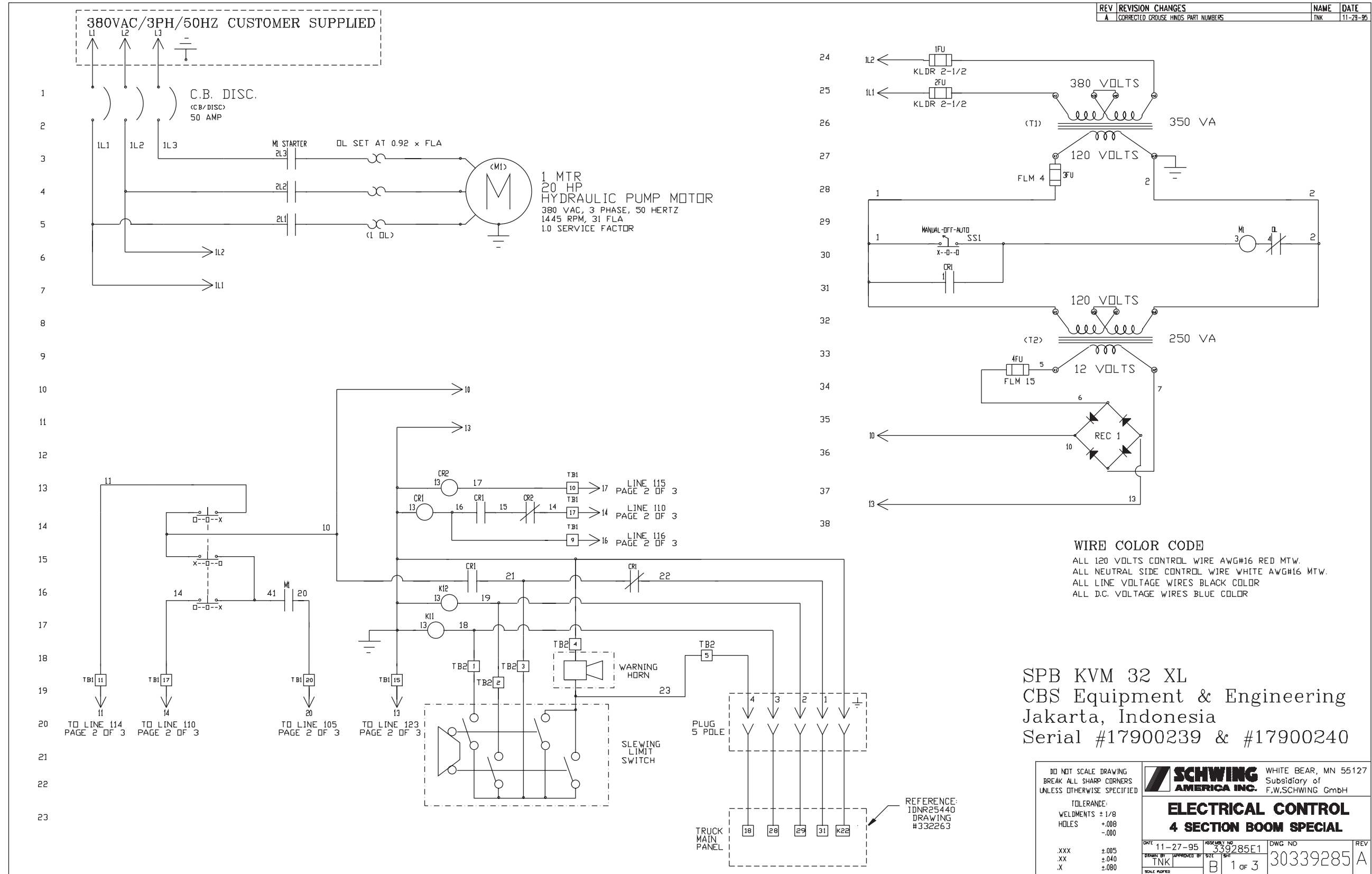
SCHWING AMERICA INC.

PANEL LAYOUT
4 SECTION BOOM SPECIAL

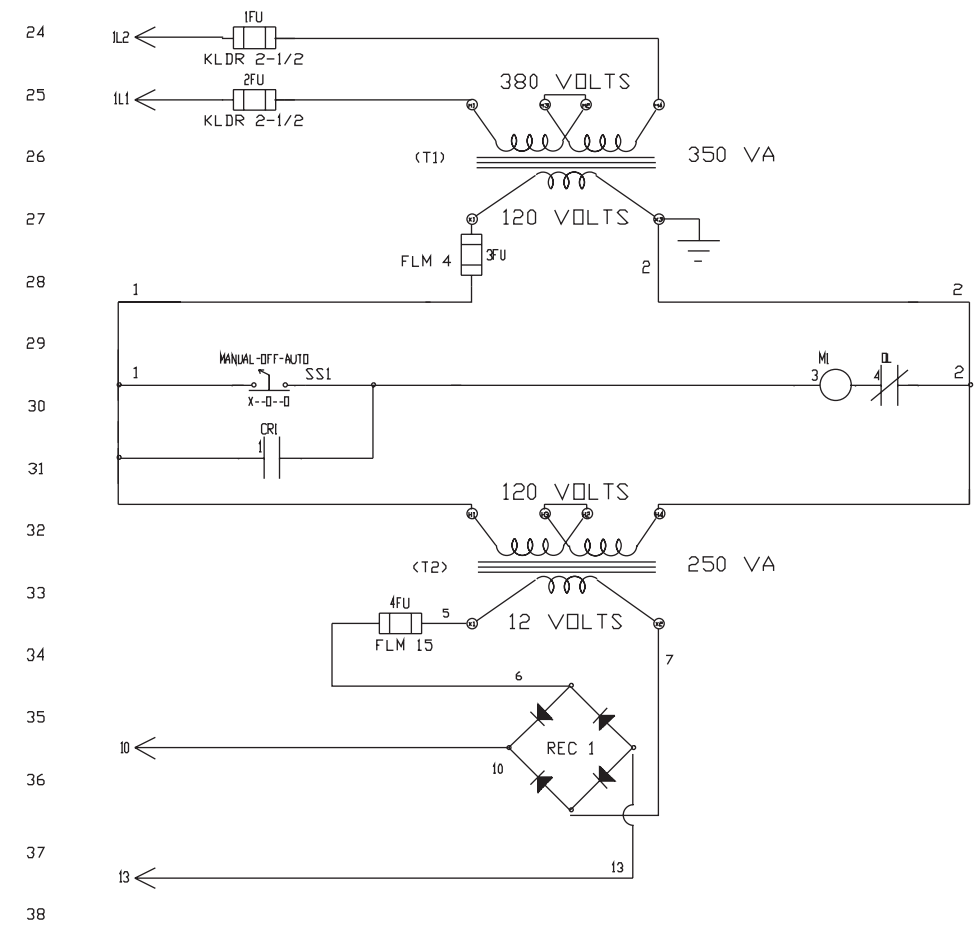
SCALE: AS SHOWN

339285

KVM/SPB 32 XL FLYAWAY POWER CIRCUIT, CBS EQUIPMENT, REV A



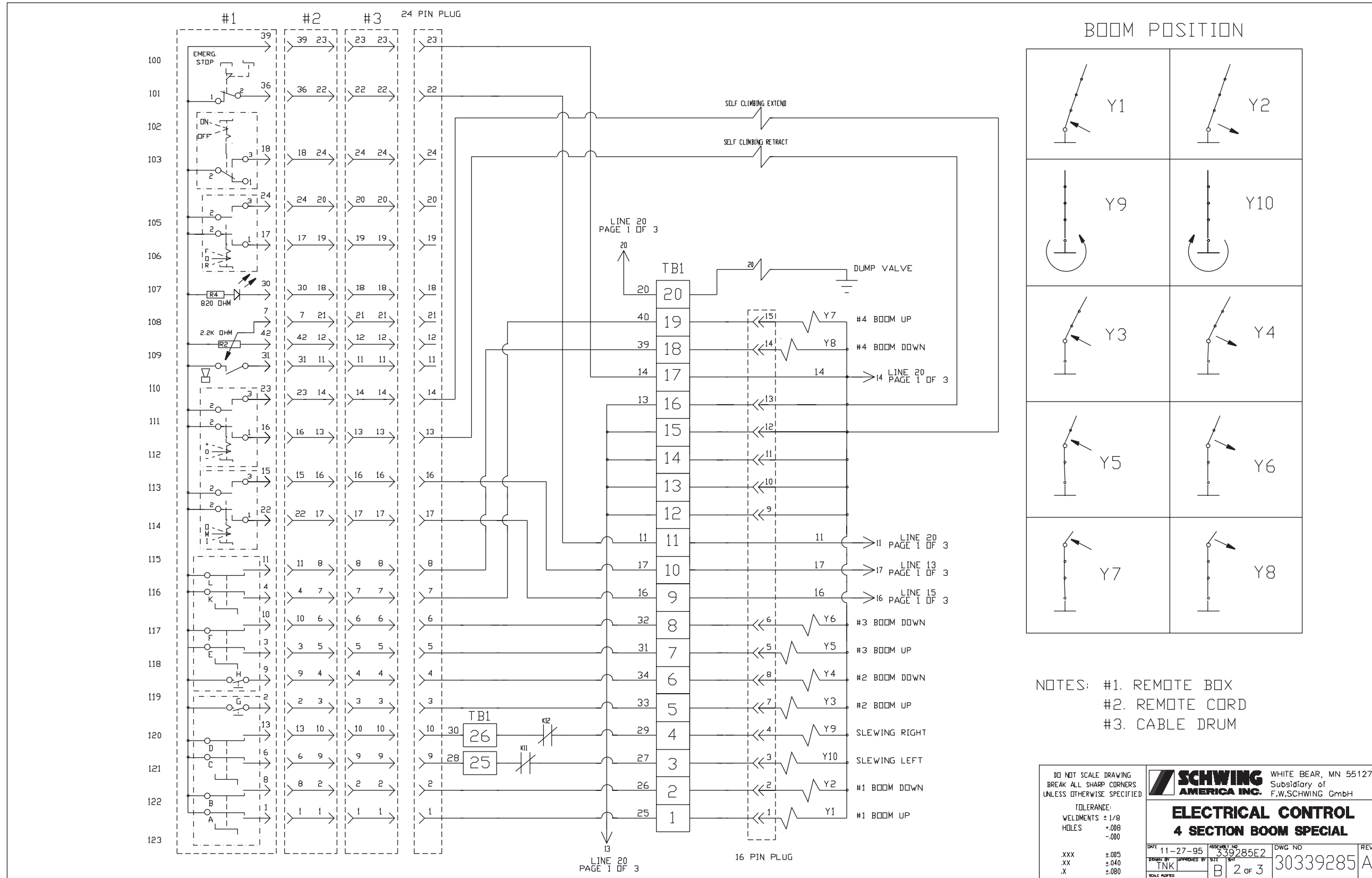
REV	REVISION CHANGES	NAME	DATE
A	CORRECTED GROUND HINDS PART NUMBERS	TNK	11-28-95



WIRE COLOR CODE
 ALL 120 VOLTS CONTROL WIRE AWG#16 RED MTW.
 ALL NEUTRAL SIDE CONTROL WIRE WHITE AWG#16 MTW.
 ALL LINE VOLTAGE WIRES BLACK COLOR
 ALL D.C. VOLTAGE WIRES BLUE COLOR

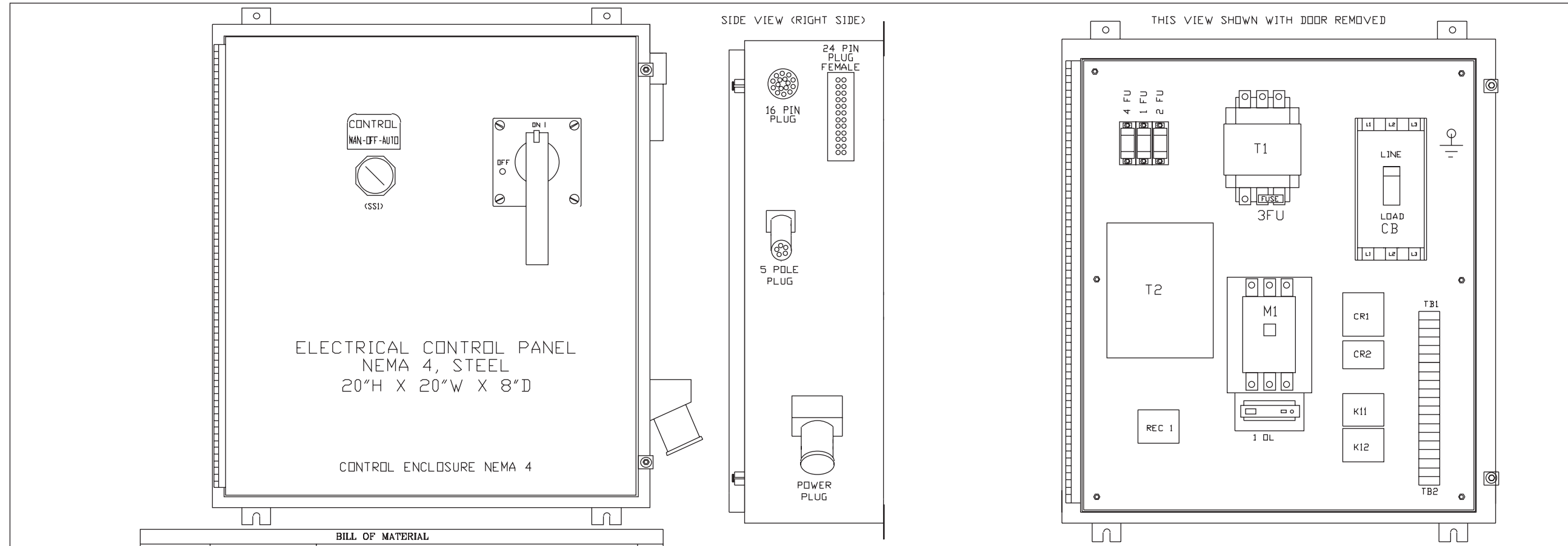
SPB KVM 32 XL
 CBS Equipment & Engineering
 Jakarta, Indonesia
 Serial #17900239 & #17900240

DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED	SCHWING AMERICA INC.	WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH
TOLERANCE: WELDMENTS ± 1/8 HOLES +.008 -.000	ELECTRICAL CONTROL 4 SECTION BOOM SPECIAL	
.XXX ±.005 .XX ±.040 .X ±.080	DATE 11-27-95 DRAWN BY TNK SCALE AS SHOWN	ASSEMBLY NO. 339285E1 DWG NO. 30339285 REV B 1 OF 3



339285

KVM/SPB 32 XL FLYAWAY POWER CIRCUIT, CBS EQUIPMENT, PANEL LAYOUT, REV A



ELECTRICAL CONTROL PANEL
NEMA 4, STEEL
20"H X 20"W X 8"D

CONTROL ENCLOSURE NEMA 4

BILL OF MATERIAL

ITEM	PART NO.	PART NAME	QTY
CB	ED63A050	CIRCUIT BREAKER; SIEMENS	1
	RHDEB0	CIRCUIT BREAKER MECHANISM; SIEMENS	1
	RHDH4	CIRCUIT BREAKER HANDLE; SIEMENS	1
	RHDSVD	RDD; SIEMENS	1
M1	3TF4622-DAK6	NDN REVERSING AC CONTACTOR; SIEMENS	1
DL	3UA5800-2E	OVERLOAD RELAY; SIEMENS	1
CR1	RH4B-UDC12V	CONTROL RELAY 12VDC; IDEC	1
	SH4B-05	CONTROL RELAY BASE; IDEC	1
CR2	RH2B-UDC12V	CONTROL RELAY 12VDC; IDEC	1
	SH2B-05	CONTROL RELAY BASE; IDEC	1
T1	TA-2-32669	TRANSFORMER; ACME	1
T2	T-1-81050	TRANSFORMER; ACME	1
ENCL.	A202008BLP	ENCLOSURE; HOFFMAN	1
PANEL	A-20P20	BACK PANEL; HOFFMAN	1
TB1, TB2	8WA1011-ODG21	TERMINAL BLOCKS; SIEMENS	31
	8WA1808	END BLOCKS; SIEMENS	2
	8WA746	STAND-OFFS	2
SS1	3SB03-3MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-DG	CONTACT BLOCK, 2 N.O.; SIEMENS	2
1FU-2FU	KLDR 2-1/2	FUSE; LITTELFUSE	2
	L60030M-3PQ	FUSE BLOCK; LITTELFUSE	1
3FU	FLM 4	FUSE; LITTELFUSE	1
	PL-112601	FUSE BLOCK; ACME	1
4FU	FLM 15	FUSE; LITTELFUSE	2
16PIN	21986	16 PIN SOCKET	1
24PIN	23357	24 PIN FEMALE CONNECTOR AND BASE	1
K11, K12	12706	RELAY; BOSCH 12VDC	2
	12705	RELAY BASE; BOSCH	2
	9698	PLUG FLAT IN SLEEVE FOR RELAY BASE	10
	665-020-100-	REMOTE BOX	1
	27164	CABLE	1
	18432	CABLE DRUM	1
PLUG	AR342	RECEPTACLE, CROUSE HINDS	1
	APJ3485	PLUG; CROUSE HINDS	1
	AR30	BACK BOX; CROUSE HINDS	1
MTR	30338291	ELECTRIC MOTOR	1
PLUG	25443	PLUG, 4 POLE	1
SOLENOID	10014969	SELF CLIMBING SOLENOID VALVE MSE D 06432, 12VDC	1
	10024255	CABLE TREE, 10' / 3M	1
	10007421	CABLE SCREW JOINT; PG 9 FLA	1
	10009784	NUT FOR SCREW JOINT PG 9	1

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

TOLERANCE:
WELDMENTS ± 1/8
HOLES +.008
-.000

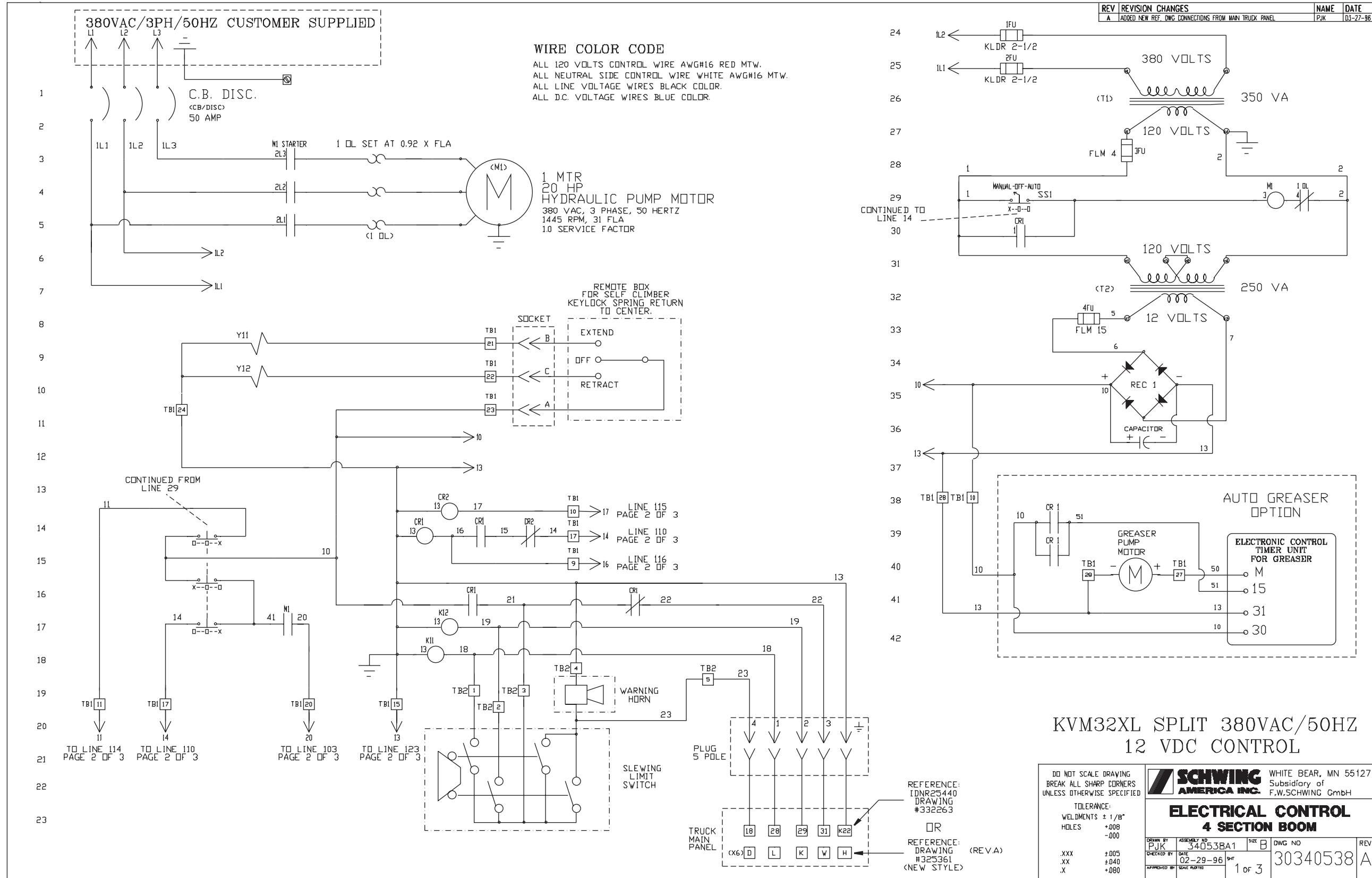
.XXX ±.005
.XX ±.040
.X ±.080

SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

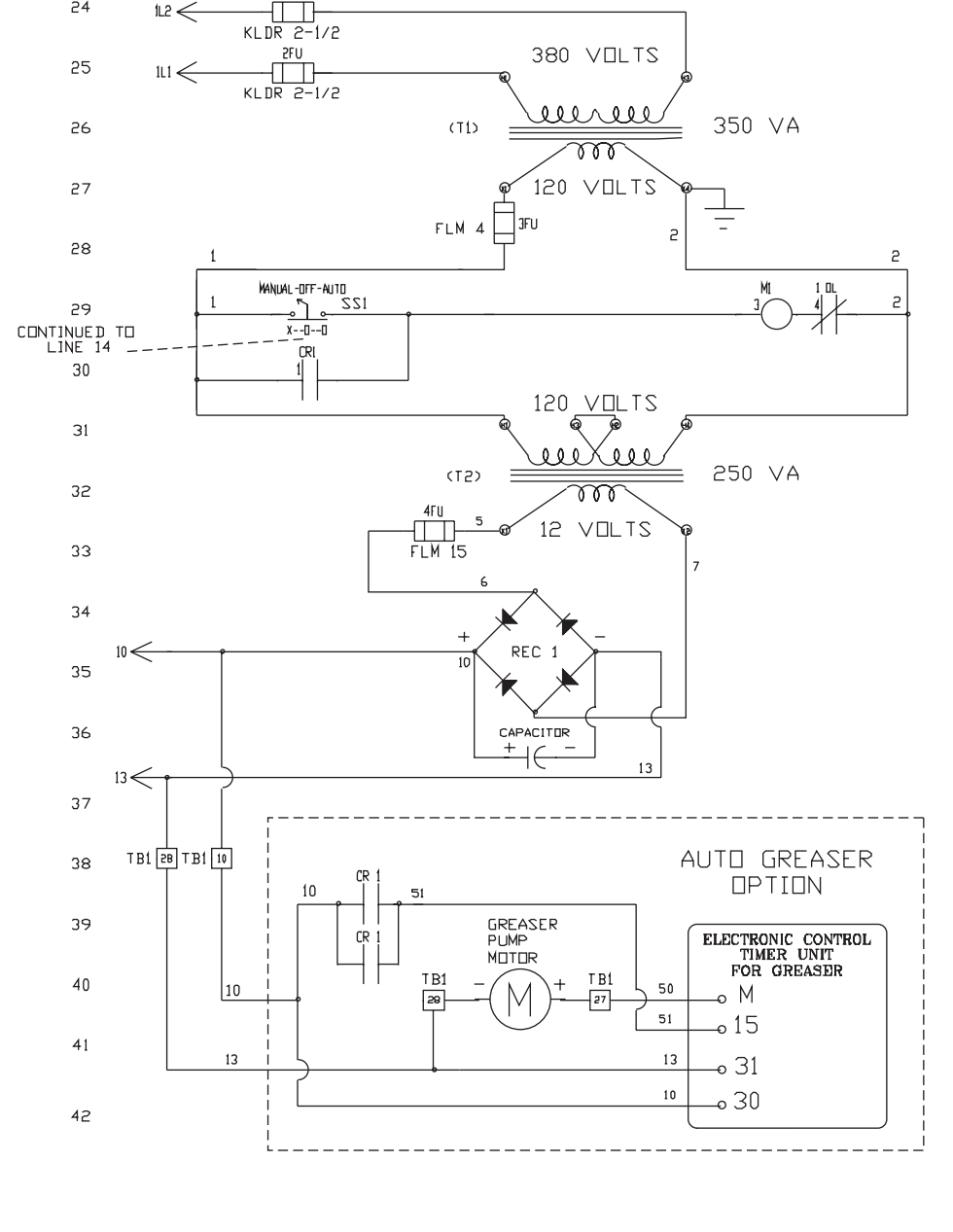
PANEL LAYOUT
4 SECTION BOOM SPECIAL

DATE 11-27-95 ASSEMBLY NO. 339285E3 DWG NO. 30339285 REV B 3 OF 3

KVM/SPB 32XL FLYWAY POWER CIRCUIT, 380 VOLTS/50HZ, REV A



REV	REVISION CHANGES	NAME	DATE
A	ADDED NEW REF. DWG CONNECTIONS FROM MAIN TRUCK PANEL	PJK	03-27-96

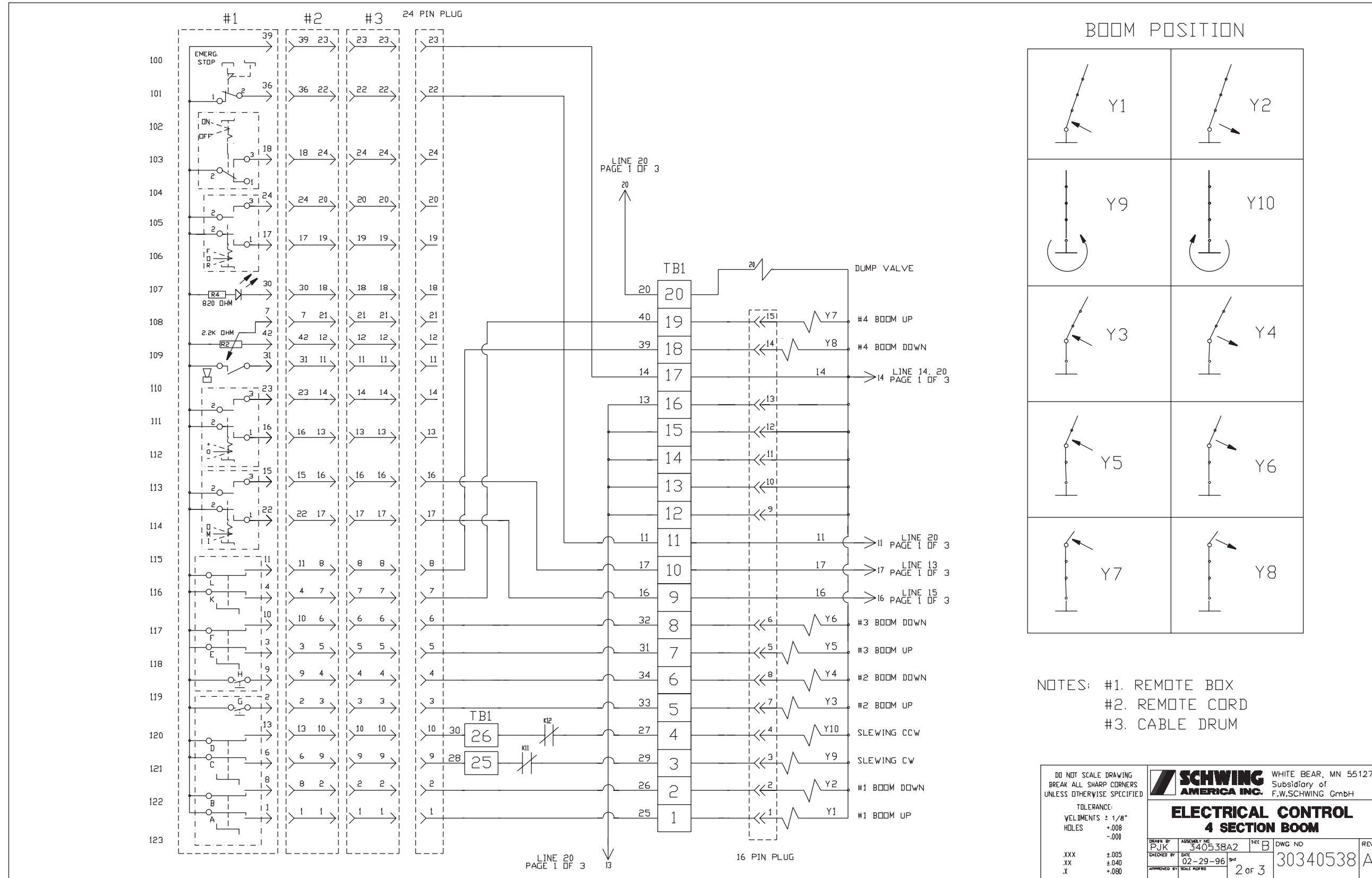


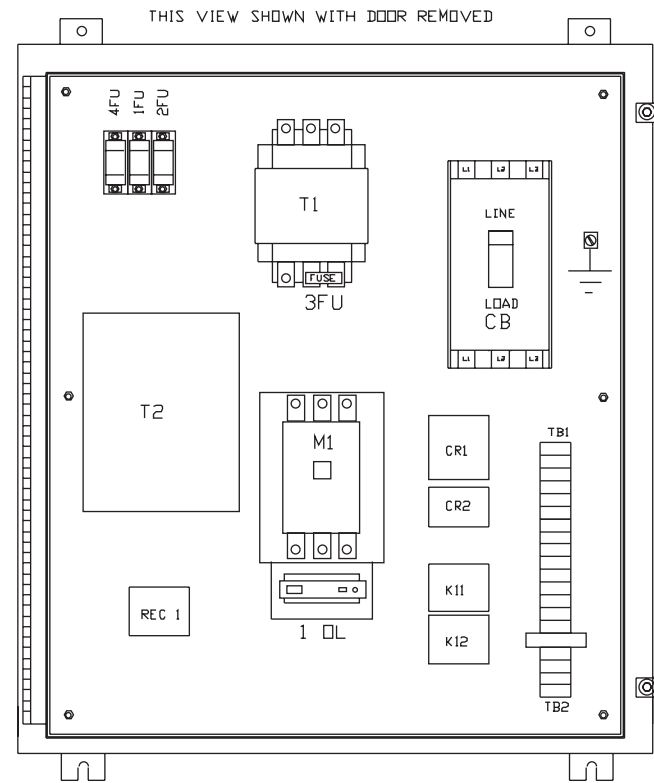
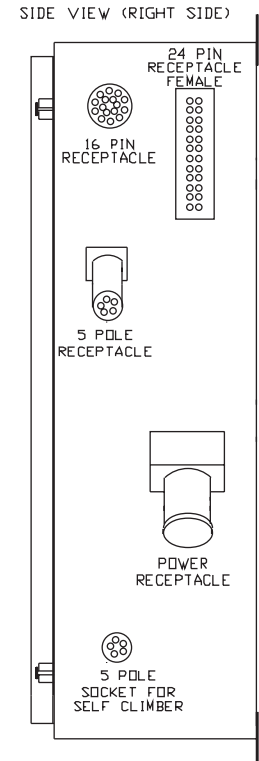
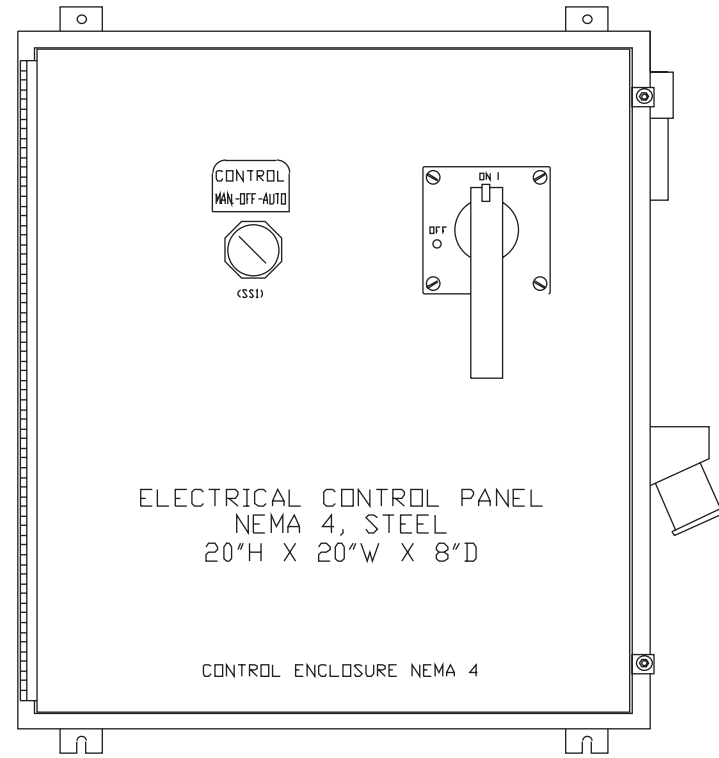
**KVM32XL SPLIT 380VAC/50HZ
12 VDC CONTROL**

DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED		SCHWING AMERICA INC. WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH	
TOLERANCE: WELDMENTS ± 1/8" HOLES +008 -000		ELECTRICAL CONTROL 4 SECTION BOOM	
DRAWN BY PJK	ASSEMBLY NO. 340538A1	SIZE B	DWG NO. 30340538
CHECKED BY XX	DATE 02-29-96	SHEET 1 of 3	REV A
APPROVED BY X	DATE PUBLISHED		

340538

KVM/SPB 32XL FLYWAY POWER CIRCUIT, 380 VOLTS/50HZ, REV A





BILL OF MATERIAL			
ITEM	PART NO.	PART NAME	QTY
CB	ED63A050L	CIRCUIT BREAKER 50 AMP; SIEMENS	1
	RHDEB0	CIRCUIT BREAKER MECHANISM; SIEMENS	1
	RHDH4	CIRCUIT BREAKER HANDLE; SIEMENS	1
M1	RHDSVD	ROD; SIEMENS	1
	3TF4622-DAK6	NON REVERSING AC CONTACTOR; SIEMENS	1
OL	3UA5800-2E	OVERLOAD RELAY; SIEMENS	1
CR1	RH4B-UDC12V	CONTROL RELAY 12VDC; IDEC	1
	SH4B-05	CONTROL RELAY BASE; IDEC	1
CR2	RH2B-UDC12V	CONTROL RELAY 12VDC; IDEC	1
	SH2B-05	CONTROL RELAY BASE; IDEC	1
T1	TA-2-32669	TRANSFORMER; ACME	1
T2	T-1-81050	TRANSFORMER; ACME	1
ENCL	T-20H20B	ENCLOSURE; TANCO	1
PANEL	T-20P20	BACK PANEL; TANCO	1
TB1, TB2	8WA1011-1DG11	TERMINAL BLOCKS; SIEMENS	1
	8WA180B	END BLOCKS; SIEMENS	1
	8WA746	STAND-OFFS	1
SS1	3SB03-3MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-DG	CONTACT BLOCK 2 N.O.; SIEMENS	2
1FU-2FU	KLDR 2-1/2	FUSE; LITTELFUSE	1
	L60030C-2PQ	FUSE BLOCK; LITTELFUSE	1
3FU	FLM 4	FUSE; LITTELFUSE	1
	PL-112601	FUSE BLOCK; ACME	1
4FU	FLM 15	FUSE; LITTELFUSE	2
	L60030M-1PQ	FUSE BLOCK; LITTELFUSE	1
16PIN	10007477	16 PIN SOCKET	1
	10007479	16 PIN CAP	1
	10007478	16 PIN GASKET	1
24PIN	23357	24 PIN FEMALE CONNECTOR AND BASE	1
	12706	RELAY; BOSCH 12VDC	2
	12705	RELAY BASE; BOSCH	2
	9698	PLUG FLAT IN SLEEVE FOR RELAY BASE	10
	665-020-100-090-002 6	REMOTE BOX	1
	27164	CABLE	1
PLUG	18432	CABLE DRUM	1
	AR342	RECEPTACLE; CROUSE HINDS	1
	APJ3485	PLUG; CROUSE HINDS	1
	AR30	ANGLE ADAPTER BOX; CROUSE HINDS	1
	30338291	ELECTRIC MOTOR	1
MTR	25443	RECEPTACLE; 5 POLE	1
	30316292	CAPACITOR, 1000MF, 50VDC	1
CAPACITOR	30305316	BRIDGE RECTIFIER, 35 AMPS	1
RECT 1	10023464	5 POLE SOCKET SPOOL	1
SOCKET	<SAI#316211>	GREASE TIMER, 12VDC (OPTION)	1
TIMER	<SAI#316518>	GREASE PUMP, 12VDC (OPTION)	1
GREASE PUMP			

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

TOLERANCE:
DIMENSIONS ± 1/8"
HOLES +.008
-.000

XXX ±.005
.XX ±.040
.X ±.080

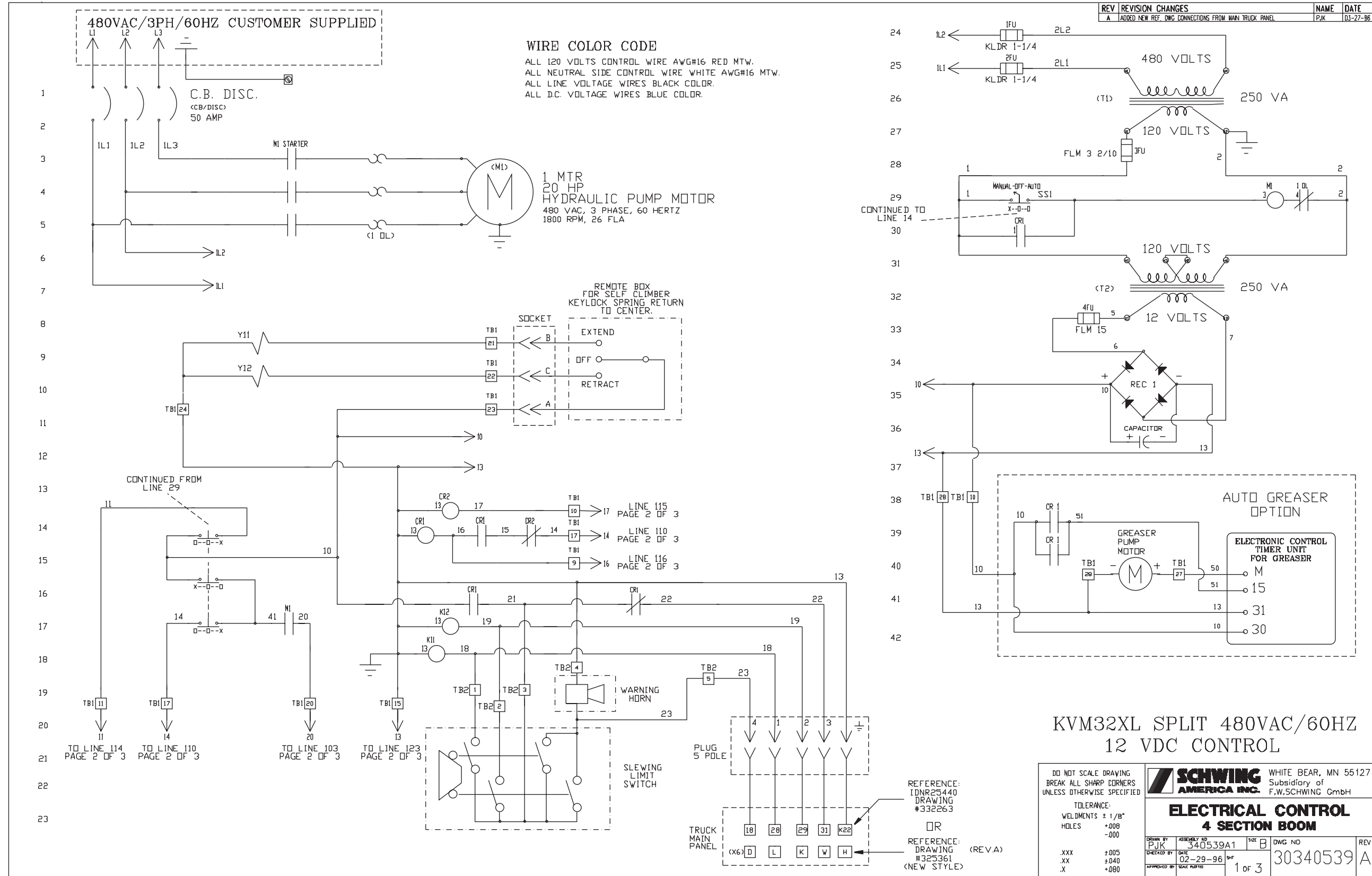
SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

**PANEL LAYOUT
4 SECTION BOOM**

DRAWN BY PJK	ASSEMBLY NO. 340538A3	SHEET B	DWG NO. 30340538	REV A
CHECKED BY	DATE 02-29-96	3 of 3		
APPROVED BY	SCALE			

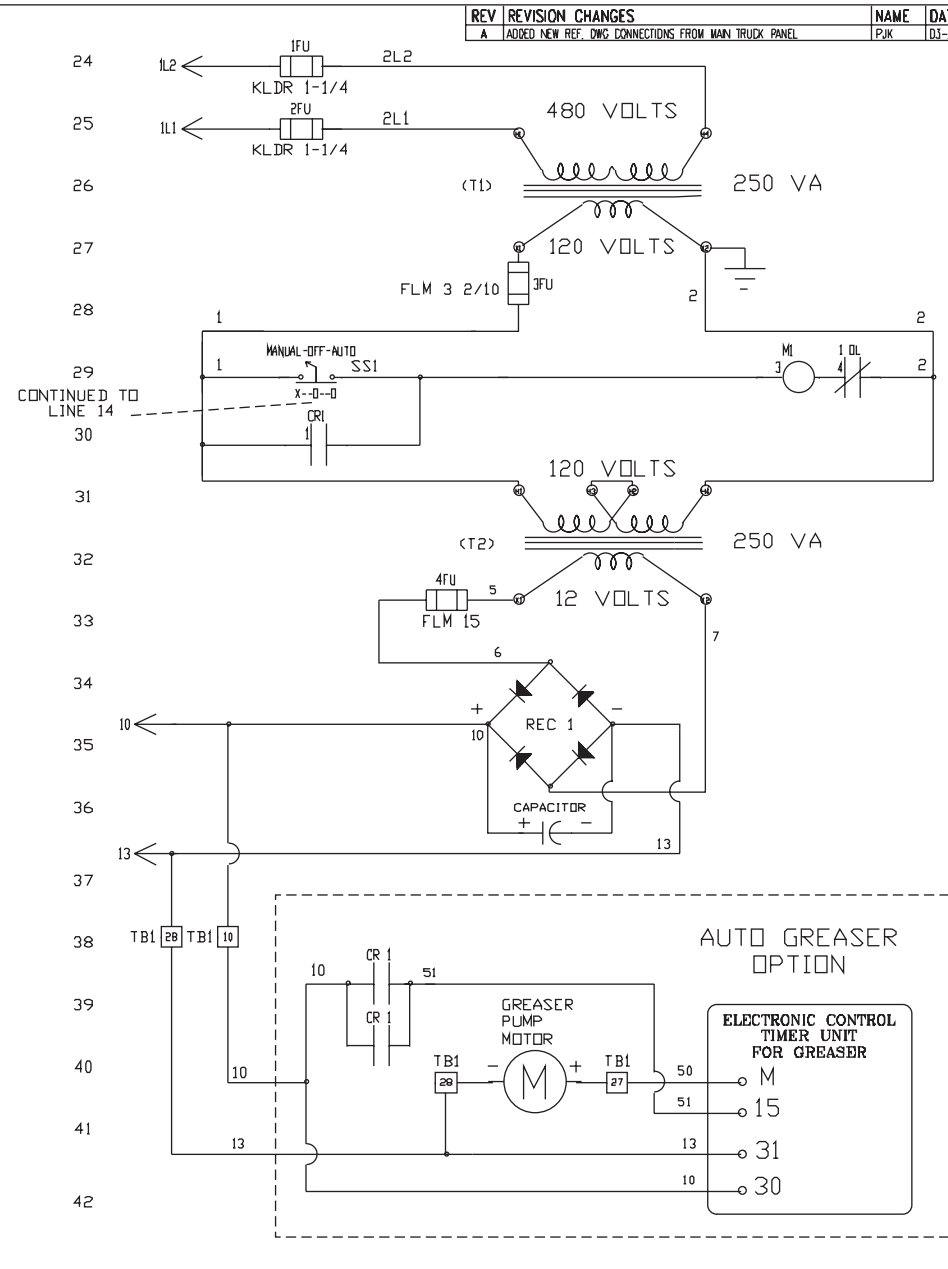
340539

KVM/SPB 32XL FLYWAY POWER CIRCUIT, 480 VOLTS/50HZ, REV A



WIRE COLOR CODE
 ALL 120 VOLTS CONTROL WIRE AWG#16 RED MTW.
 ALL NEUTRAL SIDE CONTROL WIRE WHITE AWG#16 MTW.
 ALL LINE VOLTAGE WIRES BLACK COLOR.
 ALL D.C. VOLTAGE WIRES BLUE COLOR.

REV	REVISION CHANGES	NAME	DATE
A	ADDED NEW REF. DWG CONNECTIONS FROM MAIN TRUCK PANEL	PJK	03-27-96



KVM32XL SPLIT 480VAC/60HZ
 12 VDC CONTROL

DO NOT SCALE DRAWING
 BREAK ALL SHARP CORNERS
 UNLESS OTHERWISE SPECIFIED

TOLERANCE:
 WELDMENTS ± 1/8"
 HOLES +.008
 -.000

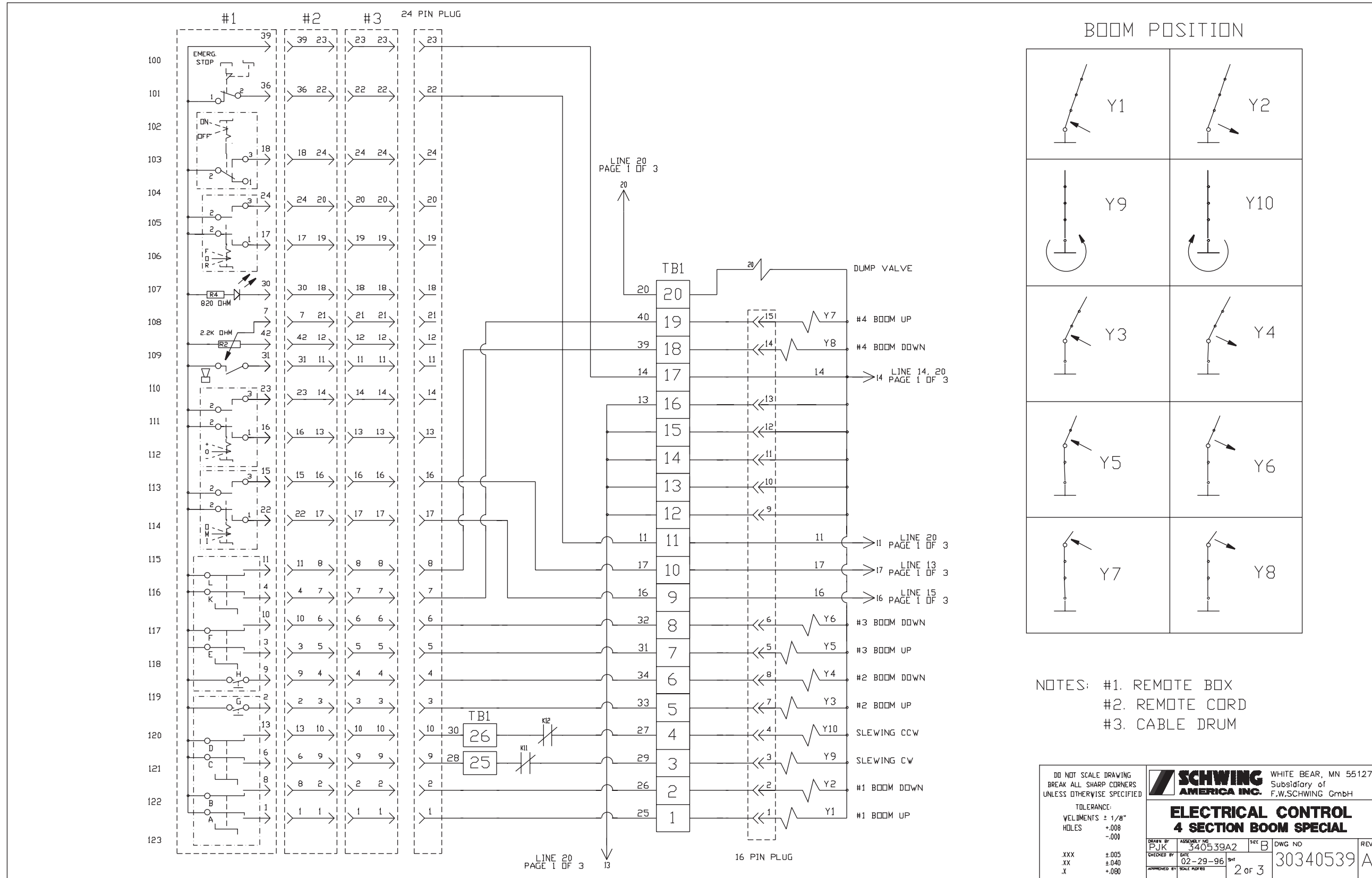
...XX ±.005
 .XX ±.040
 .X ±.080

REFERENCE: IDNR25440 DRAWING #332263
 REFERENCE: DRAWING #325361 (NEW STYLE) (REV.A)

SCHWING AMERICA INC. WHITE BEAR, MN 55127
 Subsidiary of F.W.SCHWING GmbH

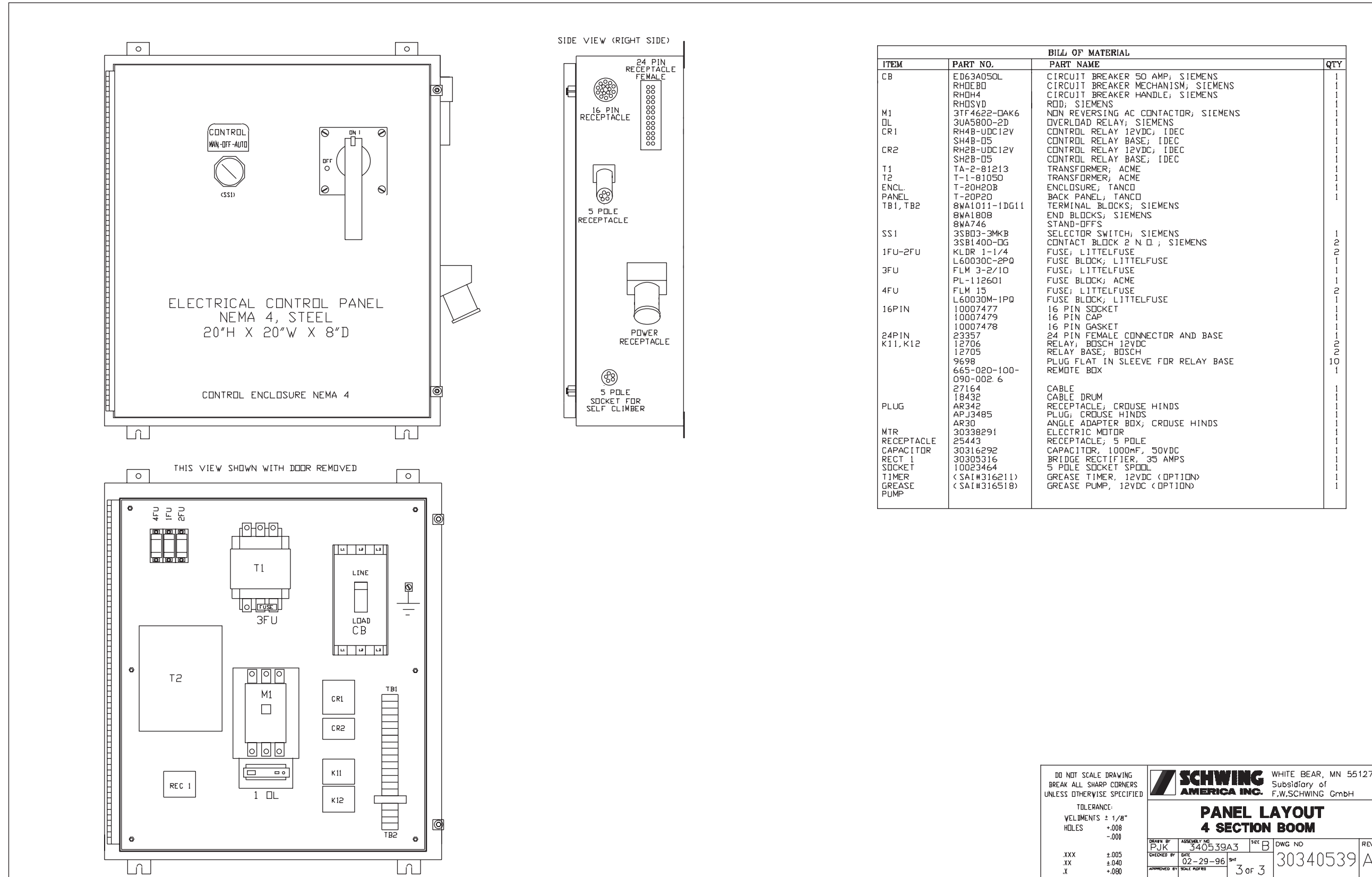
ELECTRICAL CONTROL 4 SECTION BOOM

DRAWN BY PJK	ASSEMBLY NO 340539A1	SIZE B	DWG NO 30340539	REV A
CHECKED BY	DATE 02-29-96	SHEET 1 OF 3		



340539

KVM/SPB 32XL FLYWAY POWER CIRCUIT, 480 VOLTS/50HZ, PANEL LAYOUT, REV A



BILL OF MATERIAL			
ITEM	PART NO.	PART NAME	QTY
CB	ED63A050L	CIRCUIT BREAKER 50 AMP; SIEMENS	1
	RHDEBD	CIRCUIT BREAKER MECHANISM; SIEMENS	1
	RHDH4	CIRCUIT BREAKER HANDLE; SIEMENS	1
	RHDSD	RDD; SIEMENS	1
M1	3TF4622-DAK6	NON REVERSING AC CONTACTOR; SIEMENS	1
DL	3UA5800-2D	OVERLOAD RELAY; SIEMENS	1
CR1	RH4B-UDC12V	CONTROL RELAY 12VDC; IDEC	1
	SH4B-05	CONTROL RELAY BASE; IDEC	1
CR2	RH2B-UDC12V	CONTROL RELAY 12VDC; IDEC	1
	SH2B-05	CONTROL RELAY BASE; IDEC	1
T1	TA-2-81213	TRANSFORMER; ACME	1
T2	T-1-81050	TRANSFORMER; ACME	1
ENCL.	T-20H20B	ENCLOSURE; TANCO	1
PANEL	T-20P2D	BACK PANEL; TANCO	1
TB1, TB2	8WA1011-1DG11	TERMINAL BLOCKS; SIEMENS	1
	8WA1808	END BLOCKS; SIEMENS	1
	8WA746	STAND-OFFS	1
SS1	3SB03-3MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-0G	CONTACT BLOCK 2 N.O.; SIEMENS	2
1FU-2FU	KLDR 1-1/4	FUSE; LITTELFUSE	1
	L60030C-2P0	FUSE BLOCK; LITTELFUSE	1
3FU	FLM 3-2/10	FUSE; LITTELFUSE	1
	PL-112601	FUSE BLOCK; ACME	1
4FU	FLM 15	FUSE; LITTELFUSE	2
	L60030M-1P0	FUSE BLOCK; LITTELFUSE	1
16PIN	10007477	16 PIN SOCKET	1
	10007479	16 PIN CAP	1
	10007478	16 PIN GASKET	1
24PIN	23357	24 PIN FEMALE CONNECTOR AND BASE	1
K11, K12	12706	RELAY; BOSCH 12VDC	2
	12705	RELAY BASE; BOSCH	2
	9698	PLUG FLAT IN SLEEVE FOR RELAY BASE	10
	665-020-100-090-002-6	REMOTE BOX	1
	27164	CABLE	1
	18432	CABLE DRUM	1
PLUG	AR342	RECEPTACLE; CROUSE HINDS	1
	APJ3485	PLUG; CROUSE HINDS	1
	AR30	ANGLE ADAPTER BOX; CROUSE HINDS	1
NTR	30338291	ELECTRIC MOTOR	1
RECEPTACLE	25443	RECEPTACLE; 5 POLE	1
CAPACITOR	30316292	CAPACITOR; 1000MF, 50VDC	1
RECT 1	30303316	BRIDGE RECTIFIER, 35 AMPS	1
SOCKET	10023464	5 POLE SOCKET SP00L	1
TIMER	<SAI#316211>	GREASE TIMER, 12VDC (OPTION)	1
GREASE PUMP	<SAI#316518>	GREASE PUMP, 12VDC (OPTION)	1

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

TOLERANCE:
DIMENSIONS ± 1/8"
HOLES +.008
-.000

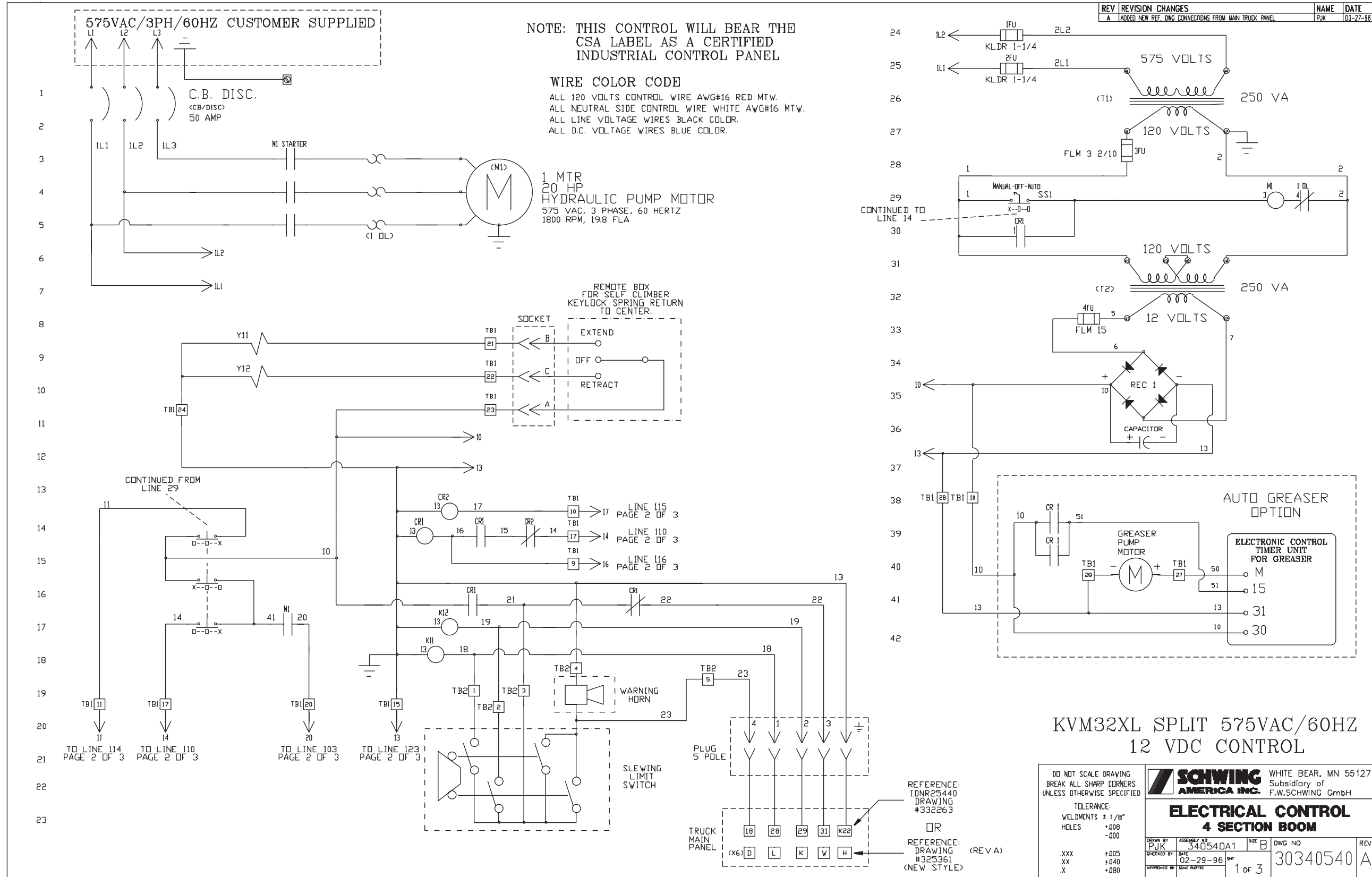
.XXX ±.005
.XX ±.040
.X +.080

SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

PANEL LAYOUT 4 SECTION BOOM

DRAWN BY PJK	ASSEMBLY NO. 340539A3	SEC B	DWG NO. 30340539	REV A
CHECKED BY XX	DATE 02-29-96	SHI	3 of 3	
APPROVED BY	SALT PASTER			

KVM/SPB 32XL FLYWAY POWER CIRCUIT, 575 VOLTS/60HZ, REV A

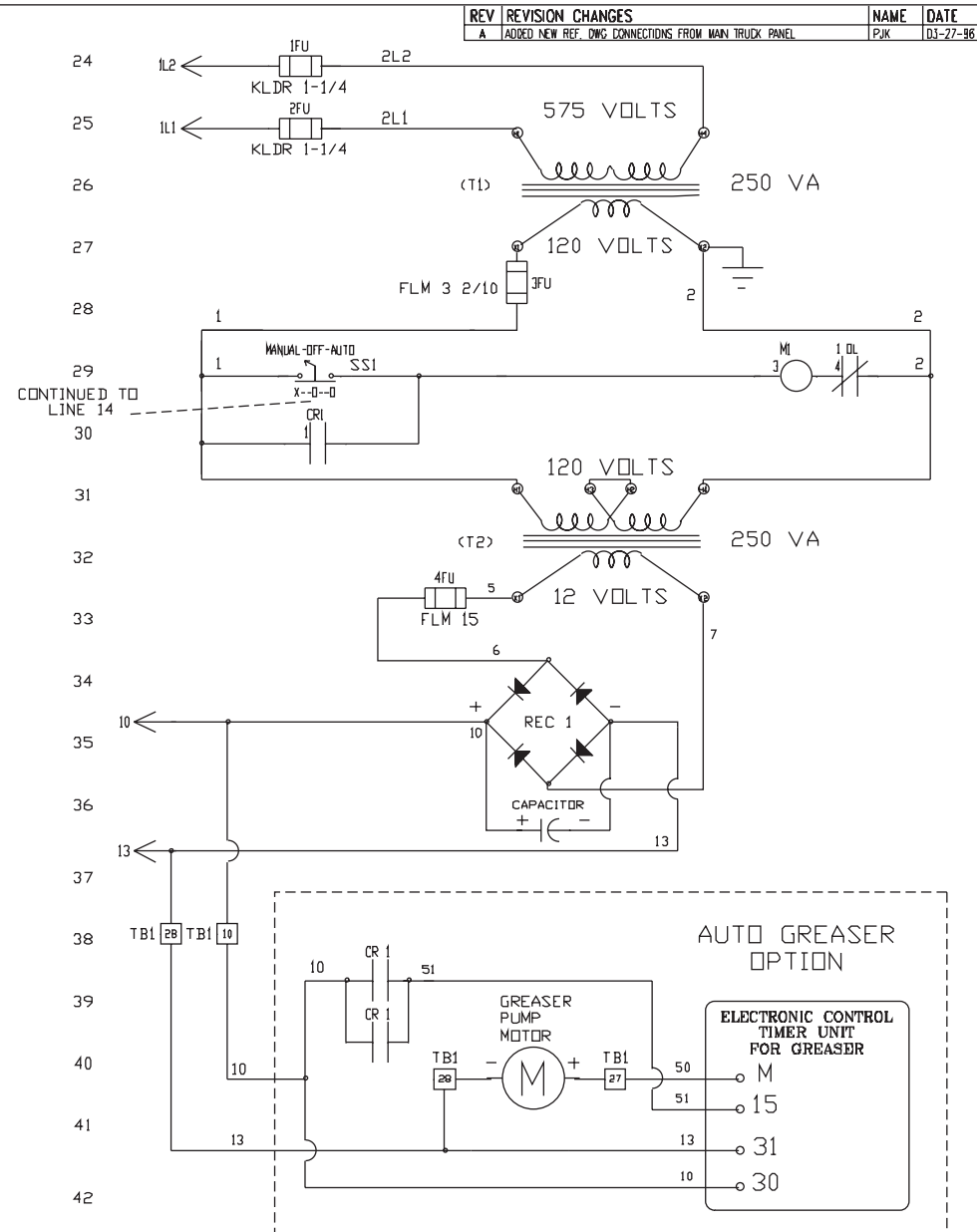


NOTE: THIS CONTROL WILL BEAR THE CSA LABEL AS A CERTIFIED INDUSTRIAL CONTROL PANEL

WIRE COLOR CODE
 ALL 120 VOLTS CONTROL WIRE AWG#16 RED MTW.
 ALL NEUTRAL SIDE CONTROL WIRE WHITE AWG#16 MTW.
 ALL LINE VOLTAGE WIRES BLACK COLOR.
 ALL D.C. VOLTAGE WIRES BLUE COLOR.

1 MTR
 20 HP
 HYDRAULIC PUMP MOTOR
 575 VAC, 3 PHASE, 60 HERTZ
 1800 RPM, 19.8 FLA

REV	REVISION CHANGES	NAME	DATE
A	ADDED NEW REF. DMC CONNECTIONS FROM MAIN TRUCK PANEL	PJK	03-27-96



**KVM32XL SPLIT 575VAC/60HZ
 12 VDC CONTROL**

DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED		SCHWING AMERICA INC. WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH	
TOLERANCE: WELDMENTS ± 1/8" HOLES +008 -000		ELECTRICAL CONTROL 4 SECTION BOOM	
DRAWN BY PJK	ASSEMBLY NO. 340540A1	SIZE B	DWG NO. 30340540
CHECKED BY XX	DATE 02-29-96	SHEET 1 of 3	REV A
APPROVED BY X	DATE POSTED		

REFERENCE:
 IDNR25440
 DRAWING
 #332263

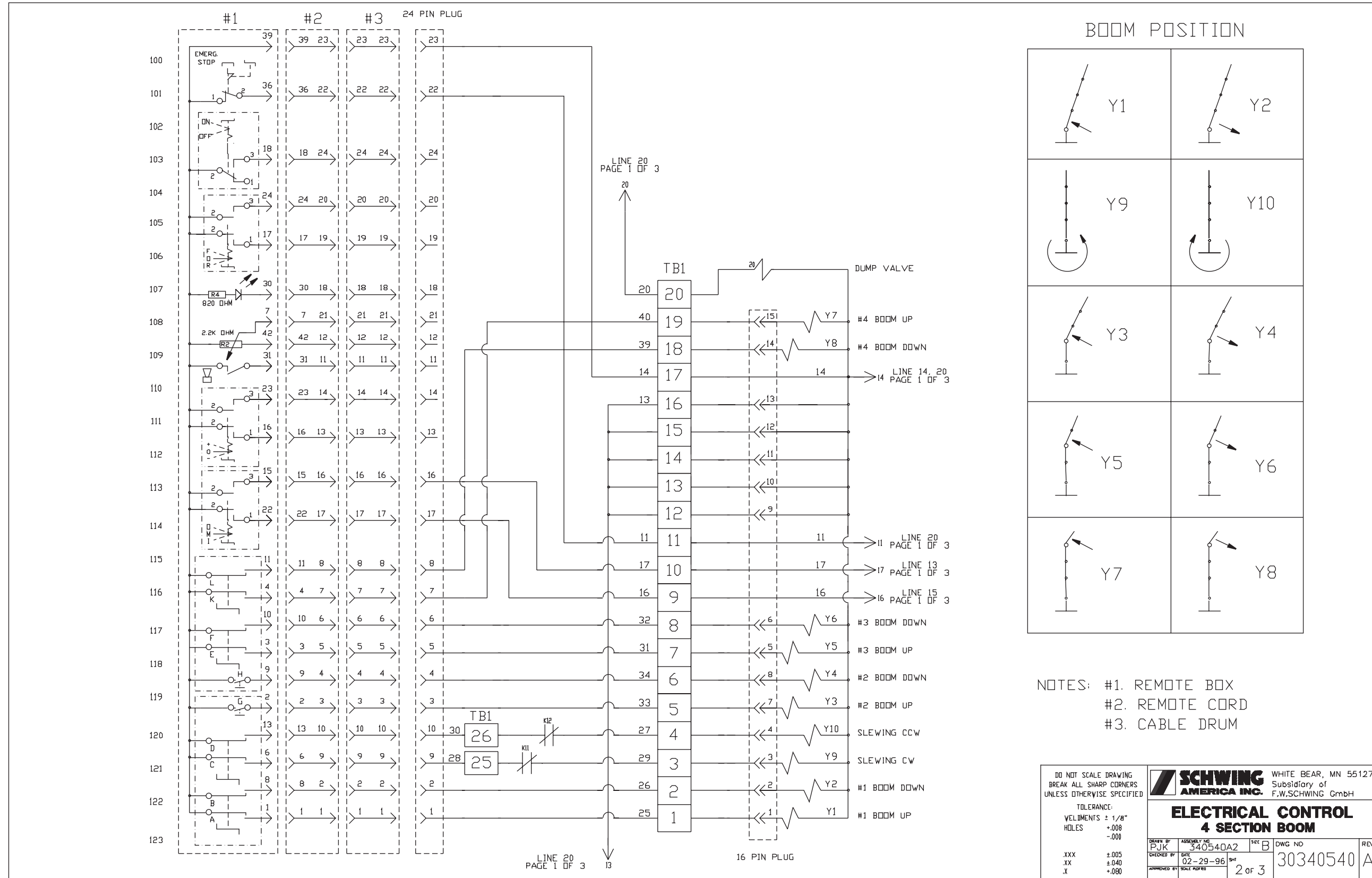
OR

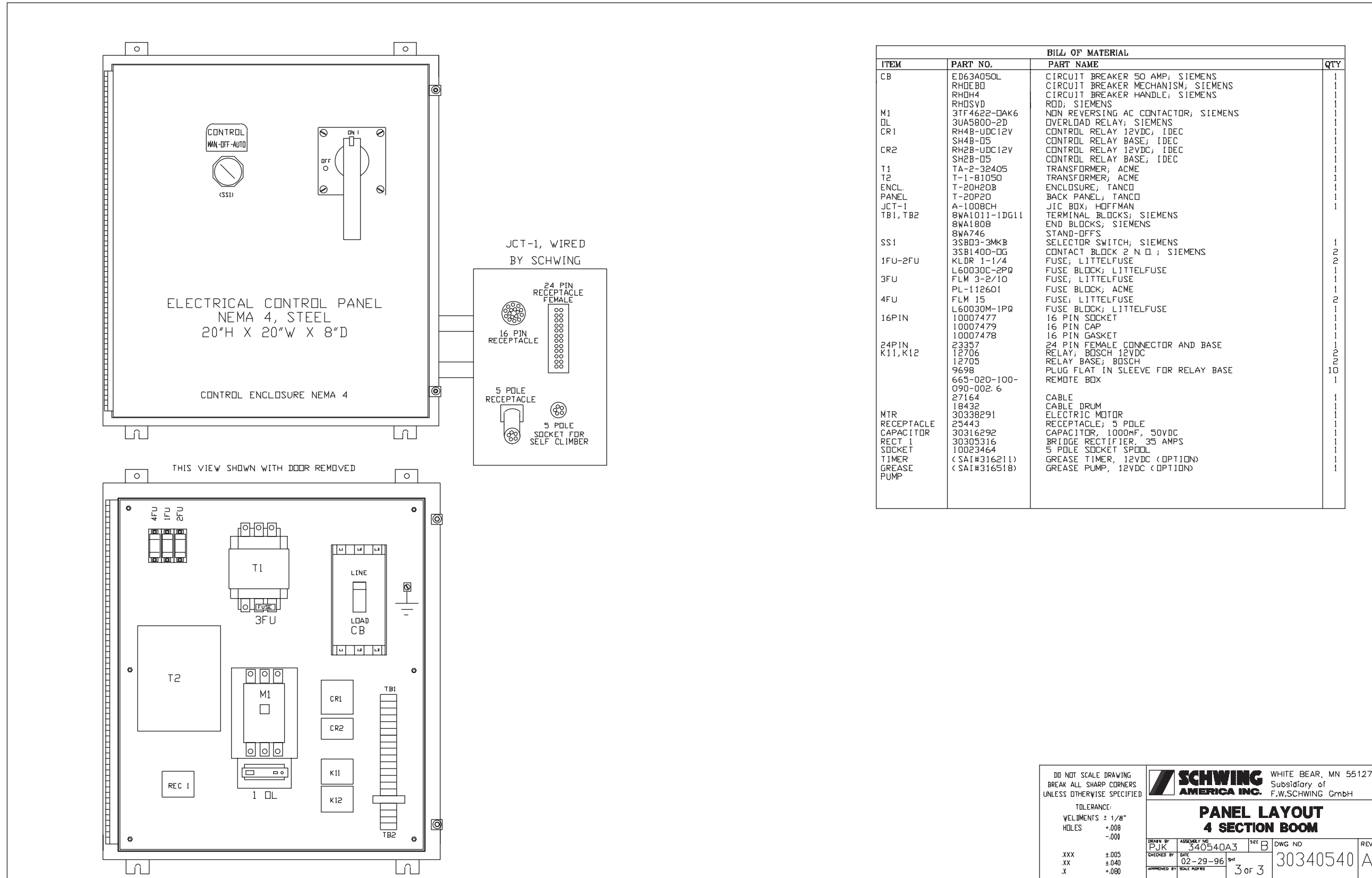
REFERENCE:
 DRAWING
 #325361
 (NEW STYLE)

(REV A)

340540

KVM/SPB 32XL FLYWAY POWER CIRCUIT, 575 VOLTS/60HZ, REV A





DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

TOLERANCE:
DIMENSIONS ± 1/8"
HOLES +.008
-.000

XXX ±.005
XX ±.040
X ±.080

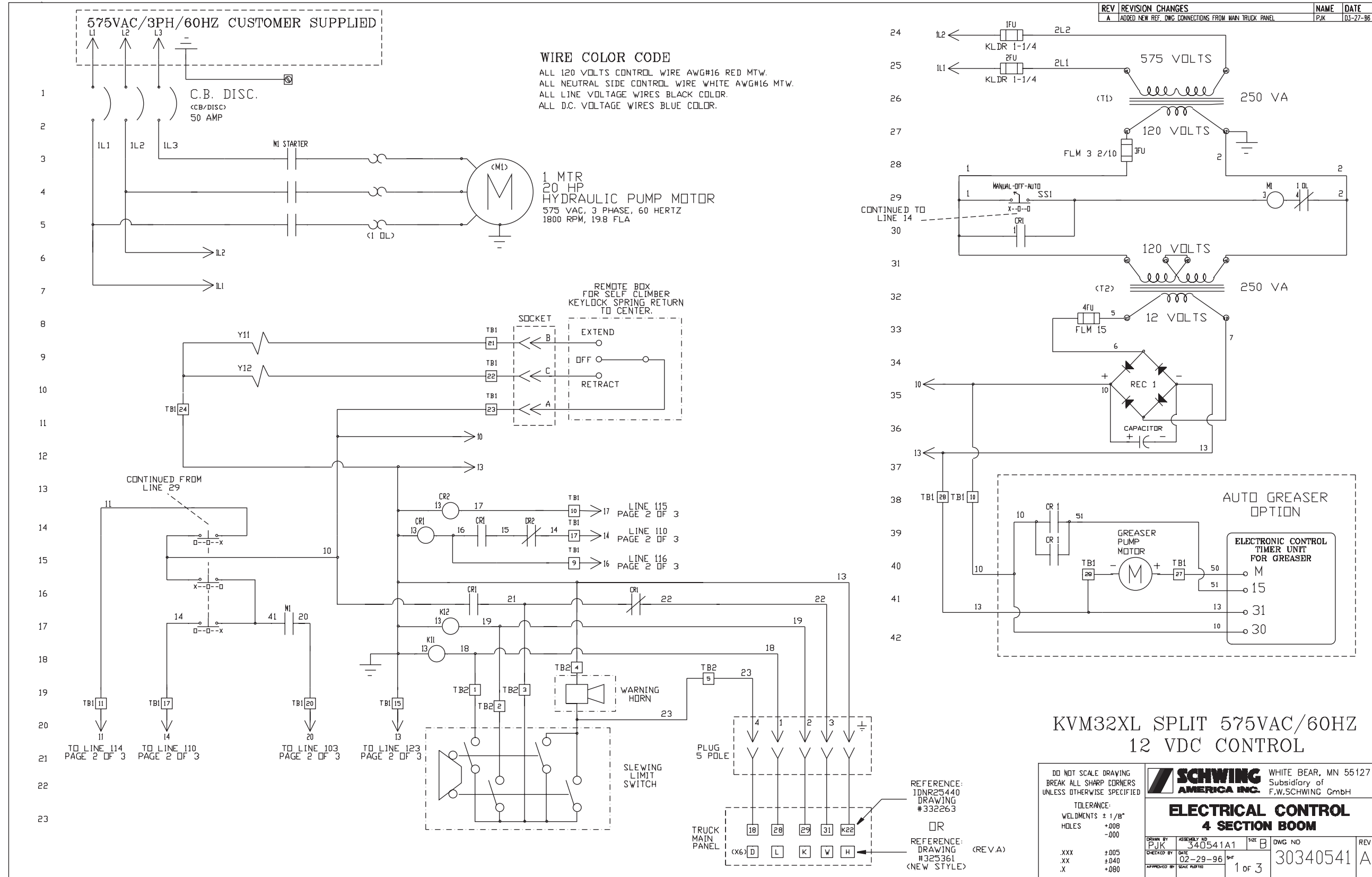
SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

**PANEL LAYOUT
4 SECTION BOOM**

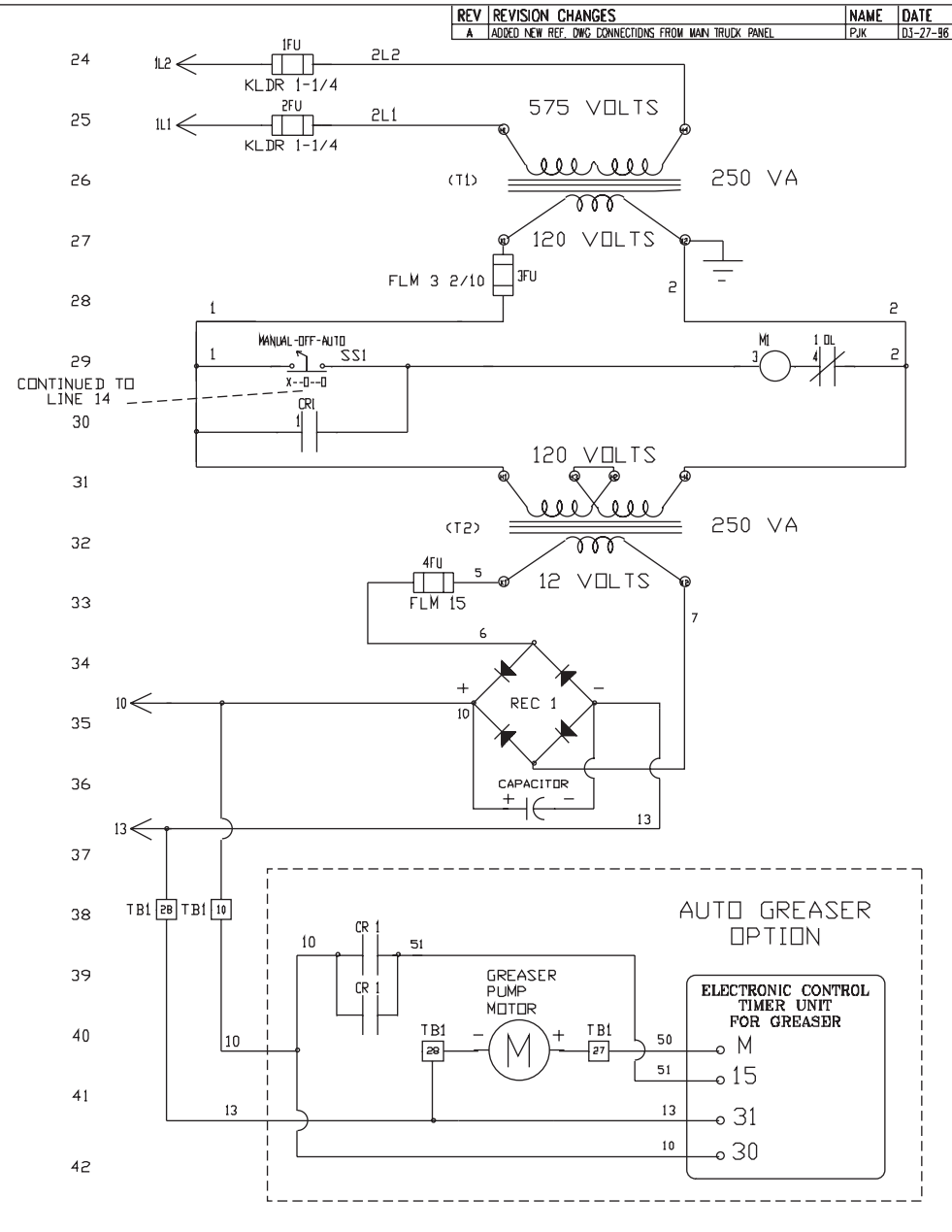
DRAWN BY PJK ASSEMBLY NO. 340540A3 SEC B DWG NO. 30340540 REV A
CHECKED BY XX DATE 02-29-96 SHIT
APPROVED BY [Signature] 3 of 3

340541

KVM/SPB 32XL FLYWAY POWER CIRCUIT, 575 VOLTS/60HZ, REV A

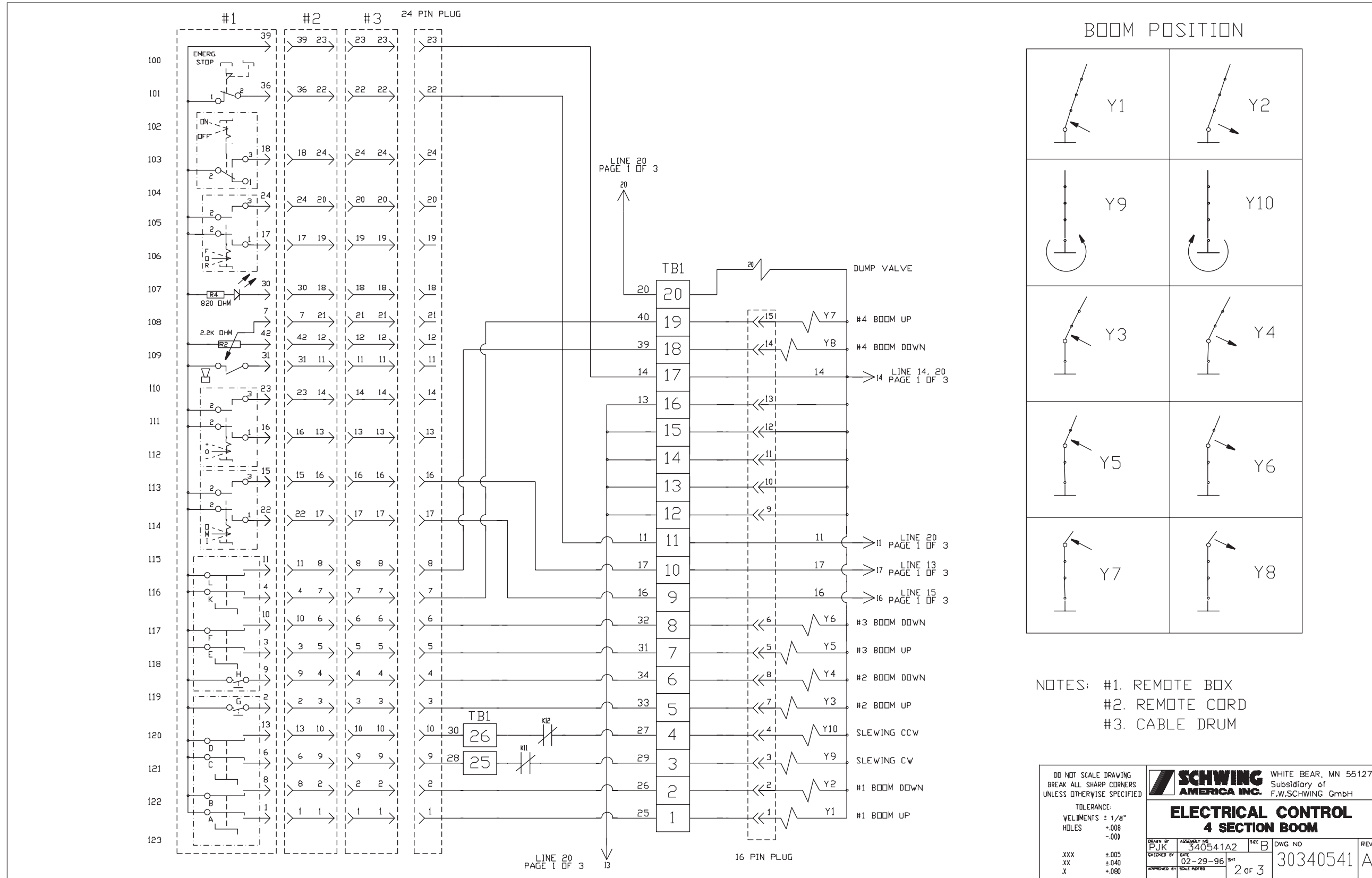


REV	REVISION CHANGES	NAME	DATE
A	ADDED NEW REF. DWG CONNECTIONS FROM MAIN TRUCK PANEL	PJK	03-27-96



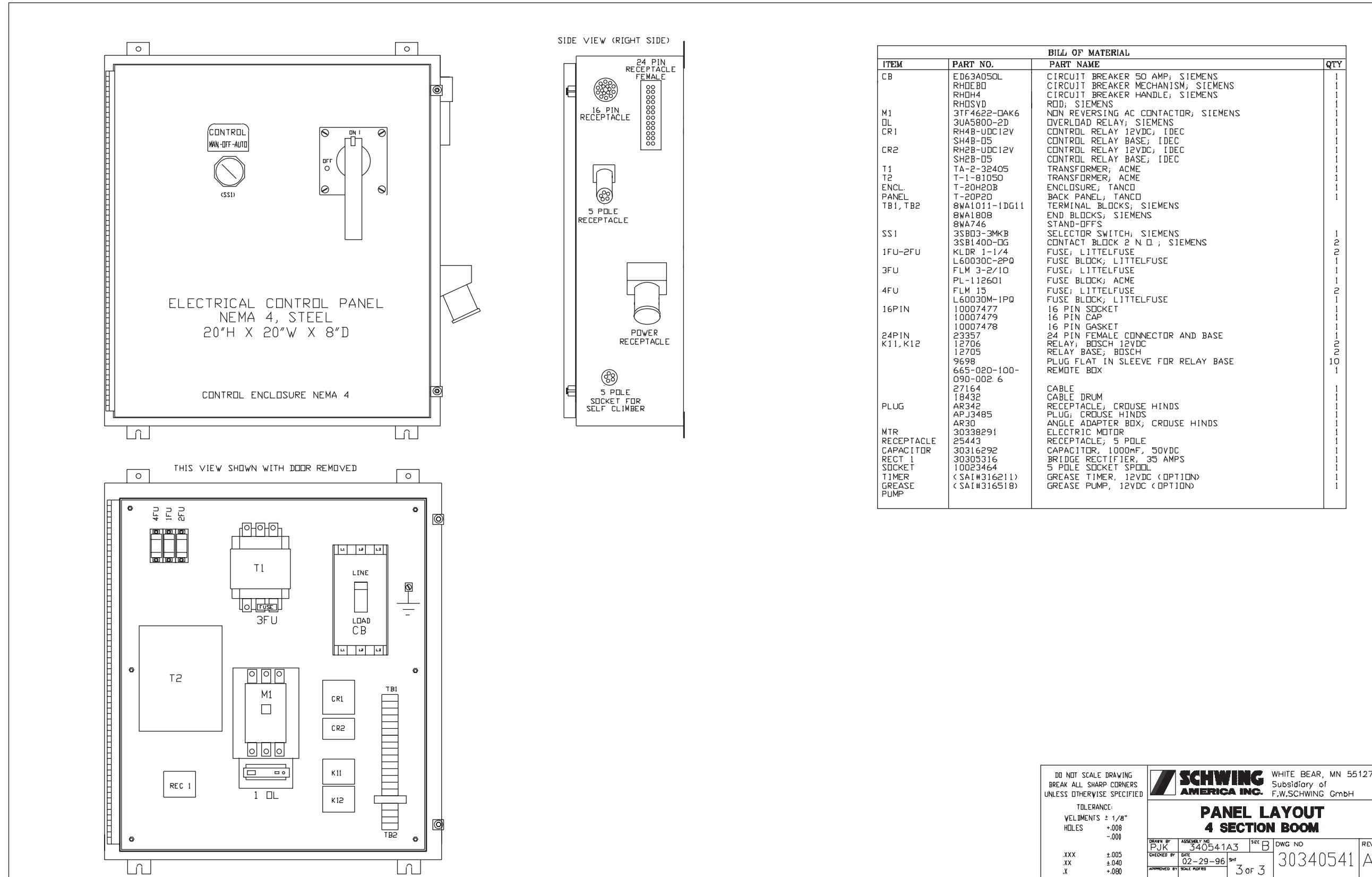
KVM32XL SPLIT 575VAC/60HZ
12 VDC CONTROL

DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED		WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH	
TOLERANCE: WELDMENTS ± 1/8" HOLES +008 -000		ELECTRICAL CONTROL 4 SECTION BOOM	
DRAWN BY PJK	ASSEMBLY NO 340541A1	SIZE B	DWG NO 30340541
CHECKED BY XX	DATE 02-29-96	SHEET 1 of 3	REV A



340541

KVM/SPB 32XL FLYWAY POWER CIRCUIT, 575 VOLTS/60HZ, PANEL LAYOUT REV A



BILL OF MATERIAL			
ITEM	PART NO.	PART NAME	QTY
CB	ED63A050L	CIRCUIT BREAKER 50 AMP; SIEMENS	1
	RHDEBD	CIRCUIT BREAKER MECHANISM; SIEMENS	1
	RHDH4	CIRCUIT BREAKER HANDLE; SIEMENS	1
	RHDSD	RDD; SIEMENS	1
M1	3TF4622-DAK6	NON REVERSING AC CONTACTOR; SIEMENS	1
DL	3UA5800-2D	OVERLOAD RELAY; SIEMENS	1
CR1	RH4B-UDC12V	CONTROL RELAY 12VDC; IDEC	1
	SH4B-05	CONTROL RELAY BASE; IDEC	1
CR2	RH2B-UDC12V	CONTROL RELAY 12VDC; IDEC	1
	SH2B-05	CONTROL RELAY BASE; IDEC	1
T1	TA-2-32405	TRANSFORMER; ACME	1
T2	T-1-81050	TRANSFORMER; ACME	1
ENCL.	T-20H20B	ENCLOSURE; TANCO	1
PANEL	T-20P20	BACK PANEL; TANCO	1
TB1, TB2	8WA1011-1DG11	TERMINAL BLOCKS; SIEMENS	1
	8WA1808	END BLOCKS; SIEMENS	1
	8WA746	STAND-OFFS	1
SS1	3SB03-3MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-0G	CONTACT BLOCK 2 N.O.; SIEMENS	2
1FU-2FU	KLDR 1-1/4	FUSE; LITTELFUSE	1
	L60030C-2P0	FUSE BLOCK; LITTELFUSE	1
3FU	FLM 3-2/10	FUSE; LITTELFUSE	1
	PL-112601	FUSE BLOCK; ACME	1
4FU	FLM 15	FUSE; LITTELFUSE	2
	L60030M-1P0	FUSE BLOCK; LITTELFUSE	1
16PIN	10007477	16 PIN SOCKET	1
	10007479	16 PIN CAP	1
	10007478	16 PIN GASKET	1
24PIN	23357	24 PIN FEMALE CONNECTOR AND BASE	1
K11, K12	12706	RELAY; BOSCH 12VDC	2
	12705	RELAY BASE; BOSCH	2
	9698	PLUG FLAT IN SLEEVE FOR RELAY BASE	10
	665-020-100-090-002-6	REMOTE BOX	1
	27164	CABLE	1
	18432	CABLE DRUM	1
PLUG	AR342	RECEPTACLE; CROUSE HINDS	1
	APJ3485	PLUG; CROUSE HINDS	1
	AR30	ANGLE ADAPTER BOX; CROUSE HINDS	1
NTR	30338291	ELECTRIC MOTOR	1
RECEPTACLE	25443	RECEPTACLE; 5 POLE	1
CAPACITOR	30316292	CAPACITOR; 1000MF, 50VDC	1
RECT 1	30305316	BRIDGE RECTIFIER, 35 AMPS	1
SOCKET	10023464	5 POLE SOCKET SP00L	1
TIMER	<SAI#316211>	GREASE TIMER, 12VDC (OPTION)	1
GREASE PUMP	<SAI#316518>	GREASE PUMP, 12VDC (OPTION)	1

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

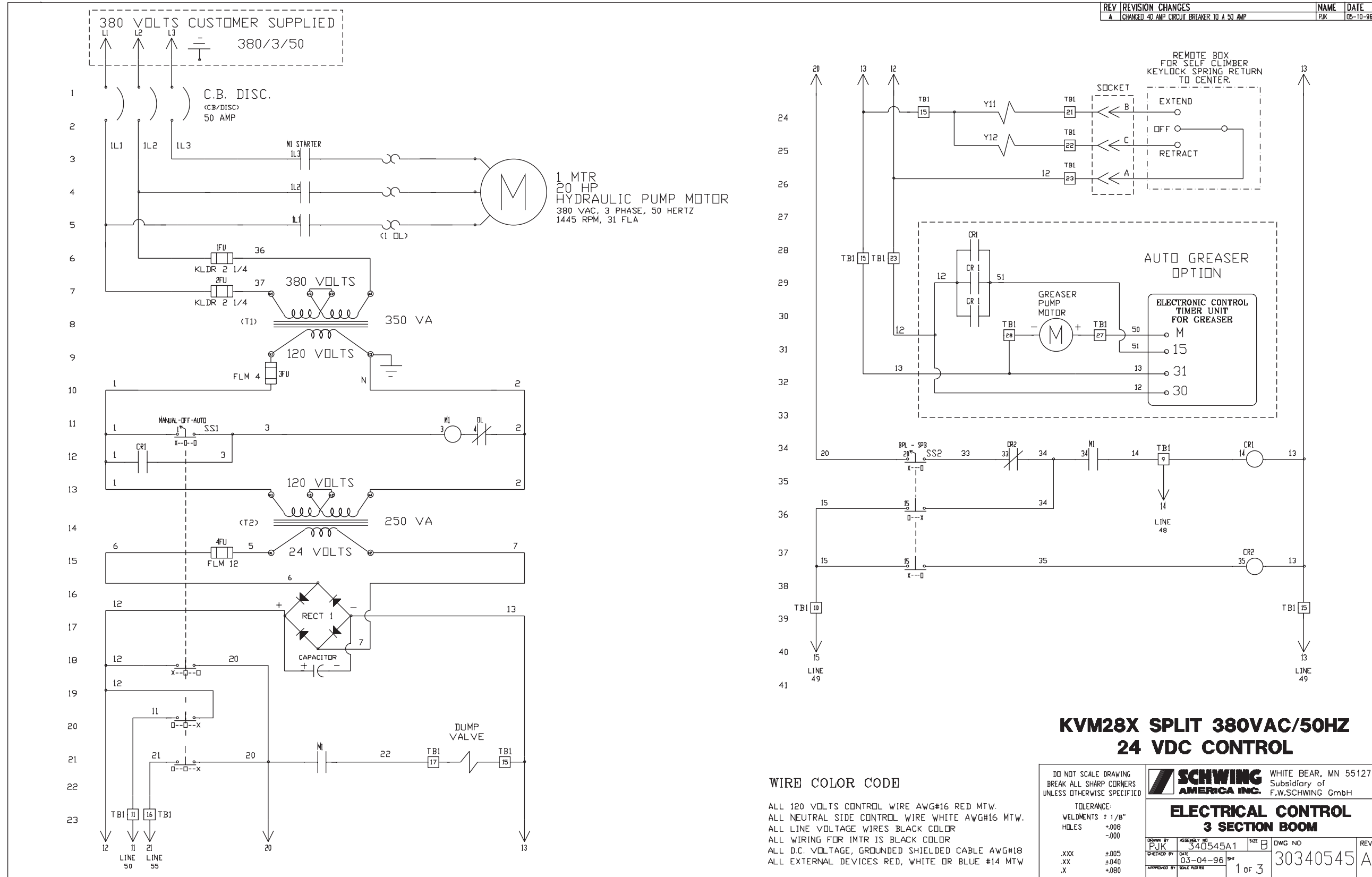
TOLERANCE:
DIMENSIONS ± 1/8"
HOLES +.008
-.000

.XXX ±.005
.XX ±.040
.X ±.080

SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

PANEL LAYOUT 4 SECTION BOOM

DRAWN BY PJK	ASSEMBLY NO. 340541A3	SEC B	DWG NO. 30340541	REV A
CHECKED BY .XX	DATE 02-29-96	3 of 3		
APPROVED BY .X	SHEET NUMBER			



REV	REVISION CHANGES	NAME	DATE
A	CHANGED 40 AMP CIRCUIT BREAKER TO A 50 AMP	PJK	05-10-96

WIRE COLOR CODE

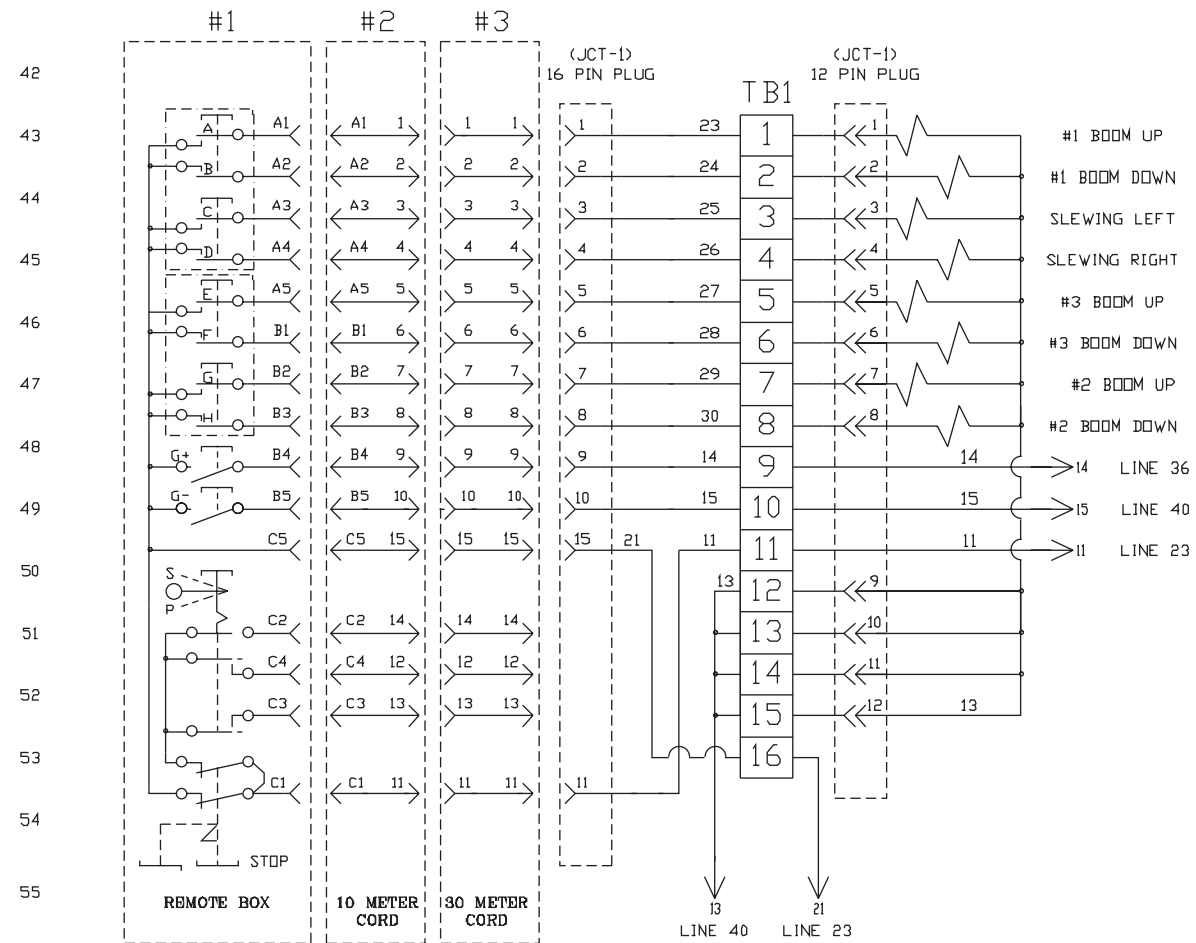
ALL 120 VOLTS CONTROL WIRE AWG#16 RED MTW.
 ALL NEUTRAL SIDE CONTROL WIRE WHITE AWG#16 MTW.
 ALL LINE VOLTAGE WIRES BLACK COLOR
 ALL WIRING FOR INTR IS BLACK COLOR
 ALL D.C. VOLTAGE, GROUNDED SHIELDED CABLE AWG#18
 ALL EXTERNAL DEVICES RED, WHITE OR BLUE #14 MTW

**KVM28X SPLIT 380VAC/50HZ
24 VDC CONTROL**

DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED		SCHWING AMERICA INC. WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH	
ELECTRICAL CONTROL 3 SECTION BOOM			
DRAWN BY PJK	ASSEMBLY NO. 340545A1	SIZE B	DWG NO. 30340545
CREATED BY XX	DATE 03-04-96	REV 1 of 3	REV A
APPROVED BY XXX	TOLERANCE: WELDMENTS ± 1/8" HOLES +008 -000		
	.XXX ±.005 .XX ±.040 .X +.080		

340545

KVM/SPB 32XL FLYWAY POWER CIRCUIT, 380VOLTS/50HZ, 24 VDC CONTROL, REV A



BILL OF MATERIAL			
ITEM	PART NO	PART NAME	QTY
CB	ED63A050L	CIRCUIT BREAKER 50 AMP; SIEMENS	1
	RHOEB0	CIRCUIT BREAKER MECHANISM; SIEMENS	1
	RHOH4	CIRCUIT BREAKER HANDLE; SIEMENS	1
	RHOSVD	ROD; SIEMENS	1
M1	3TF4622-DAK6	NON REVERSING AC CONTACTOR; SIEMENS	1
OL	3UA5800-2E	OVERLOAD RELAY; SIEMENS	1
CR1	3TF2010-0BB4	CONTROL RELAY 24VDC; SIEMENS	1
CR2	RH2B-U-24VDC	CONTROL RELAY 24VDC; IDEC	1
	SH2B-05	RELAY SOCKET; ICEC	1
T1	TA-2-32669	TRANSFORMER 120VAC; ACME	1
T2	T-1-81050	TRANSFORMER 24VAC; ACME	1
	FL-112601	FUSE CLIP	1
RECT-1	30305316	BRIDGE RECTIFIER, 35 AMPS	1
CAPACITOR	30316292	CAPACITOR, 1000mF, 50VDC	1
ENCL.	T-24H20B	ENCLOSURE; TANCO	1
PANEL	T-24P20	BACK PANEL; TANCO	1
TB1	8WA1011-1DG21	TERMINAL BLOCKS; SIEMENS	2
	8WA1808	END BLOCKS; SIEMENS	2
	8WA746	STAND-OFFS	2
SS1	3SB03-3MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-DG	CONTACT BLOCK; SIEMENS	2
SS2	3SB03-2MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-DB	CONTACT BLOCK; SIEMENS	2
	3SB1400-DH	CONTACT BLOCK; SIEMENS	2
1FU-2FU	KLDR 2 1/4	FUSE; LITTELFUSE	2
	L60030C-2PQ	FUSE BLOCK; LITTELFUSE	1
3FU	FLM 4	FUSE; LITTELFUSE	2
4FU	FLM 12	FUSE; LITTELFUSE	2
	L60030M-1PQ	FUSE BLOCK; LITTELFUSE	1
16PIN	10007477	16 PIN SOCKET	1
	10007479	CAP FOR 16 & 12 PIN SOCKET	2
	10007478	GASKET FOR 16 & 12 PIN SOCKET	2
12PIN	10007700	12 PIN SOCKET	1
SOCKET	10023464	5 POLE SOCKET SPOOL (FOR SELF CLIMBER)	1
TIMER		GREASER TIMER, 24VDC (OPTIONAL)(SAI# 30316552)	1
GREASE		GREASER PUMP, 24VDC (OPTIONAL)(SAI# 30340551)	1
PUMP			
PLUG	AR-342	CROUSE HINDS PLUG	1
	AP-3485	CROUSE HINDS RECEPTACLE	1
	AR-30	CROUSE HINDS BACKBOX	1

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

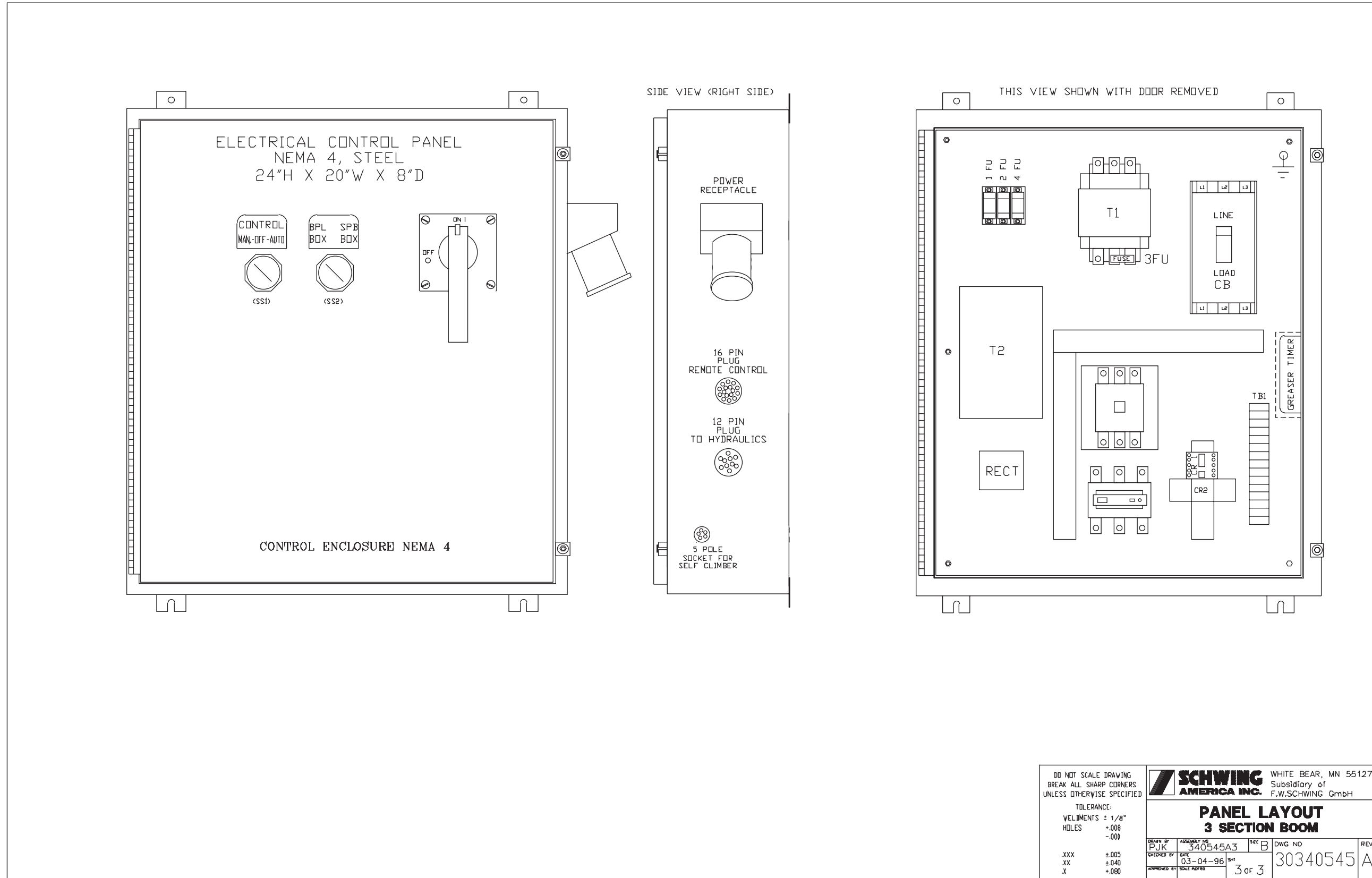
TOLERANCE:
WELDMENTS ± 1/8"
HOLES +.008
 -.000

.XXX ±.005
.XX ±.040
.X ±.080

SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

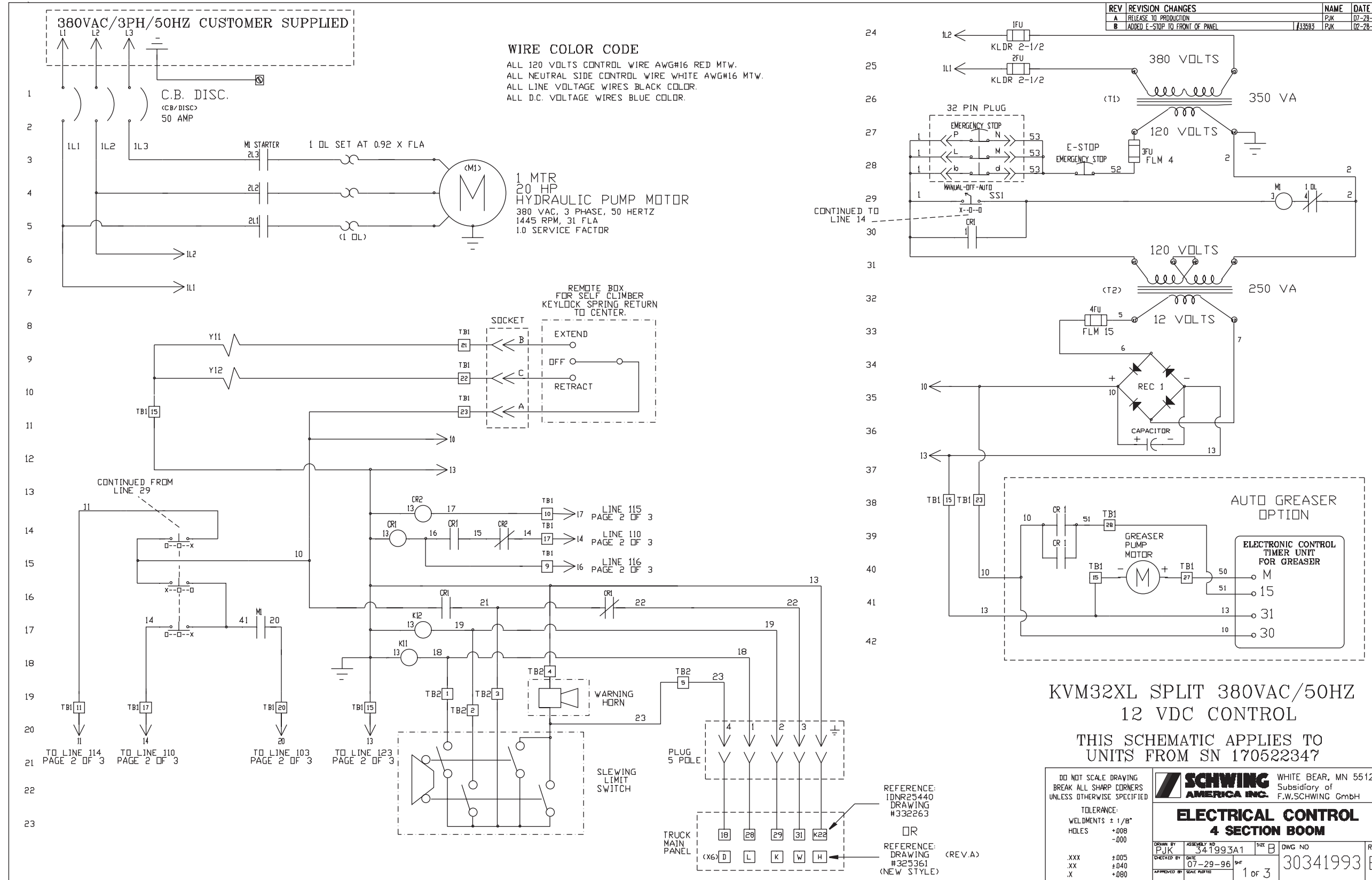
**ELECTRICAL CONTROL
3 SECTION BOOM**

DRAWN BY PJK	ASSEMBLY NO. 340545A2	SIZE B	DWG NO. 30340545	REV A
CHECKED BY XX	DATE 03-04-96	DWG 2 of 3		
APPROVED BY X	SPEC PARTS			



341993

KVM/SPB 32XL FLYWAY POWER CIRCUIT, 380VOLTS/60HZ, 12 VDC CONTROL, REV B



WIRE COLOR CODE
 ALL 120 VOLTS CONTROL WIRE AWG#16 RED MTW.
 ALL NEUTRAL SIDE CONTROL WIRE WHITE AWG#16 MTW.
 ALL LINE VOLTAGE WIRES BLACK COLOR.
 ALL D.C. VOLTAGE WIRES BLUE COLOR.

1 MTR 20 HP HYDRAULIC PUMP MOTOR
 380 VAC, 3 PHASE, 50 HERTZ
 1445 RPM, 31 FLA
 1.0 SERVICE FACTOR

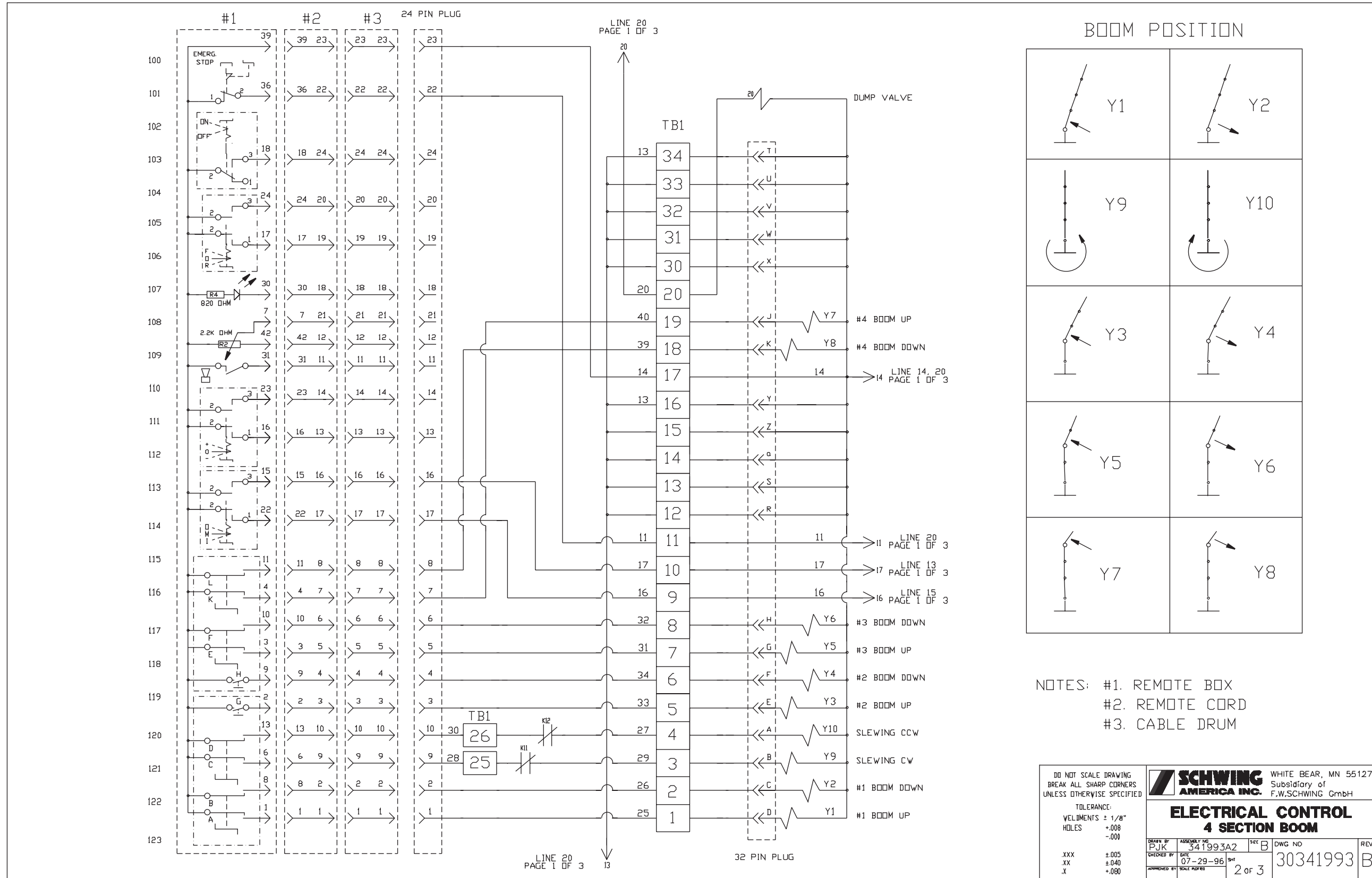
REV	REVISION CHANGES	NAME	DATE
A	RELEASE TO PRODUCTION	PJK	07-28-96
B	ADDED E-STOP TO FRONT OF PANEL	PJK	02-28-97

KVM32XL SPLIT 380VAC/50HZ
 12 VDC CONTROL

THIS SCHEMATIC APPLIES TO
 UNITS FROM SN 170522347

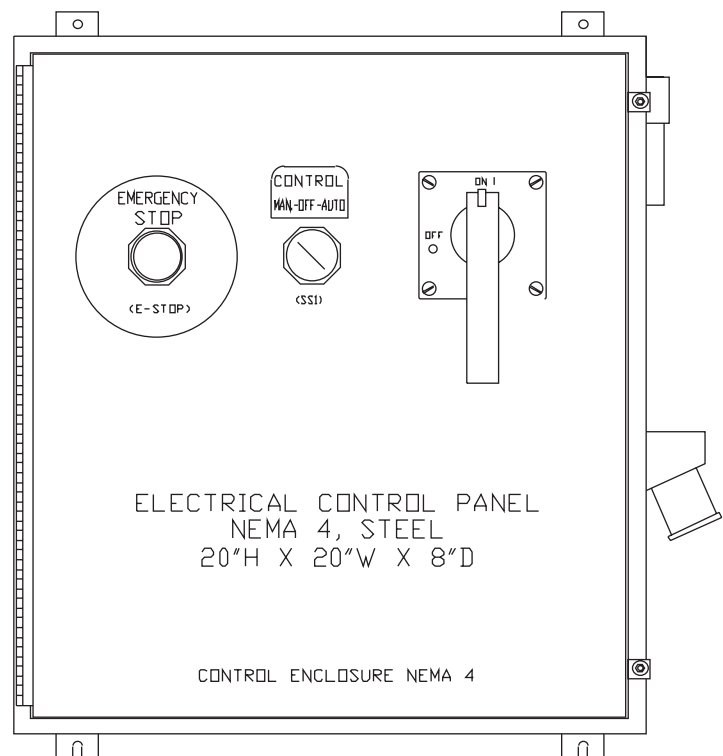
DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED		SCHWING AMERICA INC. WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH	
TOLERANCE: WELDMENTS ± 1/8" HOLES +008 -000		ELECTRICAL CONTROL 4 SECTION BOOM	
DRAWN BY PJK	ASSEMBLY NO 341993A1	SIZE B	DWG NO 30341993
CHECKED BY .XX	DATE 07-29-96	DWG 1 of 3	REV B
APPROVED BY .X	SPEC PARTS		

REFERENCE:
 IDNR25440
 DRAWING
 #332263
 OR
 REFERENCE:
 DRAWING
 #325361
 (NEW STYLE) (REV.A)

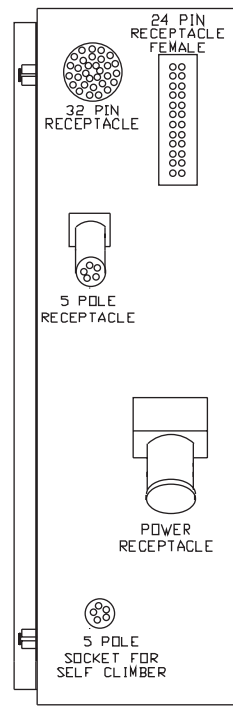


341993

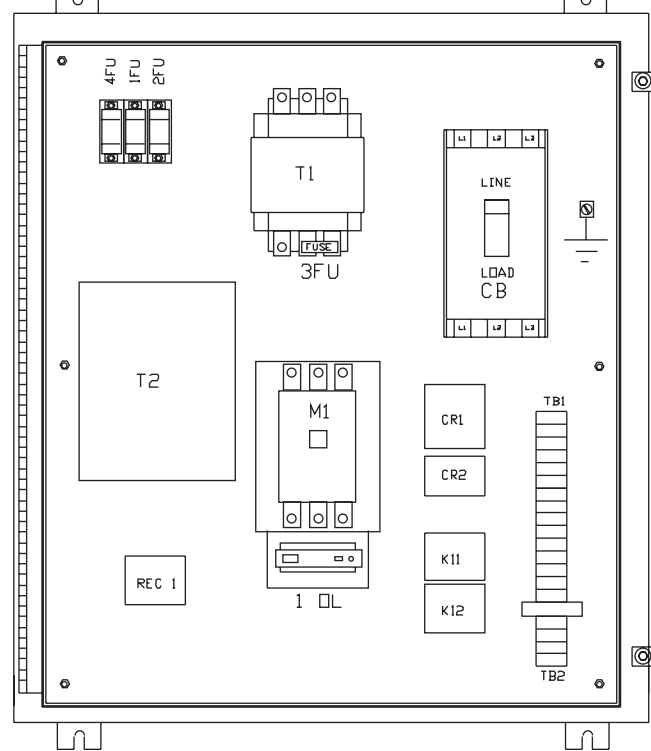
KVM/SPB 32XL FLYWAY POWER CIRCUIT, 380VOLTS/60HZ, 12 VDC CONTROL, PANEL LAYOUT, REV B



SIDE VIEW (RIGHT SIDE)



THIS VIEW SHOWN WITH DOOR REMOVED



BILL OF MATERIAL			
ITEM	PART NO.	PART NAME	QTY
CB	ED63A050L	CIRCUIT BREAKER 50 AMP; SIEMENS	1
	RHDEBD	CIRCUIT BREAKER MECHANISM; SIEMENS	1
	RHDH4	CIRCUIT BREAKER HANDLE; SIEMENS	1
	RHDSD	RDD; SIEMENS	1
M1	3TF4622-DAK6	NON REVERSING AC CONTACTOR; SIEMENS	1
DL	3UA5800-2E	OVERLOAD RELAY; SIEMENS	1
CR1	RH4B-UDC12V	CONTROL RELAY 12VDC; IDEC	1
	SH4B-05	CONTROL RELAY BASE; IDEC	1
CR2	RH2B-UDC12V	CONTROL RELAY 12VDC; IDEC	1
	SH2B-05	CONTROL RELAY BASE; IDEC	1
T1	TA-2-32669	TRANSFORMER; ACME	1
T2	T-1-81050	TRANSFORMER; ACME	1
ENCL.	T-20H20B	ENCLOSURE; TANCO	1
PANEL	T-20P20	BACK PANEL; TANCO	1
TB1, TB2	8WA1011-1DG11	TERMINAL BLOCKS; SIEMENS	1
	8WA1808	END BLOCKS; SIEMENS	1
	8WA746	STAND-OFFS	1
SS1	30327218	SELECTOR SWITCH; SIEMENS 3SBDS-3MKB	1
	3SB1400-0G	CONTACT BLOCK 2 N.O.; SIEMENS	2
E-STOP	30331882	EMERGENCY STOP, MUSHROOM TYPE; SIEMENS 3SB03-K4R	1
	30331881	CONTACT BLOCK N.C.; SIEMENS 3SB1400-0C	1
	30335092	DECAL, EMERGENCY STOP; GML	1
1FU-2FU	KLDR 2-1/2	FUSE; LITTELFUSE	2
	L60030C-2PQ	FUSE BLOCK; LITTELFUSE	1
3FU	FLM 4	FUSE; LITTELFUSE	1
	PL-112601	FUSE BLOCK; ACME	1
4FU	FLM 15	FUSE; LITTELFUSE	2
	L60030M-1PQ	FUSE BLOCK; LITTELFUSE	1
32PIN	30341973	32 PIN SOCKET, FEMALE INSERT; SINE #V532-2P00-A7	1
	30341974	32 PIN RECEPTACLE COVER; SINE #CV-5618-ZB	1
24PIN	23357	24 PIN FEMALE CONNECTOR AND BASE	1
K11, K12	12706	RELAY; BOSCH 12VDC	2
	12705	RELAY BASE; BOSCH	2
	9698	PLUG FLAT IN SLEEVE FOR RELAY BASE	10
	665-020-100-090-002.6	REMOTE BOX	1
	27164	CABLE	1
	18432	CABLE DRUM	1
PLUG	AR342	RECEPTACLE; CROUSE HINDS	1
	APJ3485	PLUG; CROUSE HINDS	1
	AR30	ANGLE ADAPTER BOX; CROUSE HINDS	1
MTR	30338291	ELECTRIC MOTOR	1
RECEPTACLE	25443	RECEPTACLE; 5 POLE	1
CAPACITOR	30316292	CAPACITOR, 1000nF, 50VDC	1
RECT 1	30305316	BRIDGE RECTIFIER, 35 AMPS	1
SOCKET	10023464	5 POLE SOCKET SP00L	1
TIMER	<SAI#316211>	GREASE TIMER, 12VDC (OPTION)	1
GREASE PUMP	<SAI#316518>	GREASE PUMP, 12VDC (OPTION)	1

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

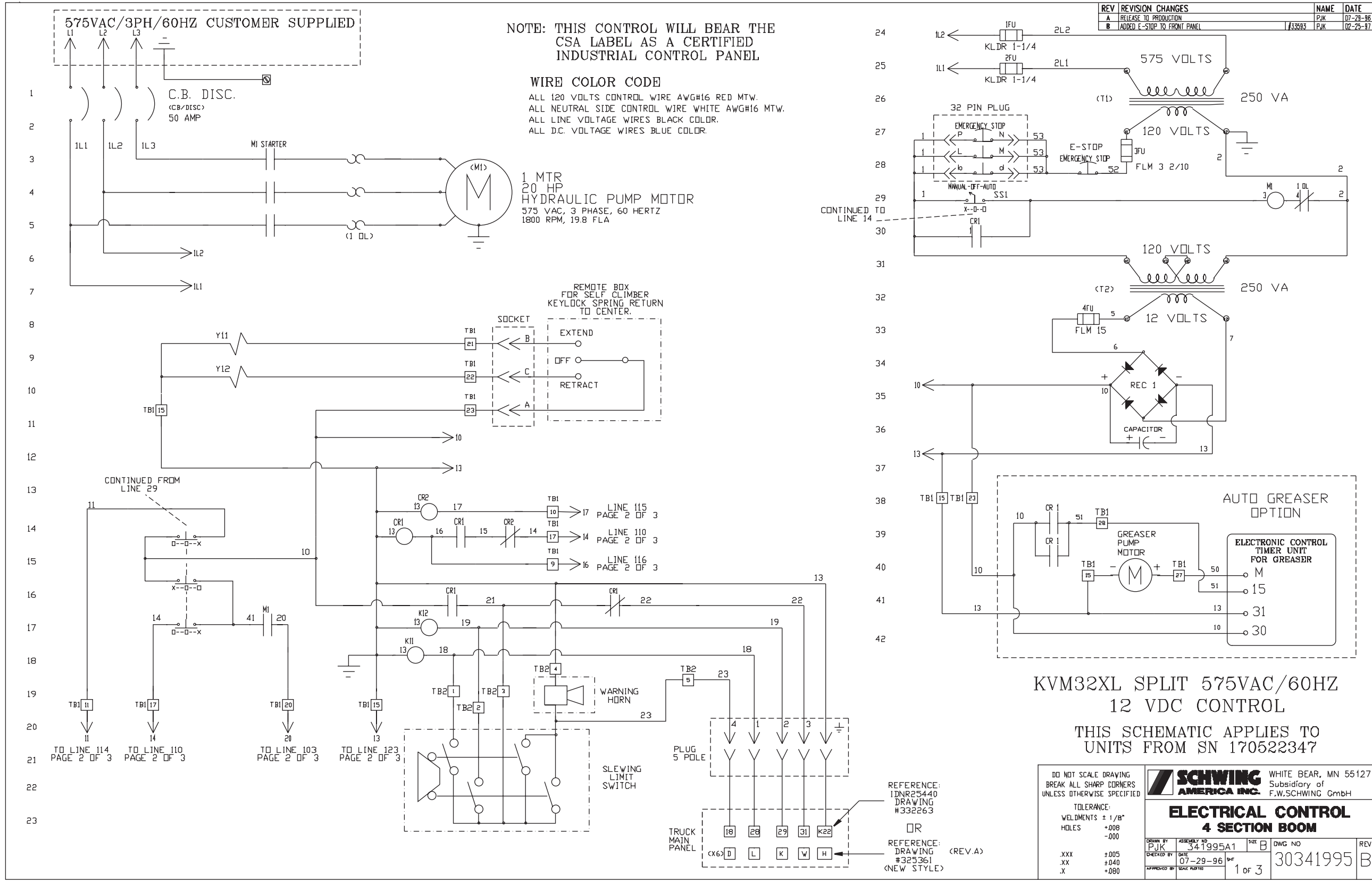


WHITE BEAR, MN 55127
Subsidiary of
F.W.SCHWING GmbH

PANEL LAYOUT
4 SECTION BOOM

DESIGN BY PJK	ASSEMBLY NO. 341993A3	REV B	DWG NO. 30341993	REV B
CHECKED BY .XX	DATE 07-29-96	SHI	3 of 3	
APPROVED BY	SHEET NUMBER			

TOLERANCE:	
VELDMENTS ± 1/8"	
HOLES	+0.08 -0.00
.XXX	±0.05
.XX	±0.040
.X	+0.080



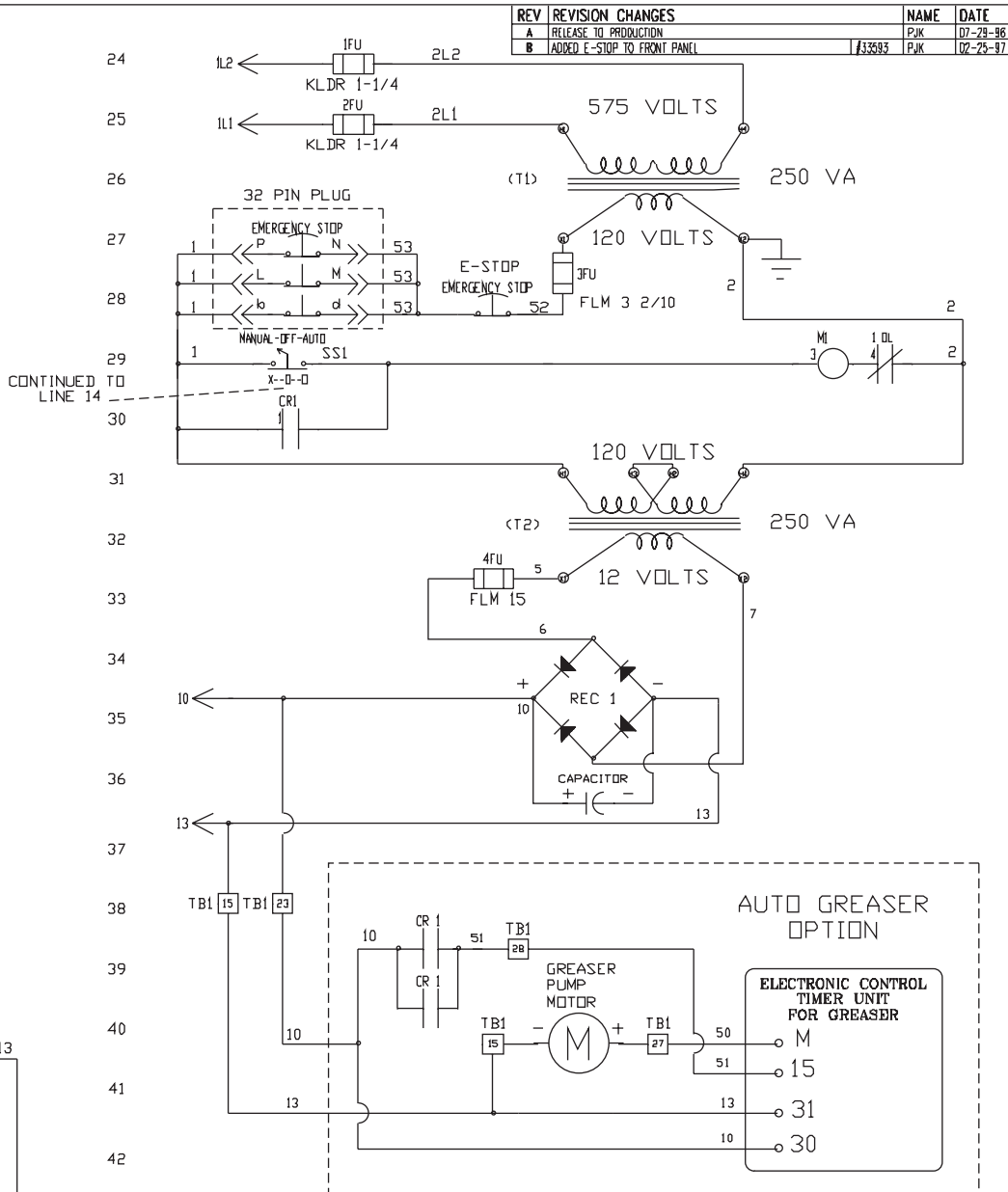
NOTE: THIS CONTROL WILL BEAR THE CSA LABEL AS A CERTIFIED INDUSTRIAL CONTROL PANEL

WIRE COLOR CODE
 ALL 120 VOLTS CONTROL WIRE AWG#16 RED MTW.
 ALL NEUTRAL SIDE CONTROL WIRE WHITE AWG#16 MTW.
 ALL LINE VOLTAGE WIRES BLACK COLOR.
 ALL D.C. VOLTAGE WIRES BLUE COLOR.

1 MTR
 20 HP
 HYDRAULIC PUMP MOTOR
 575 VAC, 3 PHASE, 60 HERTZ
 1800 RPM, 19.8 FLA

REMOTE BOX FOR SELF CLIMBER
 KEYLOCK SPRING RETURN TO CENTER.

REV	REVISION CHANGES	NAME	DATE
A	RELEASE TO PRODUCTION	PJK	07-29-96
B	ADDED E-STOP TO FRONT PANEL	PJK	02-25-97



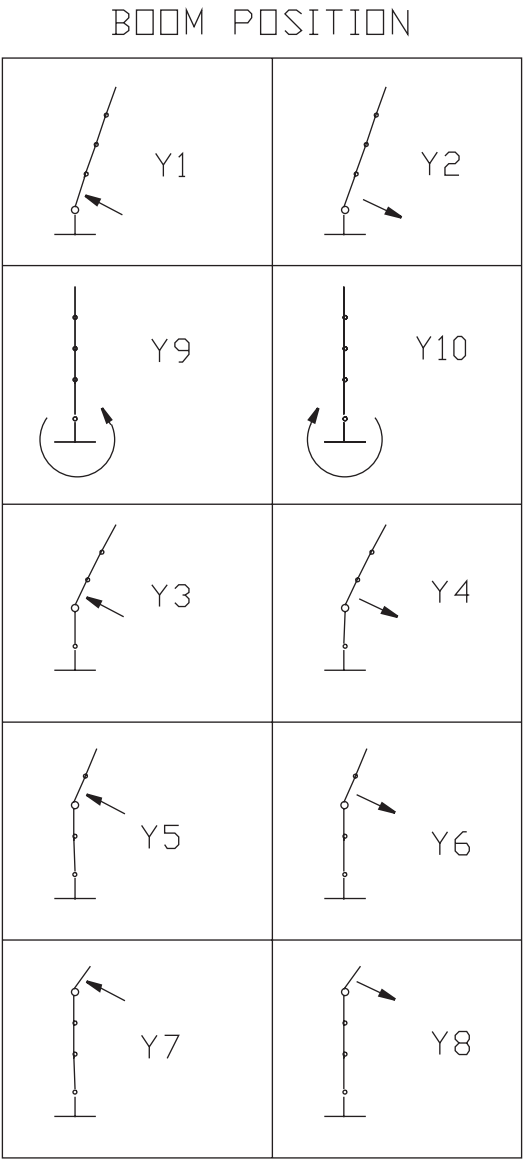
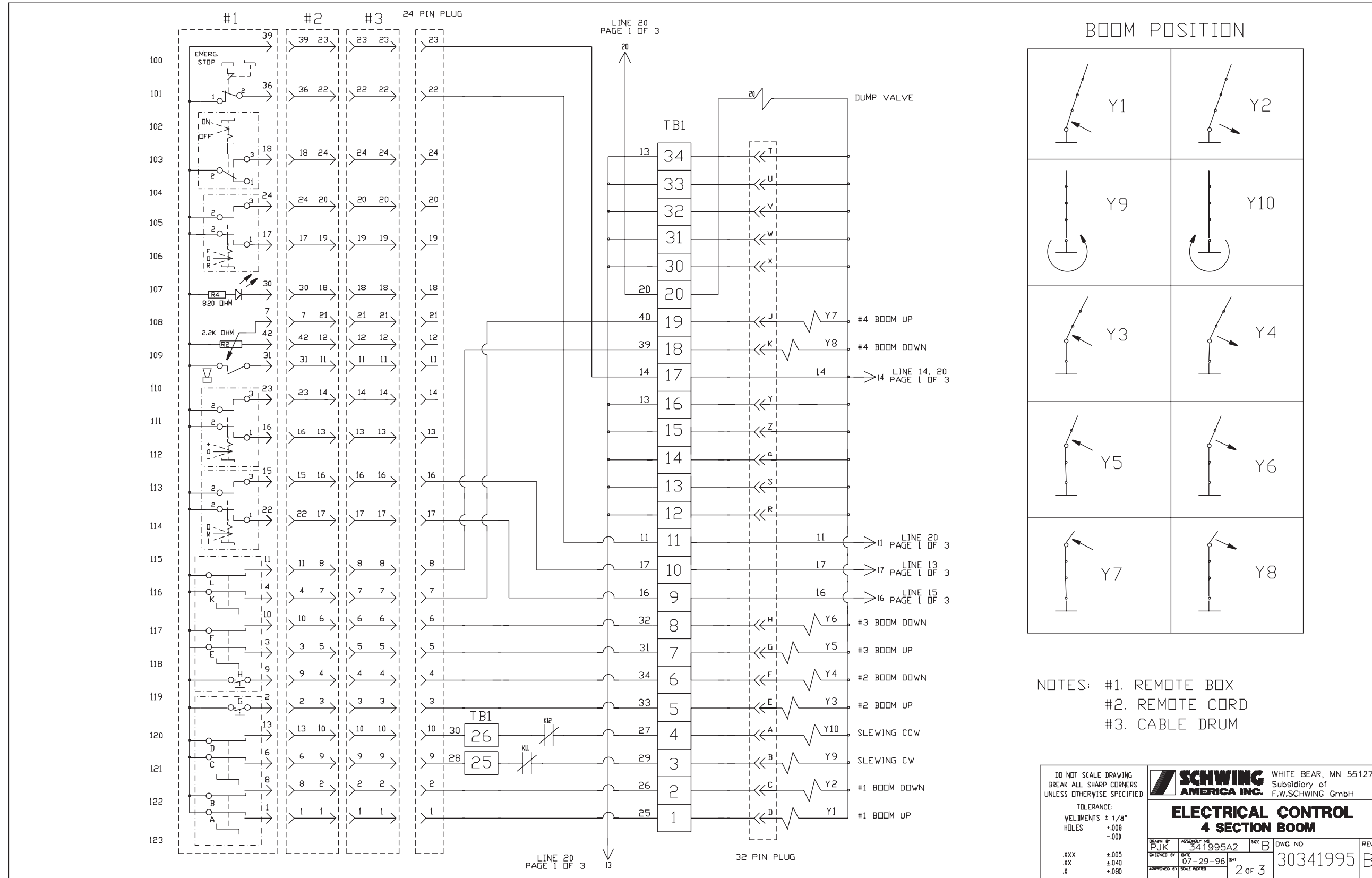
KVM32XL SPLIT 575VAC/60HZ
12 VDC CONTROL

THIS SCHEMATIC APPLIES TO
 UNITS FROM SN 170522347

DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED		SCHWING AMERICA INC. WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH	
TOLERANCE: WELDMENTS ± 1/8" HOLES +008 -000		ELECTRICAL CONTROL 4 SECTION BOOM	
DRAWN BY PJK	ASSEMBLY NO 341995A1	SIZE B	DWG NO 30341995
CHECKED BY XX	DATE 07-29-96	REV B	1 of 3
APPROVED BY [Signature]	DATE 07-29-96	REV B	

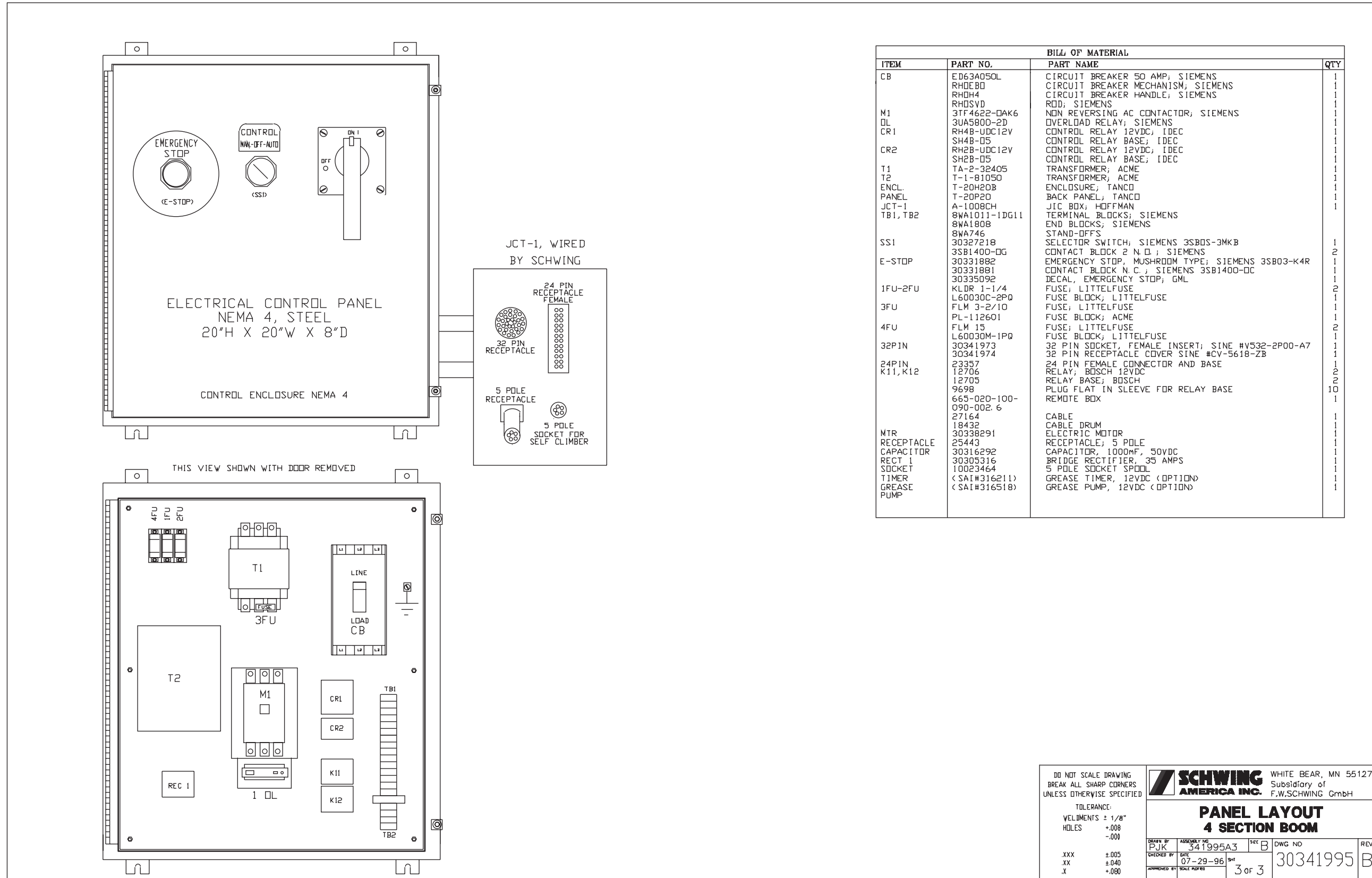
341995

KVM/SPB 32XL FLYWAY POWER CIRCUIT, 575VOLTS/60HZ, 12 VDC CONTROL, REV B



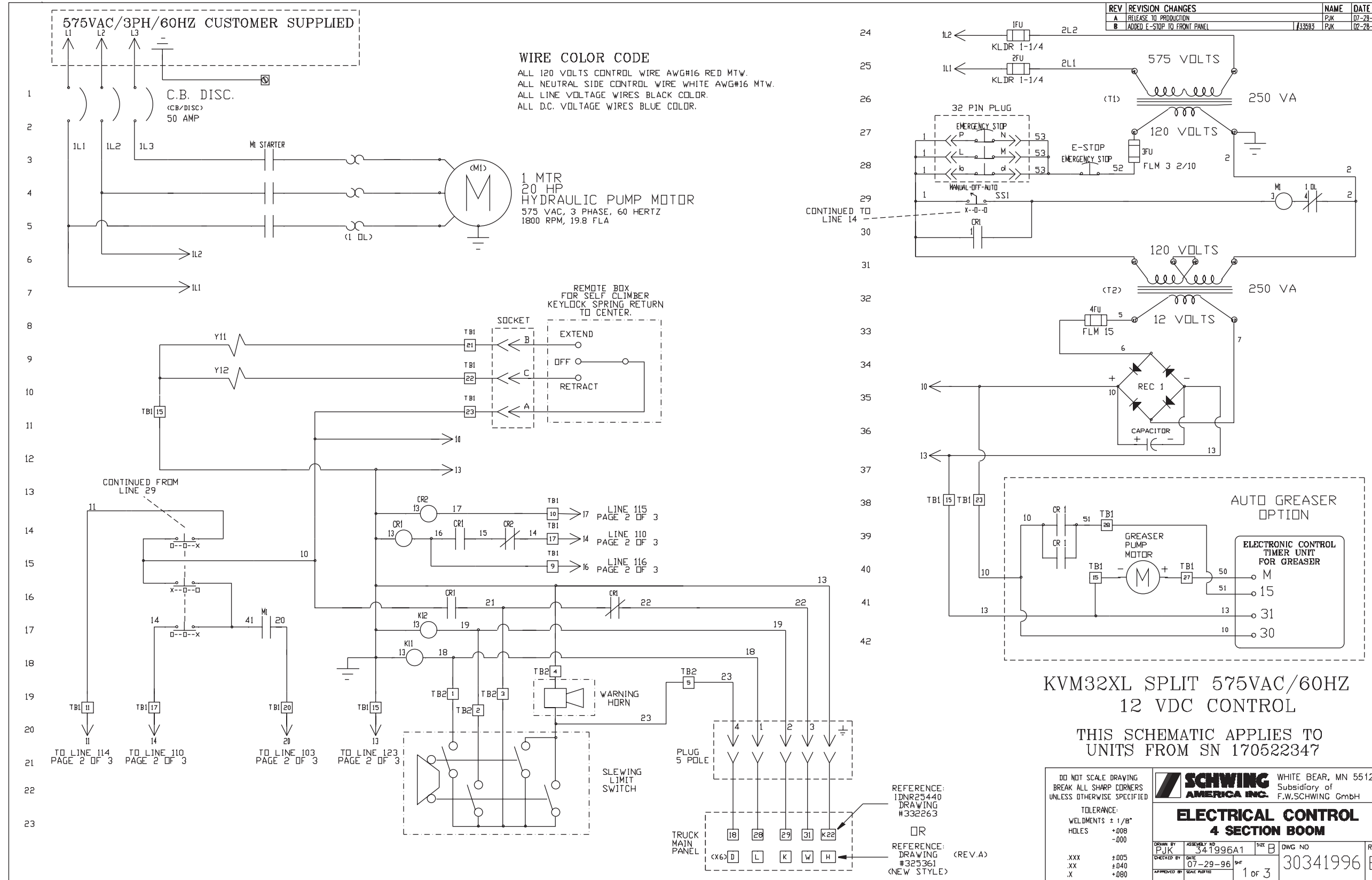
NOTES: #1. REMOTE BOX
#2. REMOTE CORD
#3. CABLE DRUM

DO NOT SCALE DRAWING BREAK ALL SHARP CORNERS UNLESS OTHERWISE SPECIFIED		SCHWING AMERICA INC. WHITE BEAR, MN 55127 Subsidiary of F.W.SCHWING GmbH	
ELECTRICAL CONTROL 4 SECTION BOOM			
DESIGN BY PJK	ASSEMBLY NO. 341995A2	SEC B	DWG NO. 30341995
CHECKED BY XX	DATE 07-29-96	REV B	2 of 3
TOLERANCE: DIMENSIONS ± 1/8" HOLES +.008 -.000		APPROVED BY SOLZ PASTER	
.XXX ±.005			
.XX ±.040			
.X ±.080			



341996

KVM/SPB 32XL FLYWAY POWER CIRCUIT, 575VOLTS/60HZ, 12 VDC CONTROL, REV B



REV	REVISION CHANGES	NAME	DATE
A	RELEASE TO PRODUCTION	PJK	07-28-96
B	ADDED E-STOP TO FRONT PANEL	JJ3983	02-28-97

KVM32XL SPLIT 575VAC/60HZ
 12 VDC CONTROL

THIS SCHEMATIC APPLIES TO
 UNITS FROM SN 170522347

DO NOT SCALE DRAWING
 BREAK ALL SHARP CORNERS
 UNLESS OTHERWISE SPECIFIED

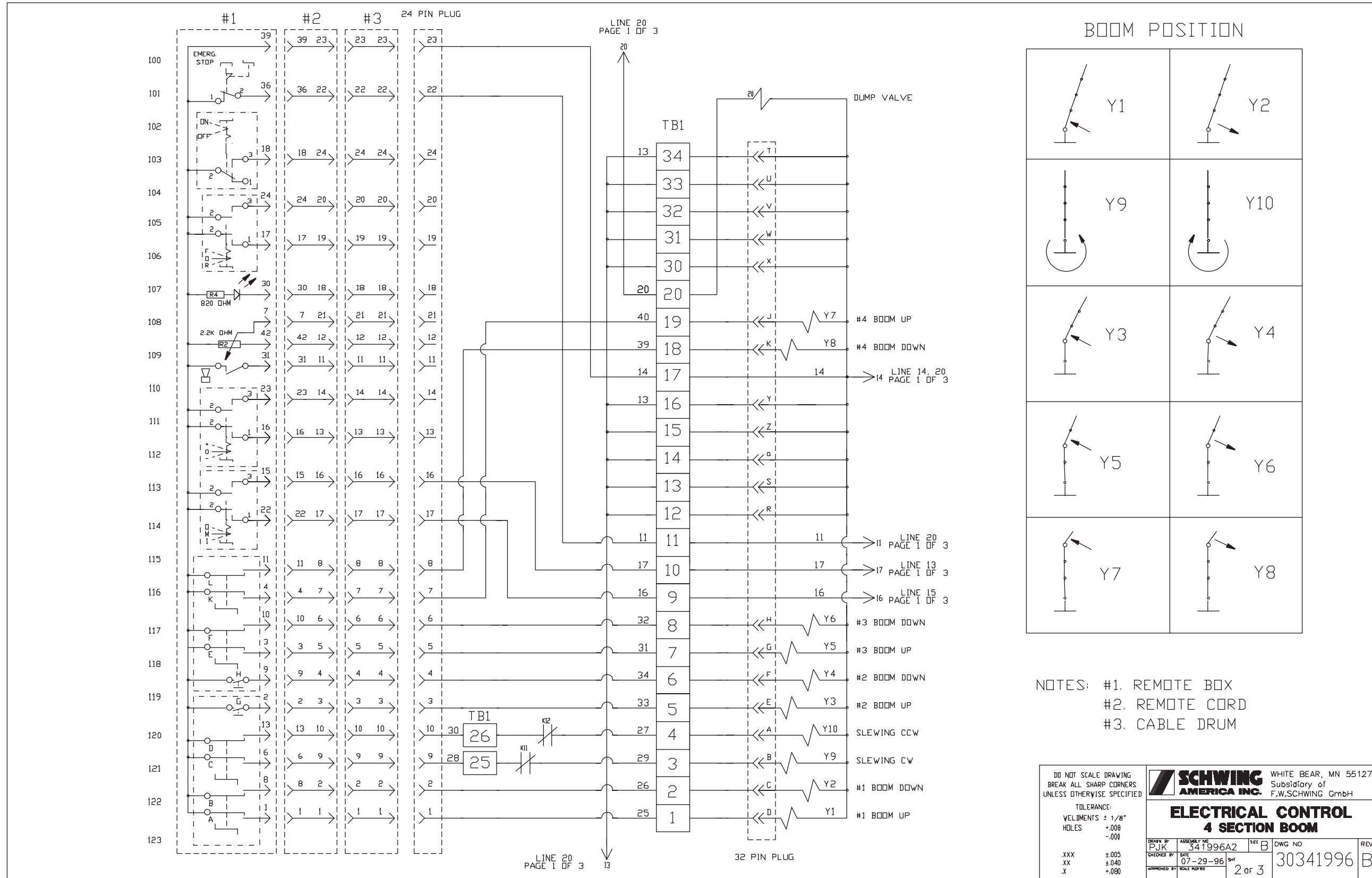
TOLERANCE:
 WELDMENTS ± 1/8"
 HOLES
 +.008
 -.000

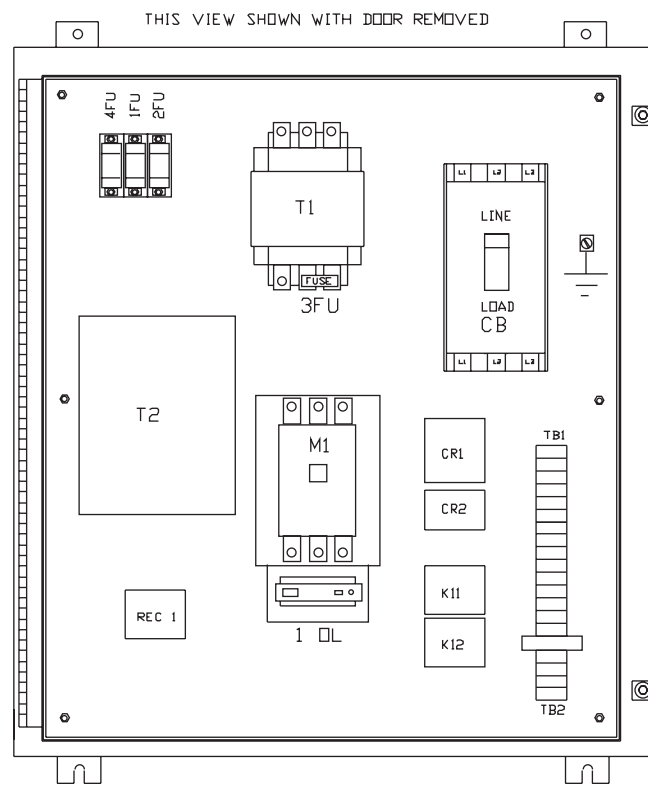
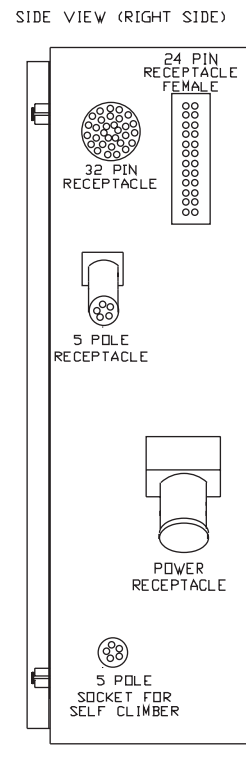
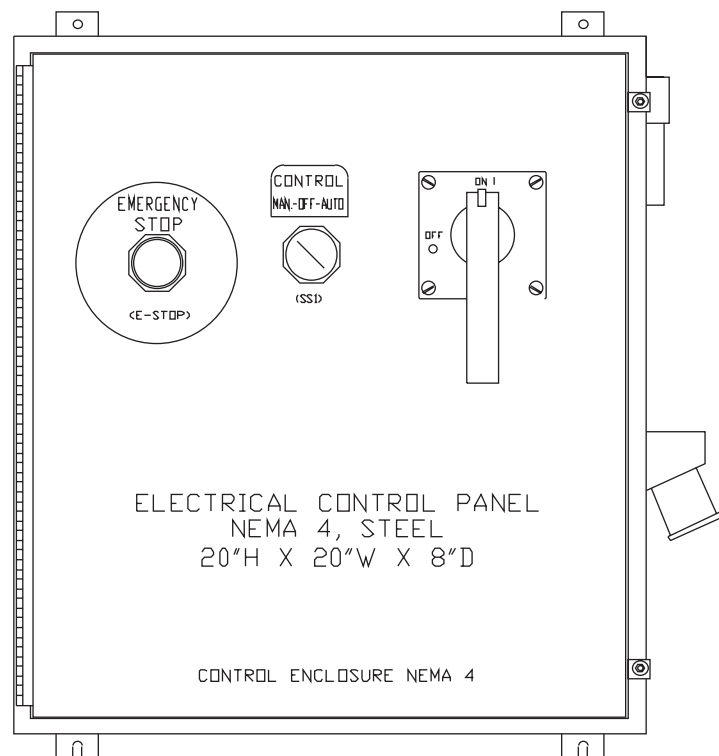
XXX ±.005
 .XX ±.040
 .X ±.080

SCHWING AMERICA INC. WHITE BEAR, MN 55127
 Subsidiary of F.W.SCHWING GmbH

ELECTRICAL CONTROL 4 SECTION BOOM

DRAWN BY PJK	ASSEMBLY NO 341996A1	SIZE B	DWG NO 30341996	REV B
CHECKED BY XX	DATE 07-29-96	DWT 1 of 3		
APPROVED BY [Signature]	DATE 07-29-96			





BILL OF MATERIAL			
ITEM	PART NO.	PART NAME	QTY
CB	ED63A050L	CIRCUIT BREAKER 50 AMP; SIEMENS	1
	RHDEBD	CIRCUIT BREAKER MECHANISM; SIEMENS	1
	RHDH4	CIRCUIT BREAKER HANDLE; SIEMENS	1
	RHDSVD	RDD; SIEMENS	1
M1	3TF4622-DAK6	NON REVERSING AC CONTACTOR; SIEMENS	1
DL	3UA5800-2D	OVERLOAD RELAY; SIEMENS	1
CR1	RH4B-UDC12V	CONTROL RELAY 12VDC; IDEC	1
	SH4B-05	CONTROL RELAY BASE; IDEC	1
CR2	RH2B-UDC12V	CONTROL RELAY 12VDC; IDEC	1
	SH2B-05	CONTROL RELAY BASE; IDEC	1
T1	TA-2-32405	TRANSFORMER; ACME	1
T2	T-1-81050	TRANSFORMER; ACME	1
ENCL.	T-20H20B	ENCLOSURE; TANCO	1
PANEL	T-20P2D	BACK PANEL; TANCO	1
TB1, TB2	8WA1011-1DG11	TERMINAL BLOCKS; SIEMENS	1
	8WA1808	END BLOCKS; SIEMENS	1
	8WA746	STAND-OFFS	1
SS1	30327218	SELECTOR SWITCH; SIEMENS 3SB05-3MKB	1
	3SB1400-0G	CONTACT BLOCK 2 N.O.; SIEMENS	2
E-STOP	30331882	EMERGENCY STOP, MUSHROOM TYPE; SIEMENS 3SB03-K4R	1
	30331881	CONTACT BLOCK N.C.; SIEMENS 3SB1400-0C	1
	30335092	DECAL, EMERGENCY STOP; GML	1
1FU-2FU	KLDR 1-1/4	FUSE; LITTELFUSE	2
	L60030C-2P0	FUSE BLOCK; LITTELFUSE	1
3FU	FLM 3-2/10	FUSE; LITTELFUSE	1
	PL-112601	FUSE BLOCK; ACME	1
4FU	FLM 15	FUSE; LITTELFUSE	2
	L60030M-1P0	FUSE BLOCK; LITTELFUSE	1
32PIN	30341973	32 PIN SOCKET, FEMALE INSERT; SINE #V532-2P00-A7	1
	30341974	32 PIN RECEPTACLE COVER SINE #CV-5618-ZB	1
24PIN	23357	24 PIN FEMALE CONNECTOR AND BASE	1
K11, K12	12706	RELAY; BOSCH 12VDC	2
	12705	RELAY BASE; BOSCH	10
	9698	PLUG FLAT IN SLEEVE FOR RELAY BASE	1
	665-02D-100-090-002.6	REMOTE BDX	1
	27164	CABLE	1
	18432	CABLE DRUM	1
PLUG	AR342	RECEPTACLE; CROUSE HINDS	1
	APJ3485	PLUG; CROUSE HINDS	1
	AR30	ANGLE ADAPTER BOX; CROUSE HINDS	1
MTR	30338291	ELECTRIC MOTOR	1
RECEPTACLE	25443	RECEPTACLE; 5 POLE	1
CAPACITOR	30316292	CAPACITOR, 1000uF, 50VDC	1
RECT 1	30305316	BRIDGE RECTIFIER, 35 AMPS	1
SOCKET	10023464	5 POLE SOCKET SPDL	1
TIMER	(SAI#316211)	GREASE TIMER, 12VDC (OPTION)	1
GREASE PUMP	(SAI#316518)	GREASE PUMP, 12VDC (OPTION)	1

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

TOLERANCE:
VELDMENTS ± 1/8"
HOLES +.008
-.000

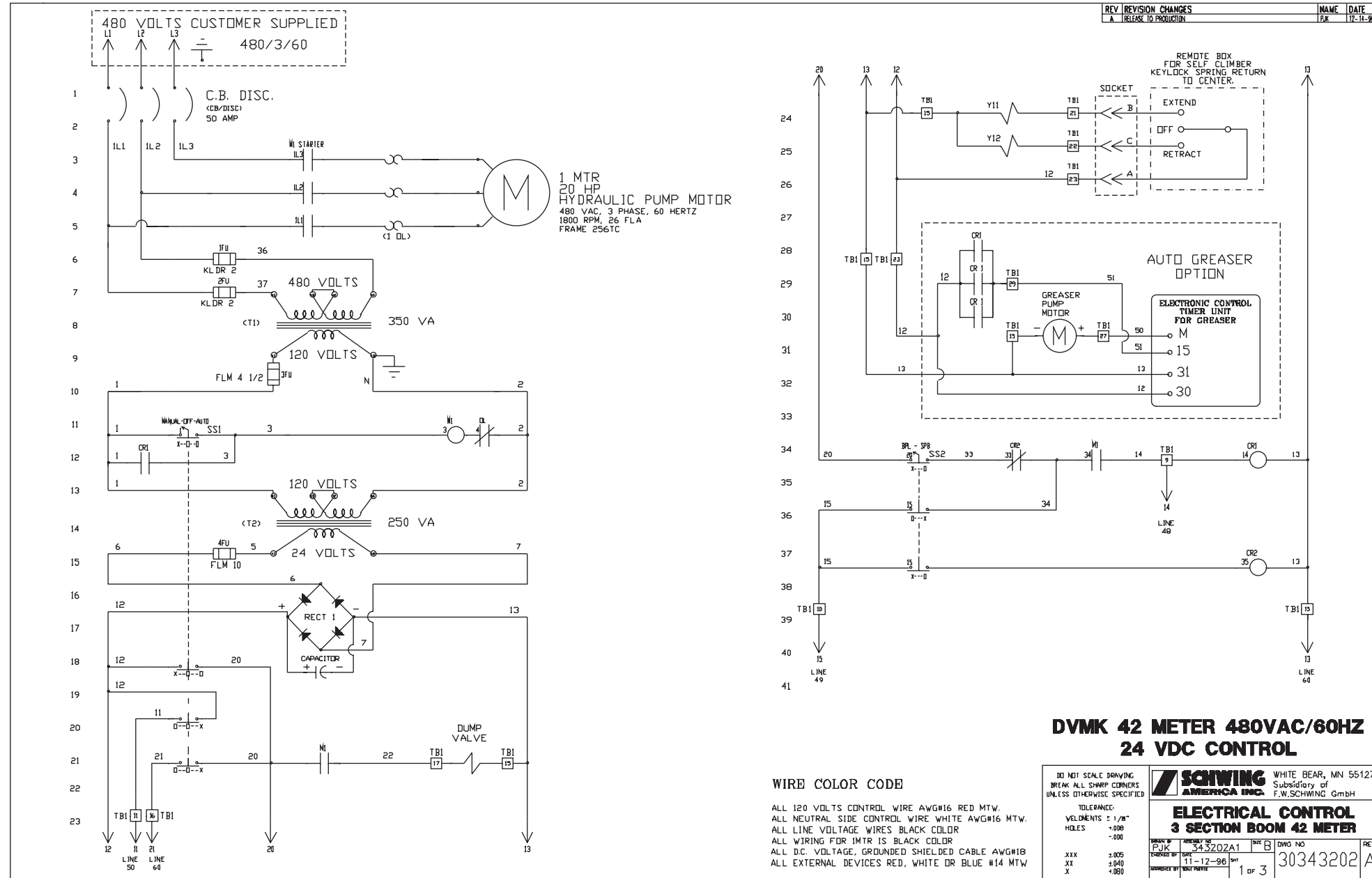
.XXX ±.005
.XX ±.040
.X ±.080

SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

PANEL LAYOUT 4 SECTION BOOM

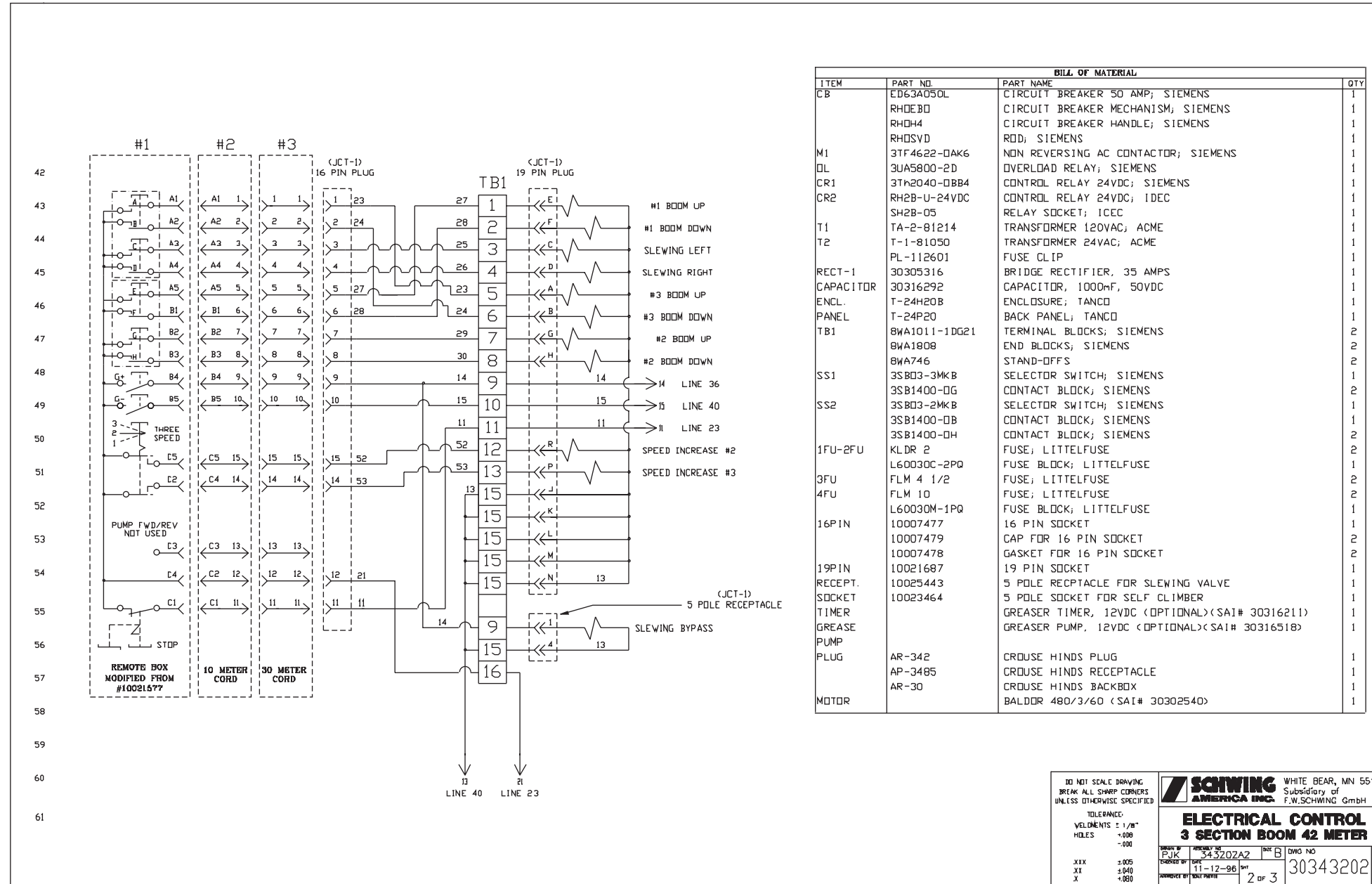
DRAWN BY PJK	ASSEMBLY NO. 341996A3	SEC B	DWG NO. 30341996	REV B
CHECKED BY XX	DATE 07-29-96	SHI 3 of 3		
APPROVED BY X				

KVM/SPB 42M FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 24 VDC CONTROL, REV A



343202

KVM/SPB 42M FLYWAY POWER CIRCUIT, 480VOLTS/60HZ, 24 VDC CONTROL, REV A



ITEM	PART NO.	PART NAME	QTY
CB	ED63A050L	CIRCUIT BREAKER 50 AMP; SIEMENS	1
	RHDEB0	CIRCUIT BREAKER MECHANISM; SIEMENS	1
	RHDH4	CIRCUIT BREAKER HANDLE; SIEMENS	1
	RHDSVD	ROD; SIEMENS	1
M1	3TF4622-DAK6	NON REVERSING AC CONTACTOR; SIEMENS	1
OL	3UA5800-2D	OVERLOAD RELAY; SIEMENS	1
CR1	3TH2040-0BB4	CONTROL RELAY 24VDC; SIEMENS	1
CR2	RH2B-U-24VDC	CONTROL RELAY 24VDC; IDEC	1
	SH2B-05	RELAY SOCKET; IDEC	1
T1	TA-2-81214	TRANSFORMER 120VAC; ACME	1
T2	T-1-81050	TRANSFORMER 24VAC; ACME	1
	PL-112601	FUSE CLIP	1
RECT-1	30305316	BRIDGE RECTIFIER, 35 AMPS	1
CAPACITOR	30316292	CAPACITOR, 1000µF, 50VDC	1
ENCL.	T-24H20B	ENCLOSURE; TANCO	1
PANEL	T-24P20	BACK PANEL; TANCO	1
TB1	8WA1011-1DG21	TERMINAL BLOCKS; SIEMENS	2
	8WA1908	END BLOCKS; SIEMENS	2
	8WA746	STAND-OFFS	2
SS1	3SB03-3MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-DG	CONTACT BLOCK; SIEMENS	2
SS2	3SB03-2MKB	SELECTOR SWITCH; SIEMENS	1
	3SB1400-DB	CONTACT BLOCK; SIEMENS	1
	3SB1400-DH	CONTACT BLOCK; SIEMENS	2
1FU-2FU	KLDR 2	FUSE; LITTELFUSE	2
	L60030C-2PQ	FUSE BLOCK; LITTELFUSE	1
3FU	FLM 4 1/2	FUSE; LITTELFUSE	2
4FU	FLM 10	FUSE; LITTELFUSE	2
	L60030M-1PQ	FUSE BLOCK; LITTELFUSE	1
16PIN	10007477	16 PIN SOCKET	1
	10007479	CAP FOR 16 PIN SOCKET	2
	10007478	GASKET FOR 16 PIN SOCKET	2
19PIN	10021687	19 PIN SOCKET	1
RECEPT.	10025443	5 POLE RECEPTACLE FOR SLEWING VALVE	1
SOCKET	10023464	5 POLE SOCKET FOR SELF CLIMBER	1
TIMER		GREASER TIMER, 12VDC (OPTIONAL) (SAI# 30316211)	1
GREASE		GREASER PUMP, 12VDC (OPTIONAL) (SAI# 30316518)	1
PUMP			
PLUG	AR-342	CROUSE HINDS PLUG	1
	AP-3485	CROUSE HINDS RECEPTACLE	1
	AR-30	CROUSE HINDS BACKBOX	1
MOTOR		BALDOR 480/3/60 (SAI# 30302540)	1

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

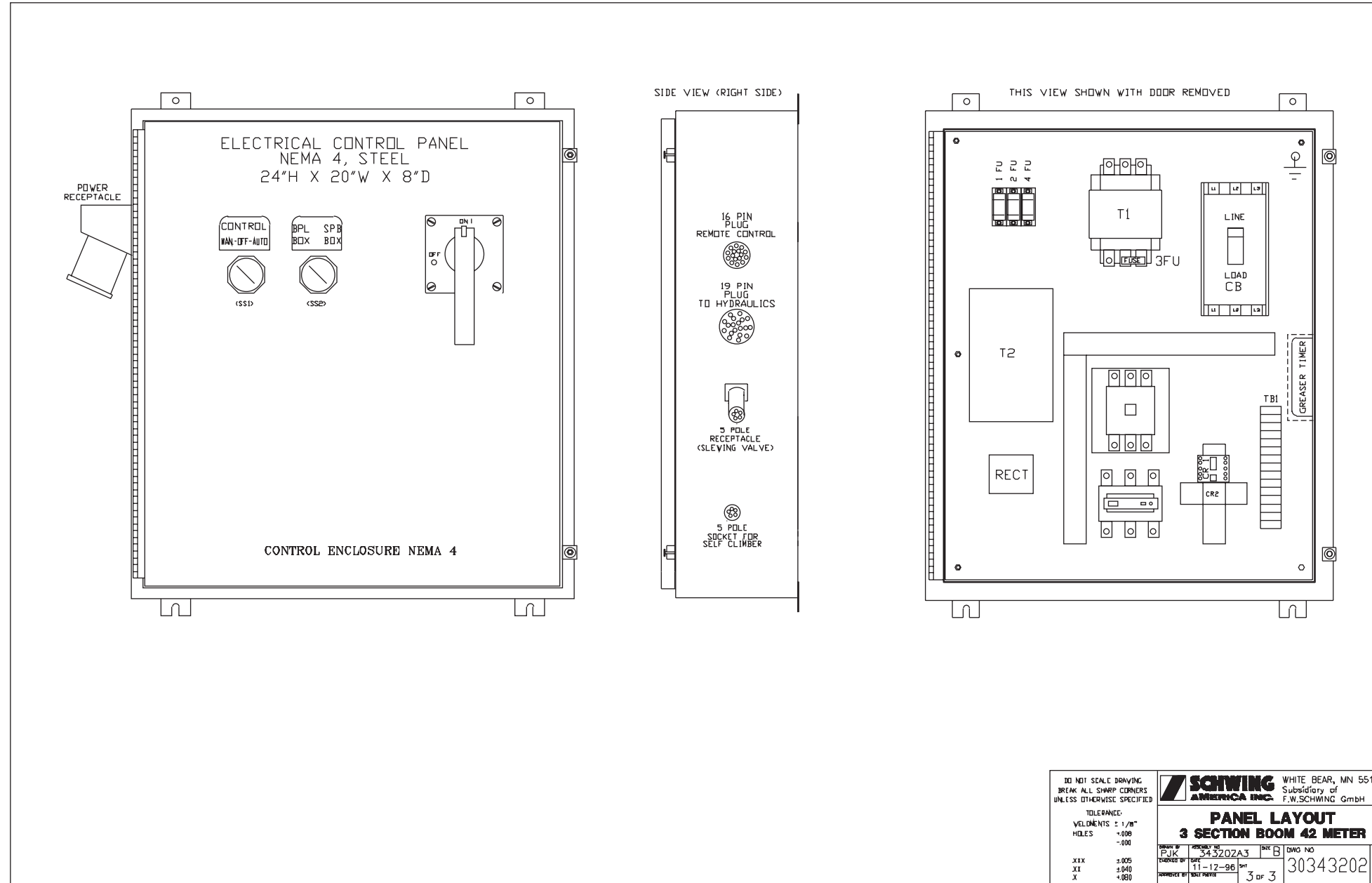
TOLERANCES:
DIMENSIONS ± 1/32"
HOLES +.008
 -.000

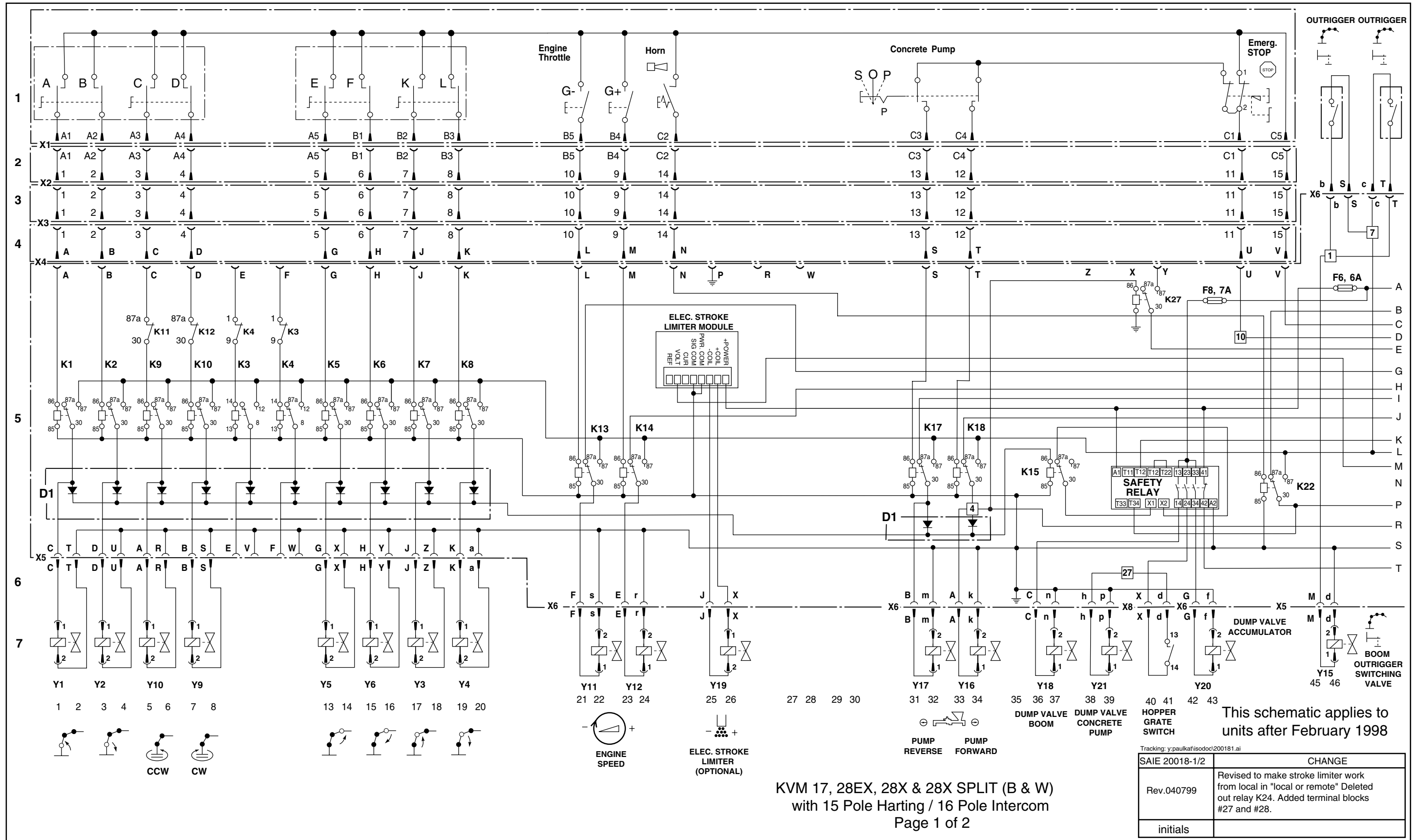
XXX ±.005
XX ±.040
X ±.080

SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

ELECTRICAL CONTROL
3 SECTION BOOM 42 METER

DATE: 11-12-96
REV: 2 OF 3
DWG NO: 30343202
REV: A

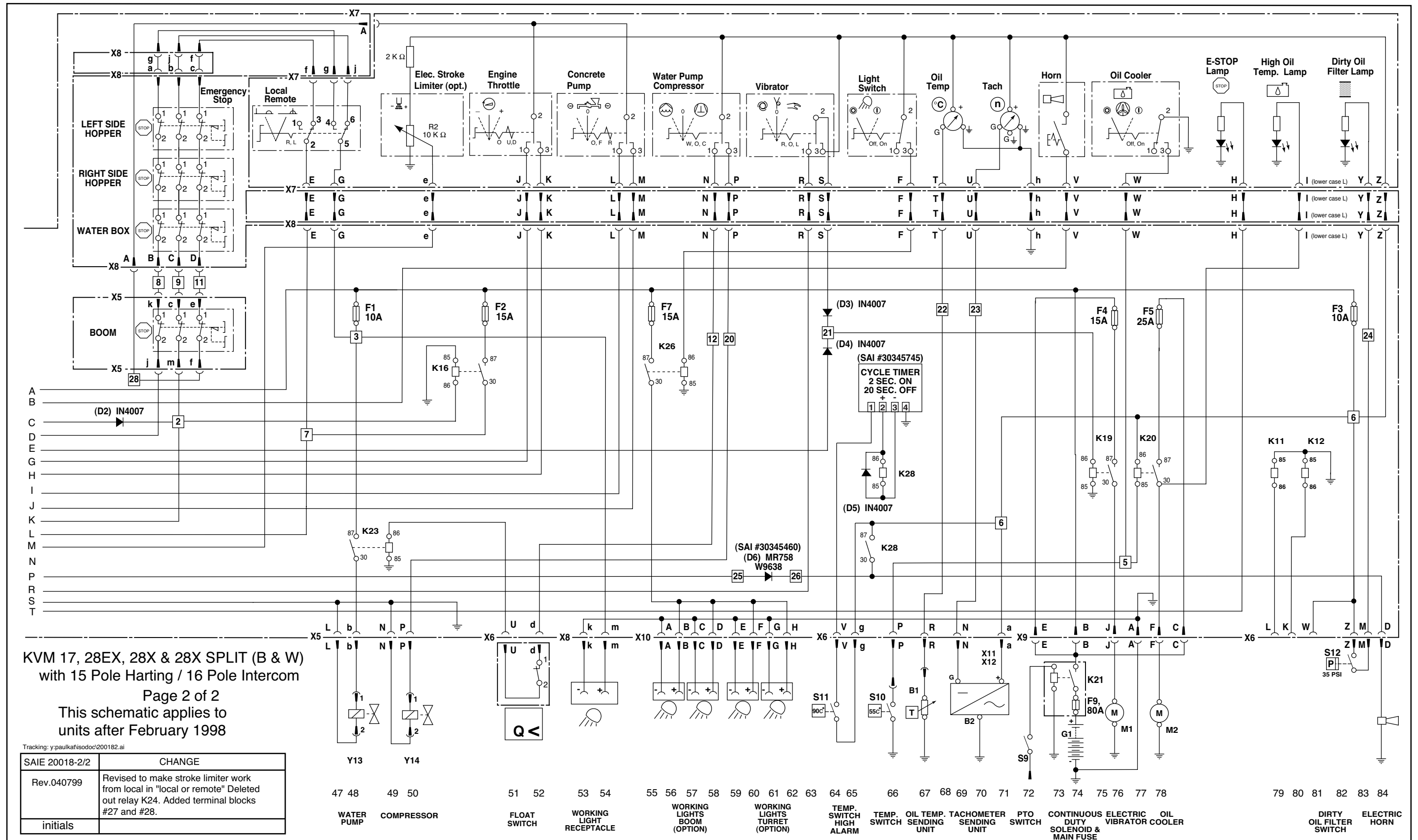




KVM 17, 28EX, 28X & 28X SPLIT (B & W)
with 15 Pole Harting / 16 Pole Intercom
Page 1 of 2

Tracking: y:paulkat/sodoc/200181.ai

SAIE 20018-1/2	CHANGE
Rev.040799	Revised to make stroke limiter work from local in "local or remote" Deleted out relay K24. Added terminal blocks #27 and #28.
initials	

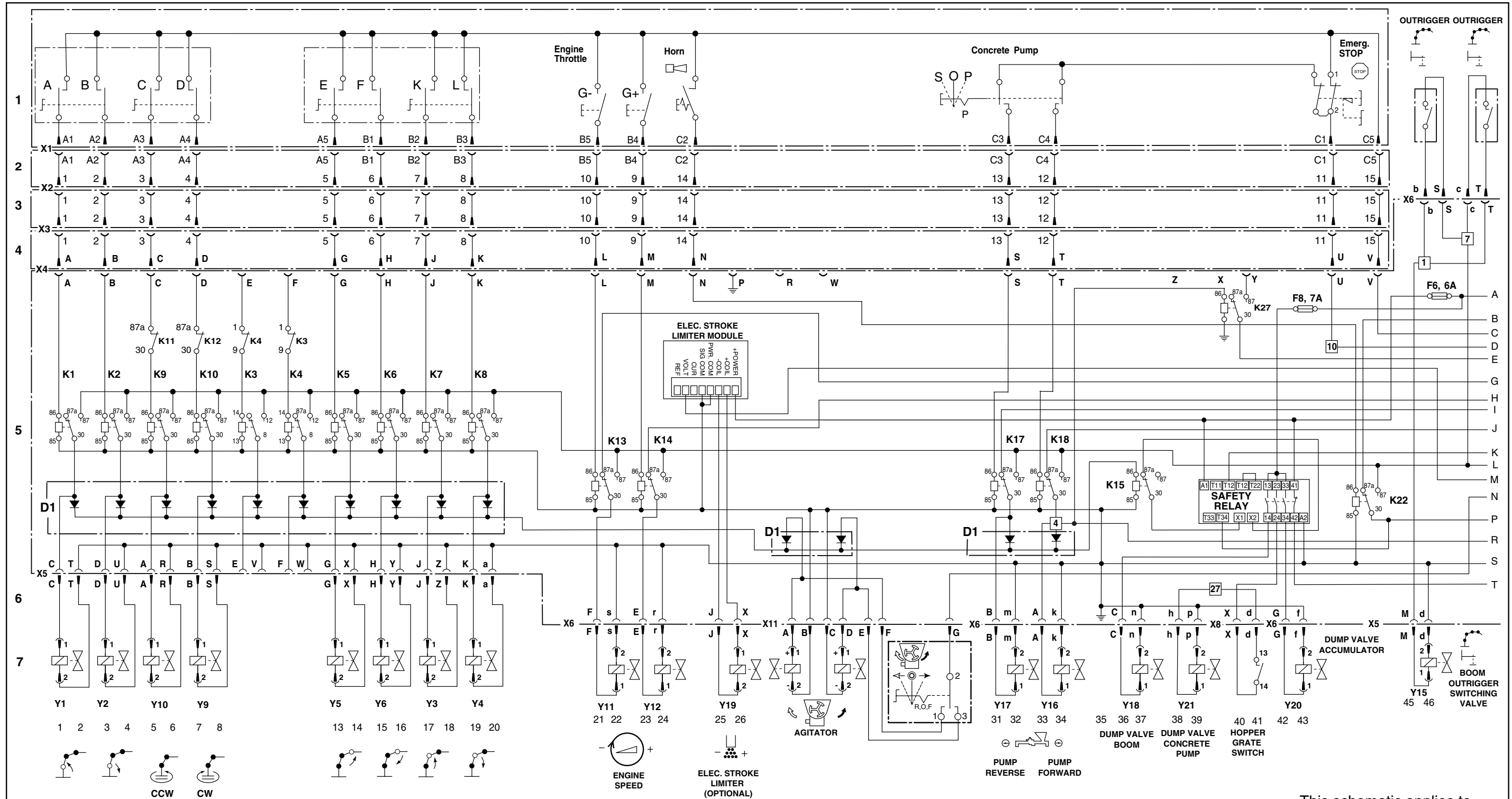


KVM 17, 28EX, 28X & 28X SPLIT (B & W)
with 15 Pole Harting / 16 Pole Intercom
Page 2 of 2
This schematic applies to
units after February 1998

Tracking: y:paukafisodoc\200182.ai

SAIE 20018-2/2	CHANGE
Rev.040799	Revised to make stroke limiter work from local in "local or remote" Deleted out relay K24. Added terminal blocks #27 and #28.
initials	

- | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|------------|-------|-------|--------------|--------------------------|------------------------------|--------------------------------|-------------------------|---------------------------|------------------------|-------------------------|------------|--------------------------------------|--------------------------|----|----|----|----|-------|-------|-------|-------------------------|---------------|----|----|----|
| Y13 | Y14 | 47 48 | 49 50 | 51 52 | 53 54 | 55 56 | 57 58 | 59 60 | 61 62 | 63 | 64 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 74 | 75 76 | 77 78 | 79 80 | 81 | 82 | 83 | 84 |
| WATER PUMP | COMPRESSOR | | | FLOAT SWITCH | WORKING LIGHT RECEPTACLE | WORKING LIGHTS BOOM (OPTION) | WORKING LIGHTS TURRET (OPTION) | TEMP. SWITCH HIGH ALARM | TEMP. SWITCH SENDING UNIT | OIL TEMP. SENDING UNIT | TACHOMETER SENDING UNIT | PTO SWITCH | CONTINUOUS DUTY SOLENOID & MAIN FUSE | ELECTRIC VIBRATOR COOLER | | | | | | | | DIRTY OIL FILTER SWITCH | ELECTRIC HORN | | | |



- X5 - BOOM HARNESS
- X6 - FRONT HARNESS
- X7 - REAR OPERATOR PANEL
- X8 - REAR HARNESS
- X9 - POWER HARNESS
- X10 - LIGHT HARNESS
- X11 - AGITATOR HARNESS

KVM 17, 28EX, 28X & 28X SPLIT (B & W)
with 15 Pole Harting / 16 Pole Intercon
Page 1 of 2

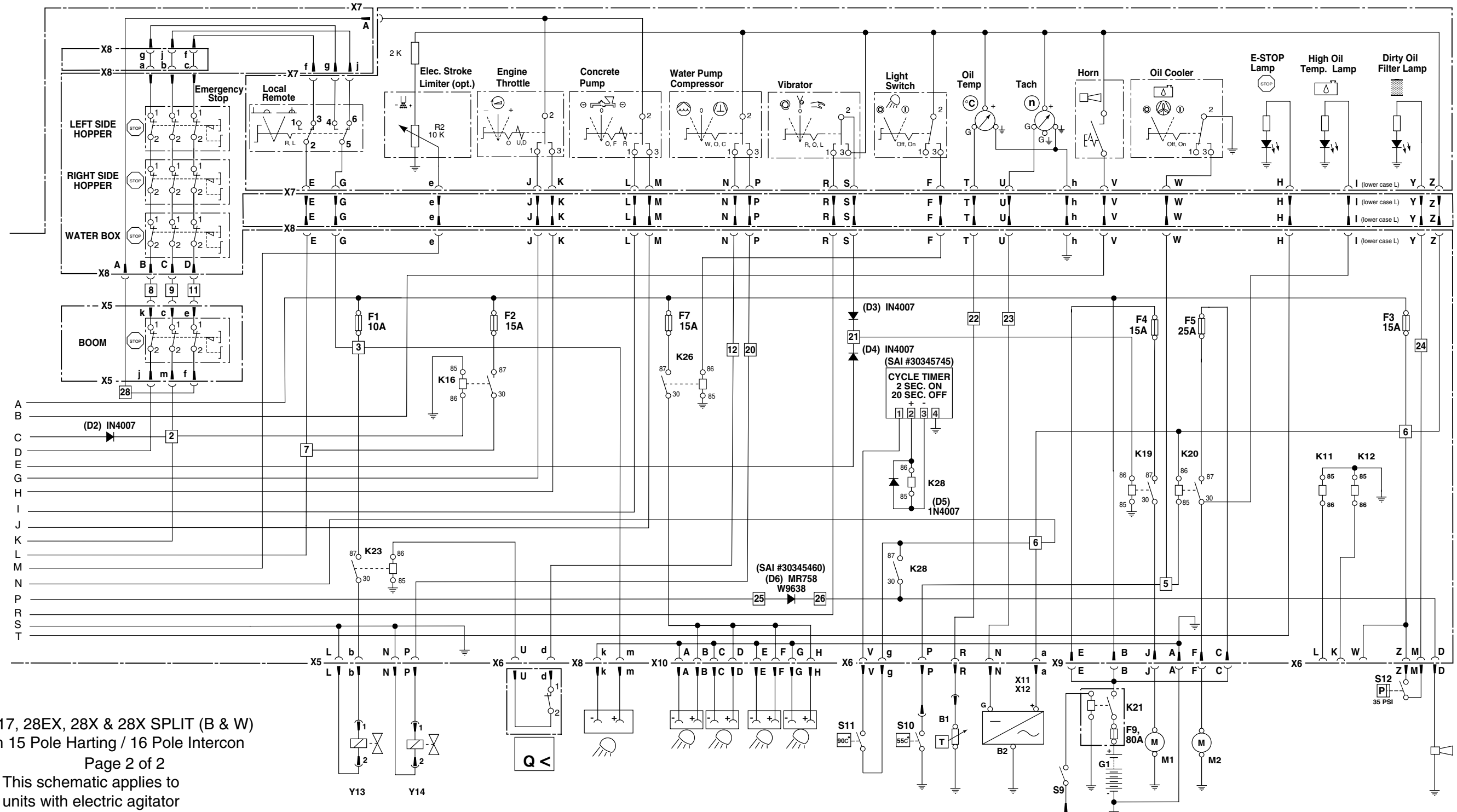
This schematic applies to units with electric agitator

Tracking: X:\engineering\shared\isodoc\200271.ai

SAIE 20027-1/2	CHANGE
REV. 100199	Release
Initials AK	

20027-2

KVM 17, KVM 28EX, KVM 28X, KVM 28 SPLIT, 15 POLE HARTING, 16 POLE INTERCOM, B&W

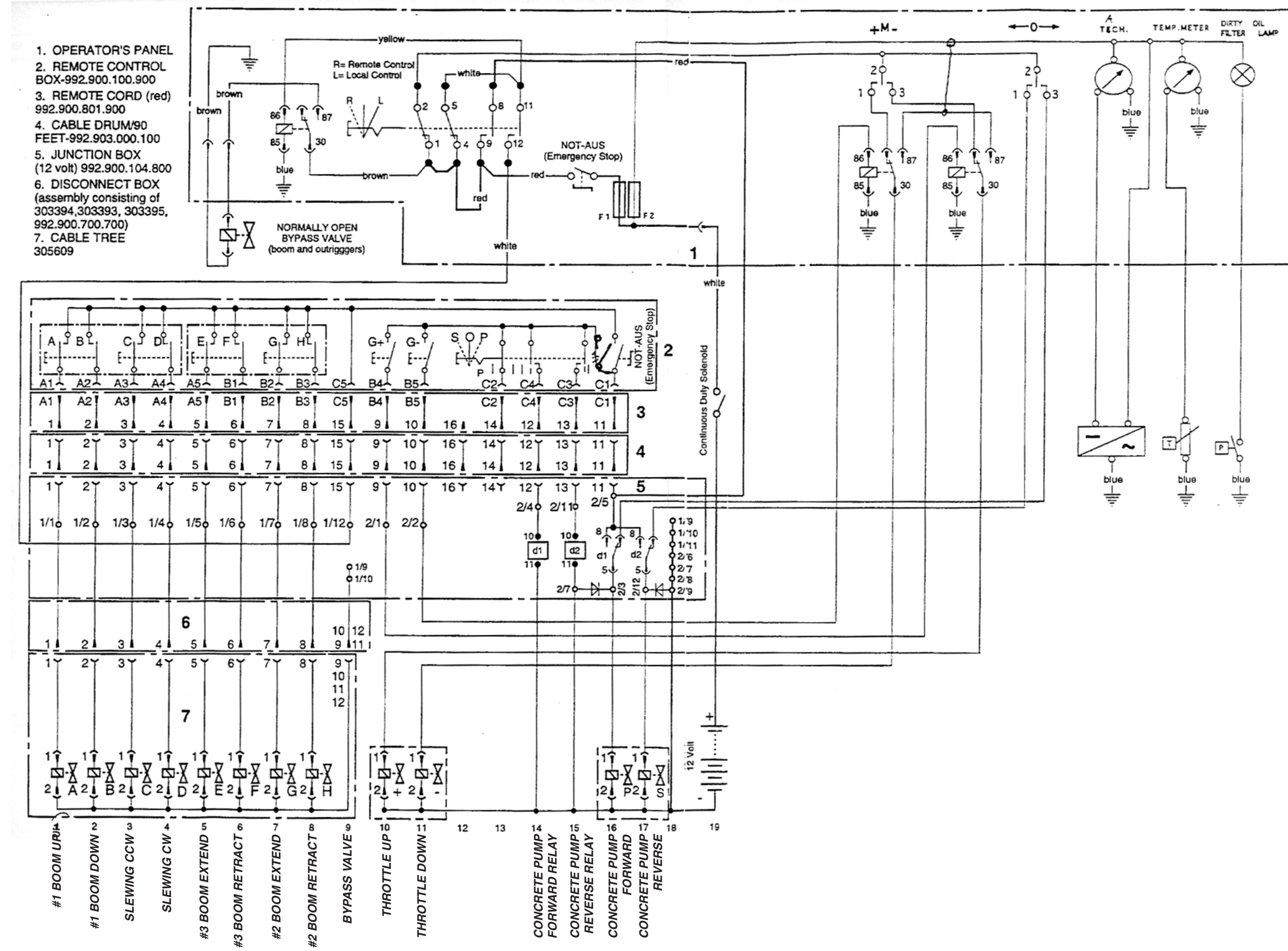


KVM 17, 28EX, 28X & 28X SPLIT (B & W)
with 15 Pole Harting / 16 Pole Intercon
Page 2 of 2
This schematic applies to
units with electric agitator

Tracking: X:\engineering\shared\isodoc\200271.ai	
SAIE 20027-2/2	CHANGE
REV. 100199	Release
Initials AK	

47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84			
		WATER PUMP	COMPRESSOR		FLOAT SWITCH	WORKING LIGHT RECEPTACLE		WORKING LIGHTS BOOM (OPTION)	WORKING LIGHTS TURRET (OPTION)	TEMP. SWITCH HIGH ALARM	TEMP. OIL TEMP. SWITCH SENDING UNIT	TACHOMETER SENDING UNIT	PTO SWITCH	CONTINUOUS DUTY SOLENOID & MAIN FUSE	ELECTRIC VIBRATOR COOLER																								DIRTY OIL FILTER SWITCH	ELECTRIC HORN

KVM 17M BLACK AND WHITE BOOM CIRCUIT

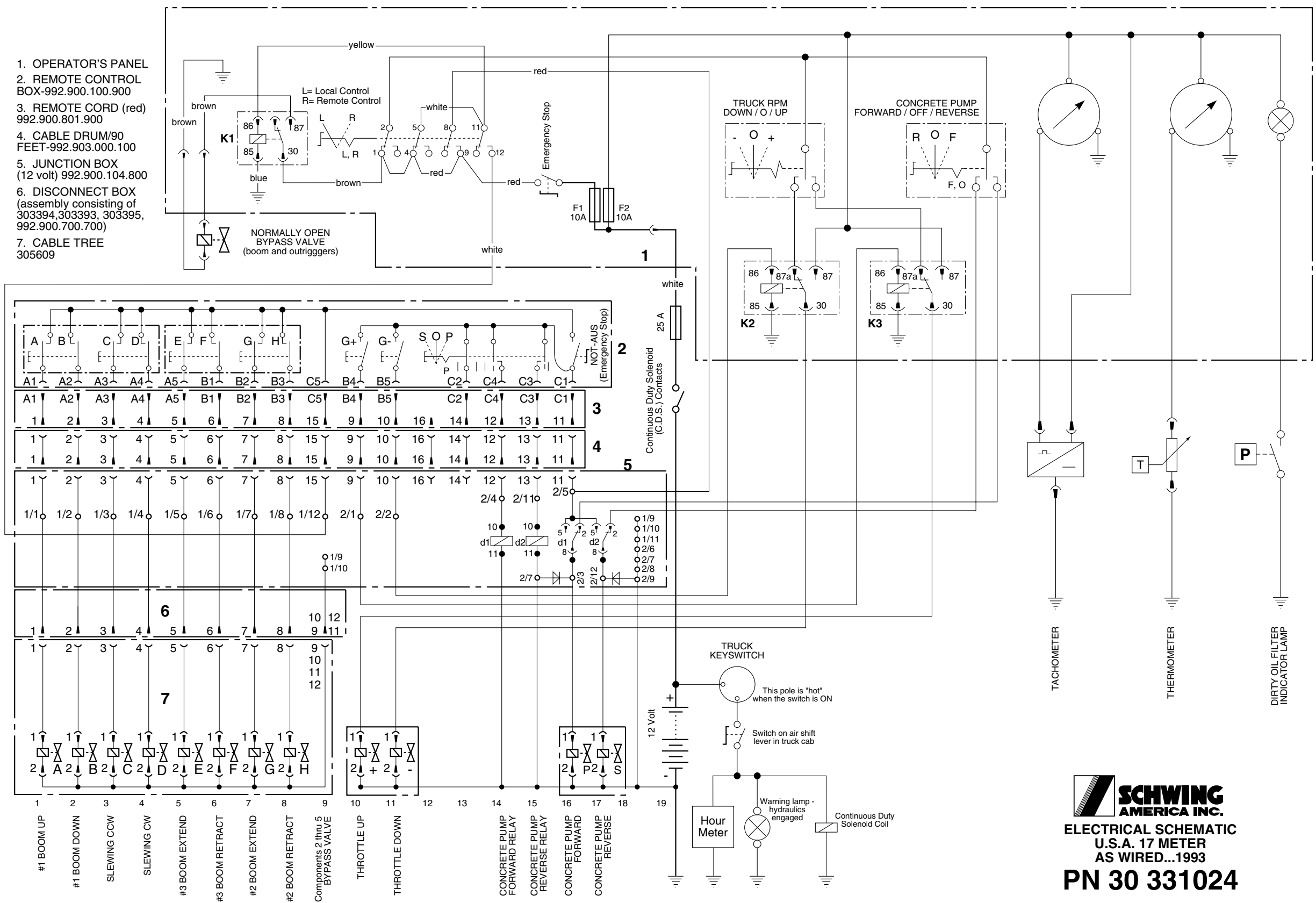


- 1. OPERATOR'S PANEL
- 2. REMOTE CONTROL BOX-992.900.100.900
- 3. REMOTE CORD (red) 992.900.801.900
- 4. CABLE DRUM/90 FEET-992.903.000.100
- 5. JUNCTION BOX (12 volt) 992.900.104.800
- 6. DISCONNECT BOX (assembly consisting of 303394,303393, 303395, 992.900.700.700)
- 7. CABLE TREE 305609

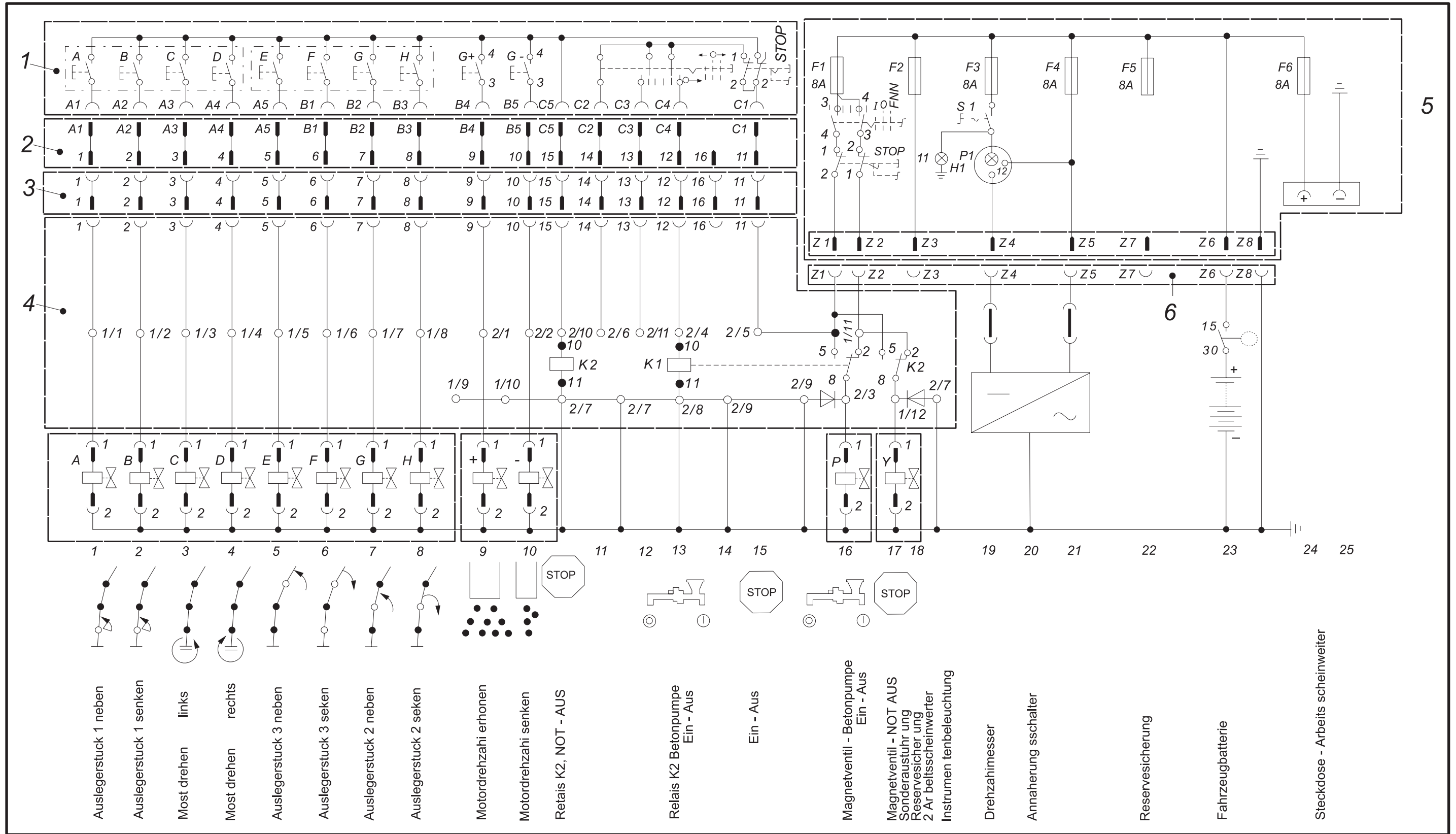
N/A

KVM 17M BLACK AND WHITE BOOM CIRCUIT (1993 TO CURRENT)

1. OPERATOR'S PANEL
2. REMOTE CONTROL BOX-992.900.100.900
3. REMOTE CORD (red) 992.900.801.900
4. CABLE DRUM/90 FEET-992.903.000.100
5. JUNCTION BOX (12 volt) 992.900.104.800
6. DISCONNECT BOX (assembly consisting of 303394,303393, 303395, 992.900.700.700)
7. CABLE TREE 305609

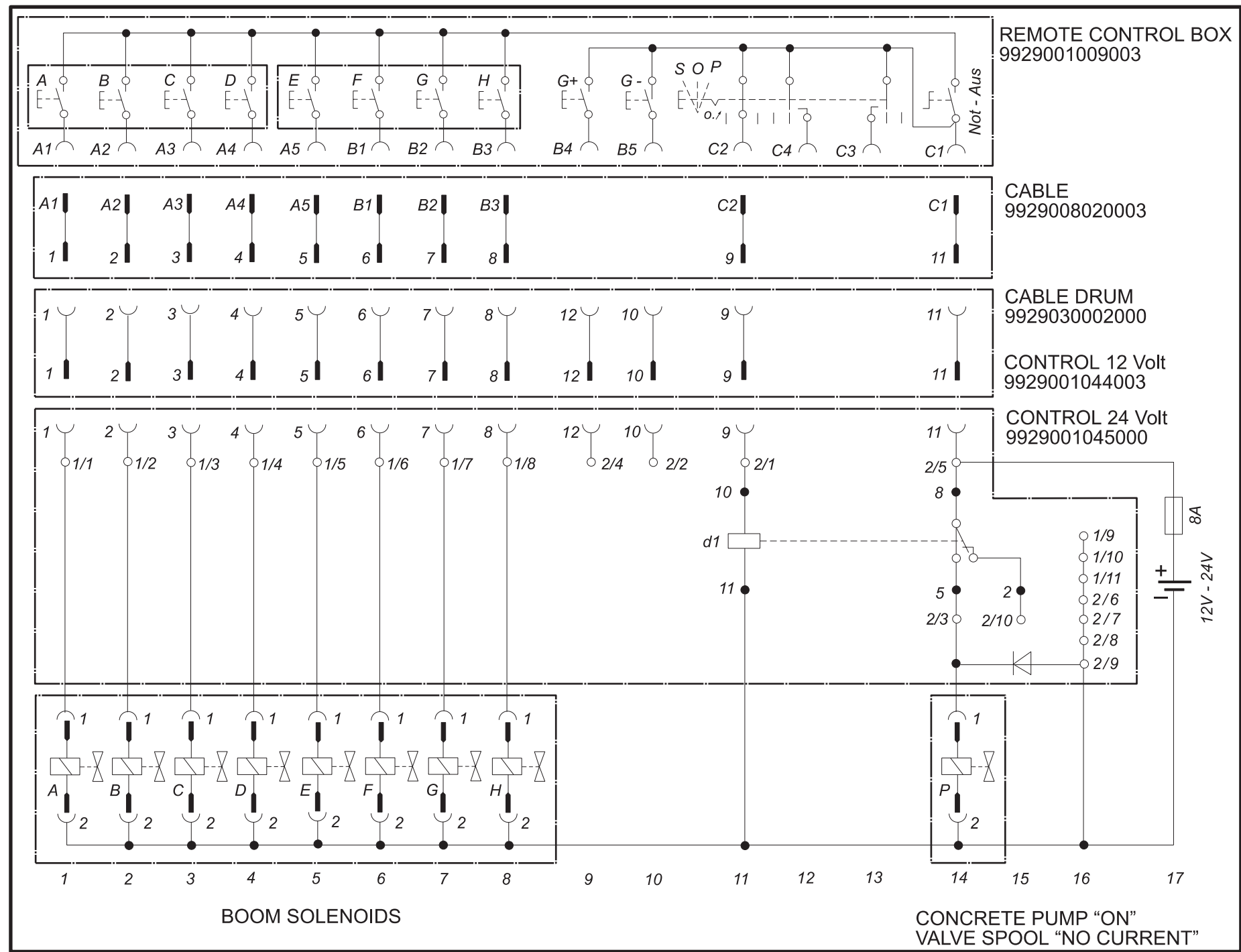


SCHWING
AMERICA INC.
 ELECTRICAL SCHEMATIC
 U.S.A. 17 METER
 AS WIRED...1993
PN 30 331024



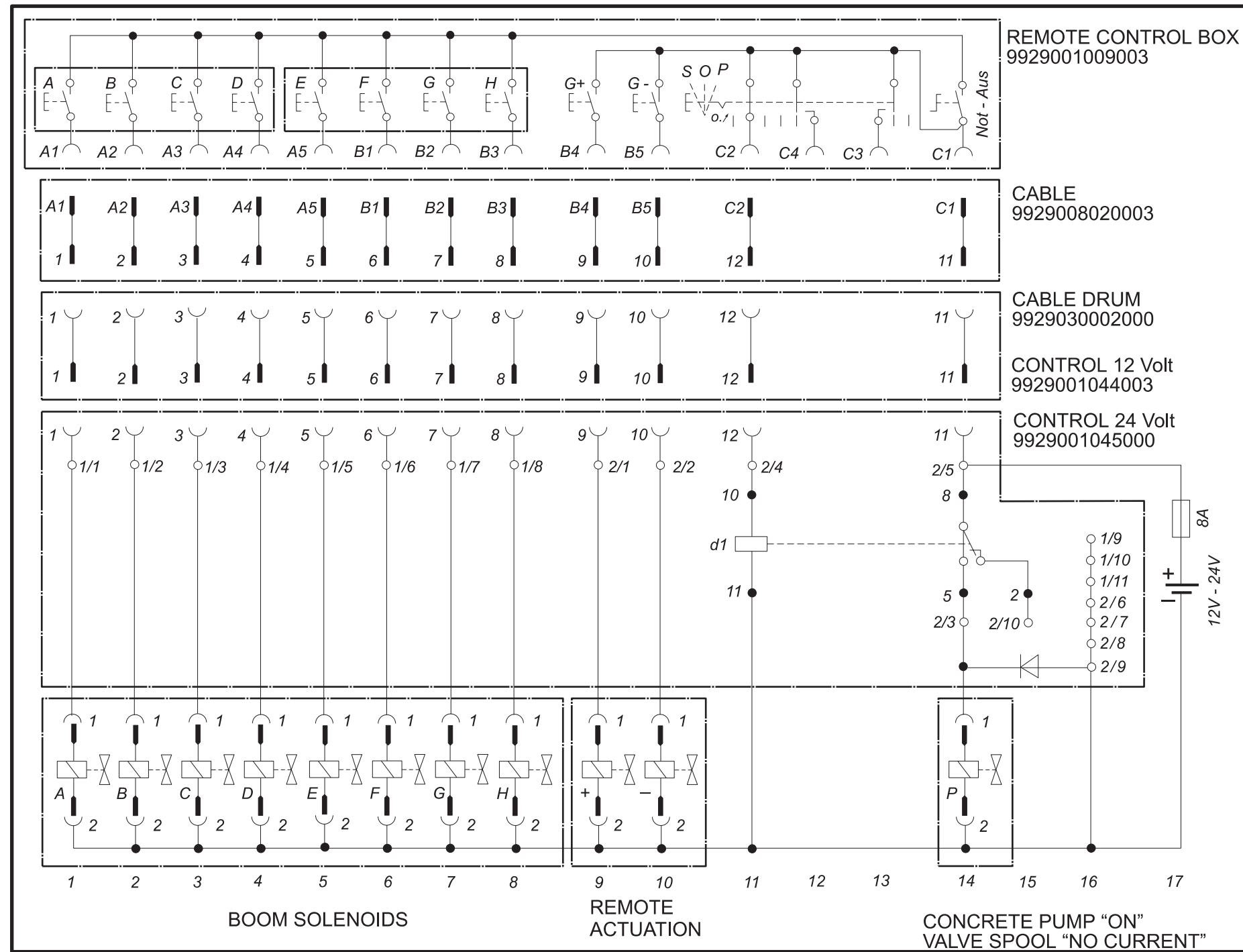
N/A

KVM 3 SECTION BOOM (REMOTE - 12 POLE INTERCOM / 15 POLE HARTING)

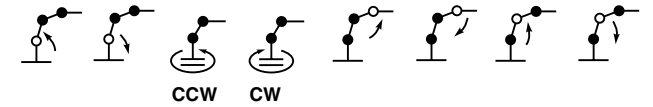
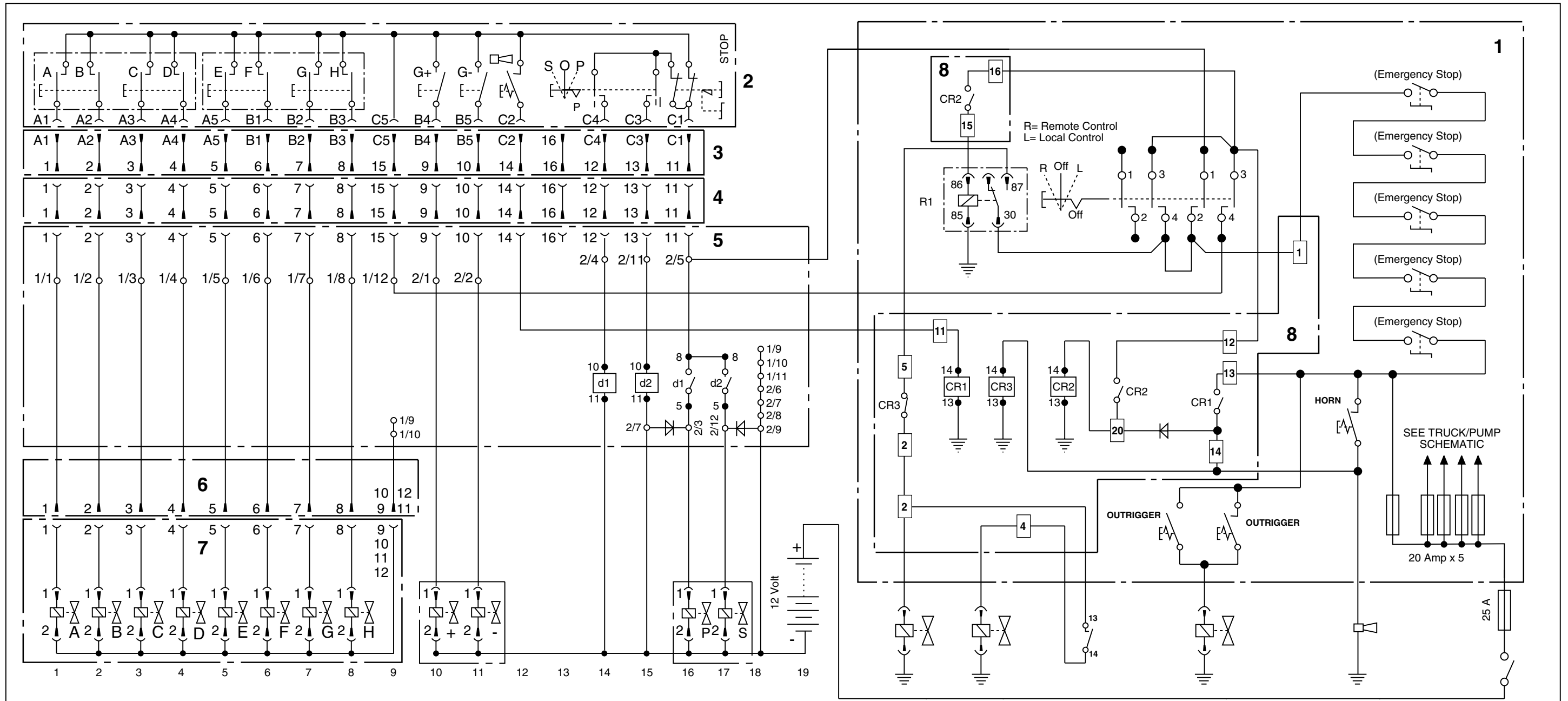


ES025

KVM 3 SECTION BOOM (REMOTE - 12 POLE INTERCOM / 15 POLE HARTING) WITH THROTTLE



ES026



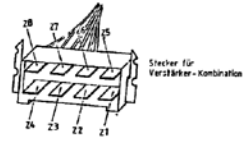
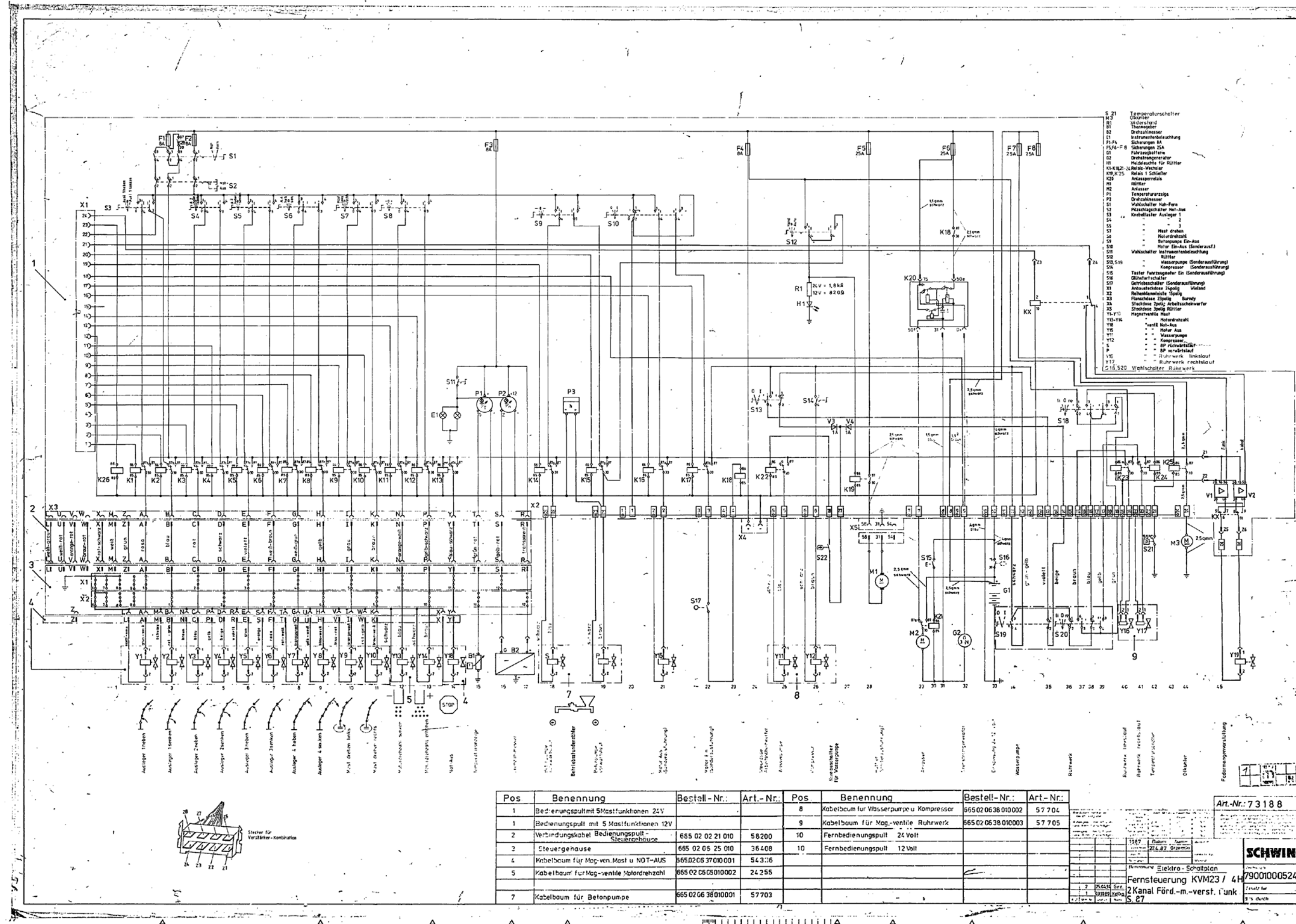
- 1. OPERATOR PANEL
- 2. REMOTE CONTROL BOX
- 3. CABLE DRUM
- 5. JUNCTION BOX
- 6. DISCONNECT BOX
- 7. CABLE TREE
- 8. E-STOP BOX

- DUMP VALVE BOOM
- DUMP VALVE CONCRETE PUMP
- HOPPER GRATE SWITCH
- BOOM OUTRIGGER SWITCHING VALVE
- ELECTRIC HORN
- Continuous Duty Solenoid (See truck/pump schematic)

This schematic applies to units after March 1999 for Serial #062 and #063

Tracking: y:paukat/isodoc/200241.ai

SAIE 20024-1/1	CHANGE
Rev.033099	OLD STYLE KVM 23M WITH E-STOP CIRCUIT
initials	

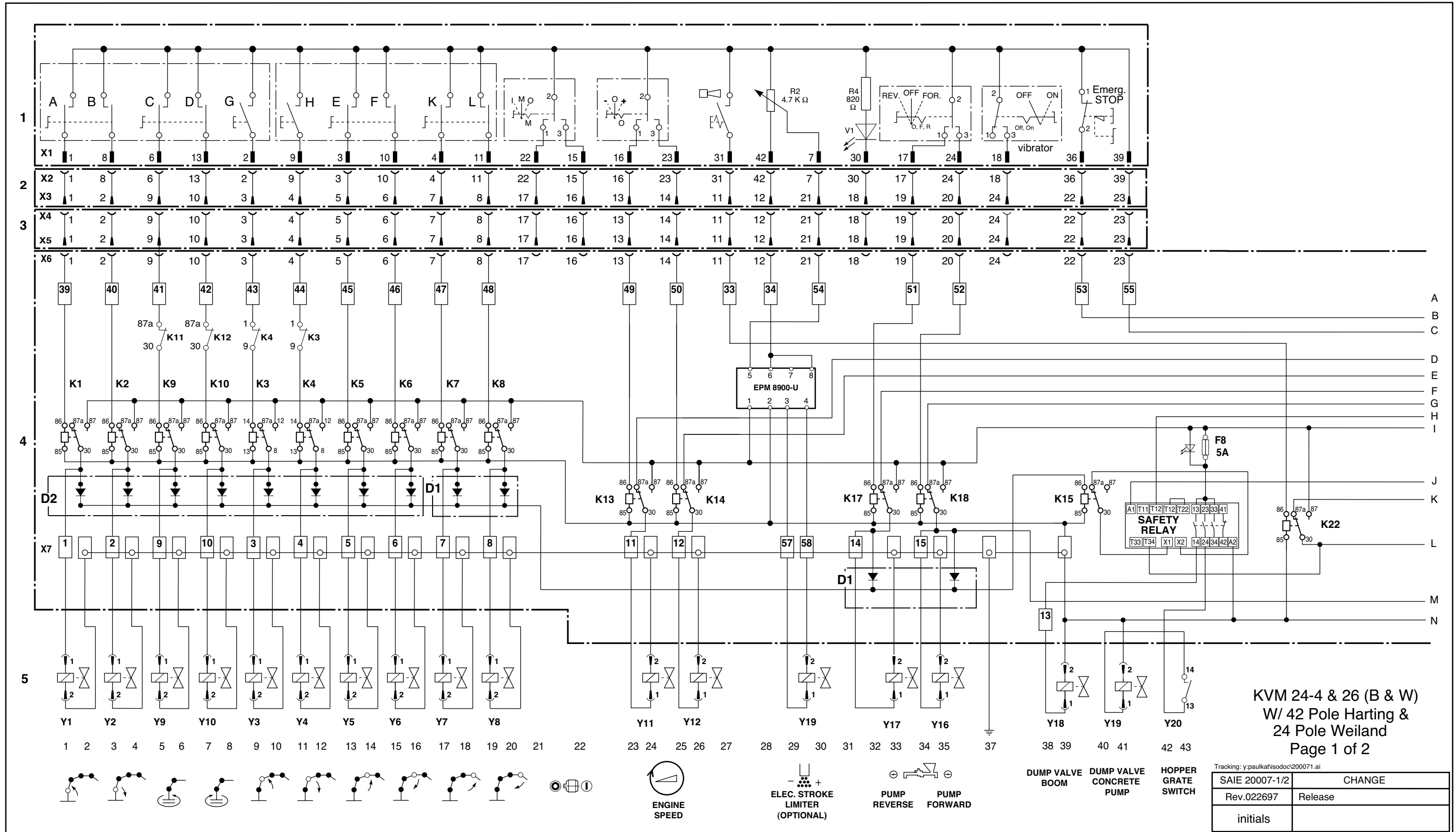


Pos	Benennung	Bestell-Nr.	Art.-Nr.	Pos	Benennung	Bestell-Nr.	Art.-Nr.
1	Bedienungspult mit 5 Mastfunktionen 24V			8	Kabelbaum für Wasserpumpe u. Kompressor	665 02 06 38 010002	57 704
1	Bedienungspult mit 5 Mastfunktionen 12V			9	Kabelbaum für Mag.-ventile Ruhrwerk	665 02 06 38 010003	57 705
2	Verbindungskabel Bedienungspult-Steuergehäuse	665 02 02 21 010	58200	10	Fernbedienungspult 24 Volt		
3	Steuergehäuse	665 02 05 25 010	36408	10	Fernbedienungspult 12 Volt		
4	Kabelbaum für Mag.-vent. Mast u. NOT-AUS	665 02 06 37 010 001	54336				
5	Kabelbaum für Mag.-ventile Molddrehzahl	665 02 06 05 010002	24 255				
7	Kabelbaum für Betonpumpe	665 02 06 38 010001	57 703				

Art.-Nr.: 73188

SCHWING

Elektro-Schaltplan
Fernsteuerung KVM23 / 4H
2 Kanal Förd.-m.-verst. Funk
S 87



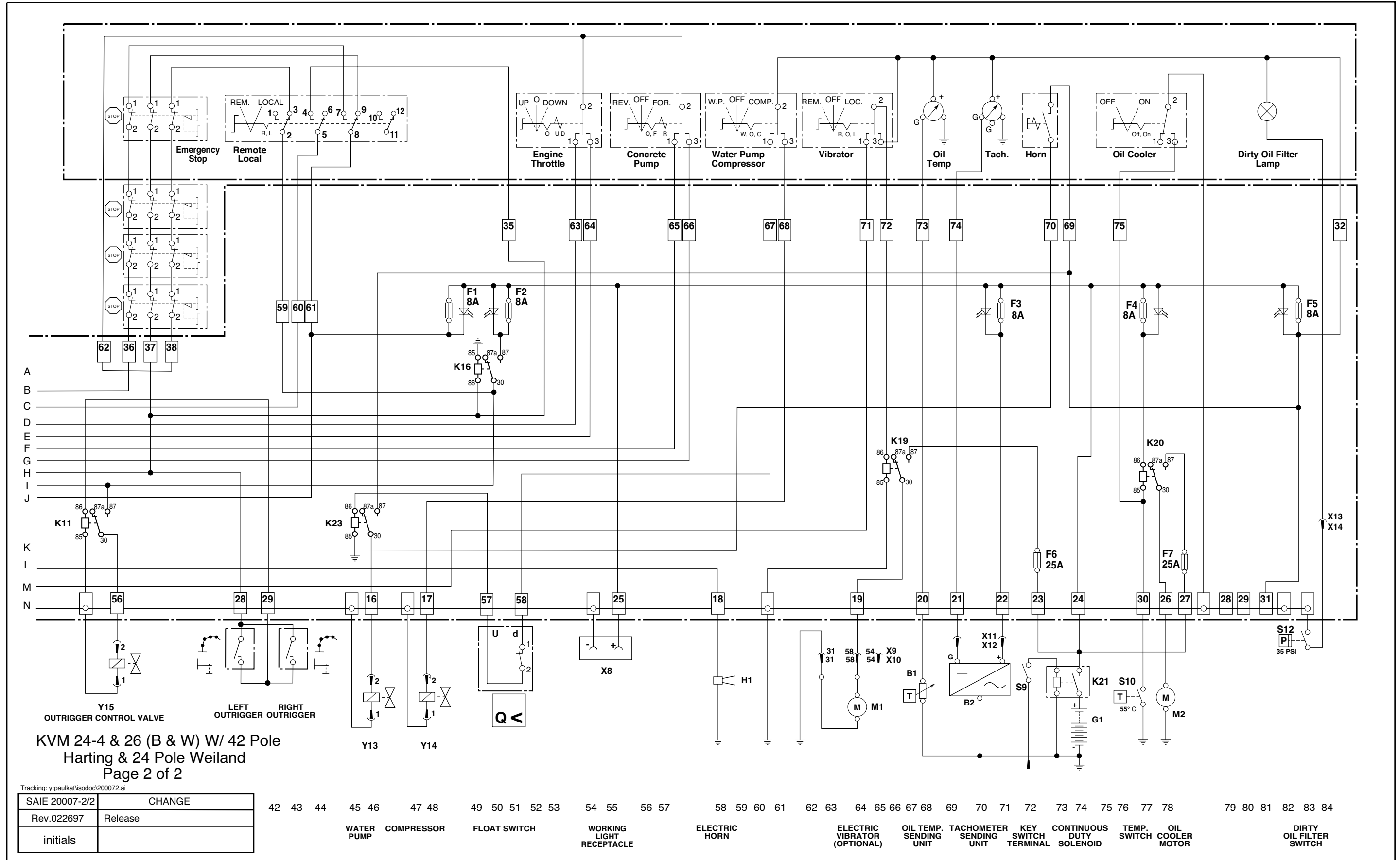
KVM 24-4 & 26 (B & W)
W/ 42 Pole Harting &
24 Pole Weiland
Page 1 of 2

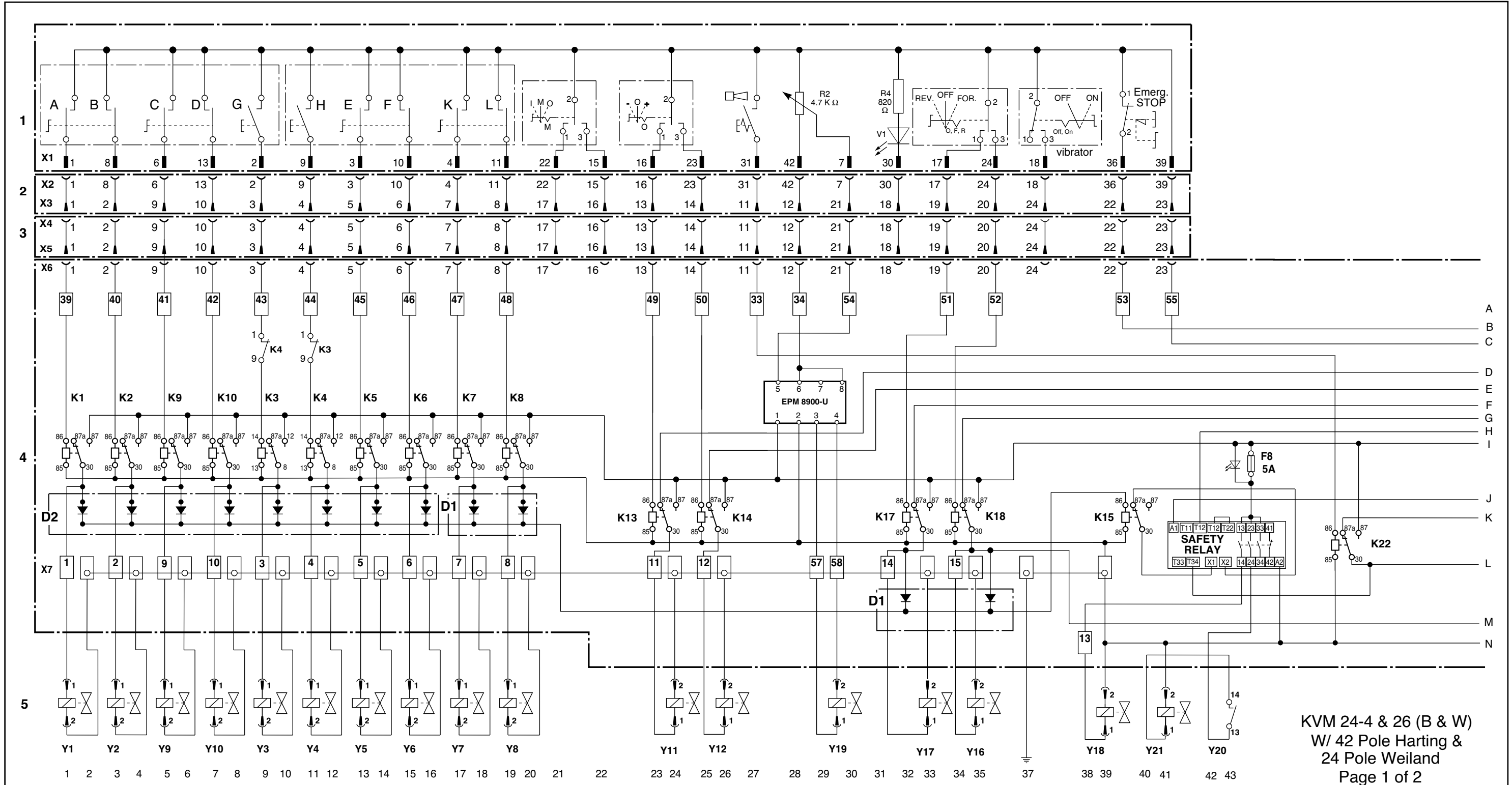
Tracking: y.paulkat@isodoc.com/200071.ai

SAIE 20007-1/2	CHANGE
Rev.022697	Release
initials	

20007-2

KVM 24-4, KVM 26 BOOM CIRCUIT, 42 POLE HARTING, 24 POL WEILAND, B&W

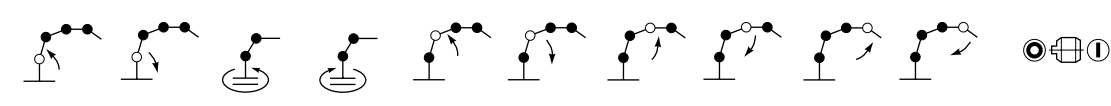


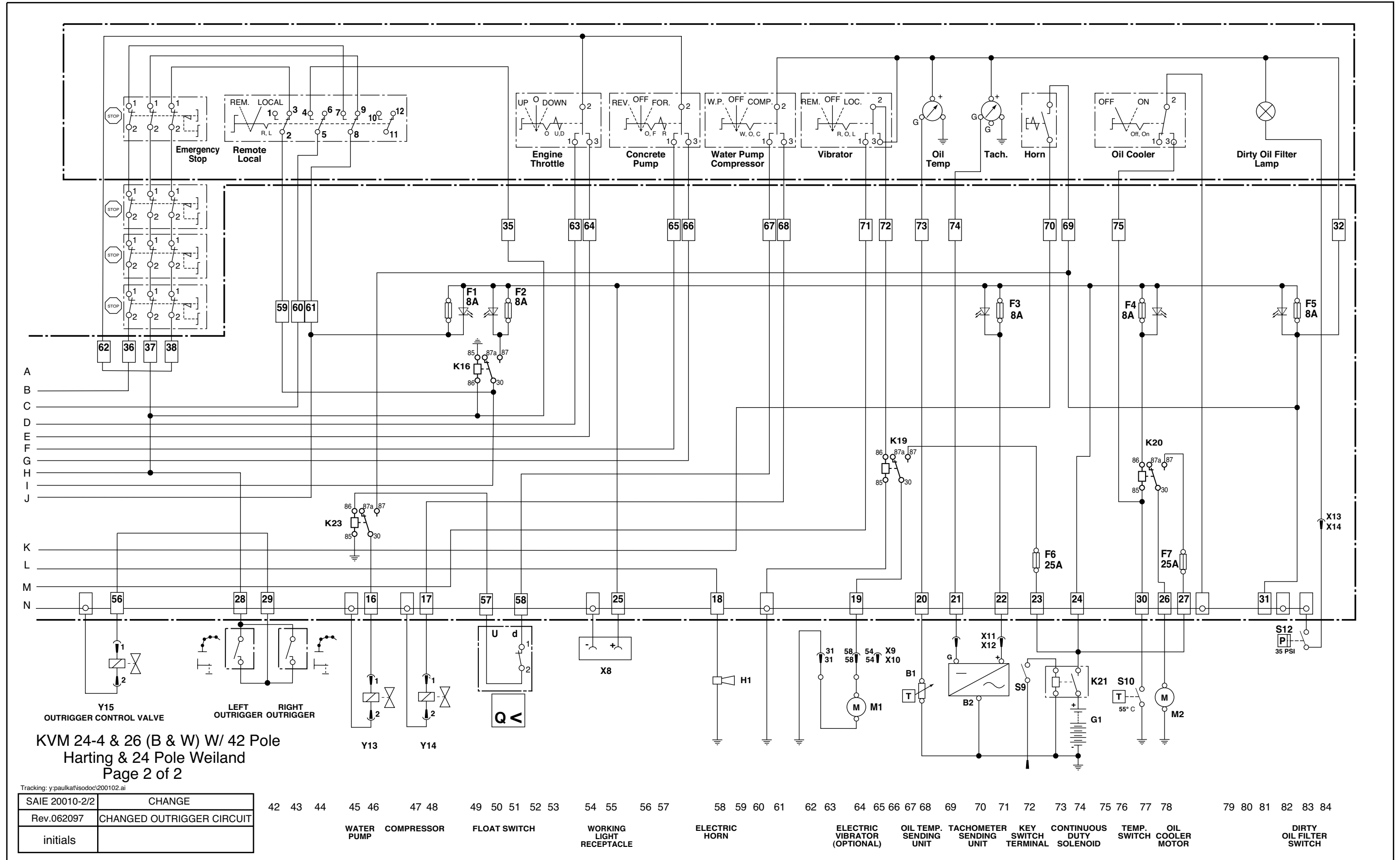


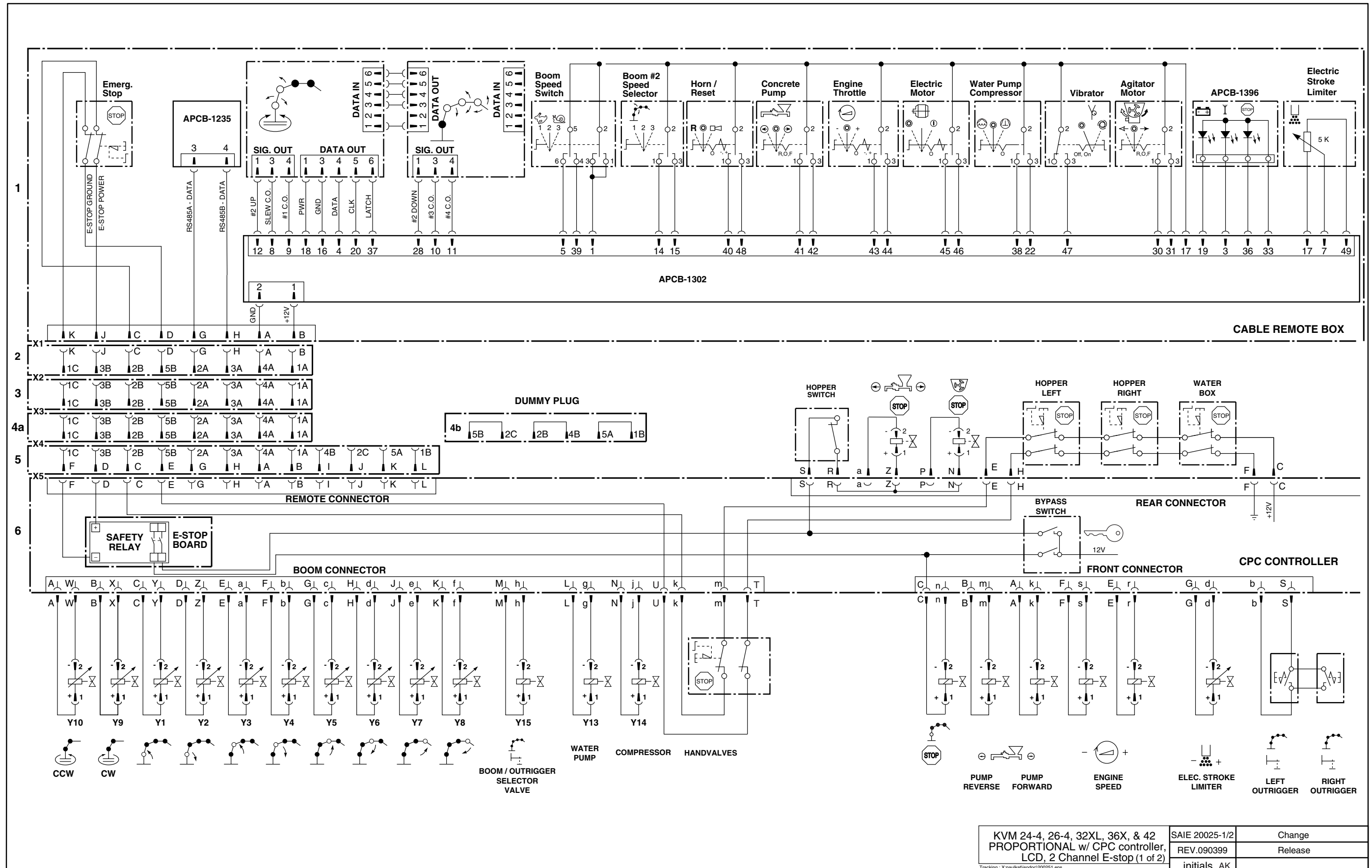
KVM 24-4 & 26 (B & W)
W/ 42 Pole Harting &
24 Pole Weiland
Page 1 of 2

Tracking: y:paulkatvisodoc\200101.ai

SAIE 20010-1/2	CHANGE
Rev.062097	CHANGED OUTRIGGER CIRCUIT
initials	



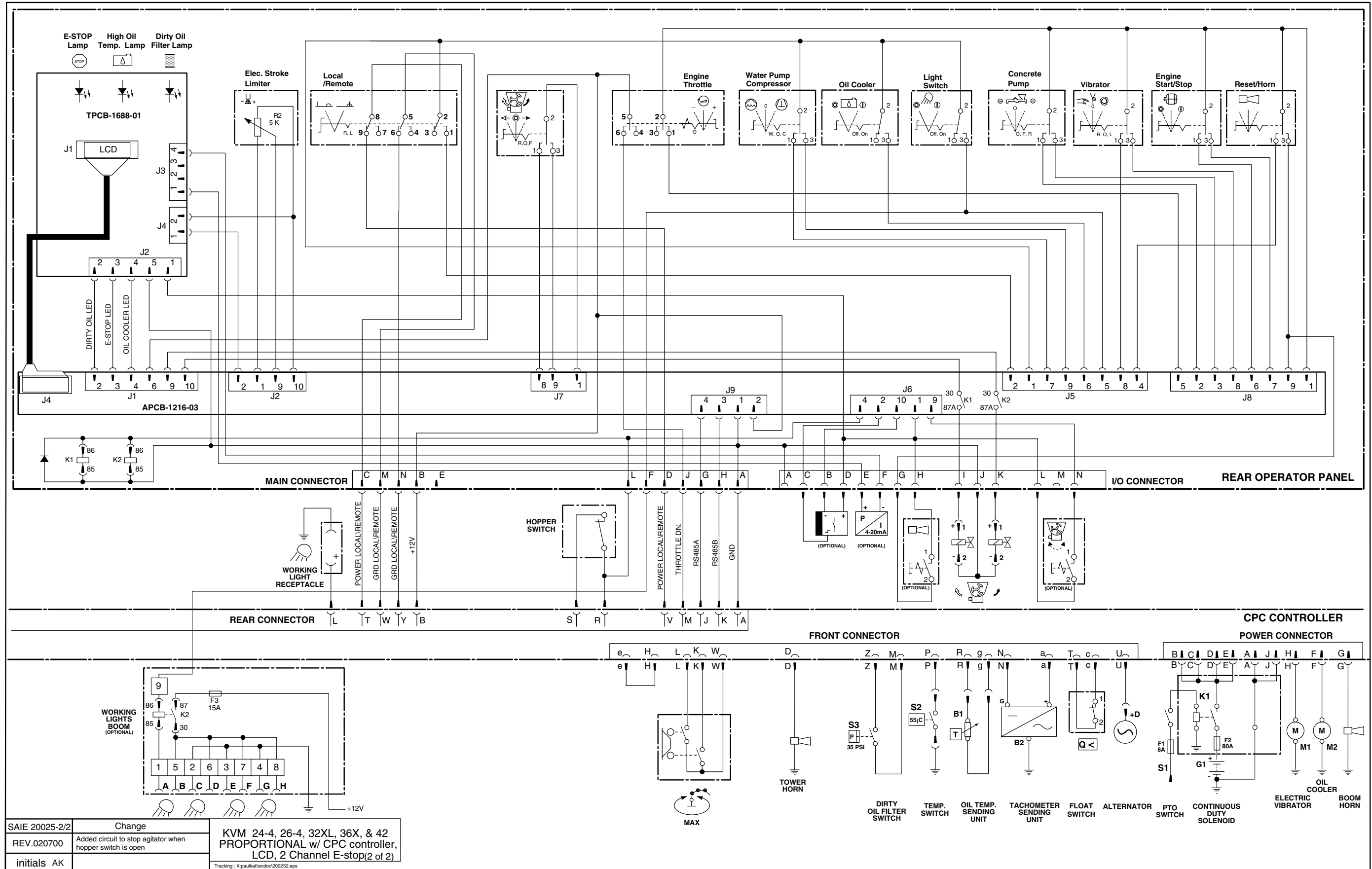


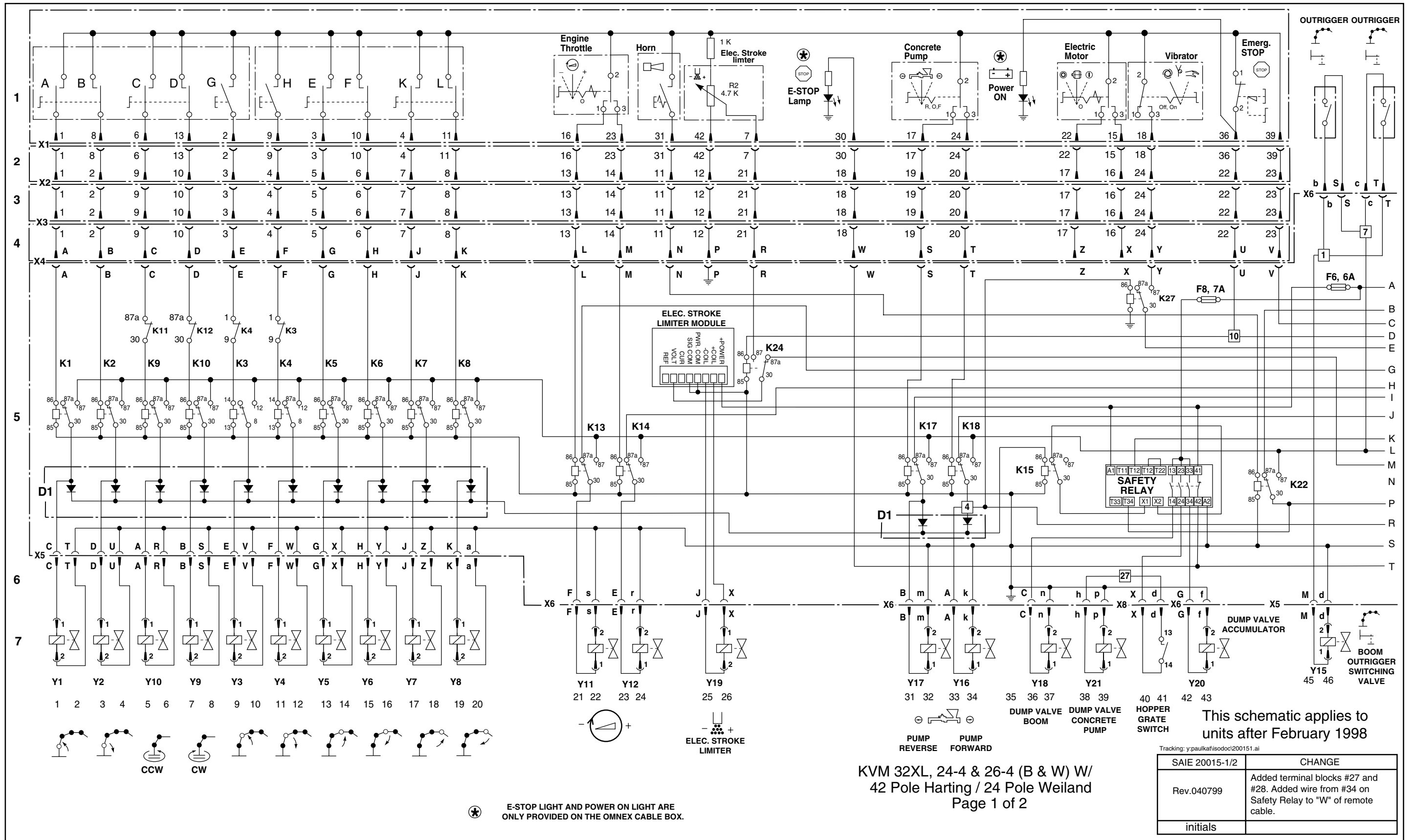


KVM 24-4, 26-4, 32XL, 36X, & 42 PROPORTIONAL w/ CPC controller, LCD, 2 Channel E-stop (1 of 2)	SAIE 20025-1/2	Change
	REV.090399	Release
	initials AK	

20025-2

KVM 24-4, KVM 26-4, KVM 32XL, 42 PROPORTIONAL, CPC CONTROLLER, LCD 2 CHANNEL E-STOP





⊛ E-STOP LIGHT AND POWER ON LIGHT ARE ONLY PROVIDED ON THE OMNEX CABLE BOX.

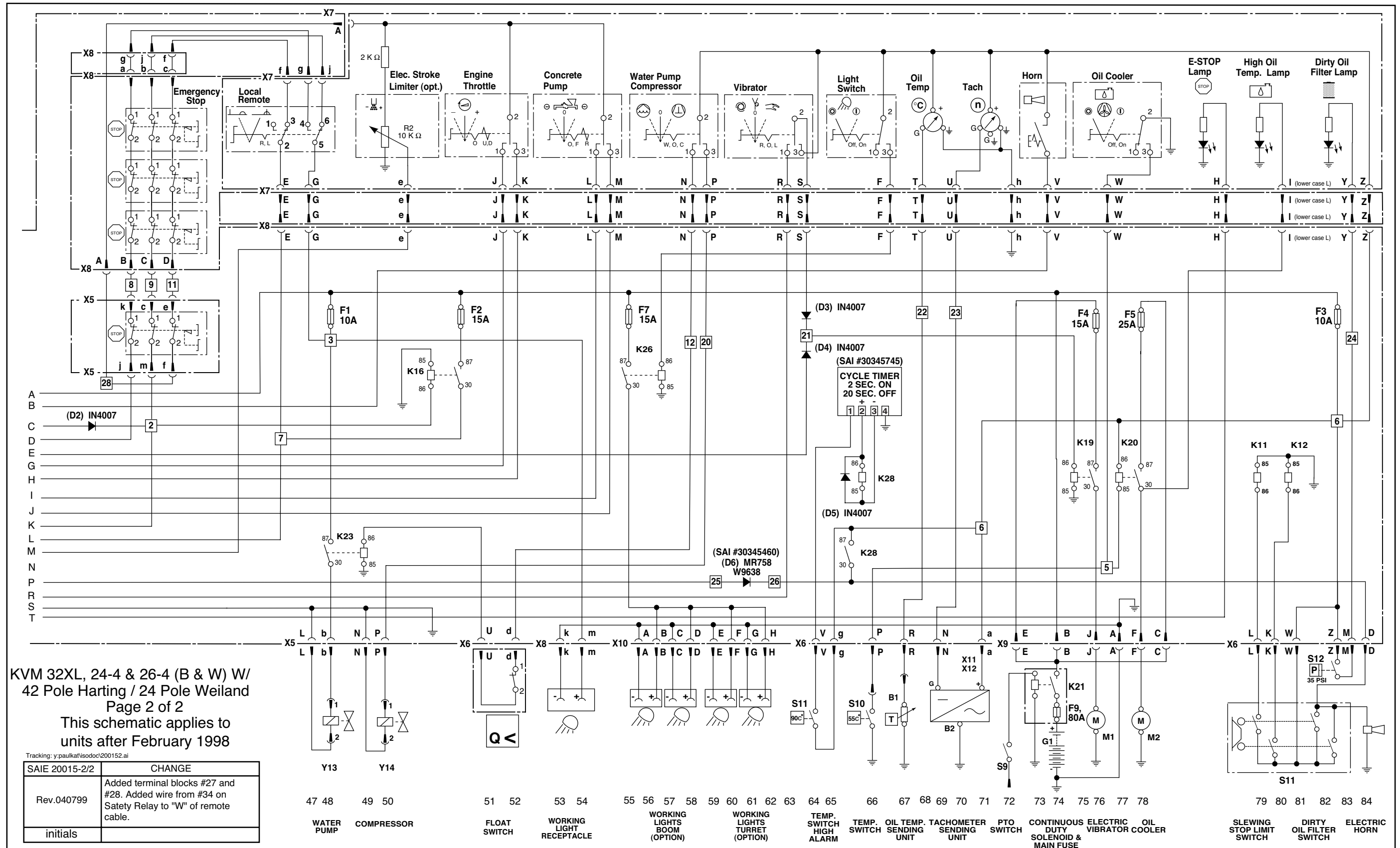
KVM 32XL, 24-4 & 26-4 (B & W) W/
42 Pole Harting / 24 Pole Weiland
Page 1 of 2

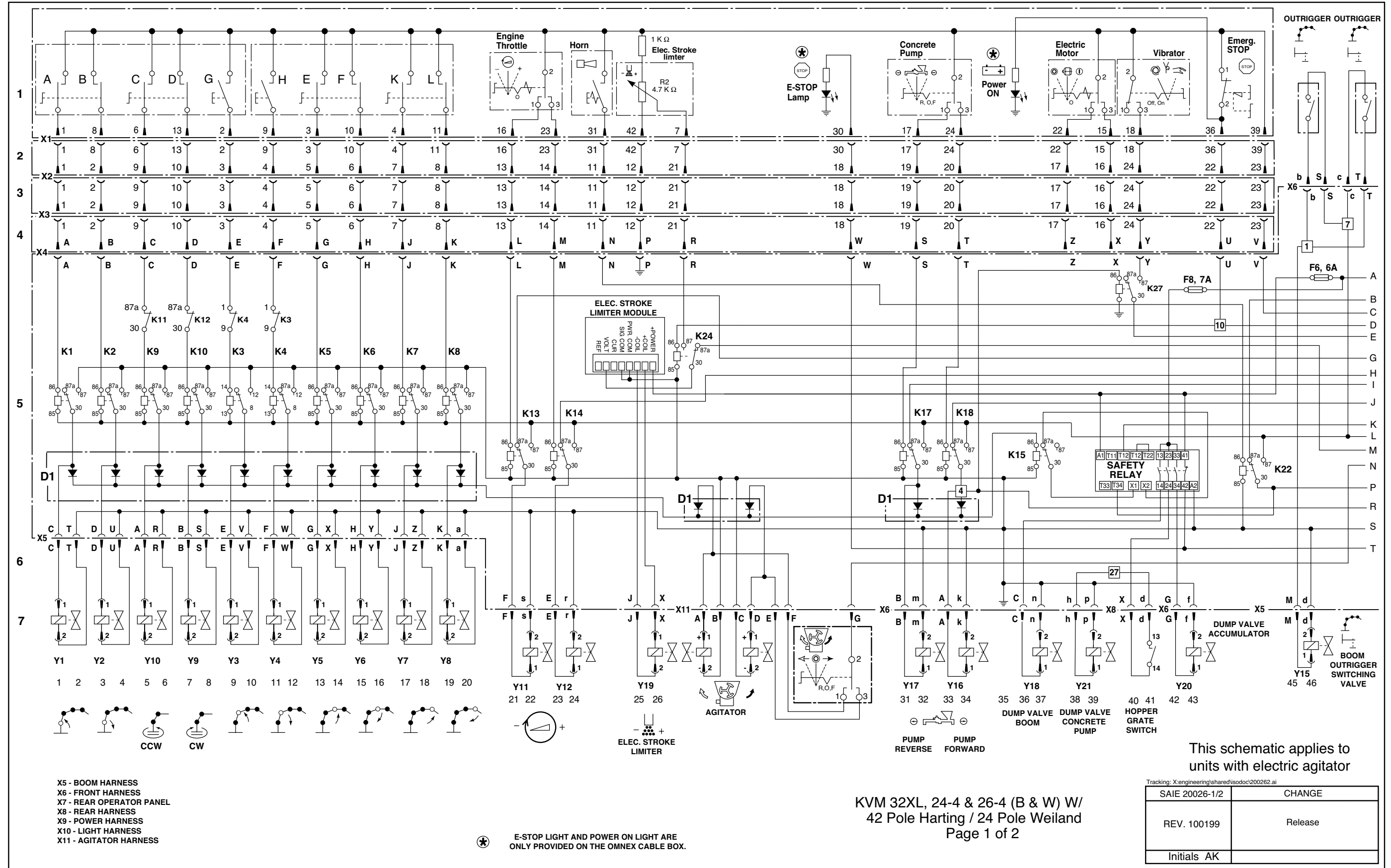
Tracking: y:paukatisodoc/200151.ai

SAIE 20015-1/2	CHANGE
Rev.040799	Added terminal blocks #27 and #28. Added wire from #34 on Safety Relay to "W" of remote cable.
initials	

20015-2

KVM 24-4, KVM 26-4, KVM 32XL, 42 POLE HARTING, 24 POL WEILAND, B&W

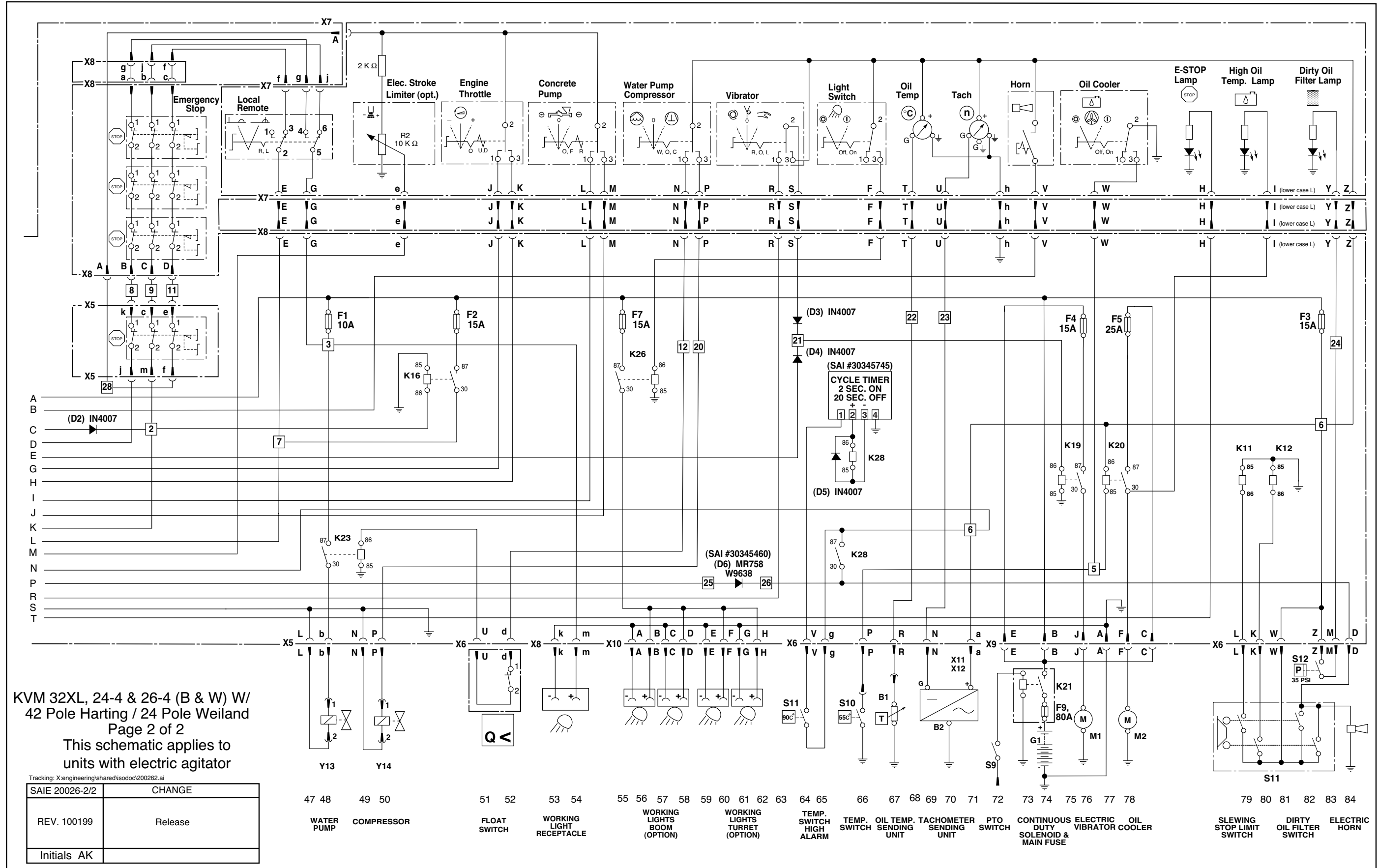


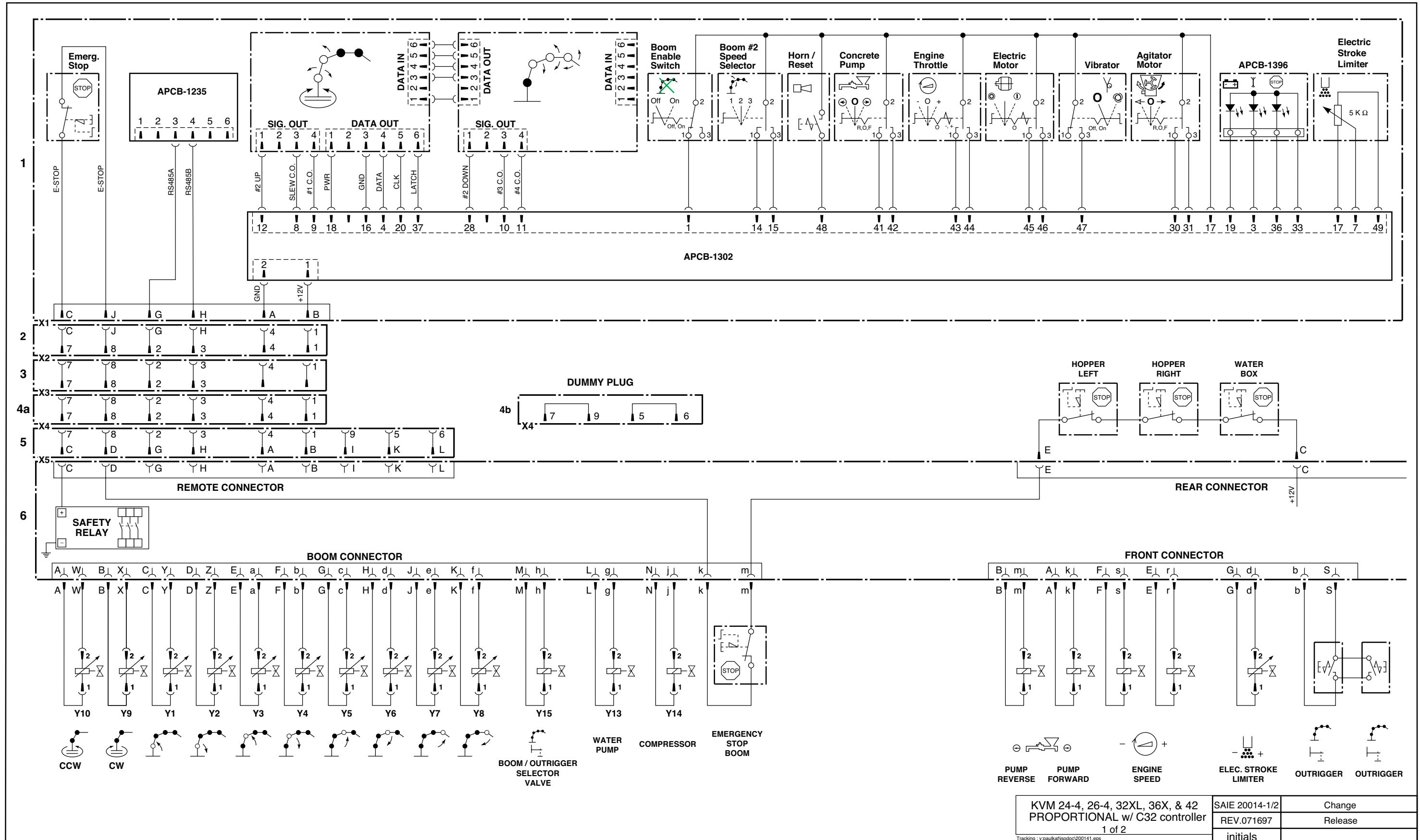


This schematic applies to units with electric agitator

KVM 32XL, 24-4 & 26-4 (B & W) W/
42 Pole Harting / 24 Pole Weiland
Page 1 of 2

SAIE 20026-1/2	CHANGE
REV. 100199	Release
Initials AK	

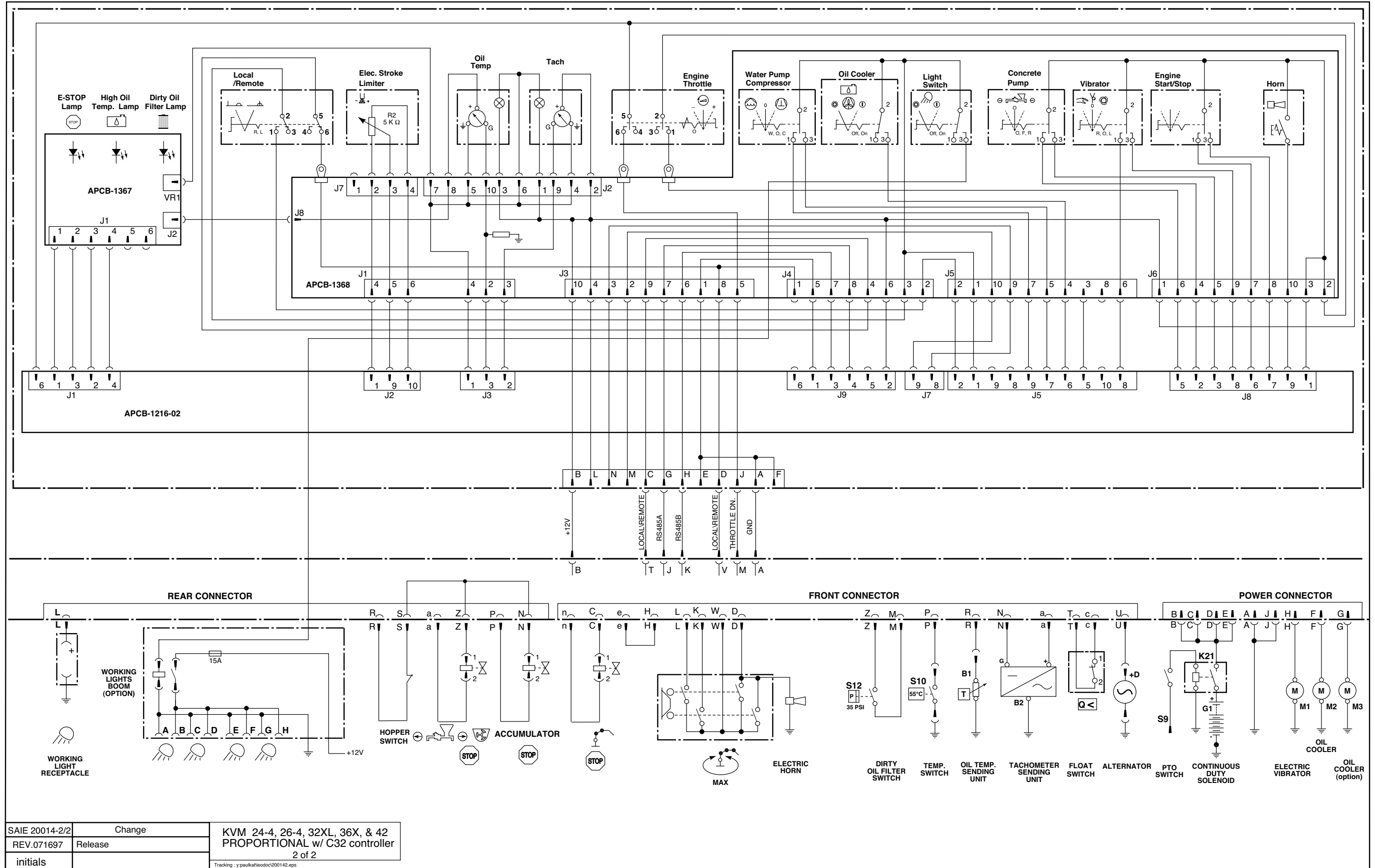




KVM 24-4, 26-4, 32XL, 36X, & 42 PROPORTIONAL w/ C32 controller 1 of 2	SAIE 20014-1/2	Change
	REV.071697	Release
	initials	

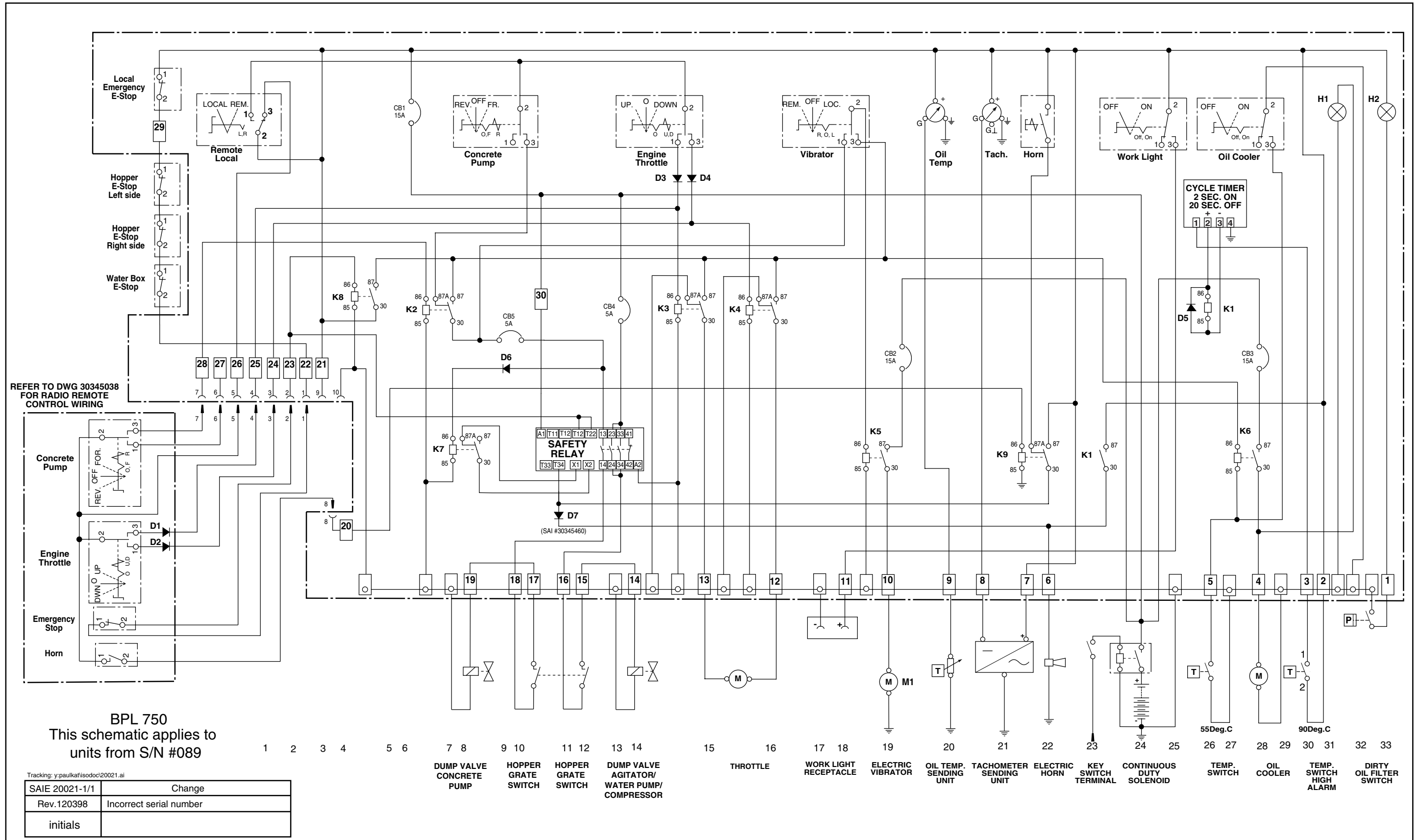
20014-2

KVM 24-4, KVM 26-4, KVM 32XL, KVM 36X, KVM 42, C32 CONTROLLER, PROPORTIONAL



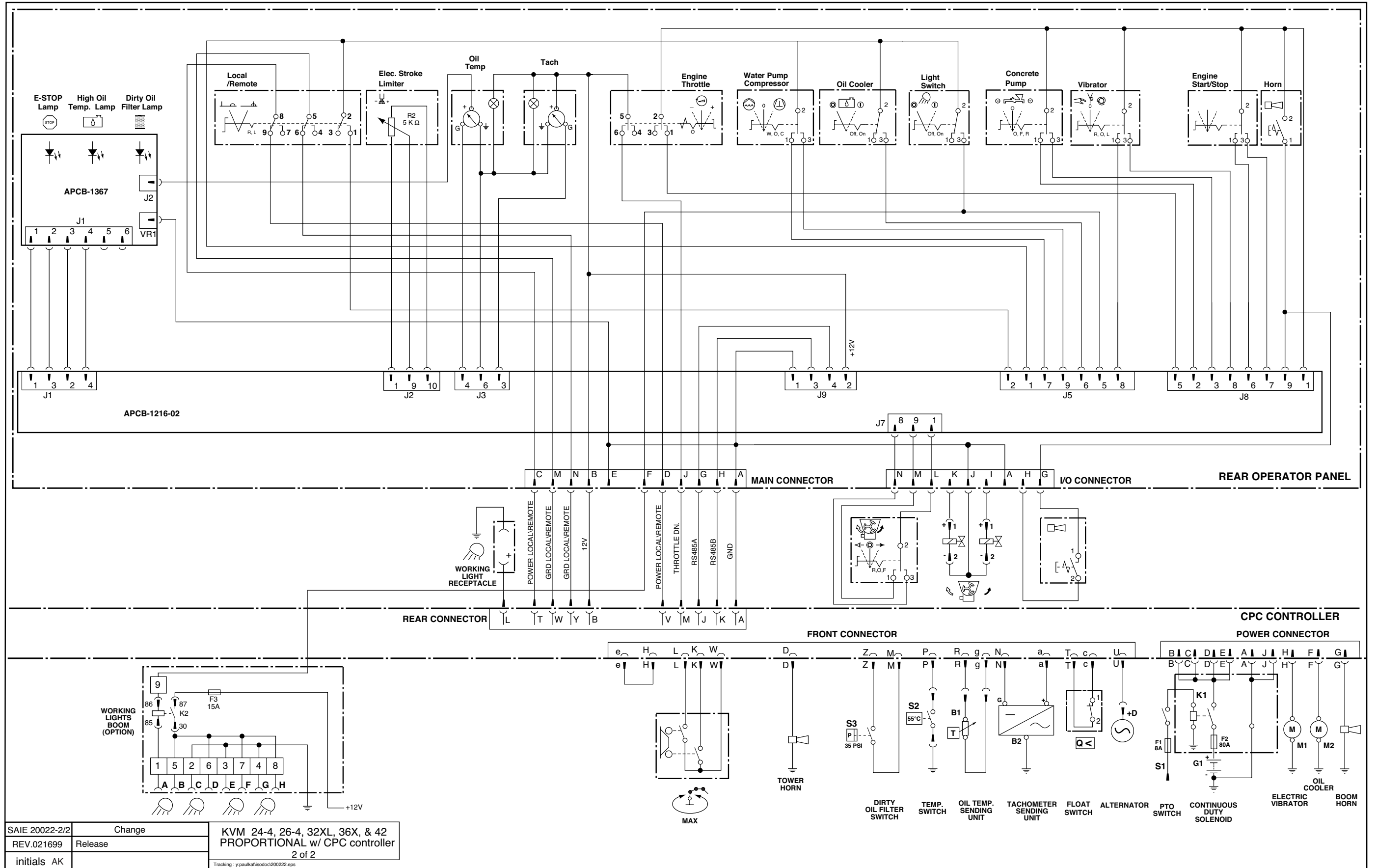
SAIE 20014-2/2	Change	KVM 24-4, 26-4, 32XL, 36X, & 42 PROPORTIONAL w/ C32 controller 2 of 2
REV.071697	Release	
initials		

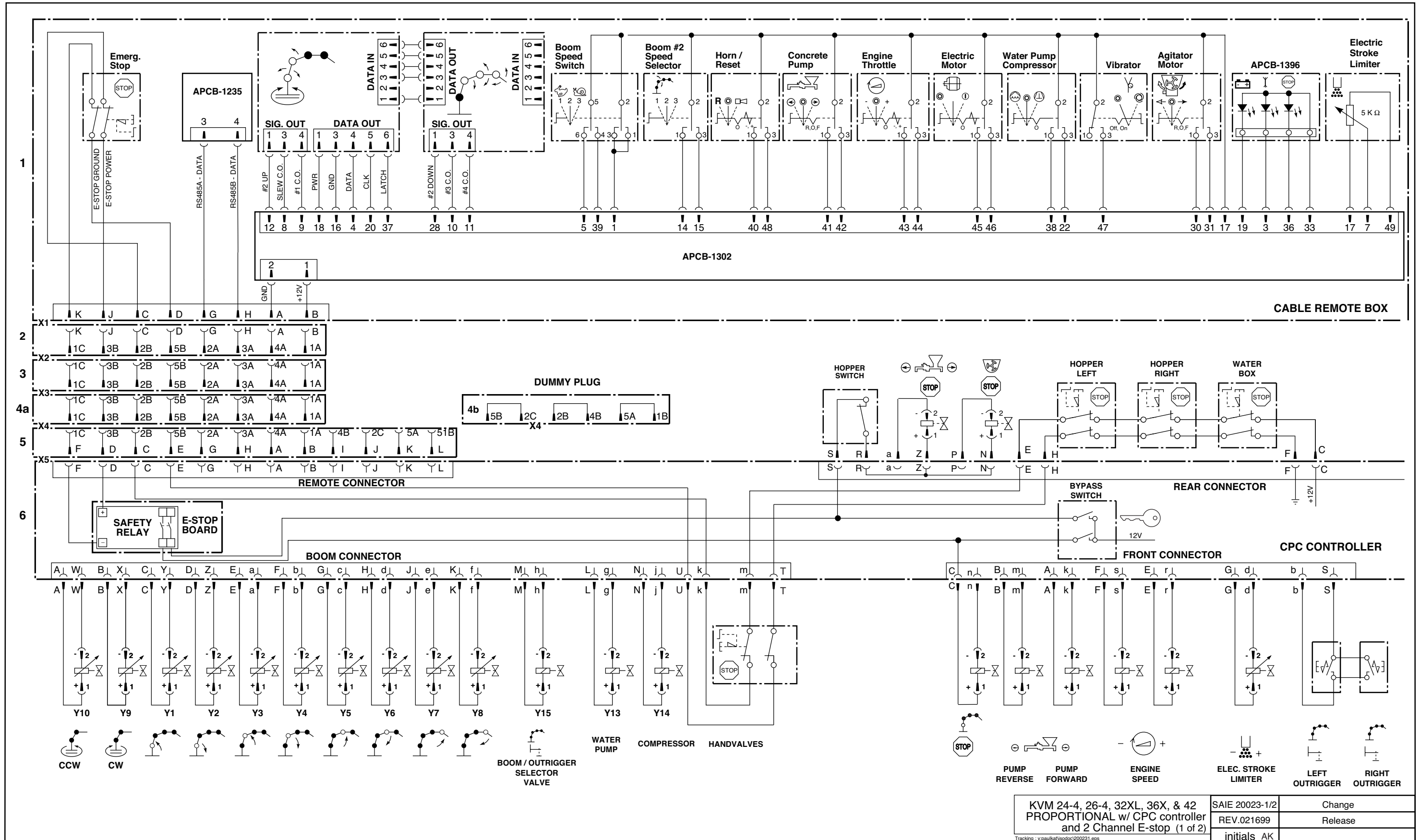
Tracking : y:pauka\risodoc\200142.eps



20022-2

KVM 24-4, KVM 26-4, KVM 32XL, KVM 36X, KVM 42, CPC CONTROLLER, PROPORTIONAL

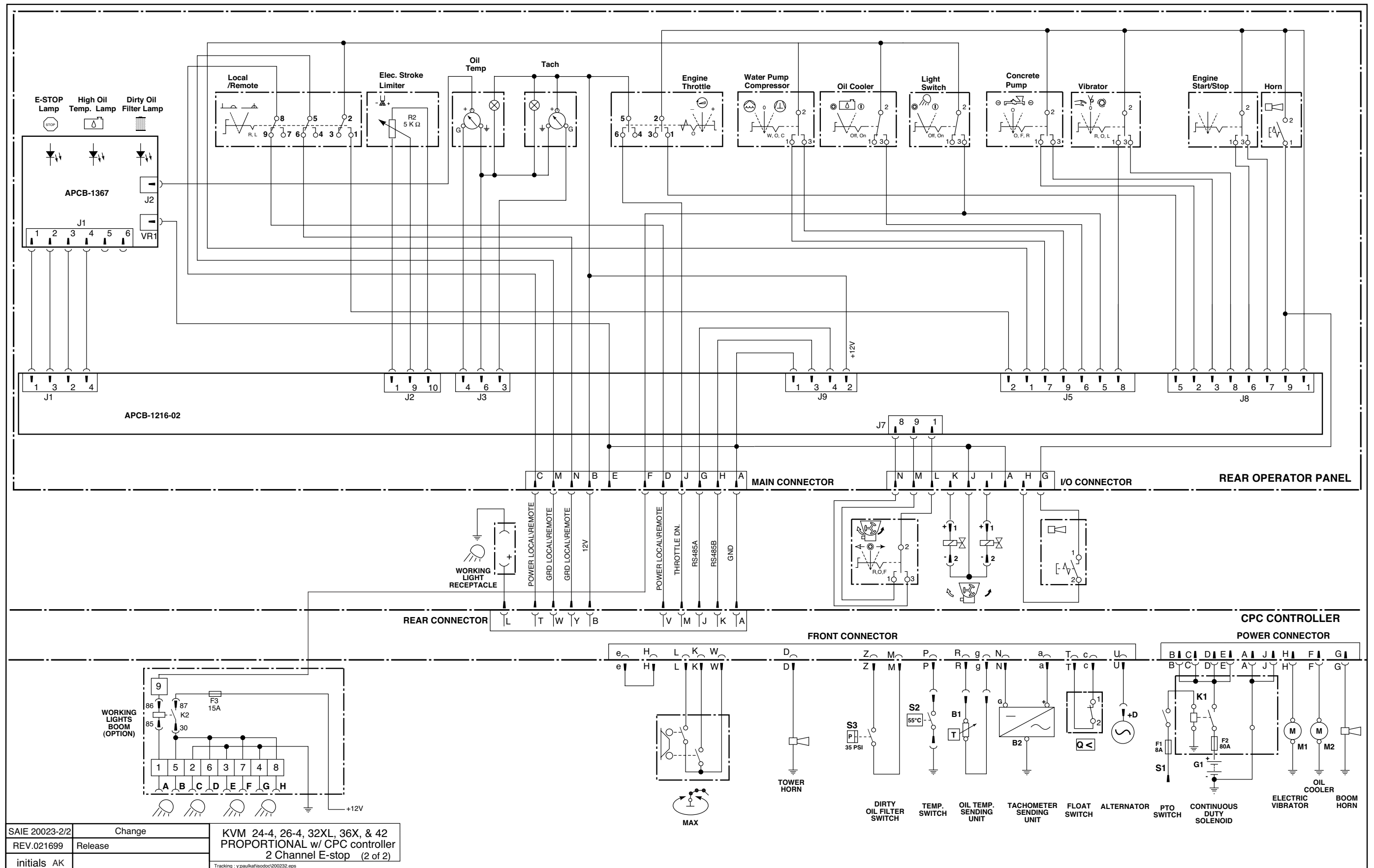




KVM 24-4, 26-4, 32XL, 36X, & 42 PROPORTIONAL w/ CPC controller and 2 Channel E-stop (1 of 2)	SAIE 20023-1/2	Change
	REV.021699	Release
	initials AK	

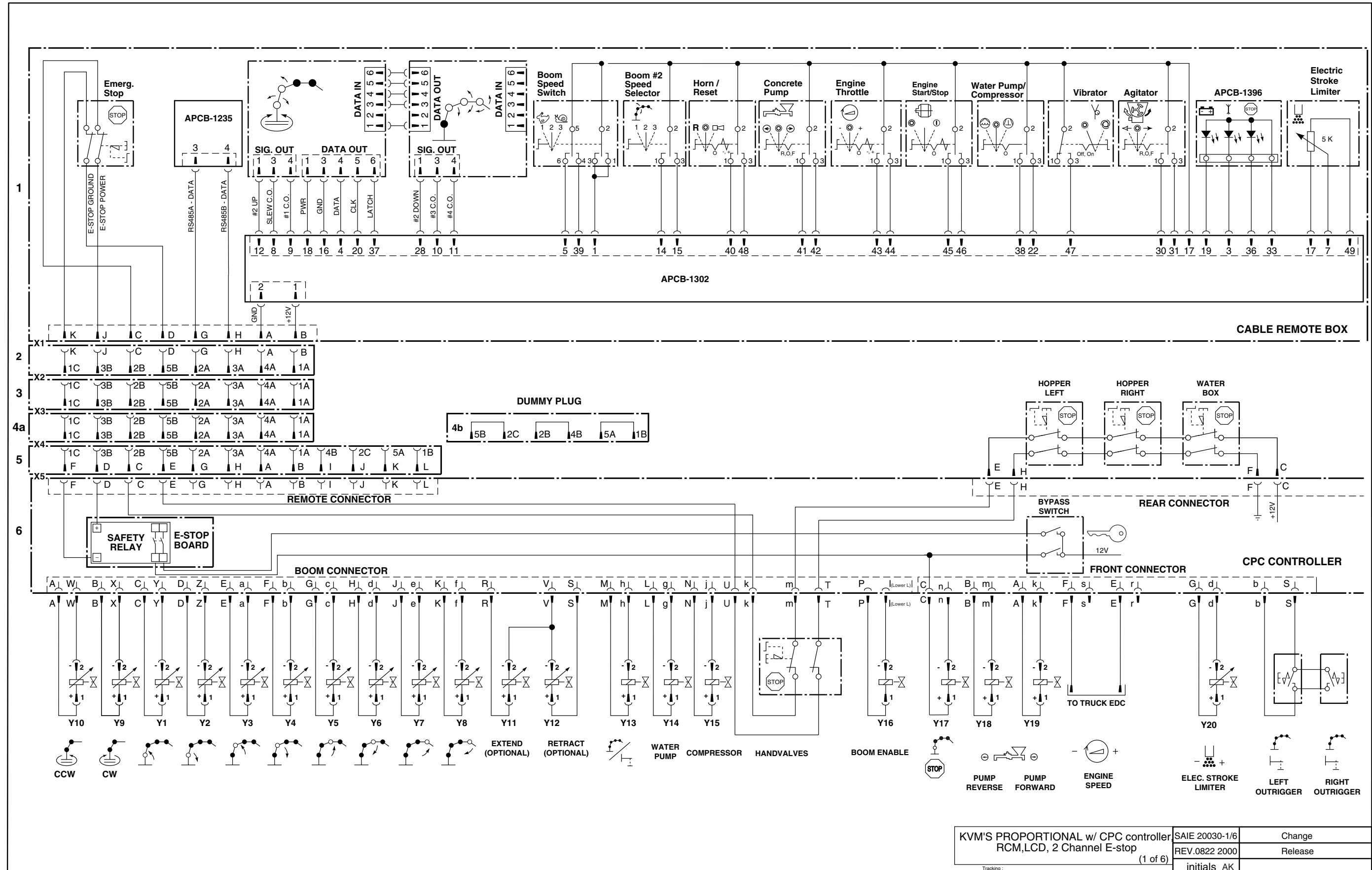
20023-2

KVM 24-4, KVM 26-4, KVM 32XL, KVM 36X, KVM 42, CPC CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP

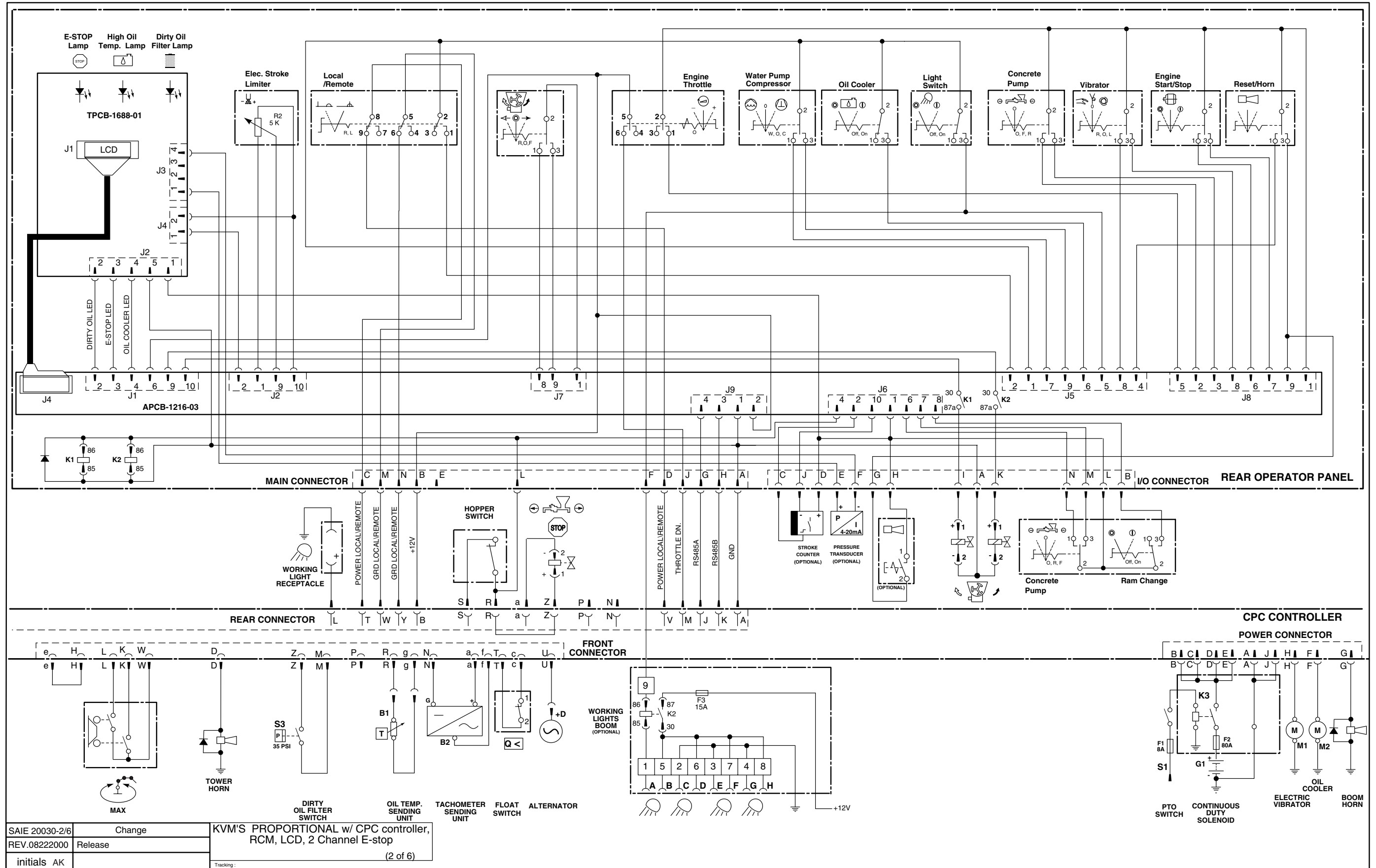


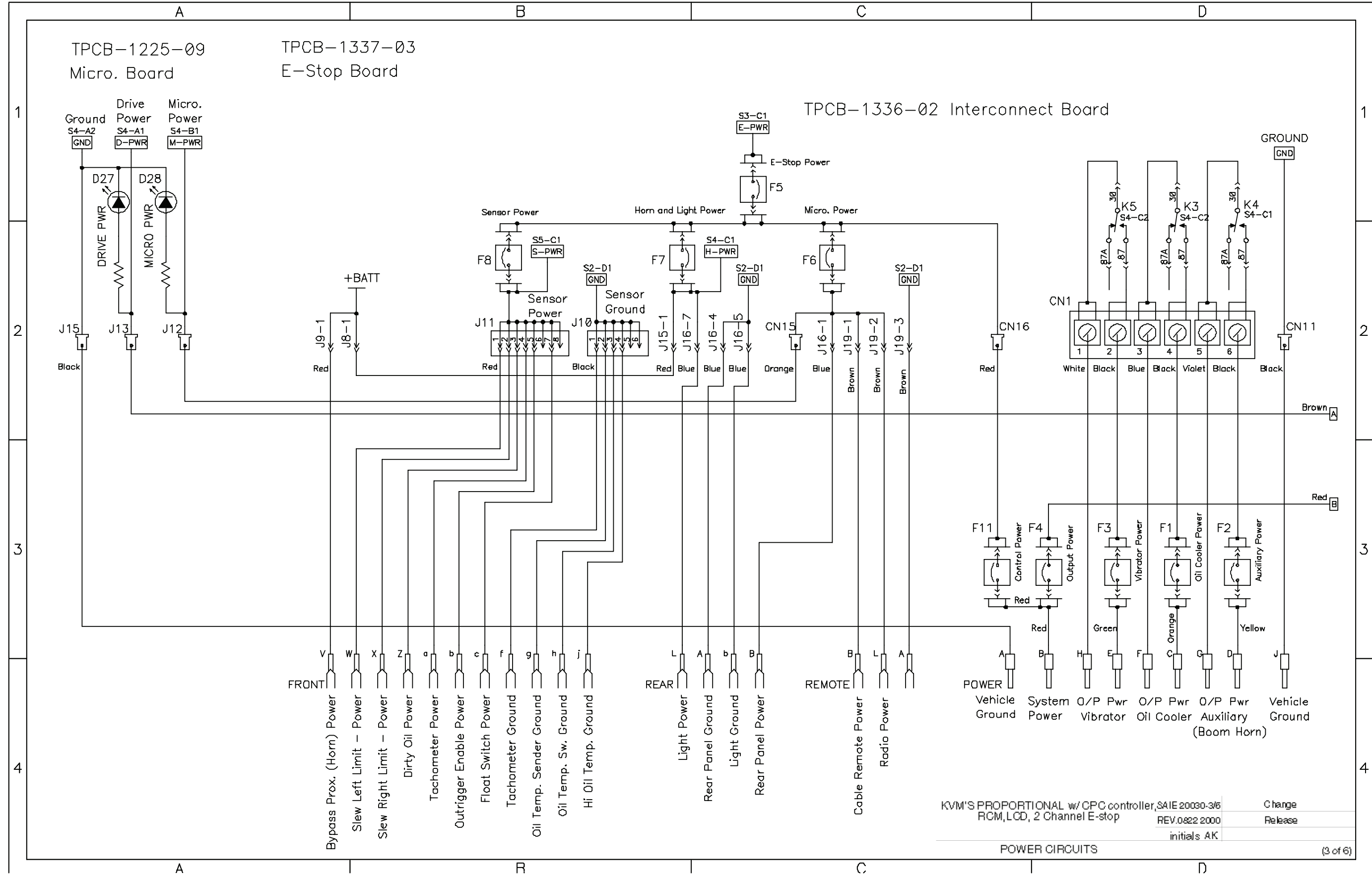
SAIE 20023-2/2	Change	KVM 24-4, 26-4, 32XL, 36X, & 42 PROPORTIONAL w/ CPC controller 2 Channel E-stop (2 of 2)
REV.021699	Release	
initials AK		

Tracking: y:paulkat/eodoc/200232.apr



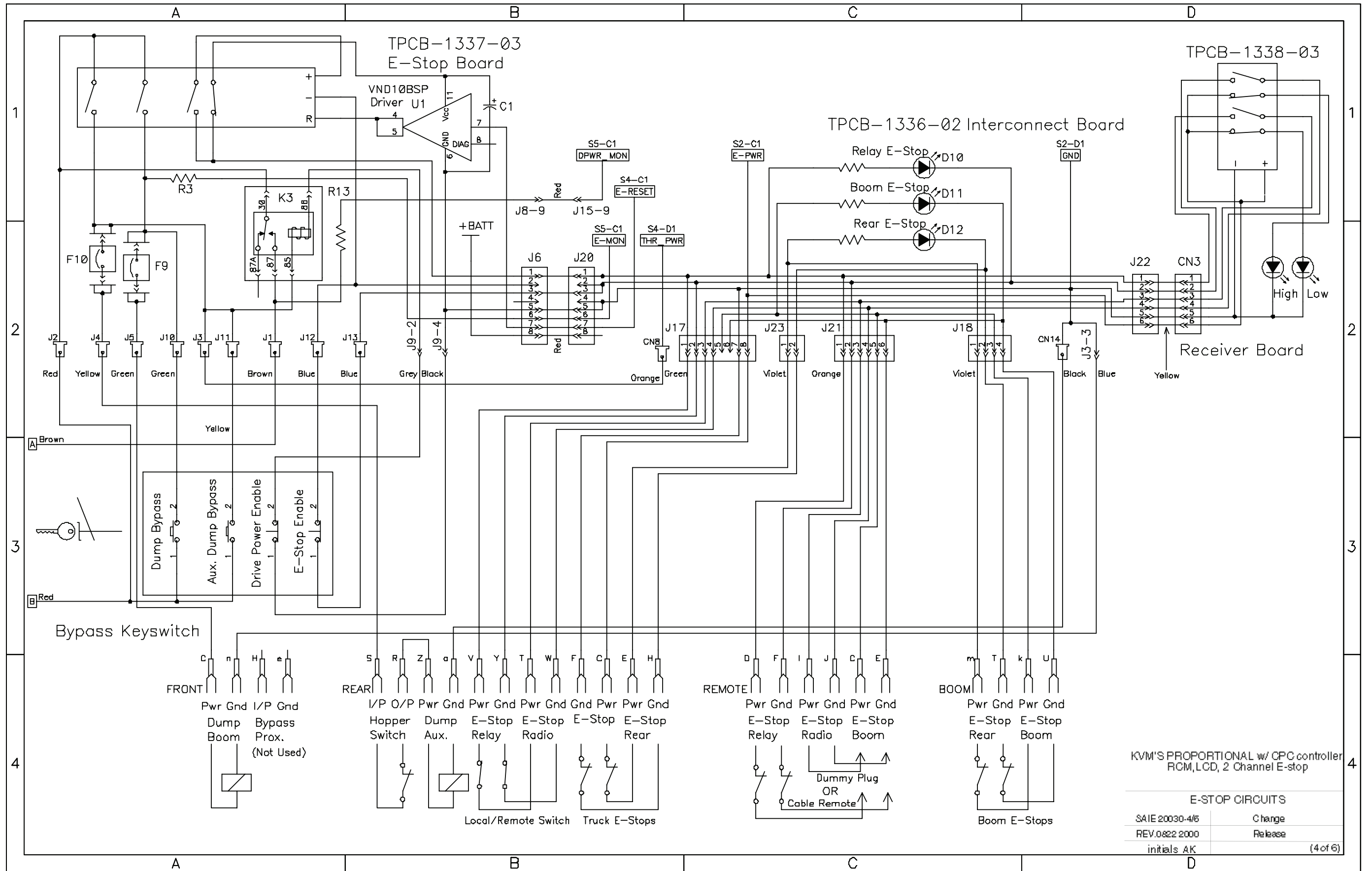
KVM'S PROPORTIONAL w/ CPC controller RCM,LCD, 2 Channel E-stop (1 of 6)	SAIE 20030-1/6	Change
	REV.0822 2000	Release
	initials AK	





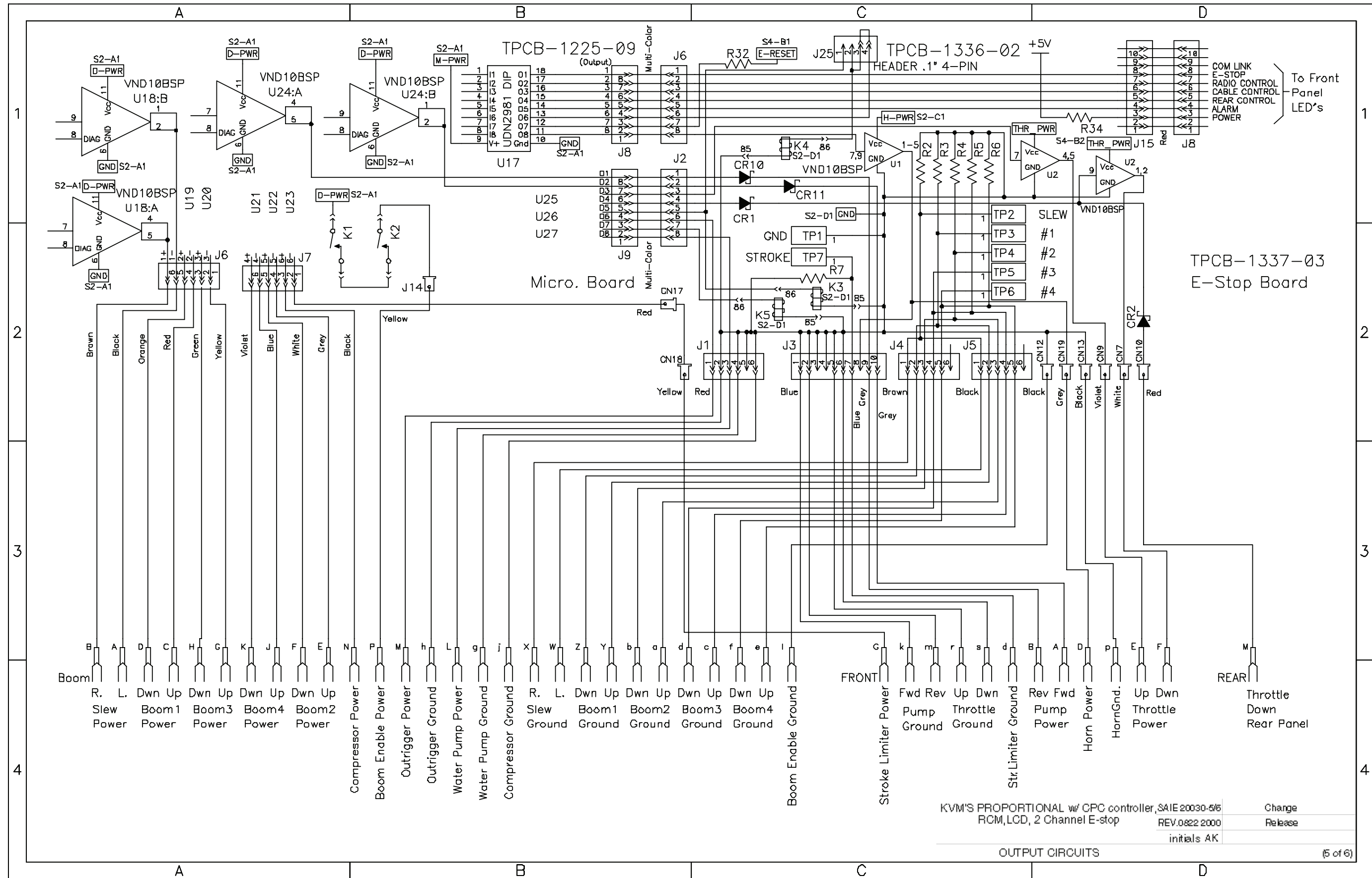
20030-4

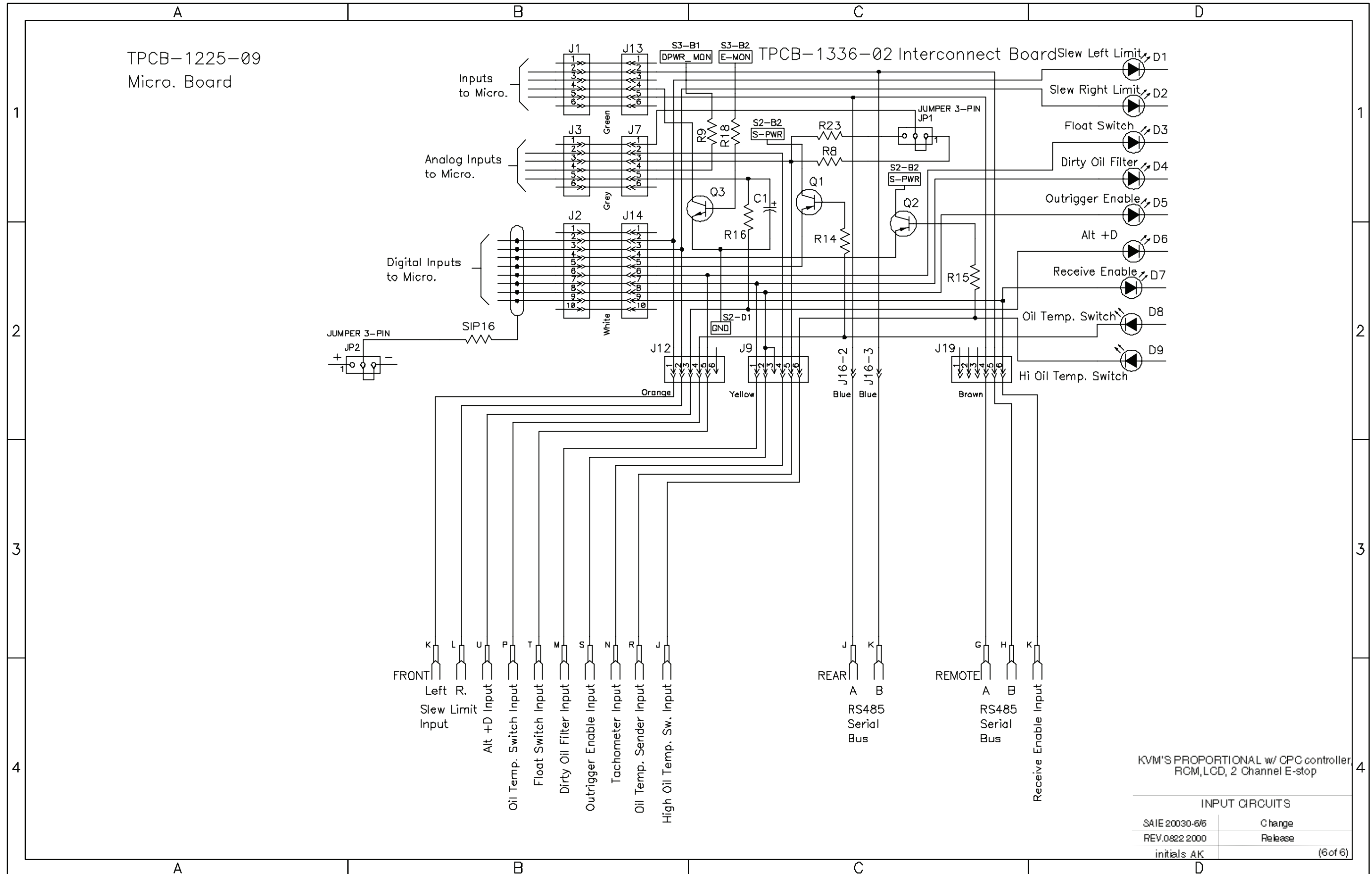
KVM'S, CPC CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED



KVM'S PROPORTIONAL w/ CPC controller
RCM, LCD, 2 Channel E-stop

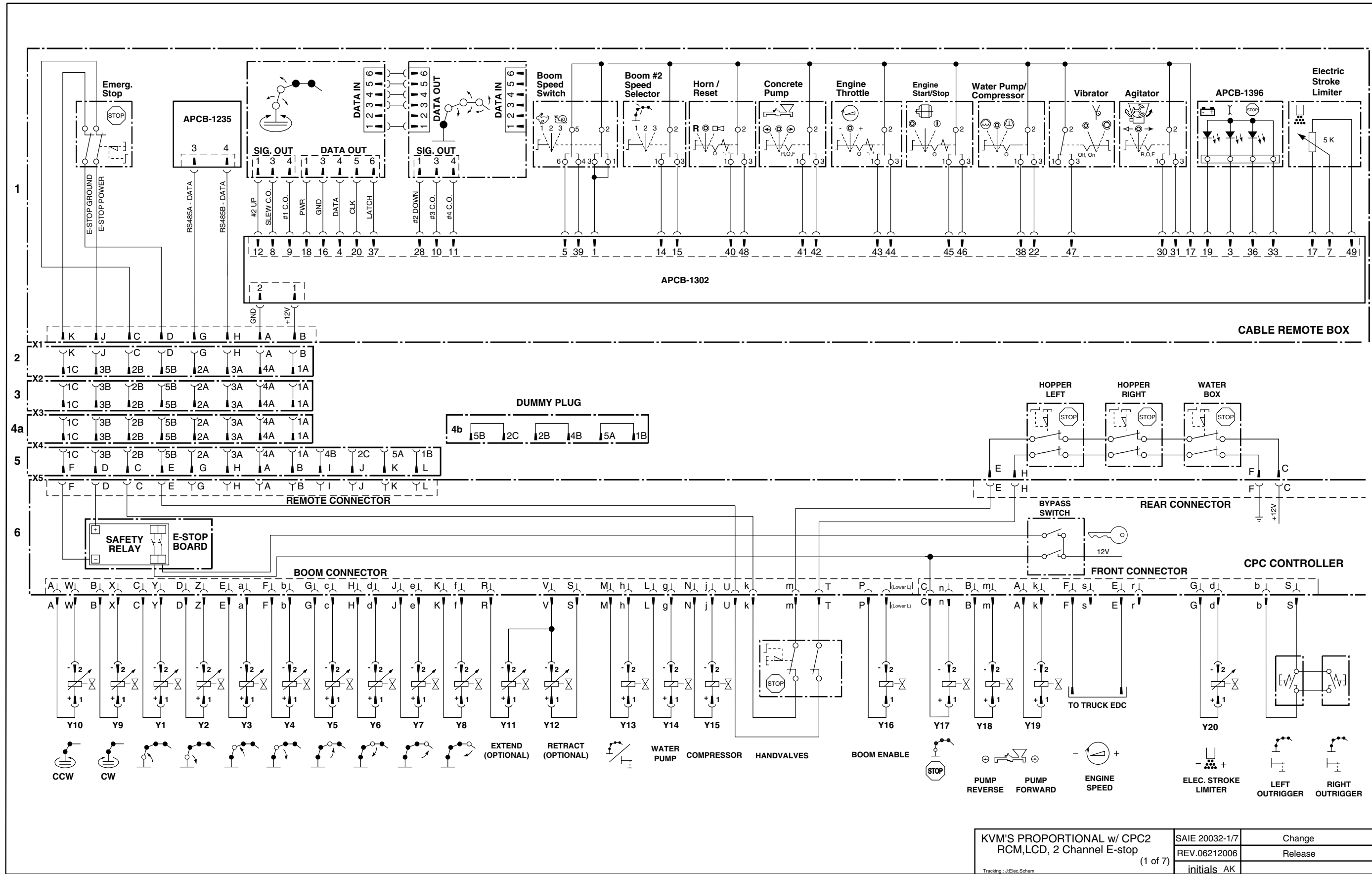
E-STOP CIRCUITS	
SAIE 20030-4/6	Change
REV.0&22 2000	Release
initials AK	(4 of 6)





KVM'S PROPORTIONAL w/ CPC controller
RCM, LCD, 2 Channel E-stop

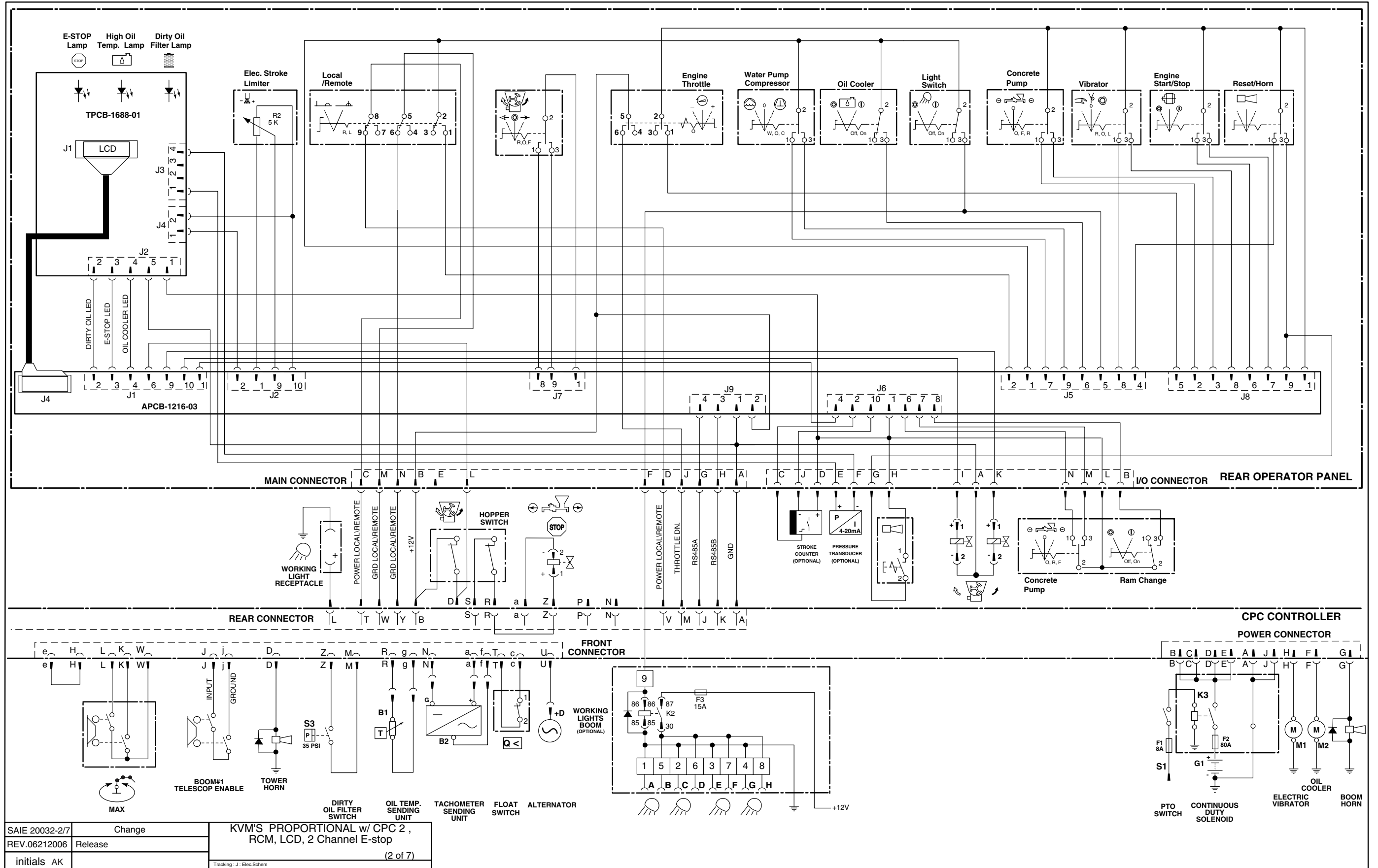
INPUT CIRCUITS	
SAIE 20030-6/6	Change
REV.0&22 2000	Release
initials AK	(6 of 6)



KVM'S PROPORTIONAL w/ CPC2 RCM,LCD, 2 Channel E-stop (1 of 7)	SAIE 20032-1/7	Change
	REV.06212006	Release
	initials AK	

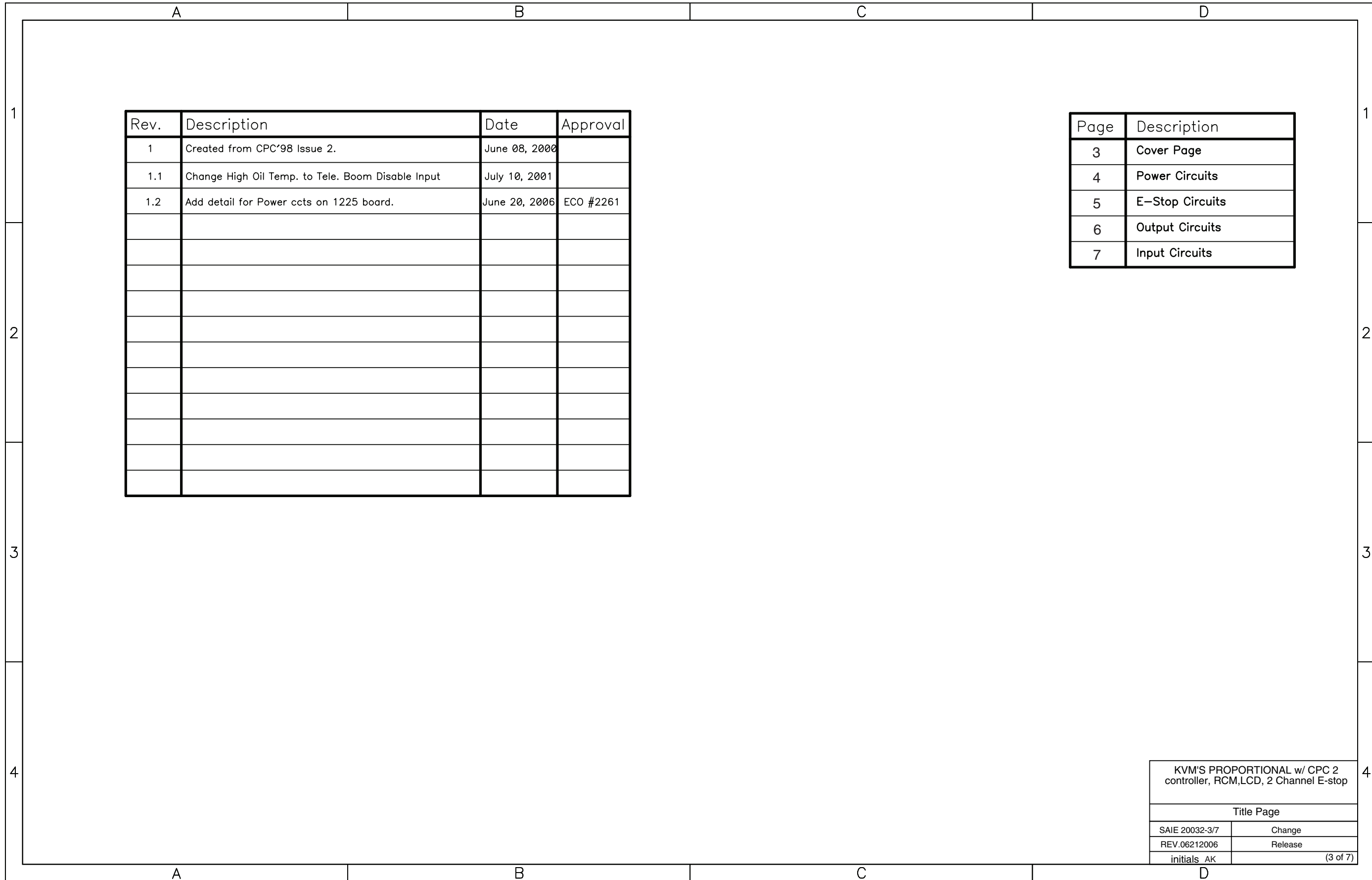
20032-2

KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED



SAIE 20032-2/7	Change	KVM'S PROPORTIONAL w/ CPC 2, RCM, LCD, 2 Channel E-stop (2 of 7)
REV.06212006	Release	
initials AK		

Tracking: J - Elec.Schem



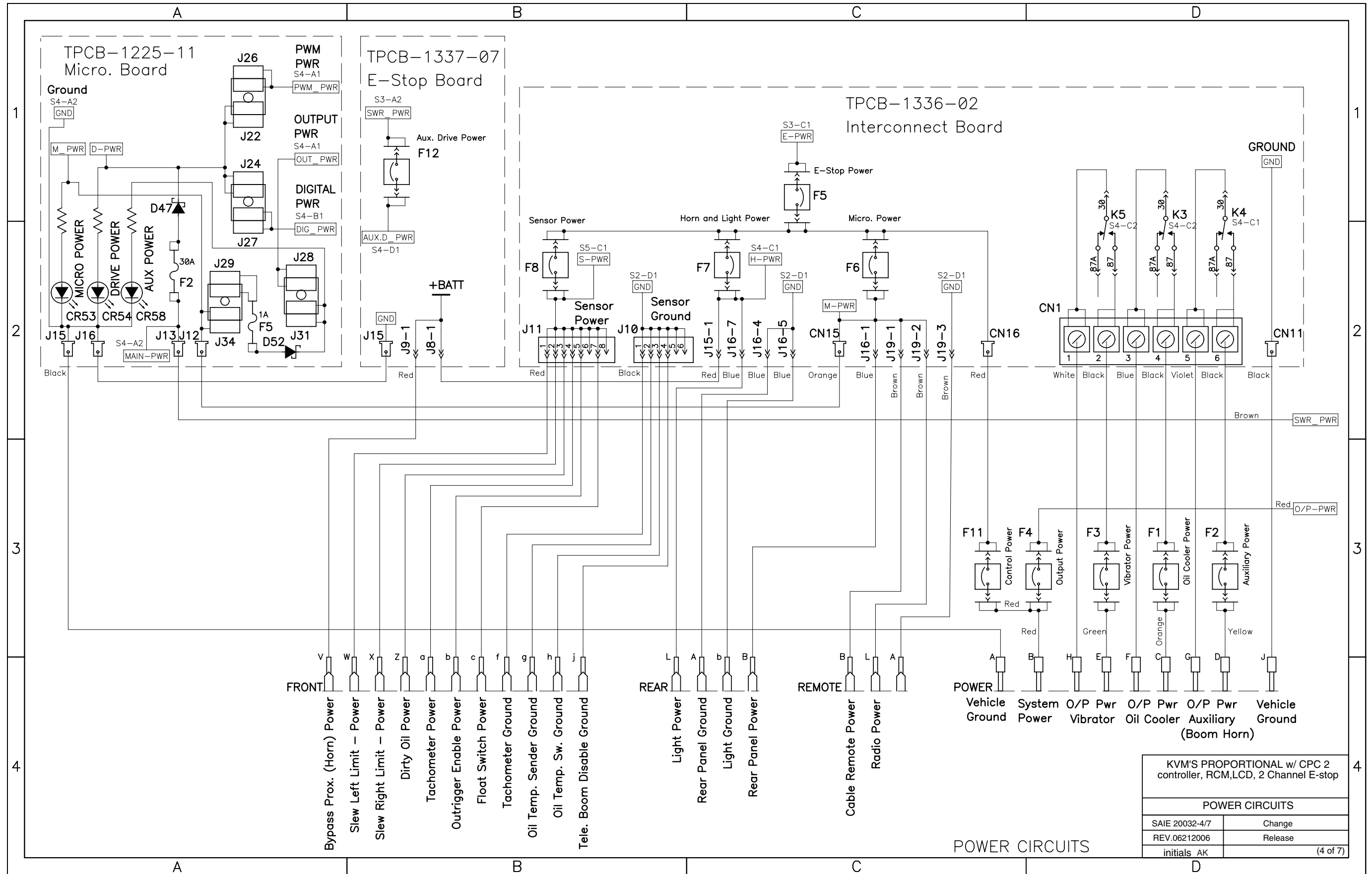
Rev.	Description	Date	Approval
1	Created from CPC'98 Issue 2.	June 08, 2000	
1.1	Change High Oil Temp. to Tele. Boom Disable Input	July 10, 2001	
1.2	Add detail for Power ccts on 1225 board.	June 20, 2006	ECO #2261

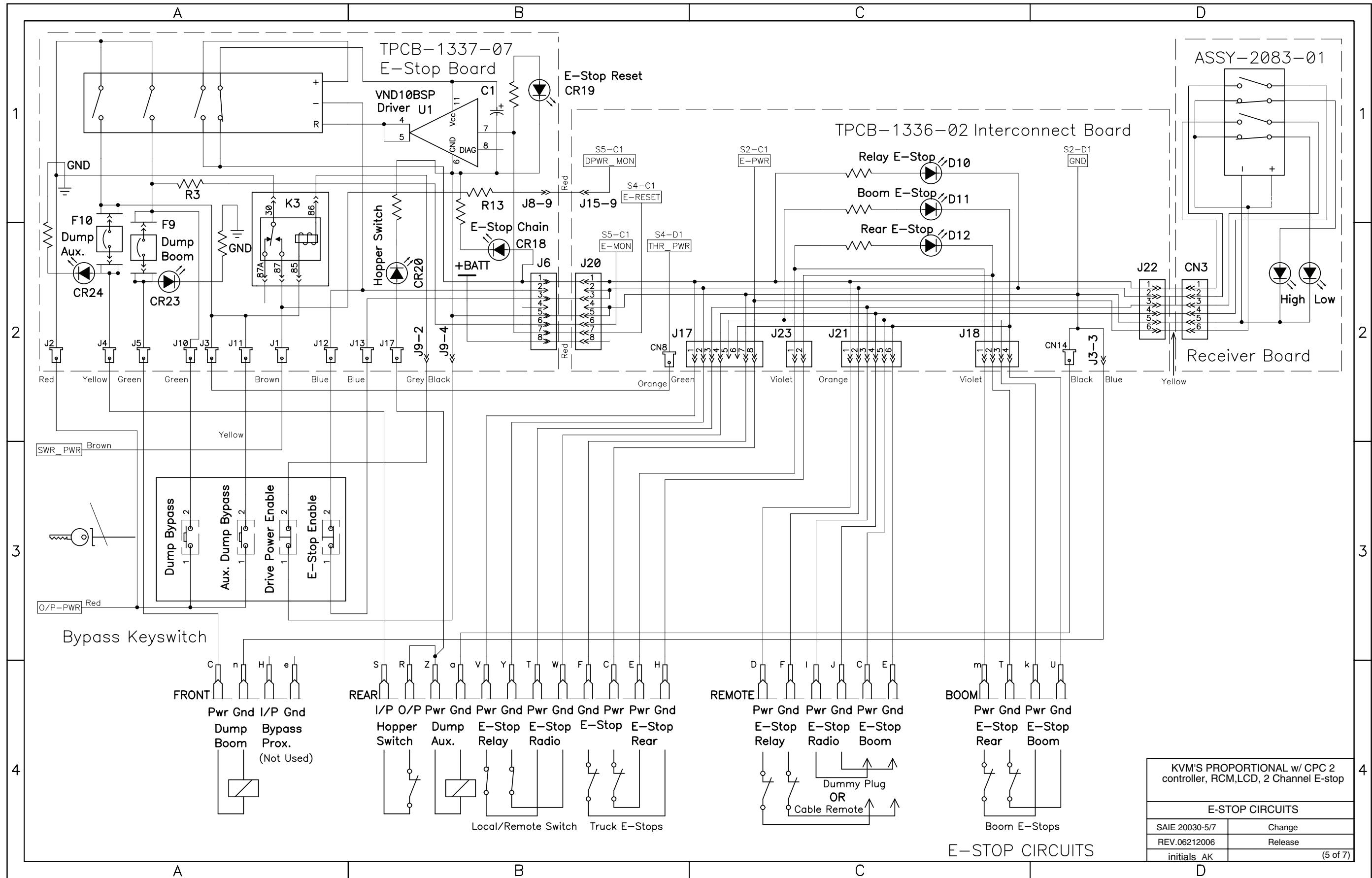
Page	Description
3	Cover Page
4	Power Circuits
5	E-Stop Circuits
6	Output Circuits
7	Input Circuits

KVM'S PROPORTIONAL w/ CPC 2 controller, RCM,LCD, 2 Channel E-stop	
Title Page	
SAIE 20032-3/7	Change
REV.06212006	Release
initials AK	(3 of 7)

20032-4

KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED

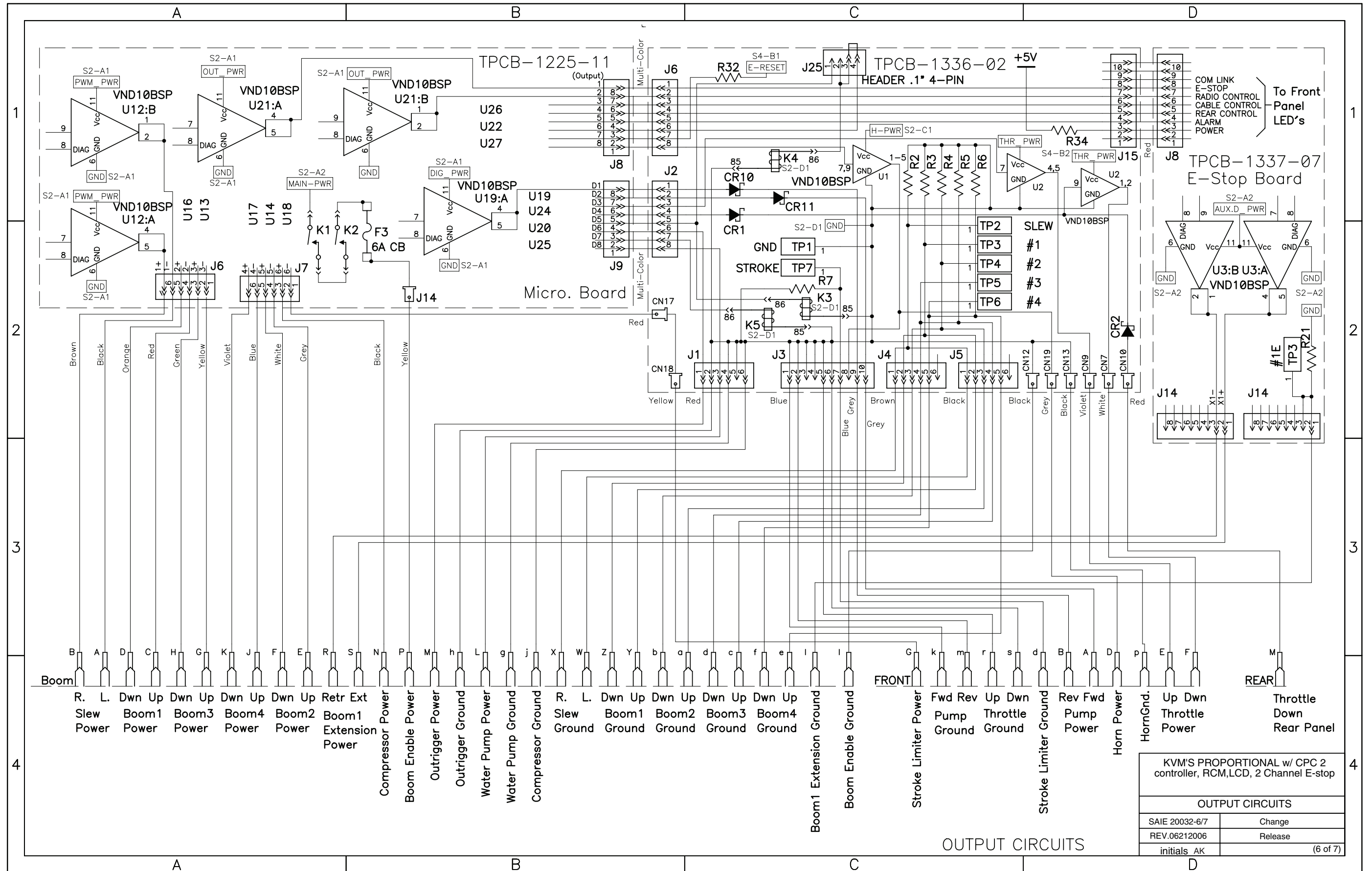


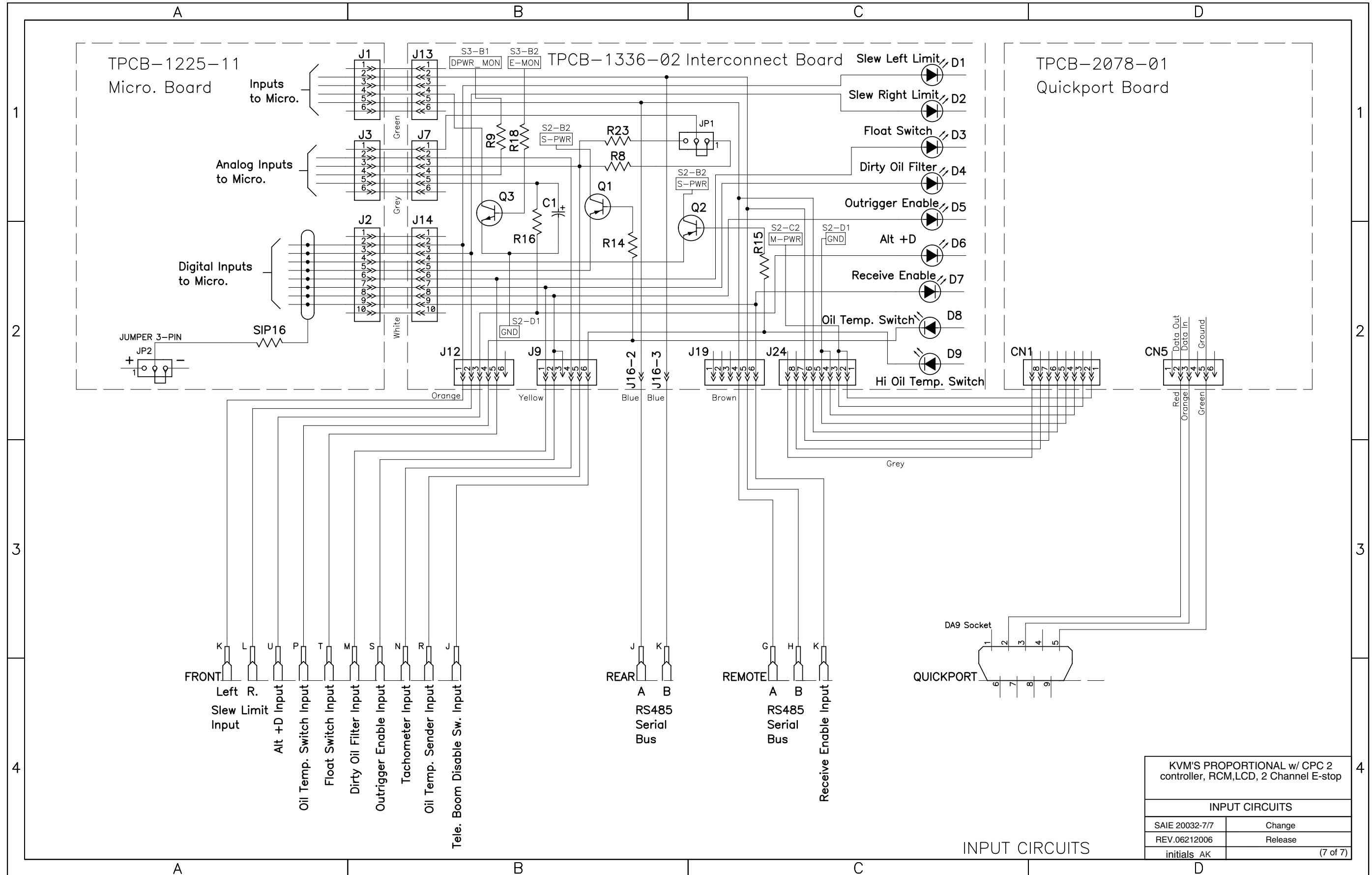


KVM'S PROPORTIONAL w/ CPC 2 controller, RCM,LCD, 2 Channel E-stop	
E-STOP CIRCUITS	
SAIE 20030-5/7	Change
REV.06212006	Release
initials AK	(5 of 7)

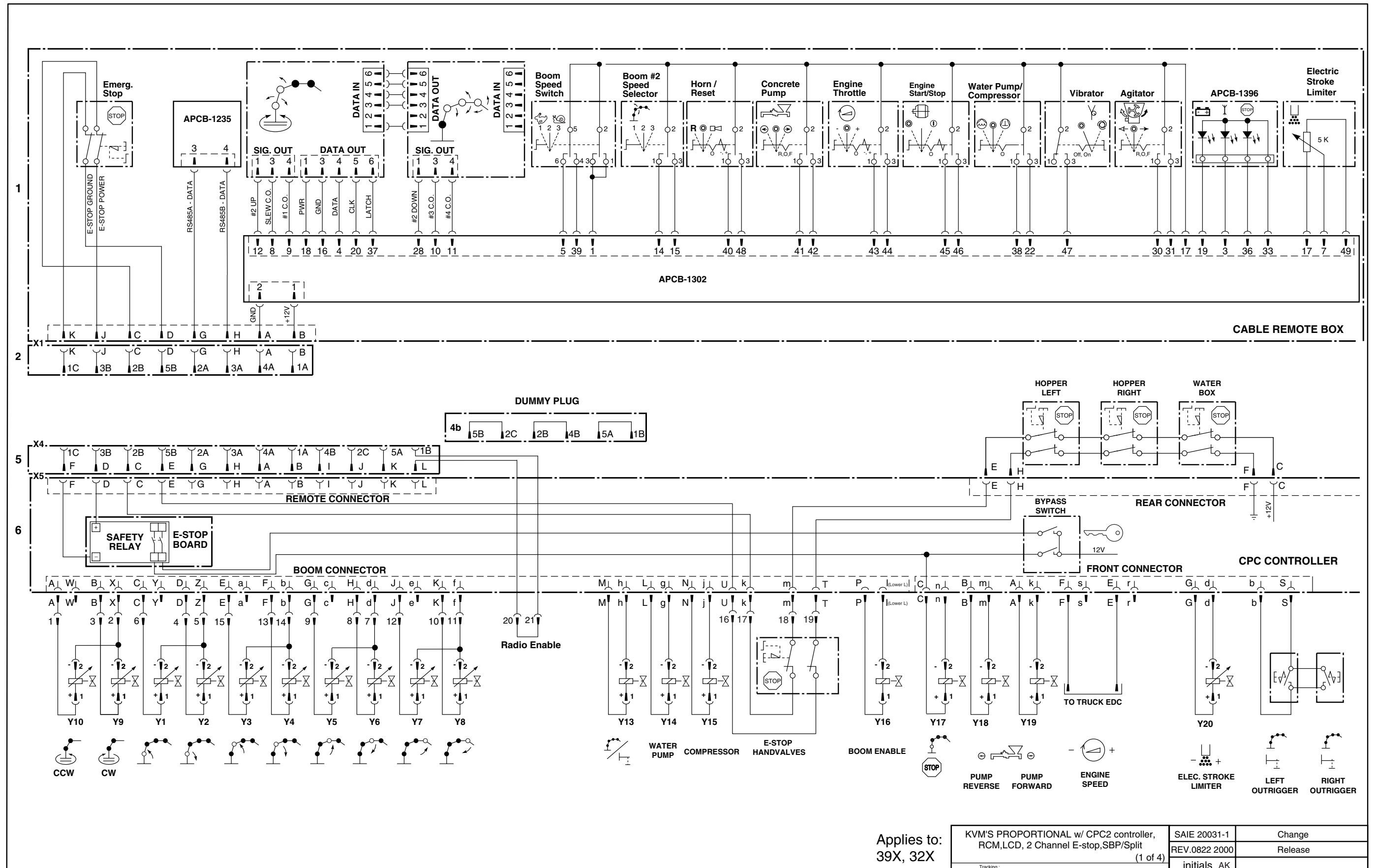
20032-6

KVM'S, CPC2 CONTROLLER, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LED



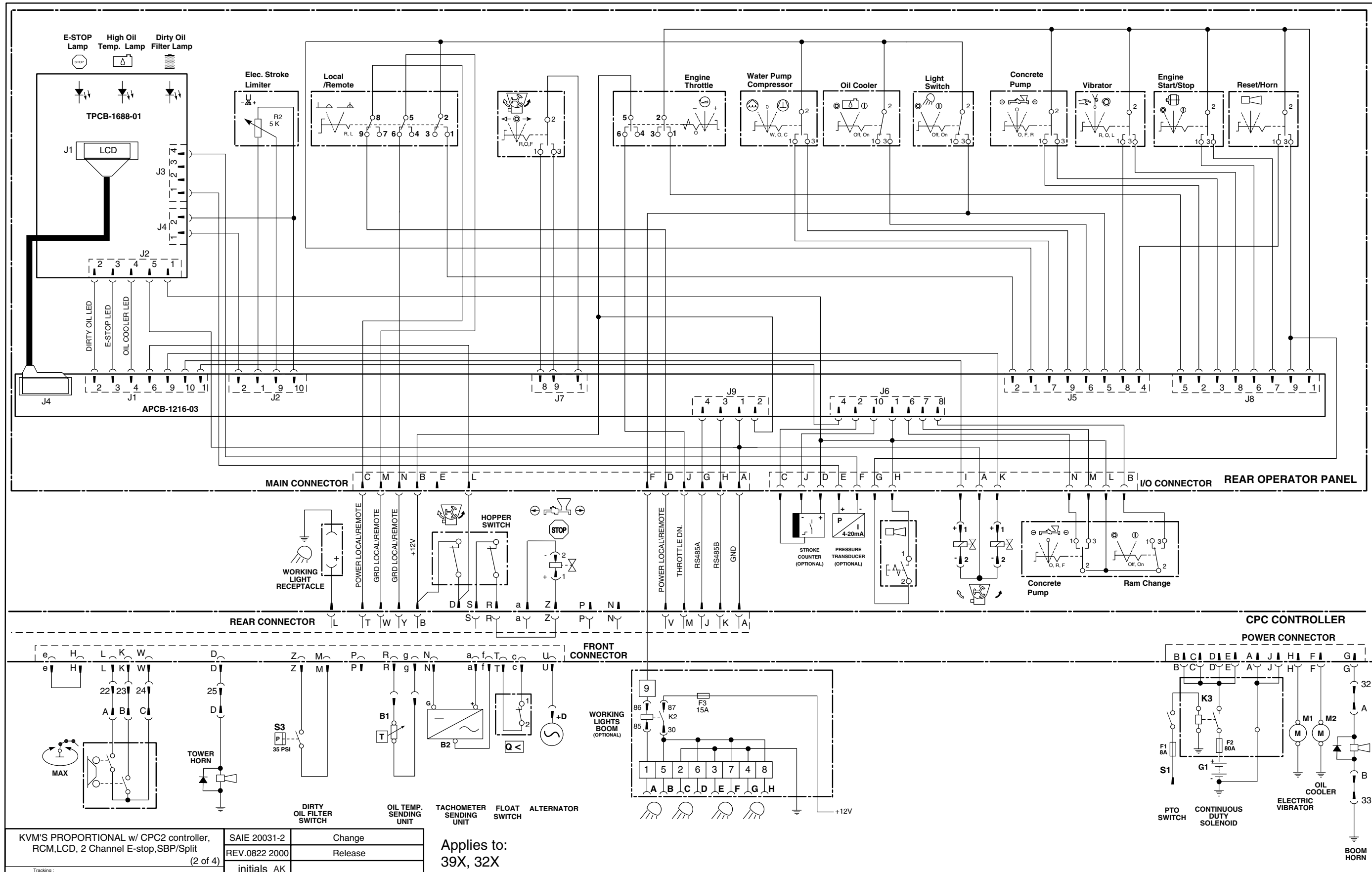


KVM'S PROPORTIONAL w/ CPC 2 controller, RCM,LCD, 2 Channel E-stop	
INPUT CIRCUITS	
SAIE 20032-7/7	Change
REV.06212006	Release
initials AK	(7 of 7)



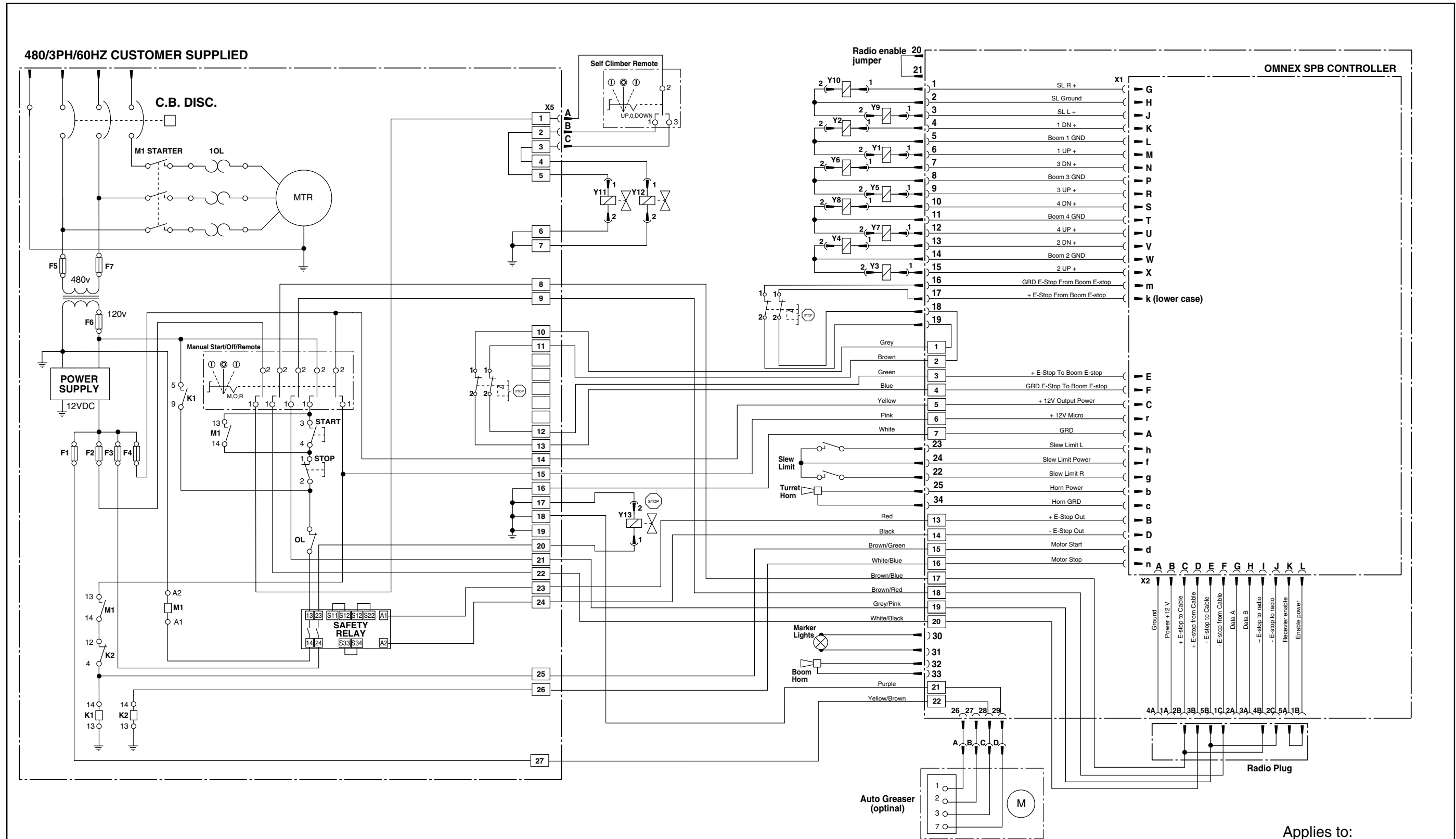
Applies to:
39X, 32X

KVM'S PROPORTIONAL w/ CPC2 controller, RCM,LCD, 2 Channel E-stop,SBP/Split (1 of 4)	SAIE 20031-1	Change
	REV.0822 2000	Release
	initials AK	



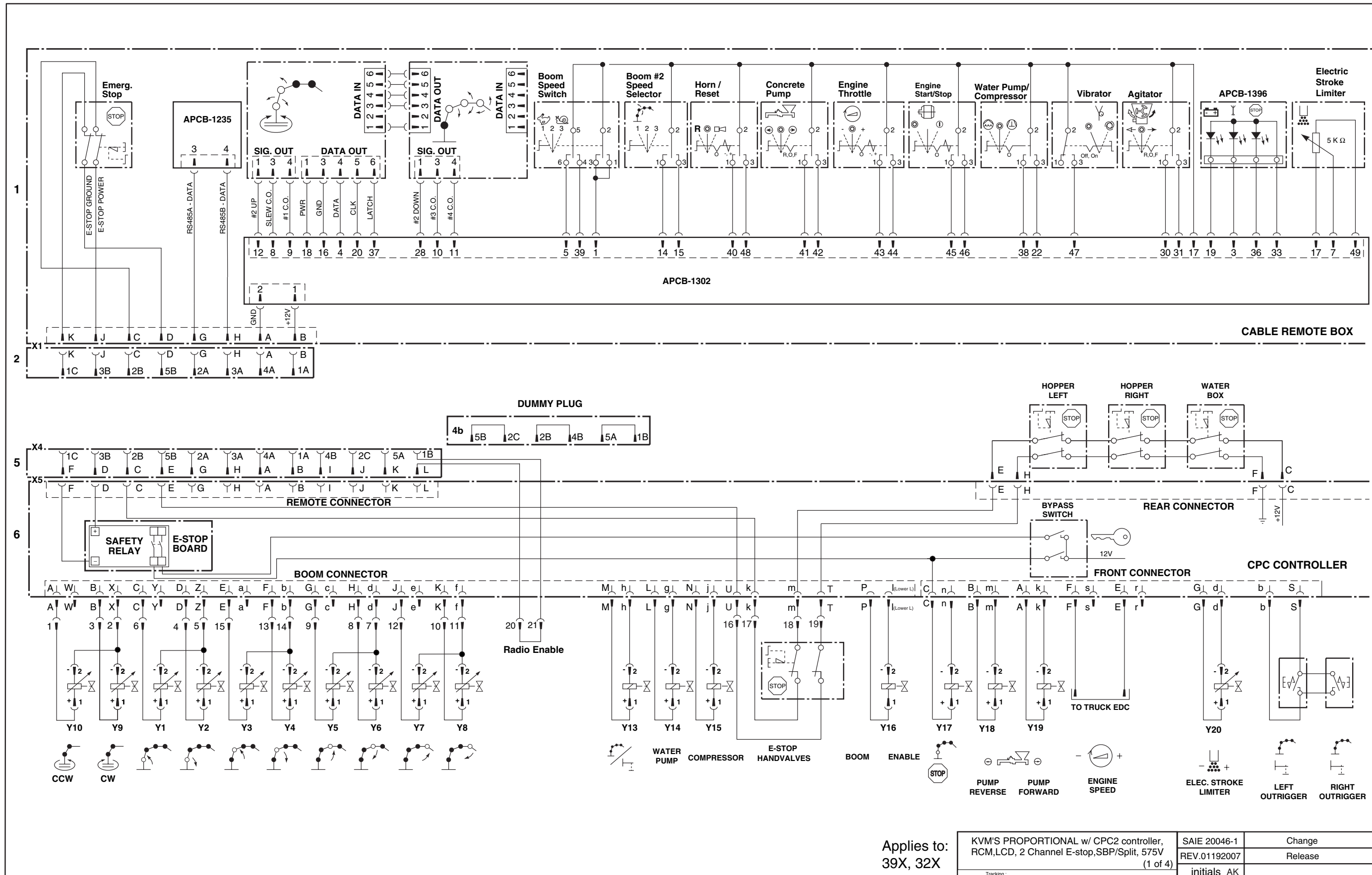
KVM'S PROPORTIONAL w/ CPC2 controller, RCM, LCD, 2 Channel E-stop, SBP/Split (2 of 4)	SAIE 20031-2	Change
	REV.0822 2000	Release
	initials AK	

Applies to:
39X, 32X



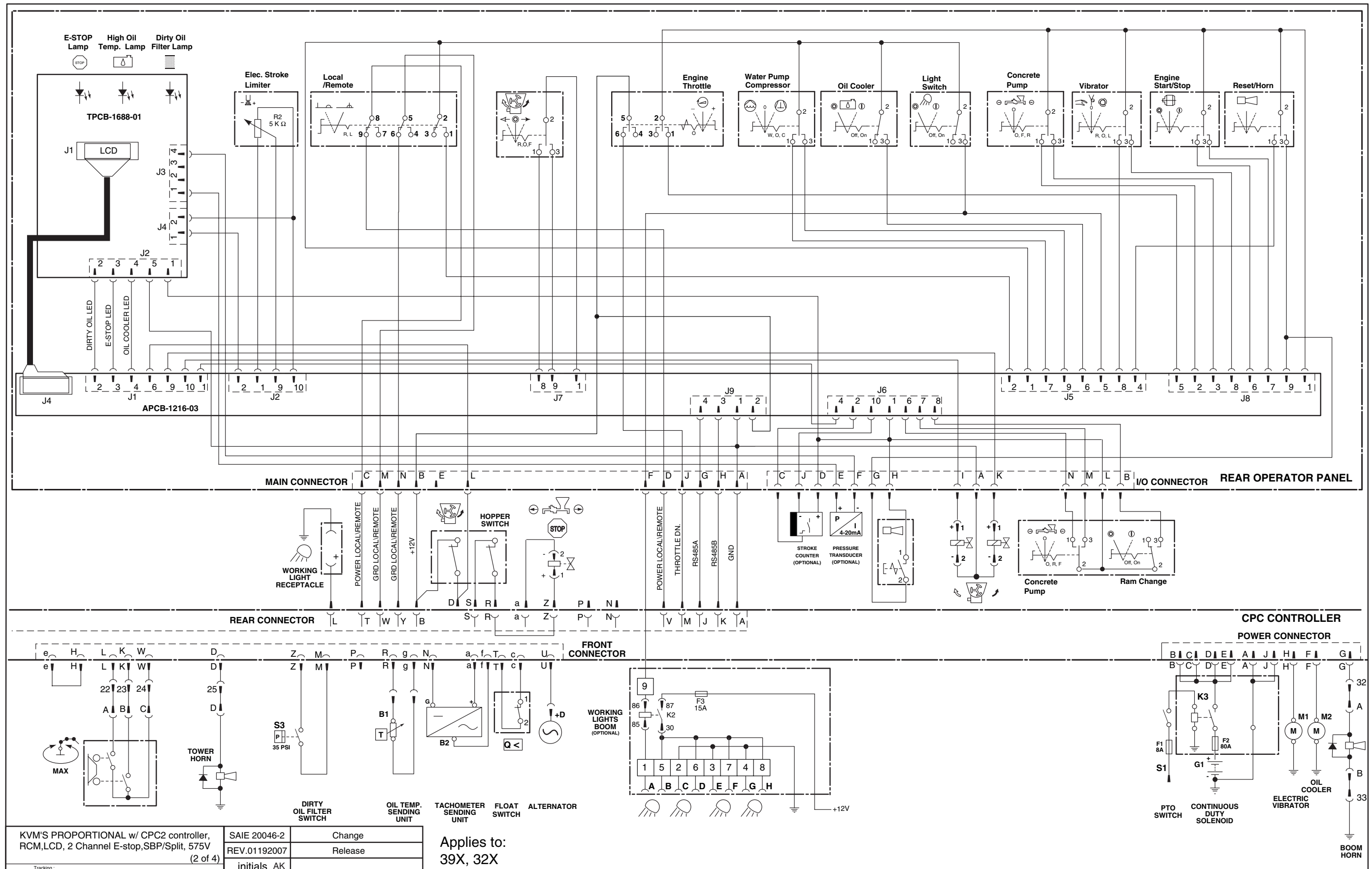
Applies to:
39X, 32X

KVM'S PROPORTIONAL w/ CPC2 controller, RCM,LCD, 2 Channel E-stop,SBP/Split (3of 4)	SAIE 20031-3	Change
	REV.0822 2000	Release
Tracking:	initials AK	



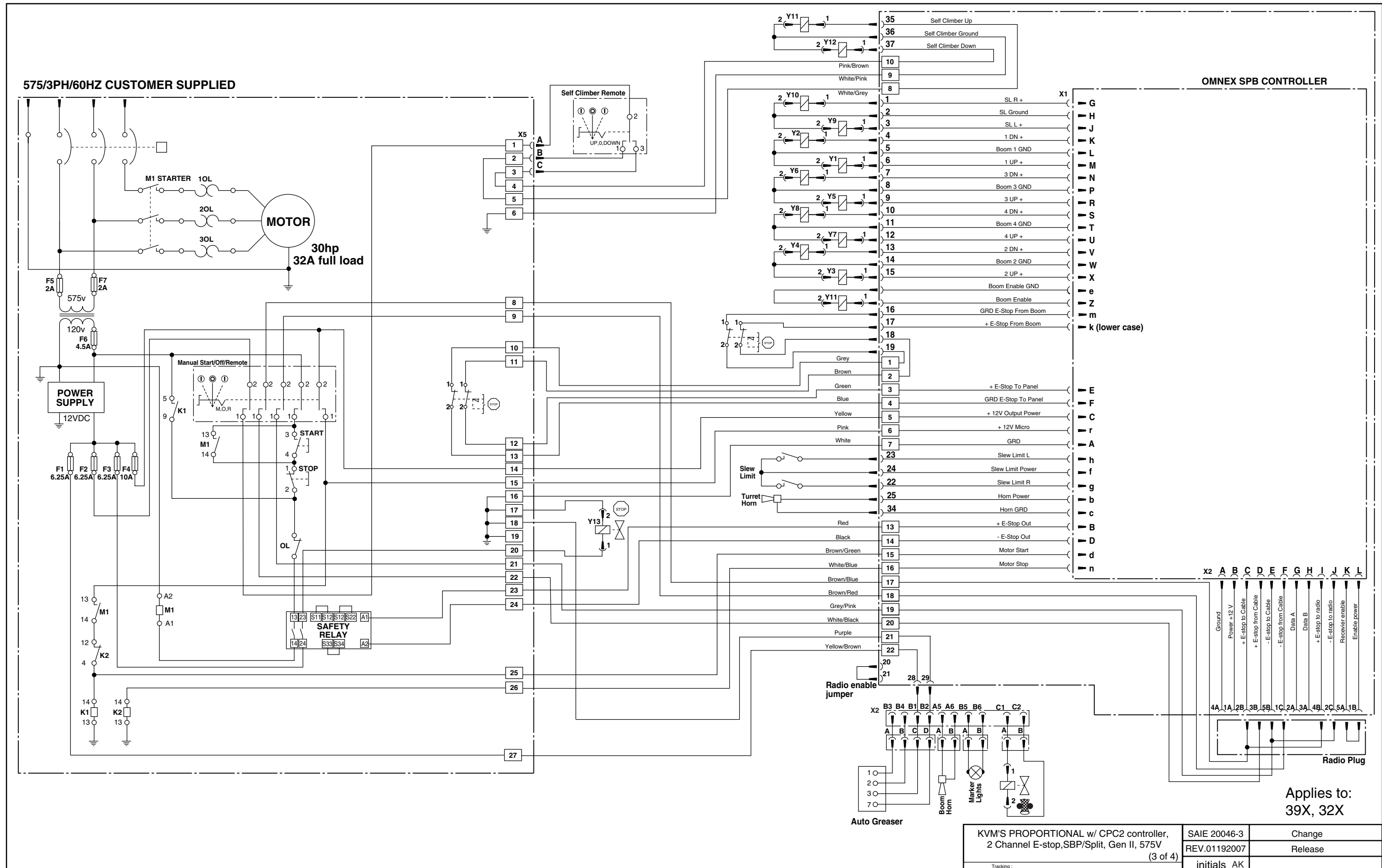
Applies to:
39X, 32X

KVM'S PROPORTIONAL w/ CPC2 controller, RCM,LCD, 2 Channel E-stop,SBP/Split, 575V (1 of 4)	SAIE 20046-1	Change
	REV.01192007	Release
	initials AK	



KVM'S PROPORTIONAL w/ CPC2 controller, RCM,LCD, 2 Channel E-stop,SBP/Split, 575V (2 of 4)	SAIE 20046-2	Change
	REV.01192007	Release
	initials AK	

Applies to:
39X, 32X

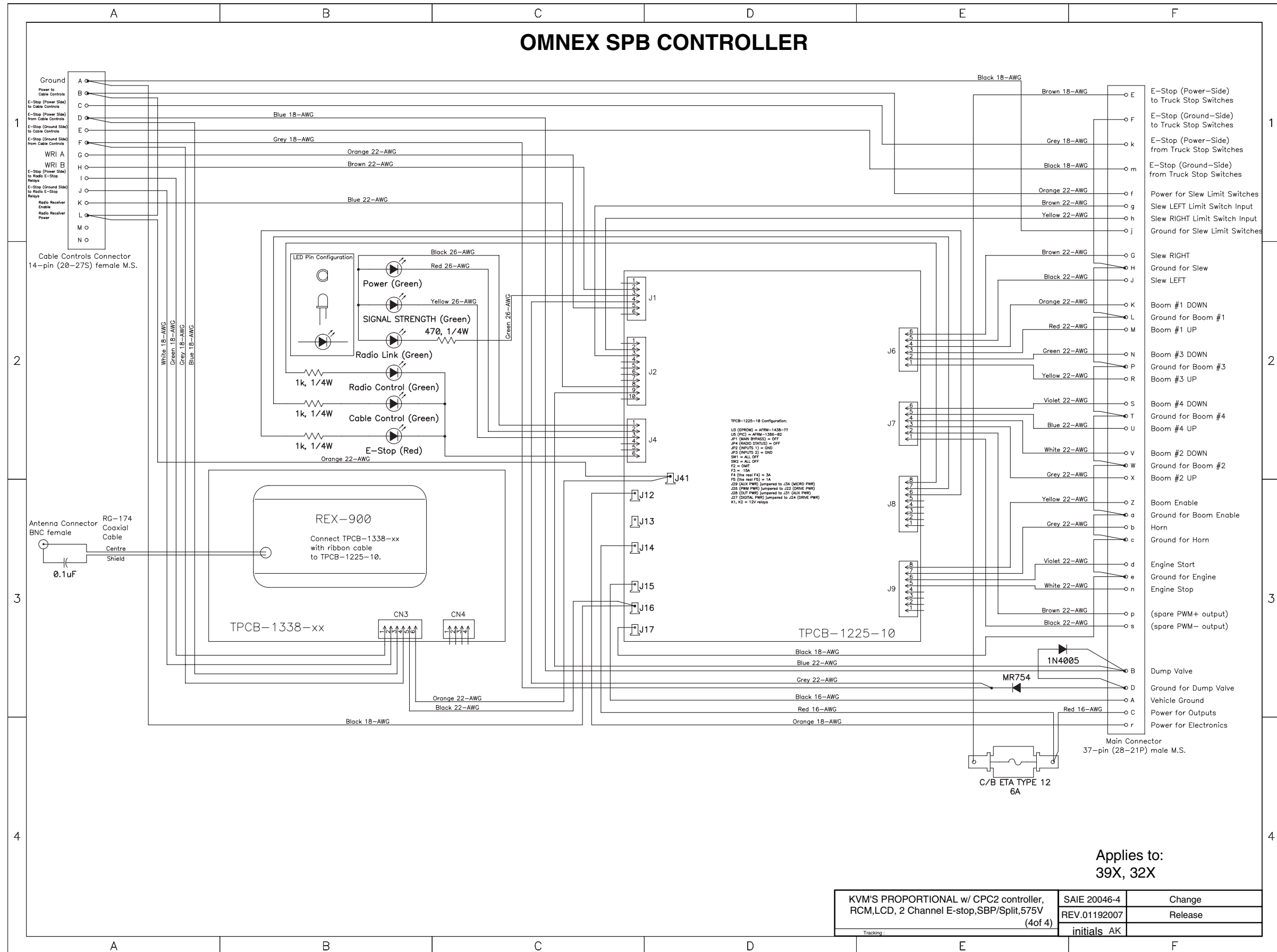


Applies to:
39X, 32X

KVM'S PROPORTIONAL w/ CPC2 controller, 2 Channel E-stop,SBP/Split, Gen II, 575V (3 of 4)	SAIE 20046-3 REV.01192007	Change Release
Tracking :	initials AK	

20046-4

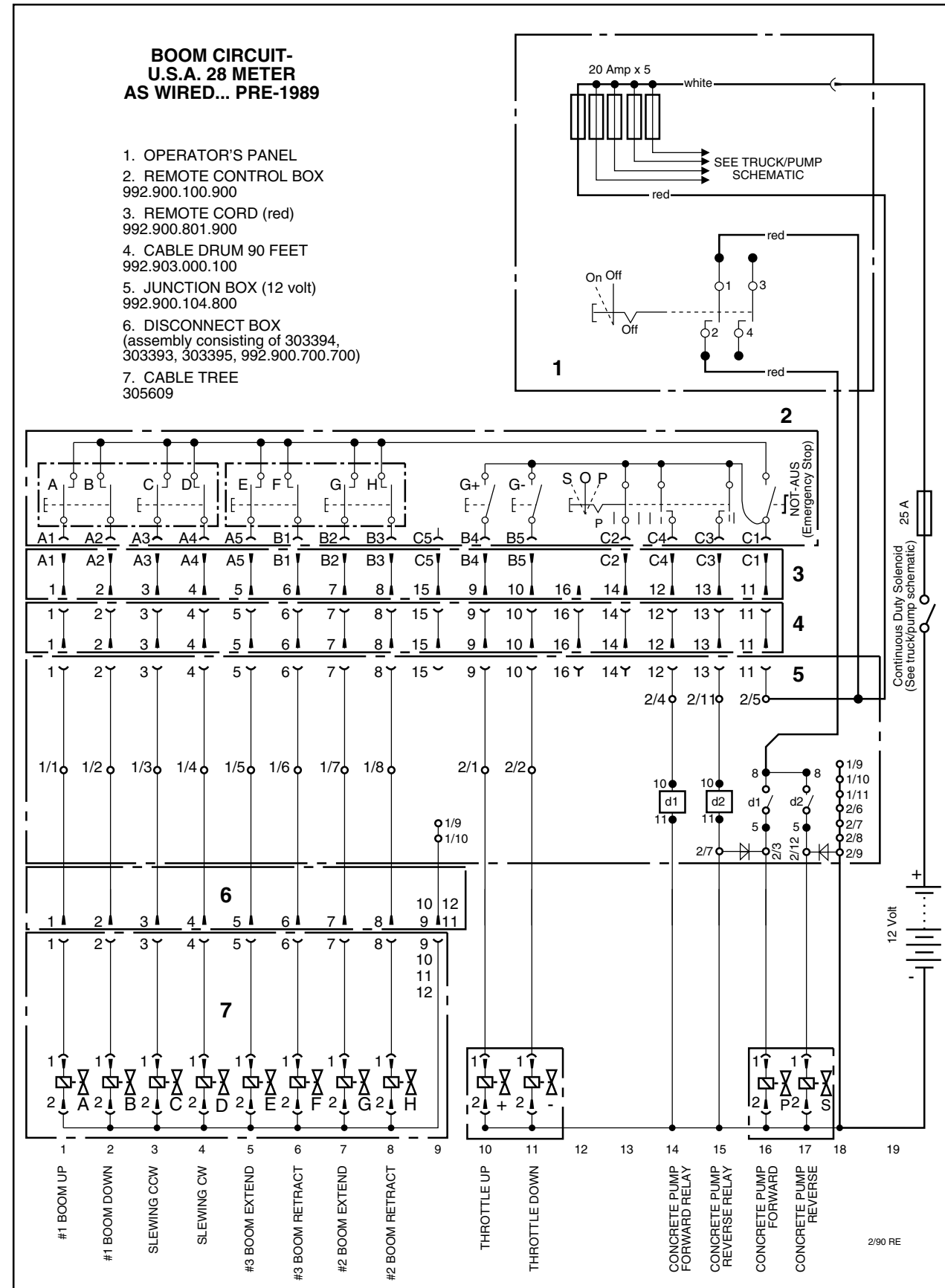
KVM 39X, 32 X, CPC2, PROPORTIONAL, 2 CHANNEL E-STOP, RCM, LCD, SPLIT



Applies to:
39X, 32X

Tracking:	KVM'S PROPORTIONAL w/ CPC2 controller, RCM,LCD, 2 Channel E-stop,SBP/Split,575V (4of 4)	SAIE 20046-4	Change
		REV.01192007	Release
		initials AK	

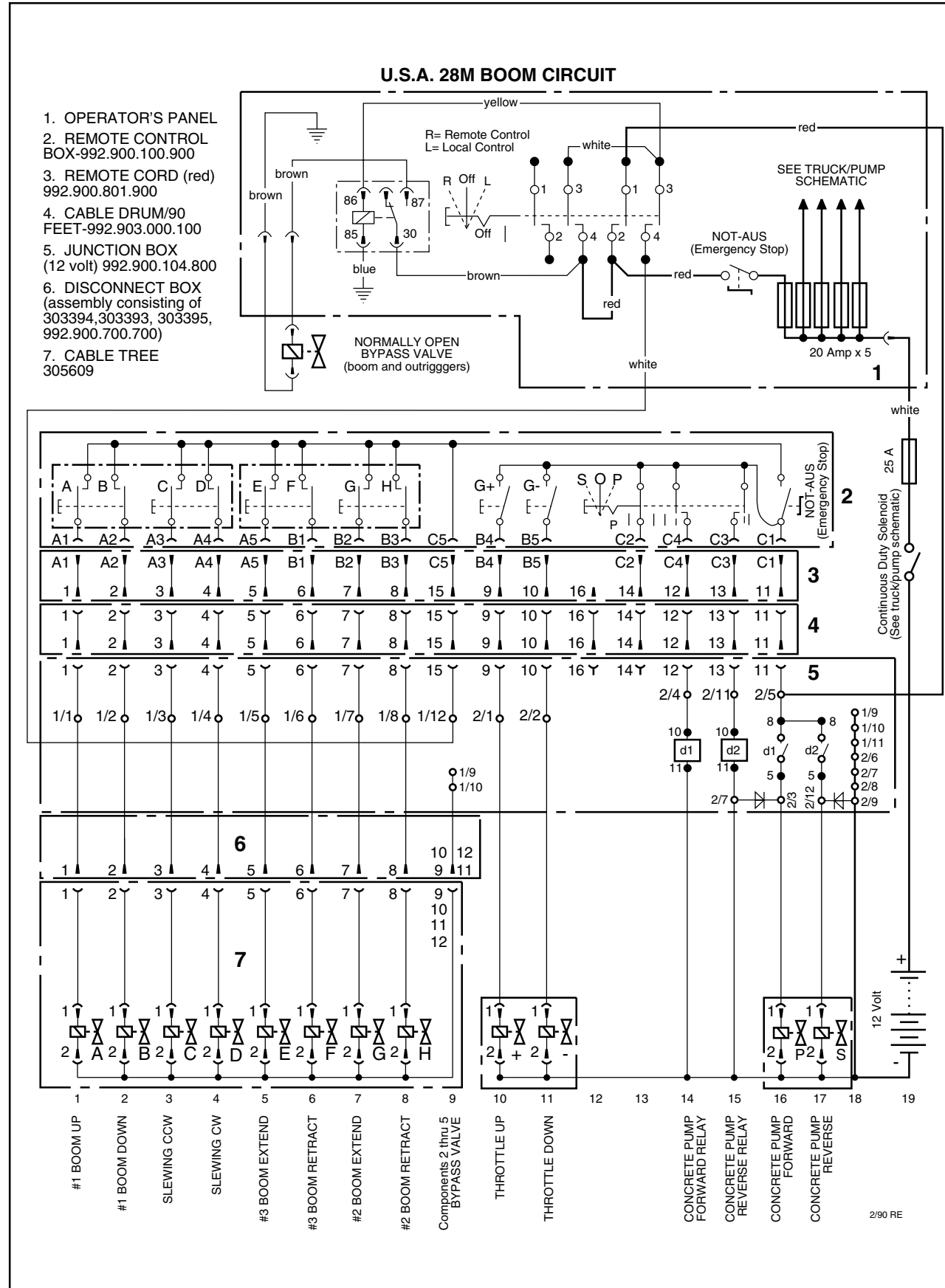
KVM 28M BOOM CIRCUIT (PRE-1989)



ELECTRICAL SCHEMATICS

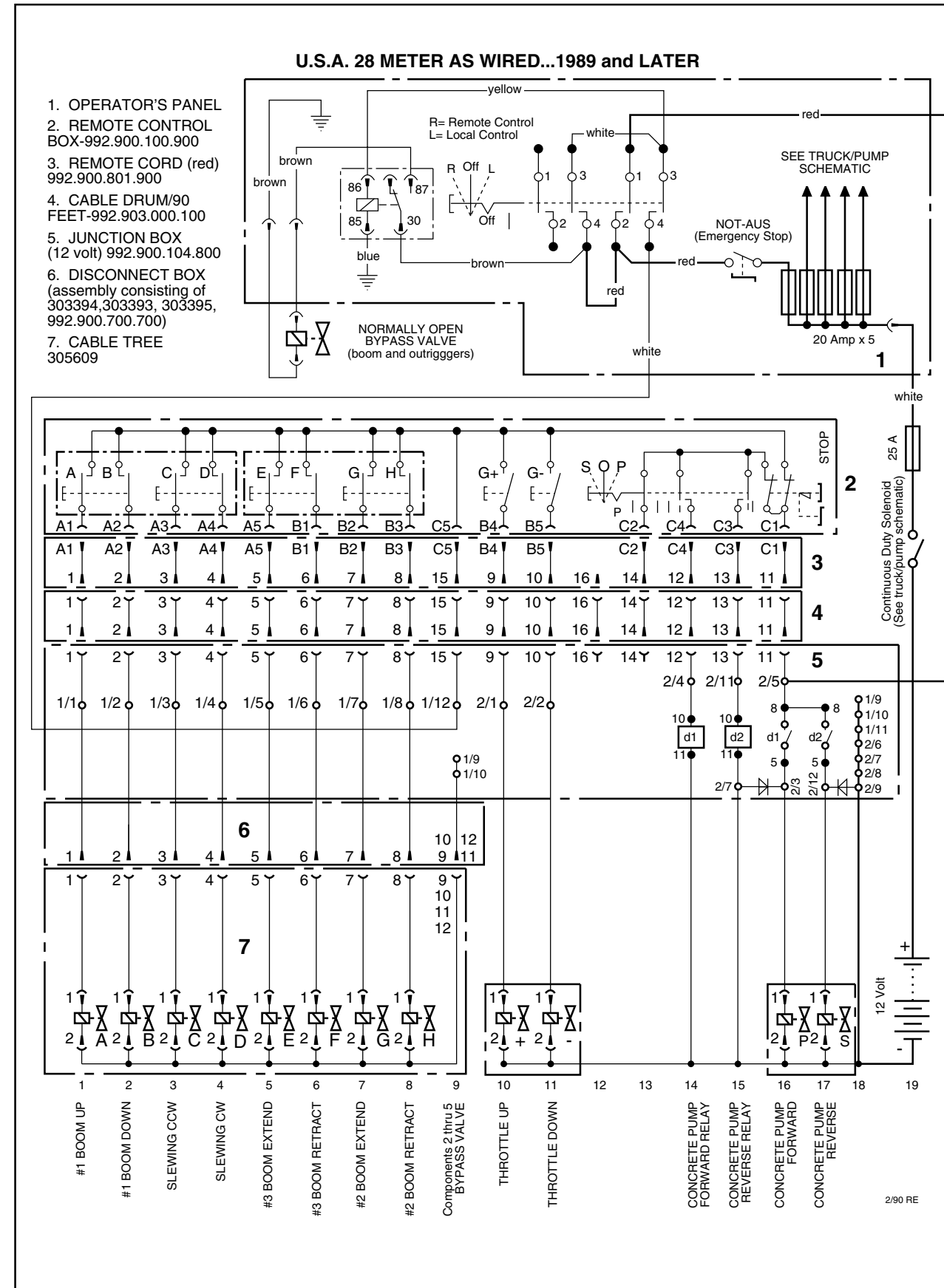
KVM 28M BOOM CIRCUIT - AS WIRED (USA)

N/A



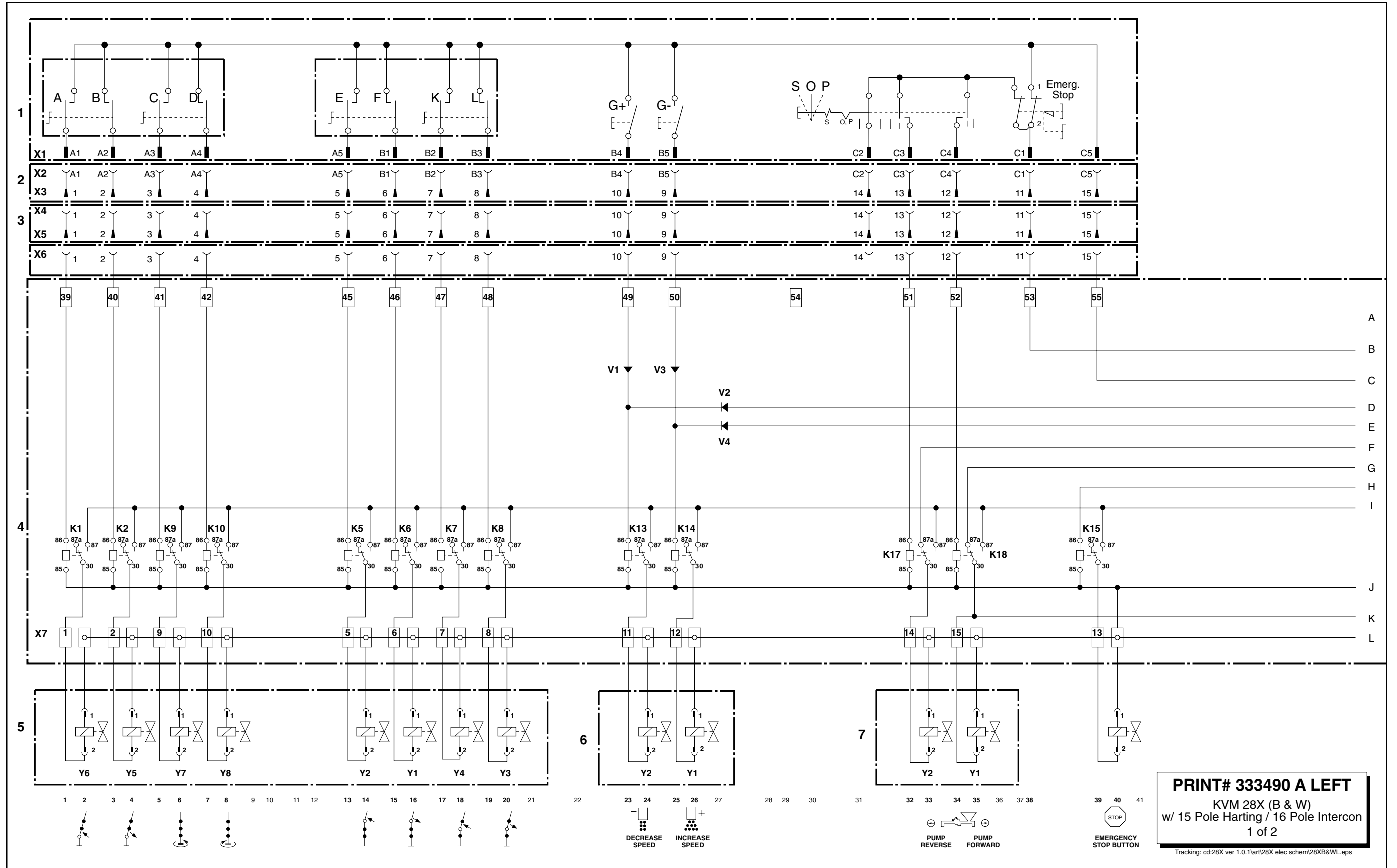
ELECTRICAL SCHEMATICS

KVM 28M BOOM CIRCUIT - C POST 1989

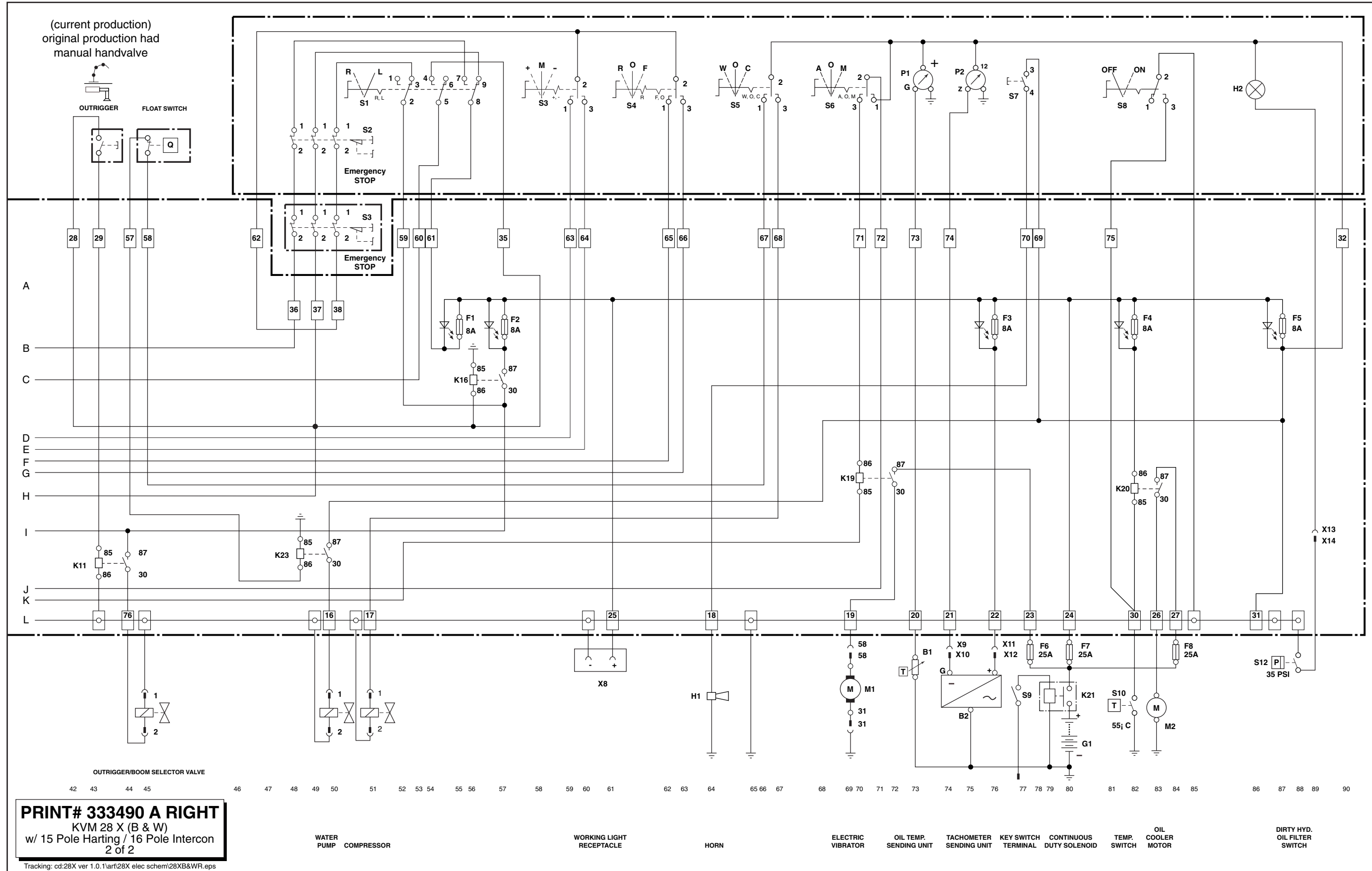


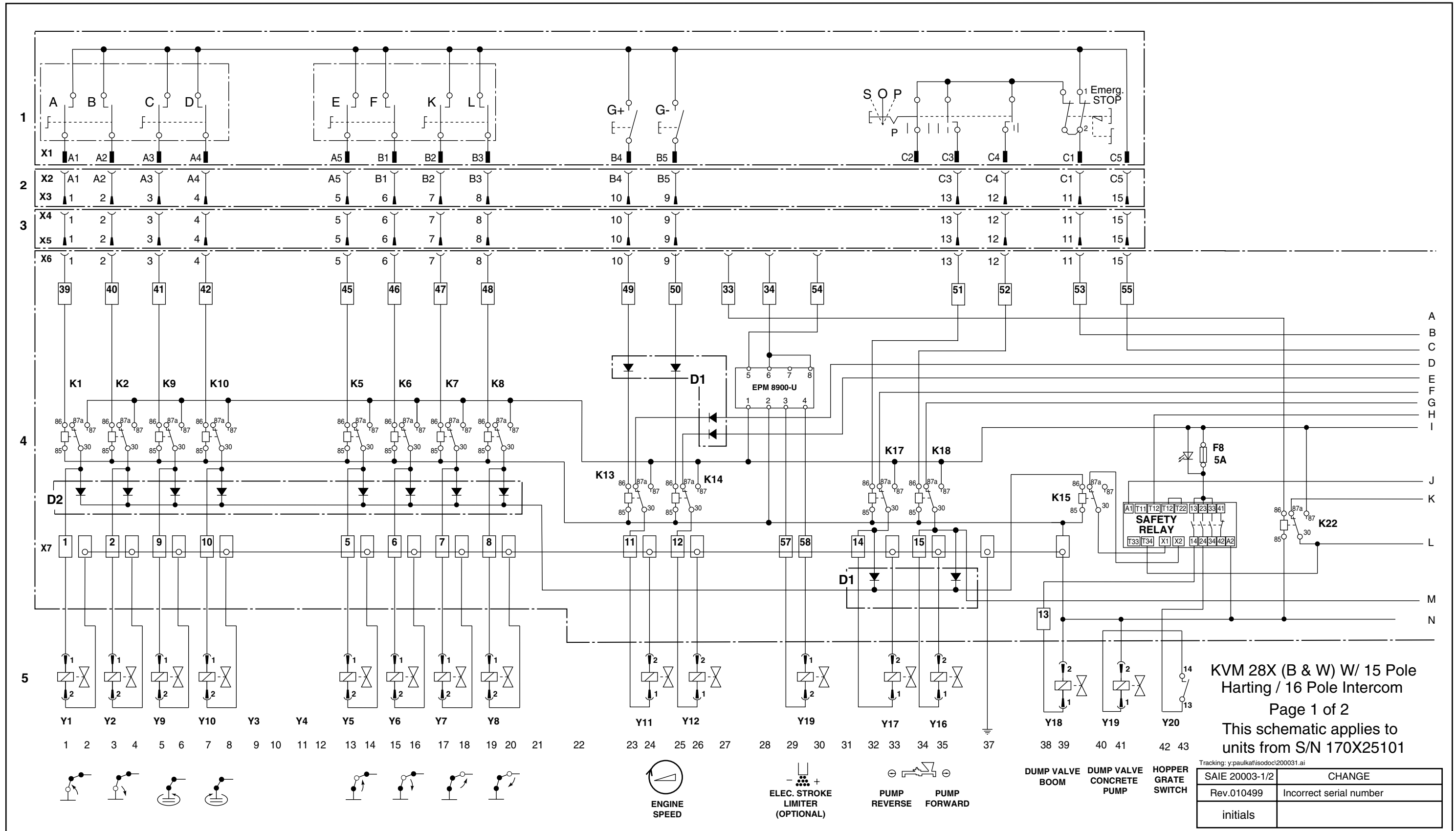
N/A

KVM 28X BLACK AND WHITE BOOM CIRCUIT (LEFT)



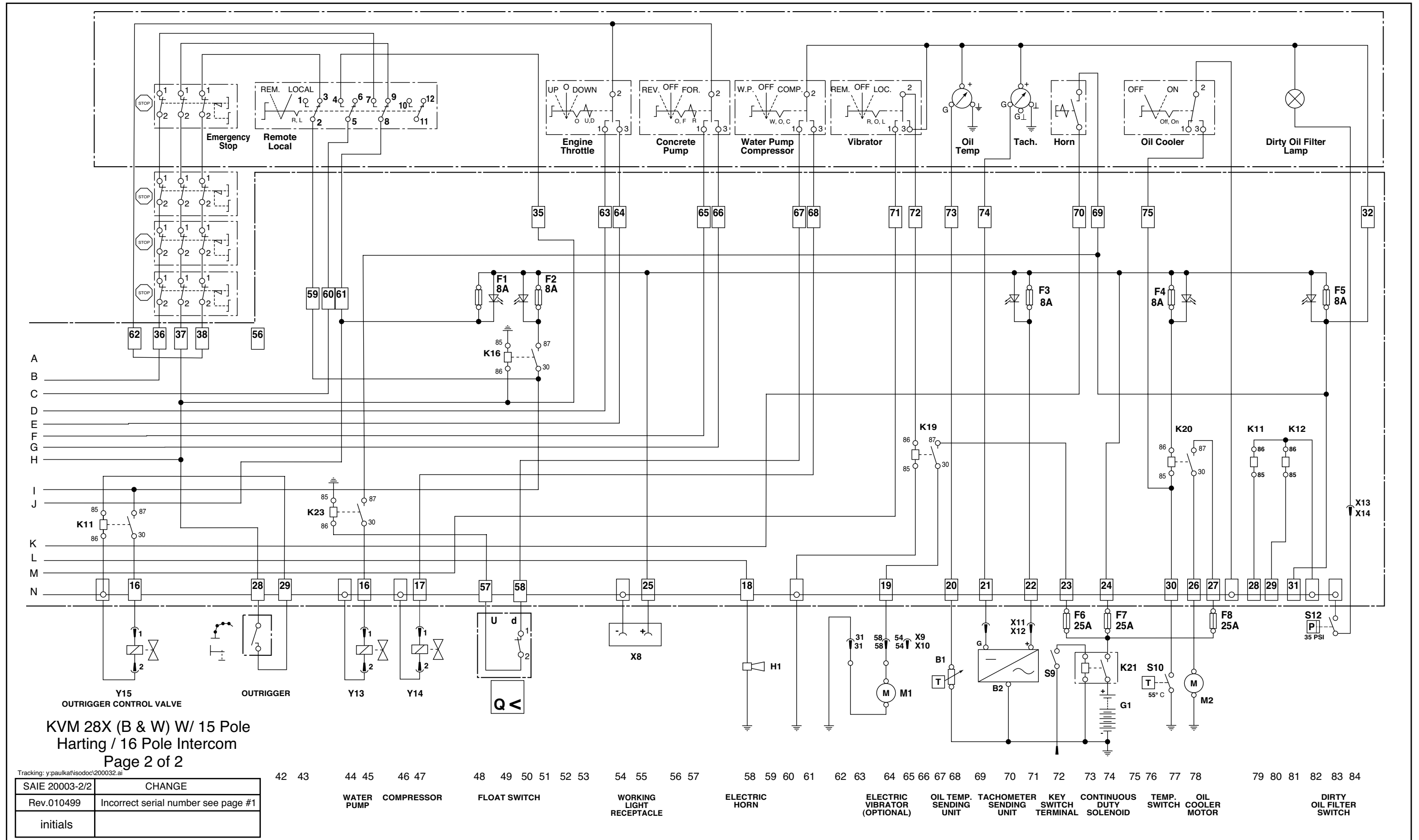
KVM 28X BLACK AND WHITE BOOM CIRCUIT (RIGHT)





20003-2

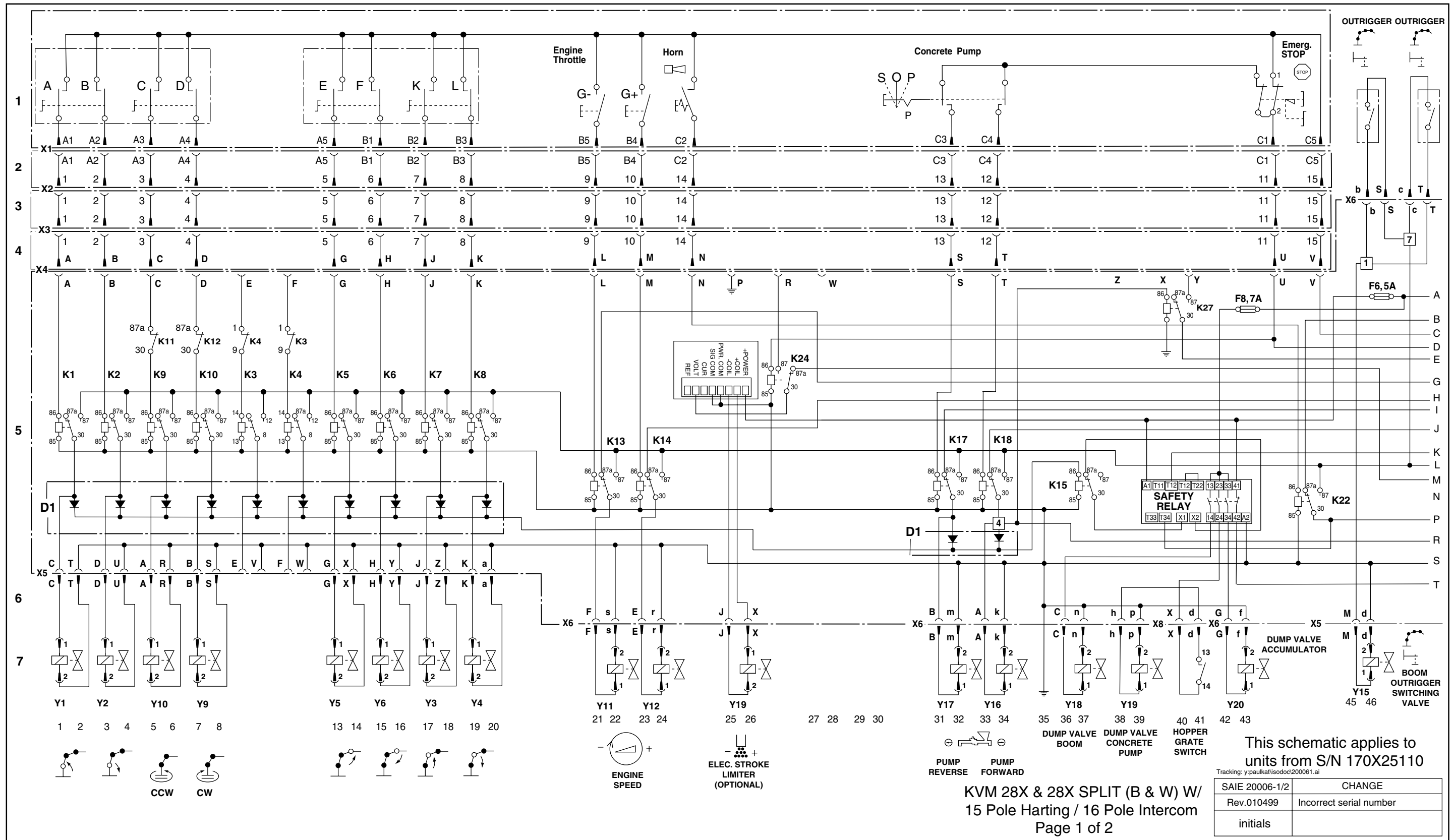
KVM 28X BLACK AND WHITE BOOM CIRCUIT WITH PILZ RELAY (RIGHT)



KVM 28X (B & W) W/ 15 Pole Harting / 16 Pole Intercom
Page 2 of 2

Tracking: y:paulkat@isodoc/200032.ai

SAIE 20003-2/2	CHANGE
Rev.010499	Incorrect serial number see page #1
initials	

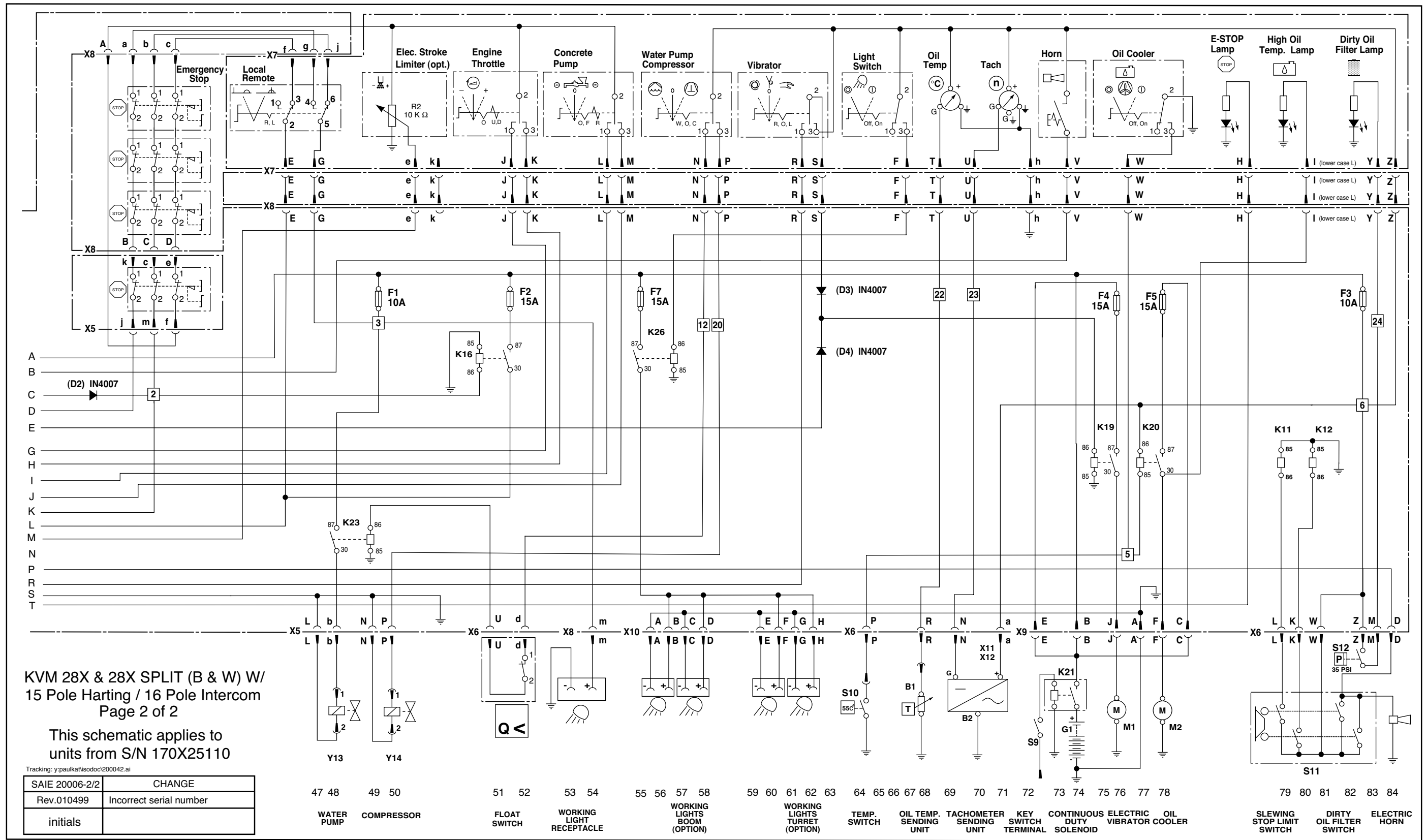


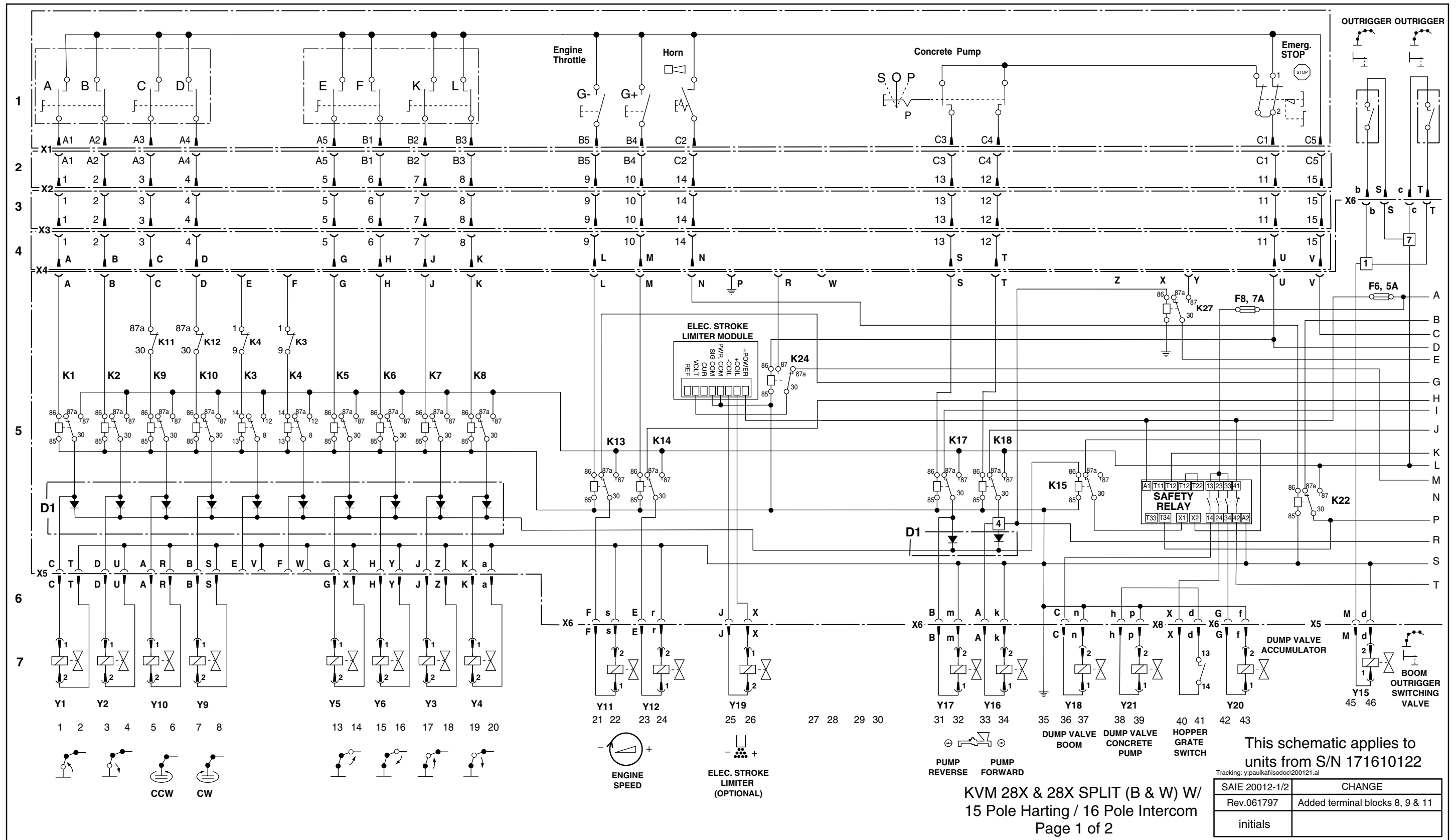
This schematic applies to units from S/N 170X25110

Tracking: y:paikatvisodoc200061.ai

SAIE 20006-1/2	CHANGE
Rev.010499	Incorrect serial number
initials	

**KVM 28X & 28X SPLIT (B & W) W/
15 Pole Harting / 16 Pole Intercom**
Page 1 of 2



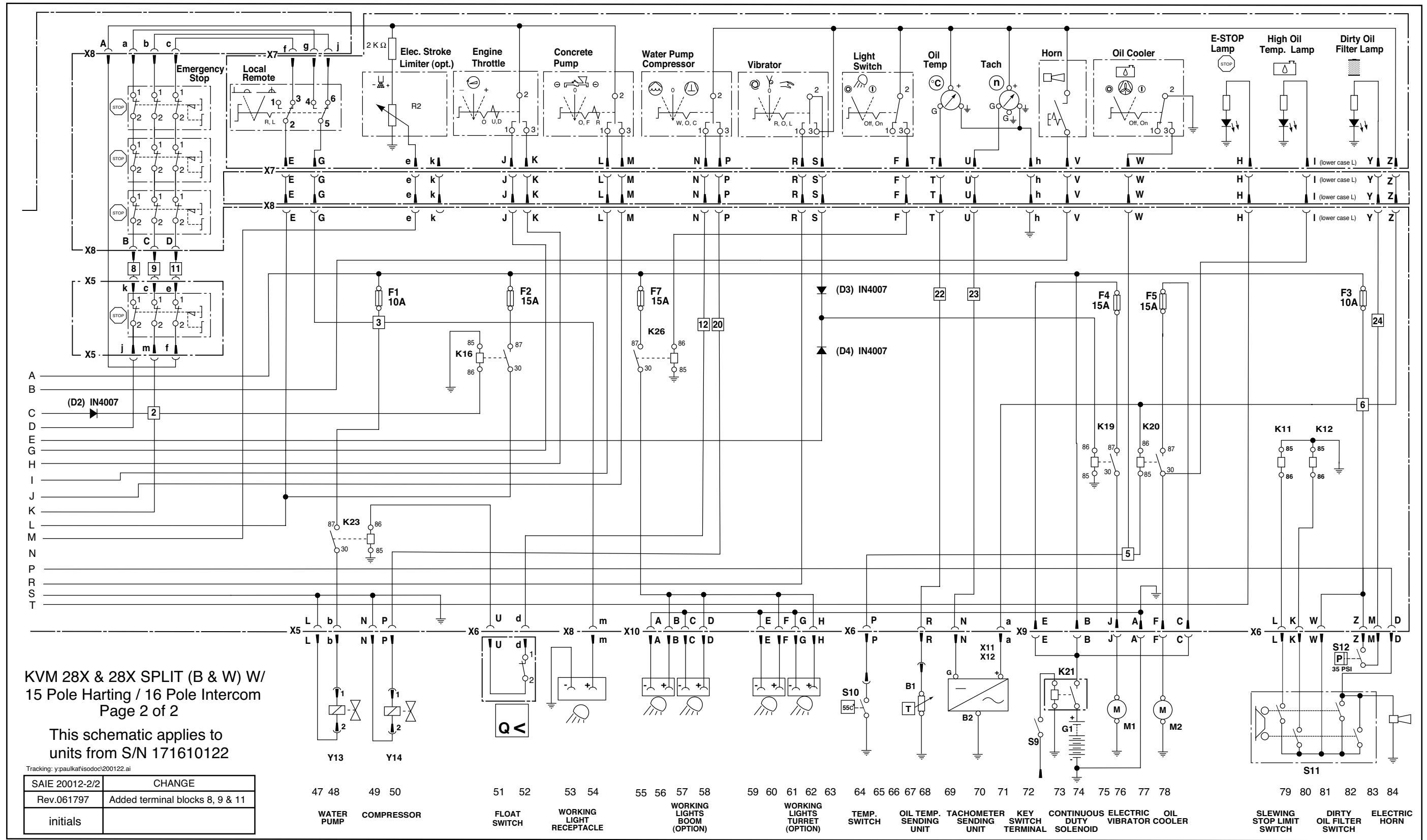


This schematic applies to units from S/N 171610122

Tracking: y:paulkaf/isodoc/200121.ai

SAIE 20012-1/2	CHANGE
Rev.061797	Added terminal blocks 8, 9 & 11
initials	

KVM 28X & 28X SPLIT (B & W) W/
15 Pole Harting / 16 Pole Intercom
Page 1 of 2



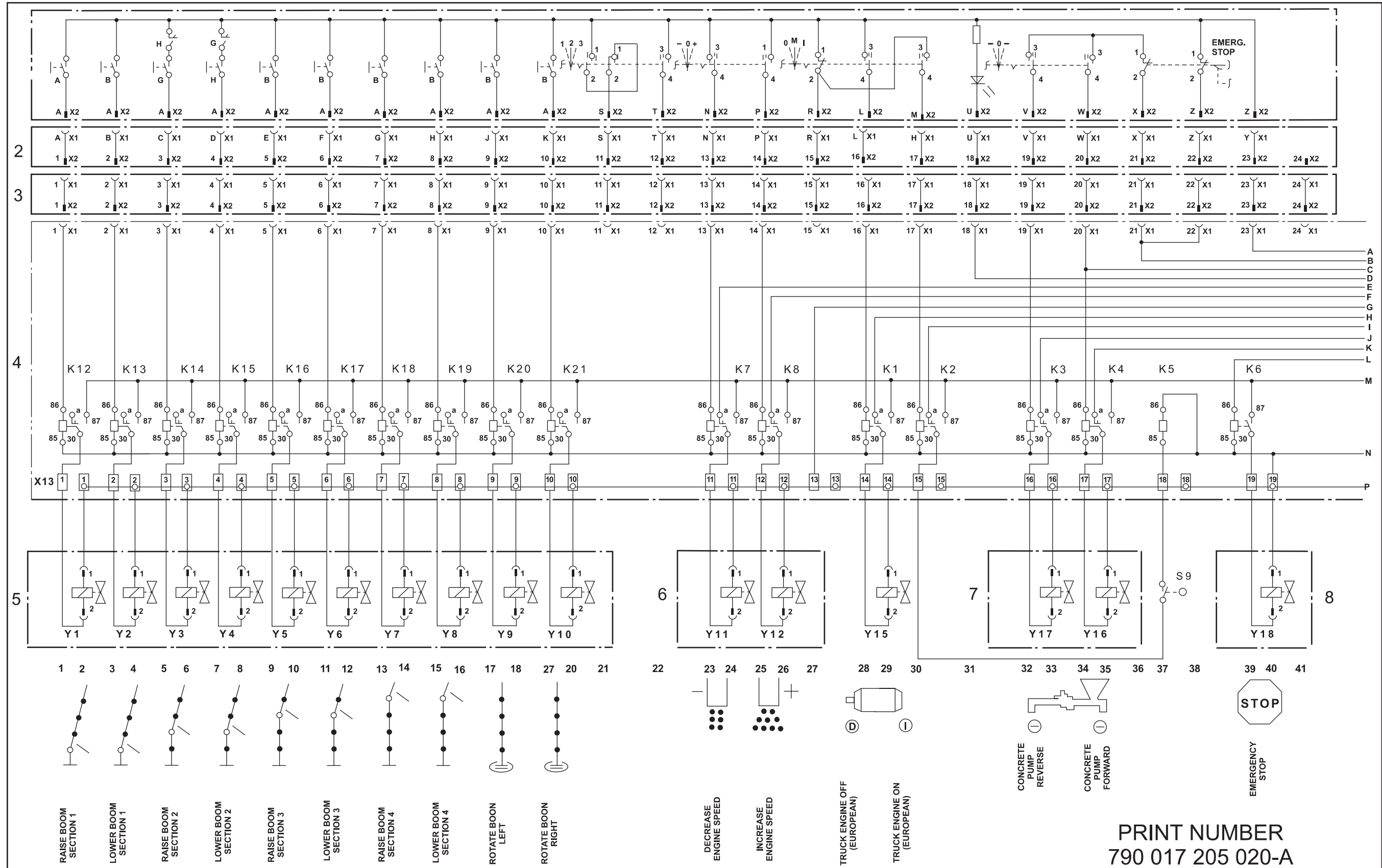
KVM 28X & 28X SPLIT (B & W) W/
15 Pole Harting / 16 Pole Intercom
Page 2 of 2
This schematic applies to
units from S/N 171610122

Tracking: y:paukafisodoc\200122.ai

SAIE 20012-2/2	CHANGE
Rev.061797	Added terminal blocks 8, 9 & 11
initials	

47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84
WATER PUMP		COMPRESSOR		FLOAT SWITCH		WORKING LIGHT RECEPTACLE		WORKING LIGHTS BOOM (OPTION)		WORKING LIGHTS TURRET (OPTION)		TEMP. SWITCH		OIL TEMP. SENDING UNIT		TACHOMETER SENDING UNIT		KEY SWITCH DUTY SOLENOID		CONTINUOUS ELECTRIC OIL VIBRATOR COOLER		SLEWING STOP LIMIT SWITCH		DIRTY OIL FILTER SWITCH		ELECTRIC HORN											

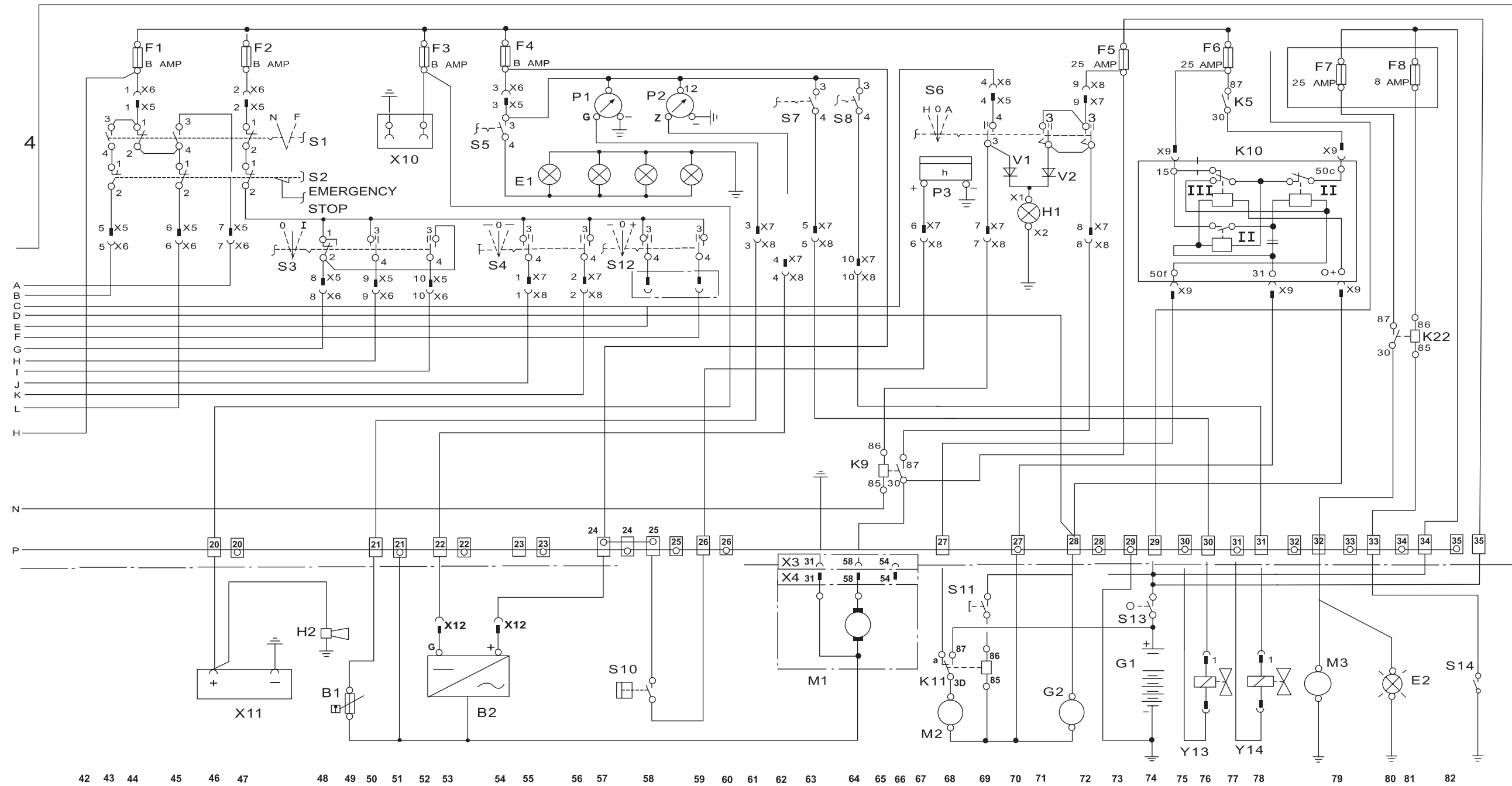
KVM 32M & 42M B & W BOOM CIRCUIT WITH REMOTE CONTROL (23 POLE BURNDY/24 POLE WEILAND) (EUROPEAN VERSION) (LEFT)



PRINT NUMBER
790 017 205 020-A

N/A

KVM 32M & 42M B & W BOOM CIRCUIT WITH REMOTE CONTROL (23 POLE BURNDY/24 POLE WEILAND) (EUROPEAN VERSION) (RIGHT)

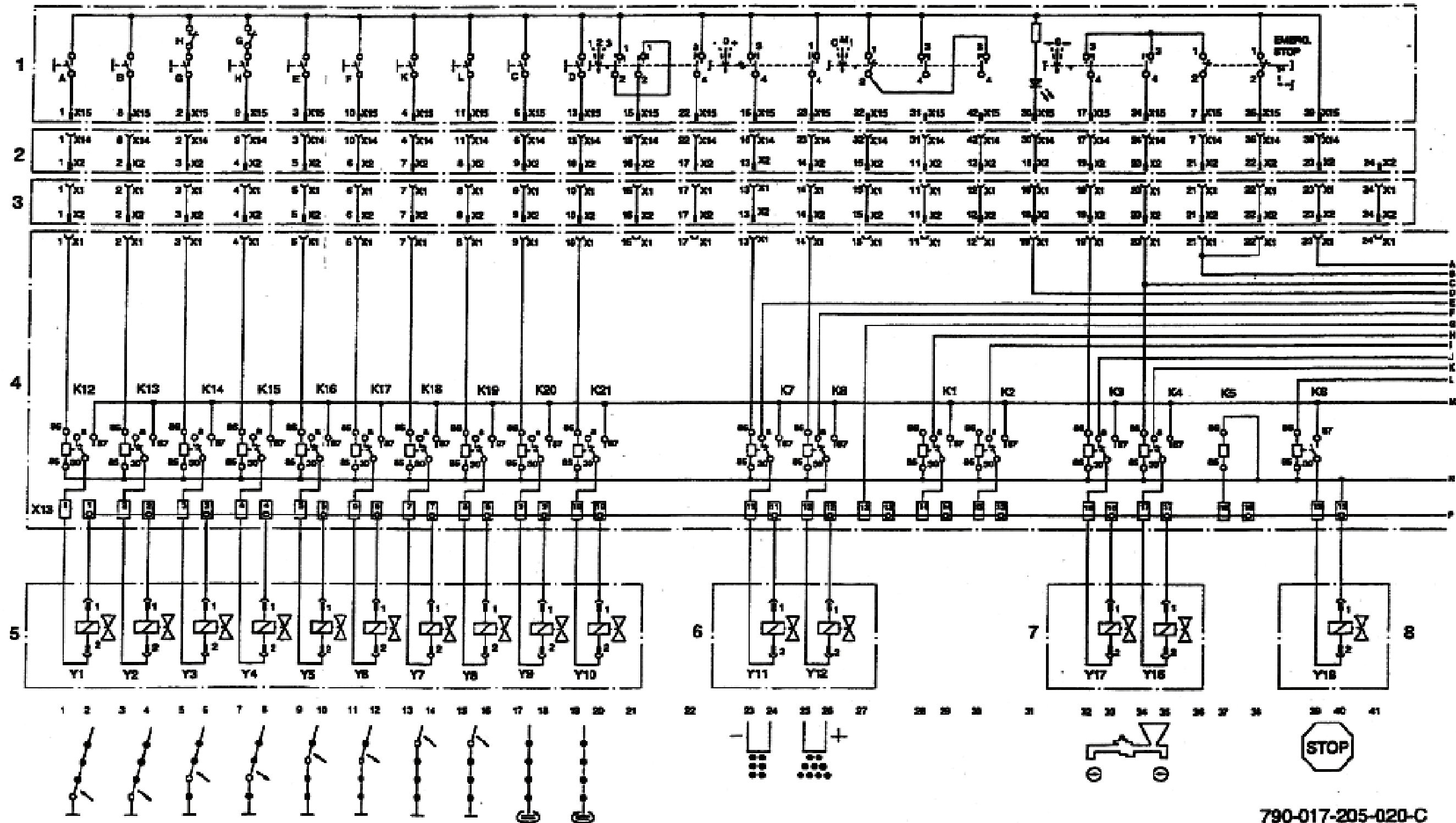


- 42 WORK LIGHT SOCKET
- 43 HONITORING SWITCH NEAR/FAR
- 44 EMERGENCY STOP
- 45 MOTOR ON/OFF
- 46 ELECTRIC HORN
- 47
- 48
- 49
- 50
- 51
- 52
- 53 CONCRETE PUMP HONITORING SWITCH
- 54 INSTAUMENT ILLUMINATION
- 55 OIL TEMPERATURE INDICATOR
- 56
- 57 TACHOMETER
- 58
- 59
- 60
- 61
- 62
- 63
- 64
- 65
- 66
- 67
- 68
- 69
- 70
- 71
- 72
- 73
- 74
- 75
- 76
- 77
- 78
- 79
- 80
- 81
- 82

PRINT NUMBER
790 017 205 020-A

COMPONENT LIST FOR KVM 32M AND 42M BLACK AND WHITE (EUROPEAN VERSION)

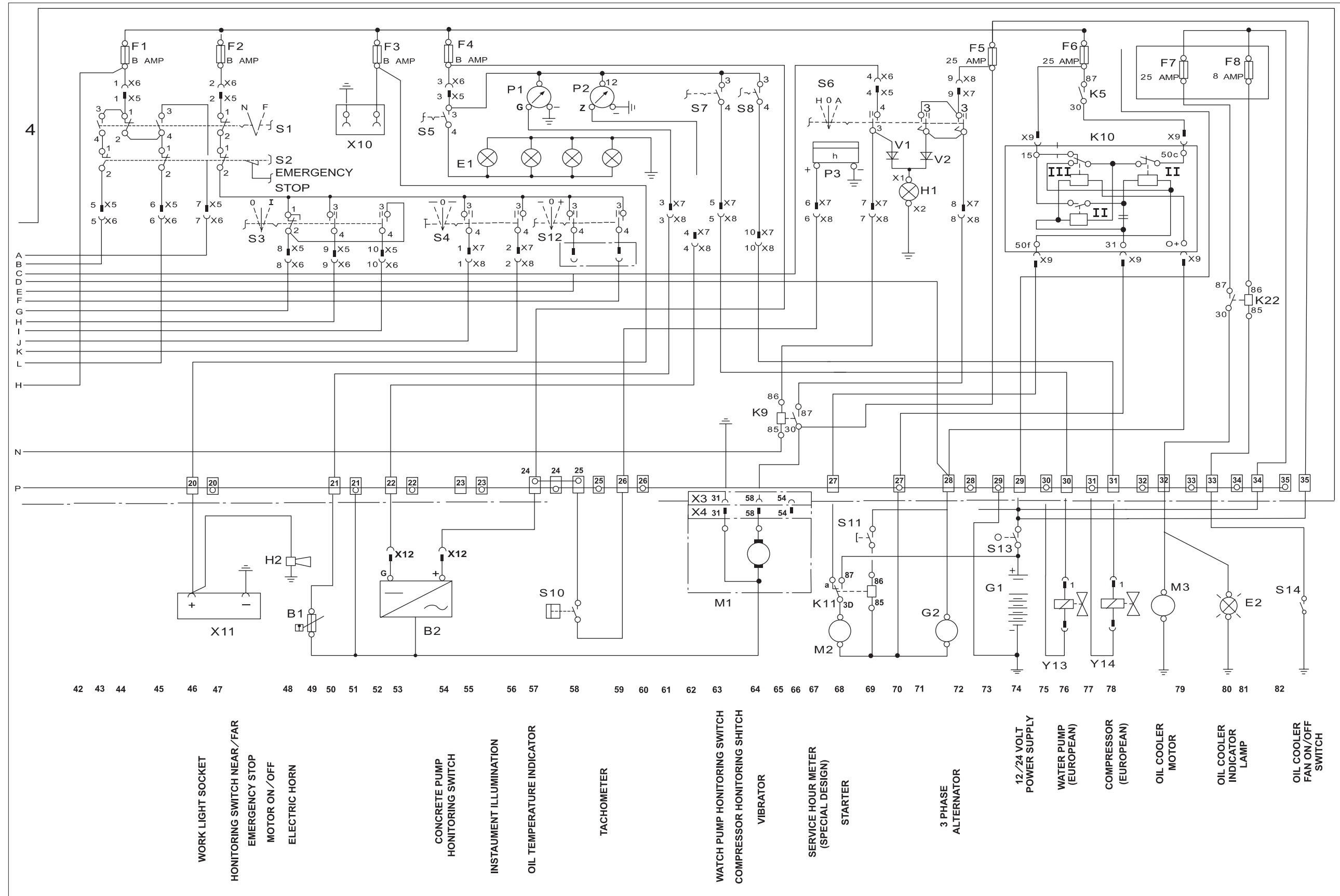
<u>POS</u>	<u>DESCRIPTION</u>	<u>POS</u>	<u>DESCRIPTION</u>
1	Remote Box (23 Pole Burndy)	S1	Local / Remote Switch (near / far)
2	Pin & Socket Connector (Burndy)	S2	Emergency Stop Button
3	Shielded Cable Reel (24 pole Weiland)	S3	Throttle Up / Down Switch (not used)
4	Control Panel (12 / 24 Volt)	S4	Concrete Pump (For / Rev) Switch
5	Cable Tree for Boom	S5	Instrument Illumination Switch
6	Cable Tree for Engine Speed	S6	Vibrator Switch
7	Cable Tree for Concrete Pump	S7	Water Pump Switch
8	Cable Tree for Emergency Stop	S8	Compressor Switch
9	Truck Cab	S9	Oil Cooler Switch
A1	Circuit Plate	S10	Power Take-Off Switch
B1	Temperature Sending Unit	S11	Ignition Switch
B2	Tachometer Sending Unit	S12	Engine Speed (Up / Down) Switch
E1	Instrument Illumination	S13	Horn Switch
E2	Oil Cooler Indicator Light	V1	Diode 1N 4007
E3	Hour Meter Indicator Light	V2	Diode 1N 4007
E4	Engine Indicator Light (not used)	V3	Diode 1N 4007
F1	Fuse (8 AMP)	X1	Socket Connector (24 Pole Weiland)
F2	Fuse (8 AMP)	X2	Pin Connector (24 Pole Weiland)
F3	Fuse (8 AMP)	X3	Socket Connector (3 Pole Bosch)
F4	Fuse (8 AMP)	X4	Pin Connector (3 Pole Bosch)
F5	Fuse (25 AMP)	X5	Pin Connector (10 Pole)
F6	Fuse (25 AMP)	X6	Socket Connector (10 Pole)
F7	Fuse (25 AMP)	X7	Pin Connector (10 Pole)
F8	Fuse (8 AMP)	X8	Socket Connector (10 Pole)
G1	12 Volt to 24 Volt Converter (DuVac II)	X9	Connector Housing (6 Pole)
G2	12 Volt Vehicle Battery	X10	Socket Connector (2 Pole) work light
H1	Vibrator Light (green)	X11	Socket Connector (2 Pole) work light
H2	HORN	X12	Multi-connector for Tachometer
KX		X13	Terminal Block
K1	Contact Relay	X14	Socket Connector (23 Pole Burndy)
K2	Contact Relay	X15	Pin Connector (23 Pole Burndy)
K3	Contact Relay	Y1	Control Solenoid (Boom 1-Extend)
K4	Contact Relay	Y2	Control Solenoid (Boom 1-Retract)
K5	Contact Relay	Y3	Control Solenoid (Boom 2-Extend)
K6	Contact Relay	Y4	Control Solenoid (Boom 2-Retract)
K7	Main Power Relay (24 Volt)	Y5	Control Solenoid (Boom 3-Extend)
K8	Main Power Relay (12 Volt)	Y6	Control Solenoid (Boom 3-Retract)
K9	Contact Relay	Y7	Control Solenoid (Boom 4-Extend)
K12	Contact Relay	Y8	Control Solenoid (Boom 4-Retract)
K13	Contact Relay	Y9	Control Solenoid (Boom Slew Left)
K14	Contact Relay	Y10	Control Solenoid (Boom Slew Right)
K15	Contact Relay	Y11	Control Solenoid (Engine Decrease)
M1	Vibrator Motor	Y12	Control Solenoid (Engine Increase)
M2	Oil Cooler Motor	Y13	Control Solenoid (Water Pump)
P1	Oil Temperature Indicator	Y14	Control Solenoid (Compressor)
P2	Tachometer	Y16	Control Solenoid (Conc. Pump For.)
P3	Service Hour Meter	Y17	Control Solenoid (Conc. Pump Rev.)
		Y18	Emergency Stop (Dump Valve)
		Y19	Electric Stroke Limiter



790-017-205-020-C

N/A

KVM 32M & 42M B & W BOOM CIRCUIT WITH REMOTE CONTROL (42 POLE HARTING/24 POLE WEILAND) (USA VERSION) (RIGHT)

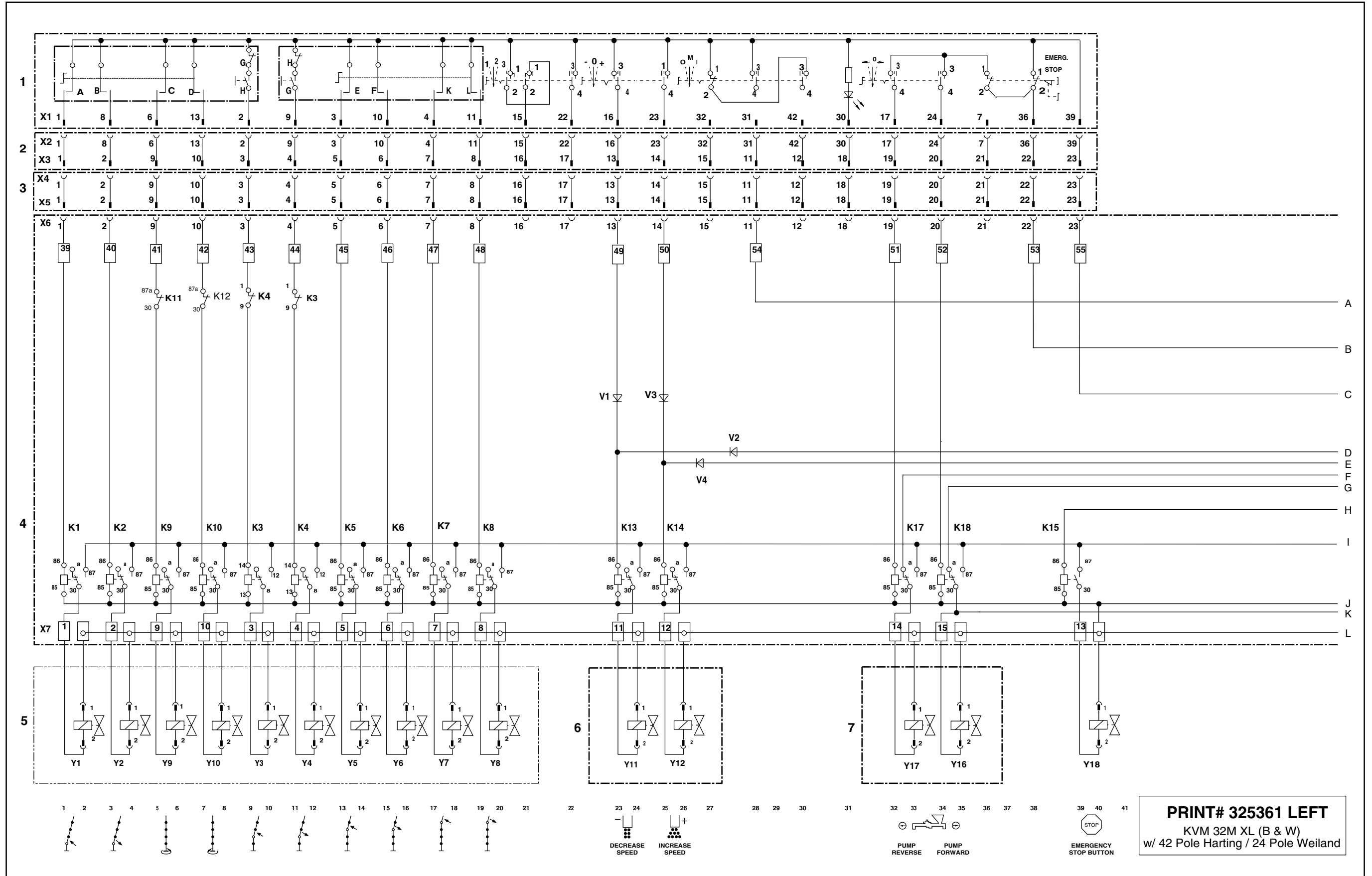


COMPONENT LIST FOR KVM 32M AND 42M BLACK AND WHITE (USA VERSION)

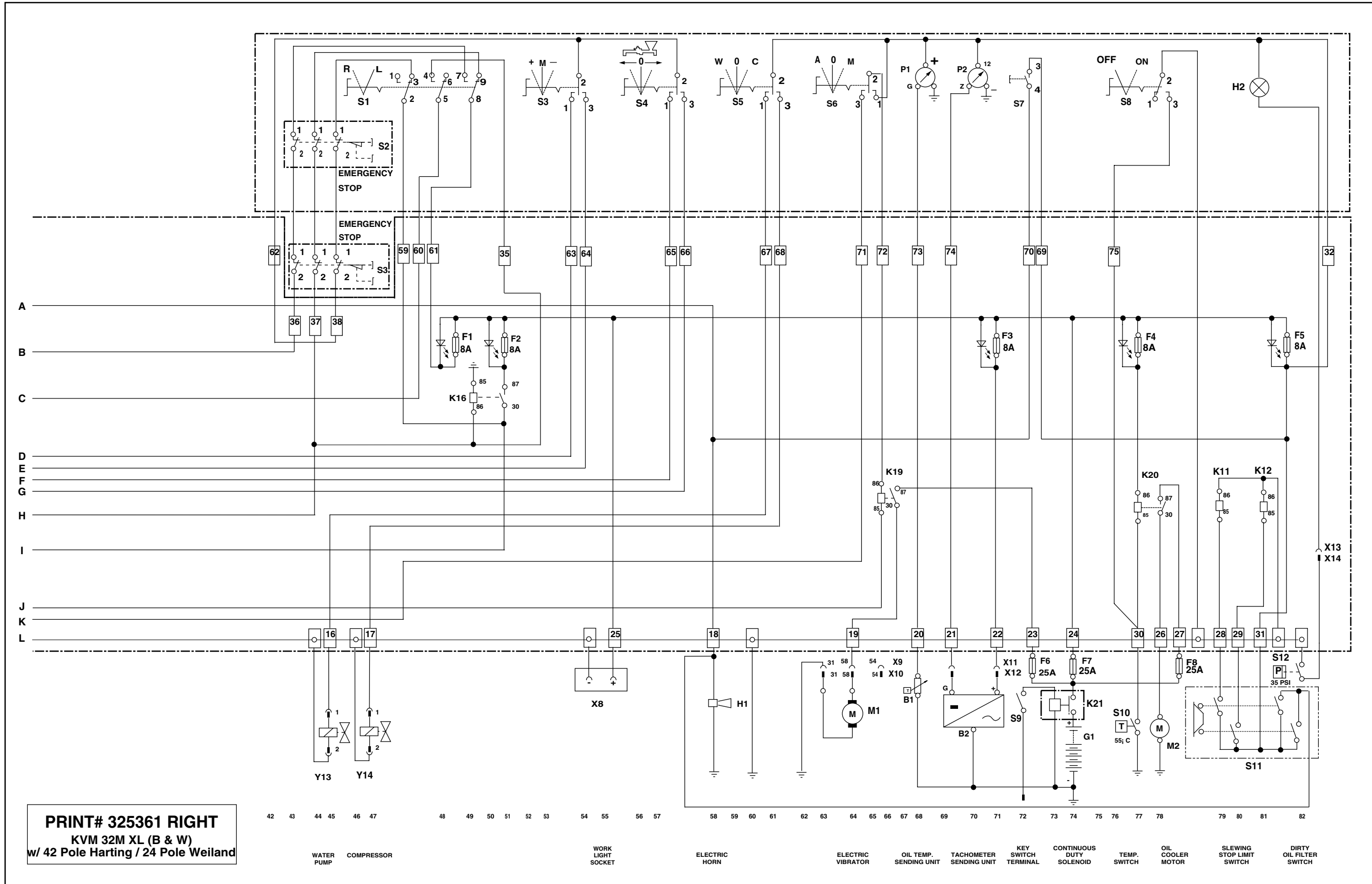
<u>POS</u>	<u>DESCRIPTION</u>	<u>POS</u>	<u>DESCRIPTION</u>
1	Remote Box (42 pole Harting)	P1	Oil Temperature Indicator
2	Remote Cable(42 pole Harting)	P2	Tachometer
3	Cable Reel (24 pole Weiland)	S1	Local / Remote Switch (near / far)
4	Control Panel (12 Volt)	S2	Emergency Stop Button
5	Cable Tree for Boom	S3	Electric Motor On / Off (not used)
6	Cable Tree for Engine Speed	S4	Concrete Pump (For / Rev) Switch
7	Cable Tree for Concrete Pump	S5	Illumination Switch
8	Cable Tree for Emergency Stop	S6	Vibrator Switch
B1	Temperature Sending Unit	S7	Water Pump Switch
B2	Tachometer Sending Unit	S8	Compressor Switch
E1	Instrument Illumination	S9	Gear Switch (special design)
E2	Oil Cooler Indicator Lamp	S10	Limit Switch/Hour Meter (special design)
F1	Fuse (8 AMP)	S11	Truck Engine "ON" Switch
F2	Fuse (8 AMP)	S12	Throttle Up / Down Switch
F3	Fuse (8 AMP)	S13	Heater Starter Switch
F4	Fuse (8 AMP)	S14	Oil Cooler Fan Motor Switch
F5	Fuse (25 AMP)	V1	Diode (1N4007)
F6	Fuse (25 AMP)	V2	Diode (1N4007)
F7	Fuse (25 AMP)	X1	Socket Connector (24 Pole Weiland)
F8	Fuse (8 AMP)	X2	Pin Connector (24 Pole Weiland)
G1	Vehicle Battery (12 Volt)	X3	Socket Connector (42 Pole Harting)
G2	Alternator (12 Volt - 3 phase)	X4	Pin Connector (42 Pole Harting)
H1	HORN	X5	Pin Connector (10 Pole)
H2	Dirty OIL FILTER Indicator	X6	Socket Connector (10 Pole)
K1	Relay (Bosch 12Volt / 30 AMP)	X7	Pin Connector (10 Pole)
K2	Relay (Bosch 12Volt / 30 AMP)	X8	Socket Connector (10 Pole)
K3	Relay (Bosch 12Volt / 30 AMP)	X9	Connector Housing (6 Pole)
K4	Relay (Bosch 12Volt / 30 AMP)	X10	Socket Connector (2 Pole)
K5	Relay (Bosch 12Volt / 30 AMP)	X11	Socket Connector (2 Pole)
K6	Relay (Bosch 12Volt / 30 AMP)	X12	Multi-connector for Tachometer
K7	Relay (Bosch 12Volt / 30 AMP)	X13	Terminal Block
K8	Relay (Bosch 12Volt / 30 AMP)	X14	Pin Connector (3 Pole Bosch)
K9	Relay (Bosch 12Volt / 70 AMP)	X15	Socket Connector (3 Pole Bosch)
K10	Starter Locking Relay (special design)	Y1	Control Solenoid (Boom 1-Extend)
K11	Relay (Bosch 12Volt / 30 AMP)	Y2	Control Solenoid (Boom 1-Retract)
K12	Relay (Bosch 12Volt / 30 AMP)	Y3	Control Solenoid (Boom 2-Extend)
K13	Relay (Bosch 12Volt / 30 AMP)	Y4	Control Solenoid (Boom 2-Retract)
K14	Relay (Bosch 12Volt / 30 AMP)	Y5	Control Solenoid (Boom 3-Extend)
K15	Relay (Bosch 12Volt / 30 AMP)	Y6	Control Solenoid (Boom 3-Retract)
K16	Relay (Bosch 12Volt / 30 AMP)	Y7	Control Solenoid (Boom 4-Extend)
K17	Relay (Bosch 12Volt / 30 AMP)	Y8	Control Solenoid (Boom 4-Retract)
K18	Relay (Bosch 12Volt / 30 AMP)	Y9	Control Solenoid (Boom Slew Left)
K19	Relay (Bosch 12Volt / 30 AMP)	Y10	Control Solenoid (Boom Slew Right)
K20	Relay (Bosch 12Volt / 30 AMP)	Y11	Control Solenoid (Throttle Decrease)
K21	Relay (Bosch 12Volt / 30 AMP)	Y12	Control Solenoid (Throttle Increase)
K22	Relay (Bosch 12Volt / 70 AMP)	Y16	Control Solenoid (Conc. Pump Forward)
M1	Vibrator Motor	Y17	Control Solenoid (Conc. Pump Reverse)
M2	Starter Motor	Y18	Emergency Stop (Dump Valve)
M3	Oil Cooler Motor		

N/A

KVM 32XL B & W BOOM CIRCUIT WITH REMOTE CONTROL (42 POLE HARTING/24 POLE WEILAND) (PRE 1995) (LEFT)



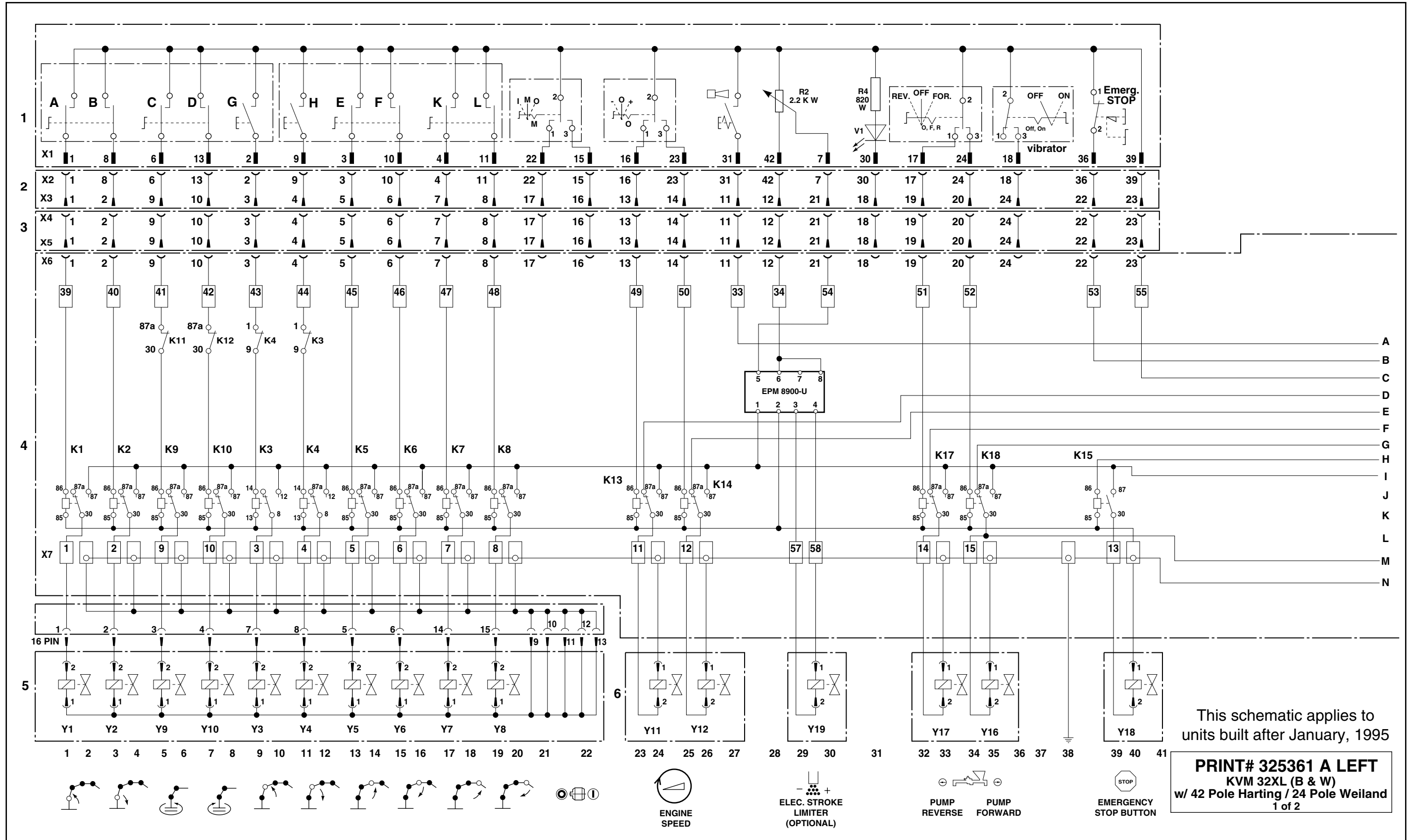
KVM 32XL B & W BOOM CIRCUIT WITH REMOTE CONTROL (42 POLE HARTING/24 POLE WEILAND) (PRE 1995) (RIGHT)



COMPONENT LIST FOR KVM 32XL BLACK AND WHITE (USA VERSION)

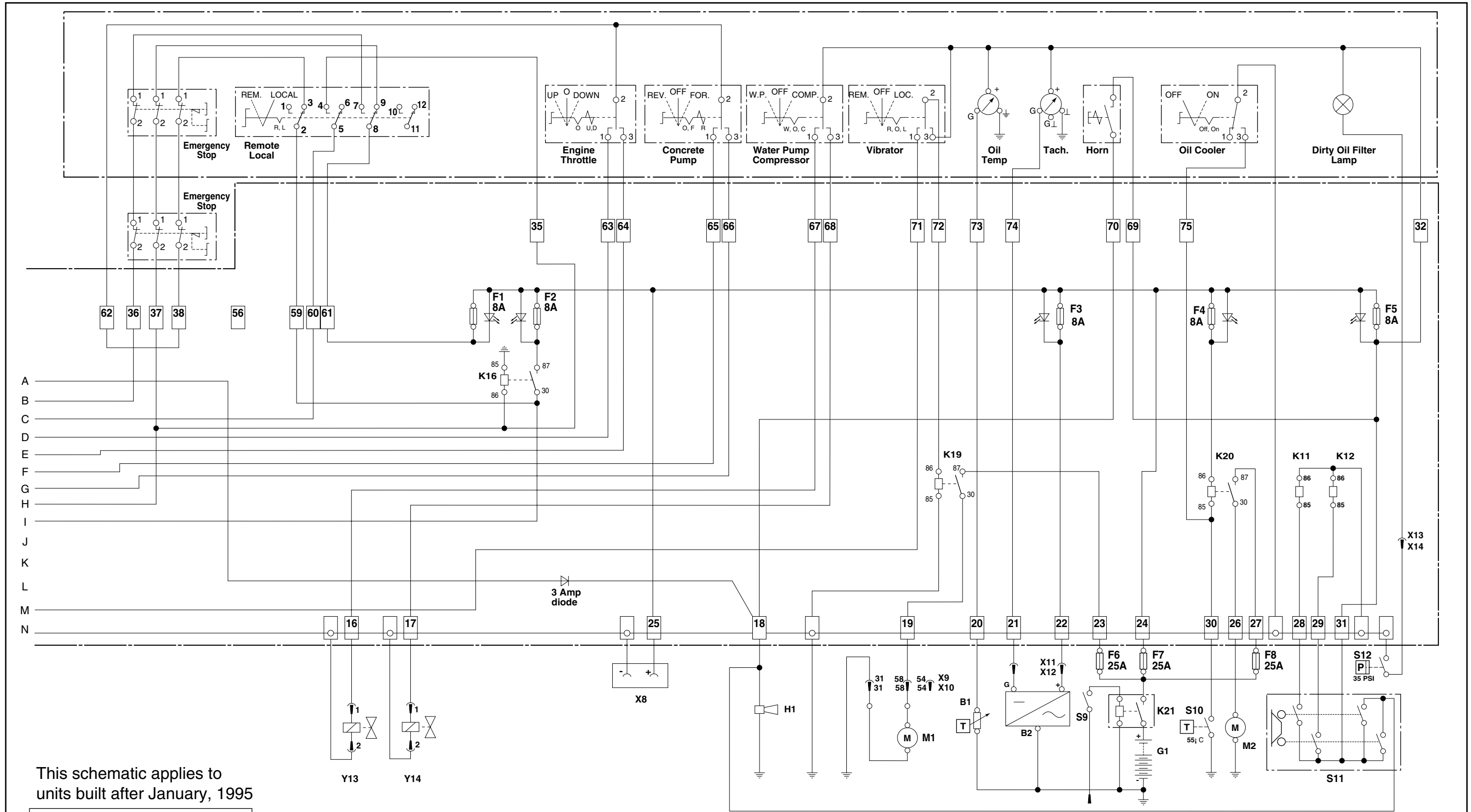
<u>POS</u>	<u>DESCRIPTION</u>	<u>POS</u>	<u>DESCRIPTION</u>
1	Remote Box (42 pole Harting)	M1	Vibrator Motor
2	Shielded Remote Cable(42 pole Harting)	M2	Oil Cooler Motor
3	Shielded Cable Reel (24 pole Weiland)	P1	Oil Temperature Indicator
4	Control Panel (12 Volt)	P2	Tachometer
5	Cable Tree for Boom	S1	Local / Remote Switch (near / far)
6	Cable Tree for Engine Speed	S2	Emergency Stop Button
7	Cable Tree for Concrete Pump	S3	Throttle Up / Down Switch (not used)
B1	Temperature Sending Unit	S4	Concrete Pump (For / Rev) Switch
B2	Tachometer Sending Unit	S5	Water Pump / Compressor Switch
F1	Fuse (8 AMP)	S6	Vibrator Switch
F2	Fuse (8 AMP)	S7	Horn Switch
F3	Fuse (8 AMP)	S8	Oil Cooler Switch
F4	Fuse (8 AMP)	X1	Pin Connector (42 Pole Harting)
F5	Fuse (8 AMP)	X2	Socket Connector (42 Pole Harting)
F6	Fuse (25 AMP)	X3	Pin Connector (24 Pole Weiland)
F7	Fuse (25 AMP)	X4	Socket Connector (24 Pole Weiland)
F8	Fuse (25 AMP)	X5	Pin Connector (24 Pole Weiland)
G1	12 Volt Vehicle Battery	X6	Socket Connector (24 Pole Weiland)
H1	HORN	X7	Terminal Block
H2	Dirty OIL FILTER Indicator	X8	Socket Connector (2 Pole) work light
K1	Relay (Bosch 12Volt / 30 AMP)	X9	Socket Connector (3 Pole Bosch)
K2	Relay (Bosch 12Volt / 30 AMP)	X10	Pin Connector (3 Pole Bosch)
K3	Relay 12V (Potter & Bromfield)	X11	Multi-connector for Tachometer
K4	Relay 12V (Potter & Bromfield)	X12	Multi-connector for Tachometer
K5	Relay (Bosch 12Volt / 30 AMP)	Y1	Control Solenoid (Boom 1-Extend)
K6	Relay (Bosch 12Volt / 30 AMP)	Y2	Control Solenoid (Boom 1-Retract)
K7	Relay (Bosch 12Volt / 30 AMP)	Y3	Control Solenoid (Boom 2-Extend)
K8	Relay (Bosch 12Volt / 30 AMP)	Y4	Control Solenoid (Boom 2-Retract)
K9	Relay (Bosch 12Volt / 30 AMP)	Y5	Control Solenoid (Boom 3-Extend)
K10	Relay (Bosch 12Volt / 30 AMP)	Y6	Control Solenoid (Boom 3-Retract)
K11	Relay (Bosch 12Volt / 30 AMP)	Y7	Control Solenoid (Boom 4-Extend)
K12	Relay (Bosch 12Volt / 30 AMP)	Y8	Control Solenoid (Boom 4-Retract)
K13	Relay (Bosch 12Volt / 30 AMP)	Y9	Control Solenoid (Boom Slew Left)
K14	Relay (Bosch 12Volt / 30 AMP)	Y10	Control Solenoid (Boom Slew Right)
K15	Relay (Bosch 12Volt / 30 AMP)	Y11	Control Solenoid (Throttle Decrease)
K16	Relay (Bosch 12Volt / 30 AMP)	Y12	Control Solenoid (Throttle Increase)
K17	Relay (Bosch 12Volt / 30 AMP)	Y13	Control Solenoid (Water Pump)
K18	Relay (Bosch 12Volt / 30 AMP)	Y14	Control Solenoid (Compressor)
K19	Relay (Bosch 12Volt / 70 AMP)	Y16	Control Solenoid (Conc. Pump For.)
K20	Relay (Bosch 12Volt / 70 AMP)	Y17	Control Solenoid (Conc. Pump Rev.)
		Y18	Emergency Stop (Dump Valve)

KVM 32XL B & W BOOM CIRCUIT WITH REMOTE CONTROL (42 POLE HARTING/24 POLE WEILAND) (POST 1995) (LEFT)



N/A

KVM 32XL B & W BOOM CIRCUIT WITH REMOTE CONTROL (42 POLE HARTING/24 POLE WEILAND) (POST 1995) (RIGHT)

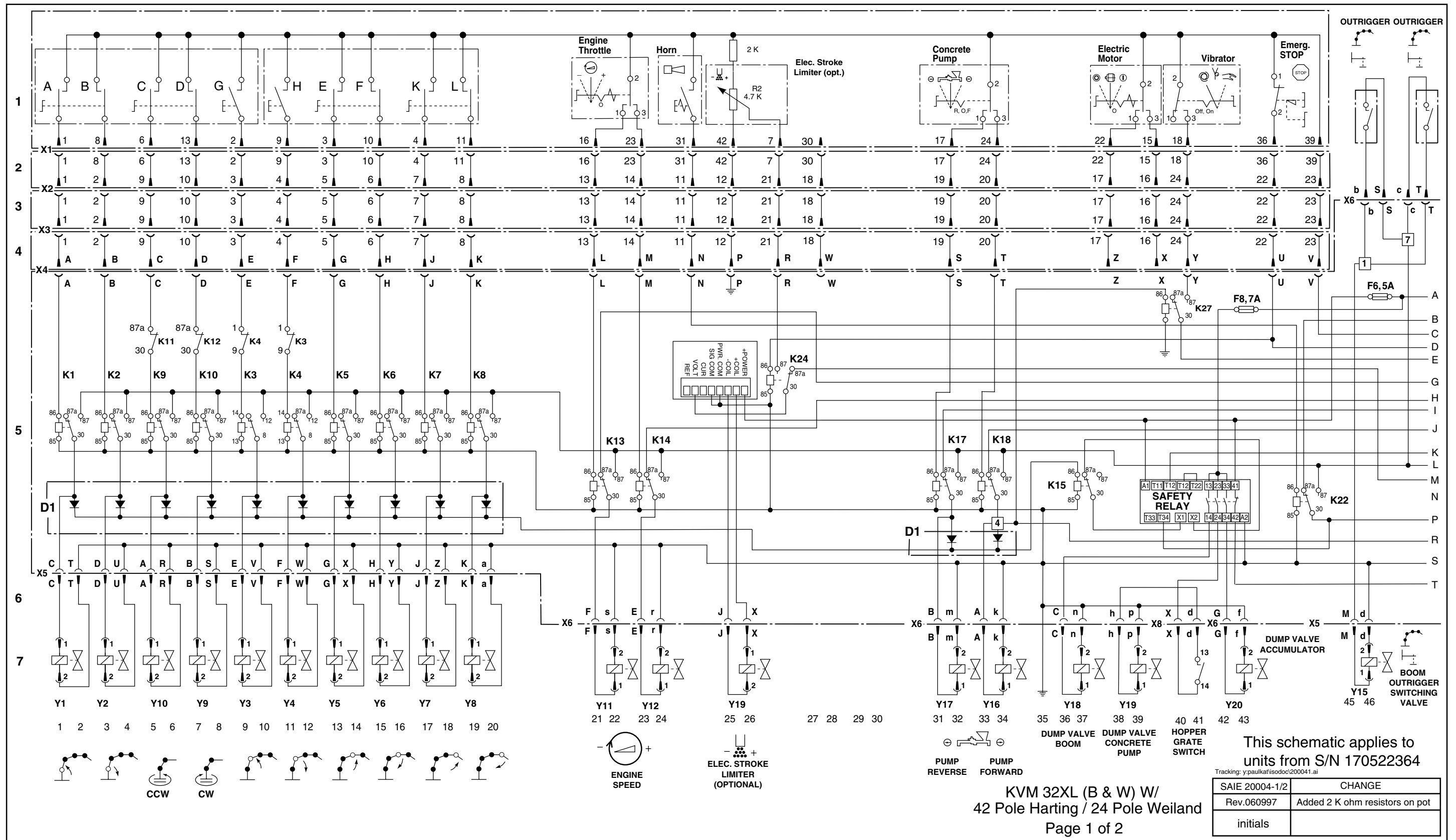


This schematic applies to units built after January, 1995

PRINT# 325361 A RIGHT
 KVM 32XL (B & W)
 w/ 42 Pole Harting / 24 Pole Weiland
 2 of 2

- | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|-----------------------|----|----|----|----|----|--------------------------|----|----|----|----|----|---------------|----|----|----|----|----|------------------------------|----|----|----|----|----|---|----|----|----|----|----|----|----|----|----|----|----|----|
| 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 |
| | | | | | | WATER PUMP COMPRESSOR | | | | | | WORKING LIGHT RECEPTACLE | | | | | | ELECTRIC HORN | | | | | | ELECTRIC VIBRATOR (OPTIONAL) | | | | | | OIL TEMP. TACHOMETER KEY CONTINUOUS TEMP. OIL SLEWING DIRTY | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Rev A: add 3 amp diode, update Symbols - 12/94
 Tracking: Ultradrive 650X:32 XL operman:elec schems for 32XL:32XL elec-R revA5.eps

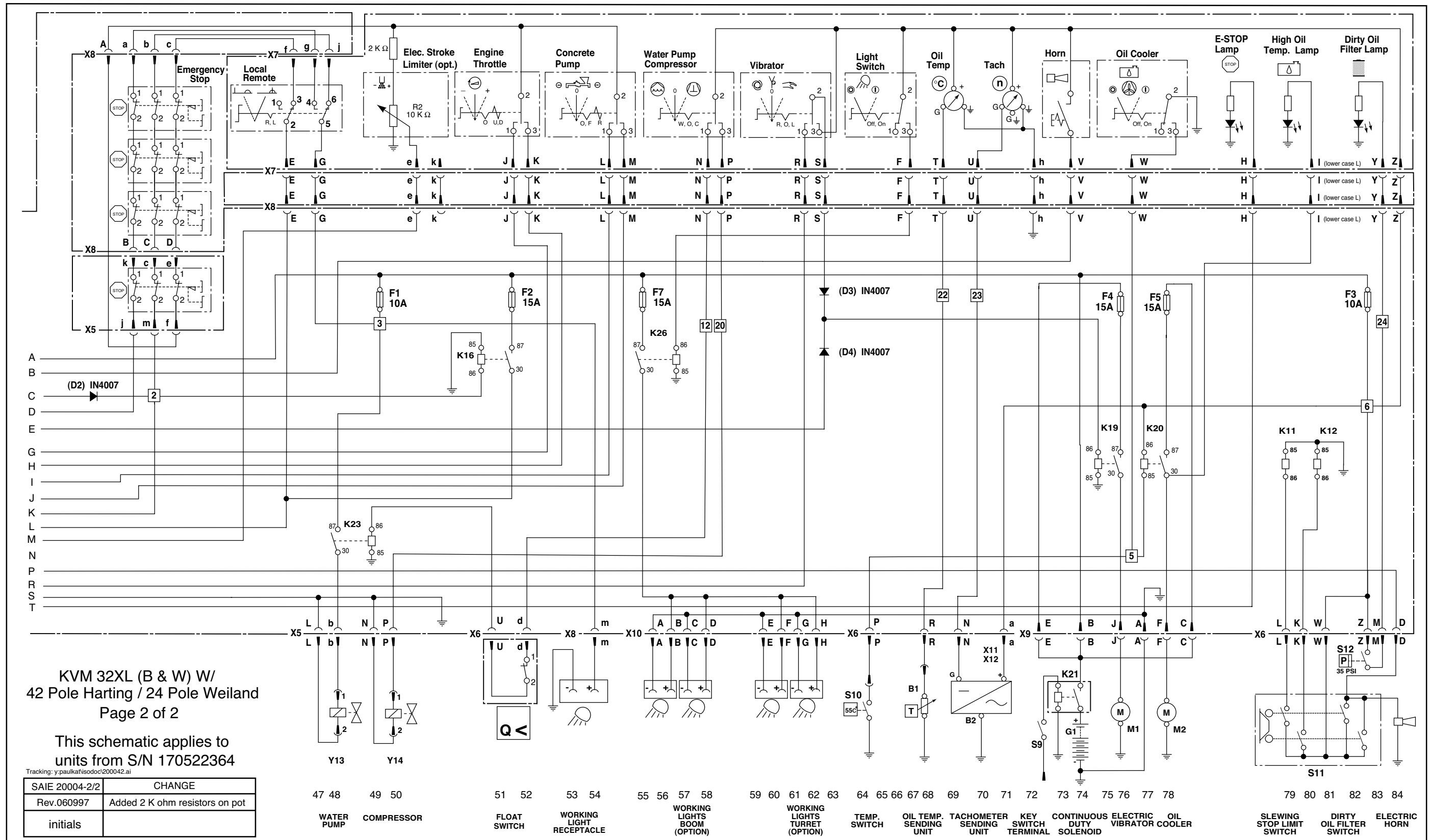


This schematic applies to units from S/N 170522364

Tracking: y.paukat/isodoc/200041.ai

SAIE 20004-1/2	CHANGE
Rev.060997	Added 2 K ohm resistors on pot
initials	

KVM 32XL (B & W) W/
42 Pole Harting / 24 Pole Weiland
Page 1 of 2

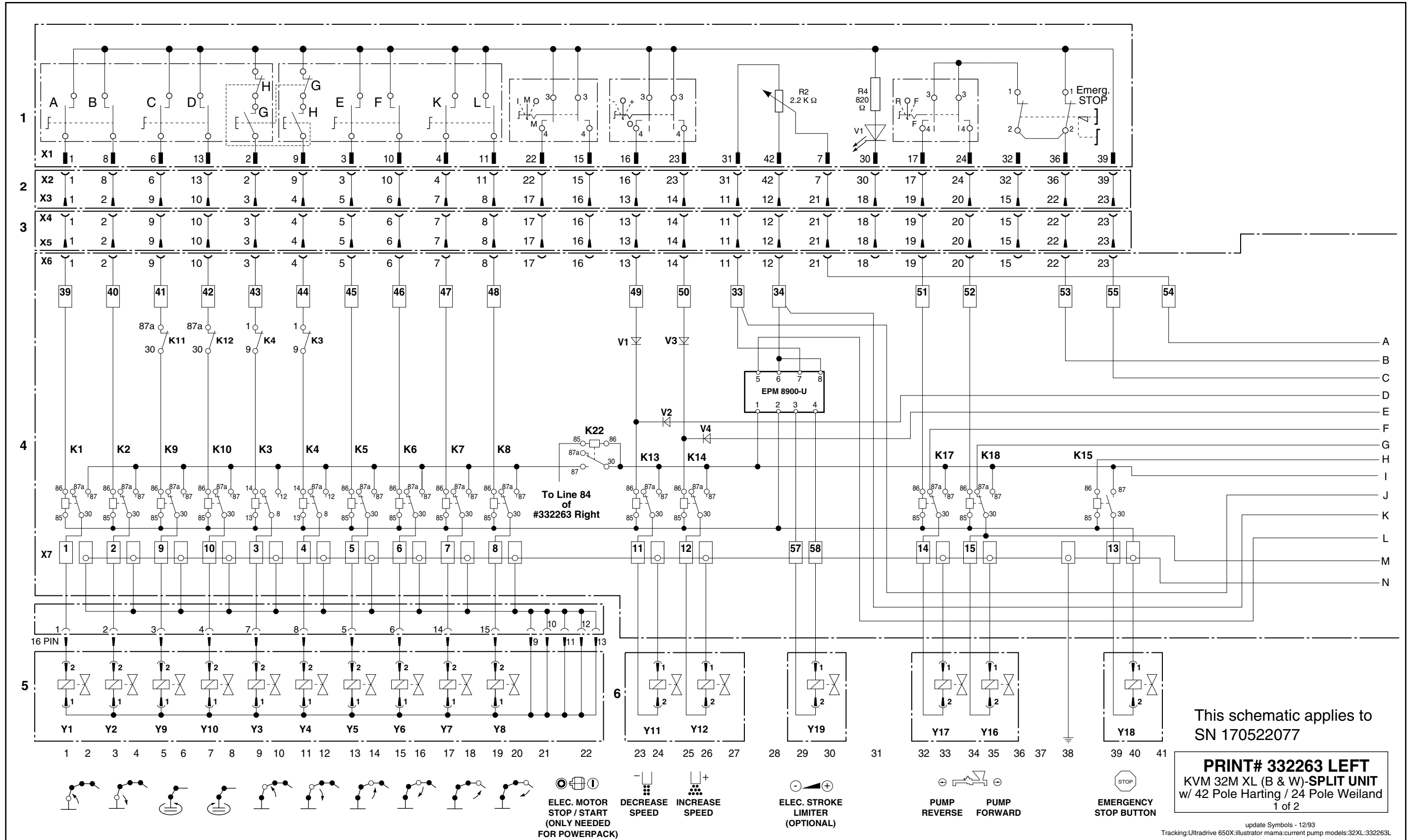


COMPONENT LIST FOR KVM 32XL BLACK AND WHITE (USA VERSION)

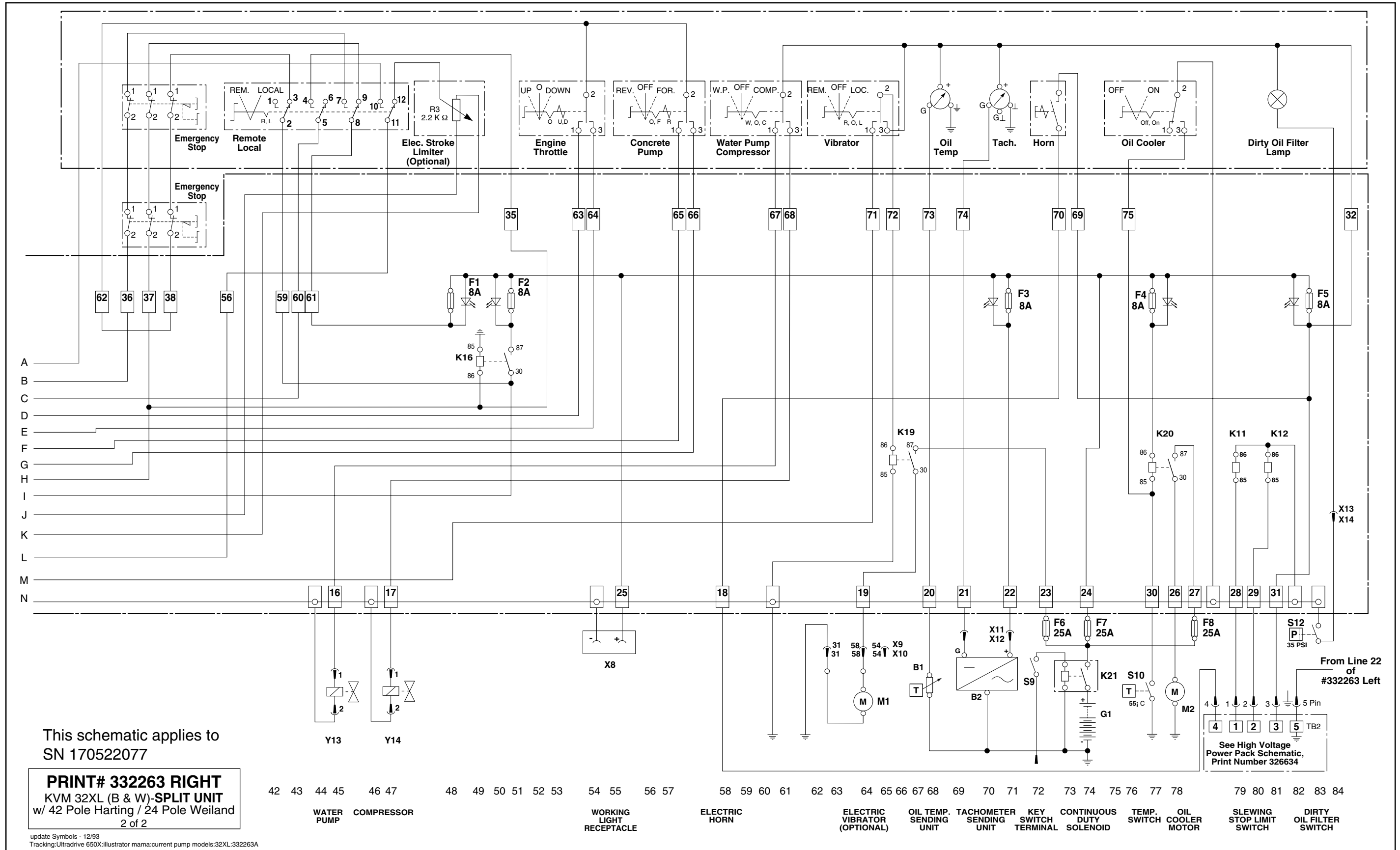
<u>POS</u>	<u>DESCRIPTION</u>	<u>POS</u>	<u>DESCRIPTION</u>
1	Remote Box (42 pole Harting)	S1	Local / Remote Switch (near / far)
2	Pin & Socket Connector (Harting)	S2	Emergency Stop Button
3	Shielded Cable Reel (24 pole Weiland)	S3	Throttle Up / Down Switch (not used)
4	Control Panel (12 / 24 Volt)	S4	Concrete Pump (For / Rev) Switch
5	Cable Tree for Boom	S5	Instrument Illumination Switch
6	Cable Tree for Engine Speed	S6	Vibrator Switch
7	Cable Tree for Concrete Pump	S7	Water Pump Switch
8	Cable Tree for Emergency Stop	S8	Compressor Switch
9	Truck Cab	S9	Oil Cooler Switch
A1	Circuit Plate	S10	Power Take-Off Switch
B1	Temperature Sending Unit	S11	Ignition Switch
B2	Tachometer Sending Unit	S12	Engine Speed (Up / Down) Switch
E1	Instrument Illumination	S13	Horn Switch
E2	Oil Cooler Indicator Light	V1	Diode 1N 4007
E3	Hour Meter Indicator Light	V2	Diode 1N 4007
E4	Engine Indicator Light (not used)	V3	Diode 1N 4007
F1	Fuse (8 AMP)	X1	Socket Connector (24 Pole Weiland)
F2	Fuse (8 AMP)	X2	Pin Connector (24 Pole Weiland)
F3	Fuse (8 AMP)	X3	Socket Connector (3 Pole Bosch)
F4	Fuse (8 AMP)	X4	Pin Connector (3 Pole Bosch)
F5	Fuse (25 AMP)	X5	Pin Connector (10 Pole)
F6	Fuse (25 AMP)	X6	Socket Connector (10 Pole)
F7	Fuse (25 AMP)	X7	Pin Connector (10 Pole)
F8	Fuse (8 AMP)	X8	Socket Connector (10 Pole)
G1	12 Volt to 24 Volt Converter (DuVac II)	X9	Connector Housing (6 Pole)
G2	12 Volt Vehicle Battery	X10	Socket Connector (2 Pole) work light
H1	Vibrator Light (green)	X11	Socket Connector (2 Pole) work light
H2	HORN	X12	Multi-connector for Tachometer
KX		X13	Terminal Block
K1	Contact Relay	X14	Socket Connector (42 Pole Harting)
K2	Contact Relay	X15	Pin Connector (42 Pole Harting)
K3	Contact Relay	Y1	Control Solenoid (Boom 1-Extend)
K4	Contact Relay	Y2	Control Solenoid (Boom 1-Retract)
K5	Contact Relay	Y3	Control Solenoid (Boom 2-Extend)
K6	Contact Relay	Y4	Control Solenoid (Boom 2-Retract)
K7	Main Power Relay (24 Volt)	Y5	Control Solenoid (Boom 3-Extend)
K8	Main Power Relay (12 Volt)	Y6	Control Solenoid (Boom 3-Retract)
K9	Contact Relay	Y7	Control Solenoid (Boom 4-Extend)
K12	Contact Relay	Y8	Control Solenoid (Boom 4-Retract)
K13	Contact Relay	Y9	Control Solenoid (Boom Slew Left)
K14	Contact Relay	Y10	Control Solenoid (Boom Slew Right)
K15	Contact Relay	Y11	Control Solenoid (Engine Decrease)
M1	Vibrator Motor	Y12	Control Solenoid (Engine Increase)
M2	Oil Cooler Motor	Y13	Control Solenoid (Water Pump)
P1	Oil Temperature Indicator	Y14	Control Solenoid (Compressor)
P2	Tachometer	Y16	Control Solenoid (Conc. Pump For.)
P3	Service Hour Meter	Y17	Control Solenoid (Conc. Pump Rev.)
		Y18	Emergency Stop (Dump Valve)
		Y19	Electric Stroke Limiter

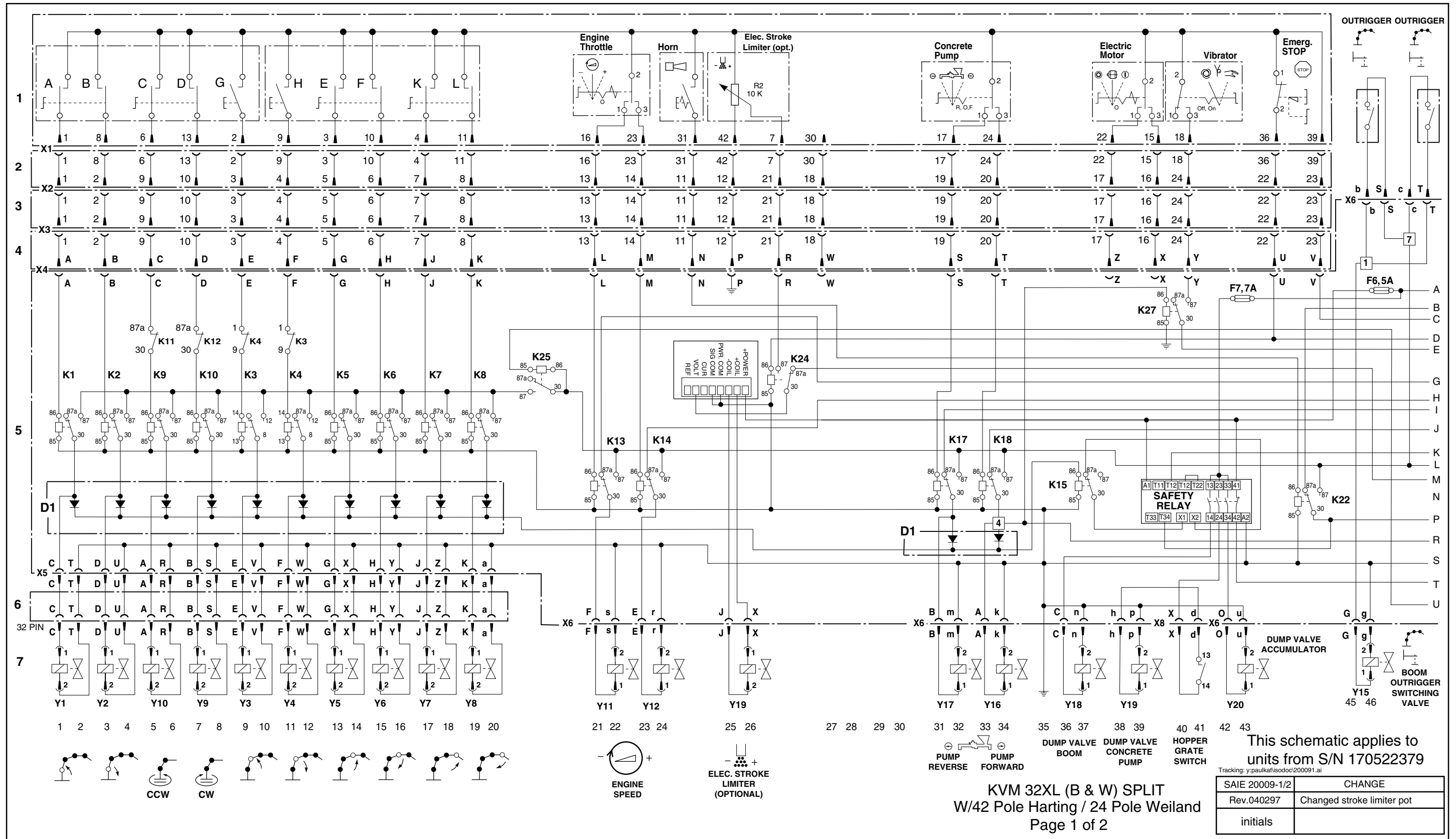
N/A

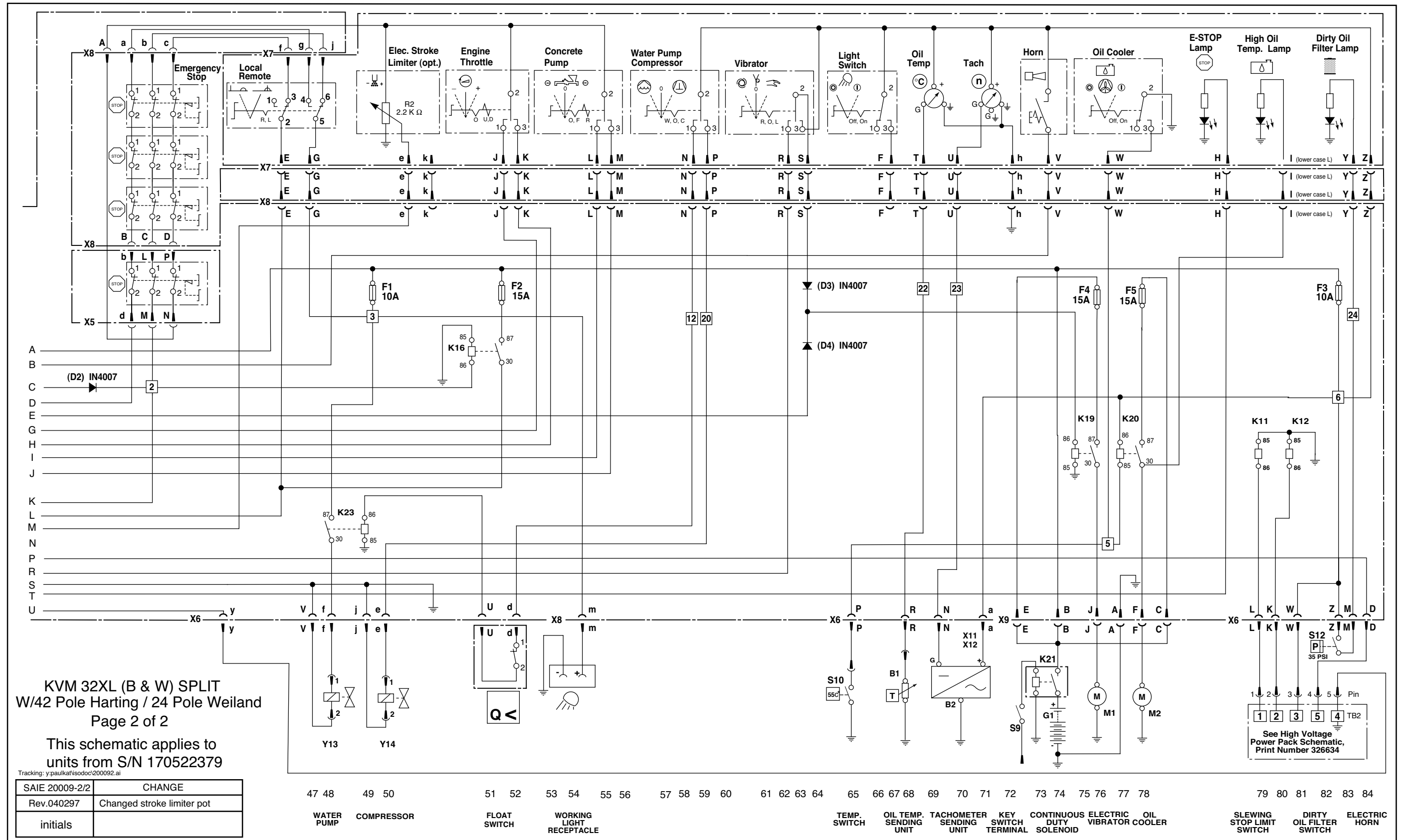
KVM 32XL B & W FLYAWAY BOOM/POWER PACK CIRCUIT AND REMOTE CONTROL (LEFT)

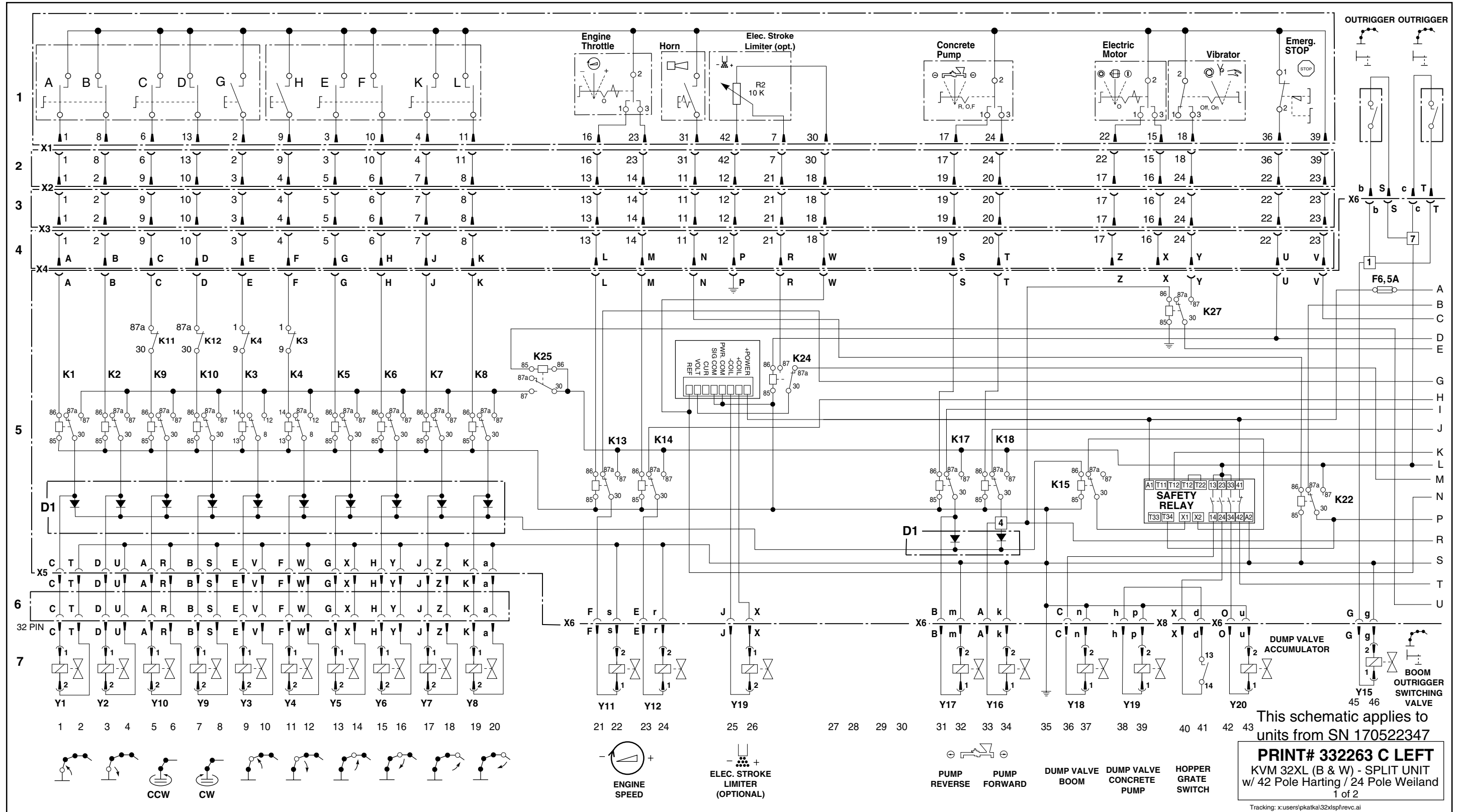


KVM 32XL B & W FLYAWAY BOOM/POWER PACK CIRCUIT AND REMOTE CONTROL (RIGHT)



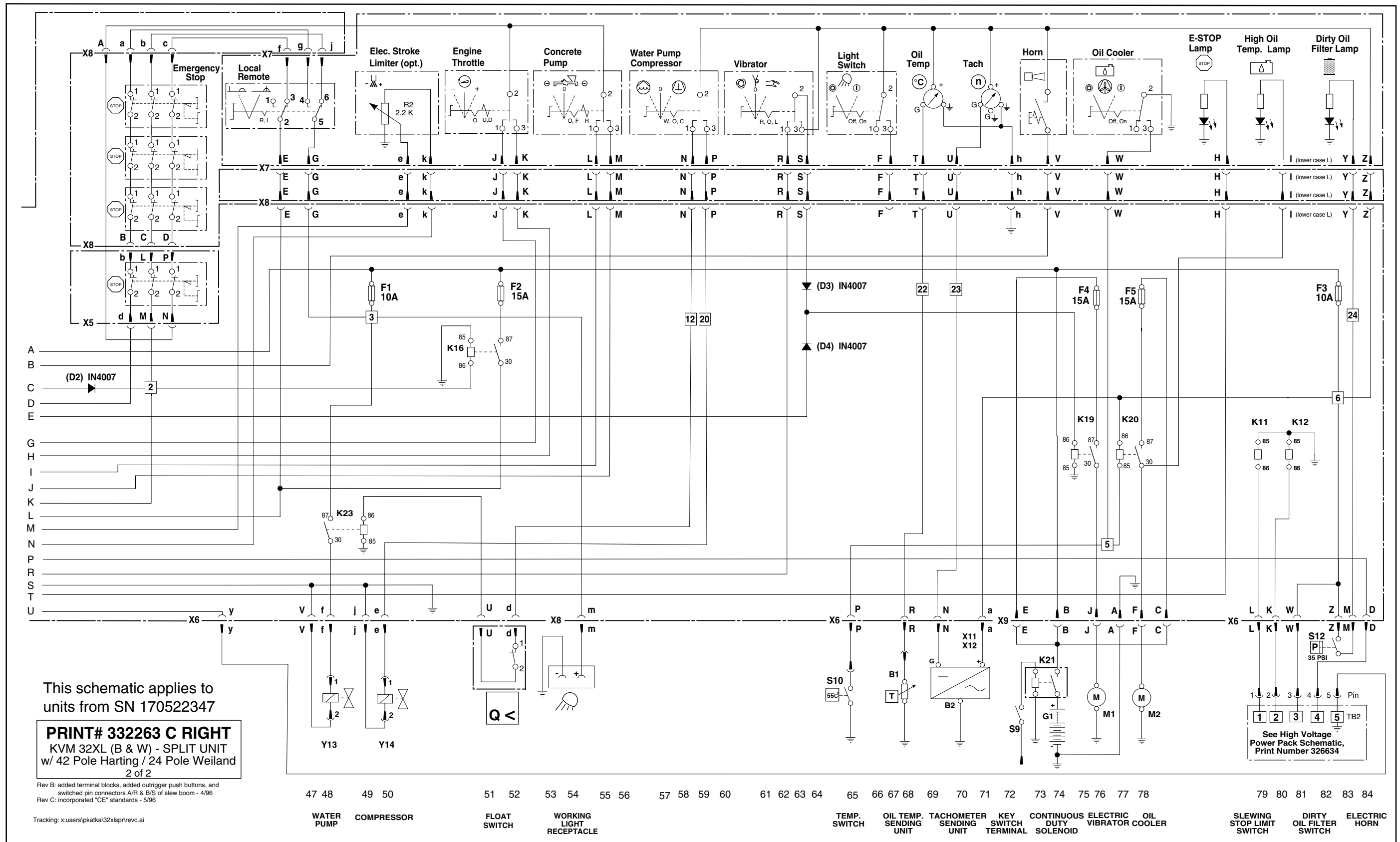






20005-2

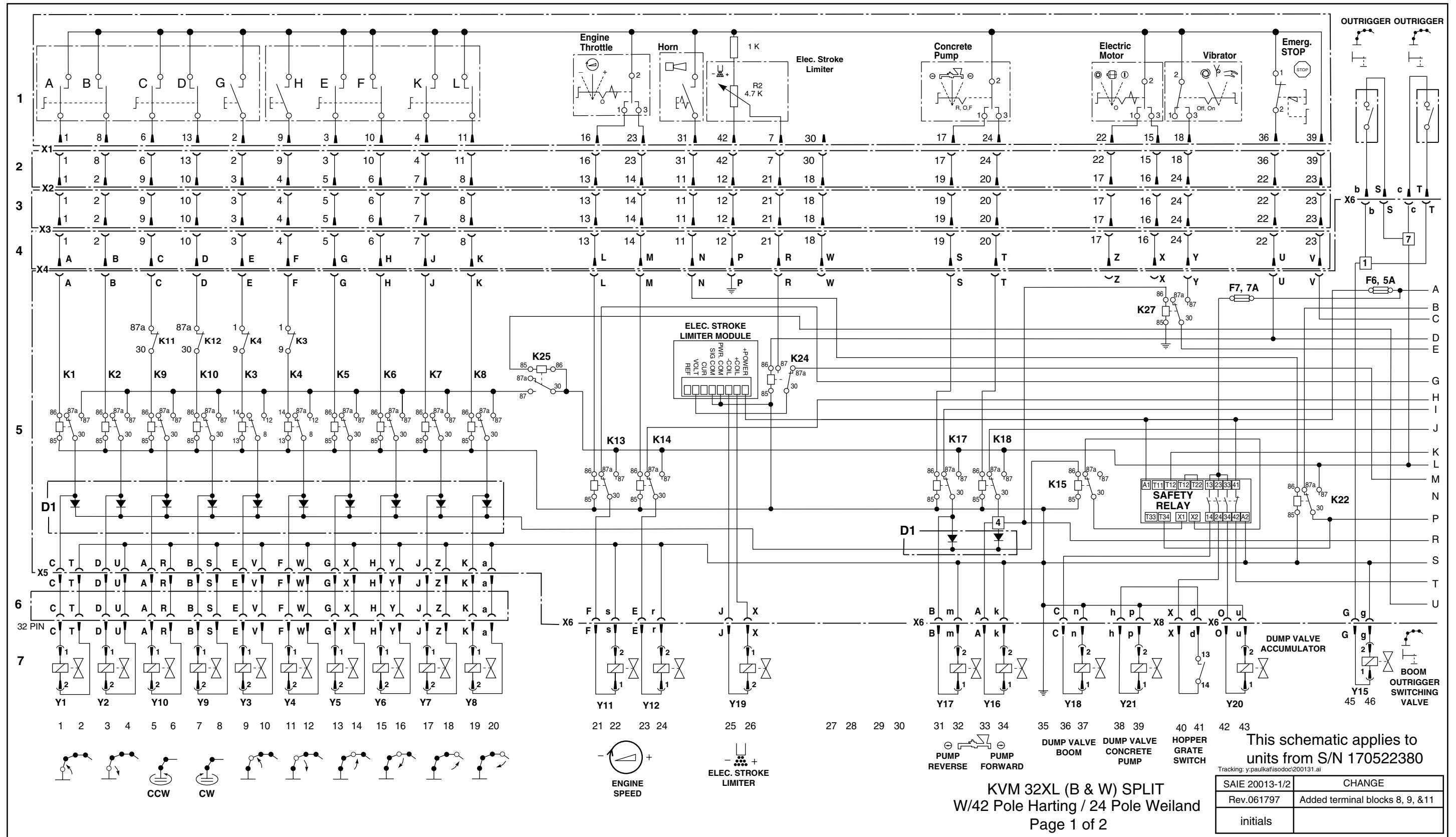
KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W



This schematic applies to units from SN 170522347
PRINT# 332263 C RIGHT
 KVM 32XL (B & W) - SPLIT UNIT
 w/ 42 Pole Harting / 24 Pole Weiland
 2 of 2

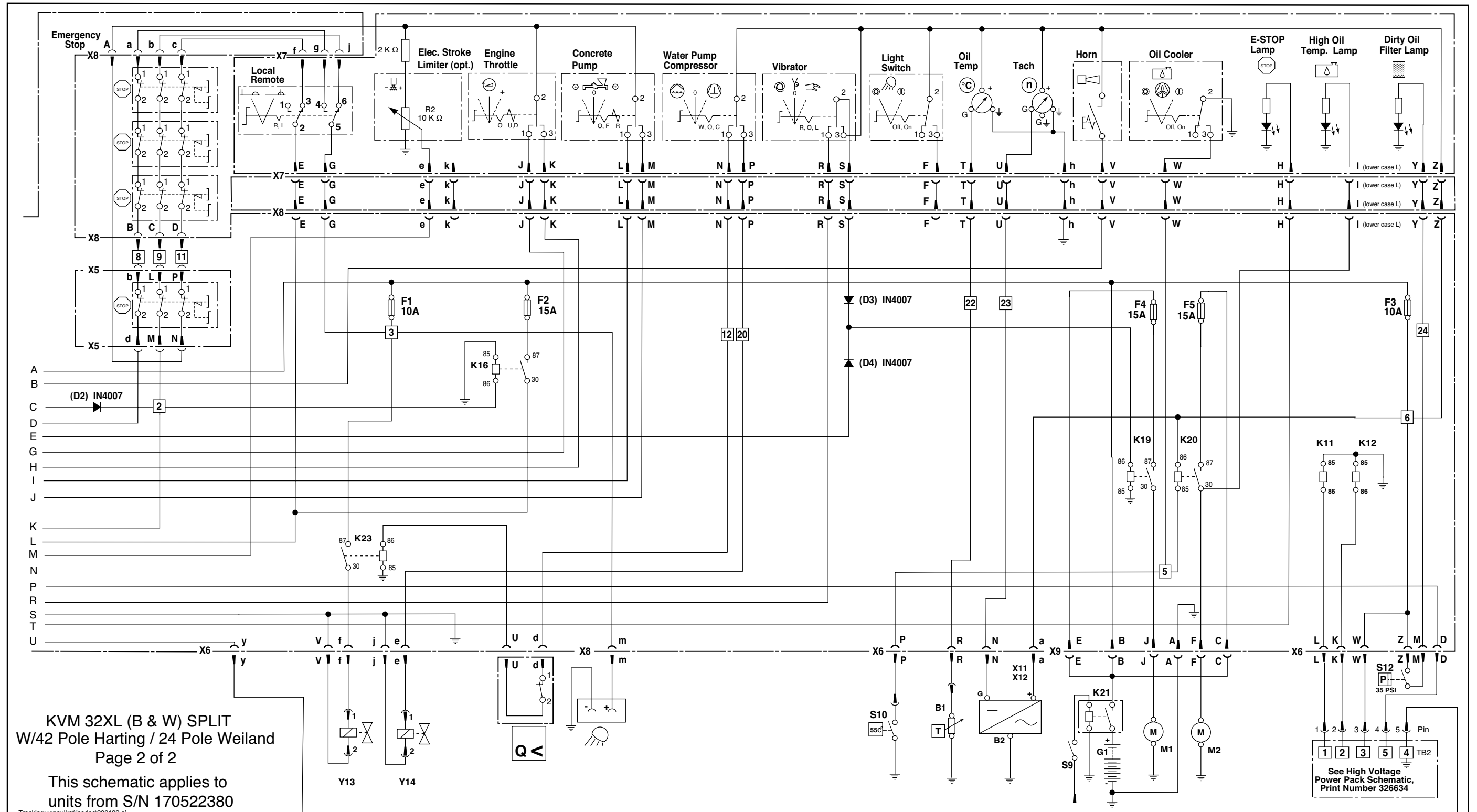
Rev B: added terminal blocks, added outrigger push buttons, and switched pin connectors A/R & B/S of slew boom - 4/96
 Rev C: incorporated "CE" standards - 5/96

Tracking: x:users/pkatka/32xlspr/revc.ai



10013-2

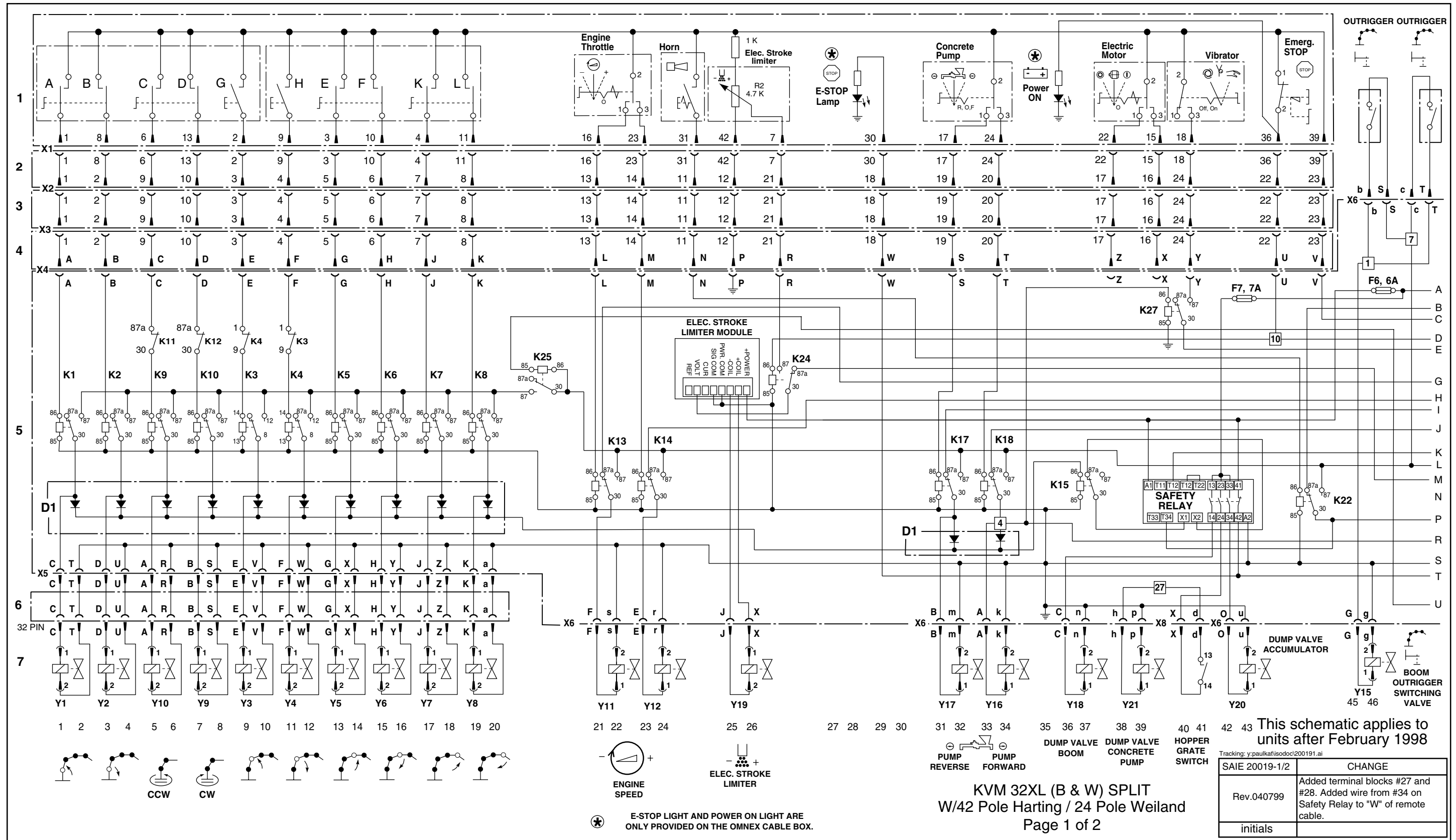
KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W



KVM 32XL (B & W) SPLIT
 W/42 Pole Harting / 24 Pole Weiland
 Page 2 of 2
 This schematic applies to
 units from S/N 170522380
 Tracking: y.paulkat@isodoc.com 2001132.ai

SAIE 20013-2/2	CHANGE
Rev.061797	Added terminal blocks 8, 9 & 11
initials	

47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84		
WATER PUMP	COMPRESSOR	FLOAT SWITCH	WORKING LIGHT RECEPTACLE											TEMP. SWITCH	OIL TEMP. SENDING UNIT	TACHOMETER SENDING UNIT	KEY SWITCH TERMINAL	CONTINUOUS DUTY SOLENOID	ELECTRIC VIBRATOR COOLER	OIL	SLEWING STOP LIMIT SWITCH	DIRTY OIL FILTER SWITCH	ELECTRIC HORN																



This schematic applies to units after February 1998

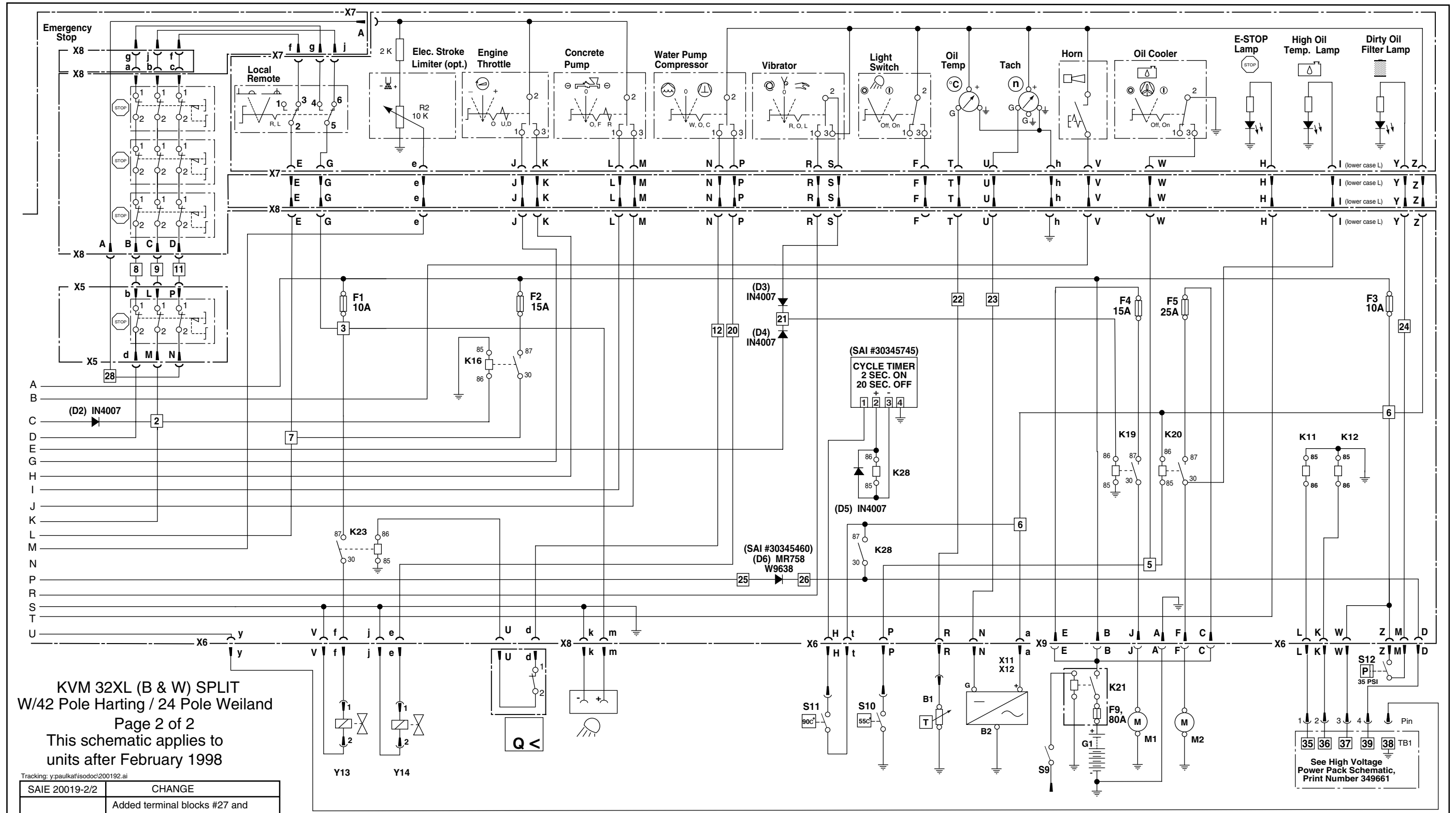
Tracking: y:paukafisodoc200191.ai

SAIE 20019-1/2	CHANGE
Rev.040799	Added terminal blocks #27 and #28. Added wire from #34 on Safety Relay to "W" of remote cable.
initials	

KVM 32XL (B & W) SPLIT
W/42 Pole Harting / 24 Pole Weiland
 Page 1 of 2

10019-2

KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W



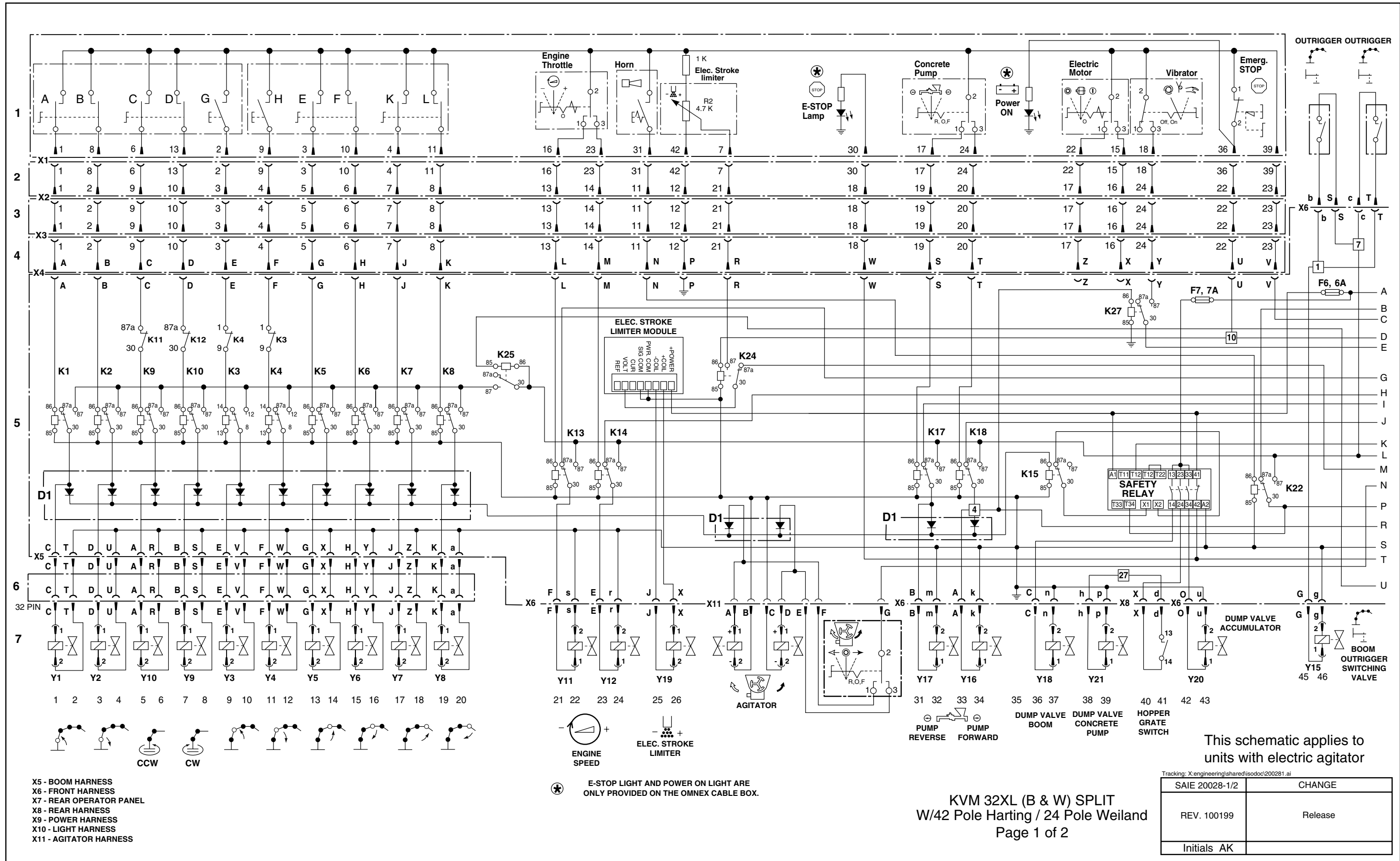
KVM 32XL (B & W) SPLIT
W/42 Pole Harting / 24 Pole Weiland
Page 2 of 2
This schematic applies to
units after February 1998

Tracking: y:paukafisodoc200192.ai

SAIE 20019-2/2	CHANGE
Rev.040799	Added terminal blocks #27 and #28. Added wire from #34 on Safety Relay to "W" on remote cable.
initials	

- 47 WATER PUMP
- 48 COMPRESSOR
- 49 FLOAT SWITCH
- 50 WORKING LIGHT RECEPTACLE
- 51 TEMP. SWITCH HIGH ALARM
- 52 TEMP. SWITCH
- 53 OIL TEMP. SENDING UNIT
- 54 TACHOMETER SENDING UNIT
- 55 PTO SWITCH
- 56 CONTINUOUS DUTY SOLENOID & MAIN FUSE
- 57 OIL VIBRATOR COOLER
- 58 SLEWING STOP LIMIT SWITCH
- 59 DIRTY OIL FILTER SWITCH
- 60 ELECTRIC HORN

See High Voltage Power Pack Schematic, Print Number 349661



This schematic applies to units with electric agitator

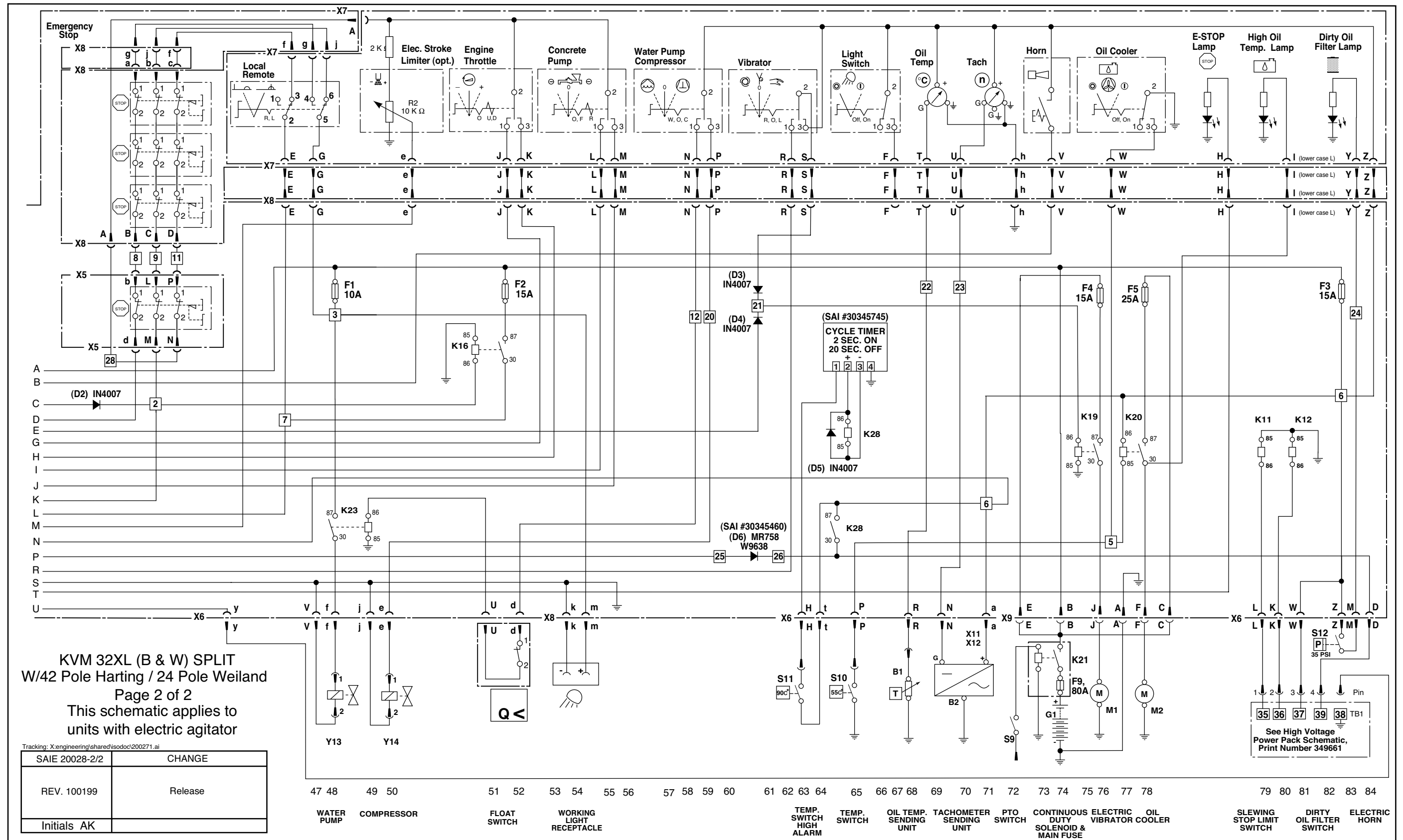
Tracking: X:engineering\shared\isodoc\200281.ai

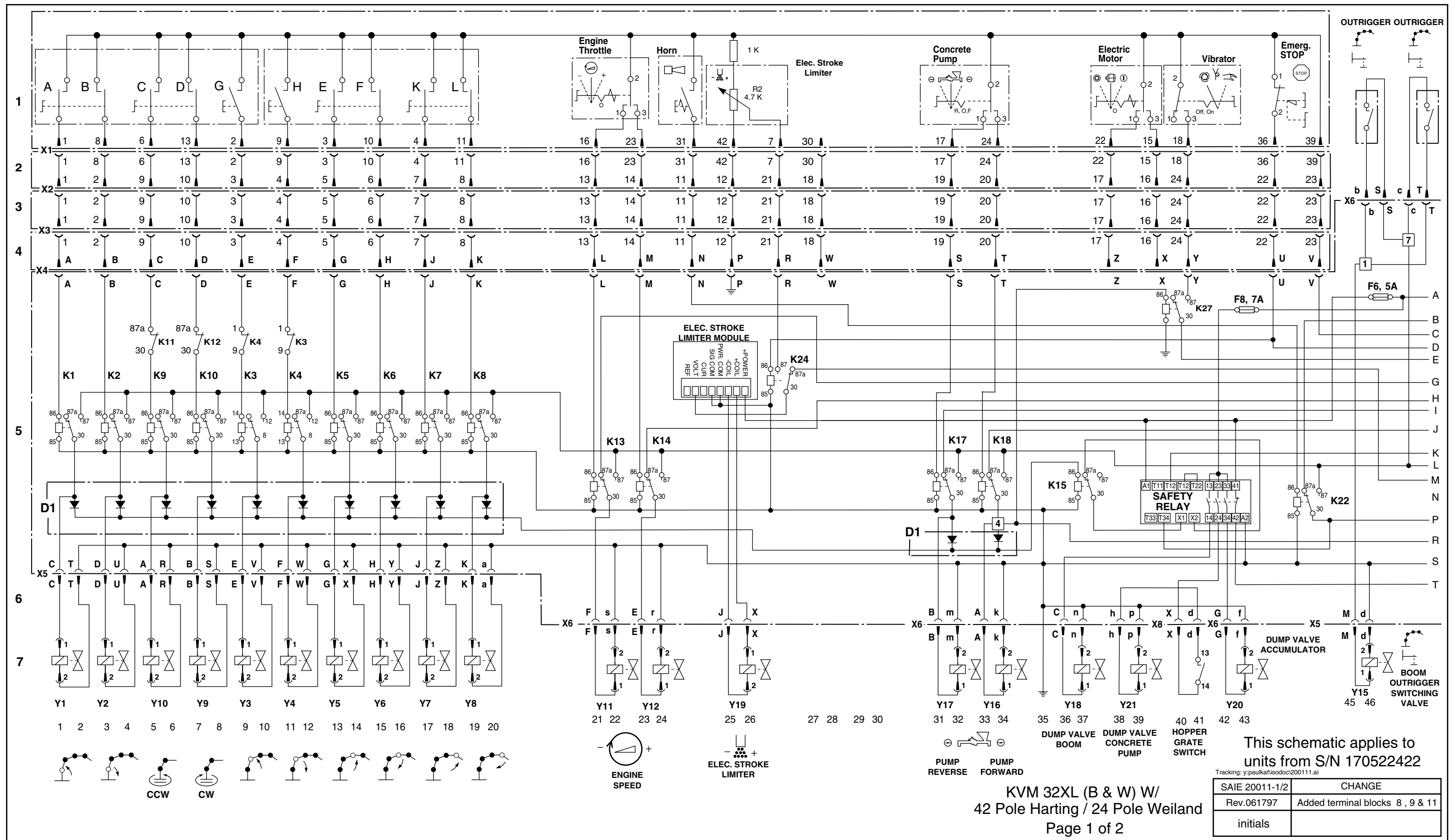
SAIE 20028-1/2	CHANGE
REV. 100199	Release
Initials AK	

KVM 32XL (B & W) SPLIT
W/42 Pole Harting / 24 Pole Weiland
 Page 1 of 2

20028-2

KVM 32XL SPLIT, 42 POLE HARTING, 24 POLE WEILAND, B&W, ELECTRIC AGITATOR





KVM 32XL (B & W) W/
42 Pole Harting / 24 Pole Weiland
Page 1 of 2

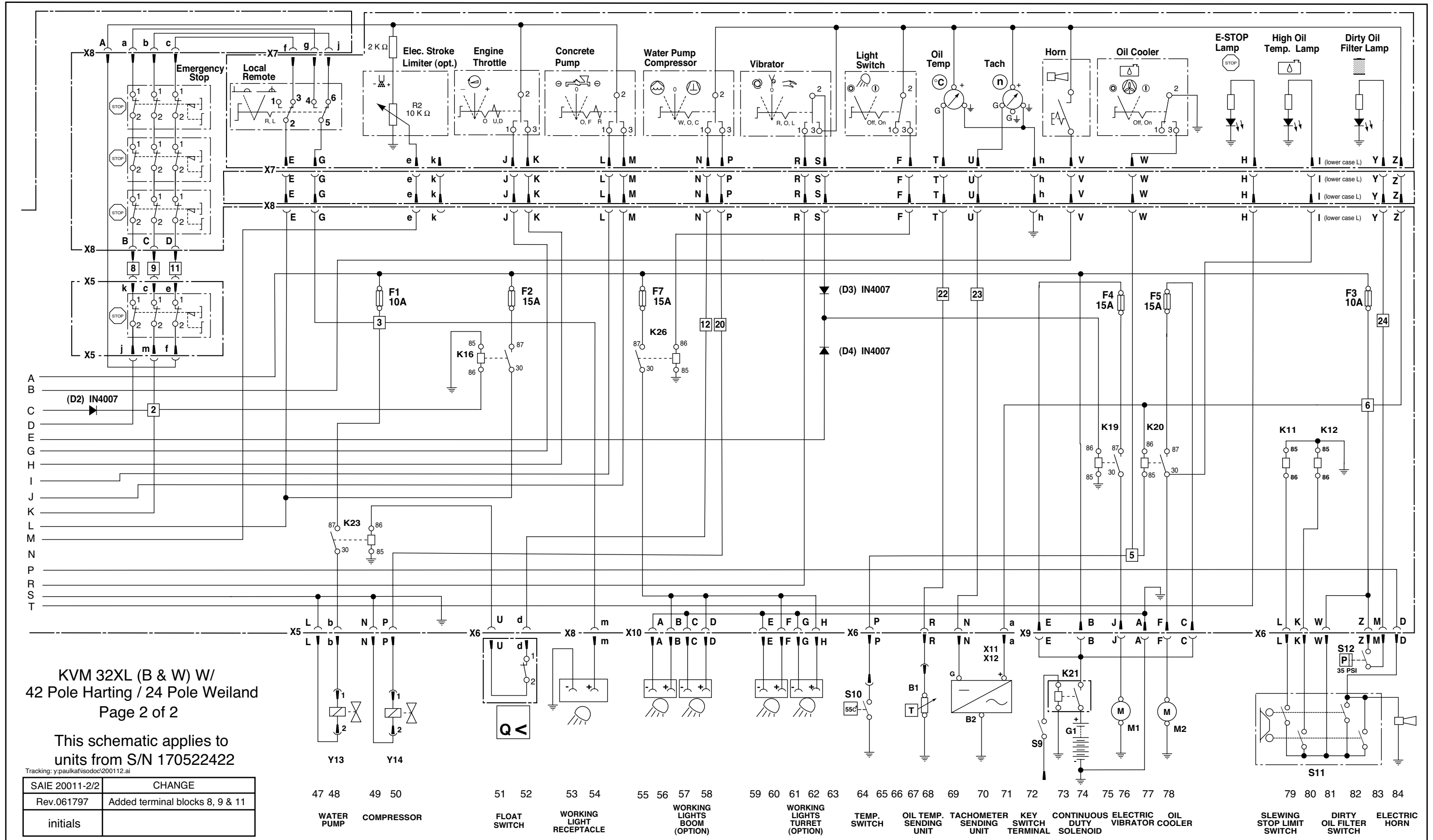
This schematic applies to units from S/N 170522422

Tracking: y:paukai/sodoc/200111.ai

SAIE 20011-1/2	CHANGE
Rev.061797	Added terminal blocks 8, 9 & 11
initials	

20011-2

KVM 32XL, 42 POLE HARTING, 24 POLE WEILAND, B&W



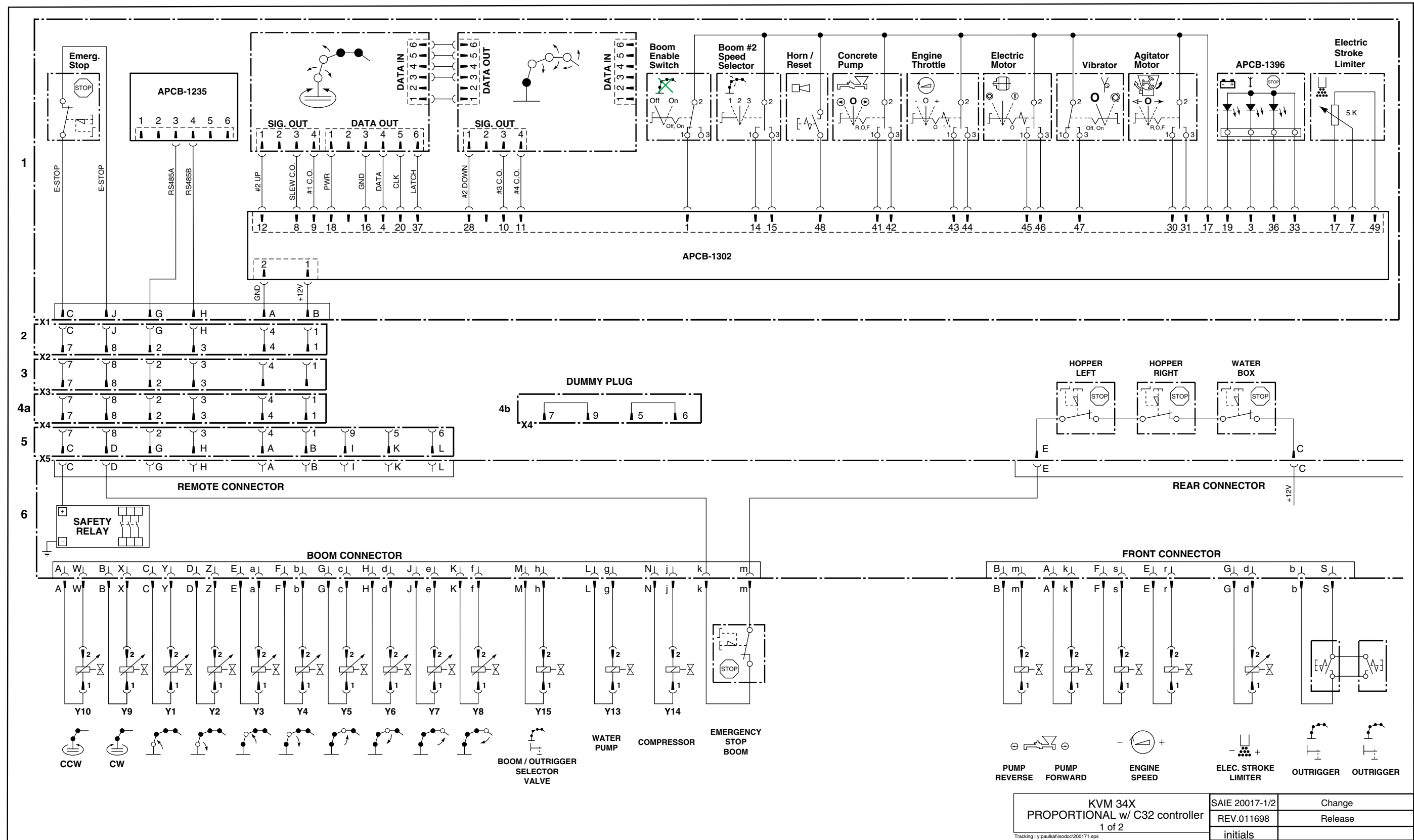
KVM 32XL (B & W) W/
42 Pole Harting / 24 Pole Weiland
Page 2 of 2

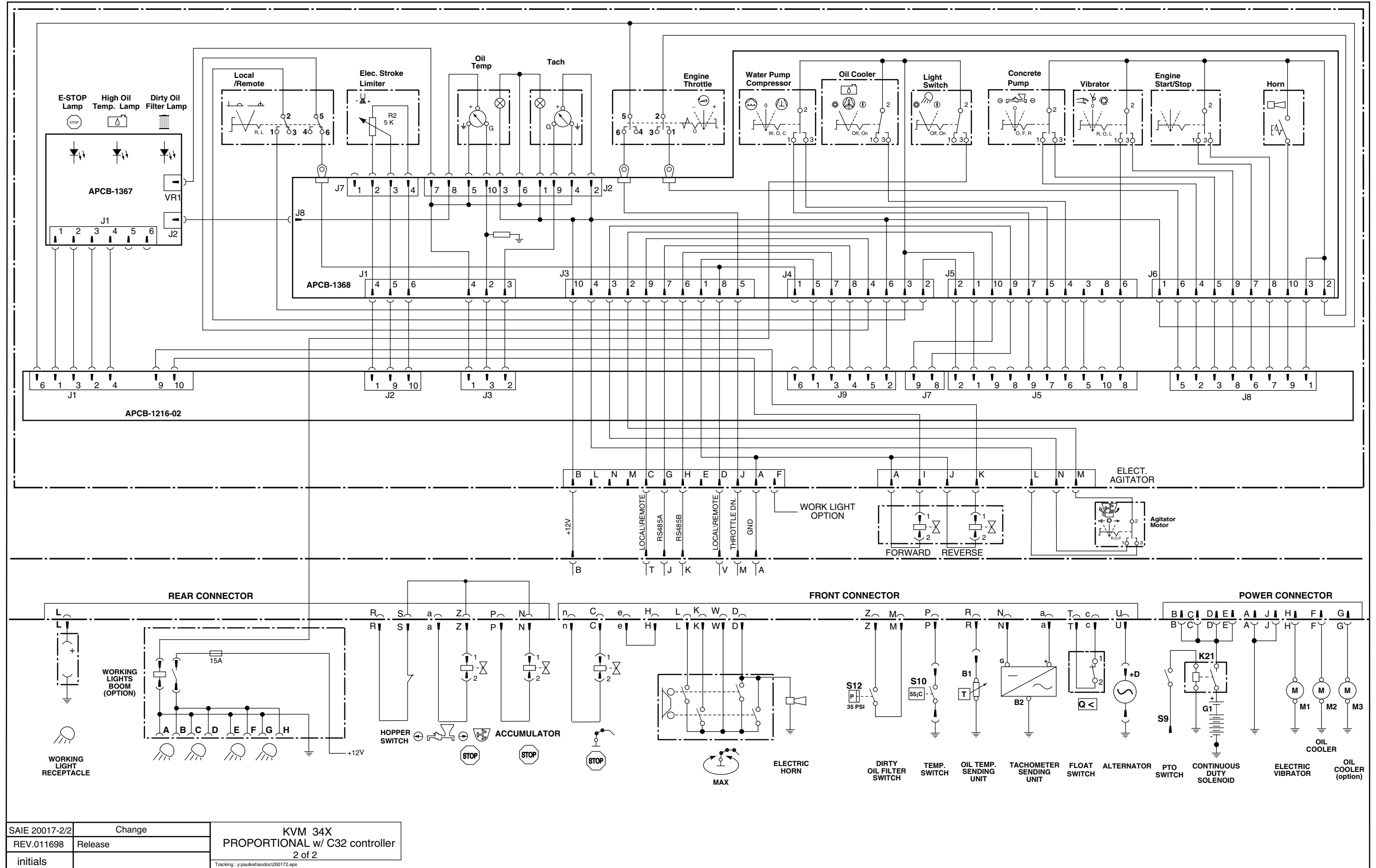
This schematic applies to
units from S/N 170522422

Tracking: y.paukaf\isodoc\200112.ai

SAIE 20011-2/2	CHANGE
Rev.061797	Added terminal blocks 8, 9 & 11
initials	

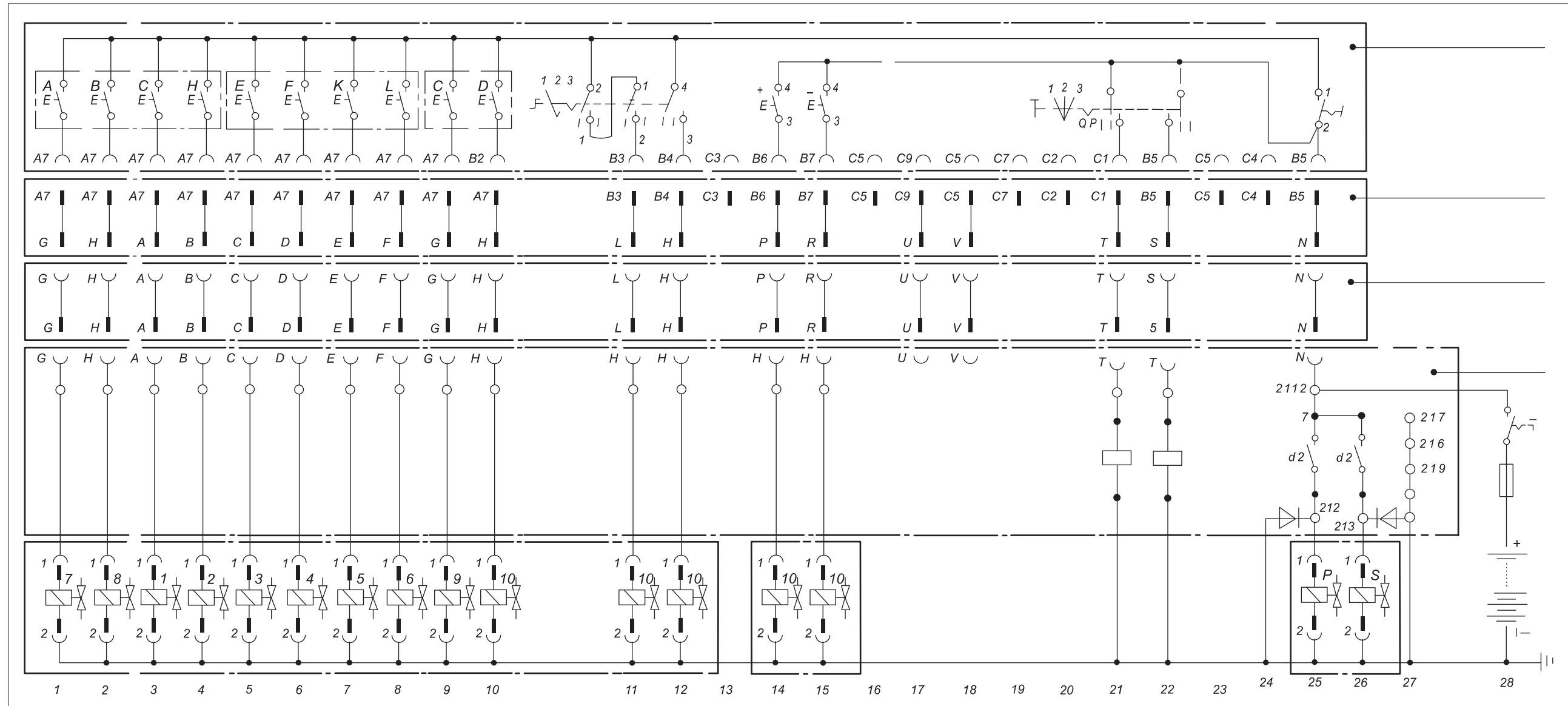
- | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|------------|--------------|--------------------------|------------------------------|--------------------------------|--------------|------------------------|-------------------------|---------------------|--------------------------|------------------------------|---------------------------|-------------------------|---------------|----|-------|-------|-------|-------|----|----|-------|--|
| 47 48 | 49 50 | 51 52 | 53 54 | 55 56 | 57 58 | 59 60 | 61 62 | 63 | 64 65 | 66 67 | 68 | 69 | 70 | 71 | 72 | 73 74 | 75 76 | 77 78 | 79 80 | 81 | 82 | 83 84 | |
| WATER PUMP | COMPRESSOR | FLOAT SWITCH | WORKING LIGHT RECEPTACLE | WORKING LIGHTS BOOM (OPTION) | WORKING LIGHTS TURRET (OPTION) | TEMP. SWITCH | OIL TEMP. SENDING UNIT | TACHOMETER SENDING UNIT | KEY SWITCH TERMINAL | CONTINUOUS DUTY SOLENOID | ELECTRIC OIL VIBRATOR COOLER | SLEWING STOP LIMIT SWITCH | DIRTY OIL FILTER SWITCH | ELECTRIC HORN | | | | | | | | | |



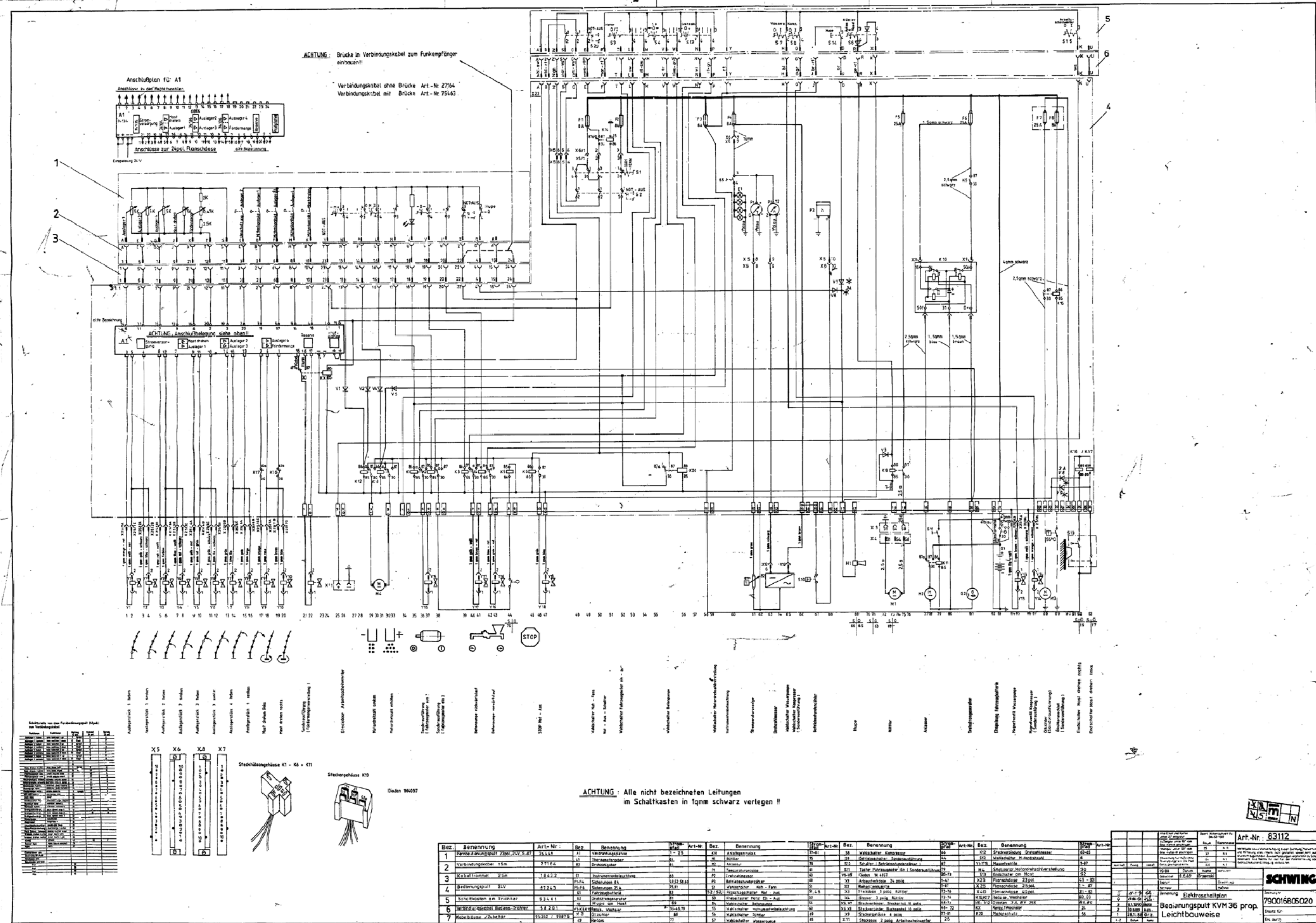


SAIE 20017-2/2	Change	KVM 34X PROPORTIONAL w/ C32 controller 2 of 2
REV.011698	Release	
initials		Tracking : y.paukatisodoc200172.eps

KVM 36M B & W BOOM CIRCUIT (25 POLE HARTING / 19 POLE AMPHENOL REMOTE CONNECTORS)

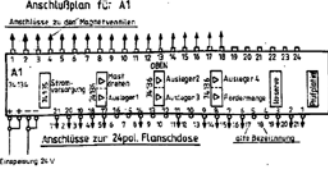


4-10-00
Es043

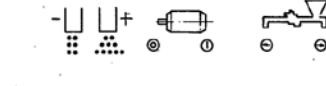
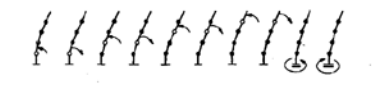


ACHTUNG: Brücke in Verbindungskabel zum Funkempfänger einbauen!!!

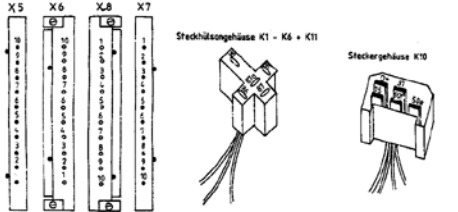
Verbindungskabel ohne Brücke Art.-Nr. 2754
Verbindungskabel mit Brücke Art.-Nr. 75463



ACHTUNG: Anschlußbelegung siehe oben!!!



Bezeichnung	Art.-Nr.	Bezeichnung	Art.-Nr.
1	...	1	...
2	...	2	...
3	...	3	...
4	...	4	...
5	...	5	...
6	...	6	...
7	...	7	...




ACHTUNG: Alle nicht bezeichneten Leitungen im Schaltkasten in lqmm schwarz verlegen !!



























Bez.	Benennung	Art.-Nr.	Bez.	Benennung	Art.-Nr.	Bez.	Benennung	Art.-Nr.	Bez.	Benennung	Art.-Nr.
1	Verbindungskabel 15m	27184	81	Druckgeber	...	82	Druckgeber	...	83	Druckgeber	...
2	Kabeltrommel 25m	18432	84	Druckgeber	...	85	Druckgeber	...	86	Druckgeber	...
3	Bedienungspult 24V	81243	87	Druckgeber	...	88	Druckgeber	...	89	Druckgeber	...
4	Schleusen am Frachter	93401	90	Druckgeber	...	91	Druckgeber	...	92	Druckgeber	...
5	Bedienungspult, Bedien-Zentrum	58281	93	Druckgeber	...	94	Druckgeber	...	95	Druckgeber	...
6	Bedienungspult, Bedien-Zentrum	55302 / 91871	96	Druckgeber	...	97	Druckgeber	...	98	Druckgeber	...



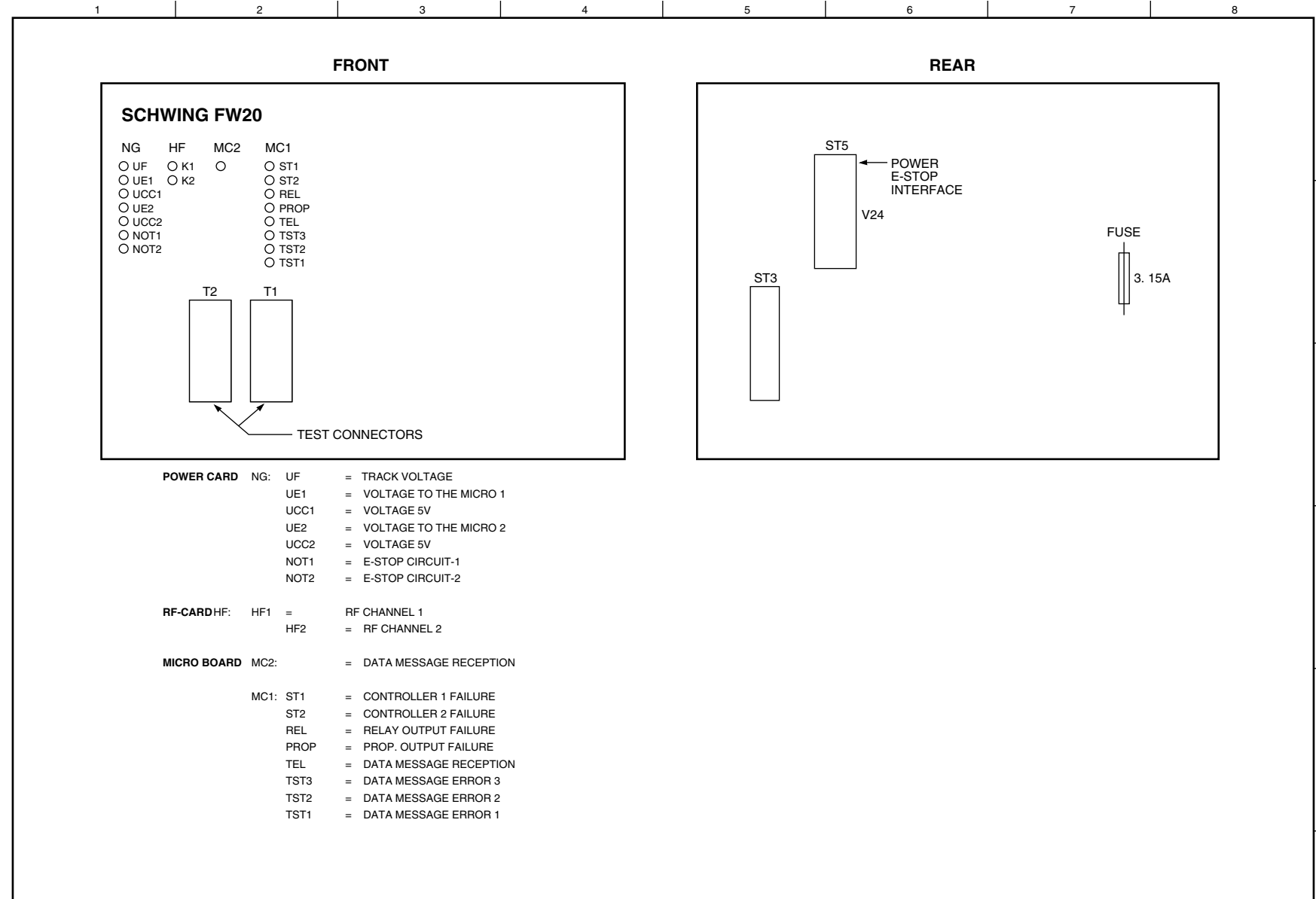
Art.-Nr.: 83112
 790016805020
 Elektrische Schaltplan
 Bedienungspult KVM 36 prop.
 Leichtbauweise

1	2	3	4	5	6	7	8			
SHEETS	DISCRIPTION	SHEETS	DISCRIPTION							
1-5	CONTENTS									
2-5	SYMBOLS									
3-5	MAIN CONTROLLER FRONT PANEL									
4-5	CIRCUIT BREAKERS									
5-5	RADIO FRONT PANEL									
	ELECTRICAL SCHEMATIC									
1	POWER, PTO									
2	OIL COOLER, VIBRATOR									
3	E-STOP									
4	REMOTE CONTROL									
5	RADIO CONTROL									
6	REAR CONTROL									
7	WORK LIGHTS, HORN									
8	DIGITAL INPUTS									
9	PROPORTIONAL OUTPUTS									
10	PROPORTIONAL OUTPUTS									
11	DIGITAL OUTPUTS									
12	DIGITAL OUTPUTS									
13	ENGINE SPEED CONTROL									
14	RELAY BOARD (OPTIONAL)									
15	RELAY BOARD (OPTIONAL)									
16	GREASER CONTROL (OPTIONAL)									
17	BATTERY CHARGER									
SAIE 20002-1/22	Change	 <small>WHITE BEAR, MINN. 55127</small>		Product	KVM36X-US	Drawn By	T.W.	Page	1-5	
Rev. 021097	Release			Part Name		Date	02-10-97	Approved	A.K.	
initials						Checked				

KVM 36M, KVM 42, DIGITAL, PROPORTIONAL (Cont.)

1	2	3	4	5	6	7	8			
SYMBOL	EXPLANATION			SYMBOL	EXPLANATION					
	LIFT BOOM SECTION 1				ENGINE ON					
	LOWER BOOM SECTION 1				ENGINE OFF					
	LIFT BOOM SECTION 2				OIL TEMPERATURE					
	LOWER BOOM SECTION 2				WATER TEMPERATURE					
	LIFT BOOM SECTION 3				SPEED ADJUSTMENT / THROTTLE CONTROL					
	LOWER BOOM SECTION 3				HORN					
	LIFT BOOM SECTION 4				SPOTLIGHT					
	LOWER BOOM SECTION 4				AGITATOR					
	SLEW ANTICLOCKWISE									
	SLEW CLOCKWISE									
	SWITCH-OVER BOOM/OUTRIGGERS									
	CONCRETE PUMP REVERSE									
	CONCRETE PUMP FORWARD									
	WATER PUMP									
	COMPRESSOR									
	OUTPUT									
	VIBRATOR									
SAIE 20002-2/22	Change			 WHITE BEAR, MINN. 55127	Product	KVM36X-US	Drawn By	T.W.	Page	2-5
Rev. 021097	Release				Part Name	SYMBOLS	Date	02-10-97		
initials							Approved	A.K.		
						Checked				

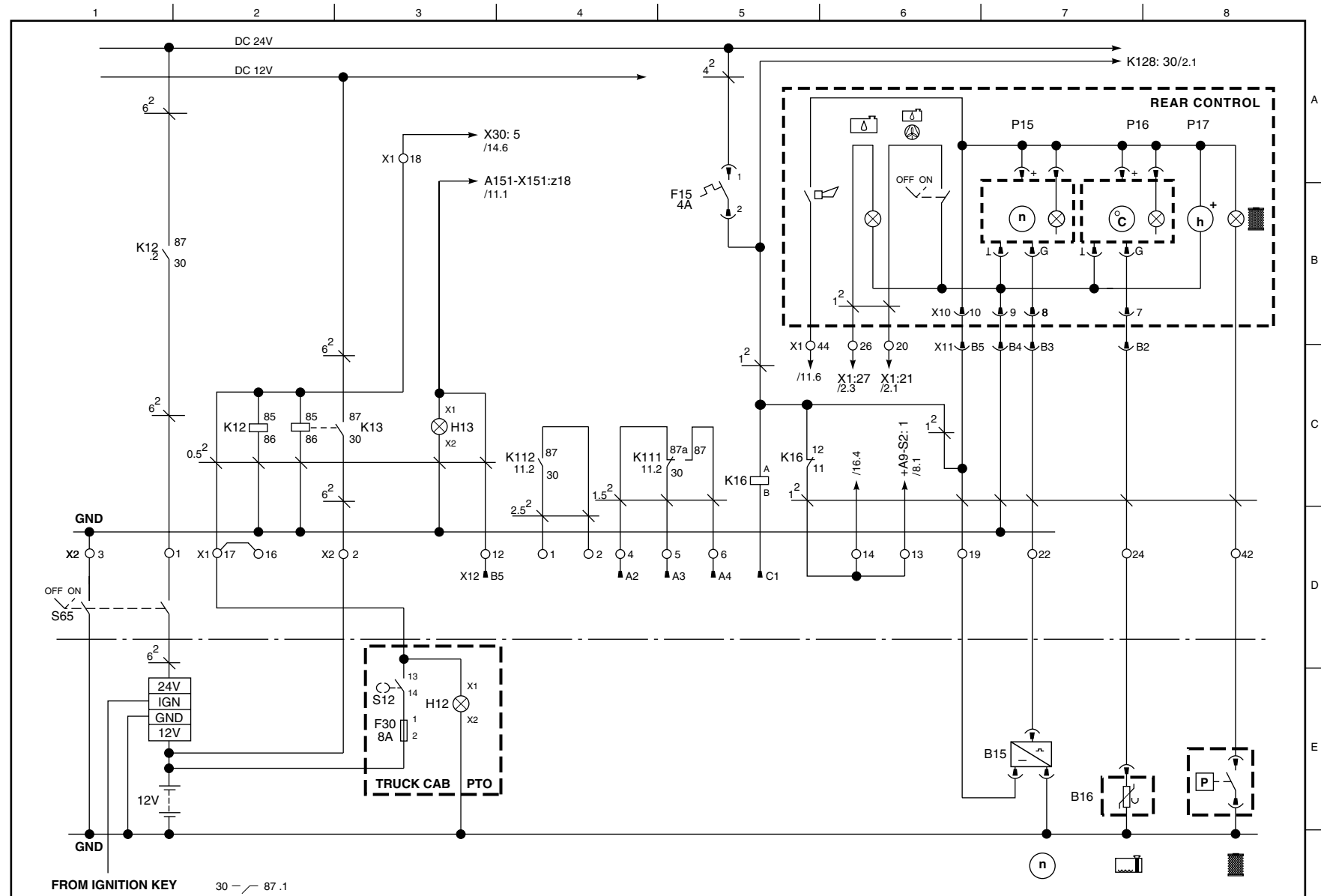
KVM 36M, KVM 42, DIGITAL, PROPORTIONAL (Cont.)



- POWER CARD** NG: UF = TRACK VOLTAGE
 UE1 = VOLTAGE TO THE MICRO 1
 UCC1 = VOLTAGE 5V
 UE2 = VOLTAGE TO THE MICRO 2
 UCC2 = VOLTAGE 5V
 NOT1 = E-STOP CIRCUIT-1
 NOT2 = E-STOP CIRCUIT-2
- RF-CARD** HF: HF1 = RF CHANNEL 1
 HF2 = RF CHANNEL 2
- MICRO BOARD** MC2: = DATA MESSAGE RECEPTION
- MC1: ST1 = CONTROLLER 1 FAILURE
 ST2 = CONTROLLER 2 FAILURE
 REL = RELAY OUTPUT FAILURE
 PROP = PROP. OUTPUT FAILURE
 TEL = DATA MESSAGE RECEPTION
 TST3 = DATA MESSAGE ERROR 3
 TST2 = DATA MESSAGE ERROR 2
 TST1 = DATA MESSAGE ERROR 1

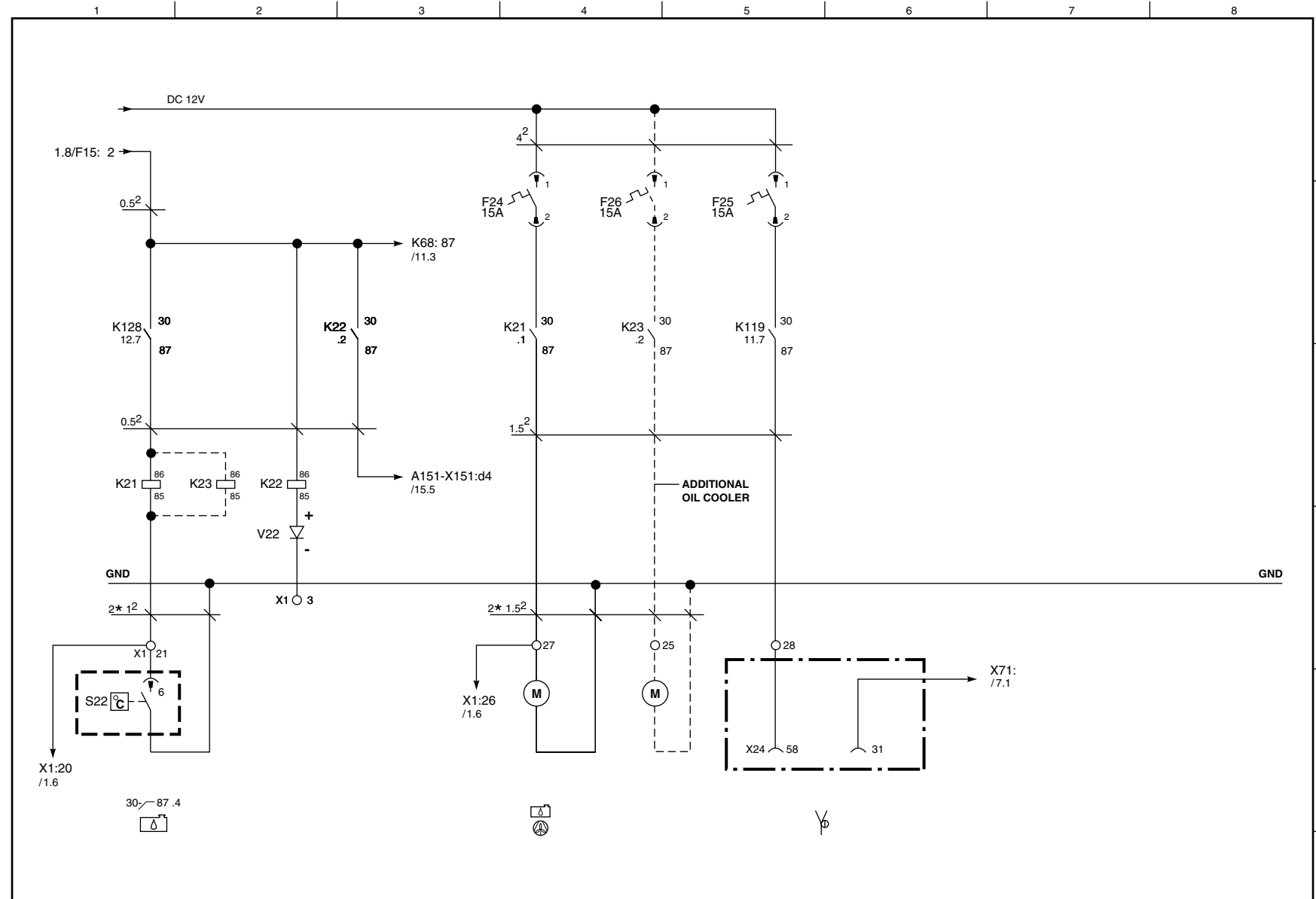
SAIE 20002-5/22	Change	 WHITE BEAR, MINN. 55127	Product	KVM36X-US	Drawn By	T.W.	Page 5-5
Rev. 021097	Release		Part Name	RADIO FRONT PANEL	Date	02-10-97	
initials					Approved	A.K.	
					Checked		

KVM 36M, KVM 42, DIGITAL, PROPORTIONAL (Cont.)



SAIE 20002-6/22	Change	<p>SCHWING AMERICA INC. WHITE BEAR, MINN. 55127</p>	Product	KVM36X-US	Drawn By	T.W.	Page	1
Rev.021097	Release		Part Name	POWER, PTO	Date	02-10-97		
initials			Approved	A.K.	Checked			

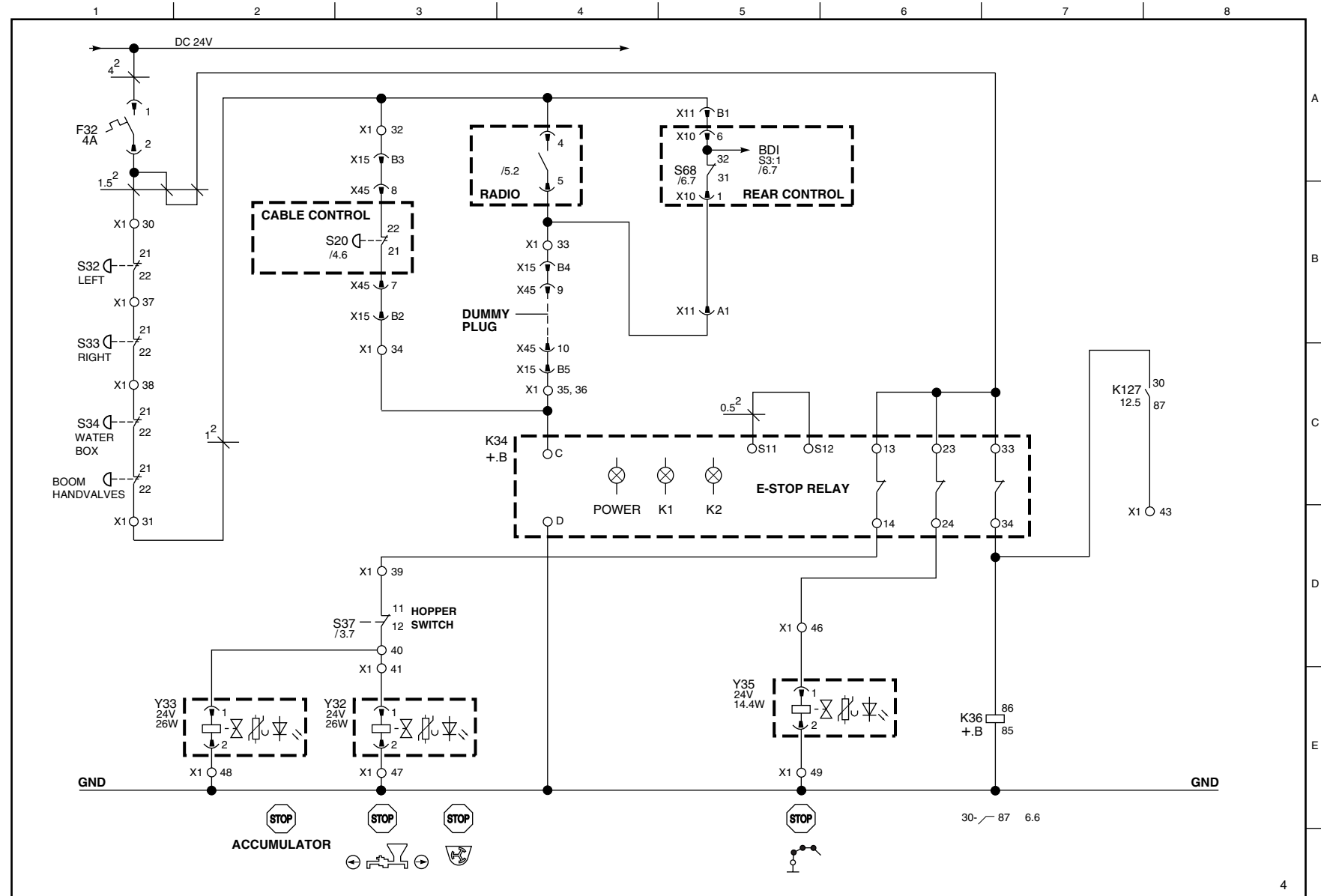
KVM 36M, KVM 42, DIGITAL, PROPORTIONAL (Cont.)



SAIE 20002-7/22	Change	<p>SCHWING AMERICA INC. WHITE BEAR, MINN. 55127</p>	Product	KVM36X-US	Drawn By	T.W.	Page 2
Rev. 021097	Release		Part Name	OIL COOLER, VIBRATOR	Date	02-10-97	
initials					Approved	A.K.	
					Checked		

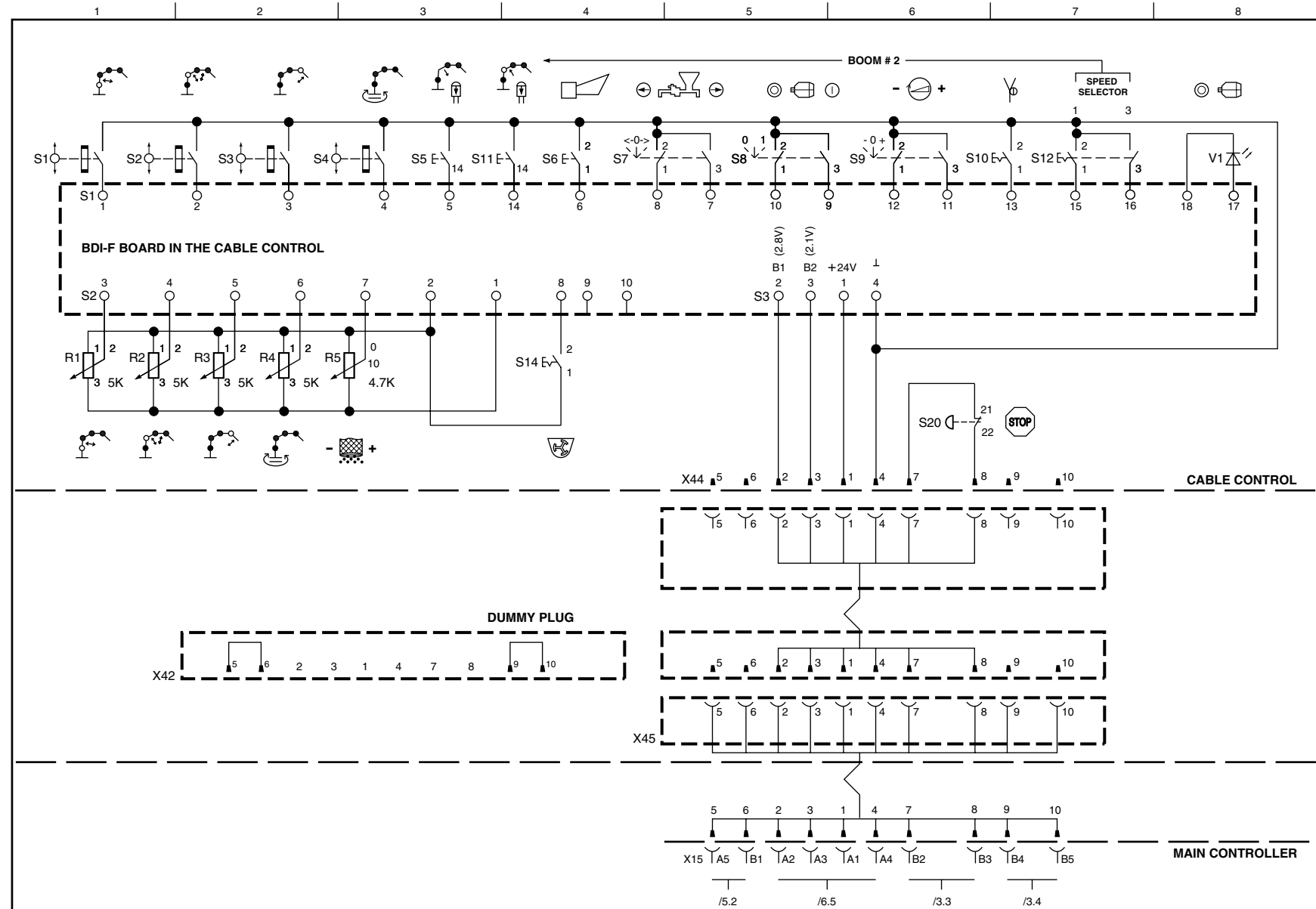
ELECTRICAL SCHEMATICS

KVM 36M, KVM 42, DIGITAL, PROPORTIONAL (Cont.)



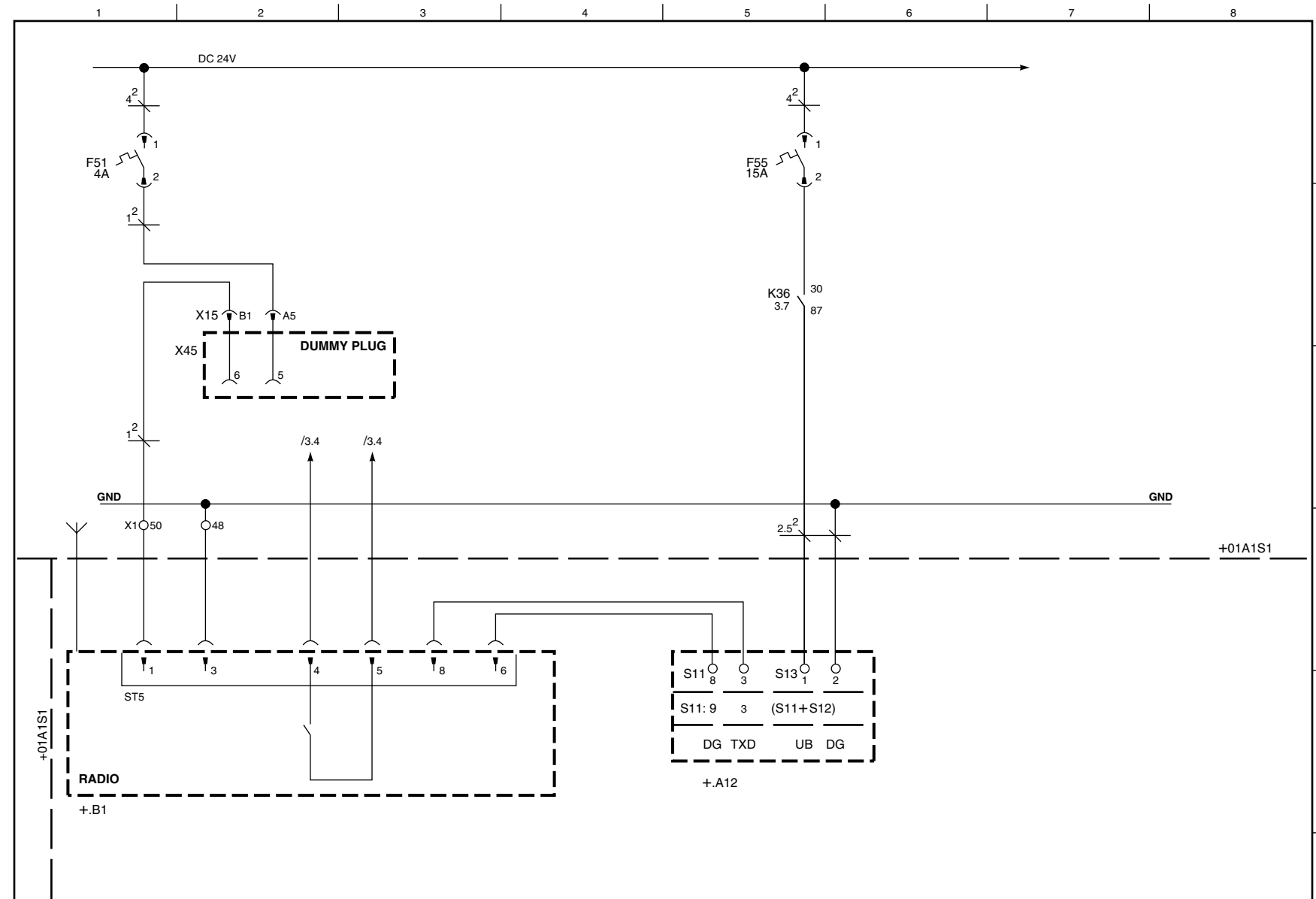
SAIE 20002-8/22	Change	SCHWING AMERICA INC. WHITE BEAR, MINN. 55127	Product	KVM36X-US	Drawn By	T.W.	Page	3
Rev. 021097	Release		Part Name	E-STOP	Date	02-10-97		
initials			Approved	A.K.	Checked			

KVM 36M, KVM 42, DIGITAL, PROPORTIONAL (Cont.)



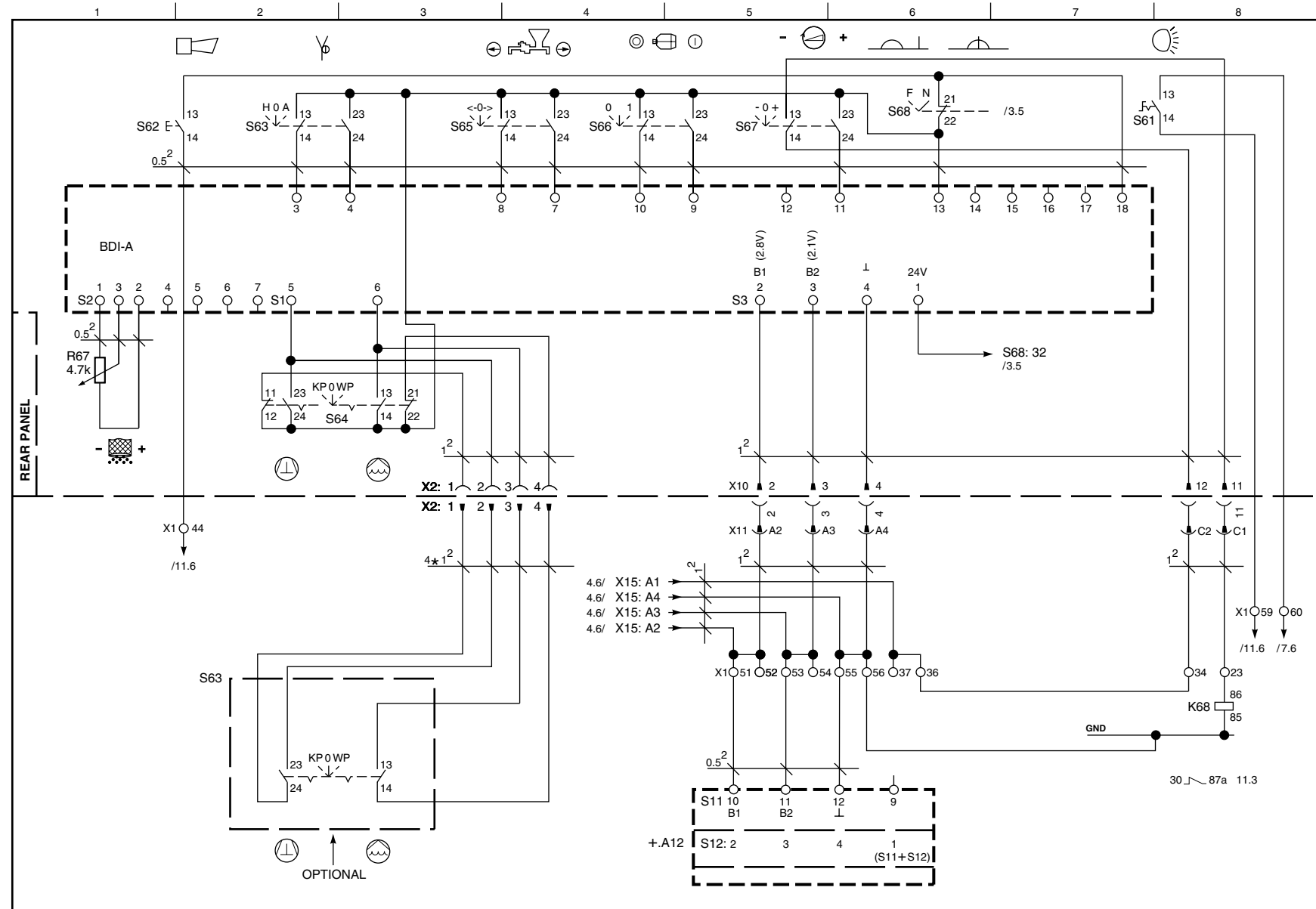
SAIE 20002-9/22	Change	<p>SCHWING AMERICA INC. WHITE BEAR, MINN. 55127</p>	Product	KVM36X-US	Drawn By	T.W.	Page	4
Rev. 021097	Release		Part Name	REMOTE CONTROL	Date	02-10-97		
initials					Approved	A.K.		
					Checked			

KVM 36M, KVM 42, DIGITAL, PROPORTIONAL (Cont.)



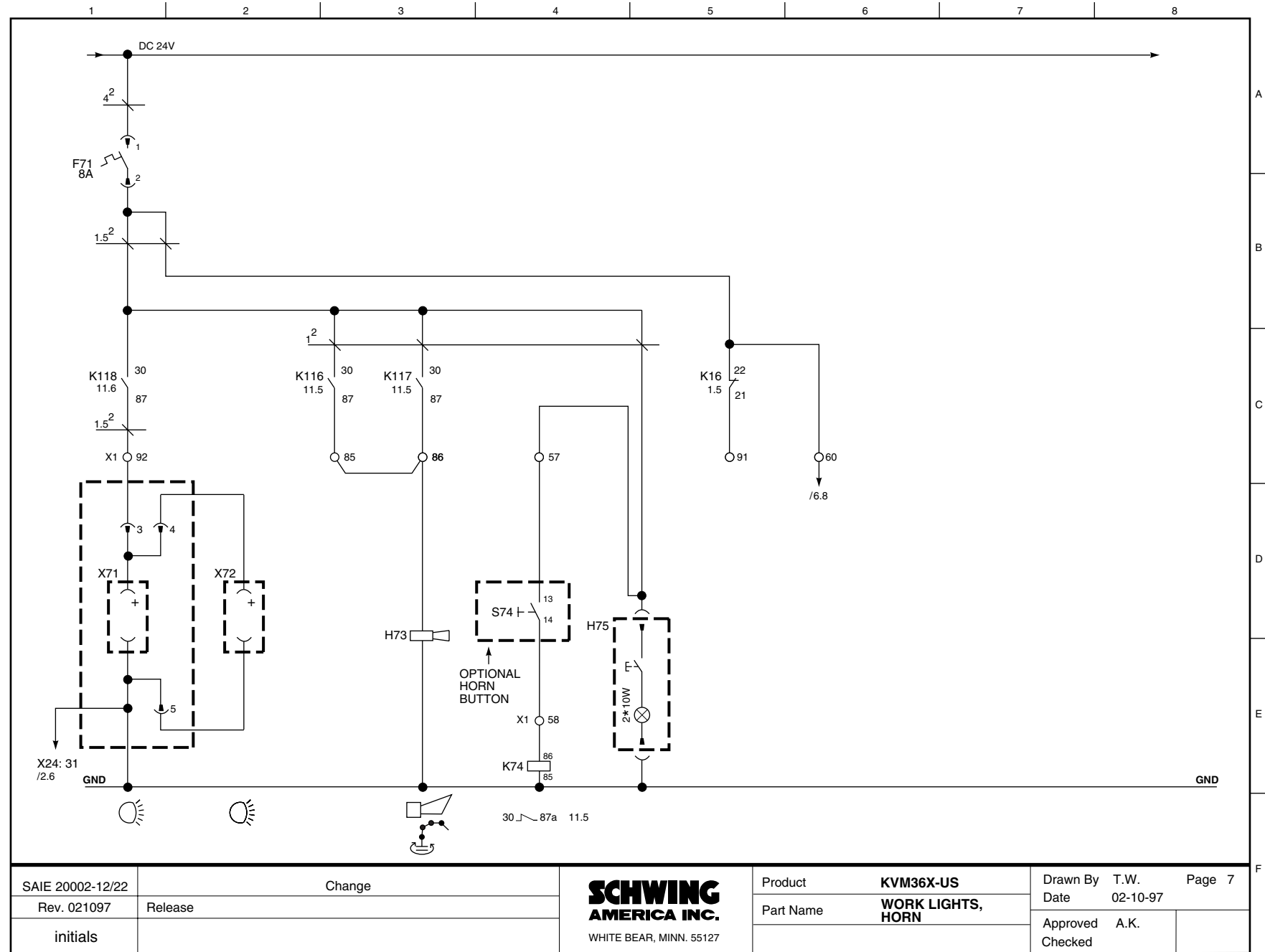
SAIE 20002-10/22	Change	SCHWING AMERICA INC. <small>WHITE BEAR, MINN. 55127</small>	Product	KVM36X-US	Drawn By	T.W.	Page	5
Rev. 021097	Release		Part Name	RADIO CONTROL	Date	02-10-97		
initials			Approved	A.K.	Checked			

KVM 36M, KVM 42, DIGITAL, PROPORTIONAL (Cont.)

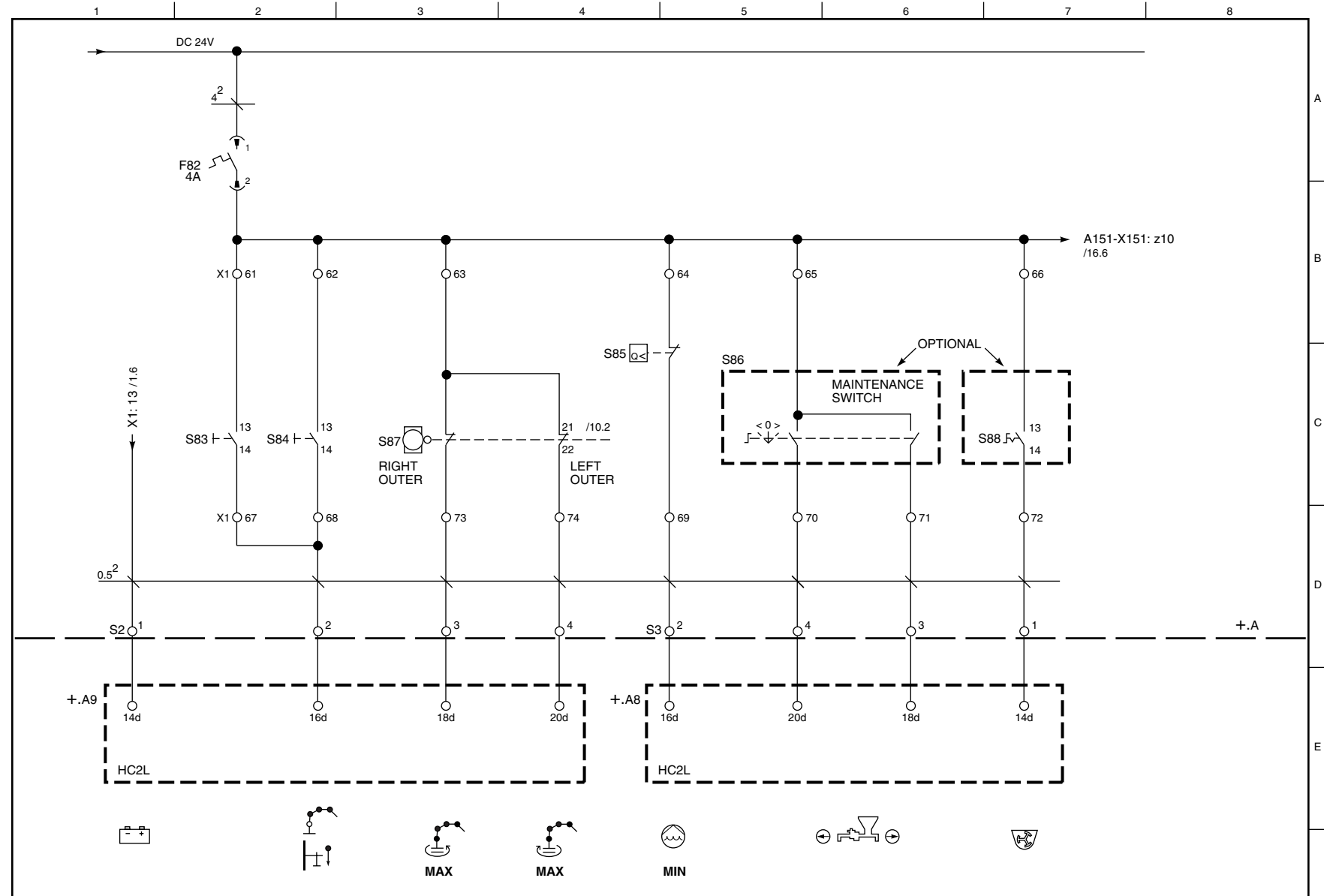


SAIE 20002-11/22	Change	<p>SCHWING AMERICA INC. WHITE BEAR, MINN. 55127</p>	Product	KVM36X-US	Drawn By	T.W.	Page	6
Rev. 021097	Release		Part Name	REAR CONTROL	Date	02-10-97		
initials					Approved	A.K.		
					Checked			

KVM 36M, KVM 42, DIGITAL, PROPORTIONAL (Cont.)

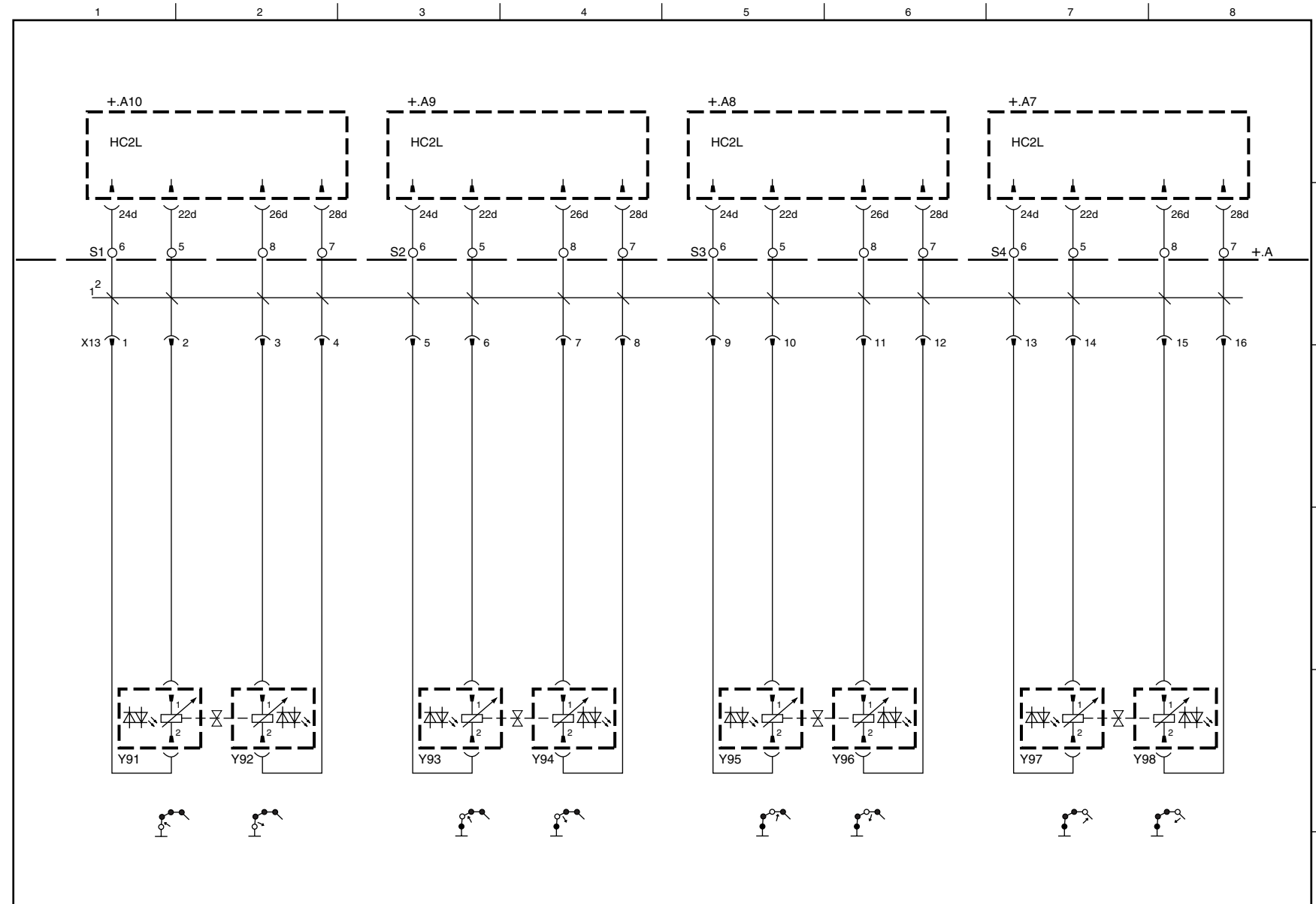


KVM 36M, KVM 42, DIGITAL, PROPORTIONAL (Cont.)



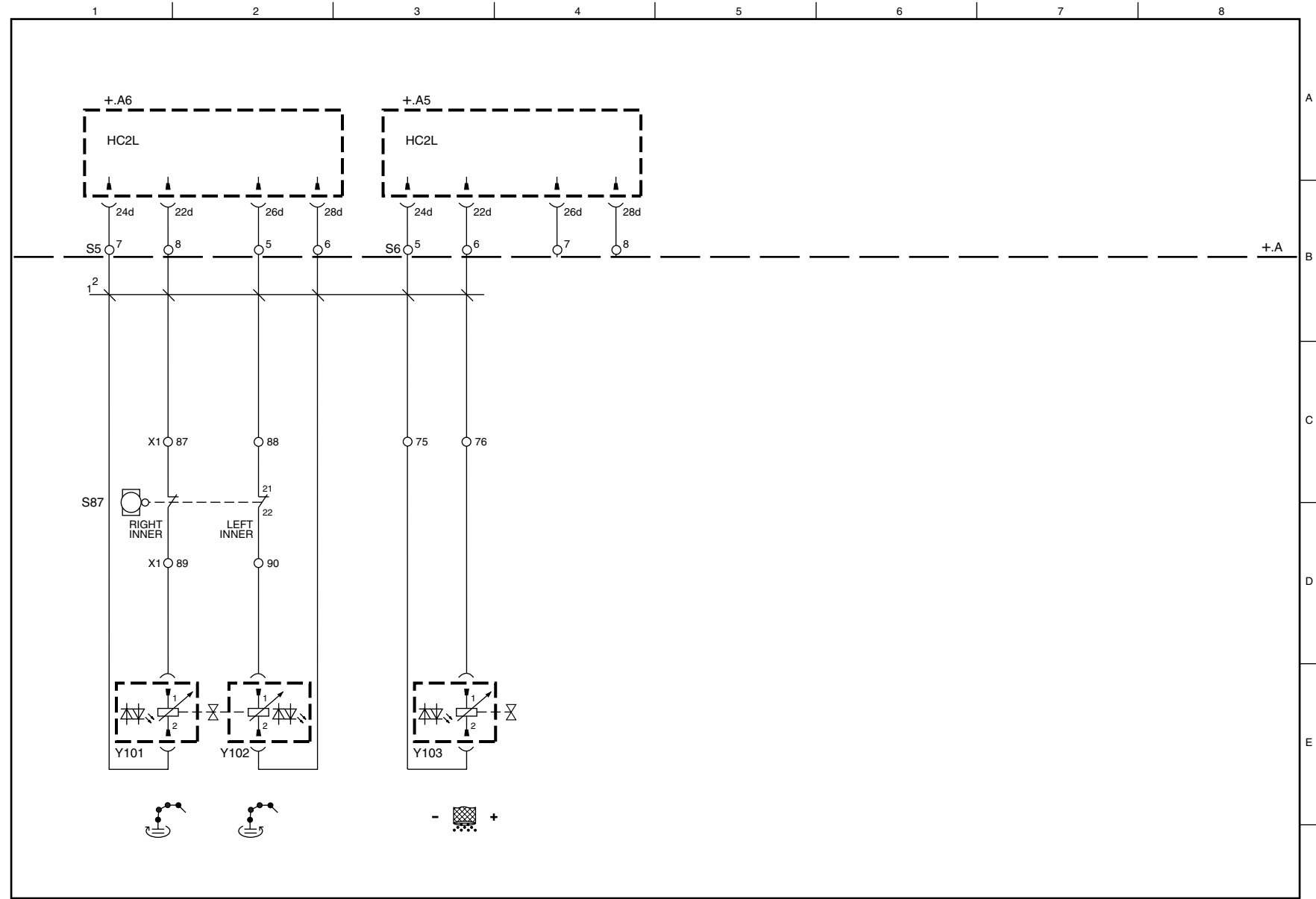
SAIE 20002-13/22	Change	<p>SCHWING AMERICA INC. WHITE BEAR, MINN. 55127</p>	Product	KVM36X-US	Drawn By	T.W.	Page	8
Rev. 021097	Release		Part Name	DIGITAL INPUTS	Date	02-10-97		
initials					Approved	A.K.		
					Checked			

KVM 36M, KVM 42, DIGITAL, PROPORTIONAL (Cont.)



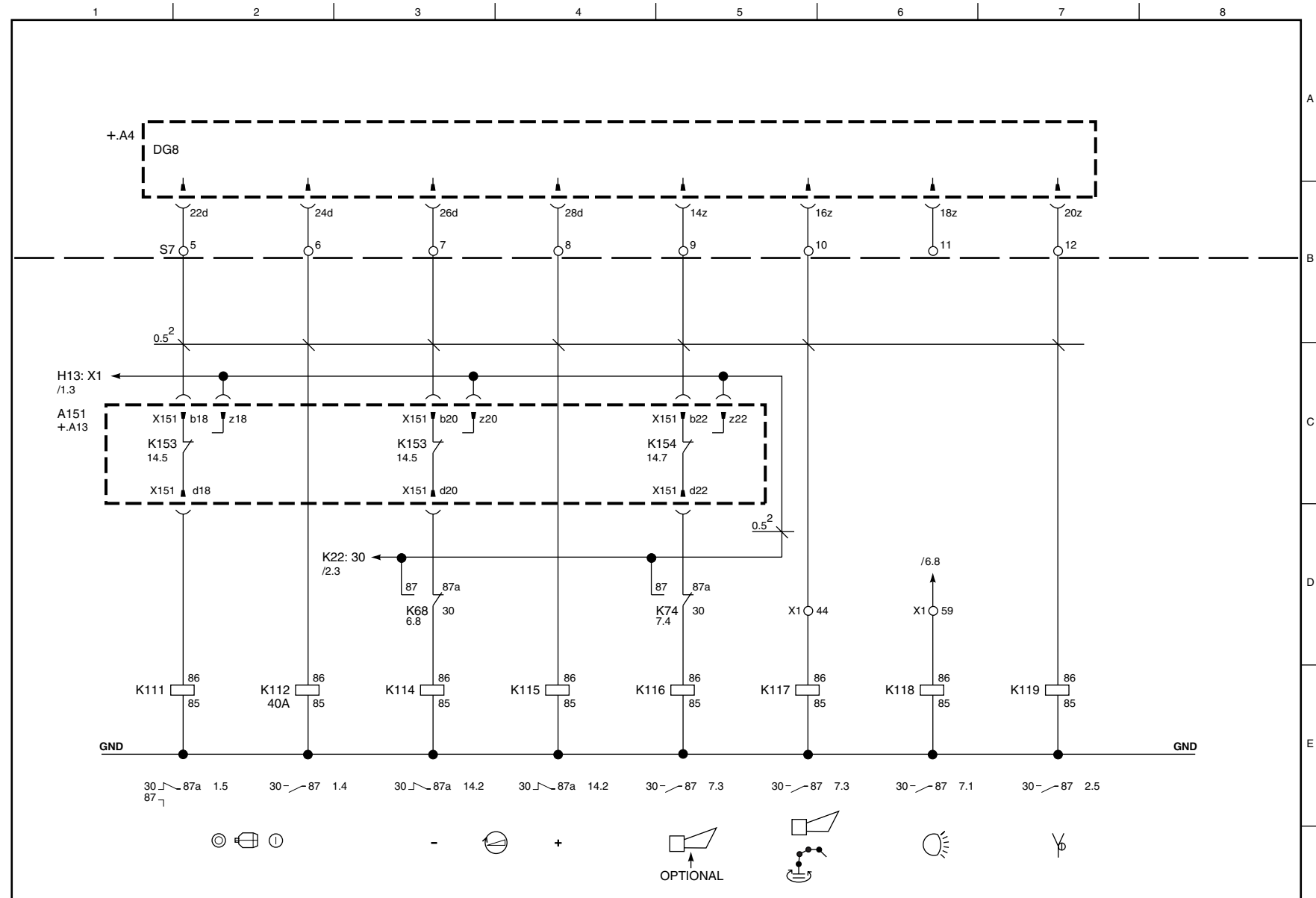
SAIE 20002-14/22	Change	<p>SCHWING AMERICA INC. WHITE BEAR, MINN. 55127</p>	Product	KVM36X-US	Drawn By	T.W.	Page	9
Rev. 021097	Release		Part Name	PROPORTIONAL OUTPUTS	Date	02-10-97		
initials					Approved	A.K.		
					Checked			

KVM 36M, KVM 42, DIGITAL, PROPORTIONAL (Cont.)



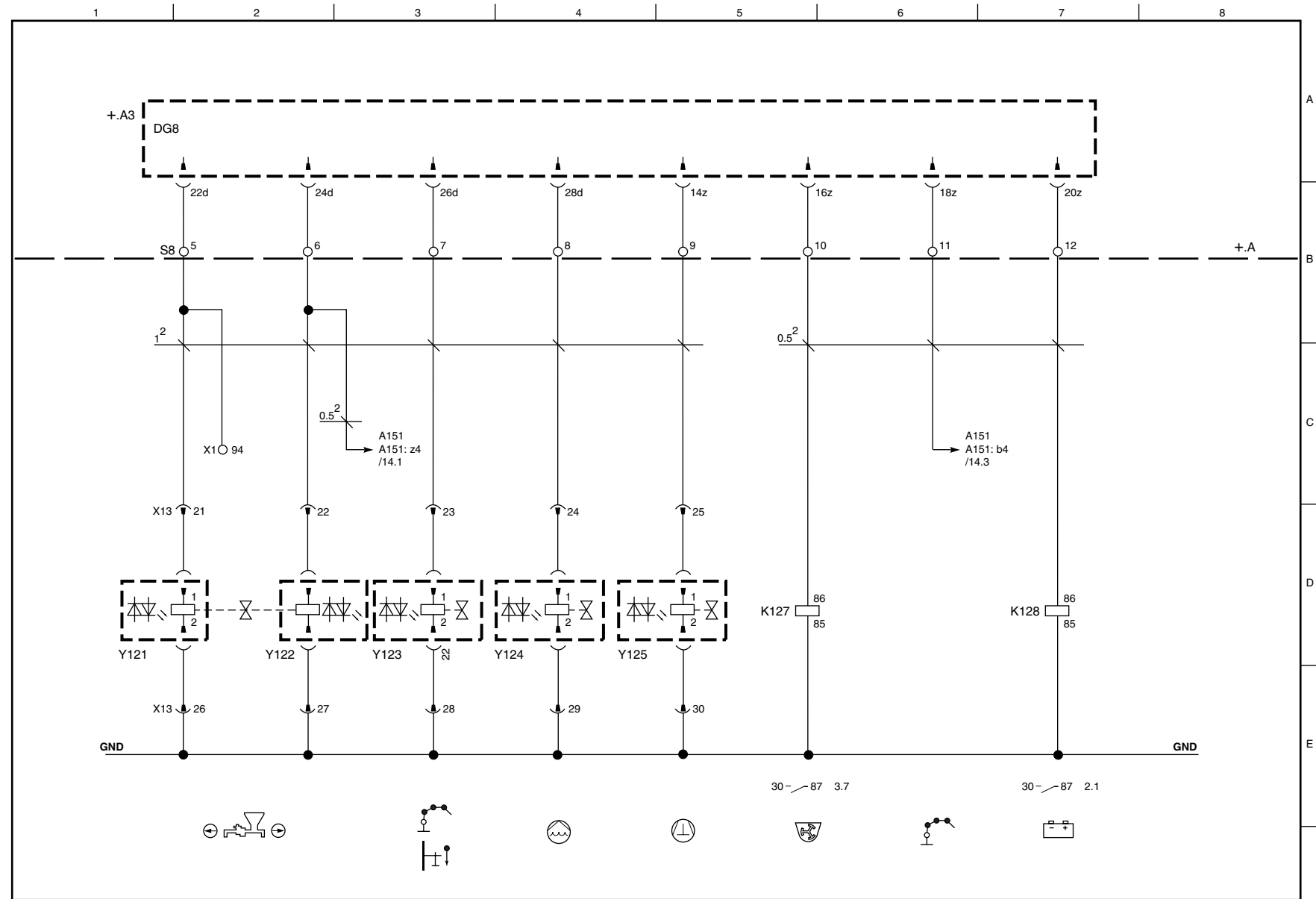
SAIE 20002-15/22	Change	 WHITE BEAR, MINN. 55127	Product	KVM36X-US	Drawn By	T.W.	Page 10
Rev. 021097	Release		Part Name	PROPORTIONAL OUTPUTS	Date	02-10-97	
initials					Approved	A.K.	
				Checked			

KVM 36M, KVM 42, DIGITAL, PROPORTIONAL (Cont.)



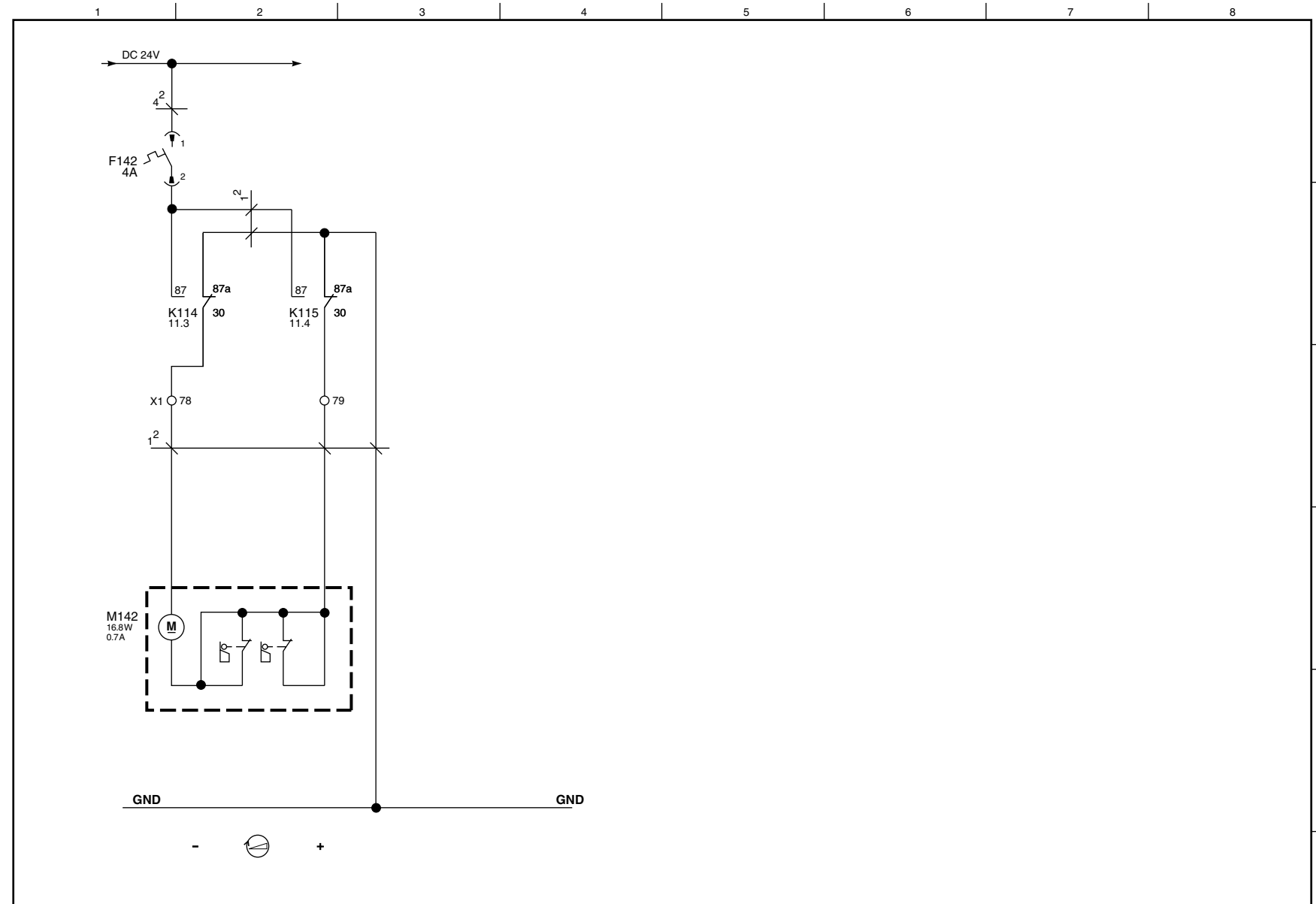
SAIE 20002-16/22	Change	 SCHWING AMERICA INC. WHITE BEAR, MINN. 55127	Product	KVM36X-US	Drawn By	T.W.	Page 11
Rev. 021097	Release		Part Name	DIGITAL OUTPUTS	Date	02-10-97	
initials					Approved	A.K.	
				Checked			

KVM 36M, KVM 42, DIGITAL, PROPORTIONAL (Cont.)



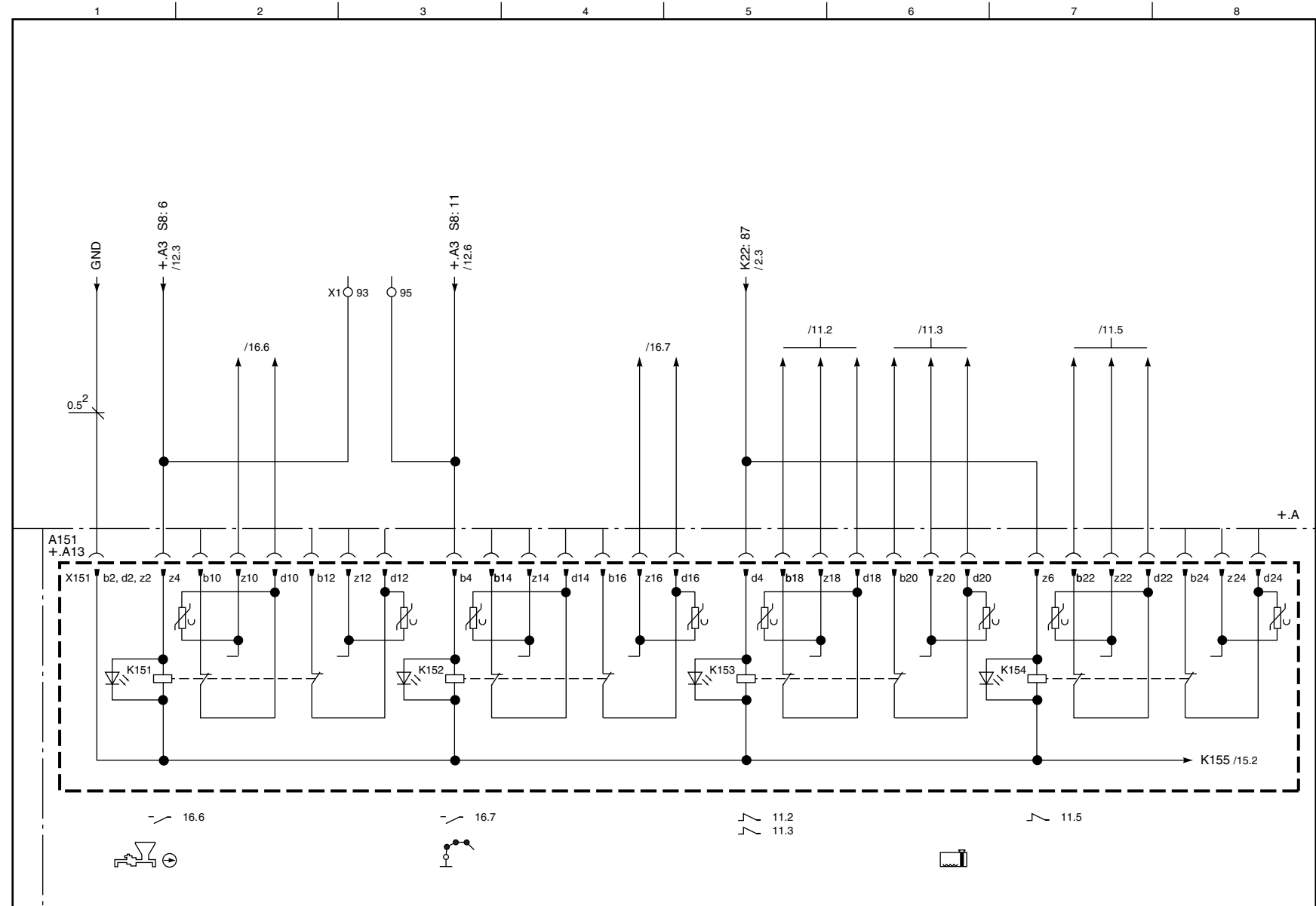
SAIE 20002-17/22	Change	 SCHWING AMERICA INC. <small>WHITE BEAR, MINN. 55127</small>	Product	KVM36X-US	Drawn By	T.W.	Page 12
Rev. 021097	Release		Part Name	DIGITAL OUTPUTS	Date	02-10-97	
initials					Approved	A.K.	
				Checked			

KVM 36M, KVM 42, DIGITAL, PROPORTIONAL (Cont.)



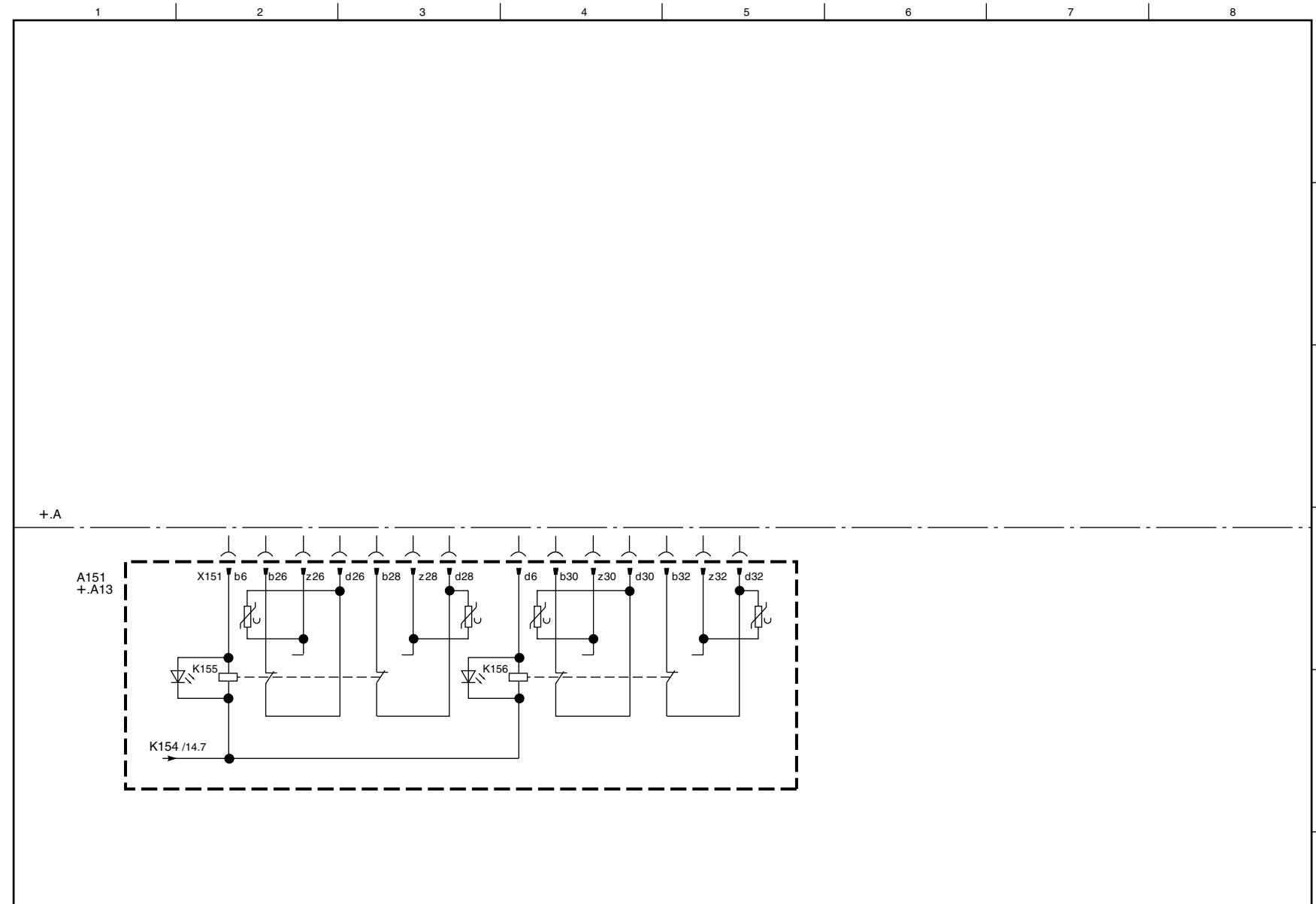
SAIE 20002-18/22	Change	<p>SCHWING AMERICA INC. WHITE BEAR, MINN. 55127</p>	Product	KVM36X-US	Drawn By	T.W.	Page	13
Rev. 021097	Release		Part Name	ENGINE SPEED CONTROL	Date	02-10-972		
initials			Approved	A.K.	Checked			

KVM 36M, KVM 42, DIGITAL, PROPORTIONAL (Cont.)



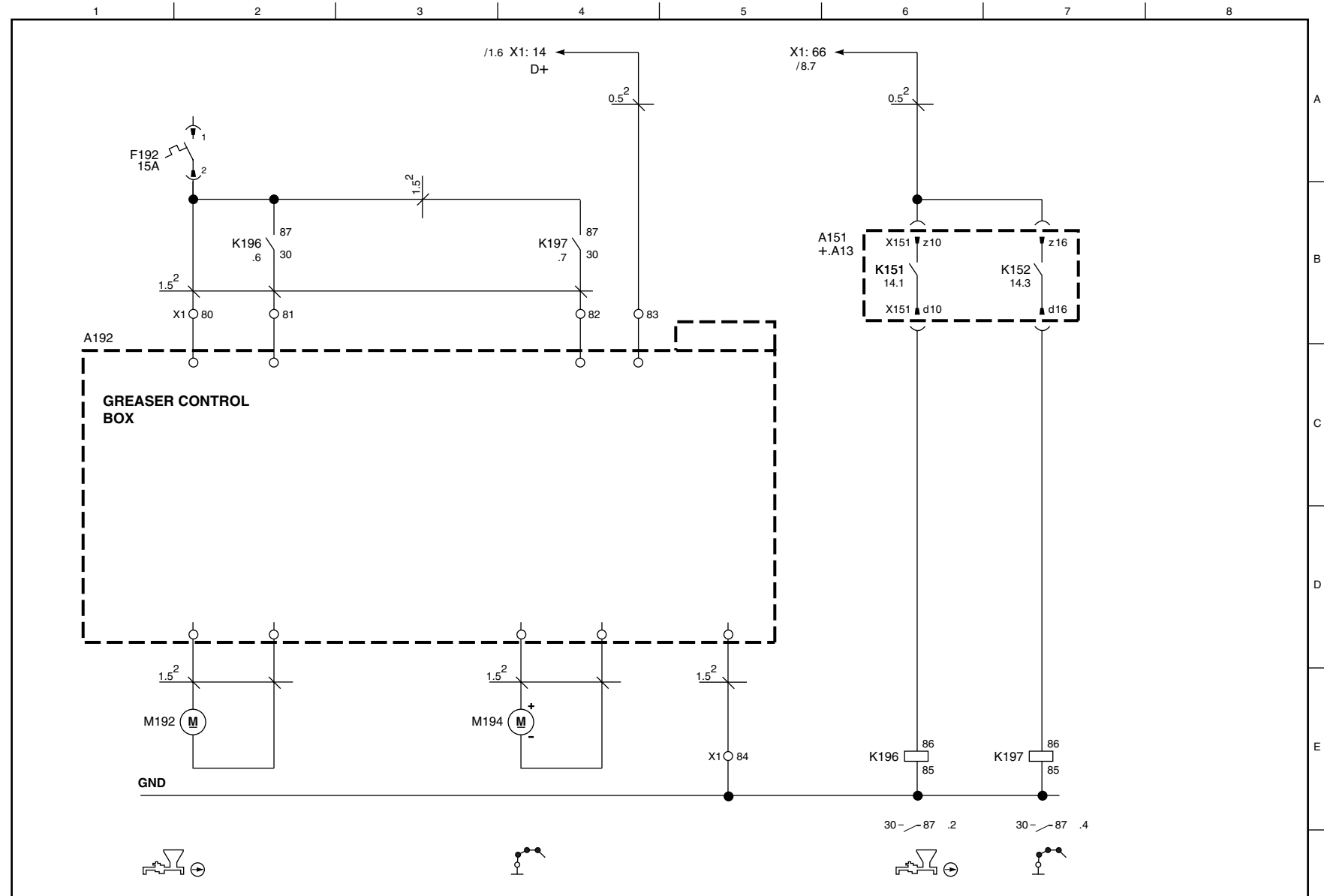
SAIE 20002-19/22	Change	 WHITE BEAR, MINN. 55127	Product	KVM36X-US	Drawn By	T.W.	Page 14
Rev. 021097	Release		Part Name	RELAY BOARD (OPTIONAL)	Date	02-10-97	
initials					Approved	A.K.	
					Checked		

KVM 36M, KVM 42, DIGITAL, PROPORTIONAL (Cont.)



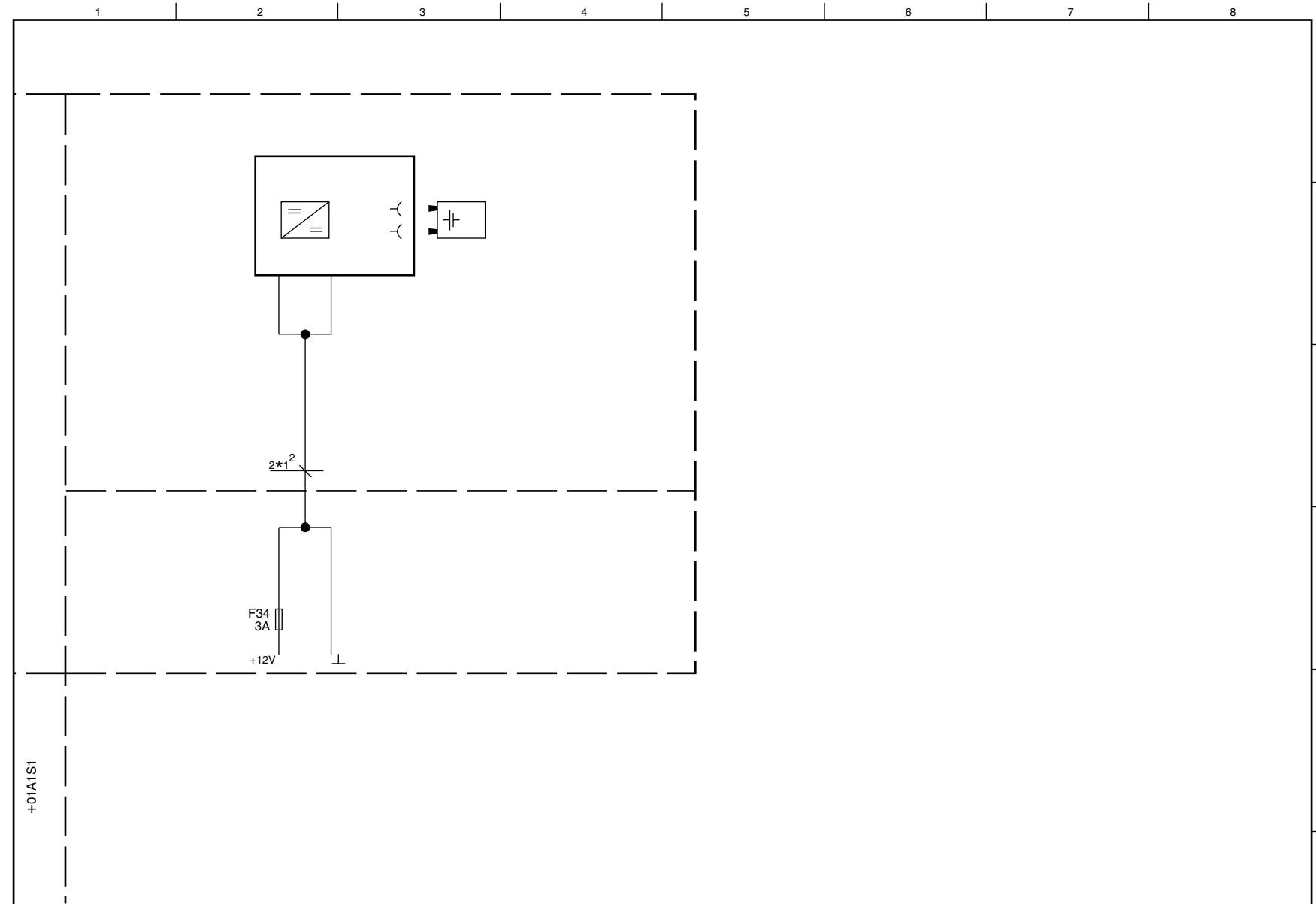
SAIE 20002-20/22	Change	<p>WHITE BEAR, MINN. 55127</p>	Product	KVM36X-US	Drawn By	T.W.	Page 15
Rev. 021097	Release		Part Name	RELAY BOARD (OPTIONAL)	Date	02-10-97	
initials			Approved	A.K.	Checked		

KVM 36M, KVM 42, DIGITAL, PROPORTIONAL (Cont.)



SAIE 20002-21/22	Change	 WHITE BEAR, MINN. 55127	Product	KVM36X-US	Drawn By	T.W.	Page 16
Rev. 021097	Release		Part Name	GREASER CONTROL (OPTIONAL)	Date	02-10-97	
initials					Approved	A.K.	
					Checked		

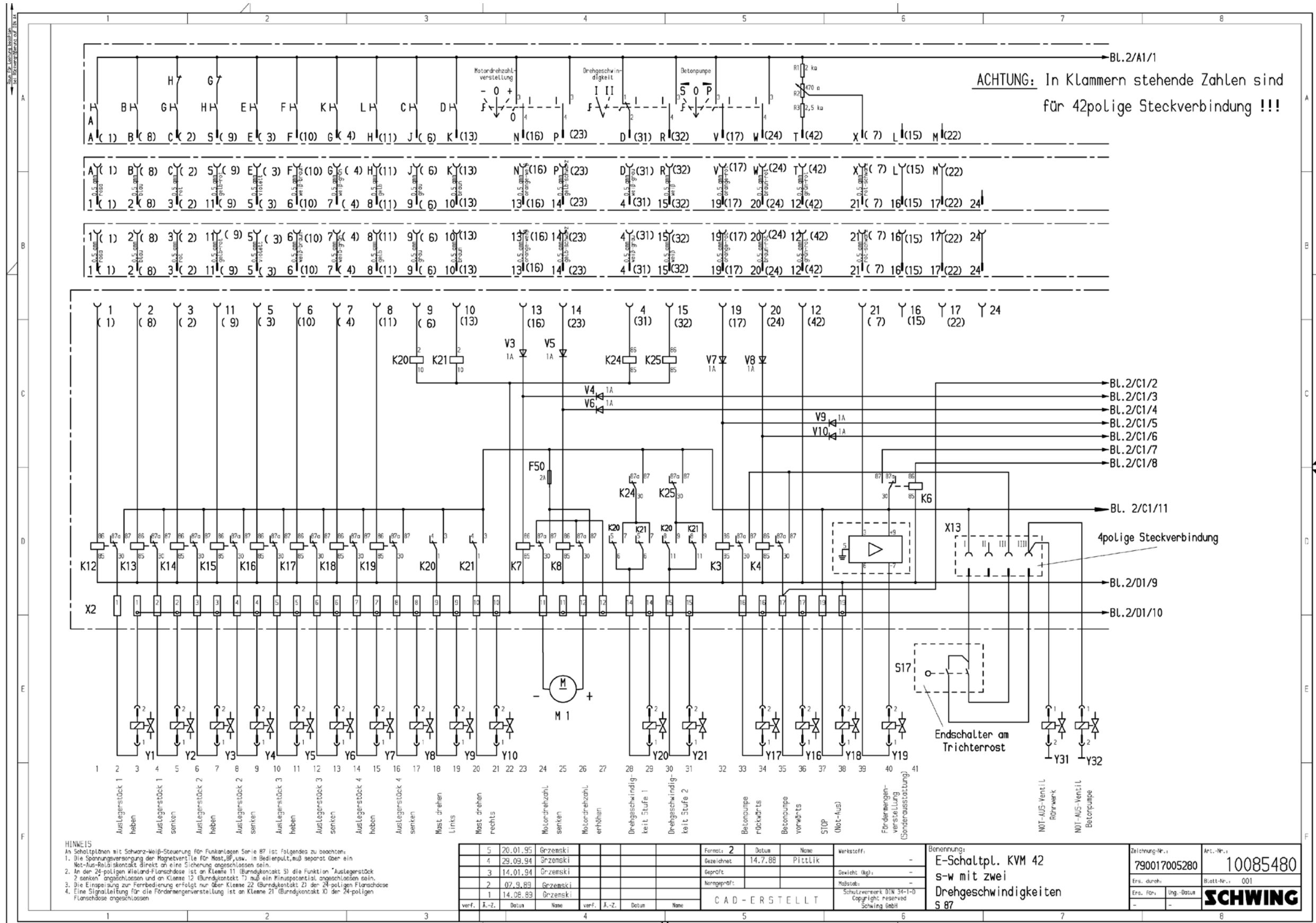
KVM 36M, KVM 42, DIGITAL, PROPORTIONAL (Cont.)

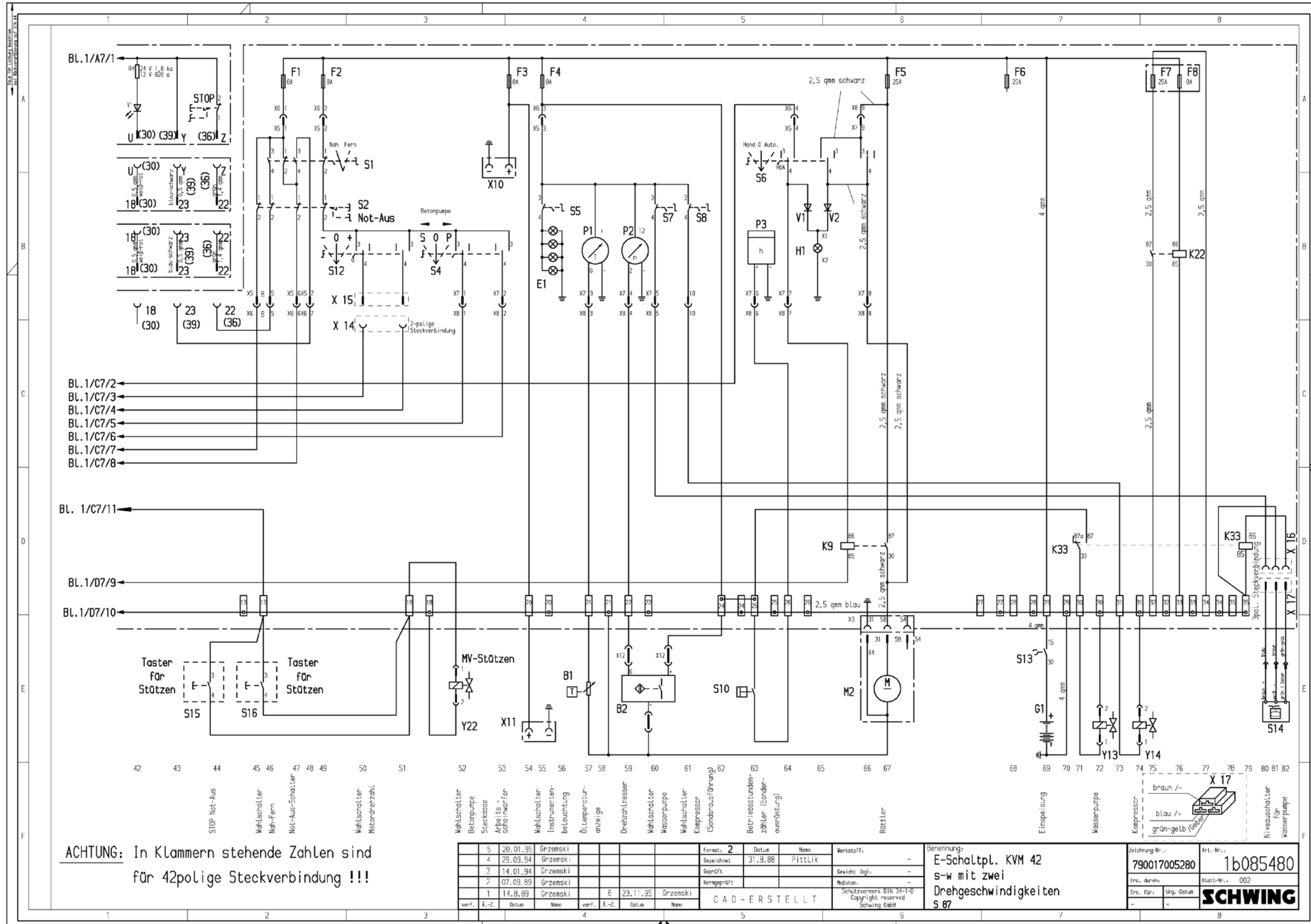


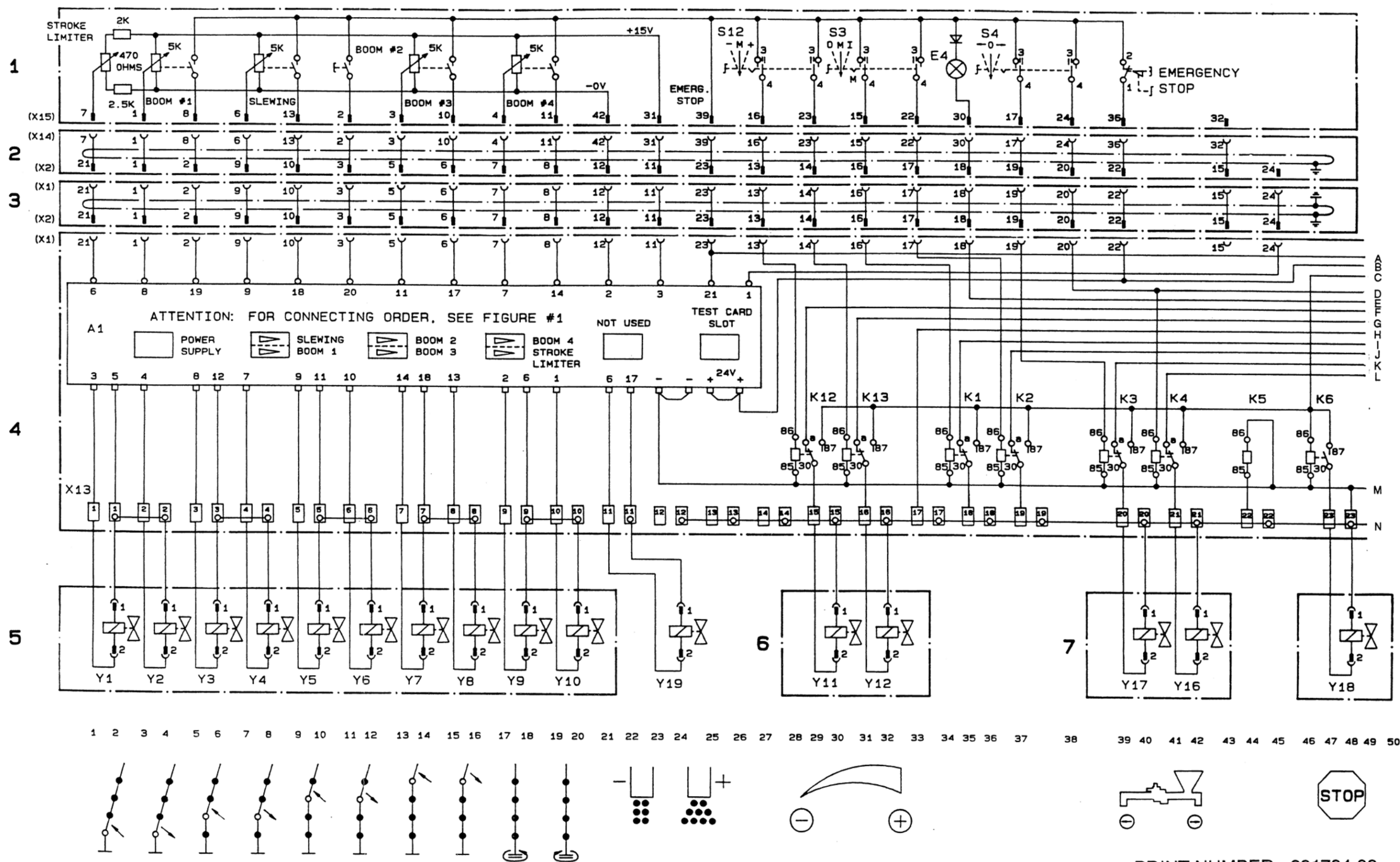
SAIE 20002-22/22	Change	<p>SCHWING AMERICA INC. WHITE BEAR, MINN. 55127</p>	Product	KVM36X-US	Drawn By	T.W.	Page 17
Rev. 021097	Release		Part Name	BATTERY CHARGER	Date	02-10-97	
initials					Approved	A.K.	
					Checked		

10085480

KVM 42 WITH 2 SPEED TOWER SLEWING



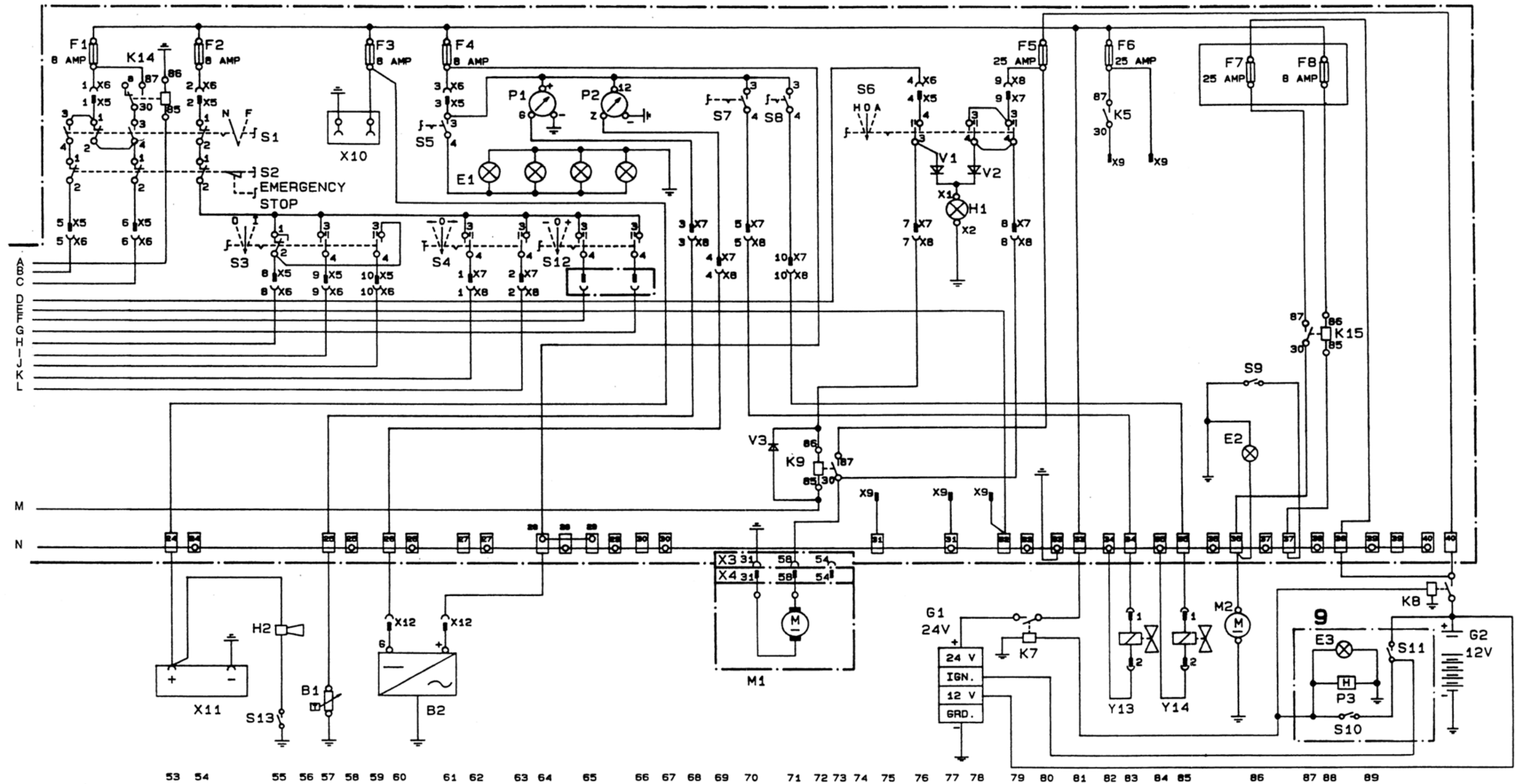




PRINT NUMBER - 321724.02
KVM 42 Prop. w/12-24V Duvac II

321724-2

KVM 42M BOOM CIRCUIT AND REMOTE CONTROL, 42 POLE HARTING, 24 POLE WEILAND, SHIELDED, PROPORTIONAL (USA VERSION)



- 53 WORK LIGHT SOCKET
- 54 IGNITORING SWITCH NEAR/FAR
- 55 EMERGENCY STOP
- 56 MOTOR ON/OFF
- 57 ELECTRIC HORN
- 58 TEMPERATURE SENDING UNIT
- 59 TACHOMETER SENDING UNIT
- 60 CONCRETE PUMP FORWARD/REVERSE SWITCH
- 61 INSTRUMENT ILLUMINATION
- 62 OIL TEMPERATURE INDICATOR GAUGE
- 63 TACHOMETER GAUGE
- 64 WATER PUMP MONITORING SWITCH
- 65 COMPRESSOR MONITORING SWITCH
- 66 VIBRATOR
- 67 24 VOLT POWER SUPPLY (DUVAC II)
- 68 WATER PUMP
- 69 COMPRESSOR
- 70 OIL COOLER LIGHT
- 71 OIL COOLER
- 72 12 VOLT POWER SUPPLY

PRINT NUMBER - 321724.02
KVM 42 Prop. w/12-24V Duvac II

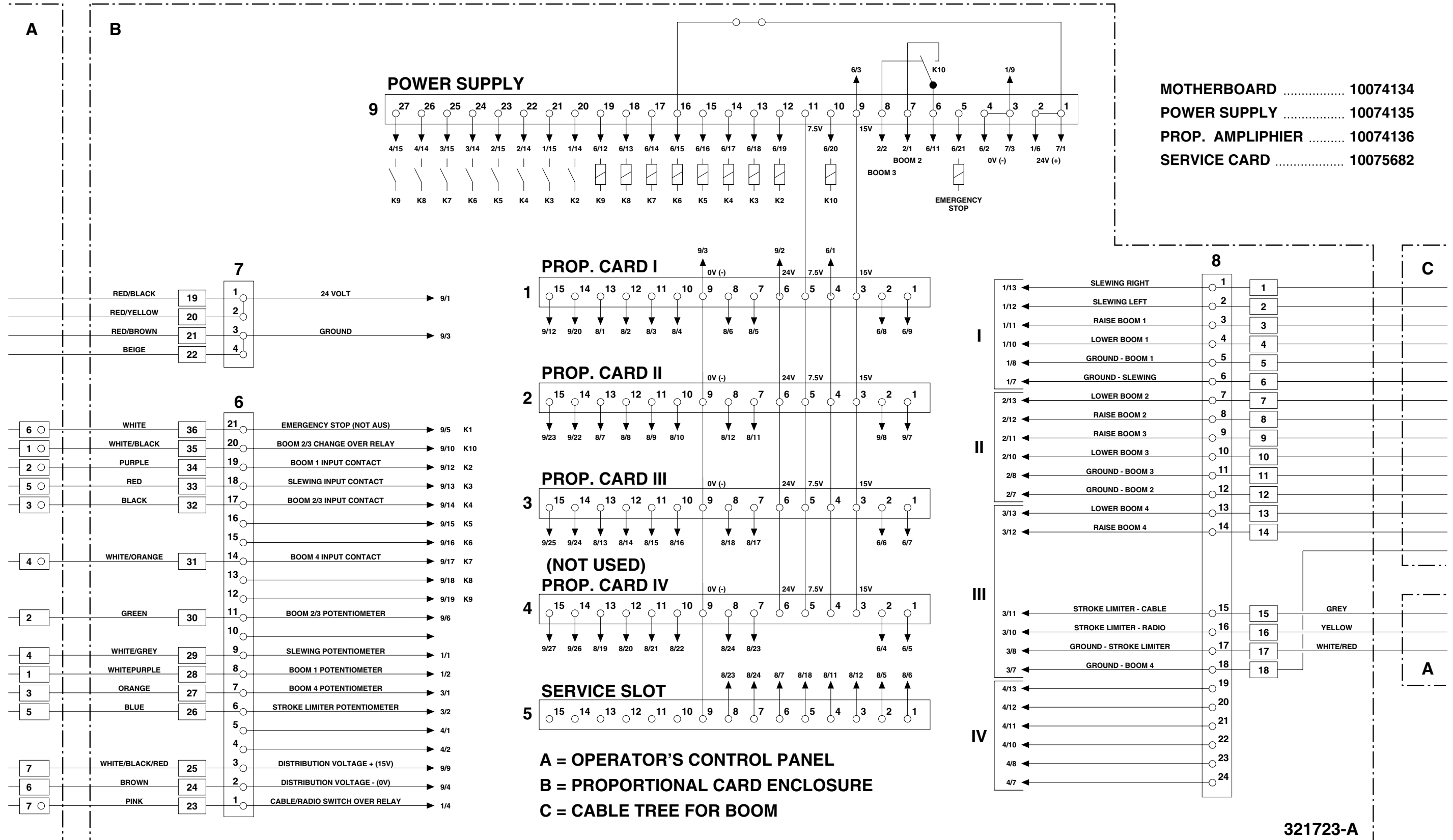
COMPONENT LIST - KVM 42M PROPORTIONAL (USA VERSION)

<u>POS</u>	<u>DESCRIPTION</u>	<u>POS</u>	<u>DESCRIPTION</u>
1	Remote Box (42 pole Harting)	S1	Local / Remote Switch (near / far)
2	Pin & Socket Connector (Harting)	S2	Emergency Stop Button
3	Shielded Cable Reel (24 pole Weiland)	S3	Throttle Up / Down Switch (not used)
4	Control Panel (12 / 24 Volt)	S4	Concrete Pump (For / Rev) Switch
5	Cable Tree for Boom	S5	Instrument Illumination Switch
6	Cable Tree for Engine Speed	S6	Vibrator Switch
7	Cable Tree for Concrete Pump	S7	Water Pump Switch
8	Cable Tree for Emergency Stop	S8	Compressor Switch
9	Truck Cab	S9	Oil Cooler Switch
A1	Circuit Plate	S10	Power Take-Off Switch
B1	Temperature Sending Unit	S11	Ignition Swich
B2	Tachometer Sending Unit	S12	Engine Speed (Up / Down) Switch
E1	Instrument Illumination	S13	Horn Switch
E2	Oil Cooler Indicator Light	V1	Diode 1N 4007
E3	Hour Meter Indicator Light	V2	Diode 1N 4007
E4	Engine Indicator Light (not used)	V3	Diode 1N 4007
F1	Fuse (8 AMP)	X1	Socket Connector (24 Pole Weiland)
F2	Fuse (8 AMP)	X2	Pin Connector (24 Pole Weiland)
F3	Fuse (8 AMP)	X3	Socket Connector (3 Pole Bosch)
F4	Fuse (8 AMP)	X4	Pin Connector (3 Pole Bosch)
F5	Fuse (25 AMP)	X5	Pin Connector (10 Pole)
F6	Fuse (25 AMP)	X6	Socket Connector (10 Pole)
F7	Fuse (25 AMP)	X7	Pin Connector (10 Pole)
F8	Fuse (8 AMP)	X8	Socket Connector (10 Pole)
G1	12 Volt to 24 Volt Converter (DuVac II)	X9	Connector Housing (6 Pole)
G2	12 Volt Vehicle Battery	X10	Socket Connector (2 Pole) worklight
H1	Vibrator Light (green)	X11	Socket Connector (2 Pole) worklight
H2	HORN	X12	Multi-connector for Tachometer
KX		X13	Terminal Block
K1	Contact Relay	X14	Socket Connector (42 Pole Harting)
K2	Contact Relay	X15	Pin Connector (42 Pole Harting)
K3	Contact Relay	Y1	Control Solenoid (Boom 1-Extend)
K4	Contact Relay	Y2	Control Solenoid (Boom 1-Retract)
K5	Contact Relay	Y3	Control Solenoid (Boom 2-Extend)
K6	Contact Relay	Y4	Control Solenoid (Boom 2-Retract)
K7	Main Power Relay (24 Volt)	Y5	Control Solenoid (Boom 3-Extend)
K8	Main Power Relay (12 Volt)	Y6	Control Solenoid (Boom 3-Retract)
K9	Contact Relay	Y7	Control Solenoid (Boom 4-Extend)
K12	Contact Relay	Y8	Control Solenoid (Boom 4-Retract)
K13	Contact Relay	Y9	Control Solenoid (Boom Slew Left)
K14	Contact Relay	Y10	Control Solenoid (Boom Slew Right)
K15	Contact Relay	Y11	Control Solenoid (Engine Decrease)
M1	Vibrator Motor	Y12	Control Solenoid (Engine Increase)
M2	Oil Cooler Motor	Y13	Control Solenoid (Water Pump)
P1	Oil Temperature Indicator	Y14	Control Solenoid (Compressor)
P2	Tachometer	Y16	Control Solenoid (Conc. Pump For.)
P3	Service Hour Meter	Y17	Control Solenoid (Conc. Pump Rev.)
		Y18	Emergency Stop (Dump Valve)
		Y19	Electric Stroke Limiter

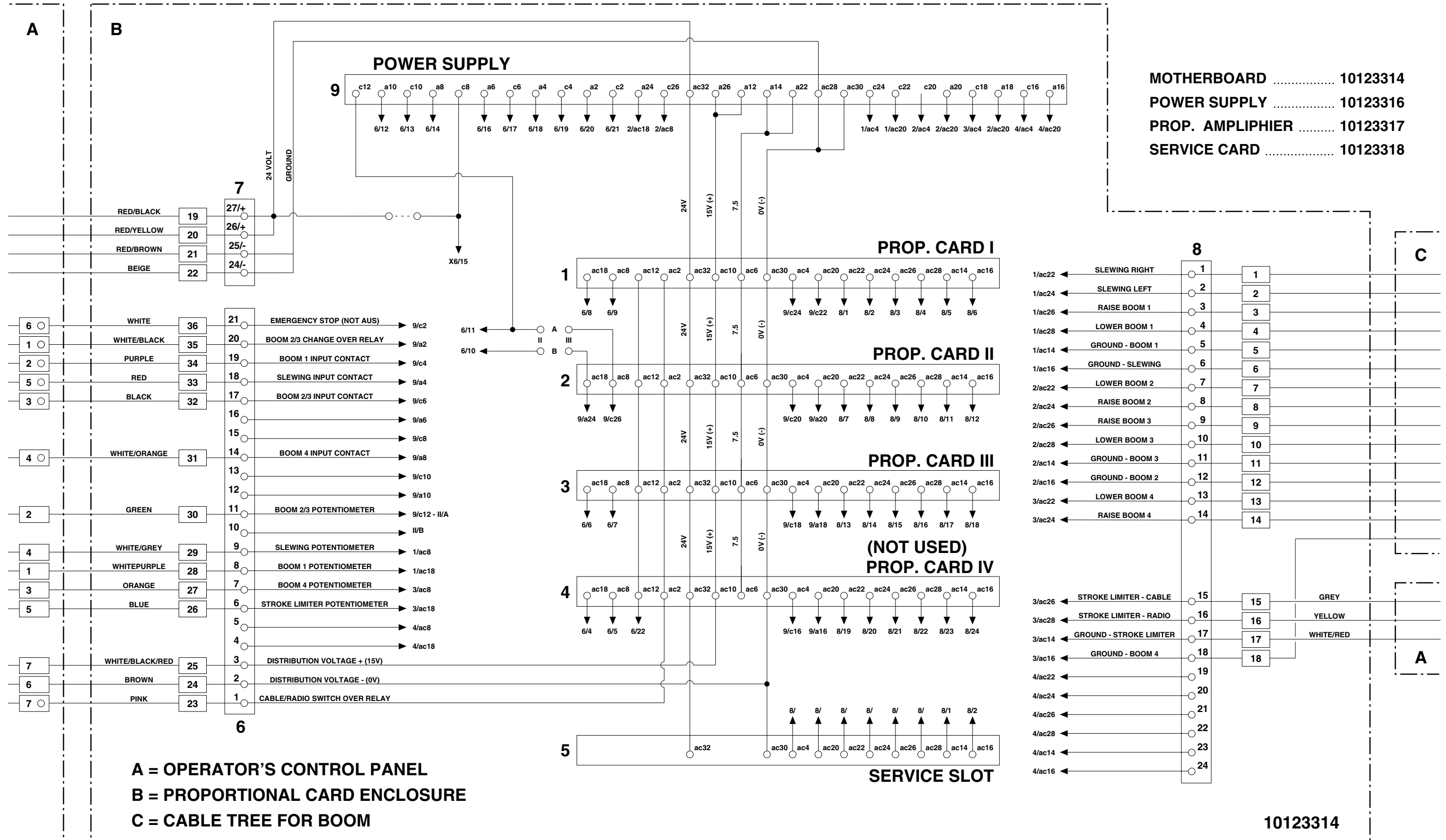
N/A

ANALOG MOTHER BOARD SCHEMATIC (GREEN CONNECTOR)

KVM 42M & 52M PORPORTIONAL MOTHERBOARD SCHEMATIC
(GREEN SINGLE ROW CONNECTOR)



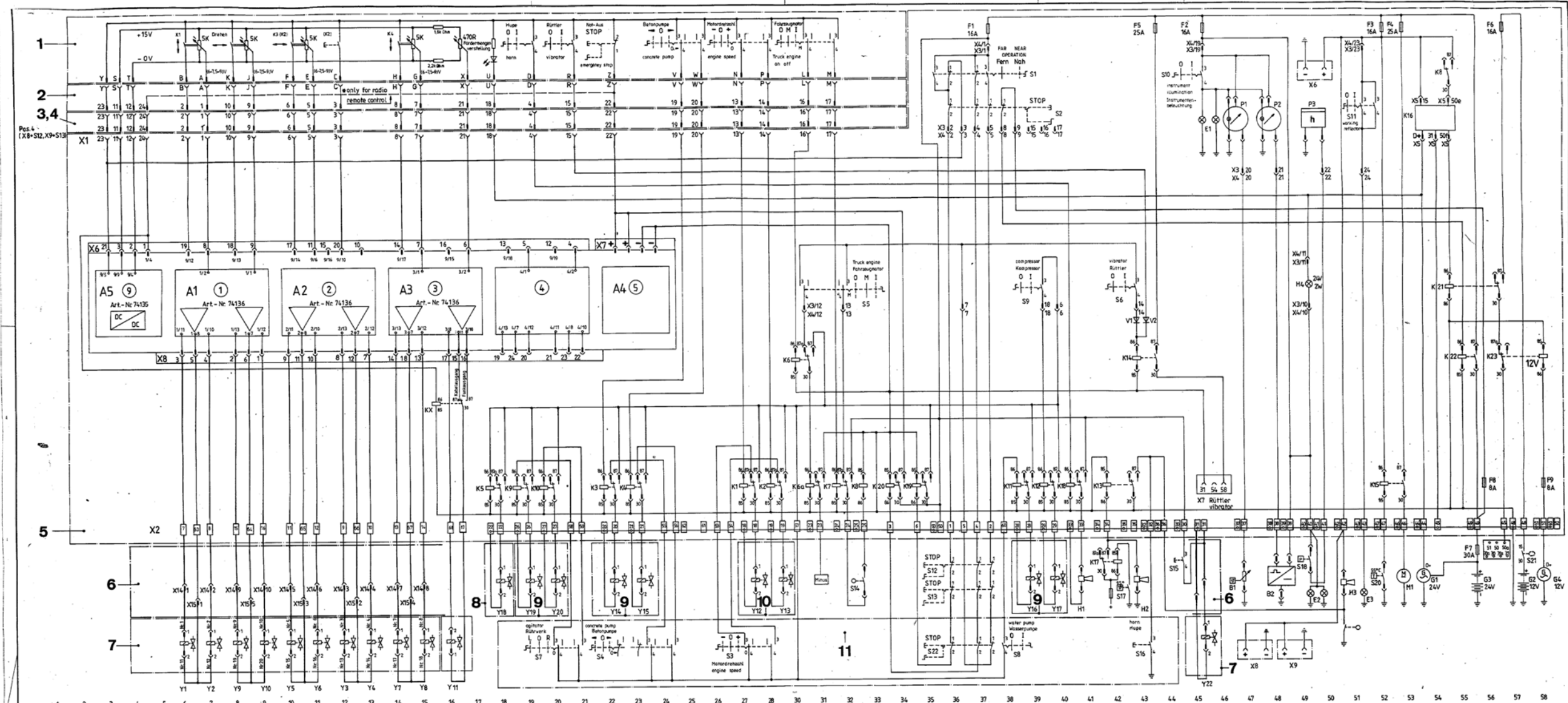
**KVM 42M & 52M PORPORTIONAL MOTHERBOARD SCHEMATIC
(WHITE DOUBLE ROW CONNECTOR)**



- MOTHERBOARD 10123314
- POWER SUPPLY 10123316
- PROP. AMPLIFIER 10123317
- SERVICE CARD 10123318

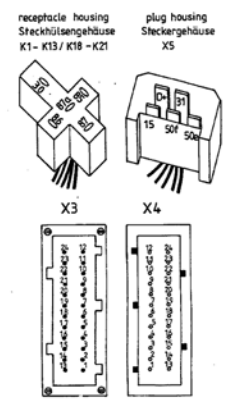
A = OPERATOR'S CONTROL PANEL
B = PROPORTIONAL CARD ENCLOSURE
C = CABLE TREE FOR BOOM

10123314



Stichtafel zur den Verteilungspunkt (K1-K14) im Verteilungsschrank

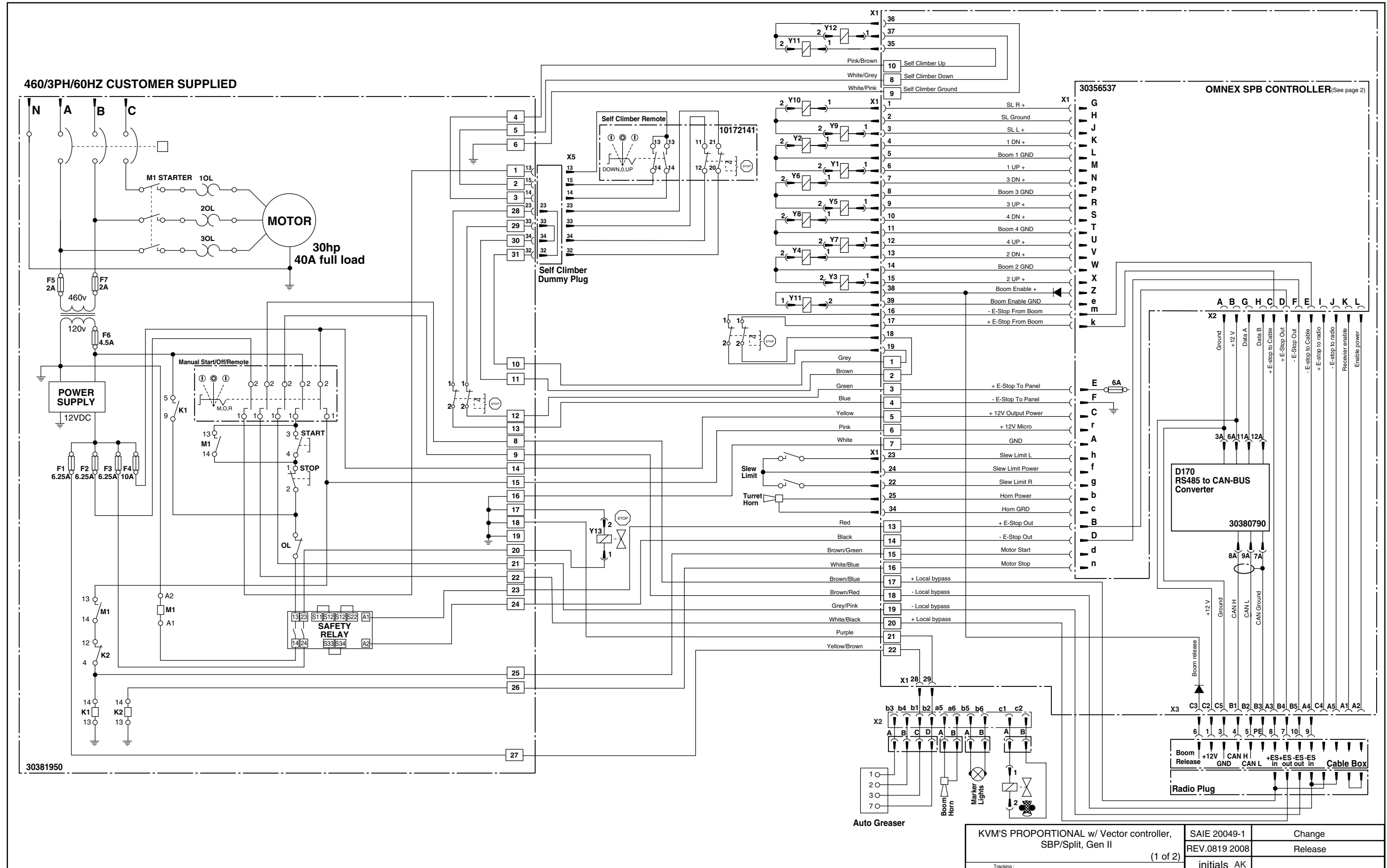
Verteilungspunkt	Bezeichnung	Art.-Nr.	Bestellmenge
K1	Drehen slew		
K2	Fördermenge stroke limiter		
K3			
K4			
K5			
K6			
K7			
K8			
K9			
K10			
K11			
K12			
K13			
K14			
K15			
K16			
K17			
K18			
K19			
K20			
K21			
K22			



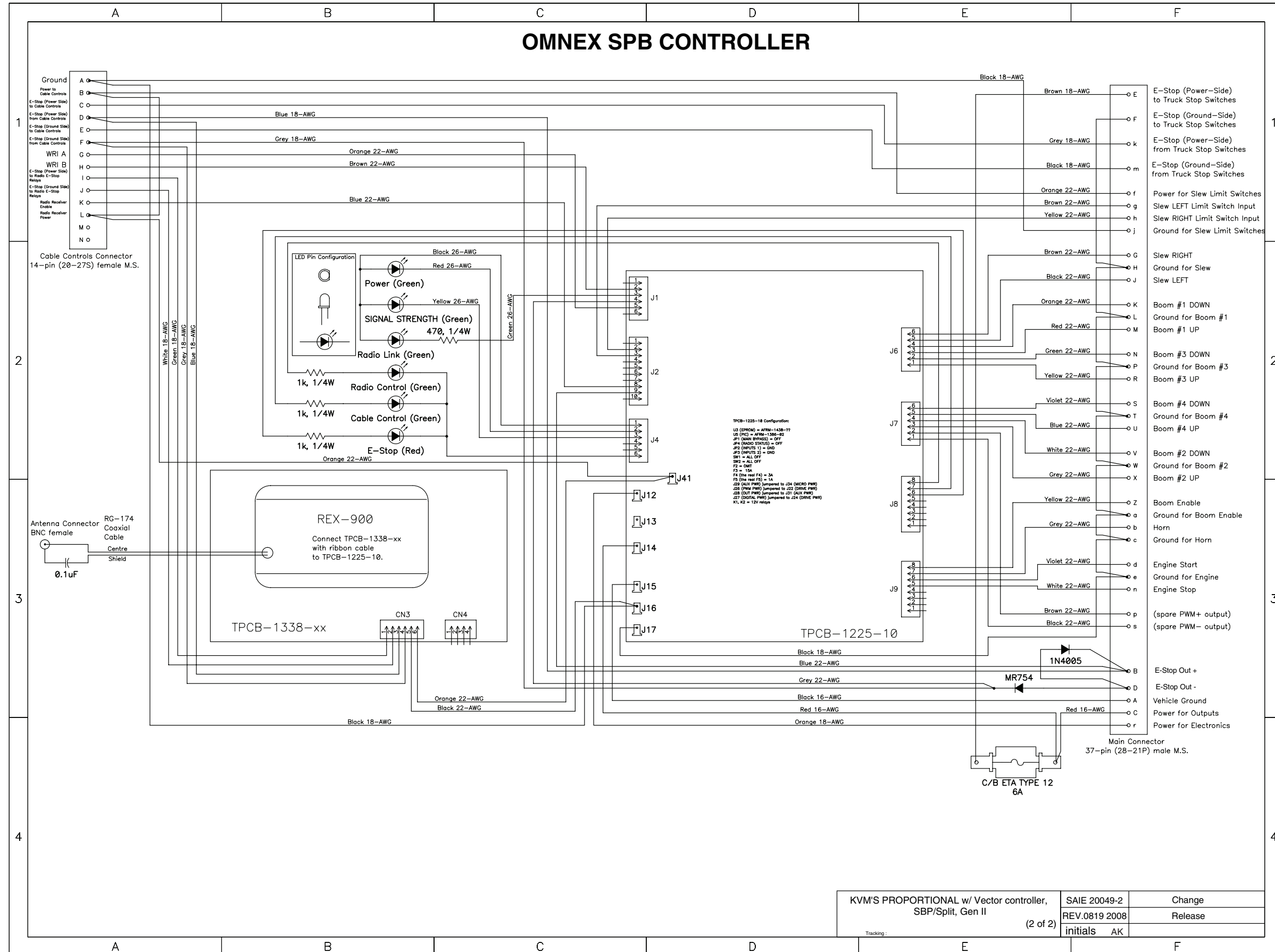
Pos.	Part	Order #	Designation	Bezeichnung	Designation	Designation	Designation	Designation	Art.-Nr.
1			Remote control, 24v prop. KVM 52	Fernbedienung 24v proportional KVM 52	K1-A3	4-17	Proportional amplifier 4 channel		60799
2	77164	6610202010	Connector cable 23a socket 24a plug 15m	Verbindungsleitung 15m 23pin	K1-B1	23-25	Socket and plug		
3	98132	6610202010	Cable 24v prop. 21m	Verbindungsleitung 21m 24v	K1-B2	2-3	24VDC, 20Amp, 21m cable		
4	62392	6610202010	Socket 24v	Stecker 24v	K1-B3	2-25	Proportional amplifier base pins		
5			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B4	4-17	24v proportional amplifier		
6			Temperature sensor	Temperaturfühler	K1-B5	4-17	Temperature sensor		
7			Water pump	Wasserpumpe	K1-B6	4-17	Water pump		
8	33305	6610202010	Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B7	4-17	24v proportional amplifier		
9			Concrete pump	Betonpumpe	K1-B8	4-17	Concrete pump		
10			Concrete pump	Betonpumpe	K1-B9	4-17	Concrete pump		
11	25 073	6610202010	Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B10	4-17	24v proportional amplifier		
12			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B11	4-17	24v proportional amplifier		
13			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B12	4-17	24v proportional amplifier		
14			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B13	4-17	24v proportional amplifier		
15			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B14	4-17	24v proportional amplifier		
16			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B15	4-17	24v proportional amplifier		
17			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B16	4-17	24v proportional amplifier		
18			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B17	4-17	24v proportional amplifier		
19			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B18	4-17	24v proportional amplifier		
20			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B19	4-17	24v proportional amplifier		
21			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B20	4-17	24v proportional amplifier		
22			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B21	4-17	24v proportional amplifier		
23			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B22	4-17	24v proportional amplifier		
24			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B23	4-17	24v proportional amplifier		
25			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B24	4-17	24v proportional amplifier		
26			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B25	4-17	24v proportional amplifier		
27			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B26	4-17	24v proportional amplifier		
28			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B27	4-17	24v proportional amplifier		
29			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B28	4-17	24v proportional amplifier		
30			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B29	4-17	24v proportional amplifier		
31			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B30	4-17	24v proportional amplifier		
32			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B31	4-17	24v proportional amplifier		
33			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B32	4-17	24v proportional amplifier		
34			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B33	4-17	24v proportional amplifier		
35			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B34	4-17	24v proportional amplifier		
36			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B35	4-17	24v proportional amplifier		
37			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B36	4-17	24v proportional amplifier		
38			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B37	4-17	24v proportional amplifier		
39			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B38	4-17	24v proportional amplifier		
40			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B39	4-17	24v proportional amplifier		
41			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B40	4-17	24v proportional amplifier		
42			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B41	4-17	24v proportional amplifier		
43			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B42	4-17	24v proportional amplifier		
44			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B43	4-17	24v proportional amplifier		
45			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B44	4-17	24v proportional amplifier		
46			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B45	4-17	24v proportional amplifier		
47			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B46	4-17	24v proportional amplifier		
48			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B47	4-17	24v proportional amplifier		
49			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B48	4-17	24v proportional amplifier		
50			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B49	4-17	24v proportional amplifier		
51			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B50	4-17	24v proportional amplifier		
52			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B51	4-17	24v proportional amplifier		
53			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B52	4-17	24v proportional amplifier		
54			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B53	4-17	24v proportional amplifier		
55			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B54	4-17	24v proportional amplifier		
56			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B55	4-17	24v proportional amplifier		
57			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B56	4-17	24v proportional amplifier		
58			Control unit 24v prop. KVM 52	Bedienpult 24v proportional KVM 52	K1-B57	4-17	24v proportional amplifier		



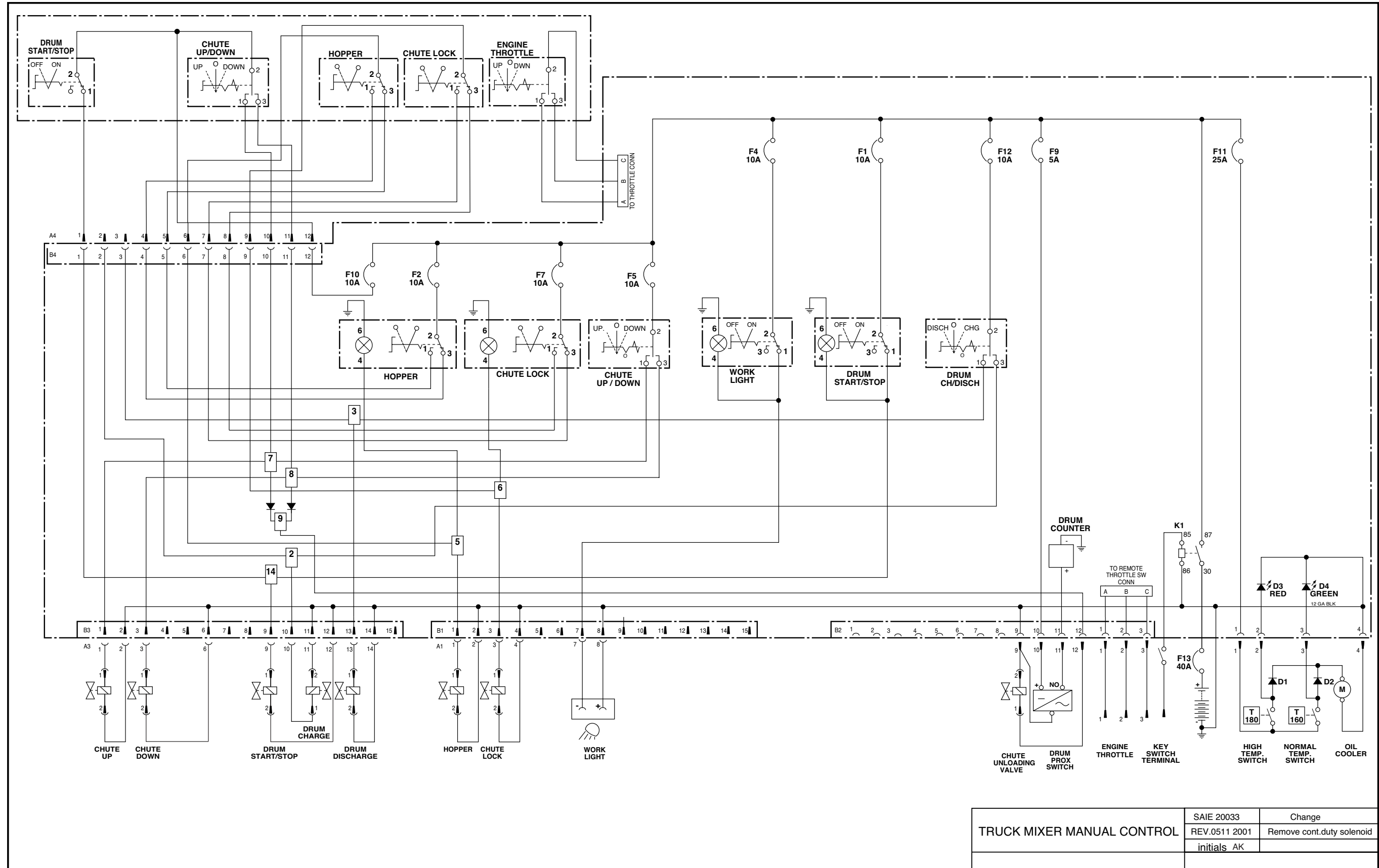
Art.-Nr.: 60799
 Schwing
 Bedienpult KVM 52 (USA)
 2 Kanal Förd.-m.-Verst. Funk



KVM'S PROPORTIONAL w/ Vector controller, SBP/Split, Gen II	SAIE 20049-1	Change
(1 of 2)	REV.0819 2008	Release
Tracking:	initials AK	



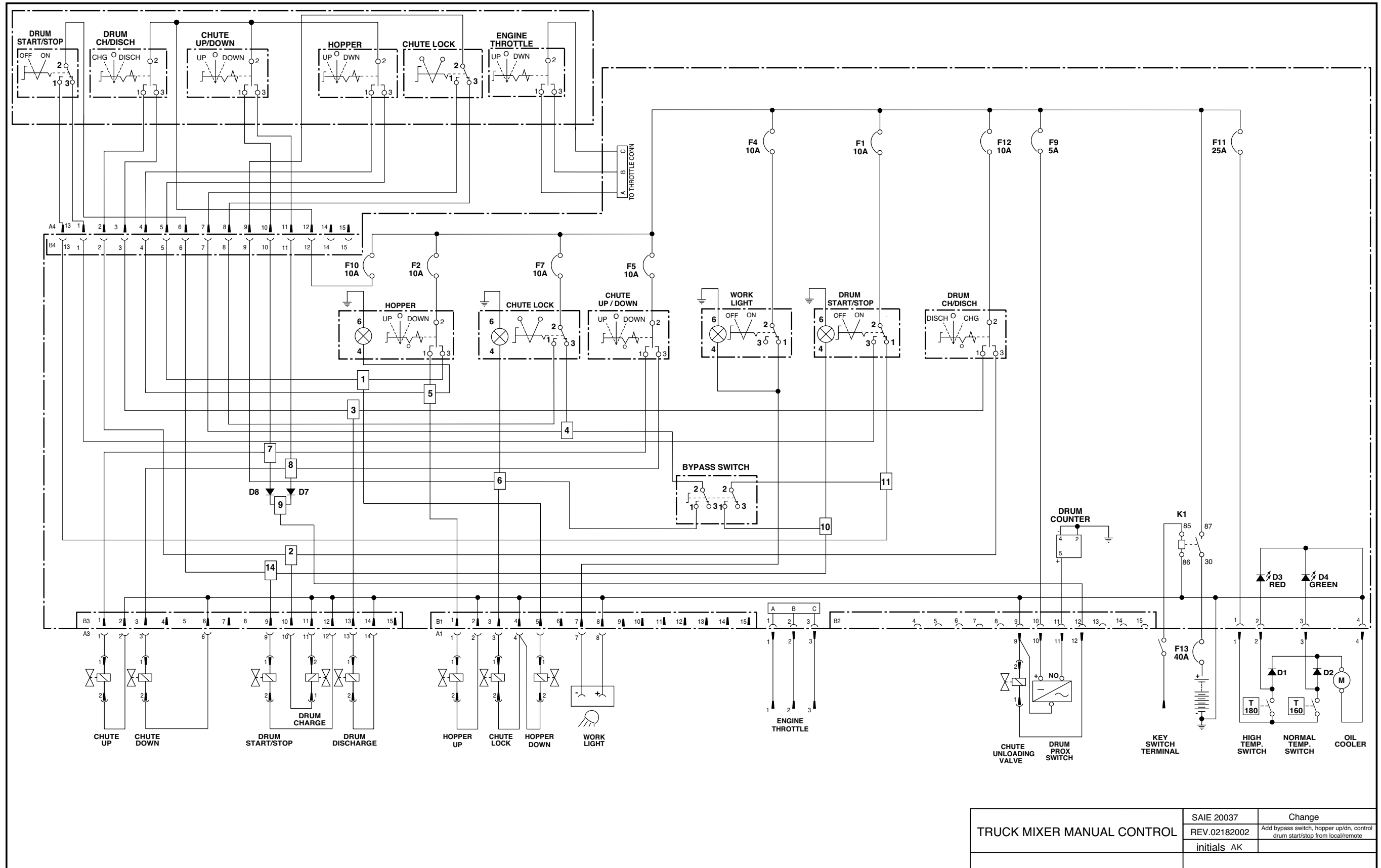
KVM'S PROPORTIONAL w/ Vector controller, SBP/Split, Gen II <small>(2 of 2)</small>	SAIE 20049-2	Change
	REV.0819 2008	Release
Tracking:	initials AK	



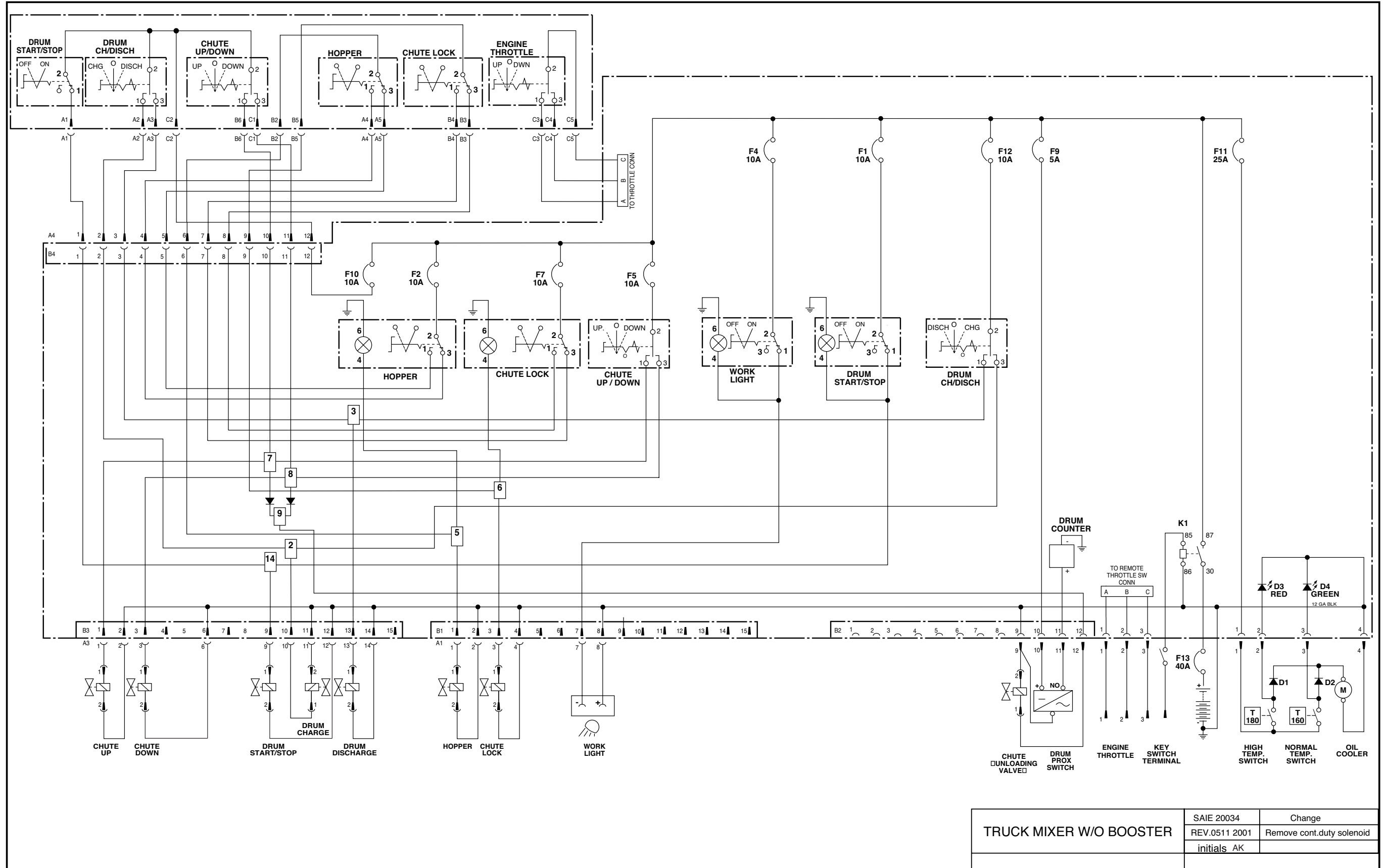
TRUCK MIXER MANUAL CONTROL	SAIE 20033	Change
	REV.0511 2001	Remove cont.duty solenoid
	initials AK	

20037

MIXER TRUCK, MANUAL CONTROL, BYPASS SWITCH, HOPPER UP/DN, CONTROL DRUM START/STOP FROM LOCAL/REMOTE

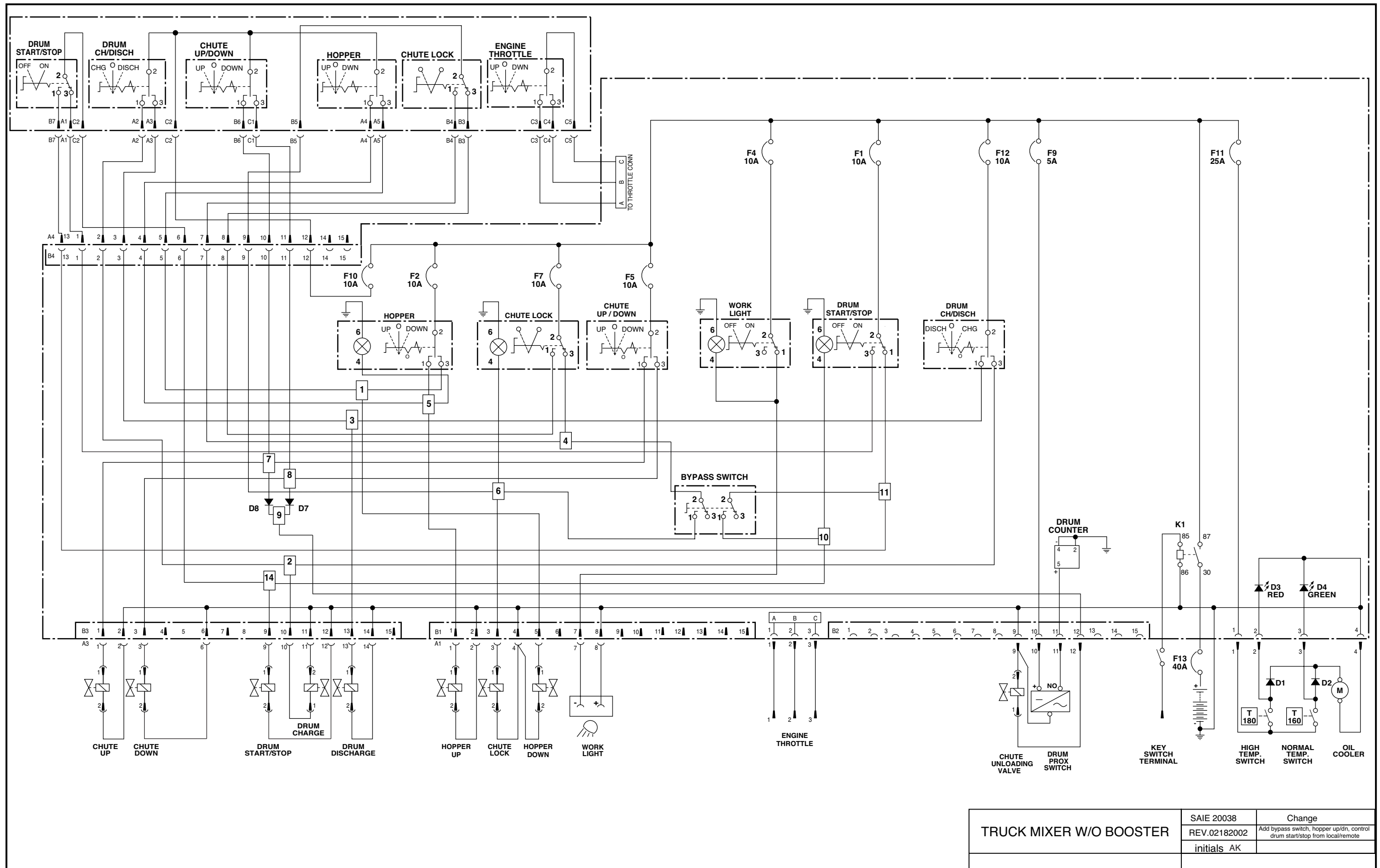


TRUCK MIXER MANUAL CONTROL	SAIE 20037	Change
	REV.02182002	Add bypass switch, hopper up/dn, control drum start/stop from local/remote
	initials AK	

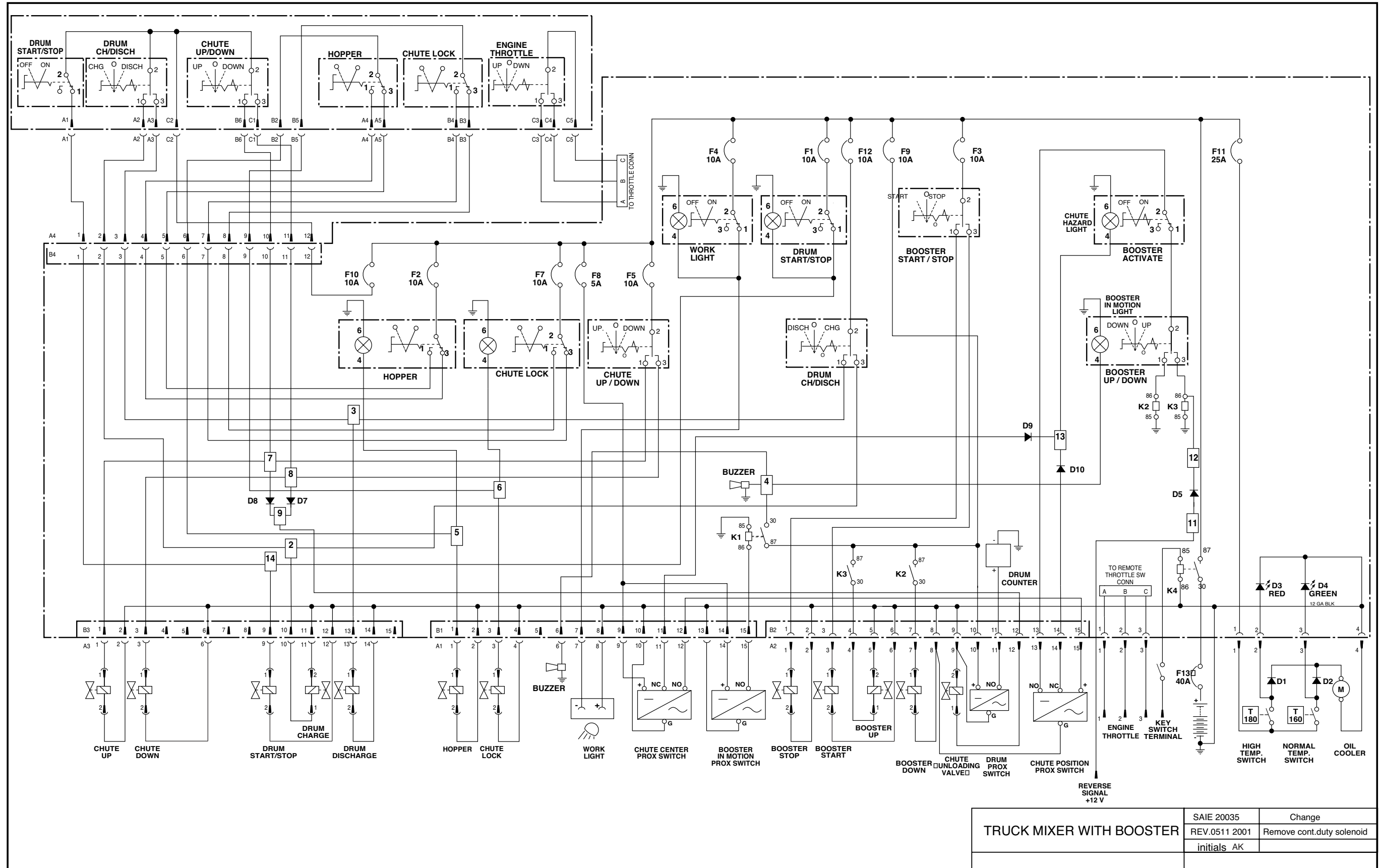


20038

MIXER TRUCK, WITHOUT BOOSTER, BYPASS SWITCH, HOPPER UP/DN, CONTROL DRUM START/STOP FROM LOCAL/REMOTE

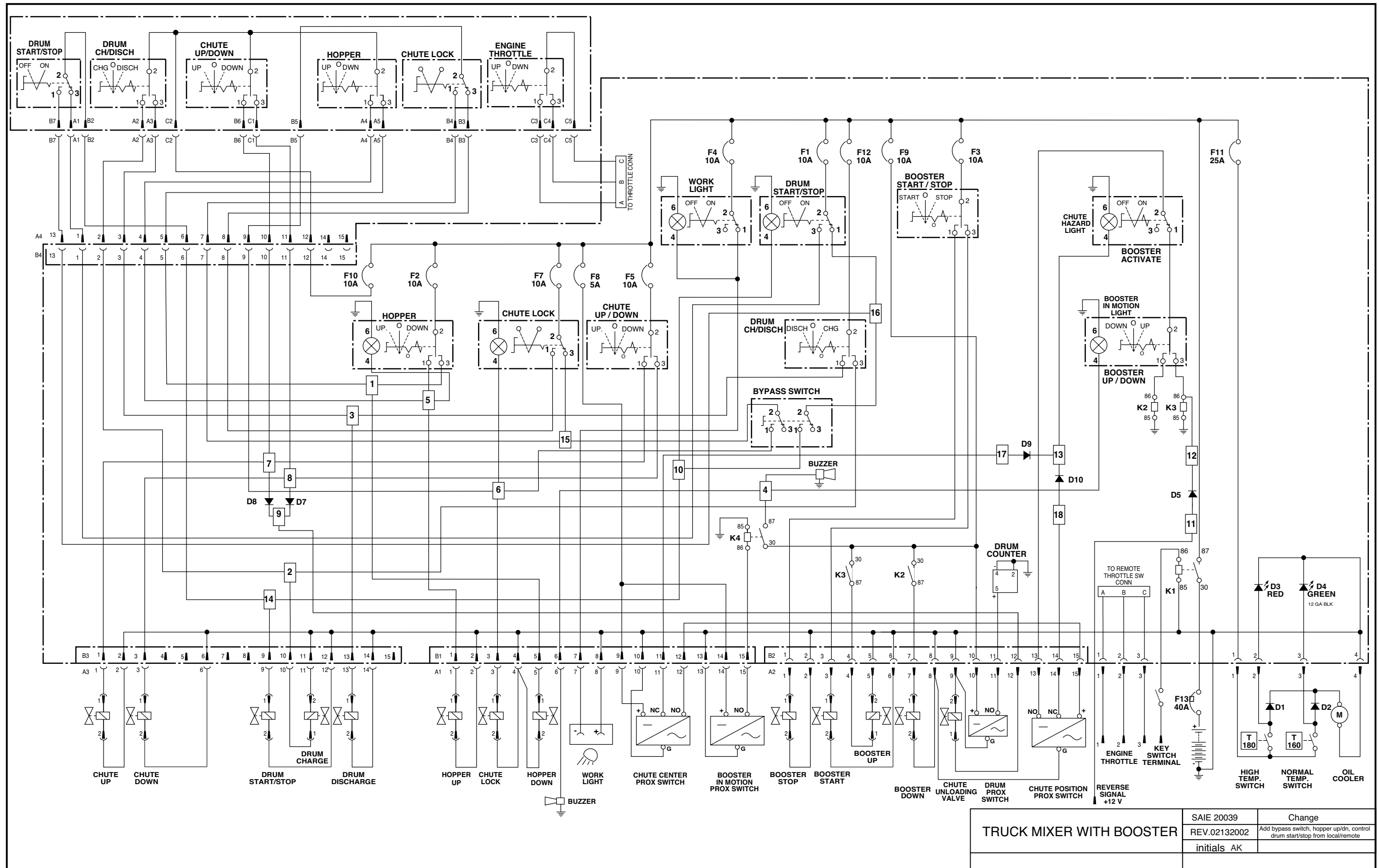


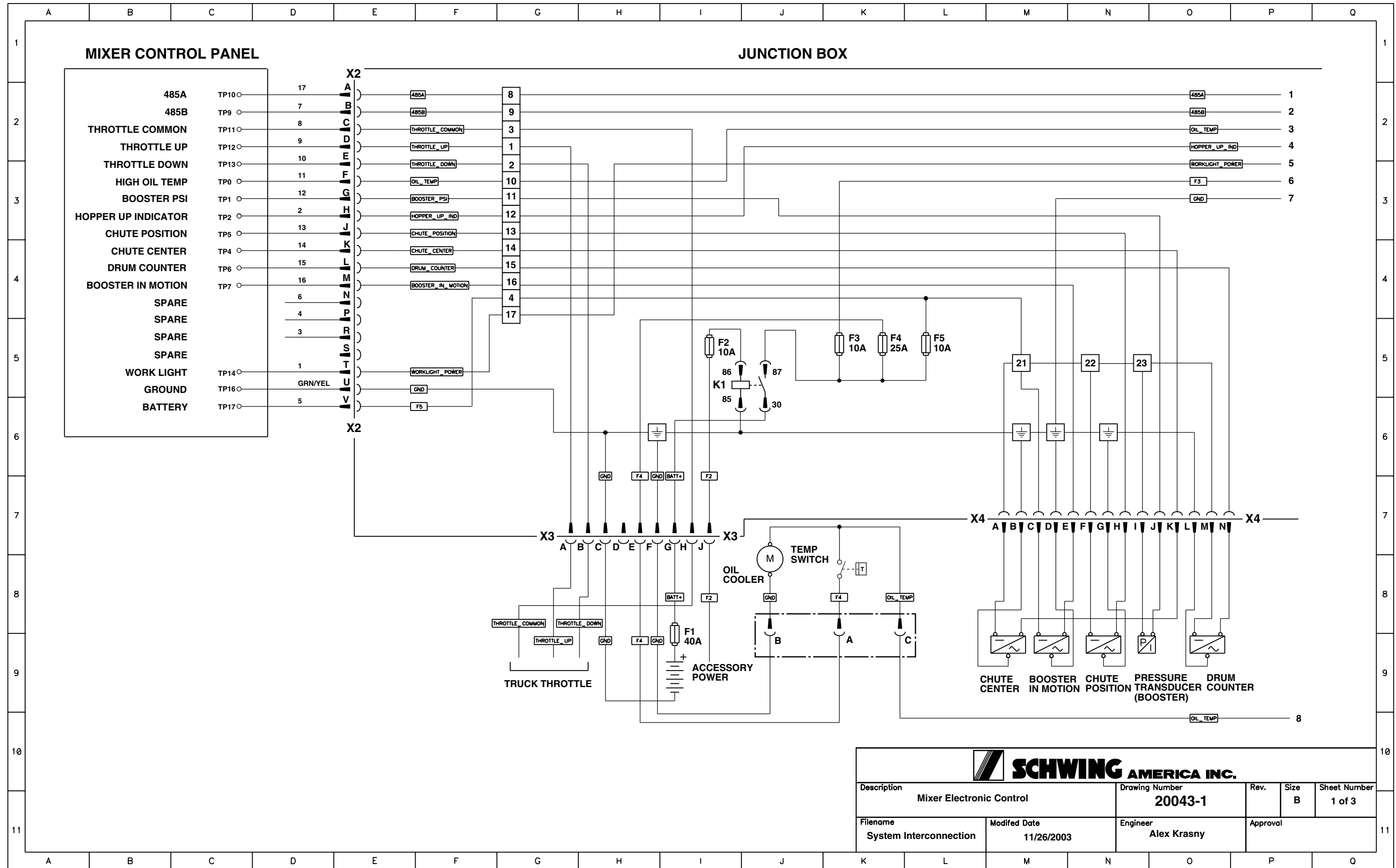
TRUCK MIXER W/O BOOSTER	SAIE 20038	Change
	REV.02182002	Add bypass switch, hopper up/dn, control drum start/stop from local/remote
	initials AK	



TRUCK MIXER WITH BOOSTER	SAIE 20035	Change
	REV.0511 2001	Remove cont.duty solenoid
	initials AK	

MIXER TRUCK, WITH BOOSTER, BYPASS SWITCH, HOPPER UP/DN, CONTROL DRUM START/STOP FROM LOCAL/REMOTE

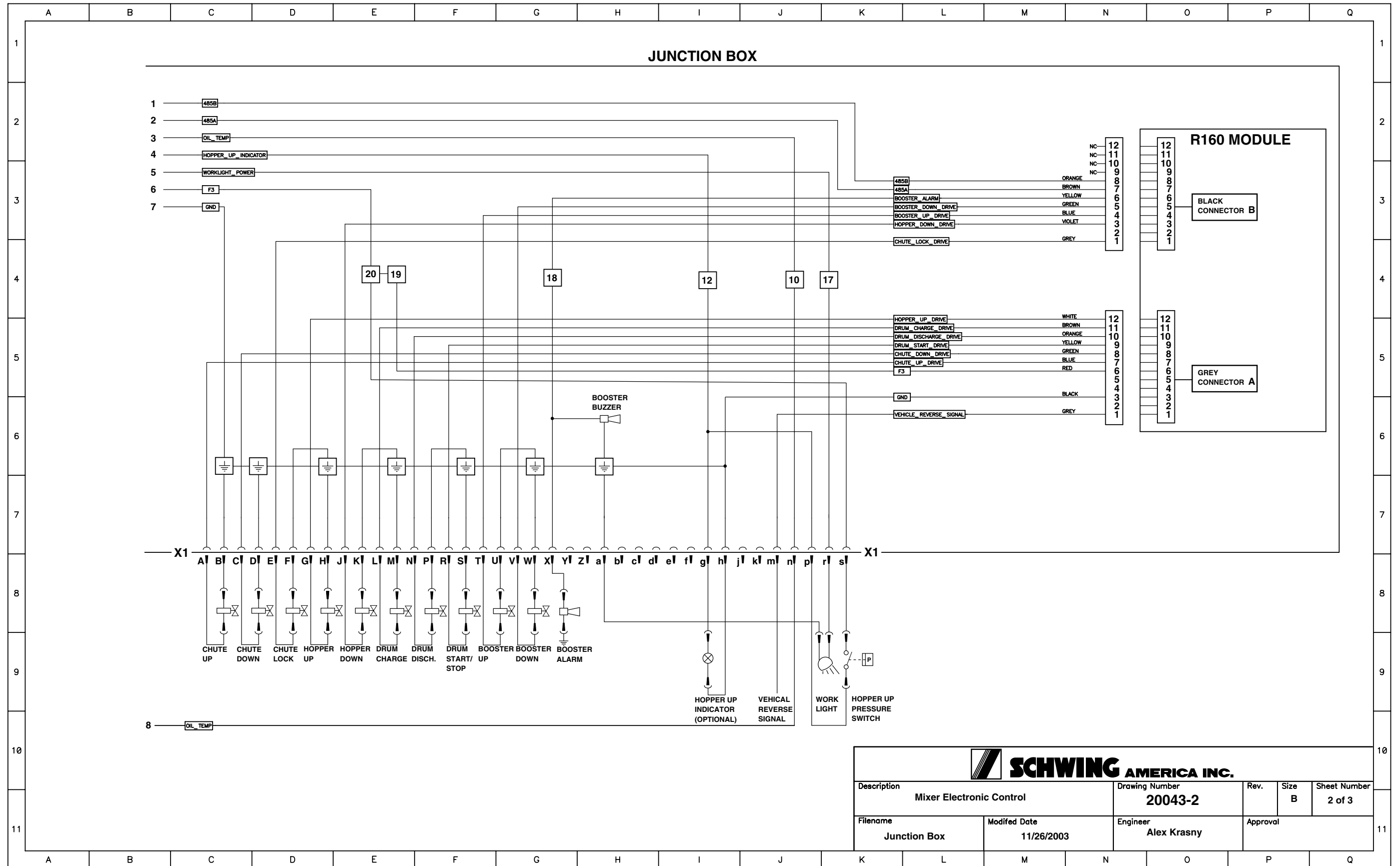


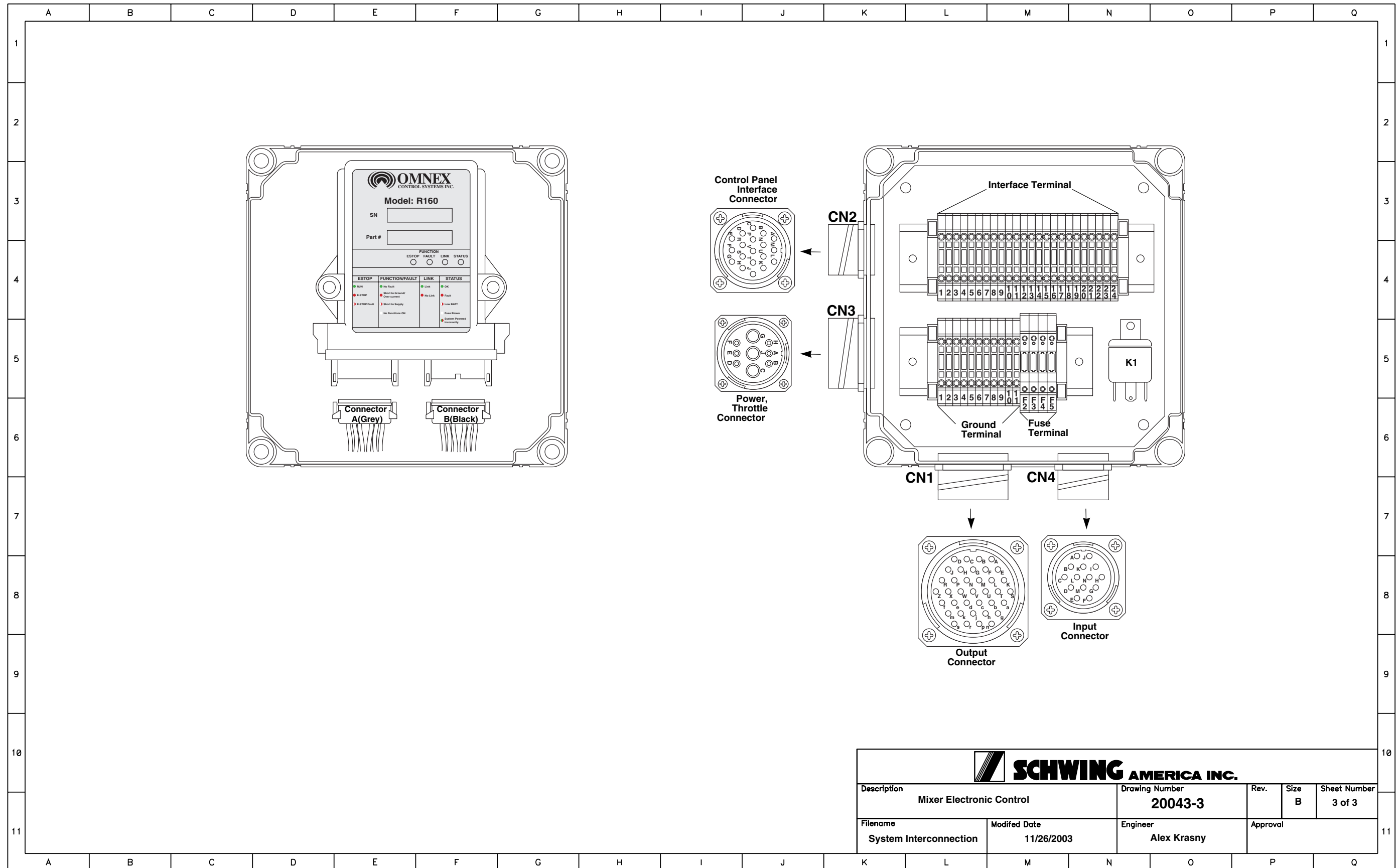


SCHWING AMERICA INC.				
Description Mixer Electronic Control		Drawing Number 20043-1	Rev.	Sheet Number 1 of 3
Filename System Interconnection	Modified Date 11/26/2003	Engineer Alex Krasny	Approval	

20043-2

MIXER w/OMNEX REMOTE

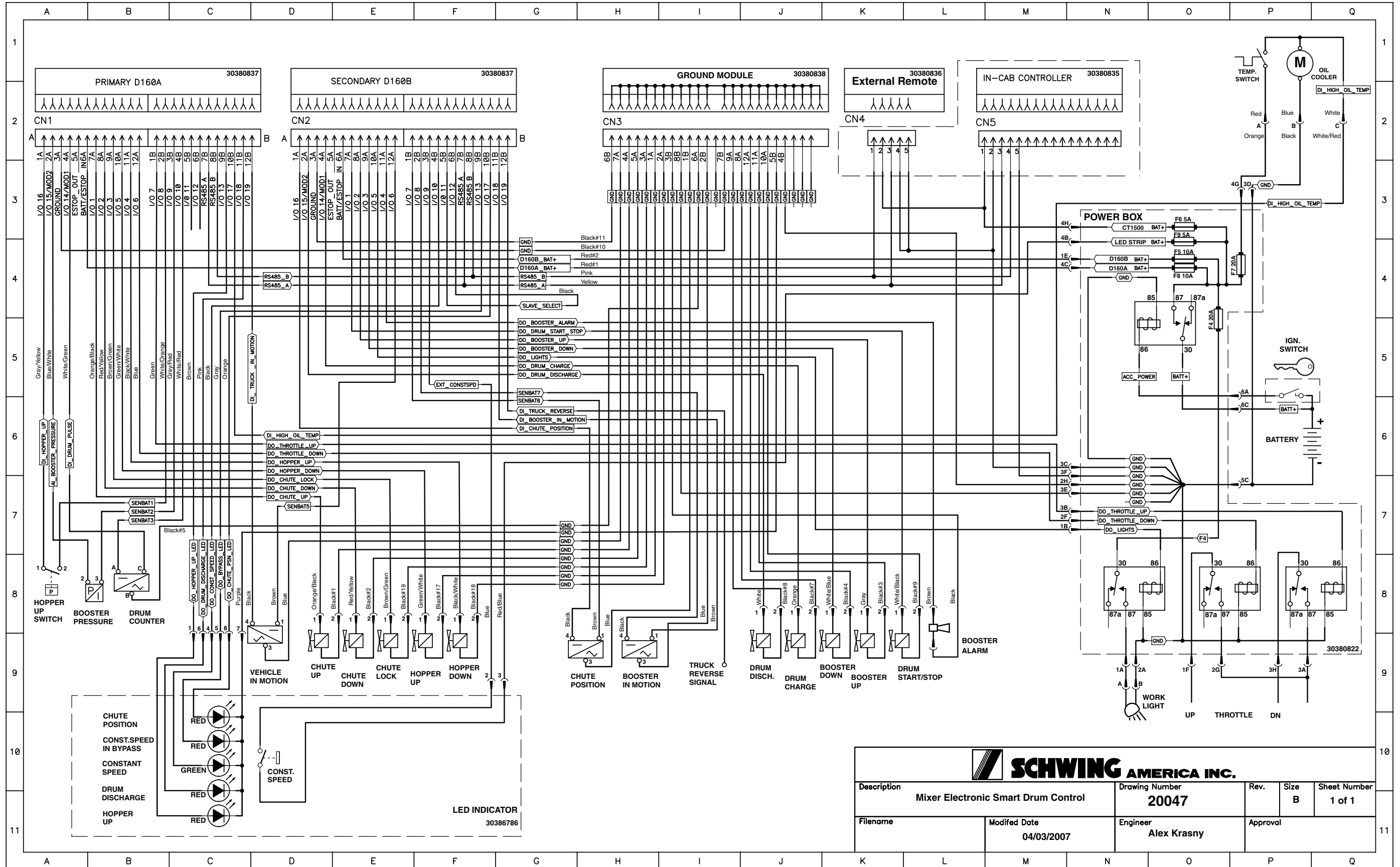




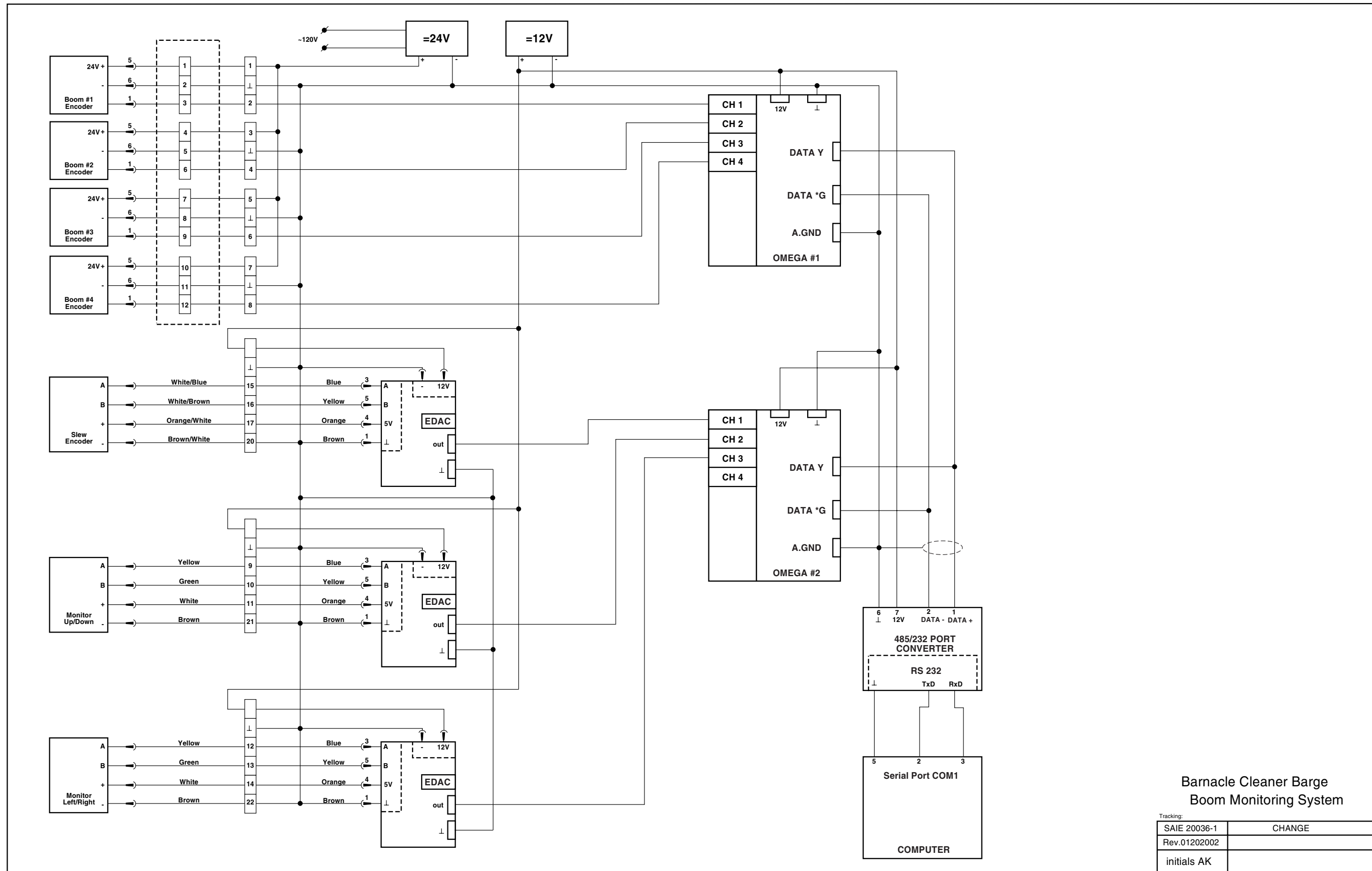
SCHWING AMERICA INC.					
Description Mixer Electronic Control		Drawing Number 20043-3	Rev.	Size B	Sheet Number 3 of 3
Filename System Interconnection	Modified Date 11/26/2003	Engineer Alex Krasny	Approval		

20047-1

MIXER w/SMART DRUM CONTROL



		Description		Drawing Number		Rev.		Size		Sheet Number	
		Mixer Electronic Smart Drum Control		20047				B		1 of 1	
Filename		Modified Date		Engineer		Approval					
		04/03/2007		Alex Krasny							

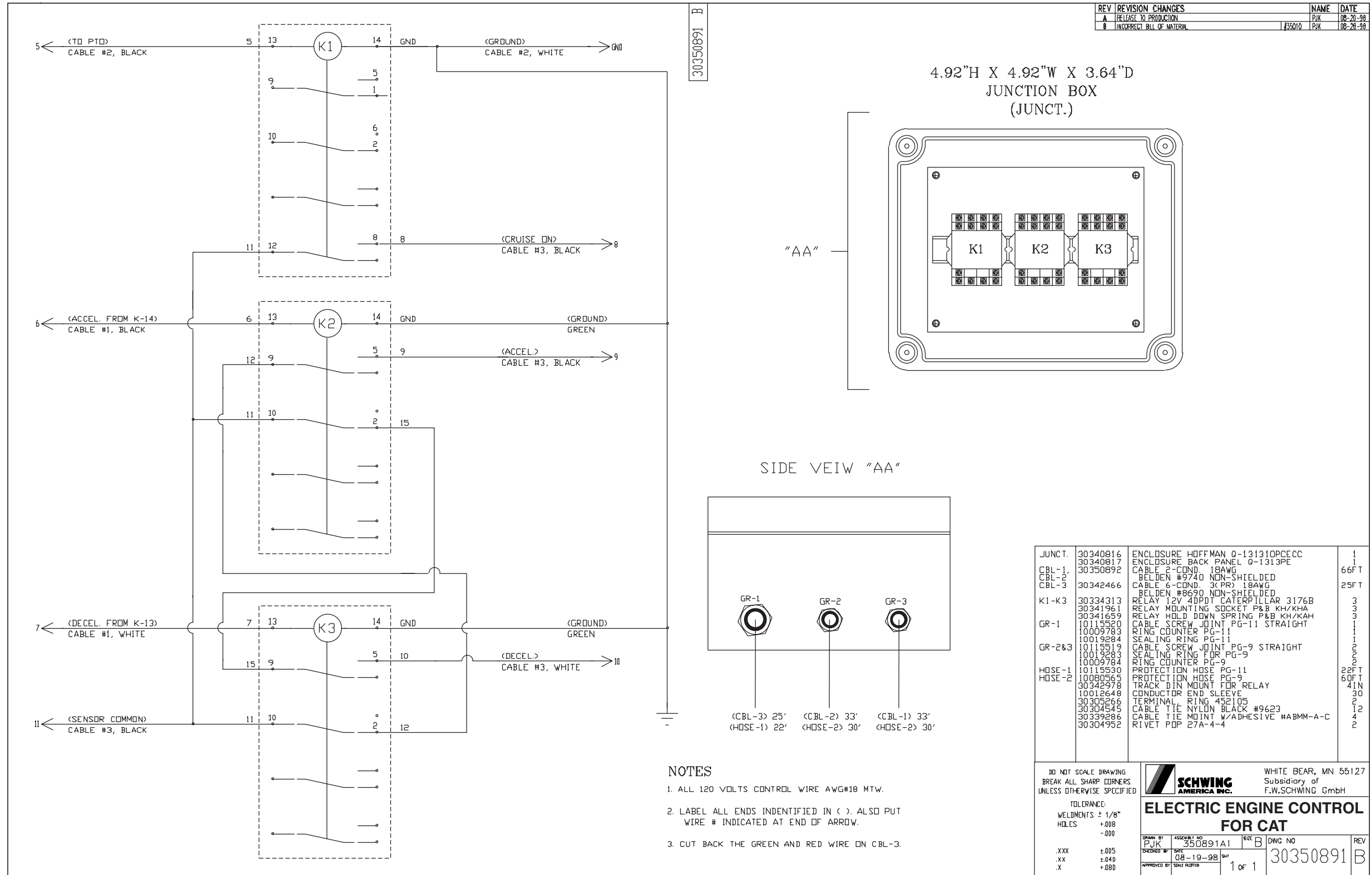


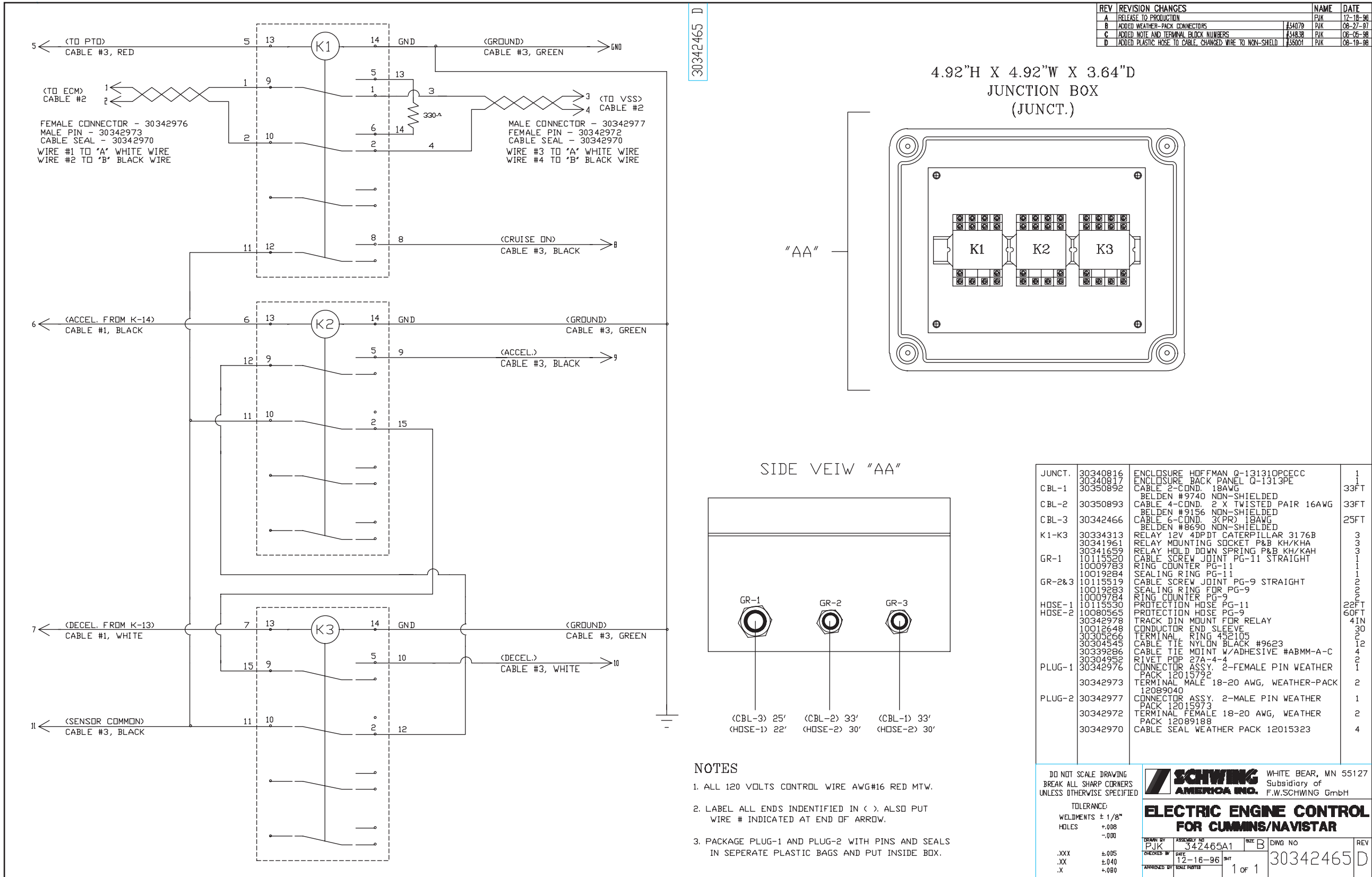
Barnacle Cleaner Barge
Boom Monitoring System

Tracking:	
SAIE 20036-1	CHANGE
Rev.01202002	
initials AK	

350891

ELECTRIC ENGINE CONTROL - CAT

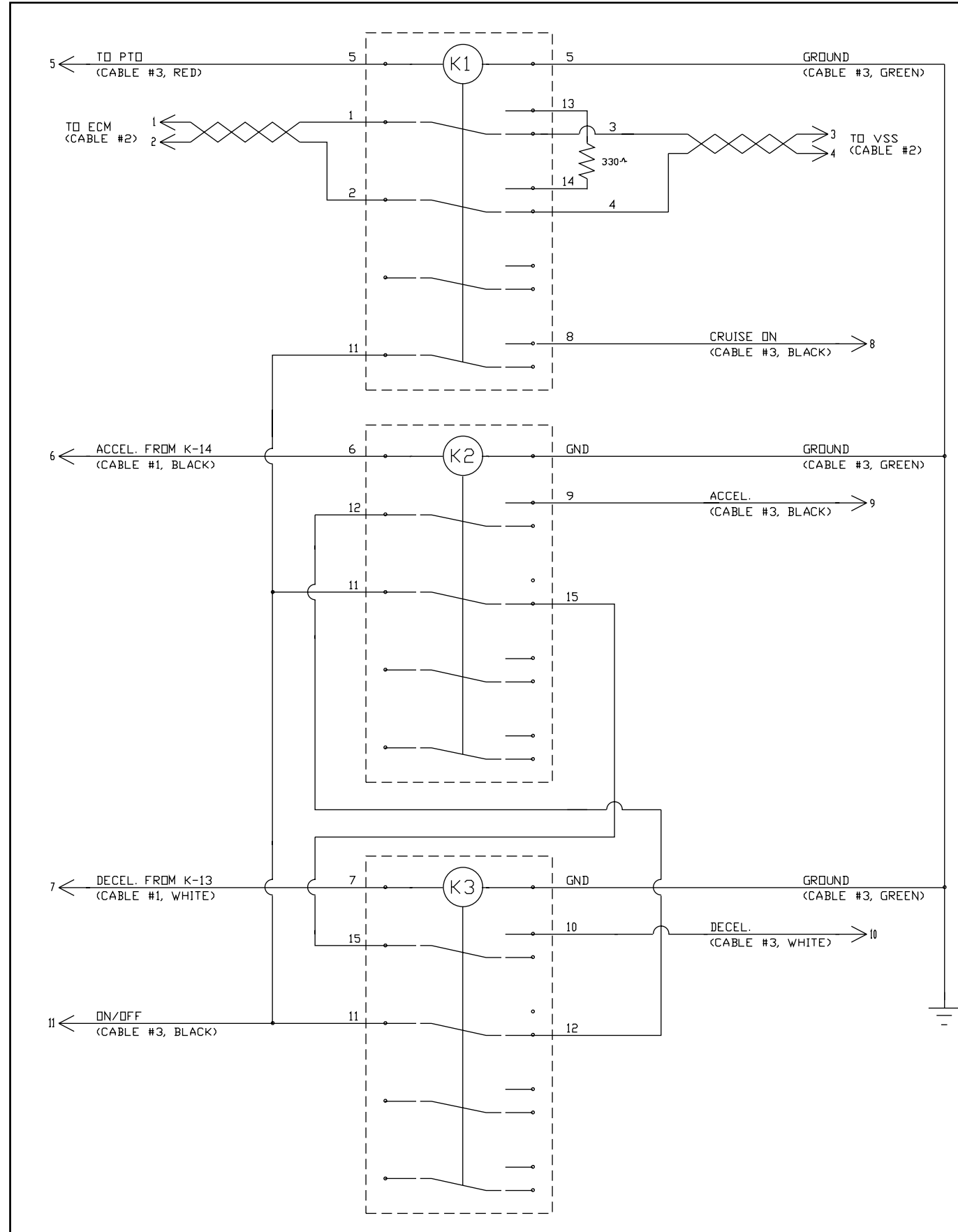




342365

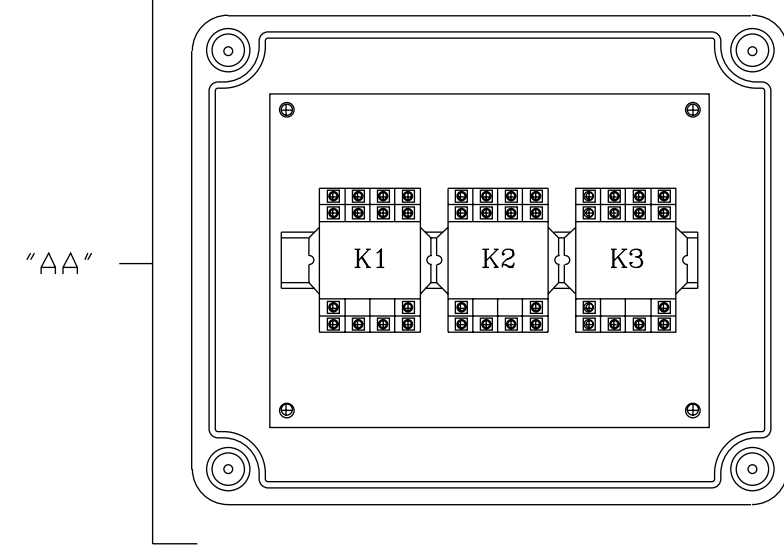
THROTTLE CONTROL - CUMMINS ENGINE

REV	REVISION CHANGES	NAME	DATE
A	RELEASE TO PRODUCTION	PJK	12-16-96

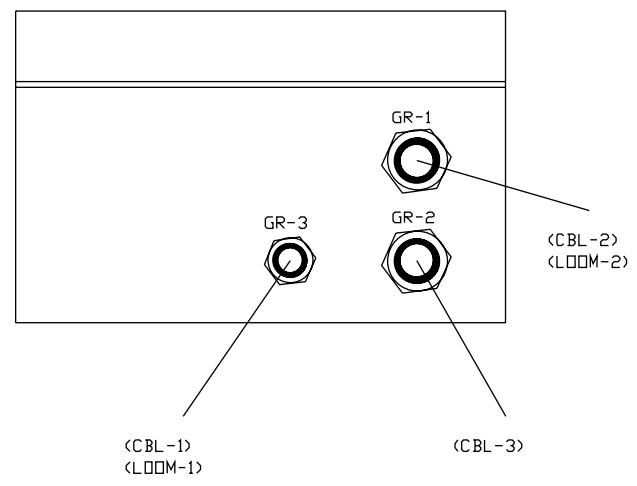


30343572 A

5 1/2" H X 6" W X 3 1/3" D
JUNCTION BOX
(JUNCT.)



SIDE VIEW "AA"



JUNCT.	30340816, ENCLOSURE HOFFMAN A-764C7CC	1
	30340817, ENCLOSURE BACK PANEL A-76P	1
CBL-1	30342468, CABLE 2-COND. X 16AWG	33FT
CBL-2	30342467, CABLE 4-COND. 2 X TWISTED PAIR 16AWG	33FT
CBL-3	30342466, CABLE 6-COND. 3<PR> 18AWG	25FT
K1-K3	30334313, RELAY 12V 4DPDT CATERPILL AR 3176B	3
	30341961, RELAY MOUNTING SOCKET P&B KH/KHA	3
	30341659, RELAY HOLD DOWN SPRING P&B KH/KAH	6
GR-1	30321888, FITTING LIQUID TIGHT NYLON PG-7	1
GR-2&3	10022171, CABLE SCREW JOINT PG-11 STRAIGHT	2
	10019284, SEALING RING FOR PG-11	2
	10009783, RING COUNTER PG-11	2
LODM-1	30302915, LODM 3/8" #704	30FT
LODM-2	30304503, LODM 5/8" #708	30FT
	30342978, TRACK DIN MOUNT FOR RELAY	41N
	10012648, CONDUCTOR END SLEEVE	13
	10012917, CONDUCTOR END SLEEVE	11
	30305266, TERMINAL, RING 452105	2
	30304545, CABLE TIE NYLON BLACK #9623	12
	30339286, CABLE TIE MOUNT W/ADHESIVE #ABMM-A-C	4
	30304952, RIVET PDP 27A-4-4	2

NOTES

ALL 120 VOLTS CONTROL WIRE AWG#16 RED MTW.

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED

TOLERANCE:
WELDMENTS ± 1/8"
HOLES
+.008
-.000

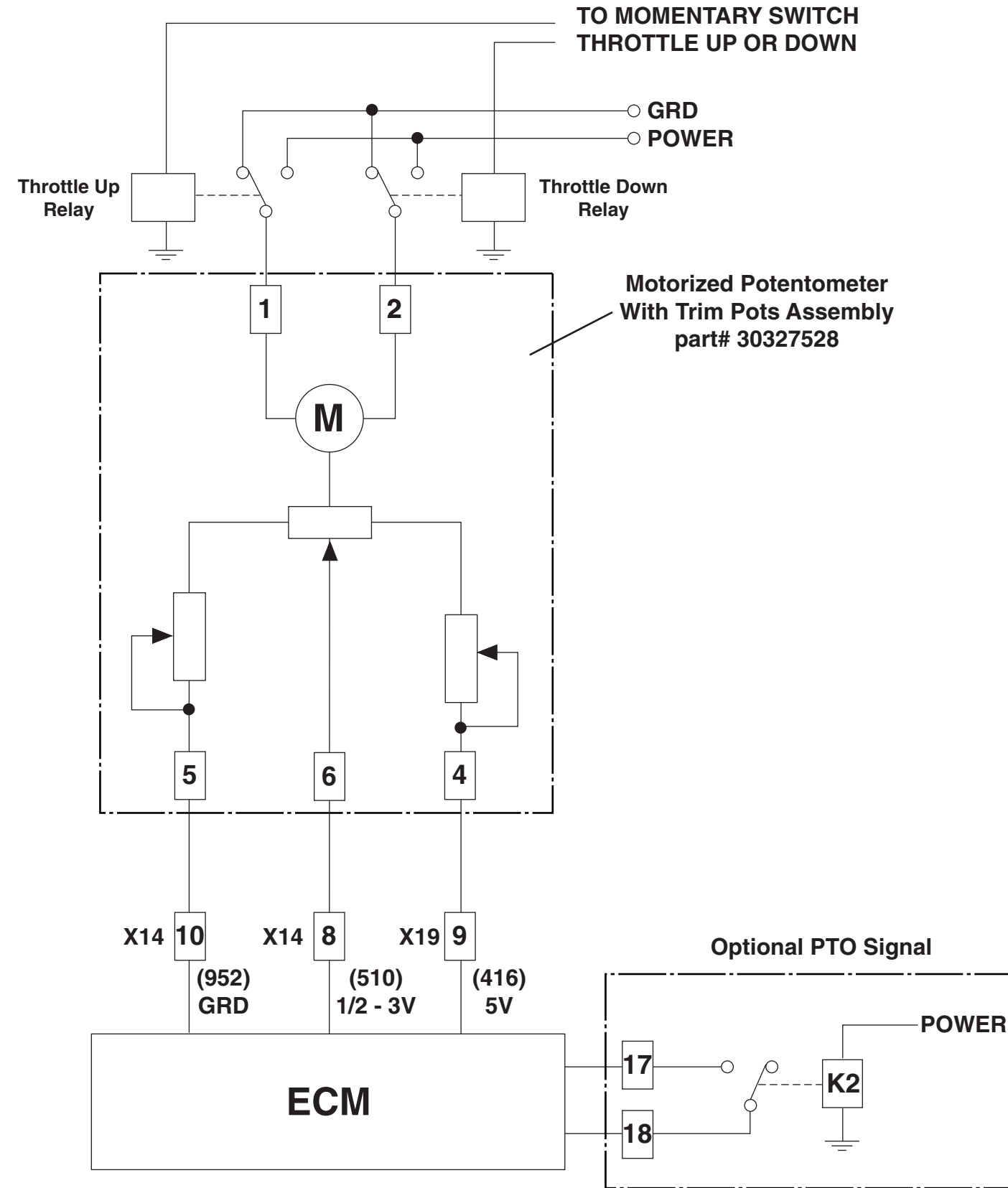
XXX ±.005
XX ±.040
X ±.080

SCHWING AMERICA INC. WHITE BEAR, MN 55127
Subsidiary of F.W.SCHWING GmbH

ELECTRIC ENGINE CONTROL FOR CUMMINS

DRAWN BY PJK	ASSEMBLY NO 342365A1	SIZE B	DWG NO 30342365	REV A
CHECKED BY	DATE 12-16-96	SHEET 1 of 1		
APPROVED BY	SCALE PLOTTED			

THROTTLE CONTROL - DETROIT ENGINE

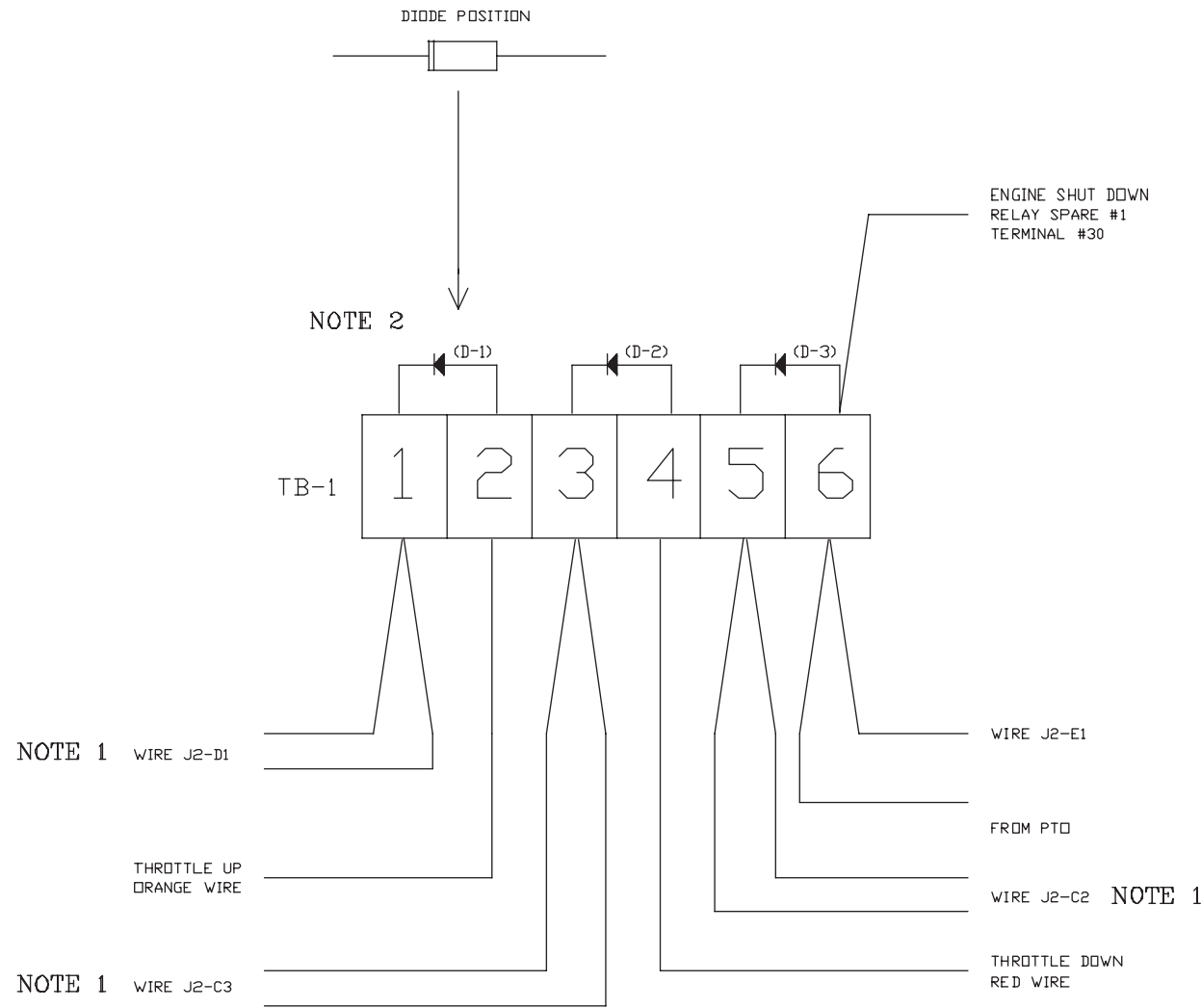


343940

THROTTLE CONTROL - "V" MACK ENGINE

REV	REVISION CHANGES	NAME	DATE
A	RELEASE TO PRODUCTION	PJK	01-16-97
B	CHANGED TERMINAL BLOCK FROM 12 POLE TO 6 POLE	PJK	04-25-97

30343940 B



NOTES:

1. CUT WIRE AND USE TWIN FERRULES
2. MAKE DIODE CONNECTION CLOSE TO TERMINAL BLOCK.
3. MOUNT TERMINAL STRIP WITH DIODES IN CAB UNDER DASH.

TB1	TERMINAL STRIP	#30345037	1
DI-D3	DIODE IN4007	#30324608	3
	TWIN FERRULE	#30341132	4
	FERRULE	#10012650	3

DO NOT SCALE DRAWING
BREAK ALL SHARP CORNERS
UNLESS OTHERWISE SPECIFIED



WHITE BEAR, MN 55127
Subsidiary of
F.W.SCHWING GmbH

ELECTRIC ENGINE CONTROL FOR "V" MACK

TOLERANCE:
VELDMENTS ± 1/8"
HOLES +.008
-.000

XXX ±.005
XX ±.040
X ±.080

DESIGN BY	ASSEMBLY NO	SIZE	DWG NO	REV
PJK	343940A1	B	30343940	B
CHECKED BY	DATE	SHR		
	01-16-97			
APPROVED BY	SCALE PAPER			
		1 OF 1		