

C20

COR

#1 - Backwards

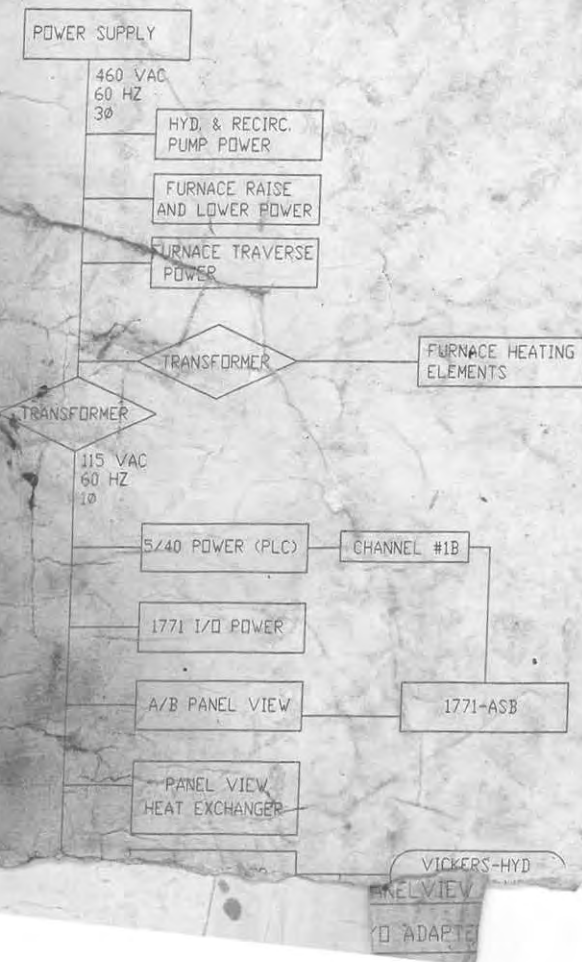
#2 - OK

#3

#4

#5

(X-member)
Empire Casting Mathematics



700-PK400A4	ALLEN BRADLEY	404
BUILT-IN PANELVIEW	ALLEN BRADLEY	SEE PART 411
DTBAS	BANNER	1619, 1645, 3052
800T-A3A	ALLEN BRADLEY	1741 1815
800T-D2A	ALLEN BRADLEY	1815
800T-A3A	ALLEN BRADLEY	1741, 1744, 1745
800T-FXD4	ALLEN BRADLEY	717 1414
800T-N209RE1	ALLEN BRADLEY	717
700-N24	ALLEN BRADLEY	717
800T-PB16A	ALLEN BRADLEY	717
XXXXXXXXXX	XXXXXXXXXX	XXXXXX
XXXXXX	XXXXXX	XXXXXX
800T-13TA	ALLEN BRADLEY	1715, 1716, 1717, 1718, 1719, 1720, 1721
800T-N2KF4B	ALLEN BRADLEY	1722, 1723, 1724, 1725, 1726, 1727, 1728, 1729, 1730, 1731, 1732, 1733, 1734, 1735, 1736, 1737, 1738, 1739, 1740, 1741, 1742, 1743, 1744, 1745, 1746, 1747, 1748, 1749, 1750, 1751, 1752, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1760, 1761, 1762, 1763, 1764, 1765, 1766, 1767, 1768, 1769, 1770, 1771, 1772, 1773, 1774, 1775, 1776, 1777, 1778, 1779, 1780, 1781, 1782, 1783, 1784, 1785, 1786, 1787, 1788, 1789, 1790, 1791, 1792, 1793, 1794, 1795, 1796, 1797, 1798, 1799, 1800, 1801, 1802, 1803, 1804, 1805, 1806, 1807, 1808, 1809, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 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2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 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CODE NO. MDO146	SIGNATURE 	REF: MD-OP-06 (Sheet 2 of 31)	DATE 3/10/97
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56						
55	PROPRTIONAL AIR VALVE	1	XXXXX	BB2FEE015/R000B-S160-S19-S91-S92	PROPORTION AIR	2621
54						
53	4-20mA WATER FLOW SENSOR	48	XXXXX	R3B-4WB-10	LAKE	SHEET 25-28
52	LIQUID LEVEL FLOAT SWITCH	2	XXXXX	A01750	GEMS	1605
51	THERMSTAT WELL CROSS AMBIENT	2	XXXXX	837-N6	ALLEN BRADLEY	ON HYDRAULIC TANK
50	130 DEGREE TEMPERATURE SWITCH	2	XXXXX	837-A4A	ALLEN BRADLEY	1606
49	20 PSI FURNACE PRESSURE SWITCH	1	XXXXX	PDA-3R-2MB-HC1	PDA	1908
48	1 PSI FURNACE PRESSURE SWITCH	1	XXXXX	PDA-1R-2MB-HC1	PDA	1618
47	24 VDC POWER SUPPLY	1	XXXXX	F24-12-A	POWER ONE	519
46	12 TO 15 VDC POWER SUPPLY	1	XXXXX	HAA15-0.8A	POWER ONE	521
45	CONTACTOR	1	XXXXX	100-B250ND3	ALLEN BRADLEY	425
44	PHOTOELECTRIC SENSOR (I/R EYE)	3	XXXXX	42GRU-9002	ALLEN BRADLEY	516 517 518 3001 3015 3027
43	CIRCUIT BREAKER 4 AMP	0	XXXXX	1492 CB2G040	ALLEN BRADLEY	533
42	CIRCUIT BREAKER 5 AMP	0	XXXXX	1492 CB2G050	ALLEN BRADLEY	528
41	CIRCUIT BREAKER 20 AMP	1	XXXXX	1492-CB2G200	ALLEN BRADLEY	502
40	CIRCUIT BREAKER 25 AMP	1	XXXXX	1492-CB1G250	ALLEN BRADLEY	506
39	CIRCUIT BREAKER 2 AMP	3	XXXXX	1492-GH020	ALLEN BRADLEY	616 621 619
38	CIRCUIT BREAKER 4 AMP	0	XXXXX	1492-GH040	ALLEN BRADLEY	
37	CIRCUIT BREAKER 7 AMP	4	XXXXX	1492-GH070	ALLEN BRADLEY	519 608 613 606 611
36	CIRCUIT BREAKER 5 AMP	2	XXXXX	1492-GH050	ALLEN BRADLEY	510 704
35	CIRCUIT BREAKER 2.5 AMP	1	XXXXX	1492-GH025	ALLEN BRADLEY	512 515
34	CIRCUIT BREAKER 1 AMP	3	XXXXX	1492-GH010	ALLEN BRADLEY	517 707 521 514
33	RELAY SOCKET	4	XXXXX	700-HV116	ALLEN BRADLEY	710 718 719 720 1837 2038-2045
32	RELAY	4	XXXXX	700-HF32-A1-4	ALLEN BRADLEY	710 718 719 720 1837 2038-2045
31	MALE FEMALE EXTENSION CORD CUSTOMER SUPPLIED	0	XXXXX	40946	BRAD HARRISON	1630-1639
30	MINI CHANGE ELEC. RECEPT. MALE CUSTOMER SUPPLIED	0	XXXXX	40909	BRAD HARRISON	1630-1639
29	MINI CHANGE ELEC. RECEPT. FEMALE	8	XXXXX	40910	BRAD HARRISON	1630-1639
ITEM	DESCRIPTION	QTY	ECI P/N	MANUFACTURER P/N	MANUFACTURER	ZONE

PARTS LIST

84	APX FRAME	2	XXXXX	X-F1888	HOFFMAN	
83	BASE	2	XXXXX	X-B088	HOFFMAN	
82	POGADA TOP	1	XXXXX	X-PT88	HOFFMAN	
81	TOP	1	XXXXX	X-T88	HOFFMAN	
80	BACK	1	XXXXX	X-CS188	HOFFMAN	
79	DISCONNECT DOOR	1	XXXXX	X-DSC188	HOFFMAN	
78	DOOR	2	XXXXX	X-DS188	HOFFMAN	
77	PANEL	3	XXXXX	X-PF188	HOFFMAN	
76	SIDE	3	XXXXX	X-SS188	HOFFMAN	
75	JOINING KIT	1	XXXXX	X-J2F	HOFFMAN	
74	DATA POCKET	1	XXXXX	X-DP2C	HOFFMAN	
73	MASTER DOOR ACTUATOR	1	XXXXX	X-MLMA	HOFFMAN	
72	SLAVE DOOR ACTUATOR	1	XXXXX	X-MLS18	HOFFMAN	
71	CONNECTING ROD	1	XXXXX	X-MLC8	HOFFMAN	
70	POGADA/APX VENT KIT	1	XXXXX	X-PV32	HOFFMAN	
69	FAN KIT	1	XXXXX	A6AXFM	HOFFMAN	
68	COMMUNICATIONS CABLE	100'	XXXXX	9463	BELDEN	2423
67	82 OHM RESISTOR	2	XXXXX	XXXXXX	ALLEN BRADLEY	2419 2435
66	FURNACE LOW TEMP. STROBE	1	XXXXX	5947T75	McMASTER CARR	513
65	SILICON CARBIDE HEATING ELEMENTS	3	XXXXX	75X40X2.125X0.620HMS -0% +15%	WIC	423
64	THERMOCOUPLE WIRE 8 PAIRS	50'	XXXXX	8KX20PP	OMEGA	SHEET 11,12,26
63	T/C JACK PANEL	2	XXXXX	SJP-2-12-K	OMEGA	SHEET 26-29
62	THERMOCOUPLE CONNECTION BOX	1	XXXXX	JPCB-5-K-F	OMEGA	SHEET 11-12
61	3-1/2' 0-200 AMP METER	3	XXXXX	1357-03240	SIMPSON	420
60	CURRENT TRANSFORMER 200:5	3	XXXXX	2SFT-201	INSTRUMENT TRNASFORMER	420
59	OPERATING HANDLE	1	XXXXX	1494V-H1	ALLEN BRADLEY	404
58	CONNECTING ROD	1	XXXXX	1494V-RA2	ALLEN BRADLEY	404
57	DISCONNECT SWITCH	1	XXXXX	1494V-DS100	ALLEN BRADLEY	404
ITEM	DESCRIPTION	QTY	ECI P/N	MANUFACTURER P/N	MANUFACTURER	ZONE

PARTS LIST

B	FIELD RELEASE	08DEC95	
A	DELETED #'S 42 & 43	22MAY95	
-	ENGINEERING RELEASE		
REV	DESCRIPTION	DATE	APP'D
	REVISION		

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APPROVALS		DATE	 EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY SANTA ROSA, CA 95405
DRAWN BY:	J. WATERS	8/27/95	
CHECKED BY:	G. PEARN	12/08/95	
APPROVED BY:			
ENGINEERING:	V. HAWLEY		ELECTRICAL SCHEMATIC PAGE 2
MANUFACTURING:	D. DINING		
CUSTOMER:	AAP		
DO NOT SCALE DRAWING			
EMPIRE WORK ORDER NO.		EMPIRE DRAWING NO.	
AAPM01		1800102	
NEXT ASSEMBLY NO.		CUSTOMER PART NO.	
1800103			
QTY	1	SCALE	TO FIT
SHEET 2 OF 32			

CODE NO. MDC0146	SIGNATURE <i>[Signature]</i>	REF: MD-OP-06 (Sheet 3 of 31)	AAP CORPORATION
EFF. DATE 3/10/97			

112	PROXIMITY SWITCH	2	XXXXX	802PR-LASS2	ALLEN BRADLEY	1640 1818 1641 1819
111	ISOLATED T/C TRANSMITTER	1	XXXXX	6TS-K 0-1400°F	M-SYSTEM CO.,LTD.	2634
110	LVDT 48" INCLUSIVE	1	XXXXX	TTSRBU0480AS1B	TEMPOSONICS	2941
109	POWER AMPLIFIER CARD	1	XXXXX	EEA-PAM-561-A-31	VICKERS	2909
108	HYD. FILTER DIRTY SWITCH	2	XXXXX			1607 1608
107	HYD. PRESSURE SWITCH 1100 PSI	1	XXXXX			1610
106	HYD. PRESSURE SWITCH 750 PSI	1	XXXXX			1609
105	ROTARY LIMIT SWITCH	1	XXXXX	LS-2C-1040A	ACTION JAC	1614
104	PROAIR SIDE MOUNT A/C	1	XXXXX	CR43-0616-002	HOFFMAN	538
103	COMPACT COOLING FAN	1	XXXXX	A-6AXFN	HOFFMAN	707
102	480VAC - 115VAC 3KVA XFRMR	1	XXXXX	TA-2-81220	ACME	503
101	30KVA 3Ø 480VAC TRANSFORMER	1	XXXXX	XXXXXXX	LC MAGNETICS	415
100	CARD HOLDER, AMPLIFIER	1	XXXXX	63010	MURRELEKTRONIK	2909
99	PROXIMITY SWITCH	8	XXXXX	802PR-LABB2	ALLEN BRADLEY	1611,1612,1615 1616,1617,1642
98	480/240 750VA TRANSFORMER	0	XXXXX	TA-83219	ACME	530
97	XXXXXXXXXX	0	XXXXX	XXXXXXXXXX	XXXXXXXXXX	
96	XXXXXXXXXX OVERLOAD	0	XXXXX	XXXXXXXXXX	XXXXXXXXXX	
95	ENCLOSED MOTOR STARTER	1	XXXXX	100-A45ND3 112-A45JBC4S	ALLEN BRADLEY	403
94	REFRECTOR	3	XXXXX	880-N3	ALLEN BRADLEY	USE WITH ITEM #44
93	RELAY	1	XXXXX	700-P800A1	ALLEN BRADLEY	717
92	25HP 3Ø 1760RPM 284T FRAME	1	XXXXX	M2531T	BALDOR	405
91	XXXXXXXXXX	0	XXXXX	XXXXXXXXXX	XXXXXXXXXX	
90	60 AMP FUSE	6	XXXXX	LPJ-60SP	BUS	405 412
89	200 AMP FUSE	3	XXXXX	LPJ-200SP	BUSS	423
88						
87	XXXXXXXXXXXXXX	X	XXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXX
86	FUSE HOLDER - 3 FUSE	2	XXXXX	J60060-3	BUSS	412
85	FUSE HOLDER - 1 FUSE	3	XXXXX	J60200-1CR	BUSS	423
ITEM	DESCRIPTION	QTY	ECI P/N	MANUFACTURER P/N	MANUFACTURER	ZONE

140						
139						
138						
137						
136	MOLD COOLING TERMINAL J-Box			6648-12WT	CIRCLE AW	
135						
134						
133						
132						
131						
130	15 AMP CIRCUIT BREAKER	1	XXXXX	149-GHA150	ALLEN BRADLEY	
129	RELAY BASE	1	XXXXX	700-HN127	ALLEN BRADLEY	605 1829
128	SINGLE RANGE TIMING RELAY	1	XXXXX	700-HS12AA1	ALLEN BRADLEY	605 1829
127	LUG	2	XXXXX	199-LE1	ALLEN BRADLEY	
126	SURGE SUPPRESSOR	1	XXXXX	599-K04	ALLEN BRADLEY	1830
125	SURGE SUPPRESSOR	1	XXXXX	199-GSMA1	ALLEN BRADLEY	711
124	AIR-TO-AIR HEAT EXCHANGER	1	XXXXX	XR-2016-101	HOFFMAN	514
123	T/C TERMINAL BLOCK		XXXXX	1492-UT4K	ALLEN BRADLEY	
122	HEX INSERT KEY	1	XXXXX	X-KOHM10	HOFFMAN	
121	GRID STRAP	1	XXXXX	XGH6S8	HOFFMAN	
120	CABLE 16AWG 21 CONDUCTOR	150'	XXXXX	162130	DLFLEX	
119			XXXXX			2415
118			XXXXX			2415
117			XXXXX			2415
116	RECEPTACLE	1	XXXXX	MS3102A-18-22S	WECD PRODUCTS	2415
115	SINGLE PAIR, COMMUNICATION CABLE	80'	XXXXX	8761	BELDEN	2502 2634
114	FIVE PAIR, COMMUNICATION CABLE	150'	XXXXX	8105	BELDEN	2915 2941
113	SCREW CLAMP LUG CONNECTOR	3	XXXXX	1492R-N2	ALLEN BRADLEY	403
ITEM	DESCRIPTION	QTY	ECI P/N	MANUFACTURER P/N	MANUFACTURER	ZONE

—	ENGINEERING RELEASE		
REV	DESCRIPTION	DATE	APP'D

REVISIONS

APPROVALS		DATE	EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY SANTA ROSA, CA 95403	
DRAWN BY: J. WATERS		3/27/05	ELECTRICAL SCHEMATIC PAGE 3	
CHECKED BY: G. PEARN		12/08/05		
APPROVED BY:				
ENGINEERING: V. HAWLEY			EMPIRE WORK ORDER NO. 1800103	
MANUFACTURING: D. DINING			AAPM01	
CUSTOMER: AAP			NEXT ASSEMBLY NO. 1800104	CUSTOMER PART NO.
DO NOT SCALE DRAWING			QTY: 1	SCALE: TO FIT
			SHEET 3 OF 32	

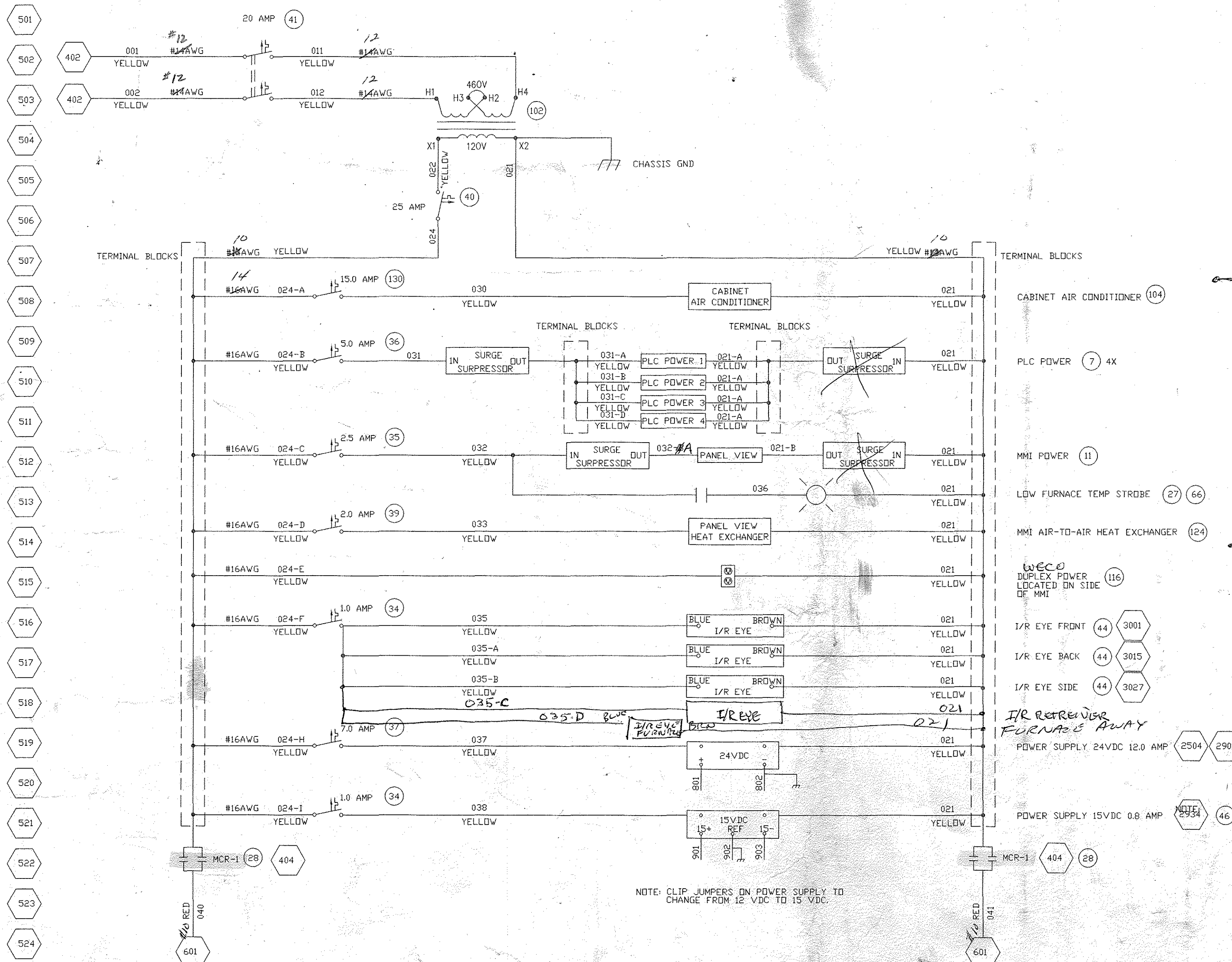
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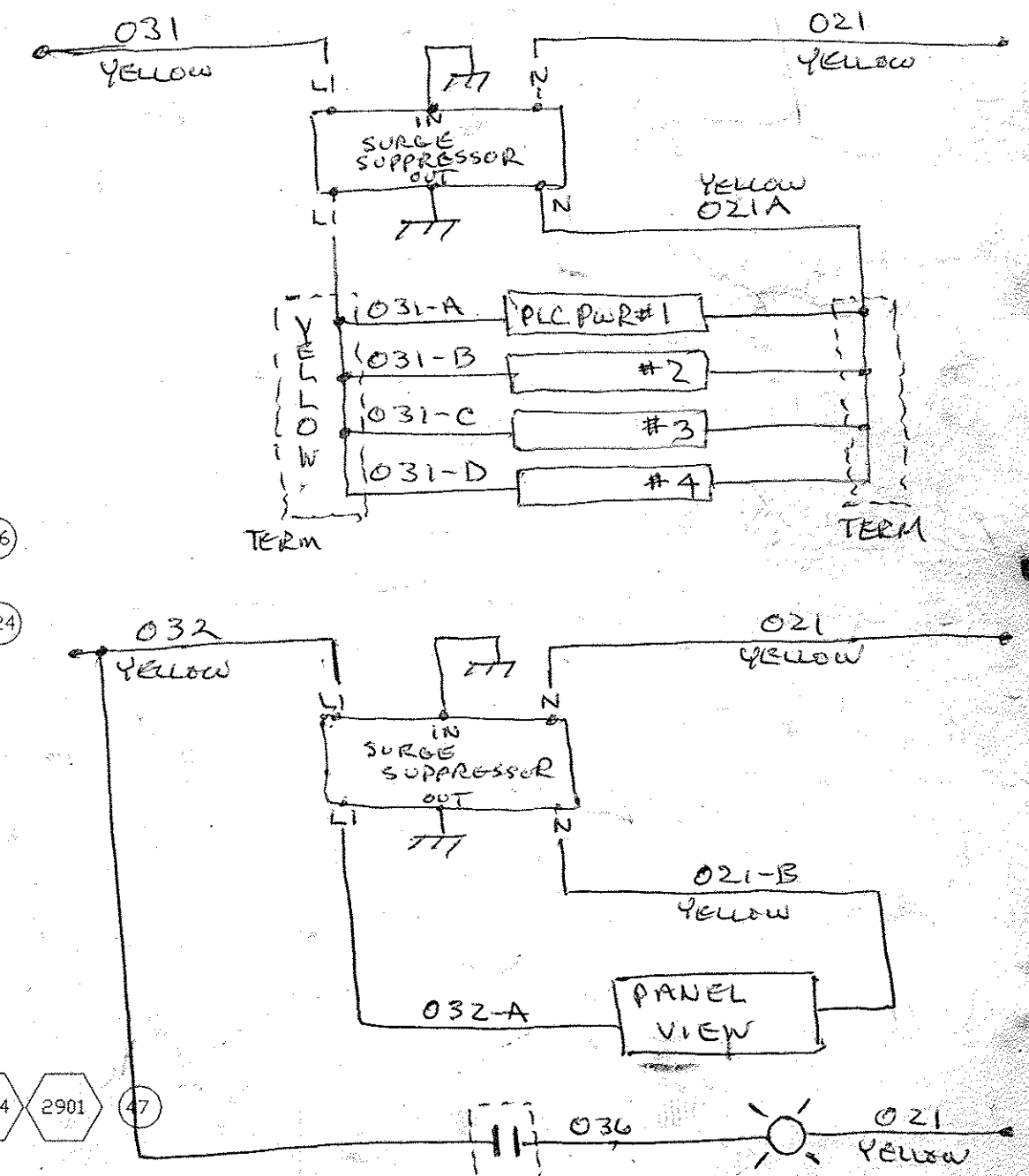


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APPROVALS		DATE	 EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY SANTA ROSA, CA 95404
DRAWN BY: J. WATERS		3/27/95	
CHECKED BY: C. PARK		12/08/08	
APPROVED BY:			
ENGINEERING: V. HAWLEY			
MANUFACTURING: D. DINING			ELECTRICAL SCHEMATIC PAGE 4
CUSTOMER:	AAP		EMPIRE WORK ORDER NO. AAPM01
			EMPIRE DRAWING NO. 1800104
			NEXT ASSEMBLY NO. 1800105
			CUSTOMER PART NO. _____
			REV. _____
DO NOT SCALE DRAWING			QTY: 1 SCALE: TO FIT SHEETS OF 32



NOTE: CLIP JUMPERS ON POWER SUPPLY TO CHANGE FROM 12 VDC TO 15 VDC.

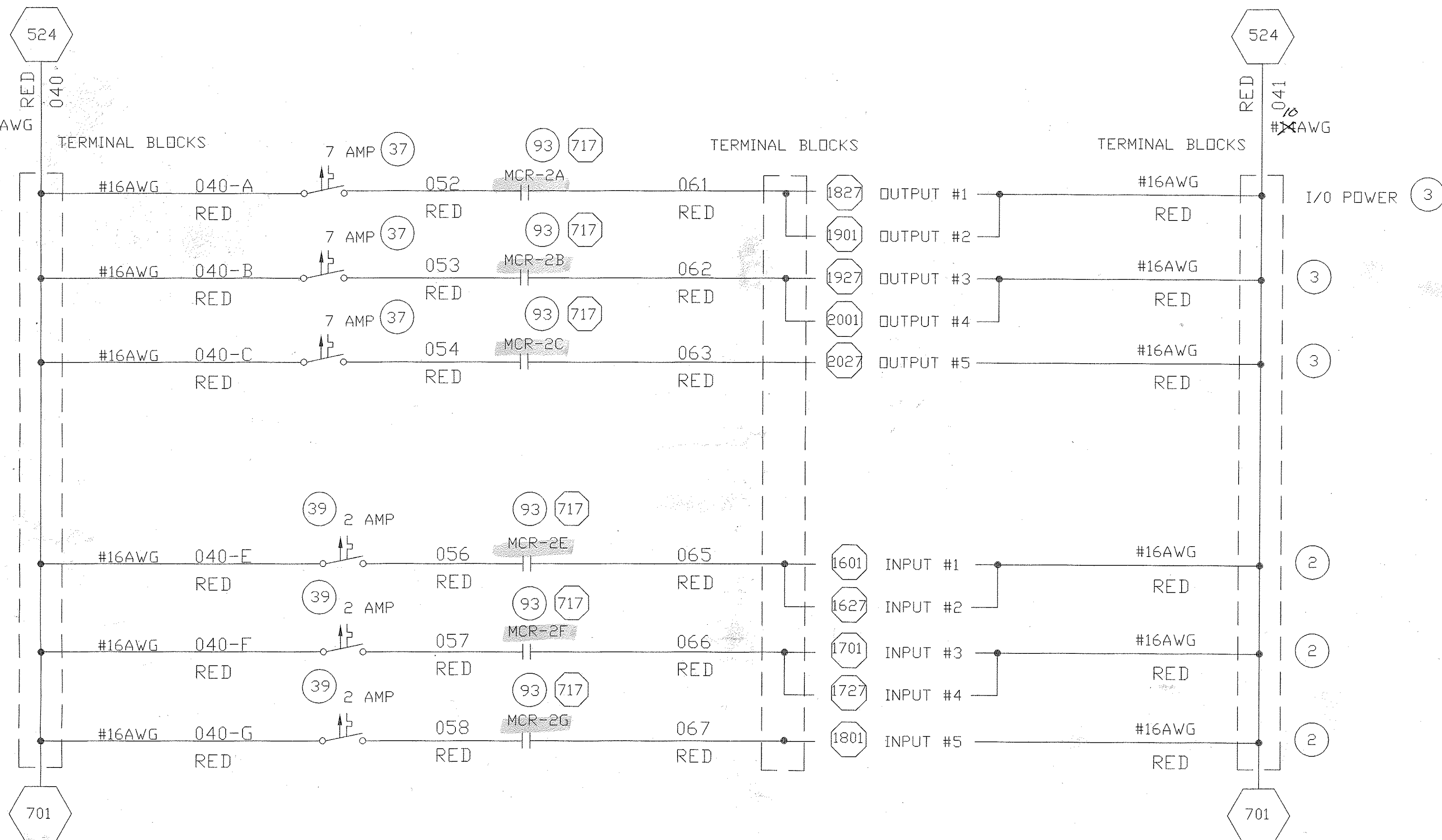


B	FIELD RELEASE	08DEC95	
A	CHANGED AIR/WATER HEAT EXCHANGER TO AIR CONDITIONER	22MAY95	
-	ENGINEERING RELEASE		
REV	DESCRIPTION	DATE	APP'D

APPROVALS		DATE	REVISIONS	
DRAWN BY:	J. WATERS	3/27/95	EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY SANTA ROSA, CA 95404	
CHECKED BY:	G. PEAK	12/08/95		
APPROVED BY:				
ENGINEERING:	V. HAWLEY			
MANUFACTURING:	D. DINEEN		ELECTRICAL SCHEMATIC	
CUSTOMER:	AAP		PAGE 5	
DO NOT SCALE DRAWING		QTY: 1	SCALE: TO FIT	SHEET 5 OF 32

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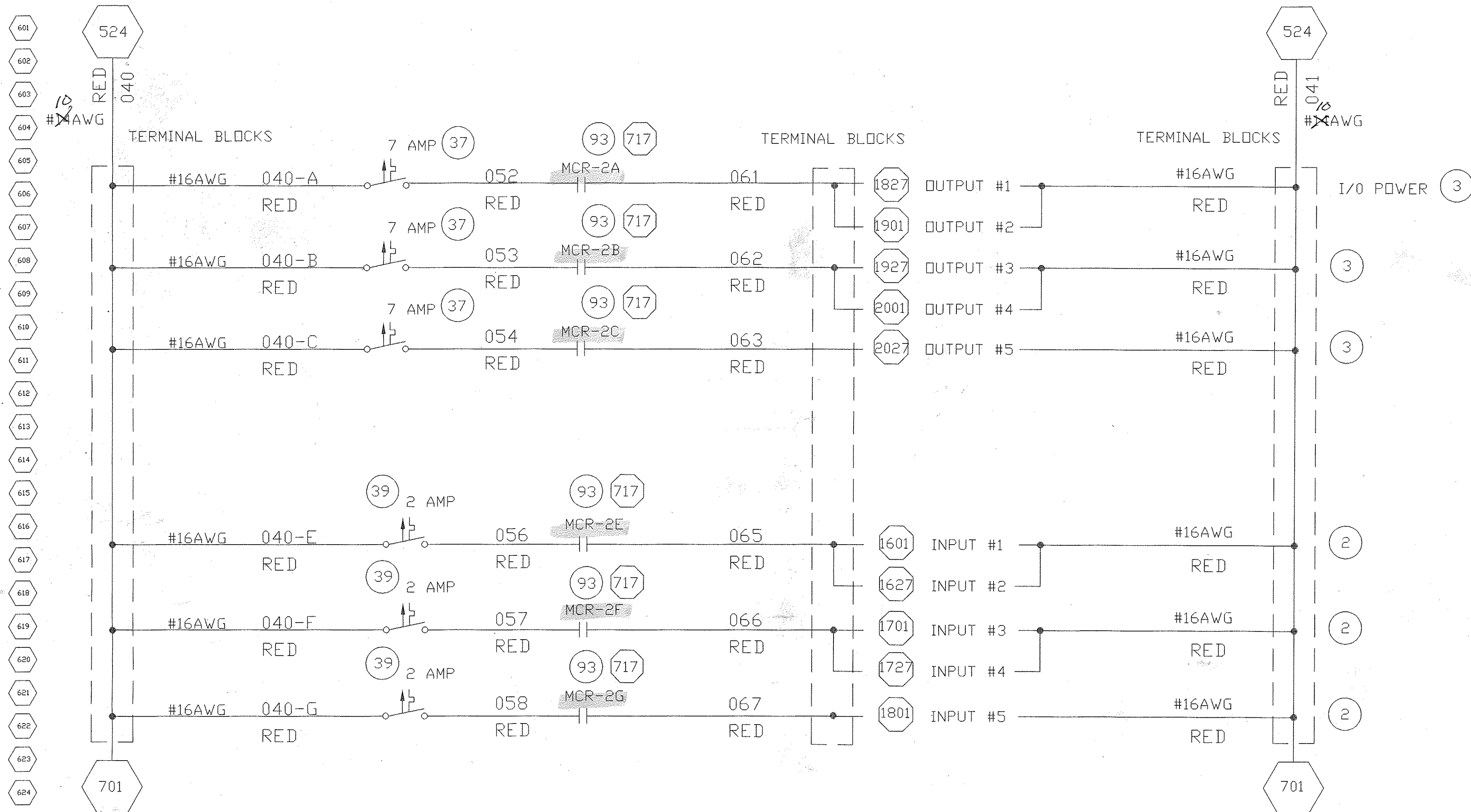
NOTE:

* TO BE USED ON 48 CHANNEL ONLY.

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A	FIELD RELEASE	08DEC95
-	ENGINEERING RELEASE	
REV	DESCRIPTION	DATE

APPROVALS		DATE	REVISIONS	
DRAWN BY: J. WATERS		3/27/95	EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY SANTA ROSA, CA 95407	
CHECKED BY: G. PEARSON		12/08/95	ELECTRICAL SCHEMATIC PAGE 6	
APPROVED BY:				
ENGINEERING: V. HAWLEY			EMPIRE WORK ORDER NO. 1800106	
MANUFACTURING: D. DINI			CUSTOMER PART NO. 1800107	
CUSTOMER: AAP			REV A	
DO NOT SCALE DRAWING		QTY: 1	SCALE: TO FIT	SHEET 6 OF 32



NOTE:

* TO BE USED ON 48 CHANNEL ONLY.

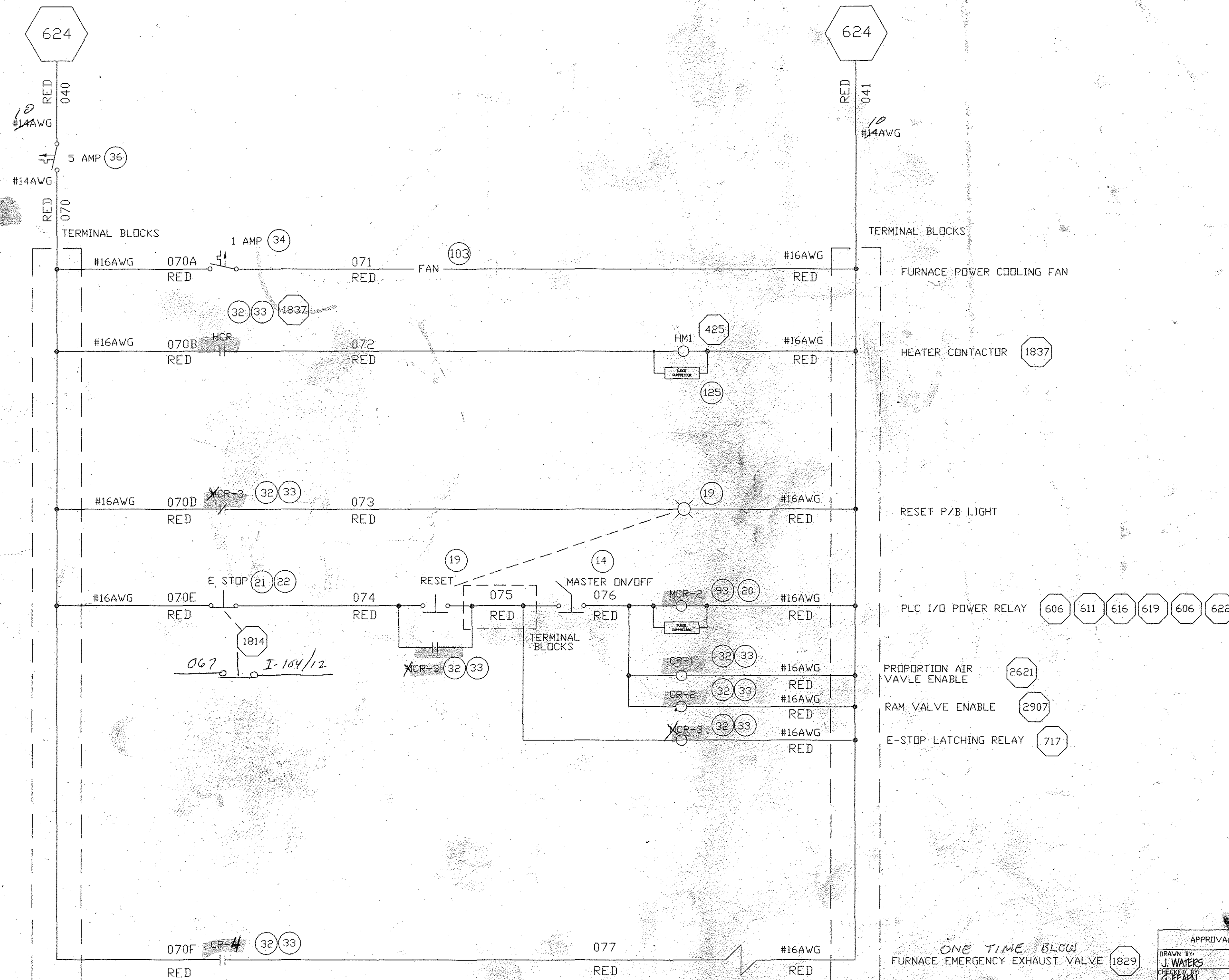
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APPROVALS		DATE
DRAWN BY: J. WATERS		3/27/95
CHECKED BY: G. PEARSON		12/08/95
APPROVED BY:		
ENGINEERING: V. HAWLEY		
MANUFACTURING: D. DINING		
CUSTOMER: AAP		
DO NOT SCALE DRAWING		

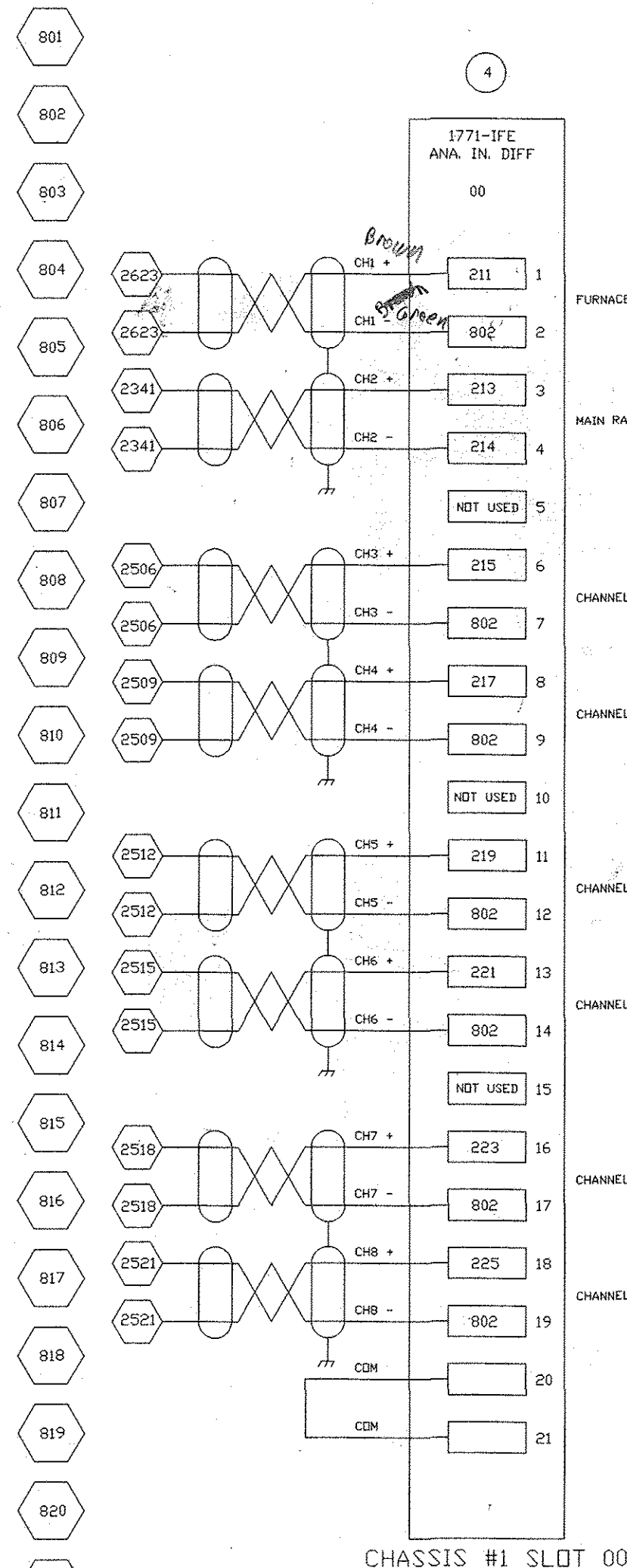
REVISIONS	
A	FIELD RELEASE 08DEC95
-	ENGINEERING RELEASE
REV	DESCRIPTION DATE APP'D

EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY SANTA ROSA, CA 95405	
ELECTRICAL SCHEMATIC PAGE 6	
EMPIRE WORK ORDER NO. AAPM01	EMPIRE DRAWING NO. 1800106
NEXT ASSEMBLY NO. 1800107	CUSTOMER PART NO. A
QTY: 1	SCALE: TO FIT
SHEET 6 OF 32	



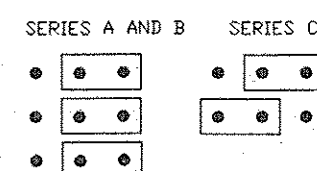
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12/07/95	3195 REGIONAL PARKWAY SANTA ROSA, CA 95403		
12/08/96	ELECTRICAL SCHEMATIC		
	PAGE 7		
	EMPIRE WORK ORDER NO.	EMPIRE DRAWING NO.	
	AAPM01	1800107	
	NEXT ASSEMBLY NO.	CUSTOMER PART NO.	REV
	1800108		A
DRAWING	QTY: 1	SCALE: TO FIT	SHEET 6 OF 32

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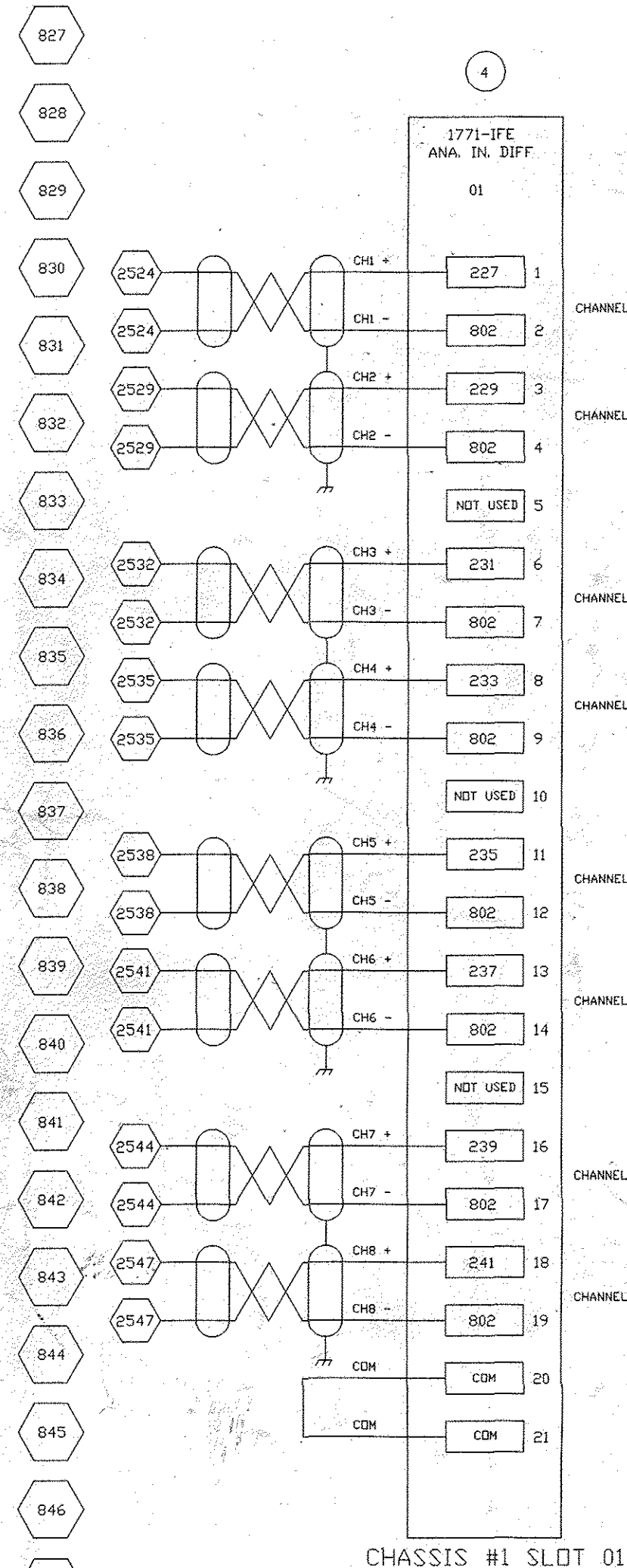
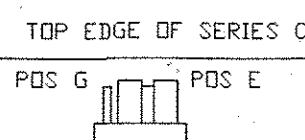
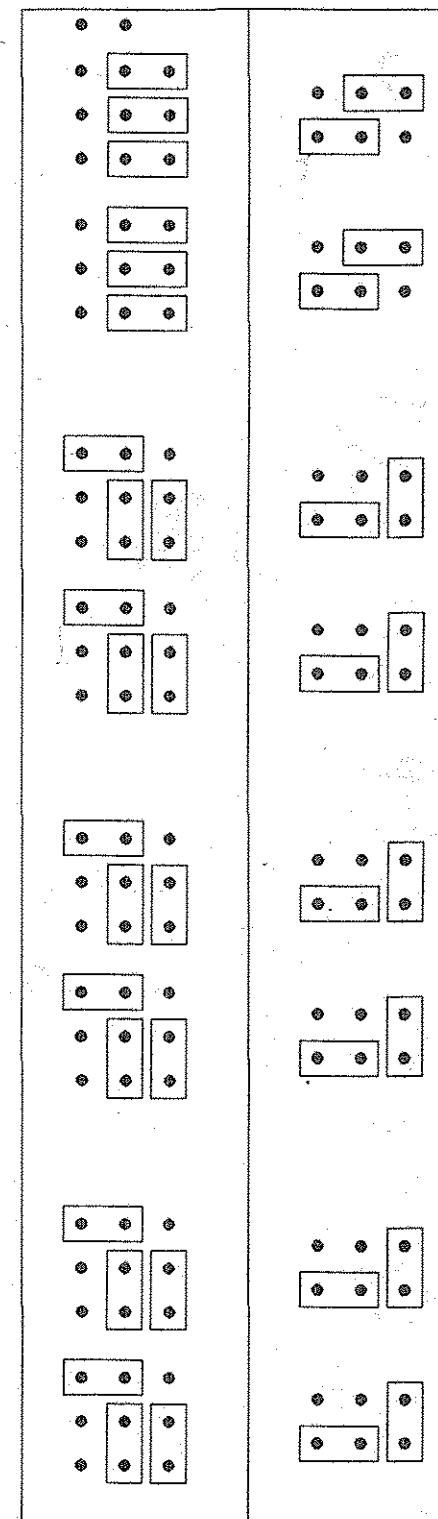


CHASSIS #1 SLOT 00

NOTE: IF CHANNEL NOT USED SET TO STORAGE POSITION

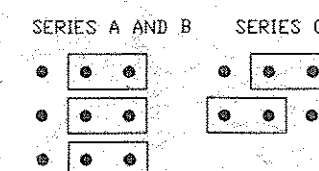


CONFIGURATION PLUG SETTINGS FOR MODULE
SERIES A AND B SERIES C

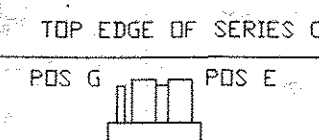
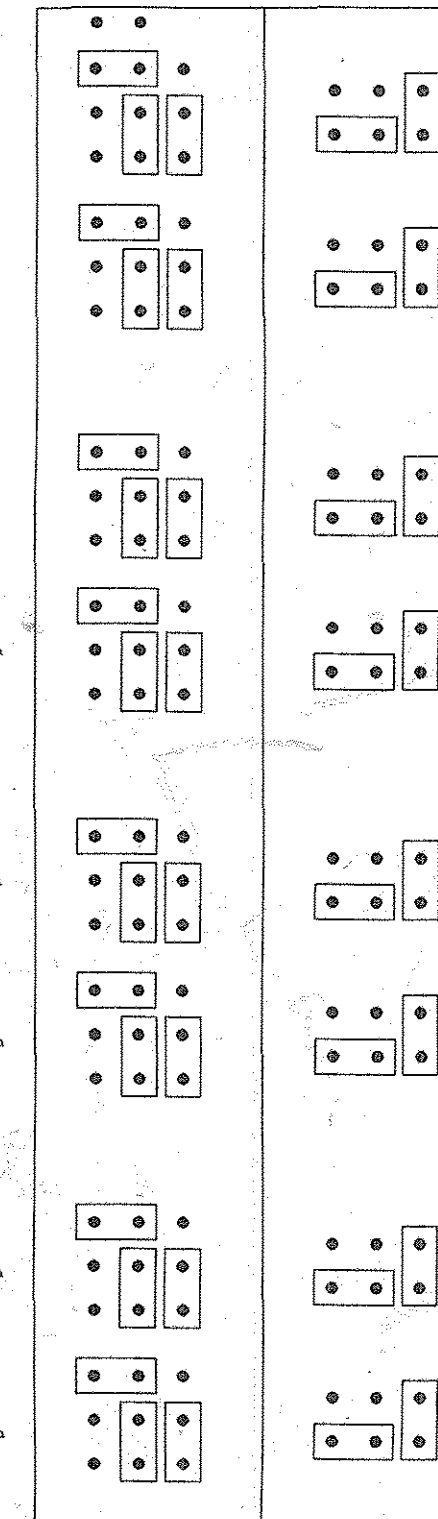


CHASSIS #1 SLOT 01

NOTE: IF CHANNEL NOT USED SET TO STORAGE POSITION



CONFIGURATION PLUG SETTINGS FOR MODULE
SERIES A AND B SERIES C



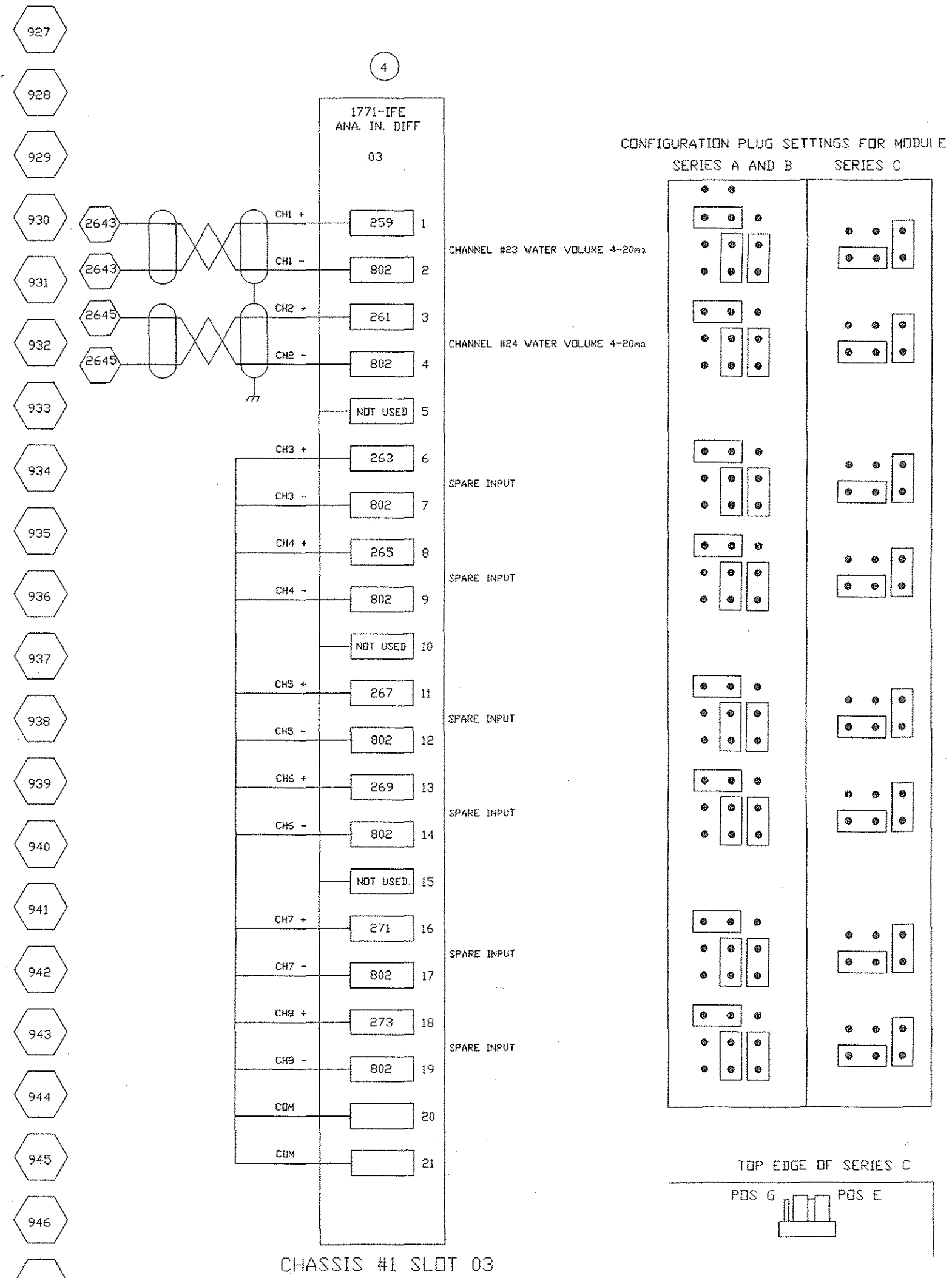
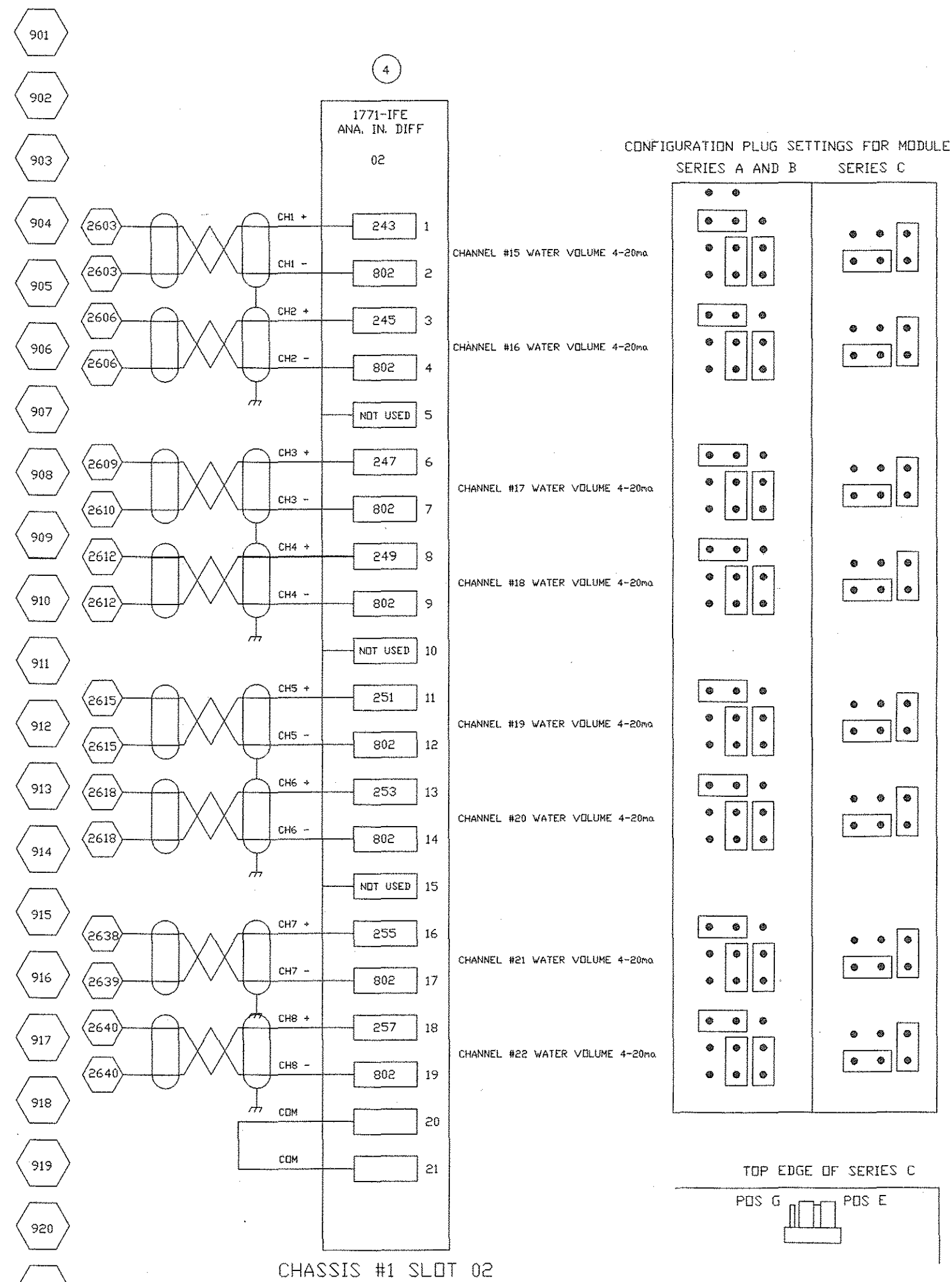
REV	DESCRIPTION	DATE	APP'D
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APPROVALS	DATE
DRAWN BY: J. WATERS	3/27/95
CHECKED BY: G. PEARSON	12/08/95
APPROVED BY:	

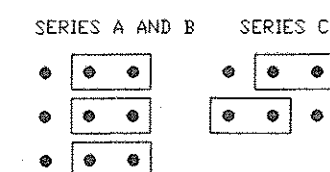
EMPIRE CASTINGS INC.
3195 REGIONAL PARKWAY SANTA ROSA, CA 95403
ELECTRICAL SCHEMATIC
PAGE 8

EMPIRE WORK ORDER NO.	EMPIRE DRAWING NO.
AAPM01	1800108
NEXT ASSEMBLY NO.	CUSTOMER PART NO.
1800109	
QTY: 1	SCALE: TO FIT
DO NOT SCALE DRAWING	SHEET 8 OF 32

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NOTE: IF CHANNEL NOT USED SET TO STORAGE POSITION



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REV	DESCRIPTION	DATE	APP'D
—	ENGINEERING RELEASE		

APPROVALS	DATE	REVISIONS
DRAWN BY: J. WATERS	3/27/95	—
CHECKED BY: C. PEAK	12/08/95	—
APPROVED BY:		—
ENGINEERING: V. HAWLEY		—
MANUFACTURING: D. DINING		—
CUSTOMER: AAP		—
DO NOT SCALE DRAWING		—

EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY SANTA ROSA, CA 9540	EMPIRE WORK ORDER NO. AAMP01	EMPIRE DRAWING NO. 1800109
ELECTRICAL SCHEMATIC PAGE 9	NEXT ASSEMBLY NO. 1800110	CUSTOMER PART NO. —
QTY: 1	SCALE: TO FIT	SHEET 9 OF 32

CODE NO. MD0146	SIGNATURE <i>[Signature]</i>	REF: MD-OP-06 (Sheet 10 of 31)	AAP ST. MARY'S CORPORATION
EFF. DATE 3/10/97			

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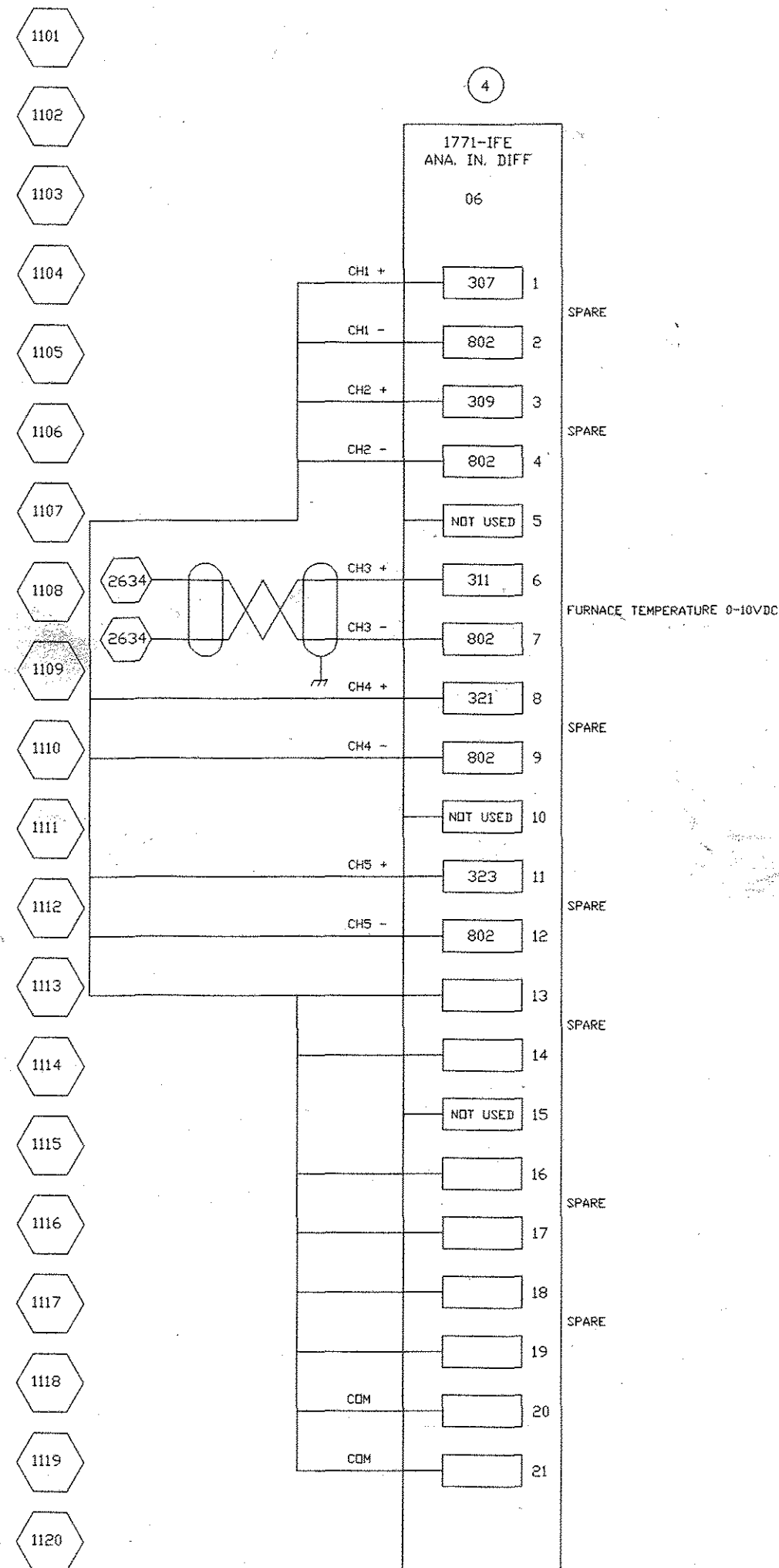
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EMPTY SLOT

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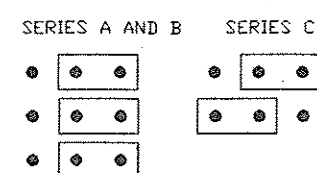
— ENGINEERING RELEASE			
REV	DESCRIPTION	DATE	APP'D
REVISIONS			
APPROVALS		DATE	
DRAWN BY: J. WATERS		3/27/96	
CHECKED BY: G. PEARSON		12/08/96	
APPROVED BY:			
ENGINEERING: V. HAWLEY			
MANUFACTURING: D. DINING			
CUSTOMER: AAP			
DO NOT SCALE DRAWING		QTY: 1	SCALE: TO FIT
		SHEET 9 OF 32	

EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY SANTA ROSA, CA 95403	
ELECTRICAL SCHEMATIC PAGE 10	
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NEXT ASSEMBLY NO. 1800111	CUSTOMER PART NO. A

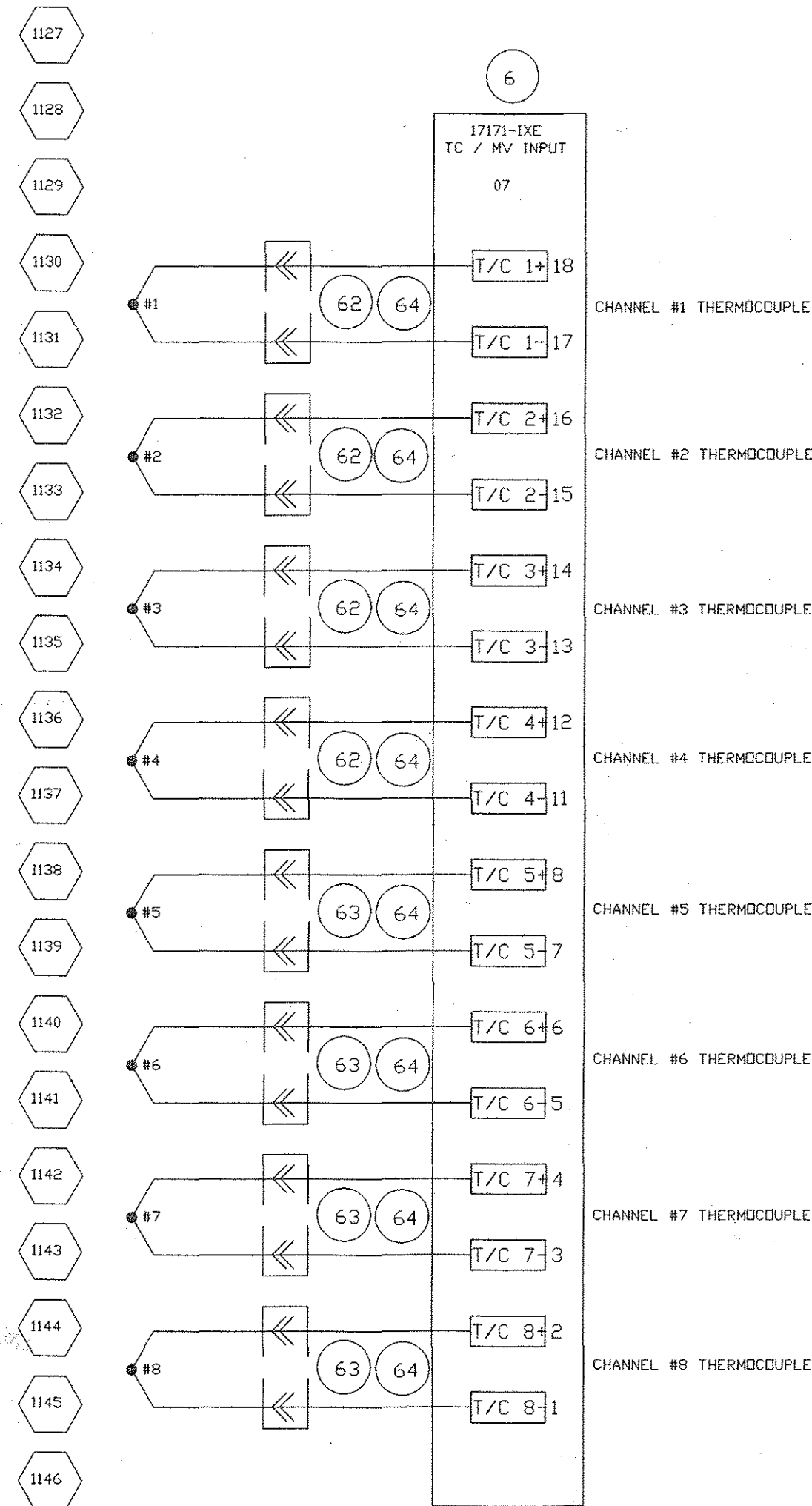
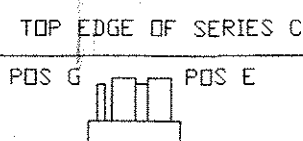
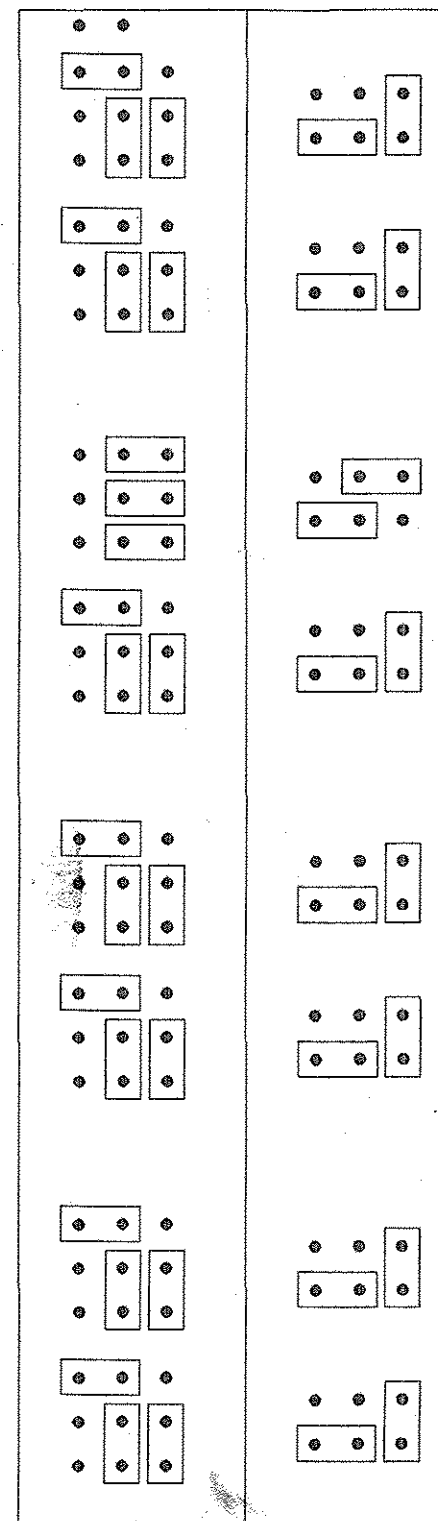


CHASSIS #1 SLOT 06

NOTE: IF CHANNEL NOT USED SET TO STORAGE POSITION
STORAGE POSITION



CONFIGURATION PLUG SETTINGS FOR MODULE
SERIES A AND B SERIES C



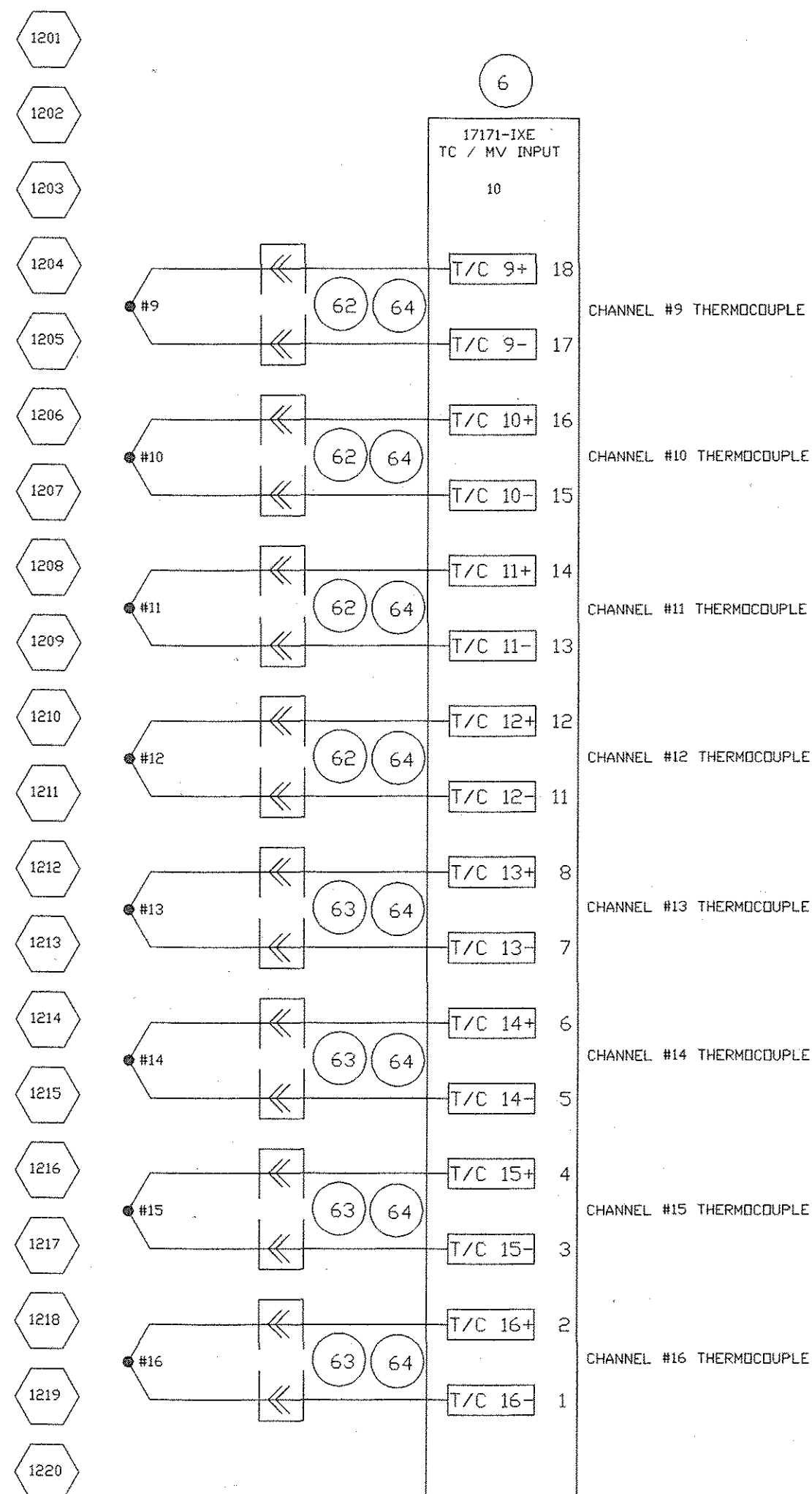
CHASSIS #1 SLOT 07

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TYPE "K" THERMOCOUPLE.

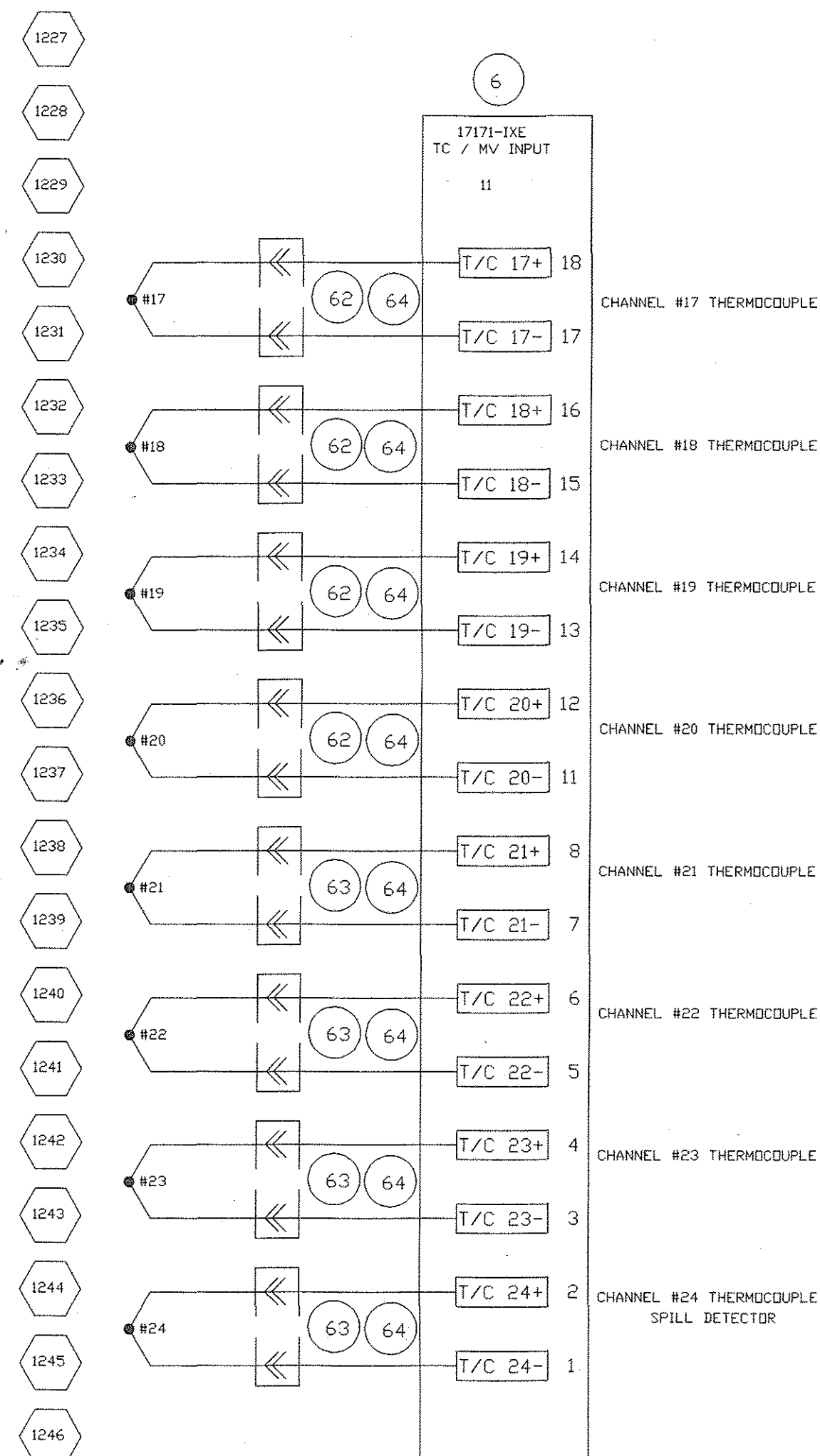
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- ENGINEERING RELEASE			
REV	DESCRIPTION	DATE	APP'D
REVISIONS			
APPROVALS		DATE	
DRAWN BY: J. WATERS		3/27/96	
CHECKED BY: G. PEARL		02/01/96	
APPROVED BY:			
ENGINEERING: V. HAMLEY			
MANUFACTURING: D. DINING			
CUSTOMER: AAP			
DO NOT SCALE DRAWING			
EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY SANTA ROSA, CA 95403			
ELECTRICAL SCHEMATIC PAGE 11			
EMPIRE WORK ORDER NO. AAPM01		EMPIRE DRAWING NO. 1800111	
NEXT ASSEMBLY NO. 1800112		CUSTOMER PART NO. REV B	
QTY: 1	SCALE: TO FIT	SHEET 11 OF 32	



CHASSIS #1 SLOT 08



CHASSIS #1 SLOT 09

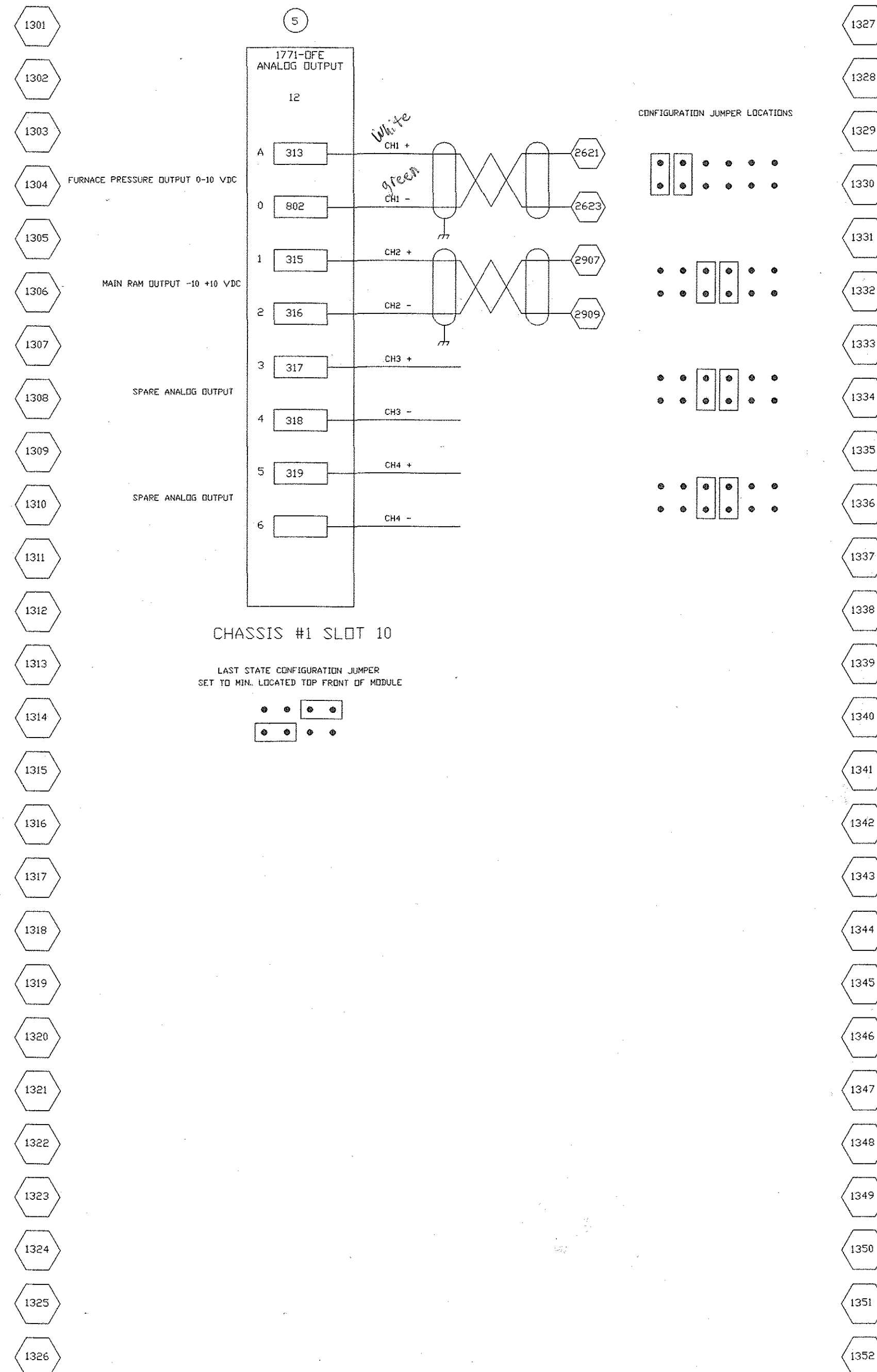
NOTES:
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TYPE "K" THERMOCOUPLE.

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REV	DESCRIPTION	DATE	APP'D
—	ENGINEERING RELEASE		

APPROVALS		DATE	REVISIONS	
DRAWN BY: J. WATERS		3/27/95	EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY SANTA ROSA, CA 9540	
CHECKED BY: G. PEAK		12/08/95	ELECTRICAL SCHEMATIC PAGE 12	
APPROVED BY:				
ENGINEERING: V. HAMLEY			EMPIRE WORK ORDER NO. 1800112	
MANUFACTURING: D. DINING			CUSTOMER PART NO. 1800113	
CUSTOMER: AAP			REV A	
DO NOT SCALE DRAWING		QTY: 1	SCALE: TO FIT	SHEET 12 OF 32

CODE NO. MD0146	SIGNATURE <i>[Signature]</i>	REF: MD-OP-06 (Sheet 13 of 31)	AAP ST. MARY'S CORPORATION
EFF. DATE 3/10/97			



EMPTY SLOT

—	ENGINEERING RELEASE		
REV	DESCRIPTION	DATE	APP'D

APPROVALS		DATE	EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY SANTA ROSA, CA 95401 ELECTRICAL SCHEMATIC PAGE 13
DRAWN BY: J. WATERS		3/27/95	
CHECKED BY: G. PEARL		12/08/95	
APPROVED BY:			
ENGINEERING: V. HAWLEY			EMPIRE WORK ORDER NO. 1800113 EMPIRE DRAWING NO. 1800113 NEXT ASSEMBLY NO. 1800114 CUSTOMER PART NO. A
MANUFACTURING: D. DINING			
CUSTOMER: AAP			
DO NOT SCALE DRAWING			
QTY: 1		SCALE: TO FIT	SHEET 13 OF 32

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CODE NO. MD0146	SIGNATURE 	REF: MD-CP-06 (Sheet 14 of 31)	AAP ST. MARYS CORPORATION
EFF. DATE 3/10/97			

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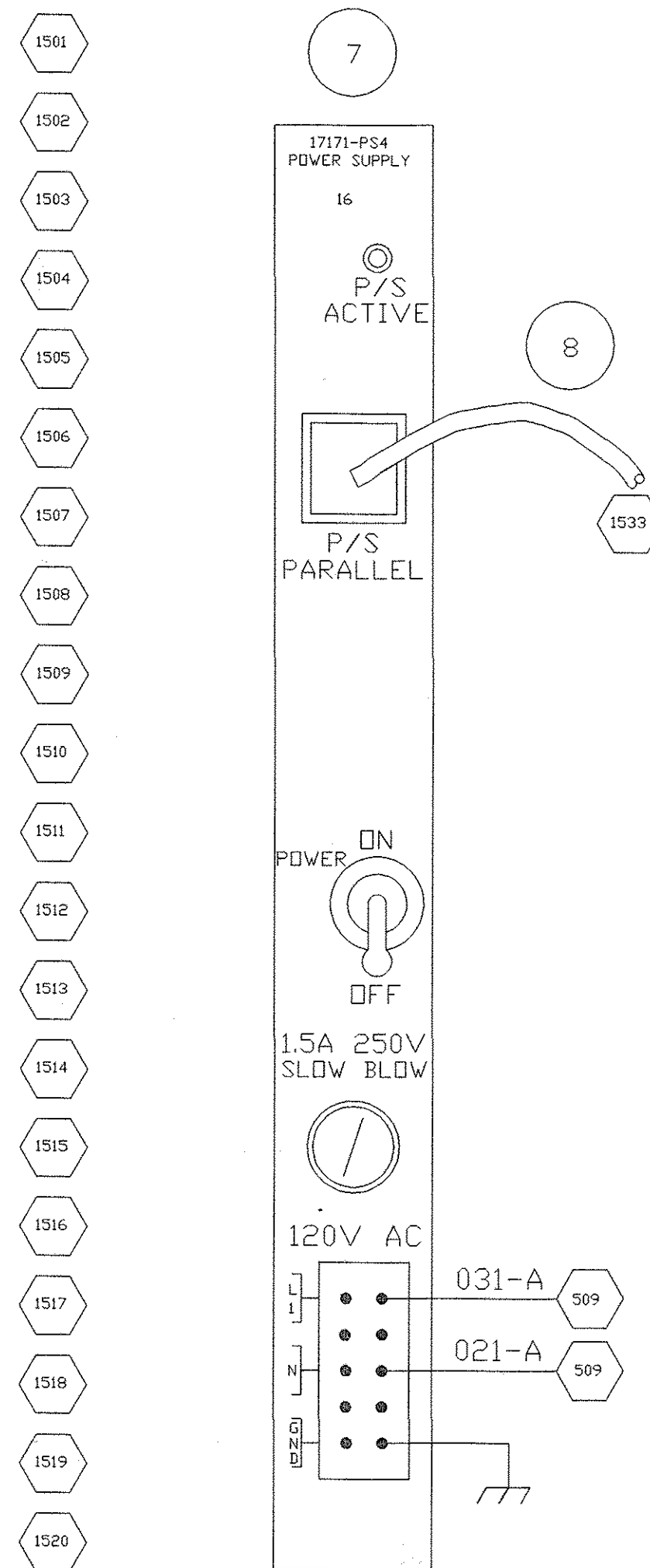
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EMPTY SLOT

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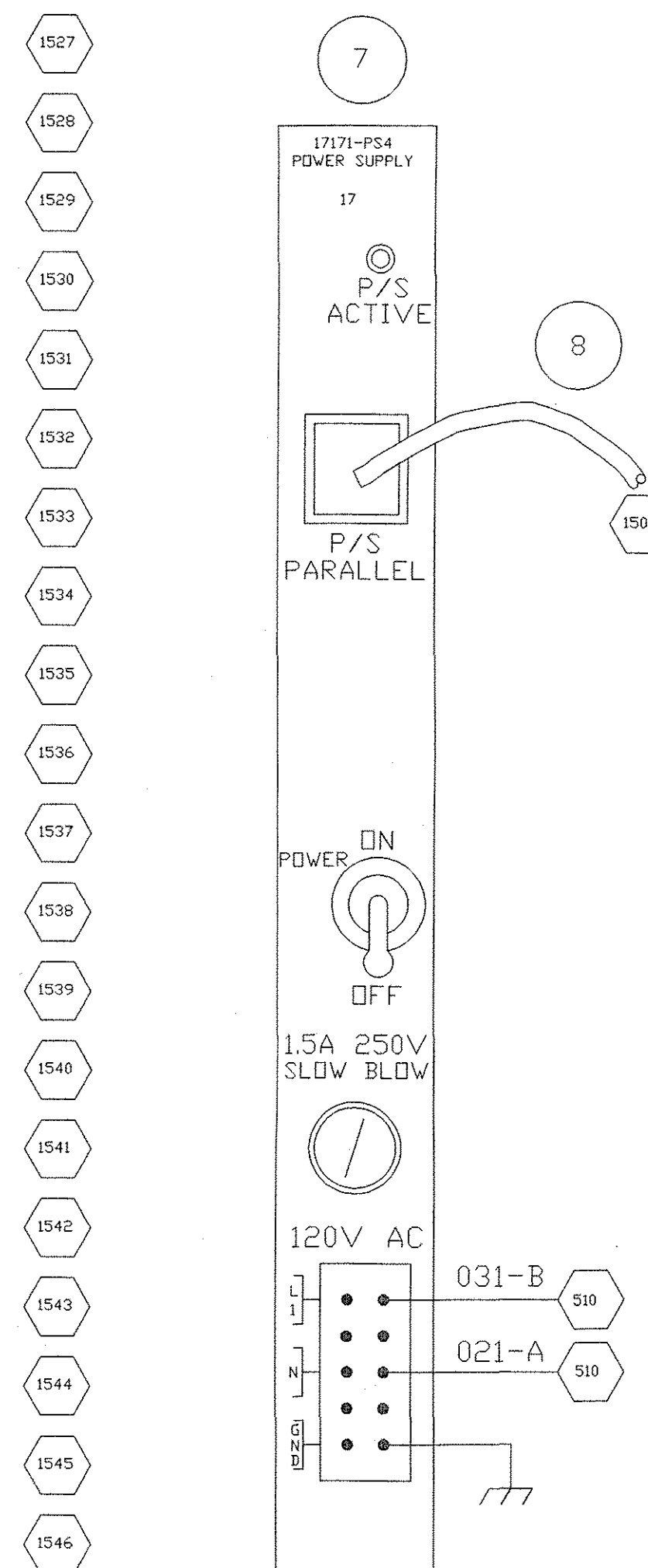
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REV	DESCRIPTION	DATE	APP'D
REVISIONS			
APPROVALS		DATE	
DRAWN BY: J. WATERS		3/27/95	
CHECKED BY: G. PEARIN		12/08/95	
APPROVED BY:			
ENGINEERING: V. HAWLEY			
MANUFACTURING: D. DINING			
CUSTOMER: AAP			
DO NOT SCALE DRAWING		QTY: 1	SCALE: TO FIT
			SHEET 14 OF 32

EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY SANTA ROSA, CA 95403	
ELECTRICAL SCHEMATIC PAGE 14	
EMPIRE WORK ORDER NO. AAPM01	EMPIRE DRAWING NO. 1800114
NEXT ASSEMBLY NO. 1800115	CUSTOMER PART NO. REV A



CHASSIS #1 SLOT 14

POWER SUPPLY JUMPERS
SET TO LEFT POSITION - LOCATED BACK OF MODULE



CHASSIS #1 SLOT 15

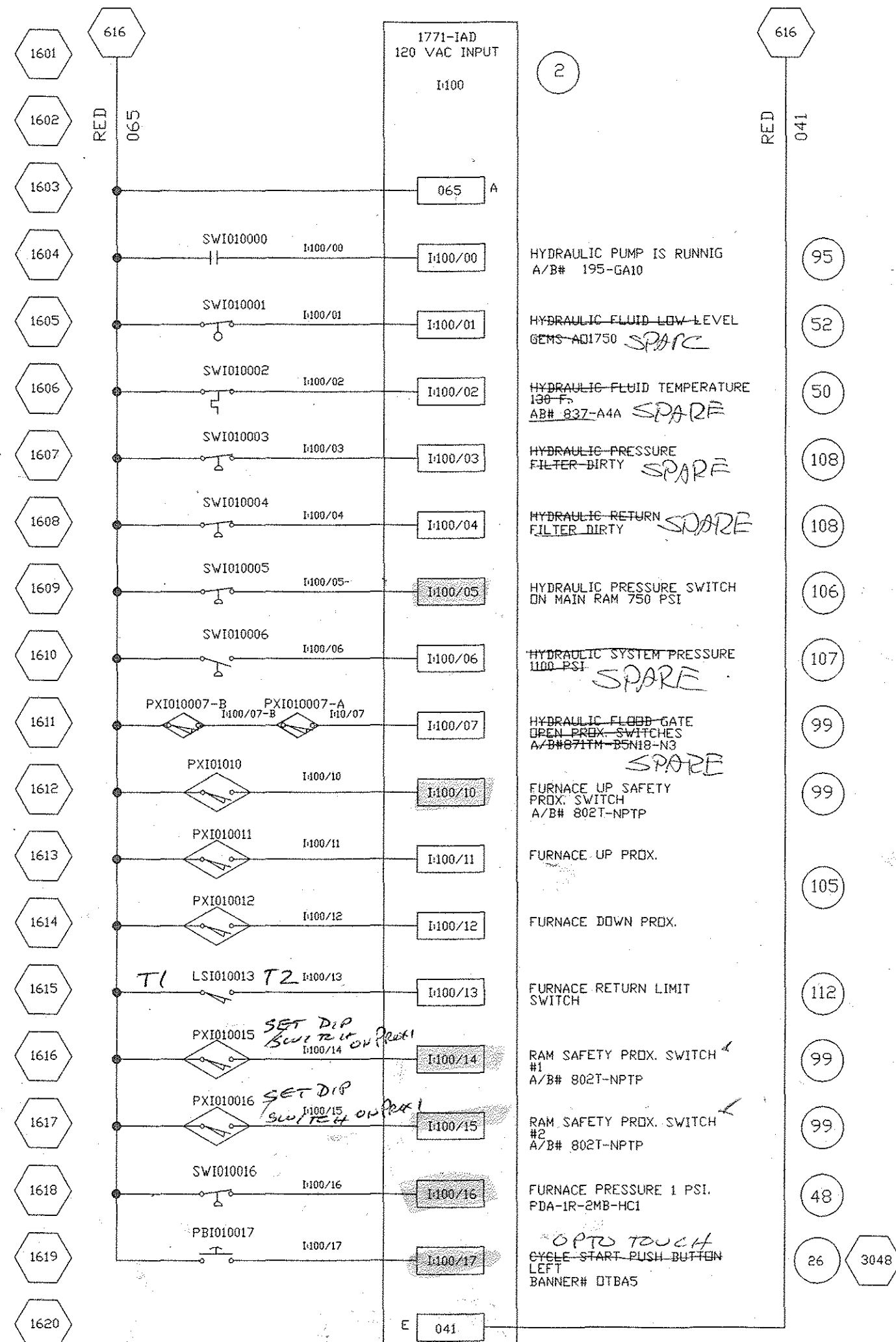
POWER SUPPLY JUMPERS
SET TO LEFT POSITION - LOCATED BACK OF MODULE



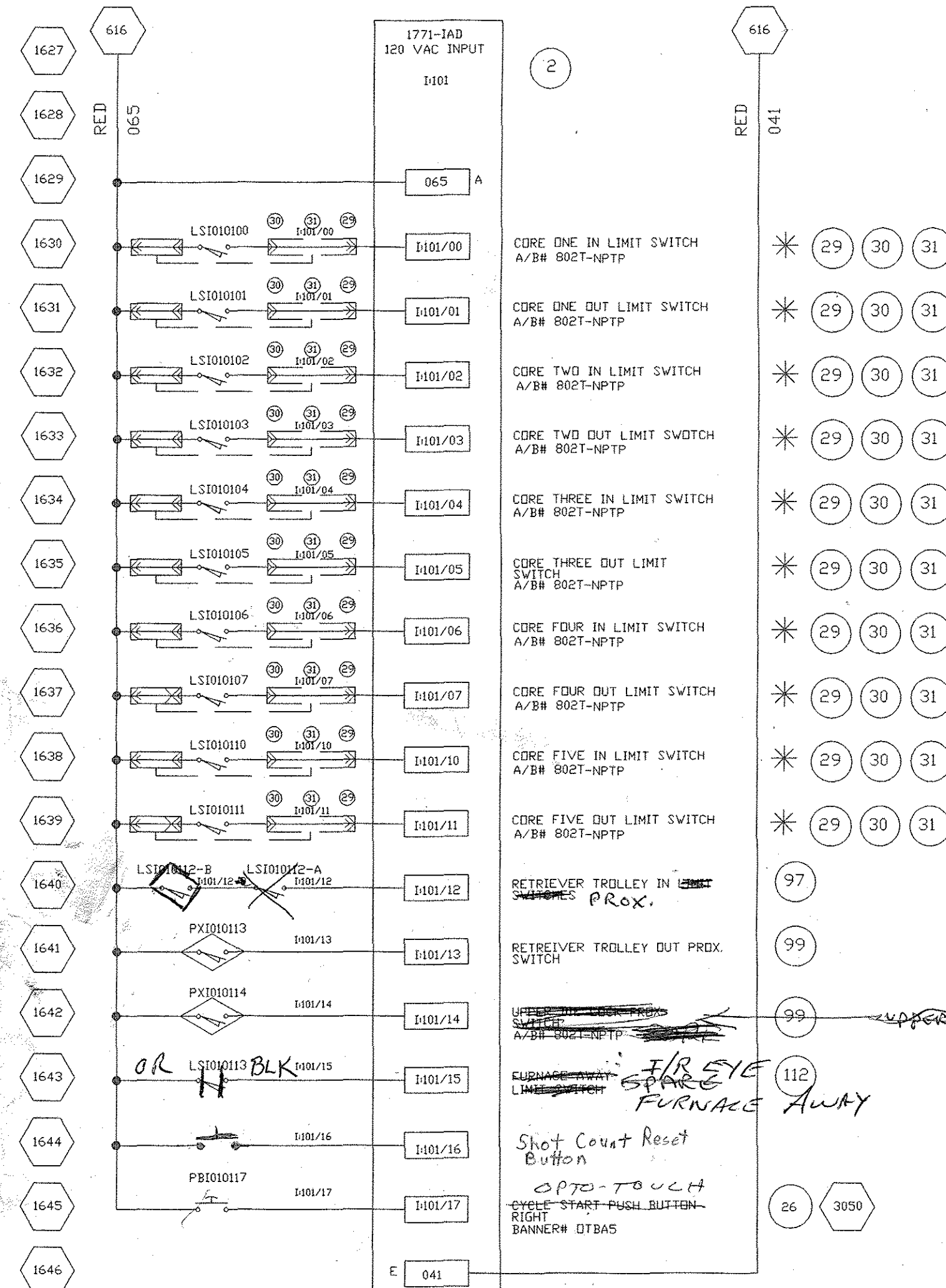
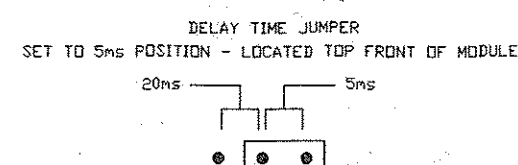
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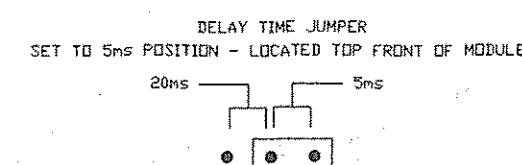
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REVISIONS			
APPROVALS		DATE	
DRAWN BY: J. WATERS		3/27/96	
CHECKED BY: G. LEAN		12/08/96	
APPROVED BY:			
ENGINEERING: V. HAWLEY			
MANUFACTURING: D. DINING			
CUSTOMER: AAP			
DO NOT SCALE DRAWING			
EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY SANTA ROSA, CA 95403 ELECTRICAL SCHEMATIC PAGE 15 EMPIRE WORK ORDER NO. 1800115 NEXT ASSEMBLY NO. 1800116 CUSTOMER PART NO. 1800116 REV A			
QTY: 1	SCALE: TO FIT	SHEET 15 OF 32	



CHASSIS #2 SLOT 00



CHASSIS #2 SLOT 01

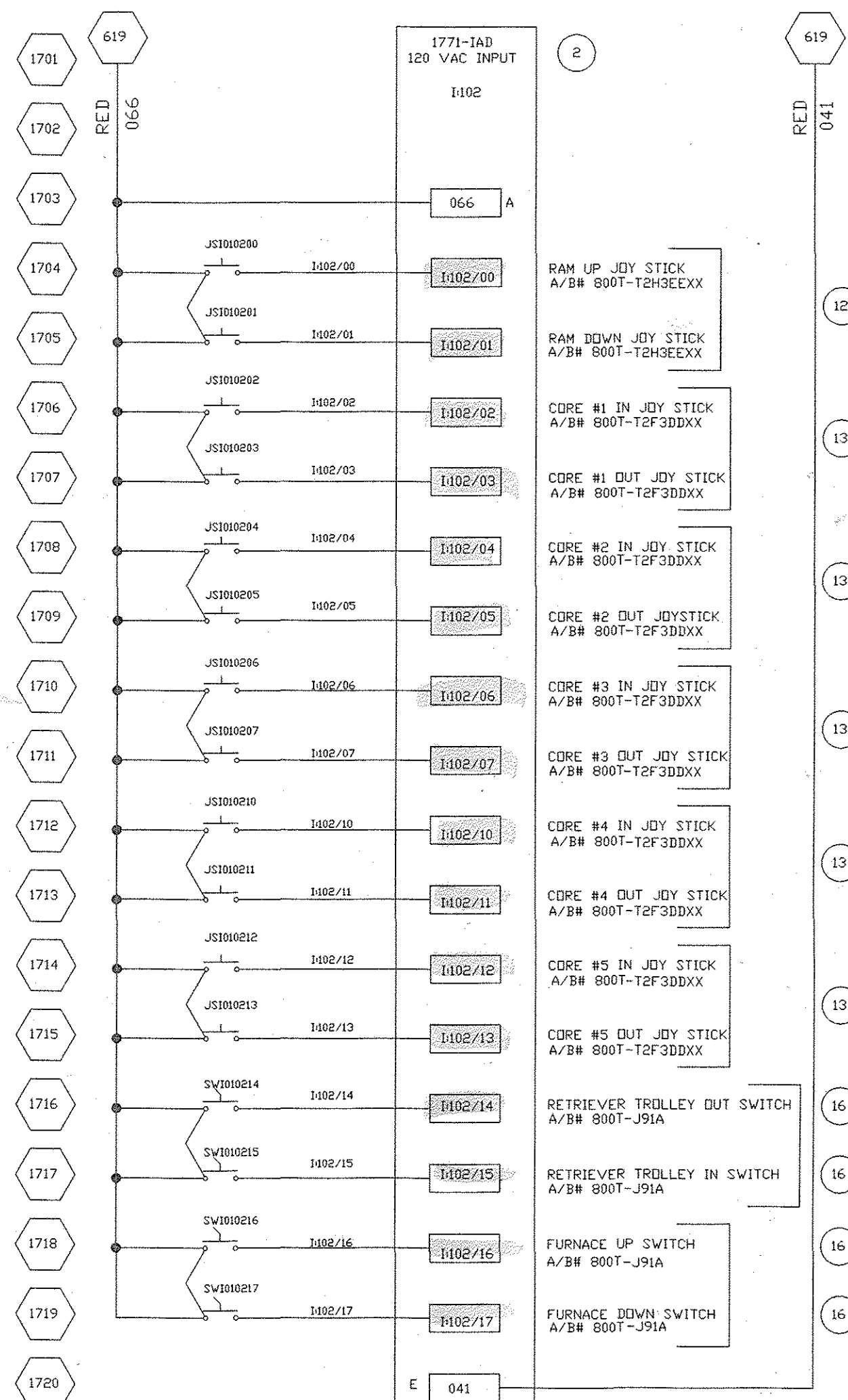


* CUSTOMER SUPPLIED LIMIT SWITCH

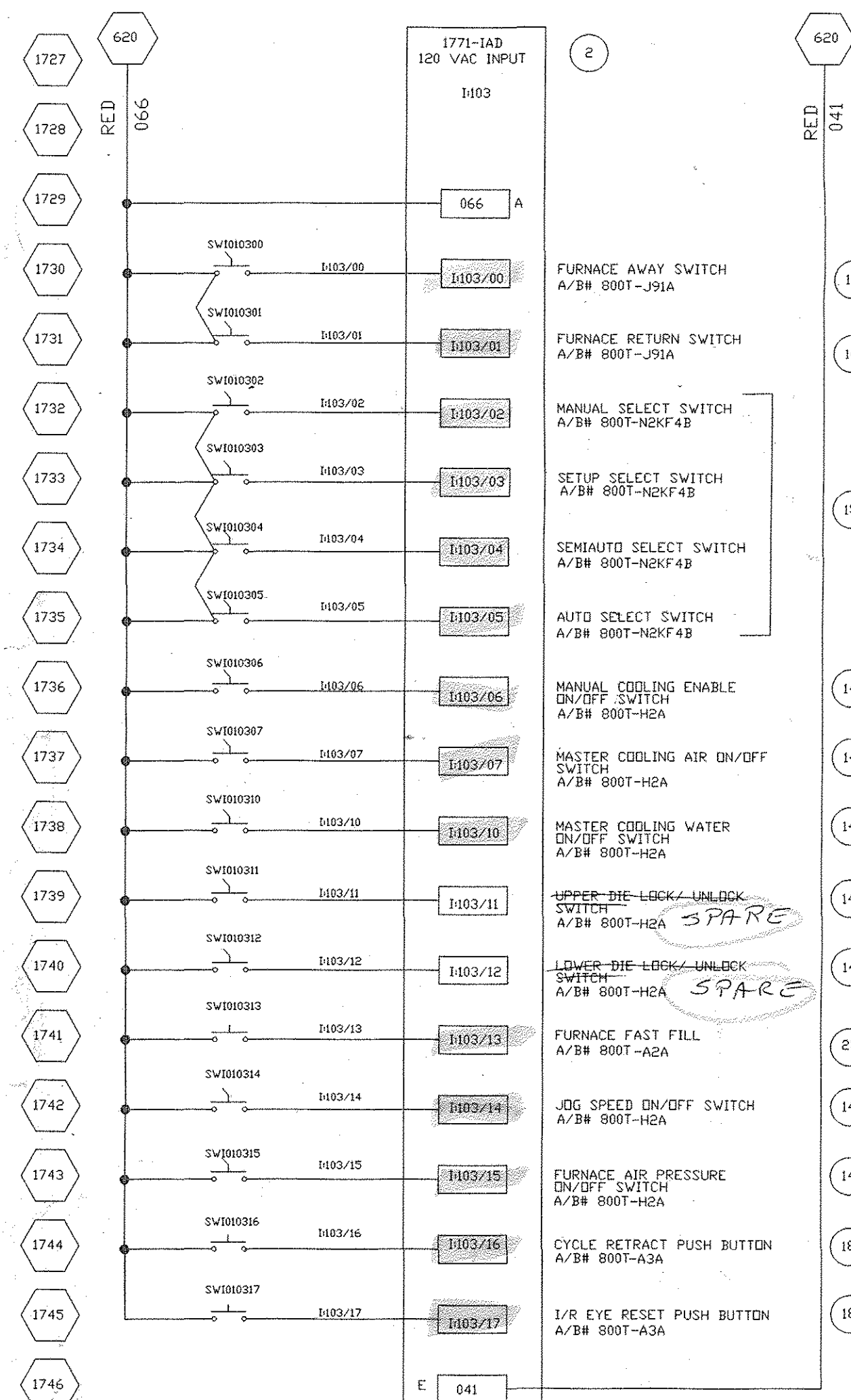
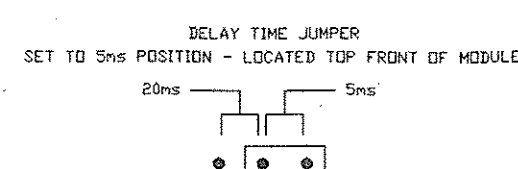
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REV	ENGINEERING RELEASE	DESCRIPTION	DATE	APP'D

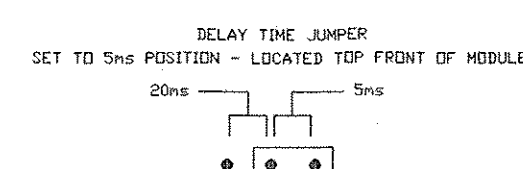
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EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY SANTA ROSA, CA 9540				
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APPROVALS	DATE	EMPIRE WORK ORDER NO.	EMPIRE DRAWING NO.	
DRAWN BY: J. WATERS	3/27/95	AAPM01	1800116	
CHECKED BY: A. PEARSON	12/08/95	NEXT ASSEMBLY NO.	CUSTOMER PART NO.	REV
APPROVED BY:		1800117		B
ENGINEERING: V. HAWLEY				
MANUFACTURING: D. DINING				
CUSTOMER: AAP				
DO NOT SCALE DRAWING	QTY: 1	SCALE: TO FIT	SHEET 10 OF 32	



CHASSIS #2 SLOT 02



CHASSIS #2 SLOT 03

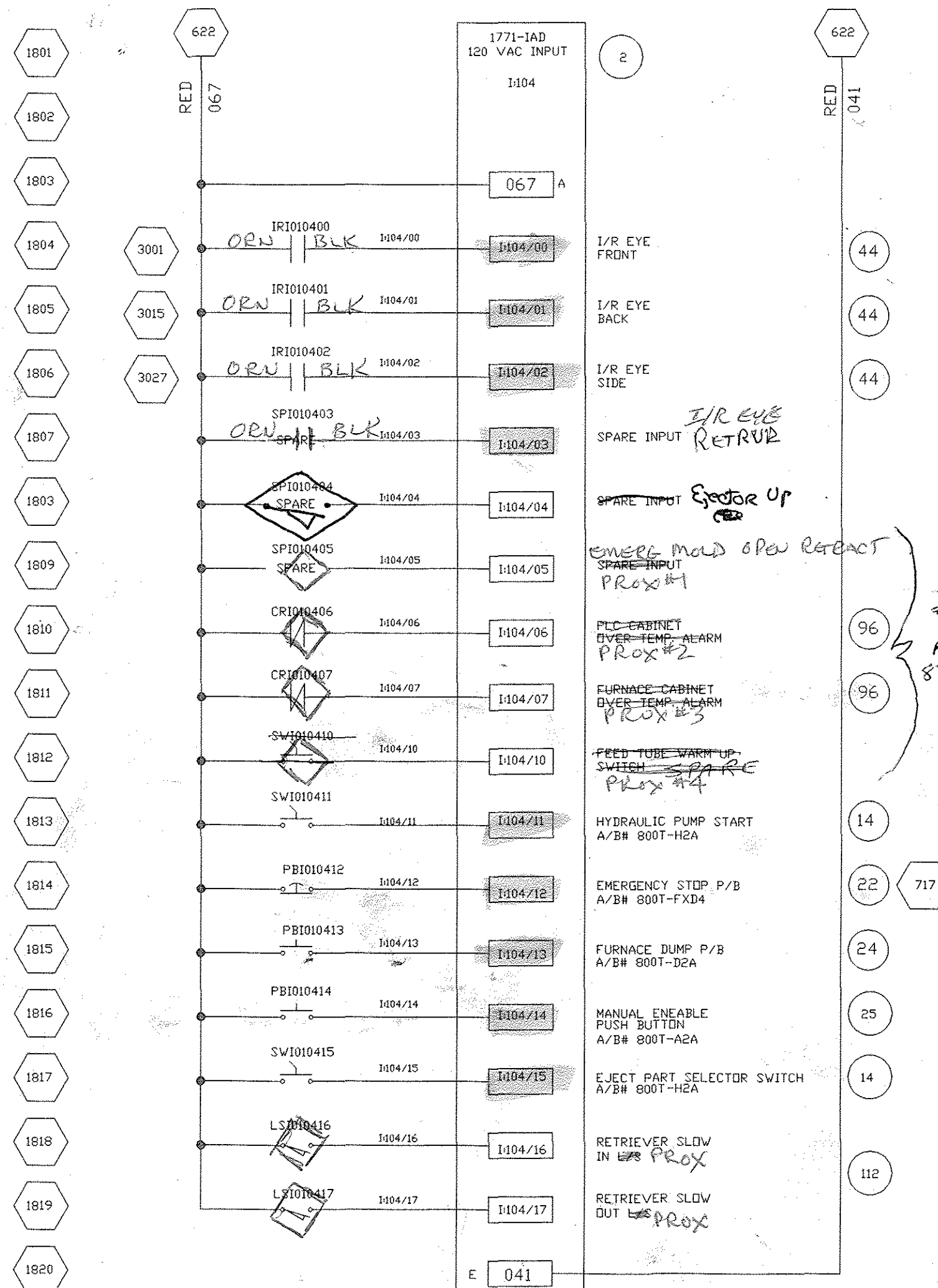


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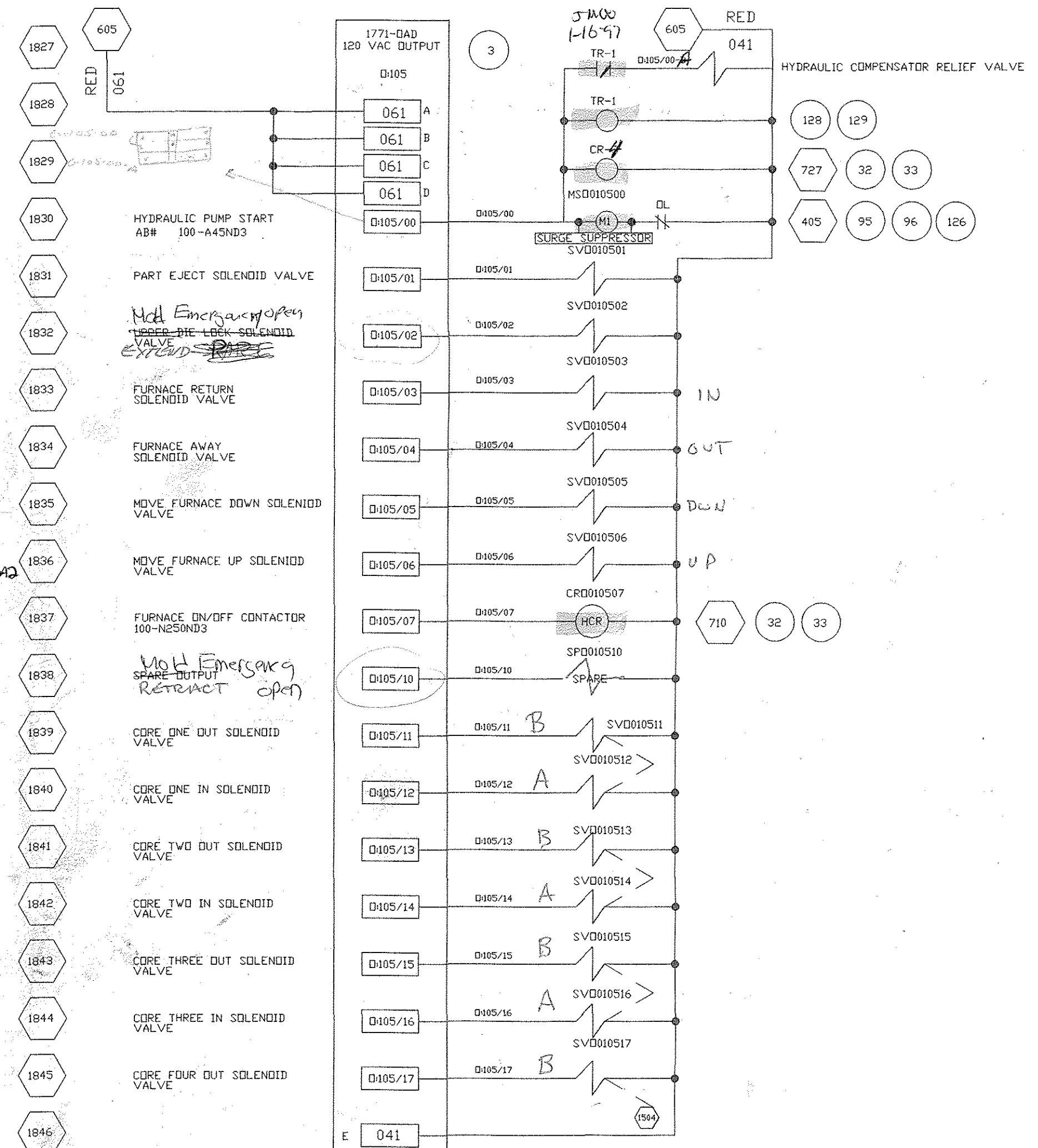
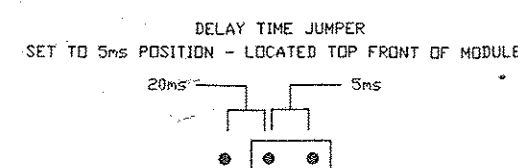
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CHECKED BY: D. PEARSON		12/08/95		
APPROVED BY:				
ENGINEERING: V. HAWLEY				
MANUFACTURING: D. PEARSON			AAPM01 1800117 1800118 1800118	
CUSTOMER: AAP			AAP 1800118 A 1800118	
DO NOT SCALE DRAWING		QTY: 1	SCALE: TO FIT	SHEET 17 OF 32

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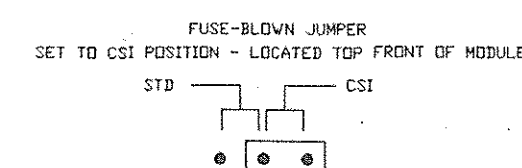
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CHASSIS #2 SLOT 04



CHASSIS #2 SLOT 05

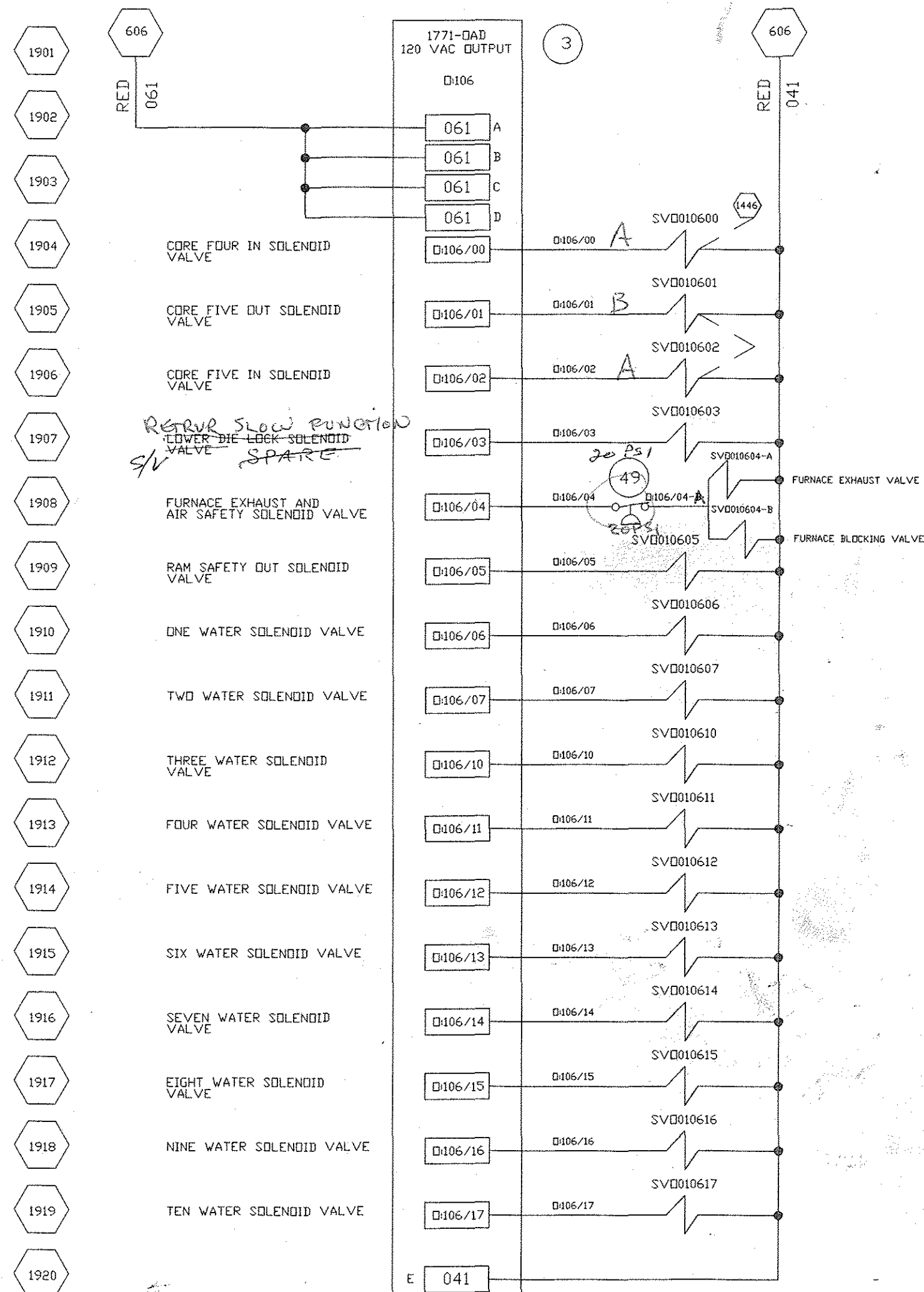


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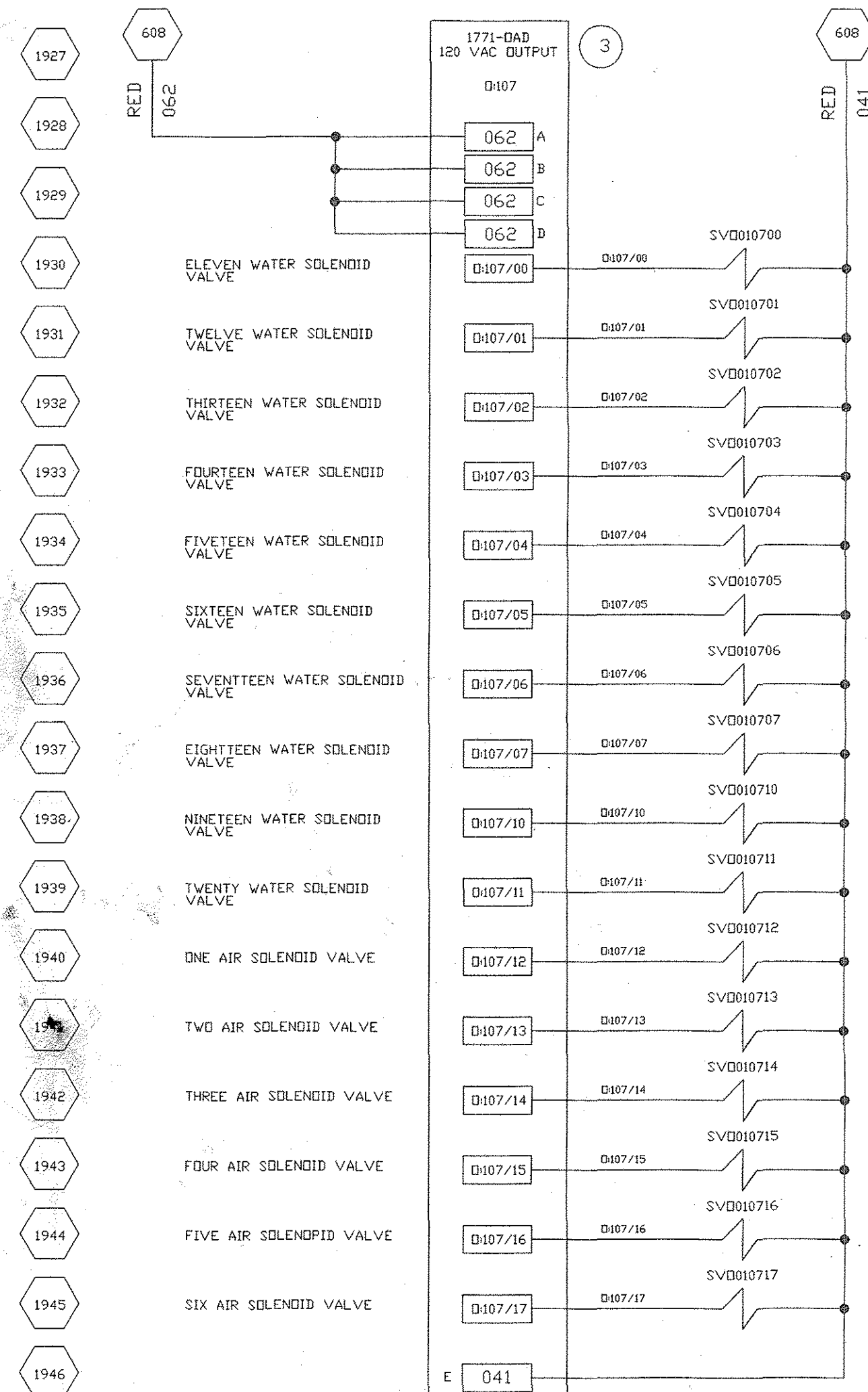
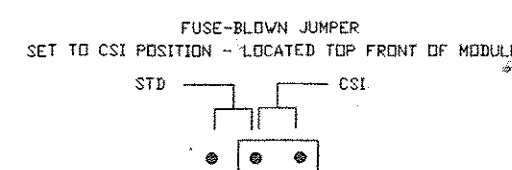
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CHECKED BY: G. PEARL	12/08/95	2
APPROVED BY:		
ENGINEERING: V. HAWLEY		
MANUFACTURING: P. DINING		
CUSTOMER: AAP		
DO NOT SCALE DRAWING		

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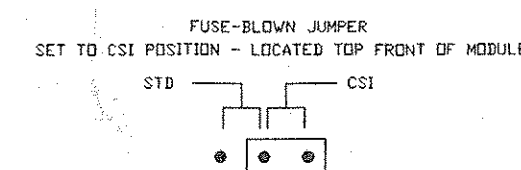
EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY SANTA ROSA, CA 95401	
ELECTRICAL SCHEMATIC PAGE 18	
EMPIRE WORK ORDER NO. AAPM01	EMPIRE DRAWING NO. 1800118
NEXT ASSEMBLY NO. 1800119	CUSTOMER PART NO. A
QTY: 1	SCALE: TO FIT
SHEET 18 OF 32	



CHASSIS #2 SLOT 06



CHASSIS #2 SLOT 07

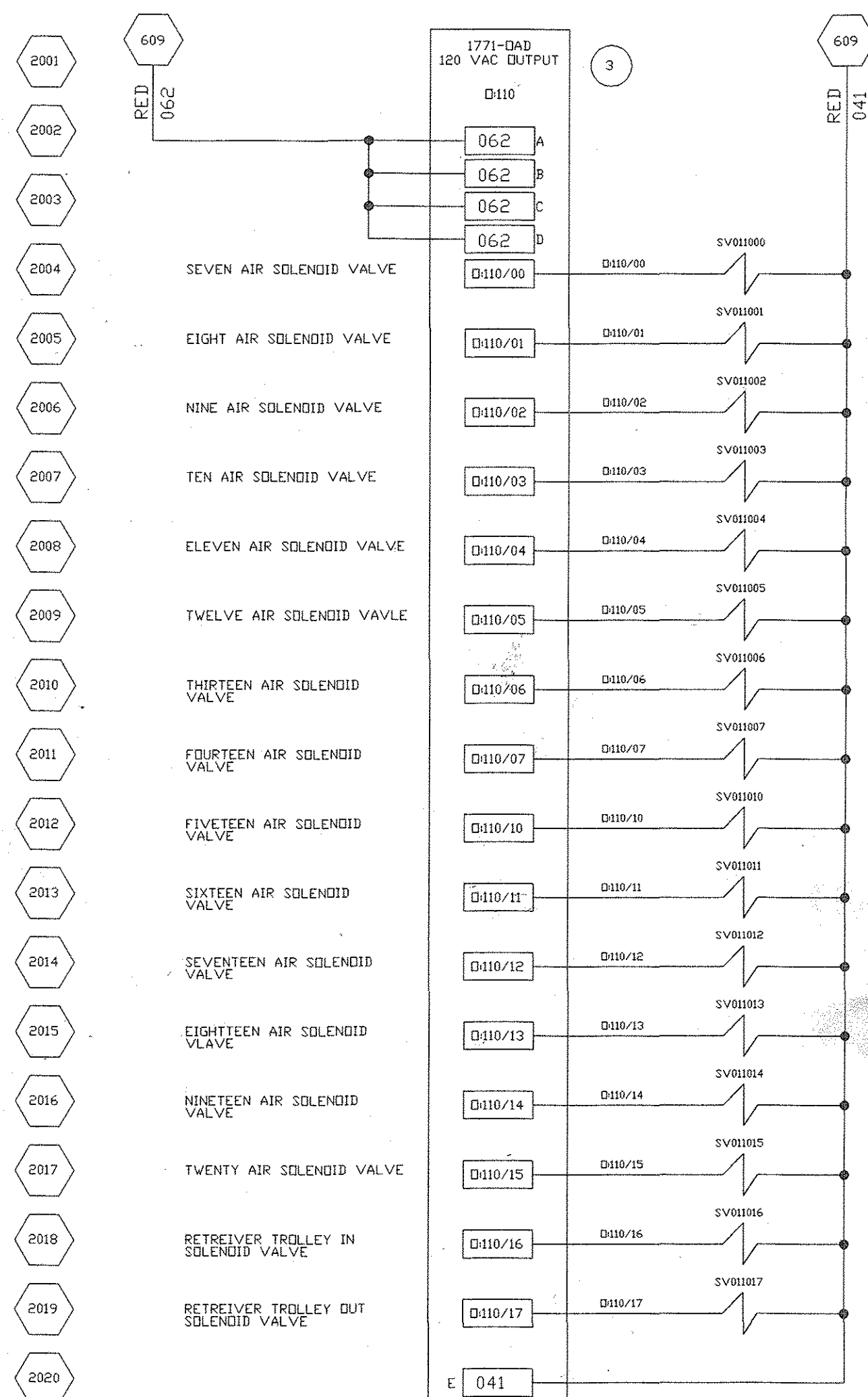


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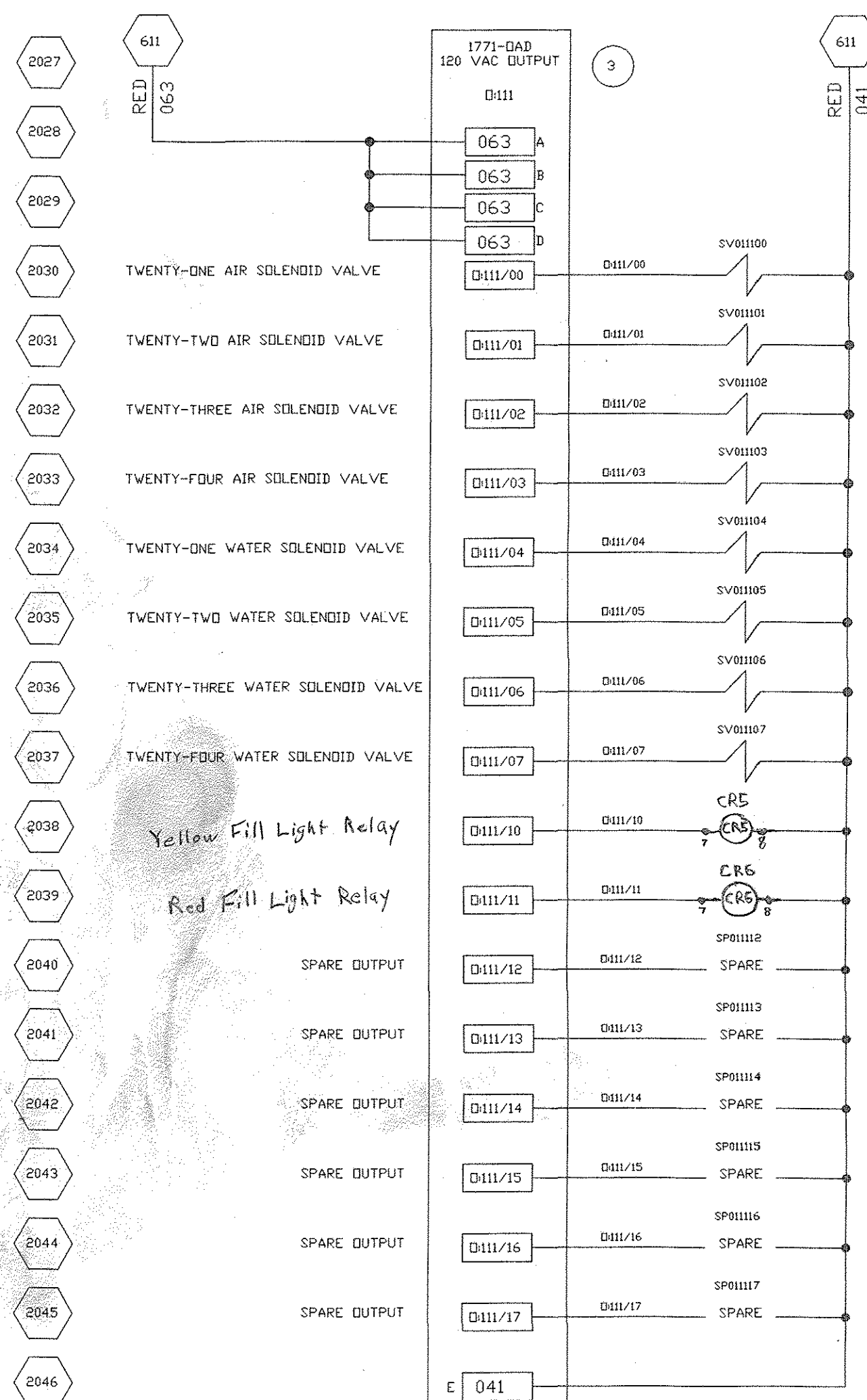
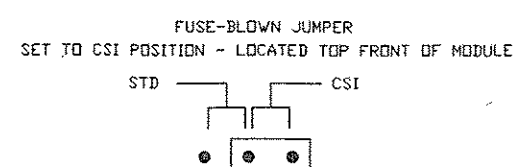
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REV	DESCRIPTION	DATE	APP'D
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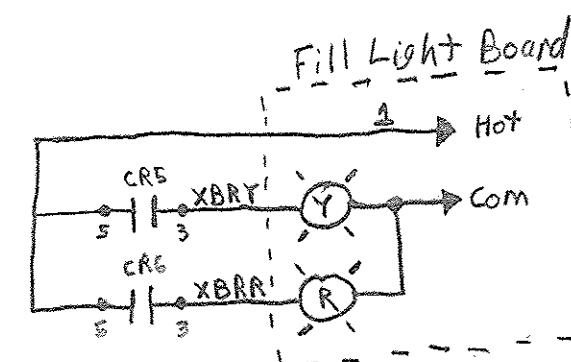
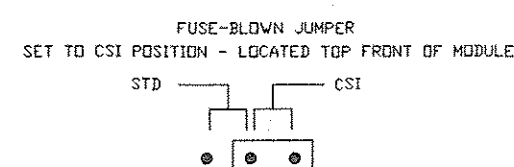
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CHECKED BY: G. PEAK		12/08/95		
APPROVED BY:				
ENGINEERING: V. HAWLEY				
MANUFACTURING: D. PINING				
CUSTOMER: AAP				
DD, NOT SCALE DRAWING				
QTY: 1	SCALE: TO FIT	SHEET 19 OF 32		



CHASSIS #2 SLOT 08



CHASSIS #2 SLOT 09



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APPROVALS		DATE	REVISIONS	
DRAWN BY J. WATERS	CHECKED BY G. PEARSON	3/27/95	12/08/95	
APPROVED BY V. HAWLEY		EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY SANTA ROSA, CA 95403		
MANUFACTURING D. PINNA		ELECTRICAL SCHEMATIC PAGE 20		
CUSTOMER AAP		EMPIRE WORK ORDER NO. AAPM01		
DO NOT SCALE DRAWING		NEXT ASSEMBLY NO. 1800121		
QTY: 1		SCALE: TO FIT		
SHEET 20 OF 32		REV A		

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EMPTY SLOT

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EMPTY SLOT

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- ENGINEERING RELEASE			
REV	DESCRIPTION	DATE	APP'D
REVISIONS			
APPROVALS		DATE	
DRAWN BY: J. WATERS		3/27/95	
CHECKED BY: G. PEARY		12/08/95	
APPROVED BY:			
ENGINEERING: V. HAWLEY			
MANUFACTURING: D. DINING			
CUSTOMER: AAP			
DO NOT SCALE DRAWING			

EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY SANTA ROSA, CA 95403	
ELECTRICAL SCHEMATIC PAGE 21	
EMPIRE WORK ORDER NO. AAPM01	EMPIRE DRAWING NO. 1800121
NEXT ASSEMBLY NO. 1800122	CUSTOMER PART NO. REV A
QTY: 1	SCALE: TO FIT
SHEET 21 OF 32	

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EMPTY SLOT

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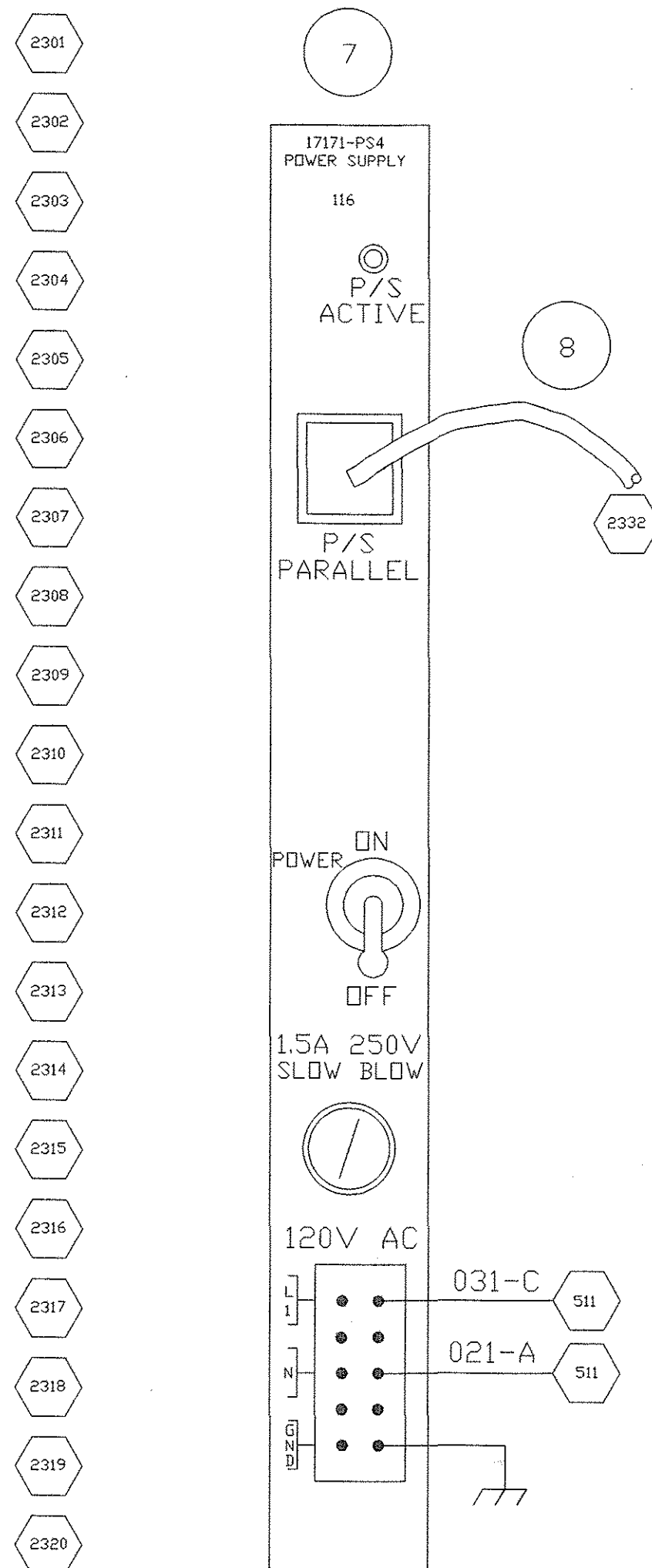
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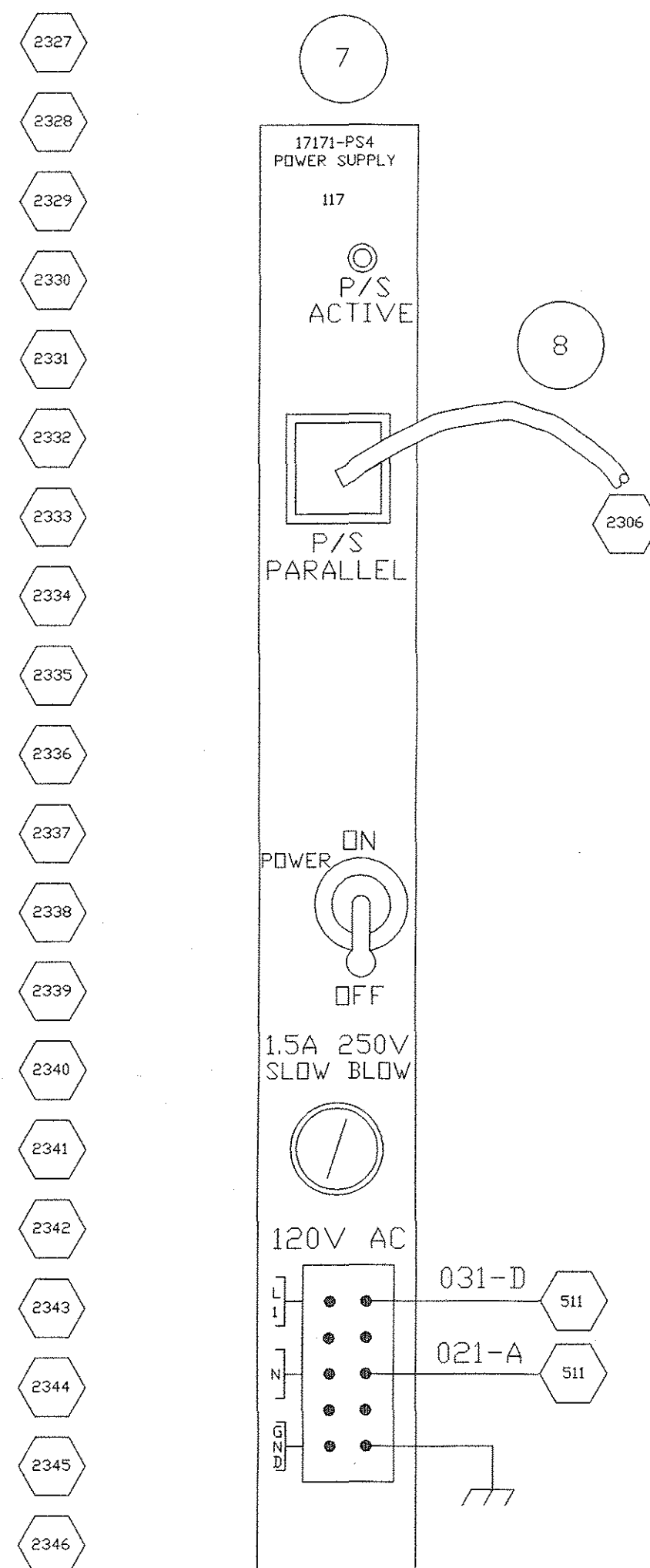
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DRAWN BY: J. WATERS		3/27/95		
CHECKED BY: G. PEARN		12/08/95		
APPROVED BY:				
ENGINEERING: V. HAMLEY			ELECTRICAL SCHEMATIC PAGE 22	
MANUFACTURING: D. DINING				
CUSTOMER: AAP				
DO NOT SCALE DRAWING		QTY: 1	SCALE: TO FIT	SHEET 22 OF 32
EMPIRE WORK ORDER NO. AAPM01		EMPIRE DRAWING NO. 1800122		REV A
NEXT ASSEMBLY NO. 1800123		CUSTOMER PART NO.		

CODE NO. MD0146	SIGNATURE <i>[Signature]</i>	REF: MD-OP-06 (Sheet 23 of 31)	AAP ST. MATYS CORPORATION
EFF. DATE 3/10/94			



CHASSIS #2 SLOT 14

POWER SUPPLY JUMPERS
SET TO LEFT POSITION - LOCATED BACK OF MODULE



CHASSIS #2 SLOT 15

POWER SUPPLY JUMPERS
SET TO LEFT POSITION - LOCATED BACK OF MODULE



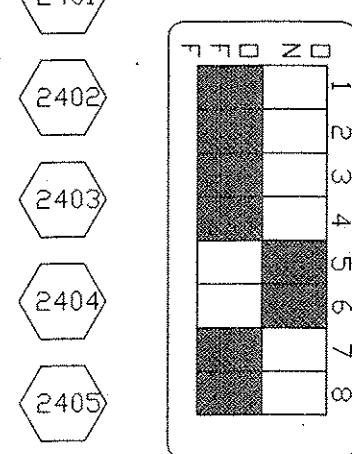
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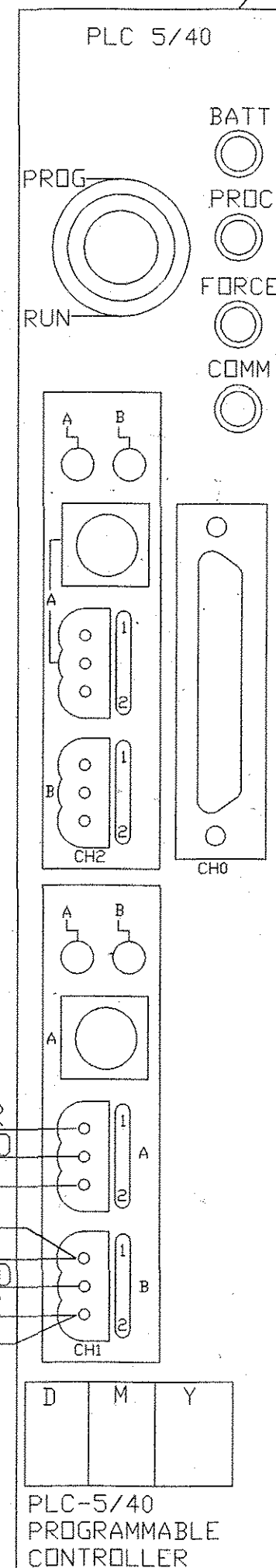
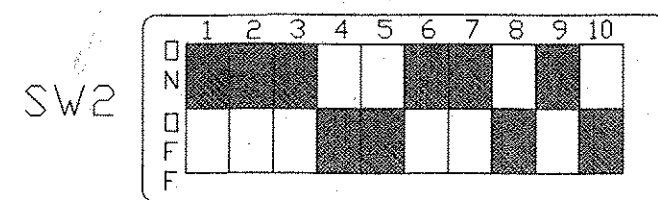
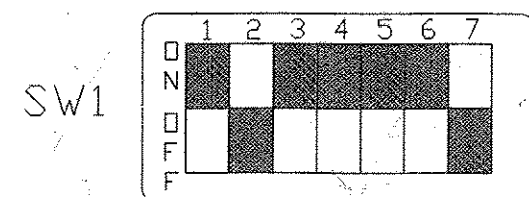
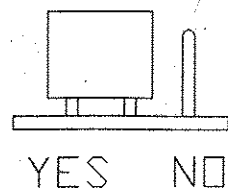
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REVISIONS			
APPROVALS		DATE	
DRAWN BY: J. WATERS		3/27/95	
CHECKED BY: G. PEARL		12/08/95	
APPROVED BY:			
ENGINEERING: V. HAWLEY			
MANUFACTURING: D. PEARL			
CUSTOMER: AAP			
DO NOT SCALE DRAWING			
QTY: 1		SCALE: TO FIT	SHEET 23 OF 32

EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY SANTA ROSA, CA 95403	
ELECTRICAL SCHEMATIC PAGE 23	
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NEXT ASSEMBLY NO. 1800124	CUSTOMER PART NO. REV A

PLC BACKPLANE SWITCH

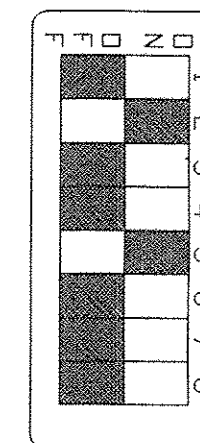


POWER SUPPLY IN CHASSIS
SET TO YES



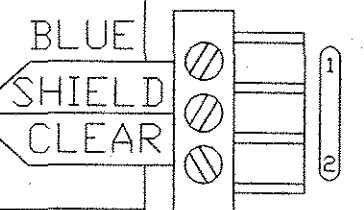
PLC-5/40
PROGRAMMABLE
CONTROLLER

ASB BACKPLANE SWITCH



67

PANEL VIEW

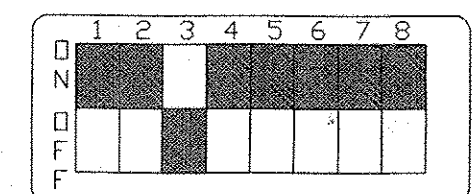


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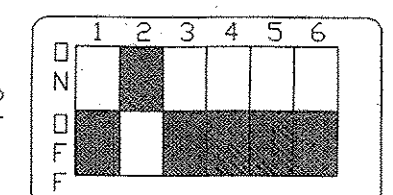
BLUE
SHIELD
CLEAR
BLUE
SHIELD
CLEAR

LINE 1
SHIELD
LINE 2
SHIELD
LINE 2
NO CONNECTION
NO CONNECTION
NO CONNECTION
NO CONNECTION
NO CONNECTION

SW1



SW2



LEGEND

OFF ON
Pressed in
at top ON (closed)

OFF ON
Pressed in
at bottom OFF (open)

REV	DESCRIPTION	DATE	APP'D
1	ENGINEERING RELEASE		

REVISIONS

EMPIRE CASTINGS INC.
3195 REGIONAL PARKWAY SANTA ROSA, CA 95403

APPROVALS	DATE
DRAWN BY: J. WATERS	3/27/95
CHECKED BY: G. PEARSON	12/08/95
APPROVED BY:	
ENGINEERING: V. HAWLEY	
MANUFACTURING: D. DINI	
CUSTOMER: AAP	

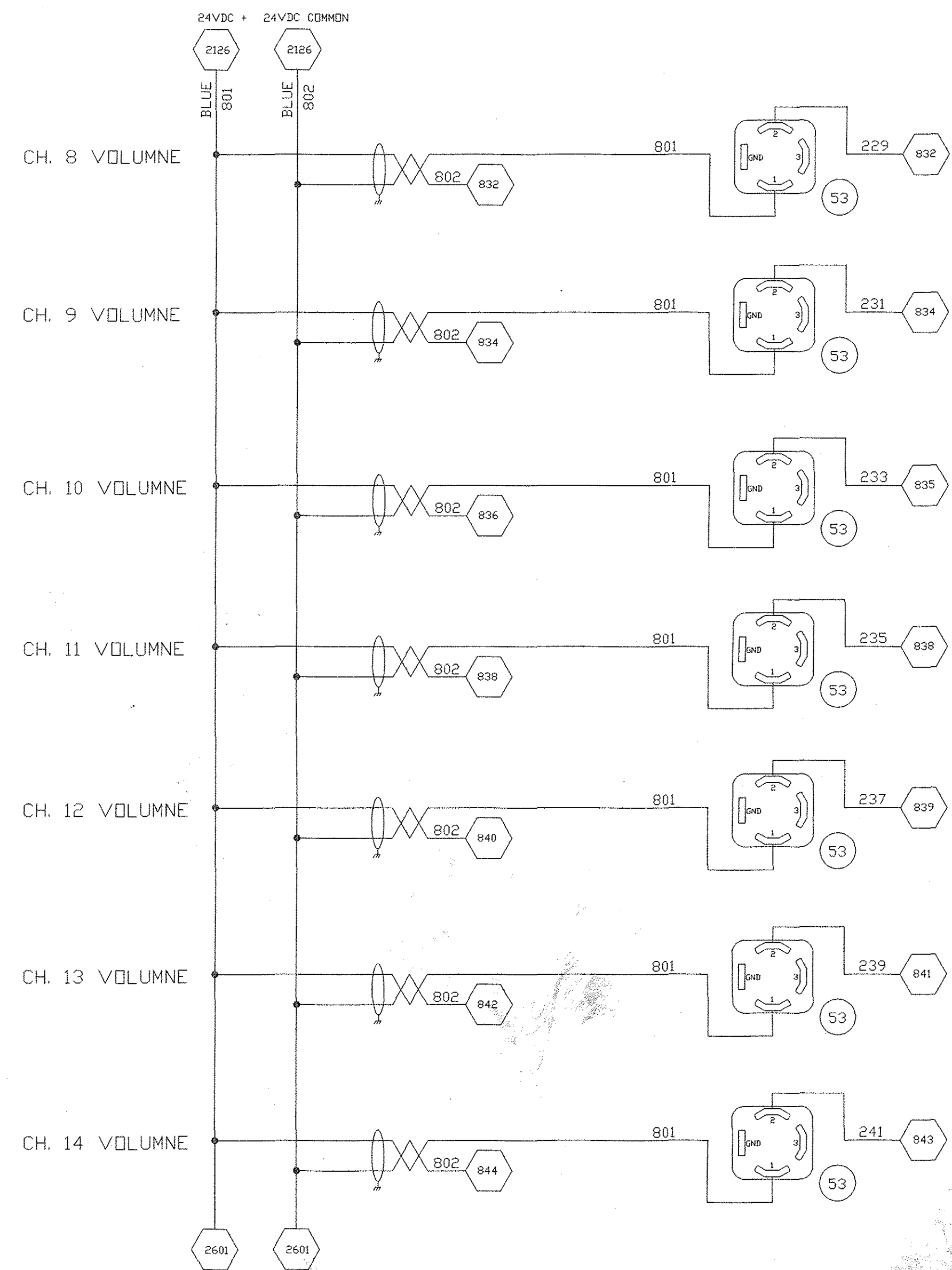
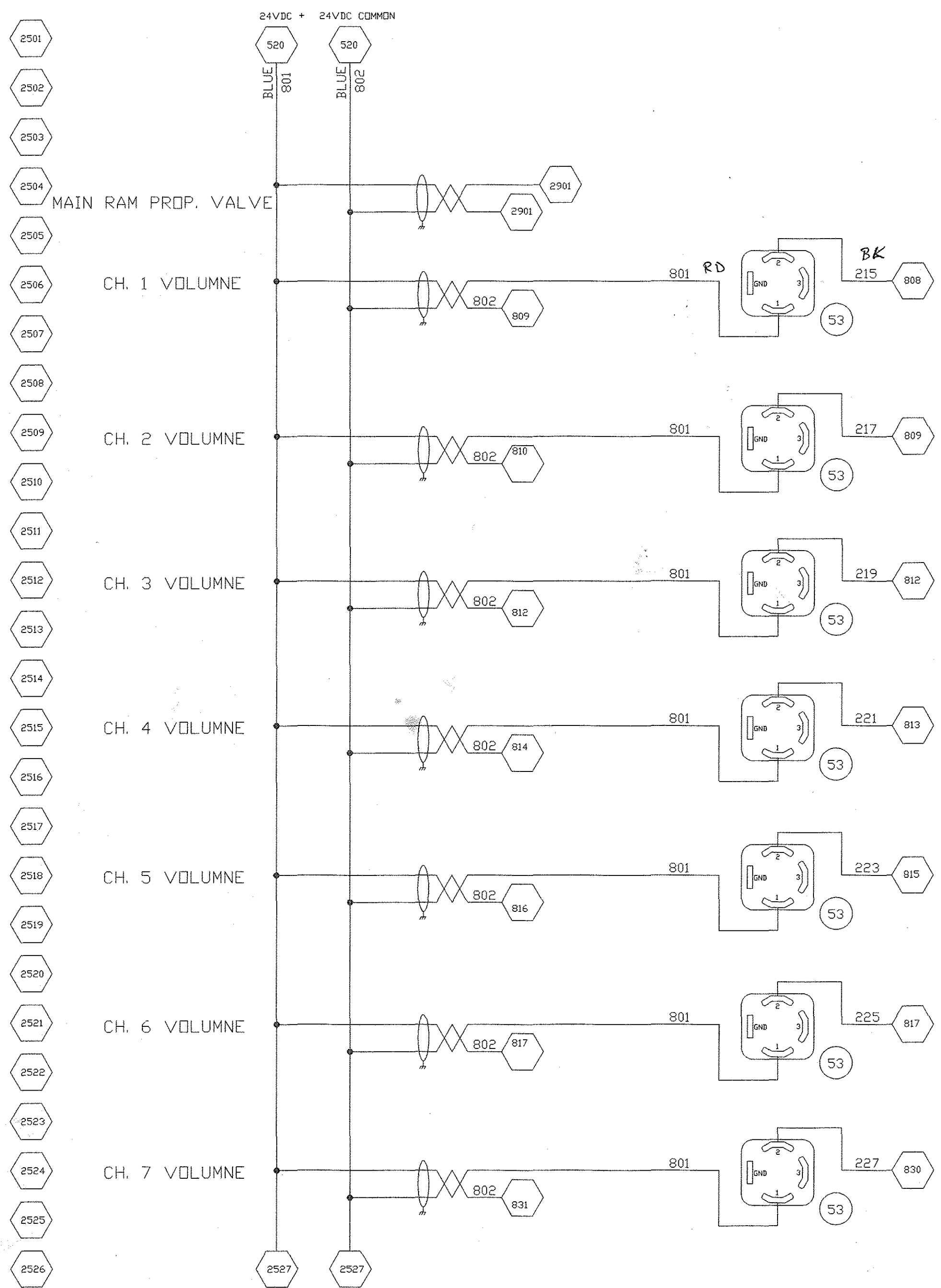
ELECTRICAL SCHEMATIC
PAGE 24

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AAPM01
NEXT ASSEMBLY NO. 1800125
CUSTOMER PART NO. REV A

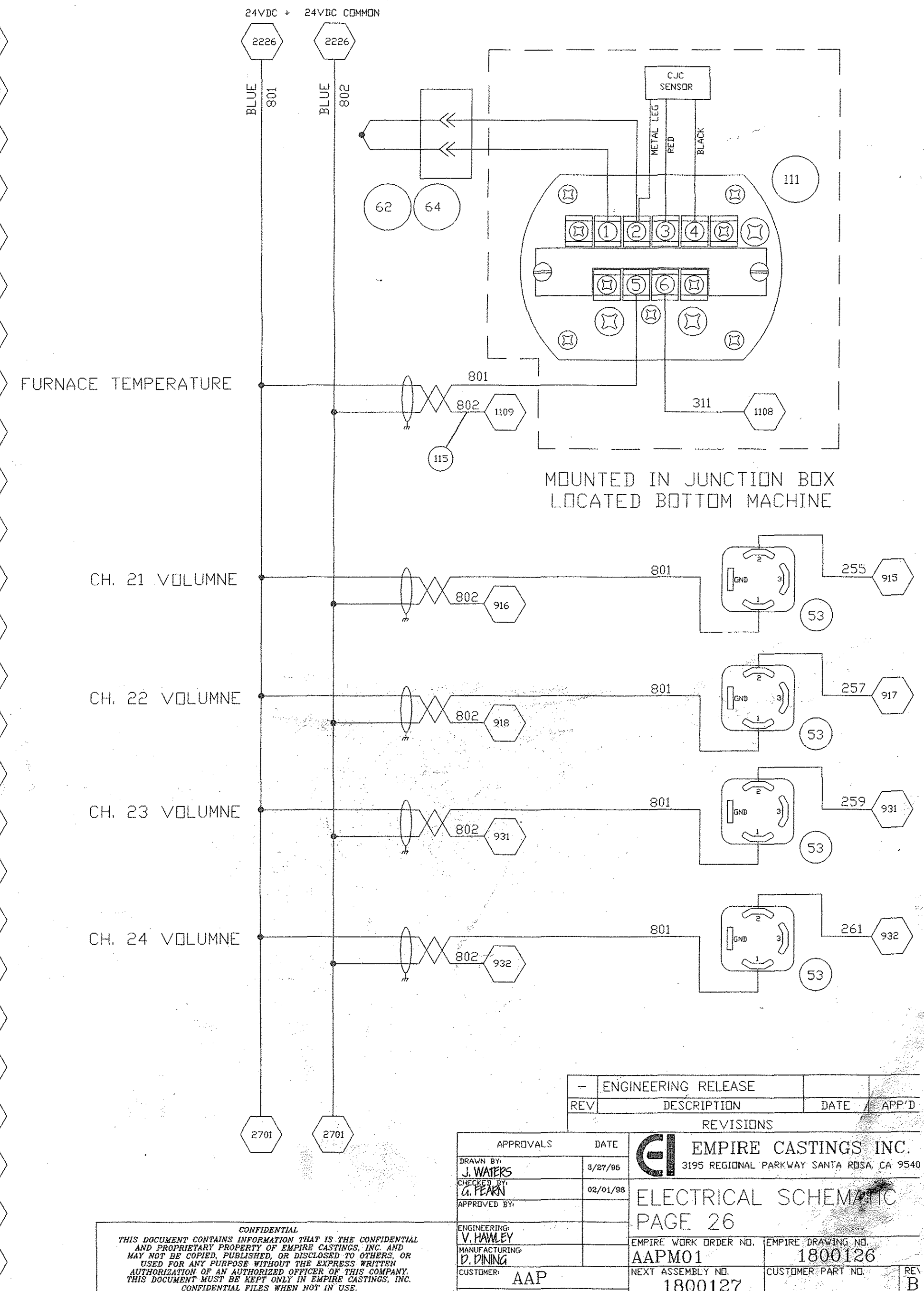
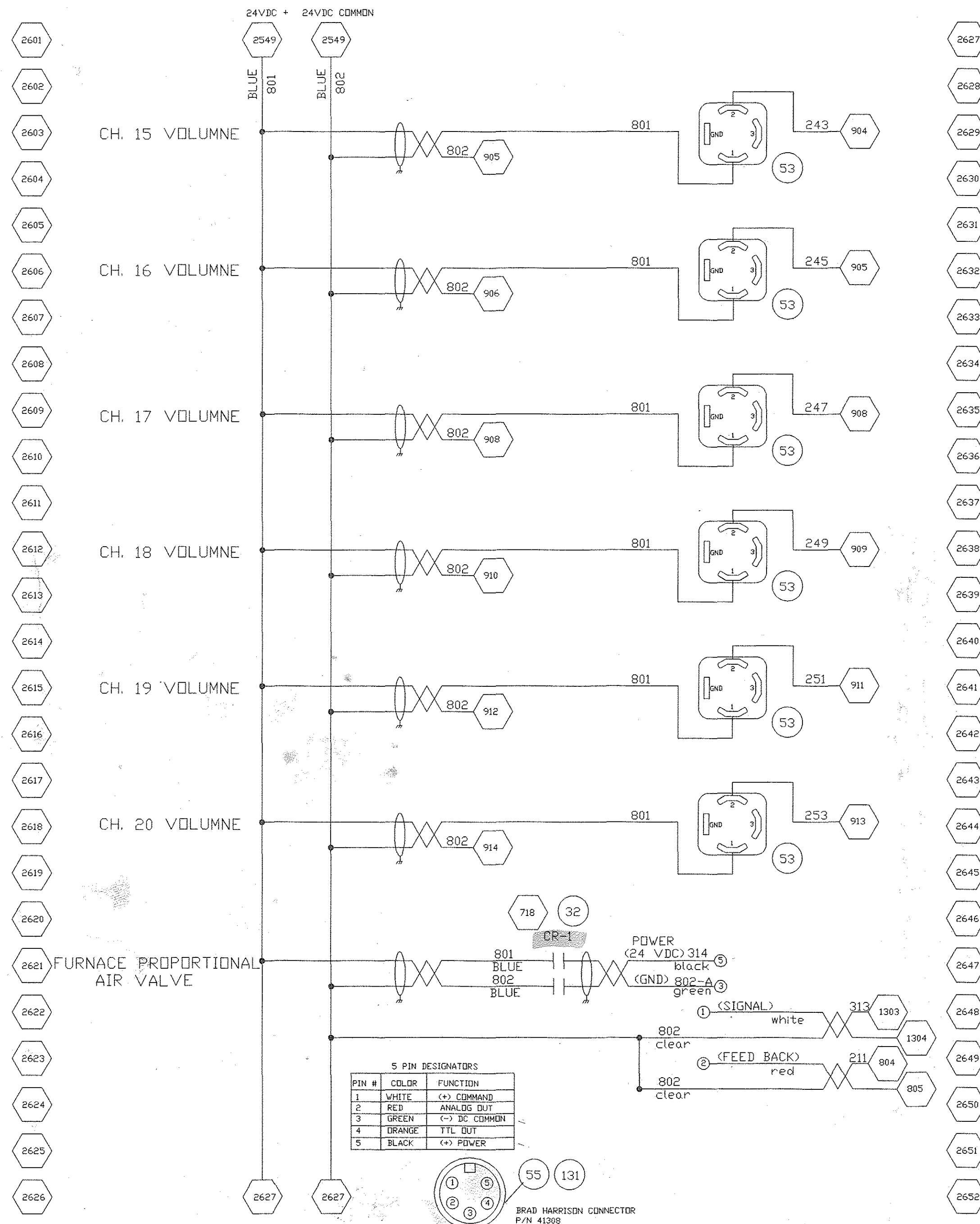
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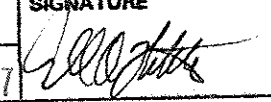
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ENGINEERING: J. WATERS CHECKED BY: G. PEARSON APPROVED BY: V. HAWLEY MANUFACTURING: D. PEARSON CUSTOMER: AAP		DATE: 3/27/95 DATE: 12/08/95	EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY SANTA ROSA, CA 95403 ELECTRICAL SCHEMATIC PAGE 25 EMPIRE WORK ORDER NO. AAPM01 NEXT ASSEMBLY NO. 1800126 CUSTOMER PART NO. 1800125 REV A
DO NOT SCALE DRAWING		QTY: 1	SCALE: TO FIT
		SHEET 25 OF 32	



CODE NO. MD0146	SIGNATURE 	REF: MD-OP-06 (Sheet 27 of 31)	AAP ST. MARVS CORPORATION
EFF. DATE 3/10/97			

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REV	DESCRIPTION	DATE	APP'D	
REVISIONS				
APPROVALS		DATE	 EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY SANTA ROSA, CA 95403	
DRAWN BY: J. WATERS		3/27/95		
CHECKED BY: G. PEARN		12/08/95		
APPROVED BY:				
ENGINEERING: V. HAWLEY			ELECTRICAL SCHEMATIC PAGE 27	
MANUFACTURING: D. DINING				
CUSTOMER: AAP				
DO NOT SCALE DRAWING		QTY: 1	SCALE: TO FIT	SHEET 28 OF 32

EMPIRE WORK ORDER NO. AAPM01	EMPIRE DRAWING NO. 1800127
NEXT ASSEMBLY NO. 1800128	CUSTOMER PART NO. A

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— ENGINEERING RELEASE			
REV	DESCRIPTION	DATE	APP'D
REVISIONS			
APPROVALS		DATE	
DRAWN BY: J. WATERS	3/27/95		
CHECKED BY: G. PEARIN	12/09/95		
APPROVED BY:			
ENGINEERING: V. HAMLEY			
MANUFACTURING: D. DINN			
CUSTOMER: AAP			
DO NOT SCALE DRAWING		QTY: 1	SCALE: TO FIT
		SHEET 28 OF 32	

EMPIRE CASTINGS INC.
3195 REGIONAL PARKWAY SANTA ROSA, CA 9540

ELECTRICAL SCHEMATIC
PAGE 28

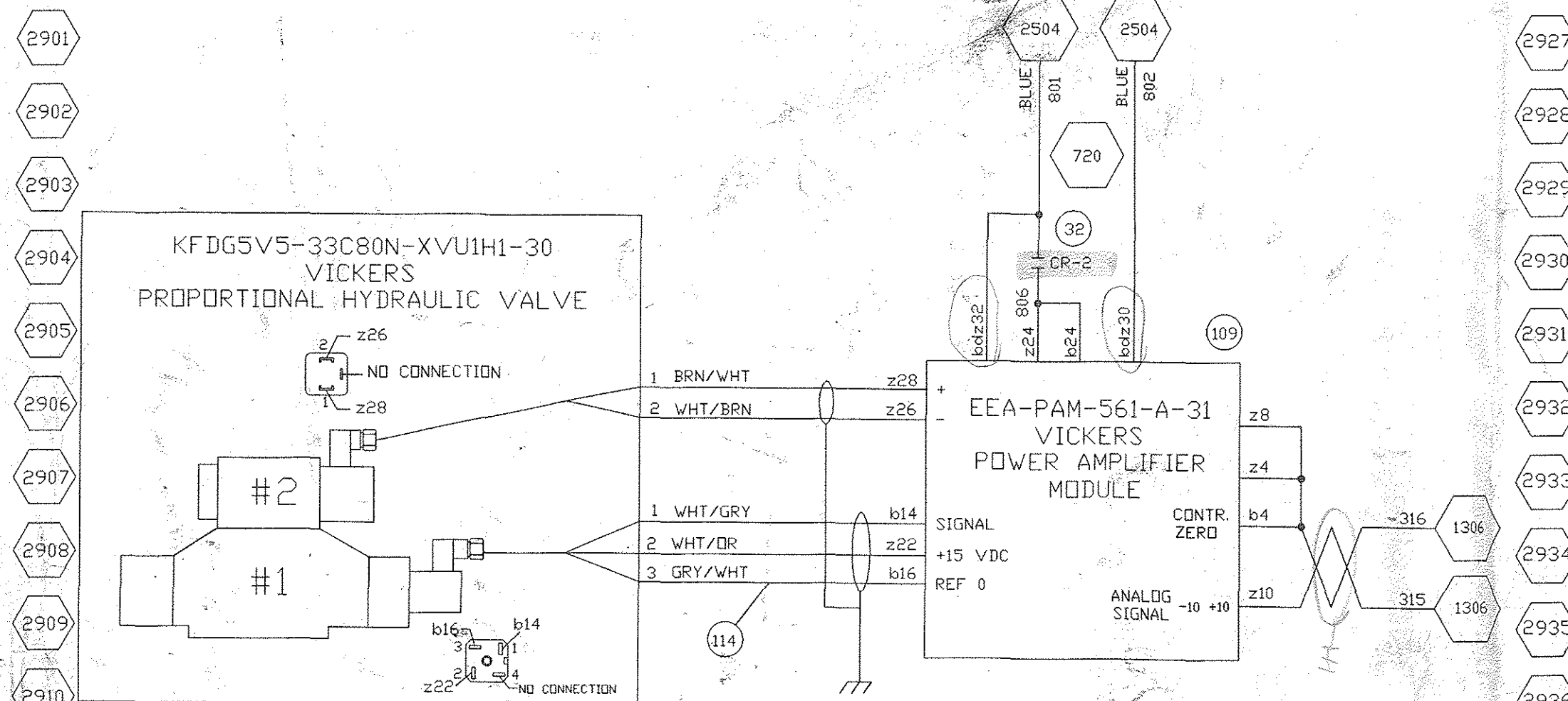
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AAPM01

EMPIRE DRAWING NO.
1800128

NEXT ASSEMBLY NO.
1800129

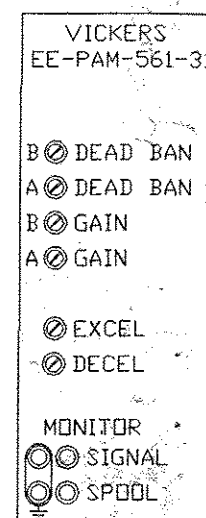
CUSTOMER PART NO.

REV
A



AMPLIFIER CARD SETTINGS FOR START UP ONLY

B	DEAD BAN	3.300	K Ω
A	DEAD BAN	1.870	K Ω
B	GAIN	4.680	K Ω
A	GAIN	3.370	K Ω
A/B	EXCEL	8.800	K Ω
A/B	DECEL	8.560	K Ω



GAIN ADJUSTMENT: Set casting machine to Manual Mode. Use a digital volt meter, set to DC volts, monitor spool position.

- Moving ram at full speed, +100 & -100 output signal, up and down adjust (A & B) gain approx. +9.5 & -9.5 VDC. + voltage is ram up and - voltage is ram down. (B) gain is for ram down and (A) gain is for ram up.
- Purpose is to use minumin adjustment to valving for ram maxumin speed up and down.

DEAD BAN AJUSTMENT: Set casting machine to Jog Mode.

- Moving ram in Jog Mode, +25 & -25 output signal, up and down. Adjust (A) dead ban so that ram speed up is 10 seconds to travel 12 inches. Adjust (B) dead ban so that ram speed down is 15 seconds to travel 12 inches.
- Purpose is to provide a standard in casting machine slower speeds.

EXCEL ADJUSTMENT: Set casting machine to Manual Mode.

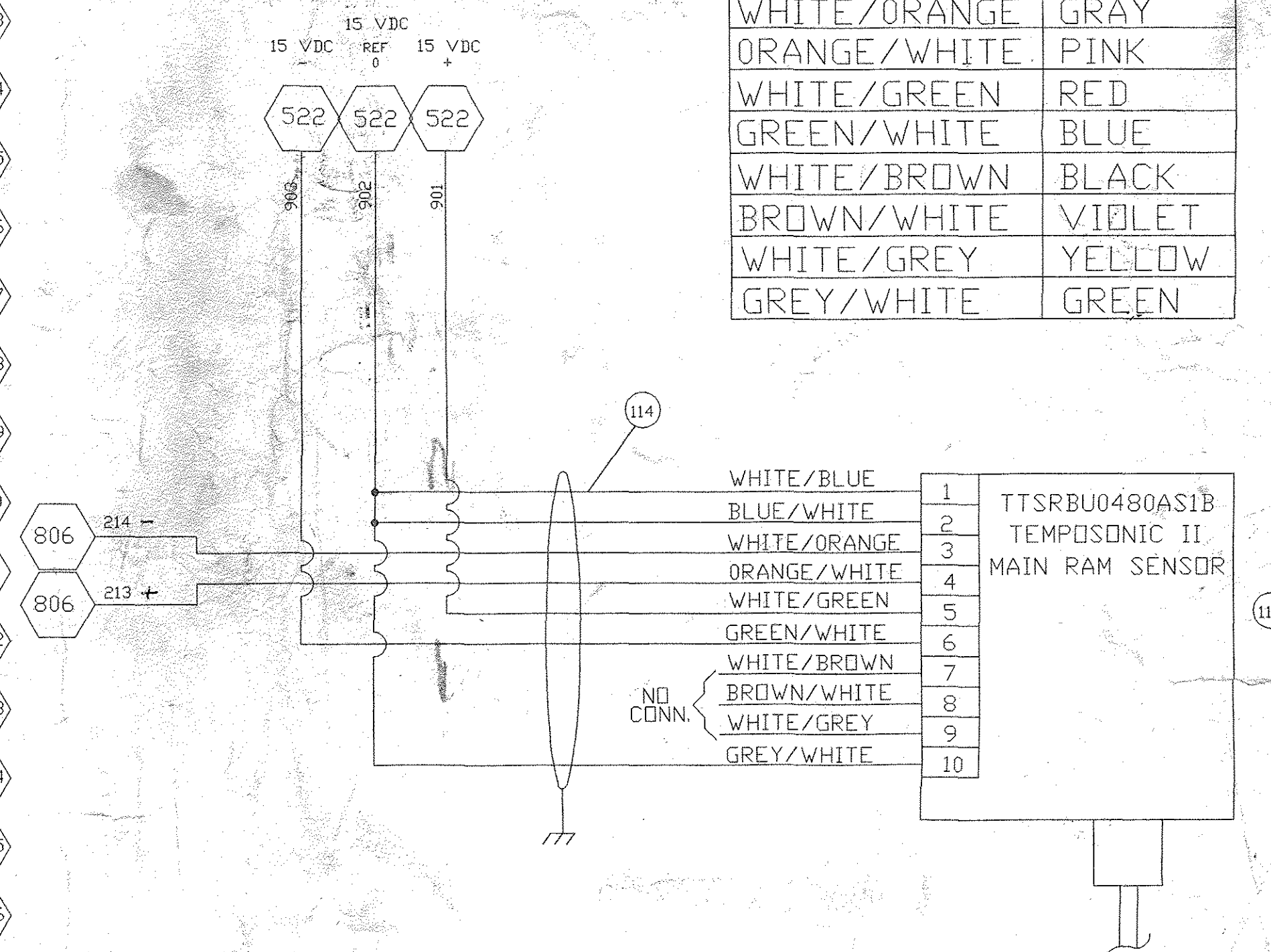
- Start and stop ram moving up and down. Adjust excel clockwise to soften ram moving up or down when ram starts moving.
- Purpose is to eliminate jerging movements when ram starts moving.

DECEL ADJUSTMENT: Set casting machine to Manual Mode.

- Start and stop ram moving up and down. Adjust decel clockwise to soften ram moving up or down when ram stops moving.
- Purpose is to eliminate jerging movements when ram stops moving.

WIRE COLOR CROSS REFERENCE

WHITE/BLUE	WHITE
BLUE/WHITE	BROWN
WHITE/ORANGE	GRAY
ORANGE/WHITE	PINK
WHITE/GREEN	RED
GREEN/WHITE	BLUE
WHITE/BROWN	BLACK
BROWN/WHITE	VIOLET
WHITE/GREY	YELLOW
GREY/WHITE	GREEN

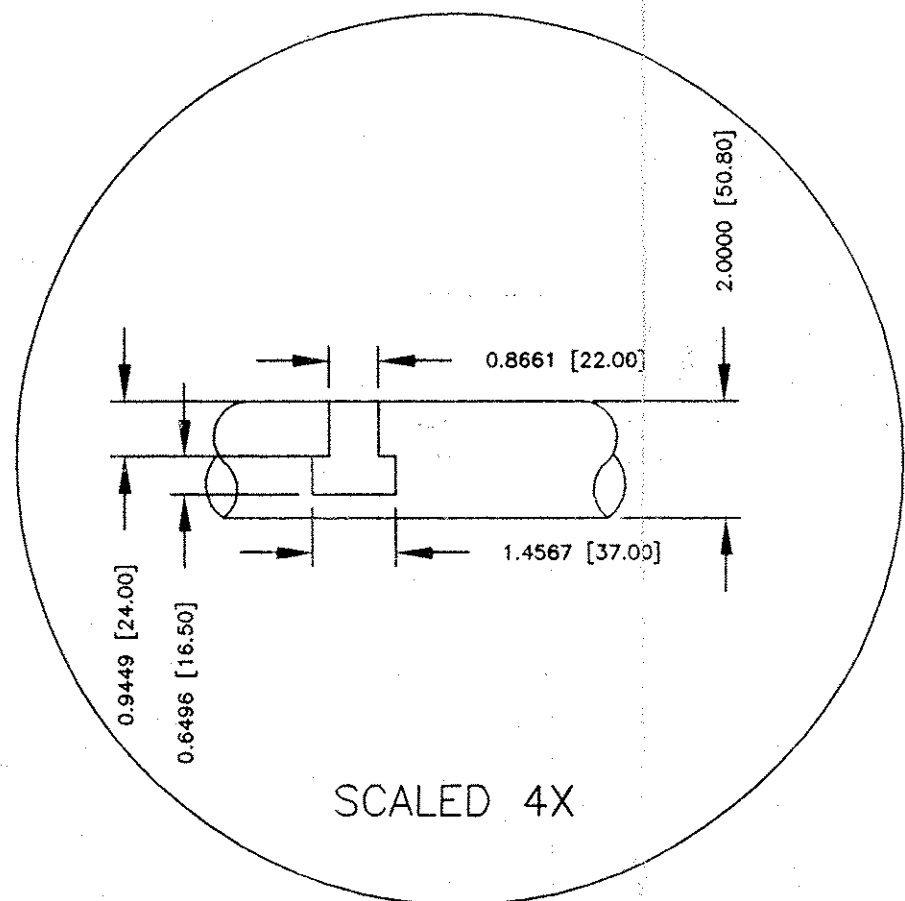
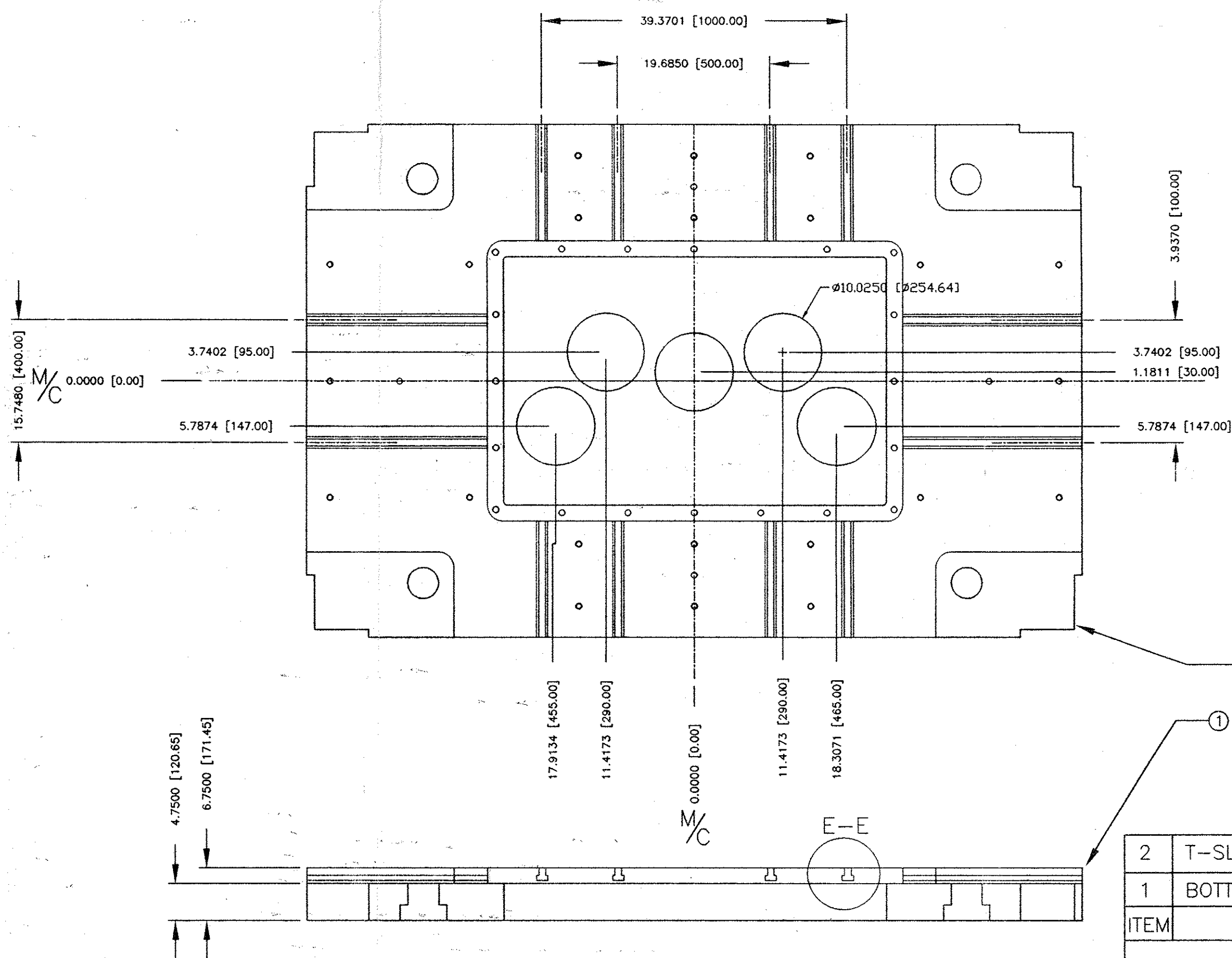


REV	DESCRIPTION	DATE	APP'D
1	ENGINEERING RELEASE		

APPROVALS.		DATE	REVISIONS	
DRAWN BY: J. WATERS	3/27/95	EMPIRE CASTINGS INC.		
CHECKED BY: D. P. DING	02/01/96	3195 REGIONAL PARKWAY SANTA ROSA, CA 95402		
APPROVED BY:		ELECTRICAL SCHEMATIC		
ENGINEERING: V. HAWLEY		PAGE 29		
MANUFACTURING: D. P. DING		EMPIRE WORK ORDER NO. AAPM01		EMPIRE DRAWING NO. 1800129
CUSTOMER: AAP		NEXT ASSEMBLY NO. 1800129		CUSTOMER PART NO. REV B
DO NOT SCALE DRAWING		QTY: 1	SCALE: TO FIT	SHEET 29 OF 32

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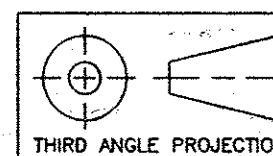
UNPUBLISHED WORK ©1993 EMPIRE CASTINGS, INC.

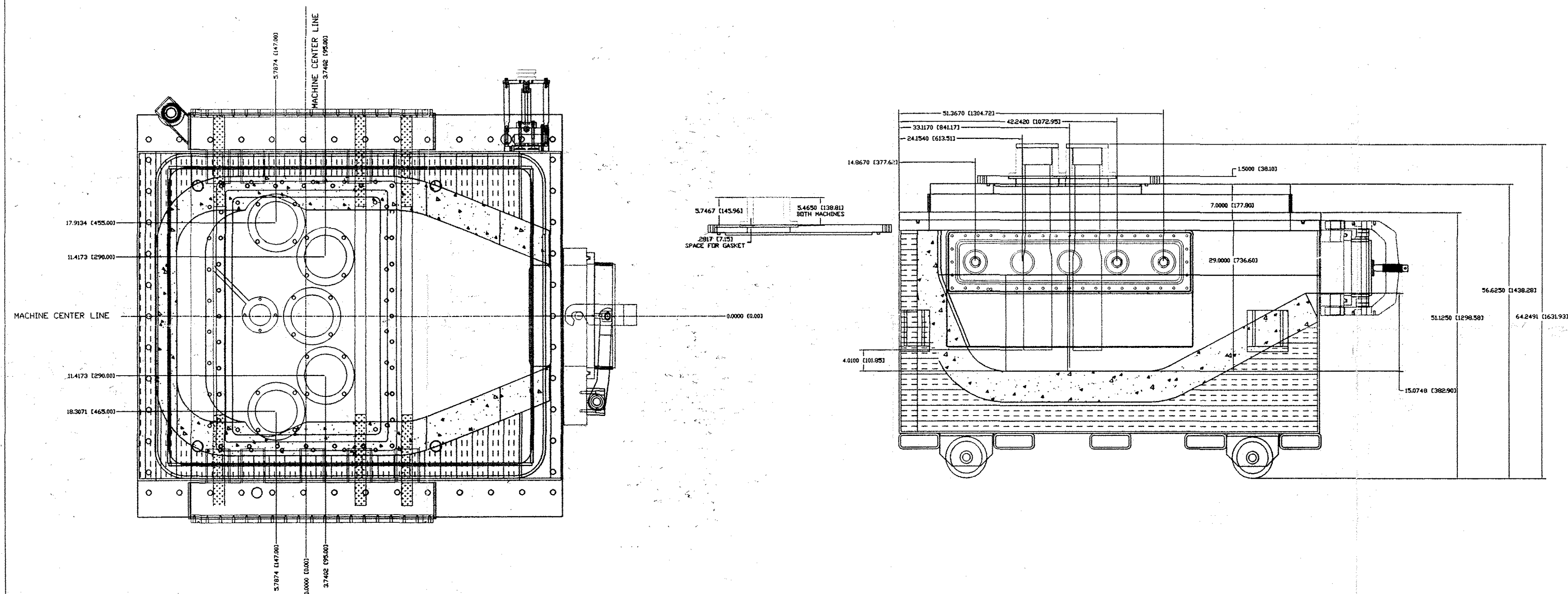


VIEW IN CIRCLE E-E

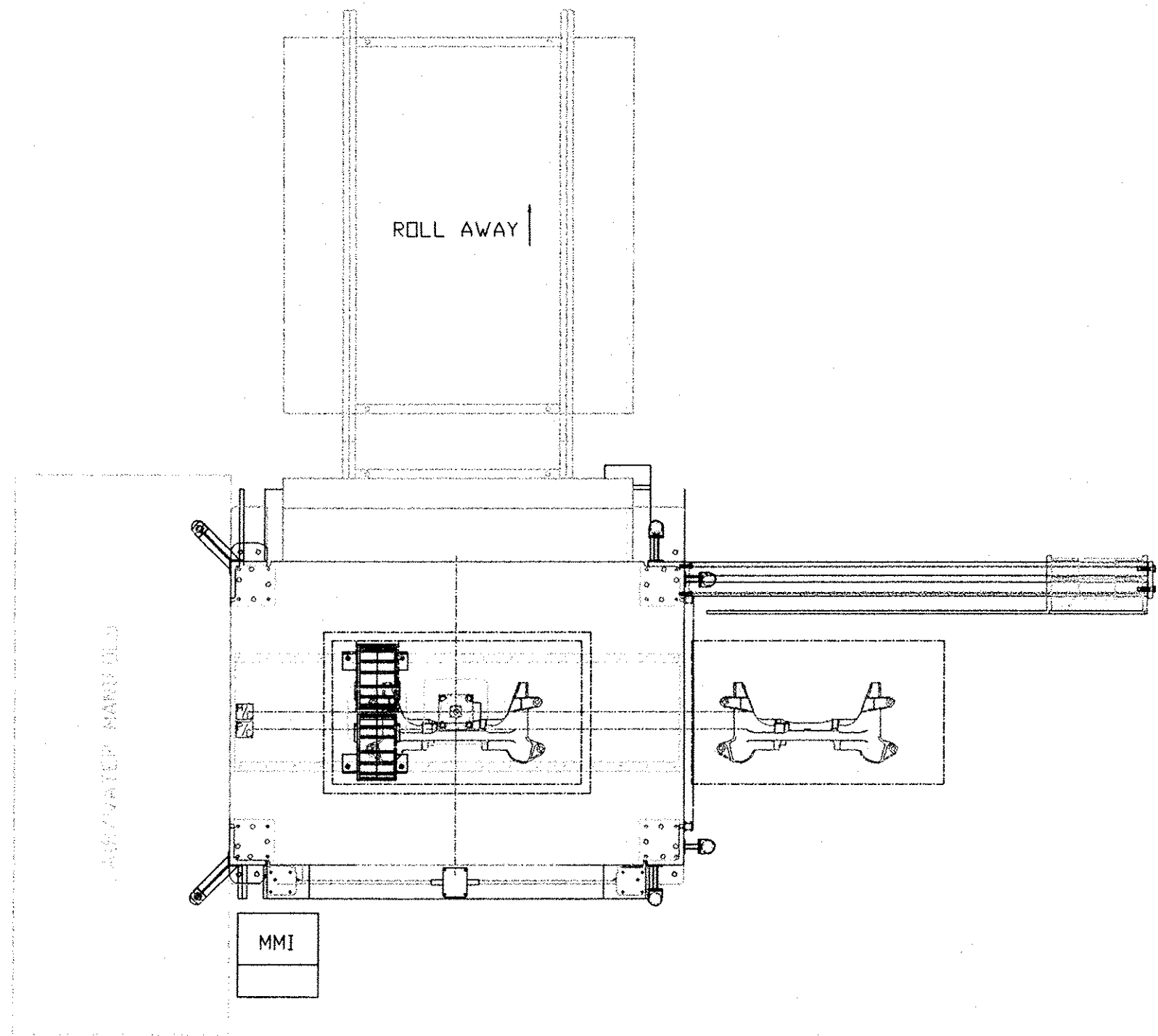
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1	BOTTOM PLATEN	0400012	1
ITEM	DESCRIPTION	DRAWING NO.	QTY
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:			
DECIMALS .XXX ± .005	FRACTIONS ± 1/16	ANGLES ± 1/2°	APPROVALS DATE J ALLEN 03OCT96
.XX ± .01 BREAK SHARP EDGES .010 DRAWING PER ANSI Y14.5			ENGINEERING JIM WATERS 03OCT96
MATERIAL			MANUFACTURING X
FINISH			CUSTOMER AAP
DO NOT SCALE DRAWING			QTY
SCALE NONE			SHEET 1
EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY, SANTA ROSA, CA 95403 T-SLOT, STOCK TUBE LOCATION AAPM01 APROV001			
EMPIRE WORK ORDER NO.			REV

—	ENGINEERING RELEASE	03OCT96
REV	DESCRIPTION	DATE
REVISIONS		
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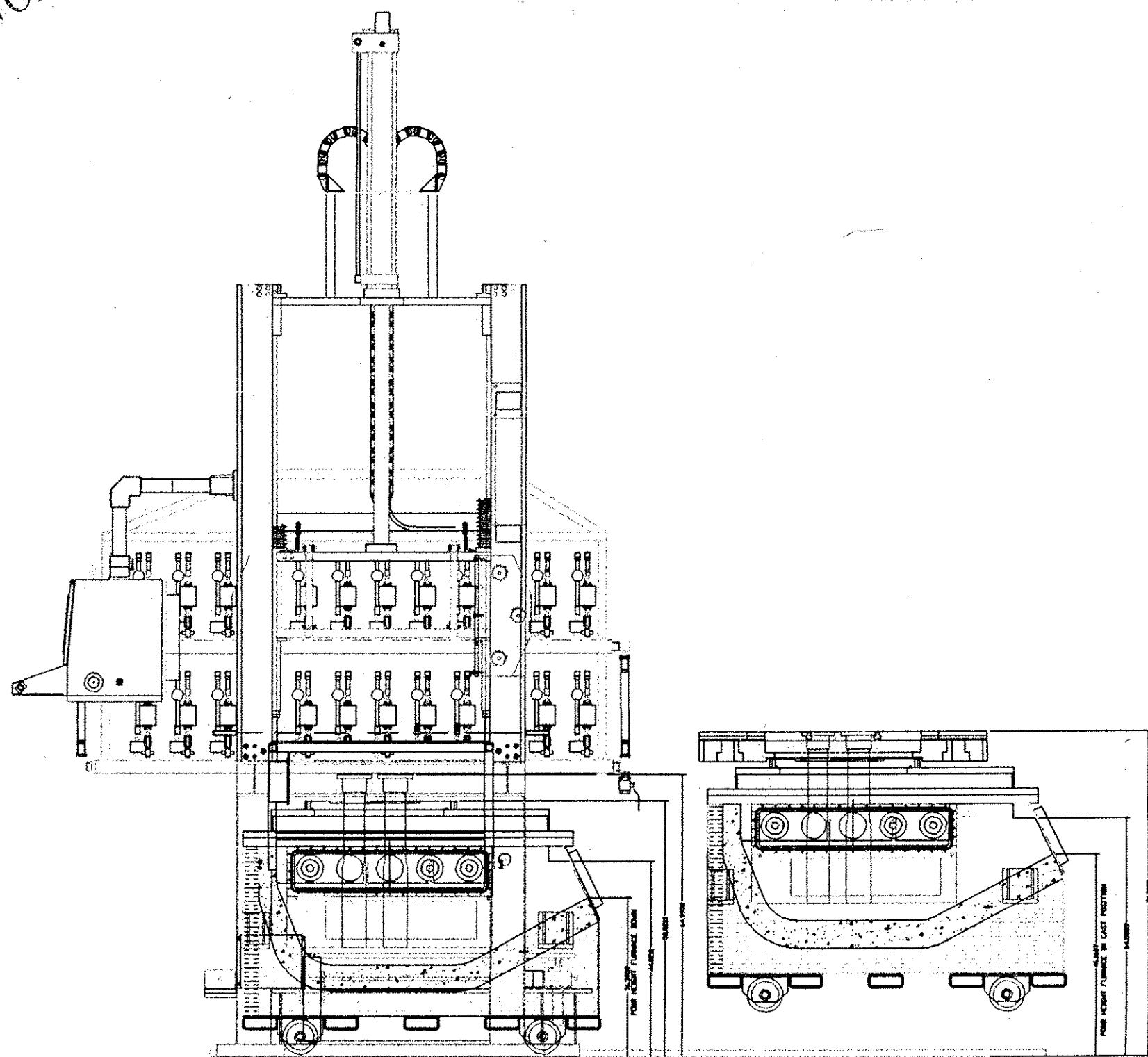
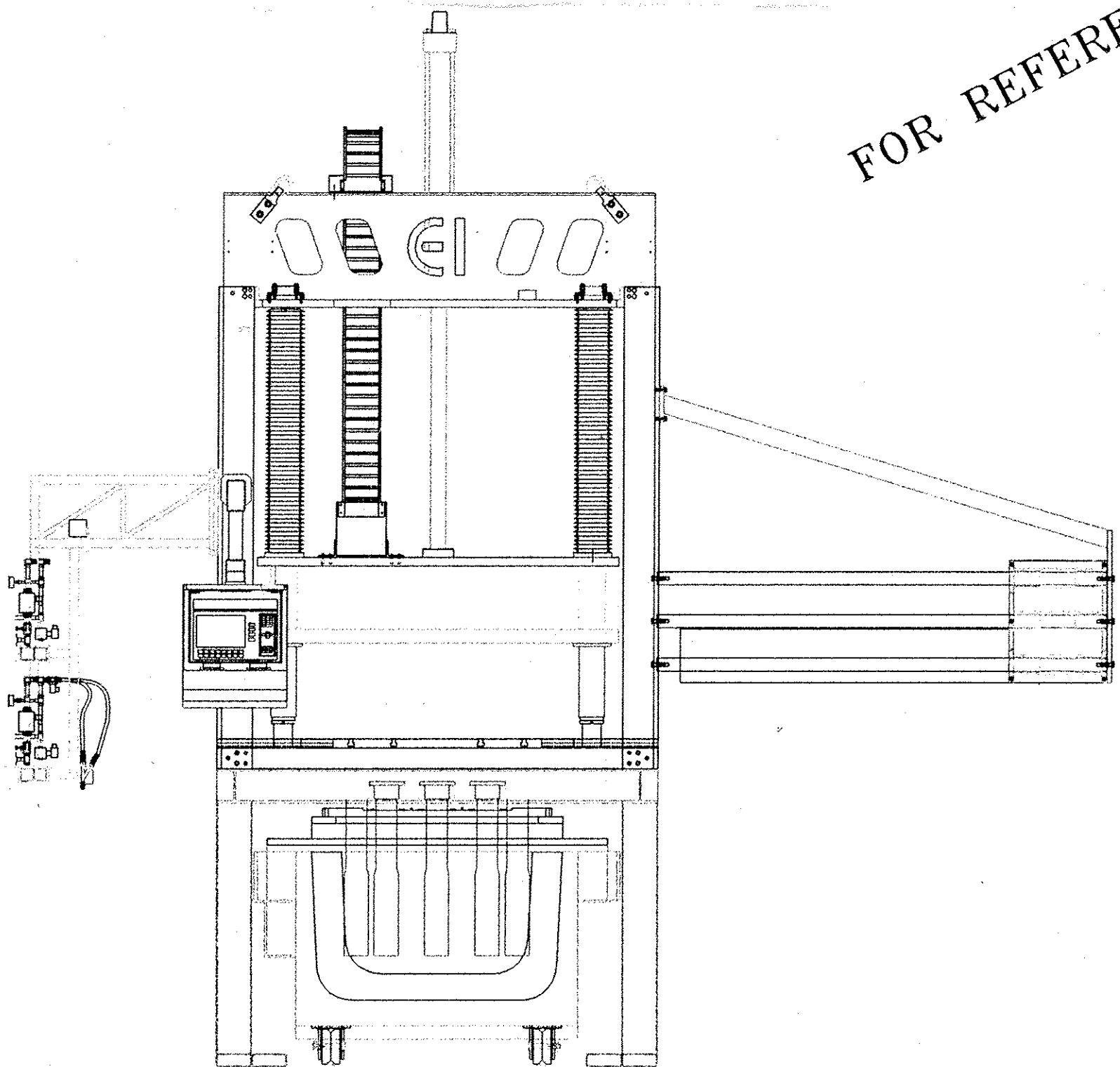


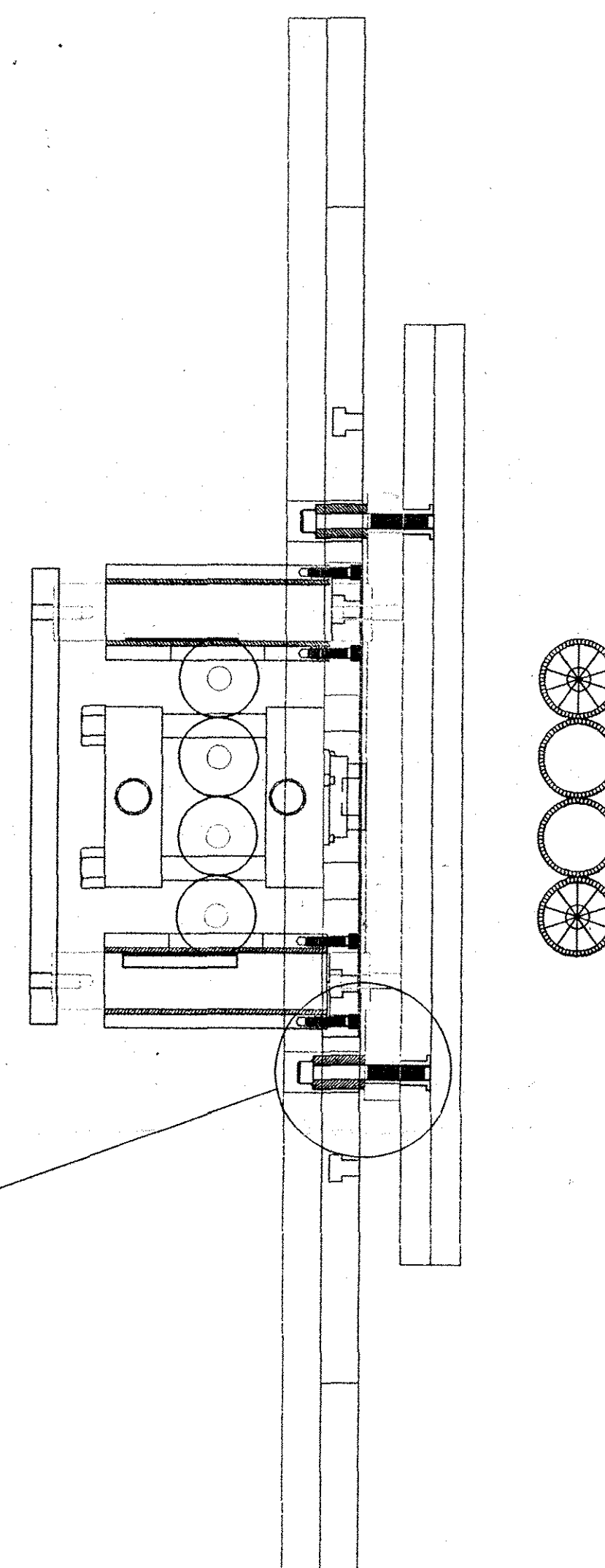
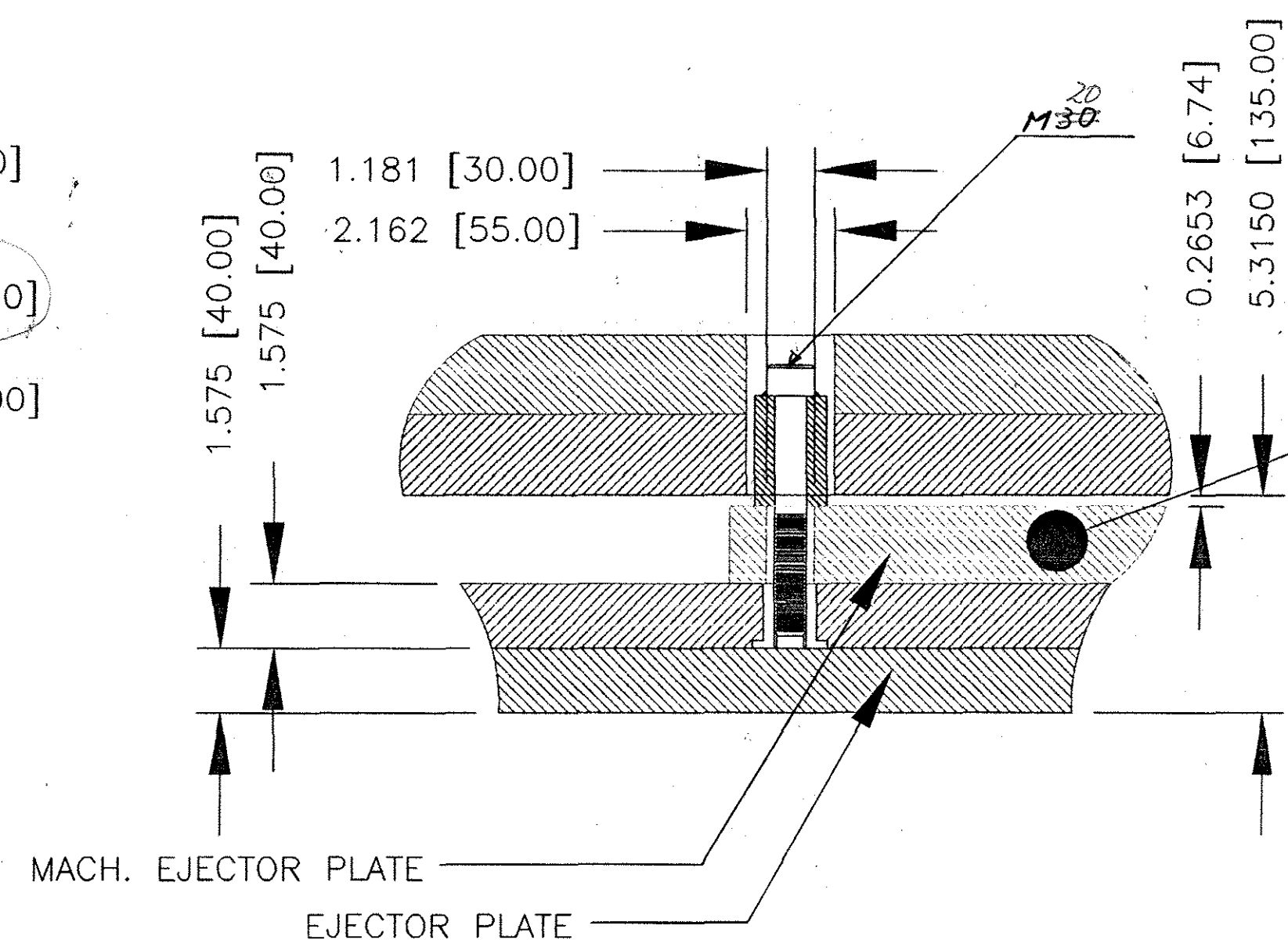
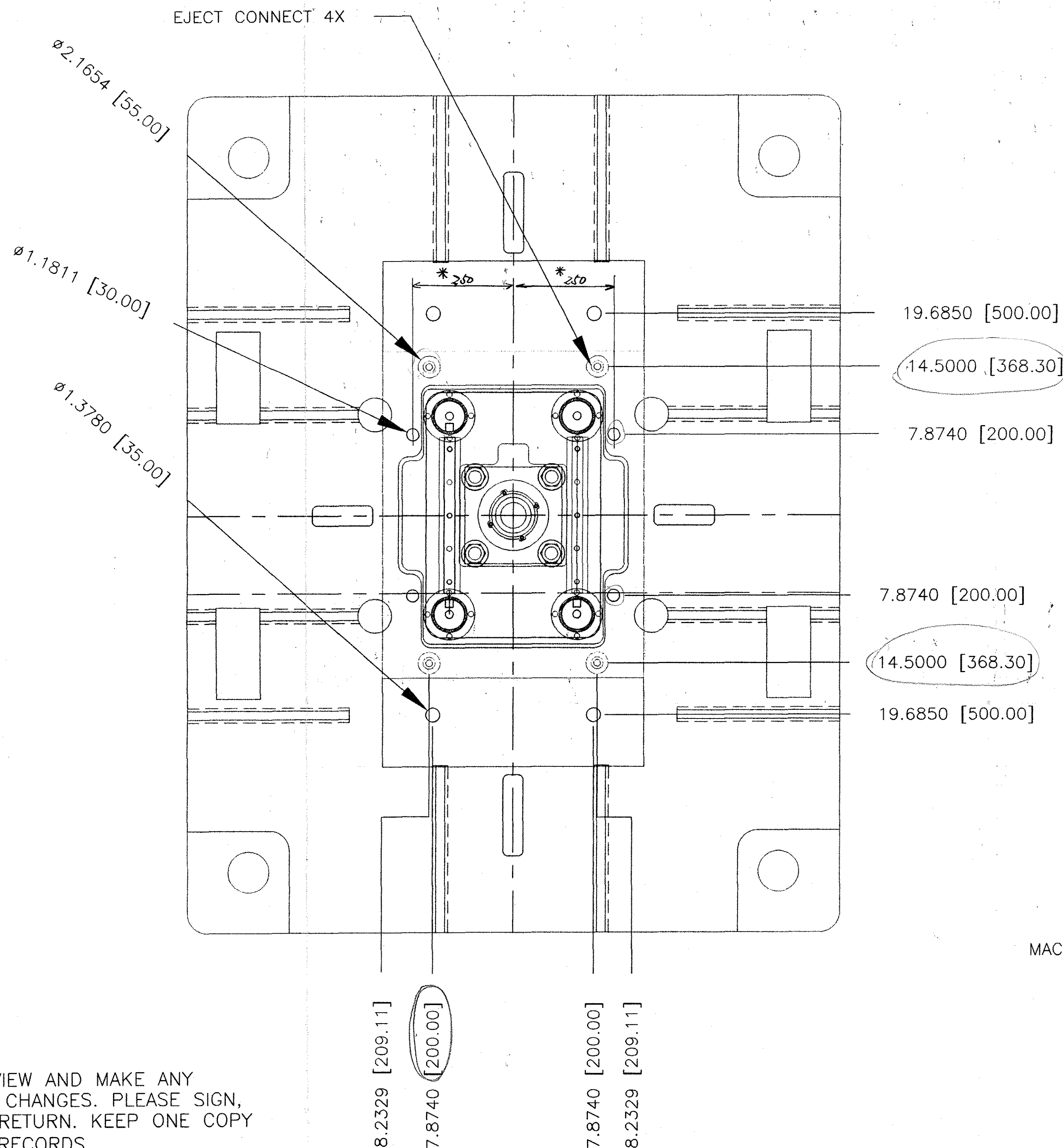


A	REDIMENSIONED PER AAP REQUEST ADDED FEED ADPTER DETAIL FOR STACK UP HEIGHT	24APR00	JA	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE INCHES TOLERANCES ARE: DECIMALS .XXX ±.005 FRACTIONS ±1/16 ANGLES ±1/2° BREAK SHARP EDGES .010 DRAWING PER ANSI Y14.5	APPROVALS		DATE	EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY, SANTA ROSA, CA 95403					
	—	ENGINEERING RELEASE	10JAN00		JA	DRAWN BY	J ALLEN		10JAN00				
REV	DESCRIPTION	DATE	APP'D		CHECKED BY			GENERAL FURNACE DETAILS					
REVISIONS					APPROVED BY								
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THIRD ANGLE PROJECTION				FINISH	CUSTOMER	AAP ST, MARYS		QTY	1	SCALE	NONE	SHEET	1
					MANUFACTURING								
					DD NOT SCALE DRAWING								



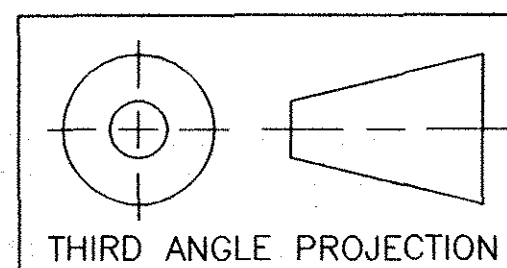
FOR REFERENCE ONLY





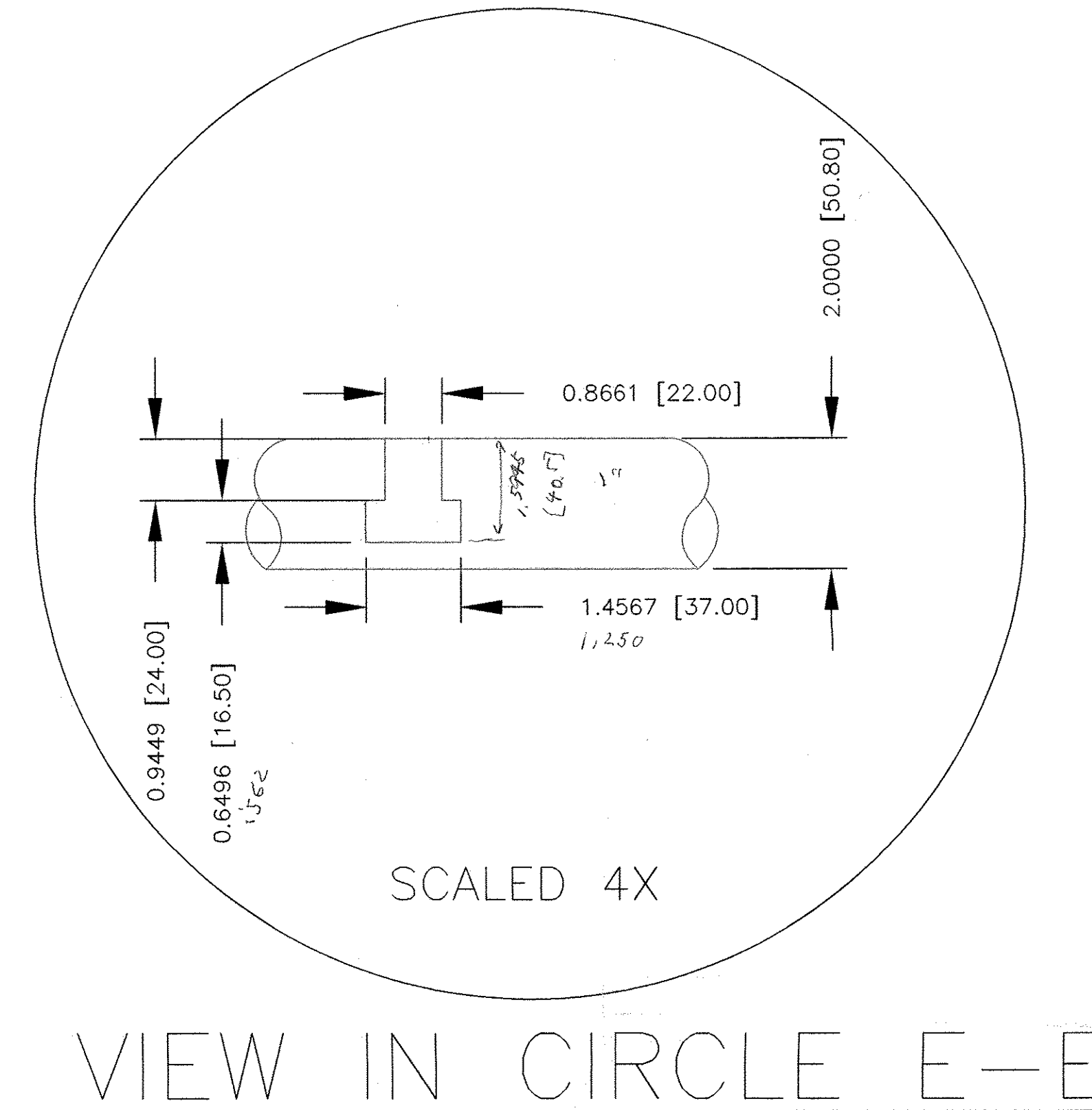
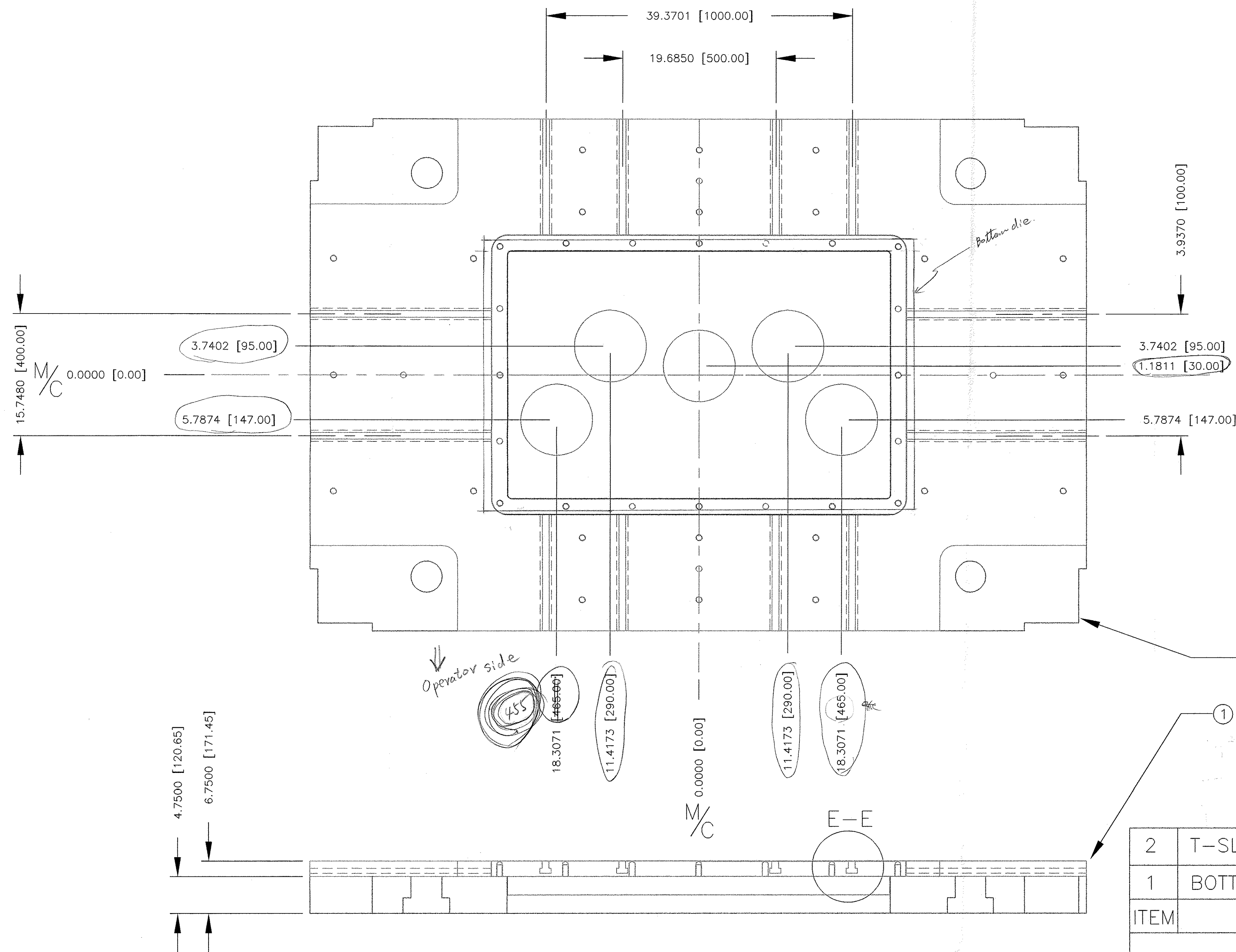
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FRACTIONS ± 1/16		CHECKED BY	
ANGLES ± 1/2°		APPROVED BY	
.XX ± .01		ENGINEERING JIM WATERS	12NOV96
BREAK SHARP EDGES .010		MANUFACTURING	
DRAWING PER ANSI Y14.5		CUSTOMER AAP	
MATERIAL		DO NOT SCALE DRAWING	
FINISH		QTY	
		SCALE NONE	SHEET 1

—	ENGINEERING RELEASE	12NOV96	
REV	DESCRIPTION	DATE	APP'D
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EMPIRE CASTINGS INC.
3195 REGIONAL PARKWAY, SANTA ROSA, CA 95403

EJECT CONNECT LOCATION MOVING PLATEN		
EMPIRE WORK ORDER NO.	EMPIRE DRAWING NO.	REV
AAPM01	APROV004	—



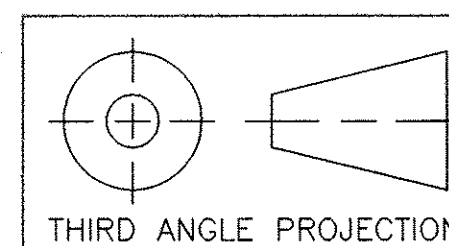
2	T-SLOT PLATE	0400032	1
1	BOTTOM PLATEN	0400012	1
ITEM	DESCRIPTION	DRAWING NO.	QTY

PARTS LIST

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:		APPROVALS		DATE
DECIMALS	FRACTIONS	ANGLES	DRAWN BY	J ALLEN
.XXX ± .005	± 1/16	± 1/2°	CHECKED BY	
.XX ± .01			APPROVED BY	
BREAK SHARP EDGES .010 DRAWING PER ANSI Y14.5			ENGINEERING	JIM WATERS
			MANUFACTURING	X
			CUSTOMER	AAP
			DO NOT SCALE DRAWING	
T-SLOT, STOCK TUBE LOCATION		EMPIRE WORK ORDER NO.	EMPIRE DRAWING NO.	REV
		AAPM01	APROV001	—
		QTY	SCALE NONE	SHEET 1

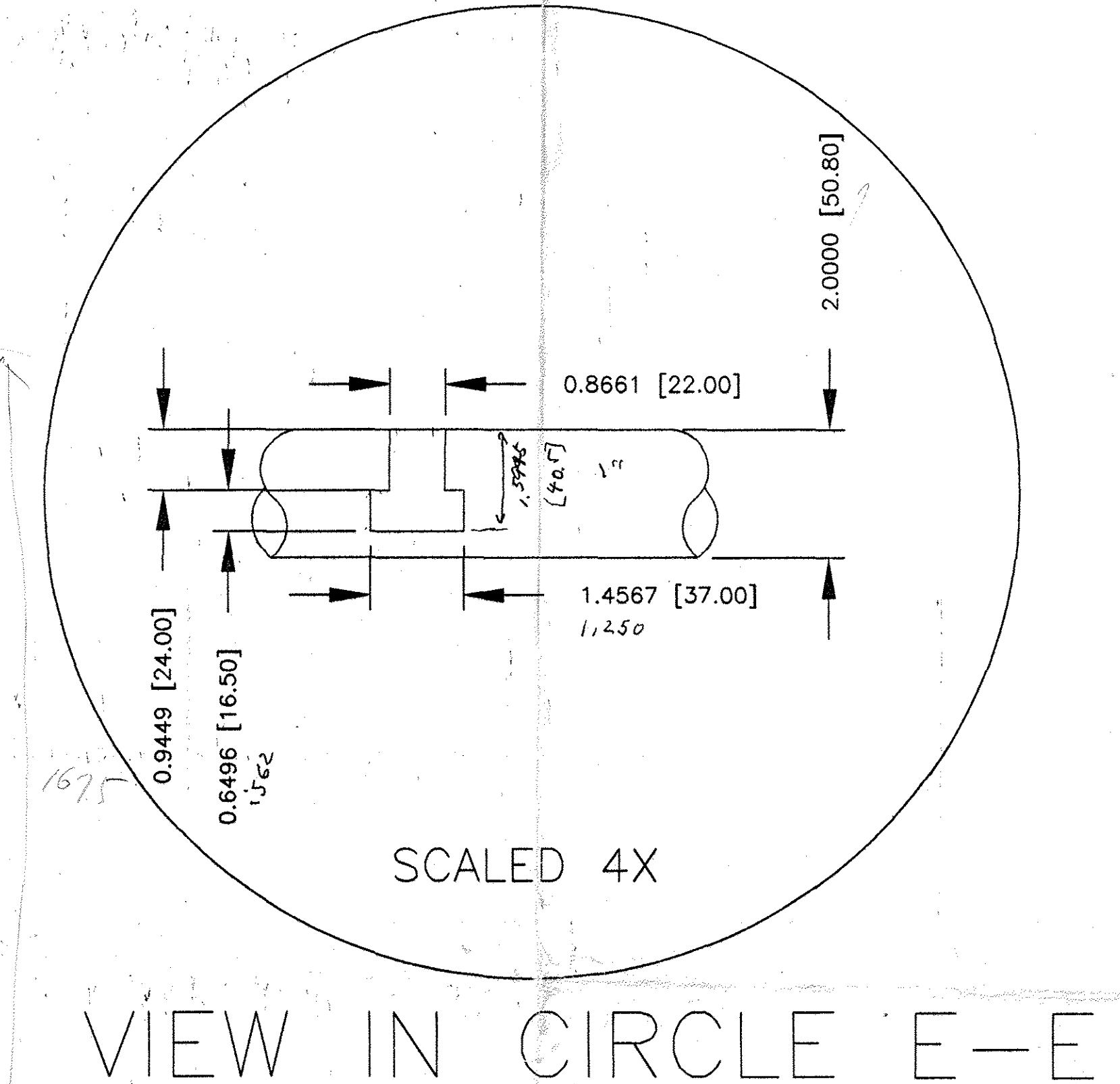
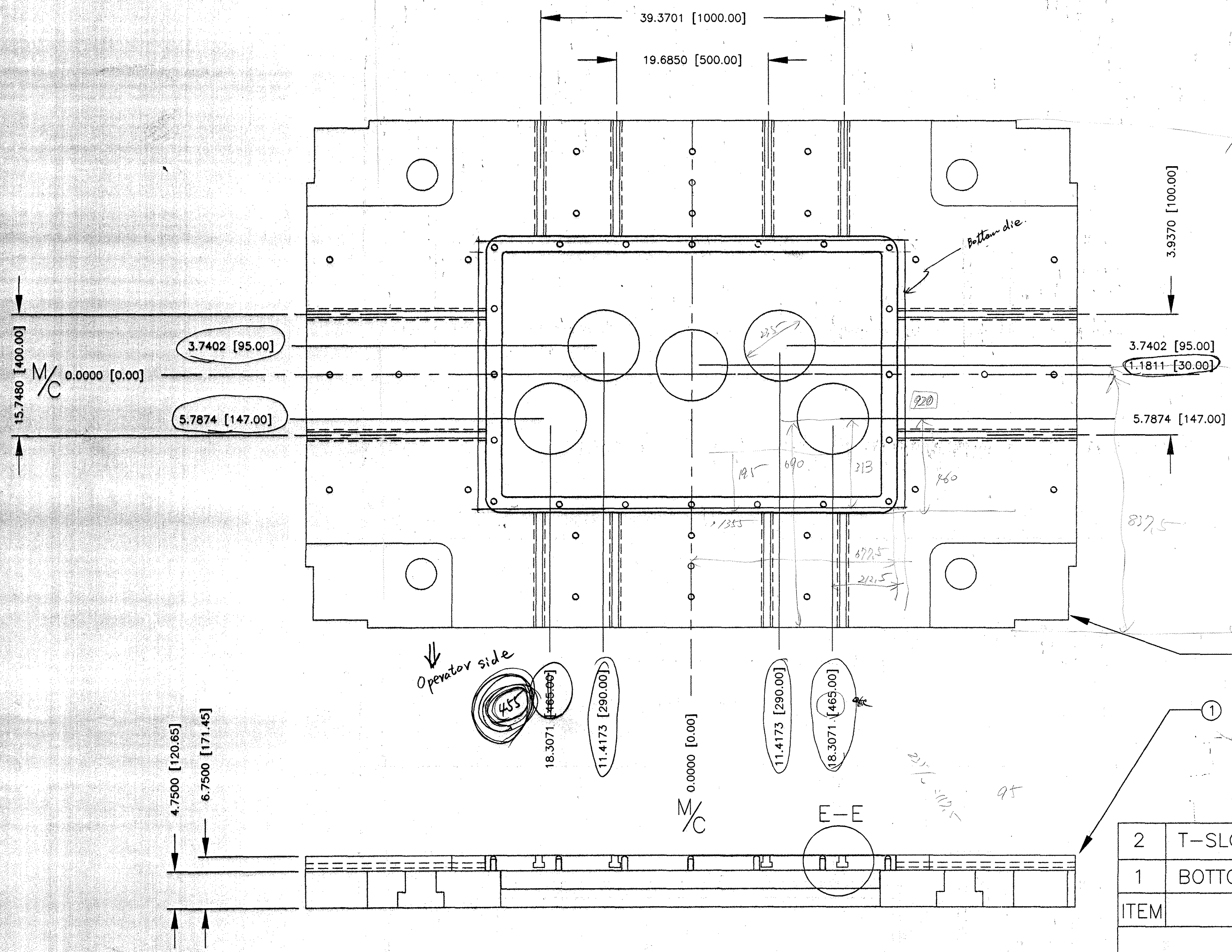
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NECESSARY CHANGES. PLEASE SIGN,
DATE, AND RETURN. KEEP ONE COPY
FOR YOUR RECORDS

SIGNED _____



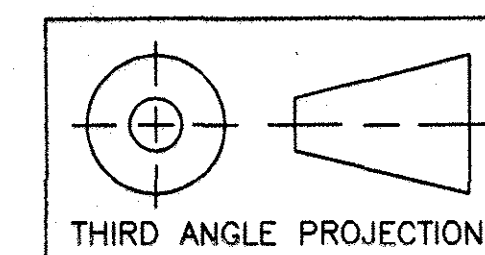
THIRD ANGLE PROJECTION

—	ENGINEERING RELEASE	03OCT96	
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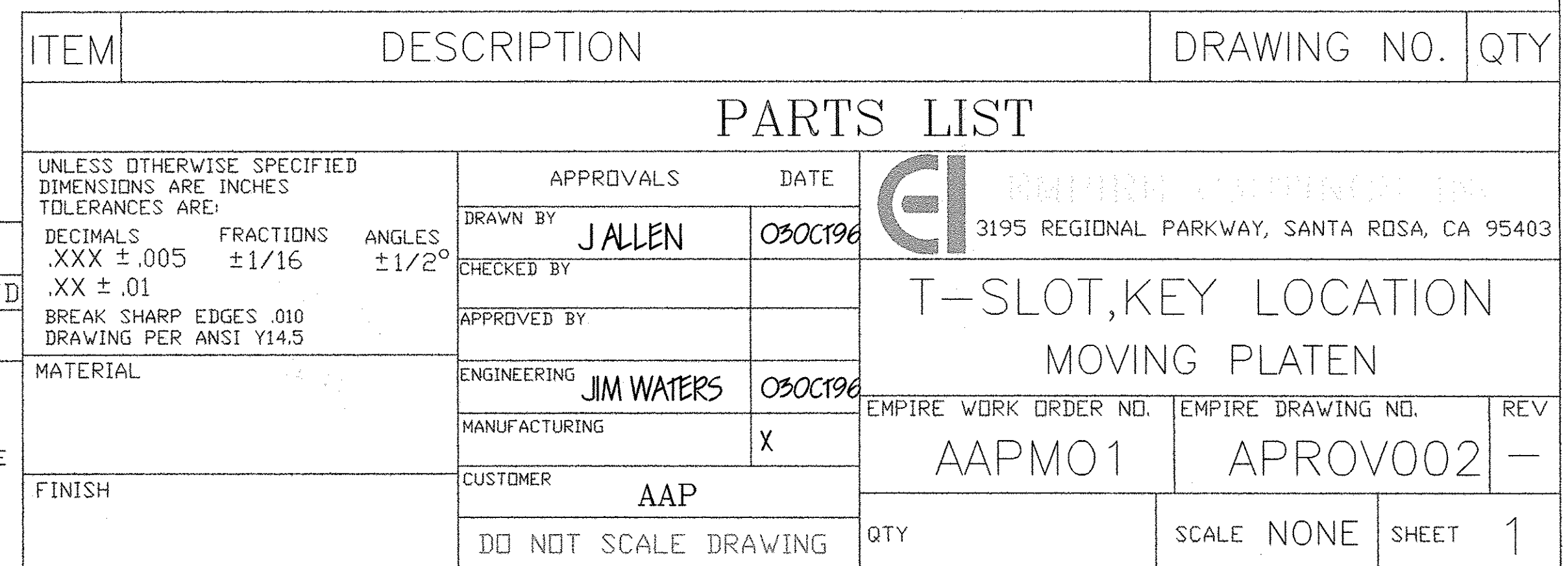
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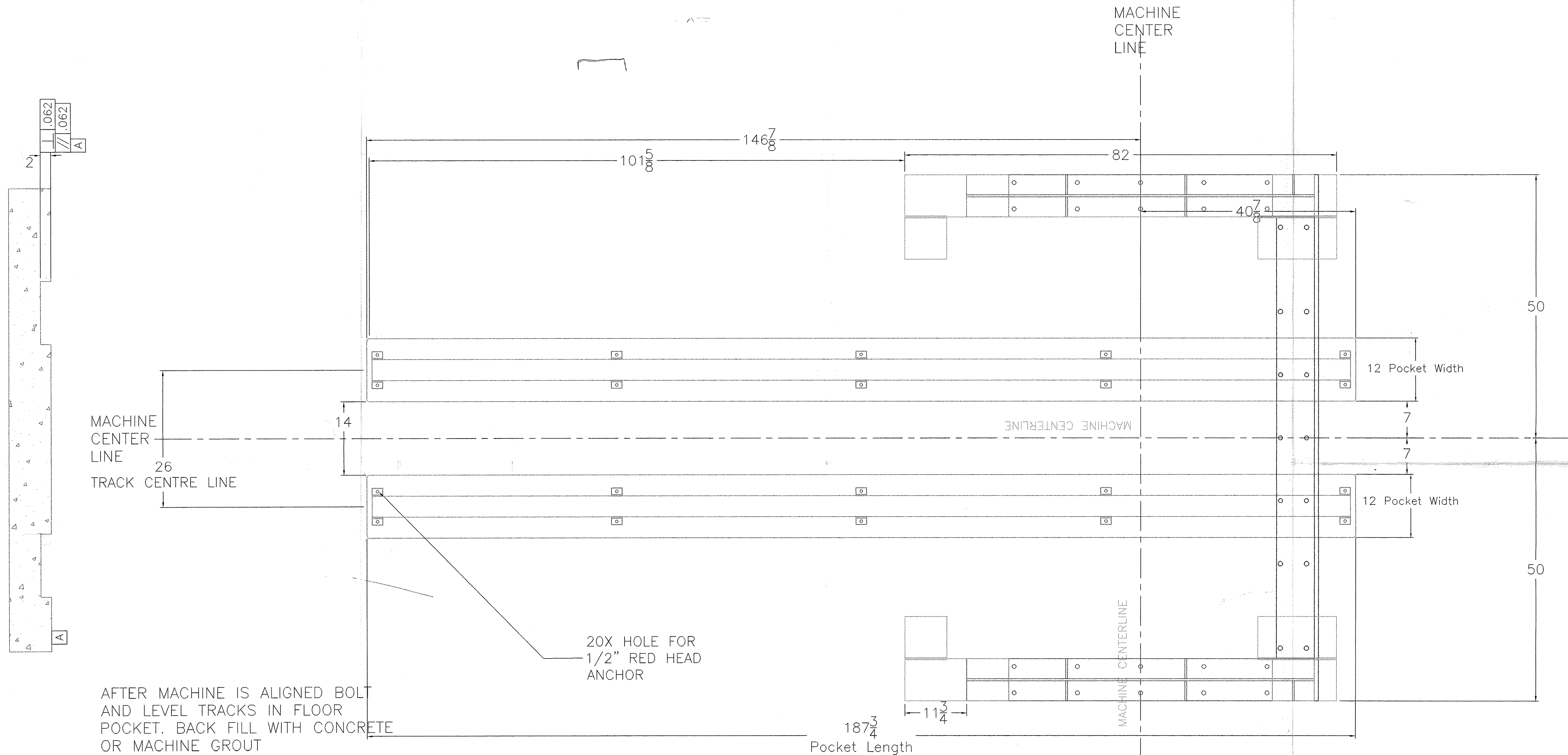
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1	BOTTOM PLATEN	0400012	1
ITEM	DESCRIPTION	DRAWING NO.	QTY

PARTS LIST

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DECIMALS	FRACTIONS	ANGLES	DRAWN BY	J ALLEN	
.XXX ± .005	± 1/16	± 1/2°	CHECKED BY		
.XX ± .01			APPROVED BY		
BREAK SHARP EDGES .010 DRAWING PER ANSI Y14.5		ENGINEERING		JIM WATERS	03OCT96
MATERIAL		MANUFACTURING		X	
FINISH		CUSTOMER		AAP	
		DO NOT SCALE DRAWING		QTY	
		SCALE		NONE	
		SHEET		1	

T-SLOT, STOCK TUBE LOCATION		
EMPIRE WORK ORDER NO.	EMPIRE DRAWING NO.	REV
AAPM01	APROV001	—





A	26" CL WAS 48"CL	10FEB00	
-	ENGINEERING RELEASE	03JAN00	
REV	DESCRIPTION	DATE	APP'D
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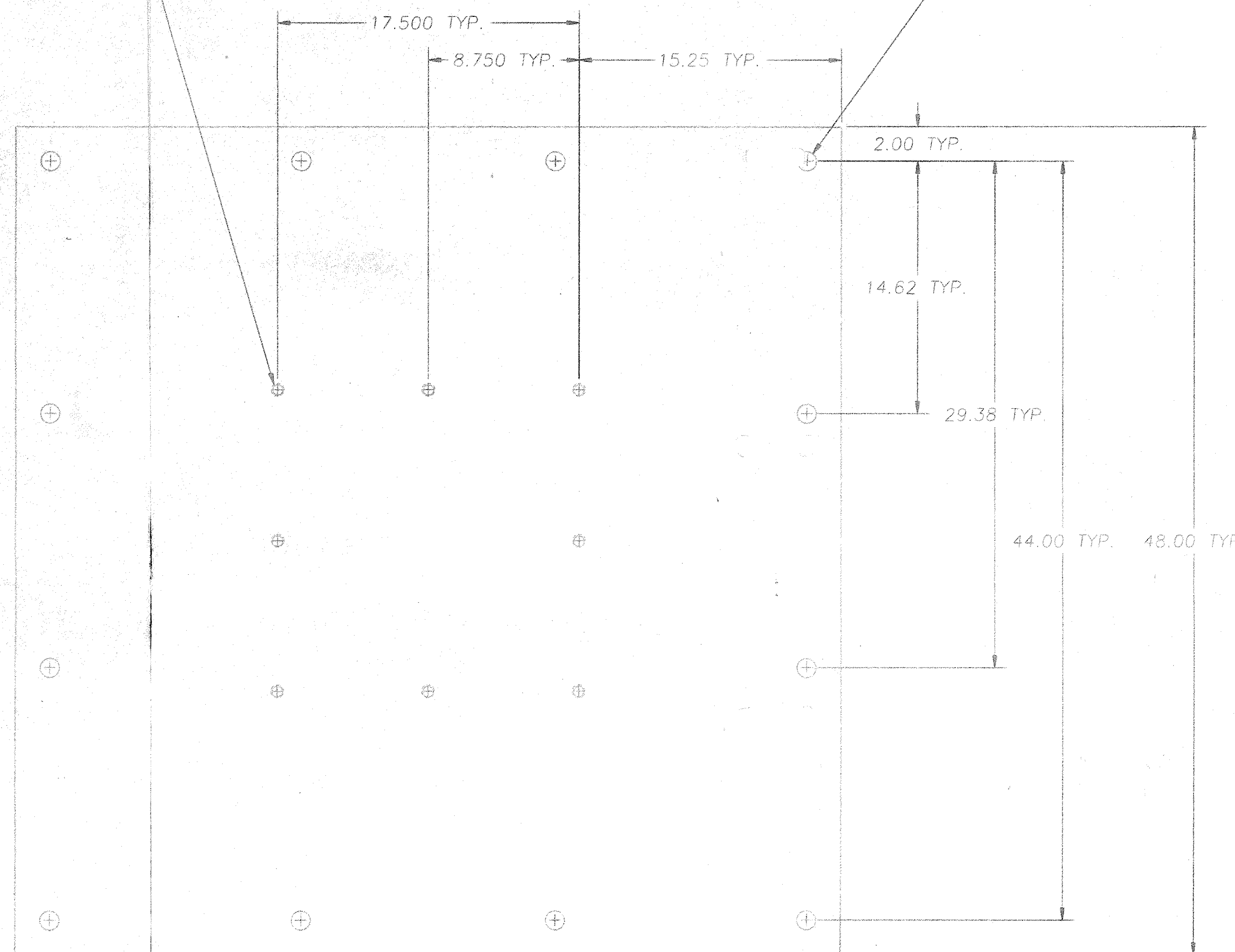
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FRACTIONS	DECIMALS	ANGLES
± 1/16	.XX ± .01	± 1/2°
	.XXX ± .005	
MATERIAL:		
N/A		
FINISH:		
N/A		

APPROVALS	DATE
DRAWN BY: J ALLEN	03JAN00
CHECKED BY:	
APPROVED BY:	
ENGINEERING:	
MANUFACTURING:	
CUSTOMER: AAP ST, MARYS	
DO NOT SCALE DRAWING	

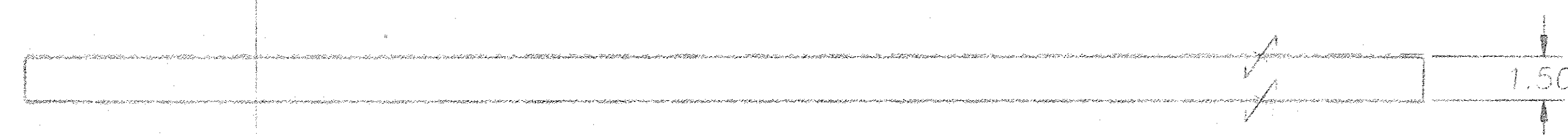
EMPIRE CASTINGS INC. 3195 REGIONAL PARKWAY SANTA ROAST, CA 95403	
FURNACE TRACK MOUNTING	
n/c 2 - 1999 model EMPIRE WORK ORDER NO. AAPM08	EMPIRE DRAWING NO. 0100101
NEXT ASSEMBLY NO.	CUSTOMER PART NO.
QTY: N/A	SCALE: TO FIT
SHEET 1 OF 1	

3/4-10 TAP THRU
(8) HOLES.

1 1/8 THRU (12) HOLES

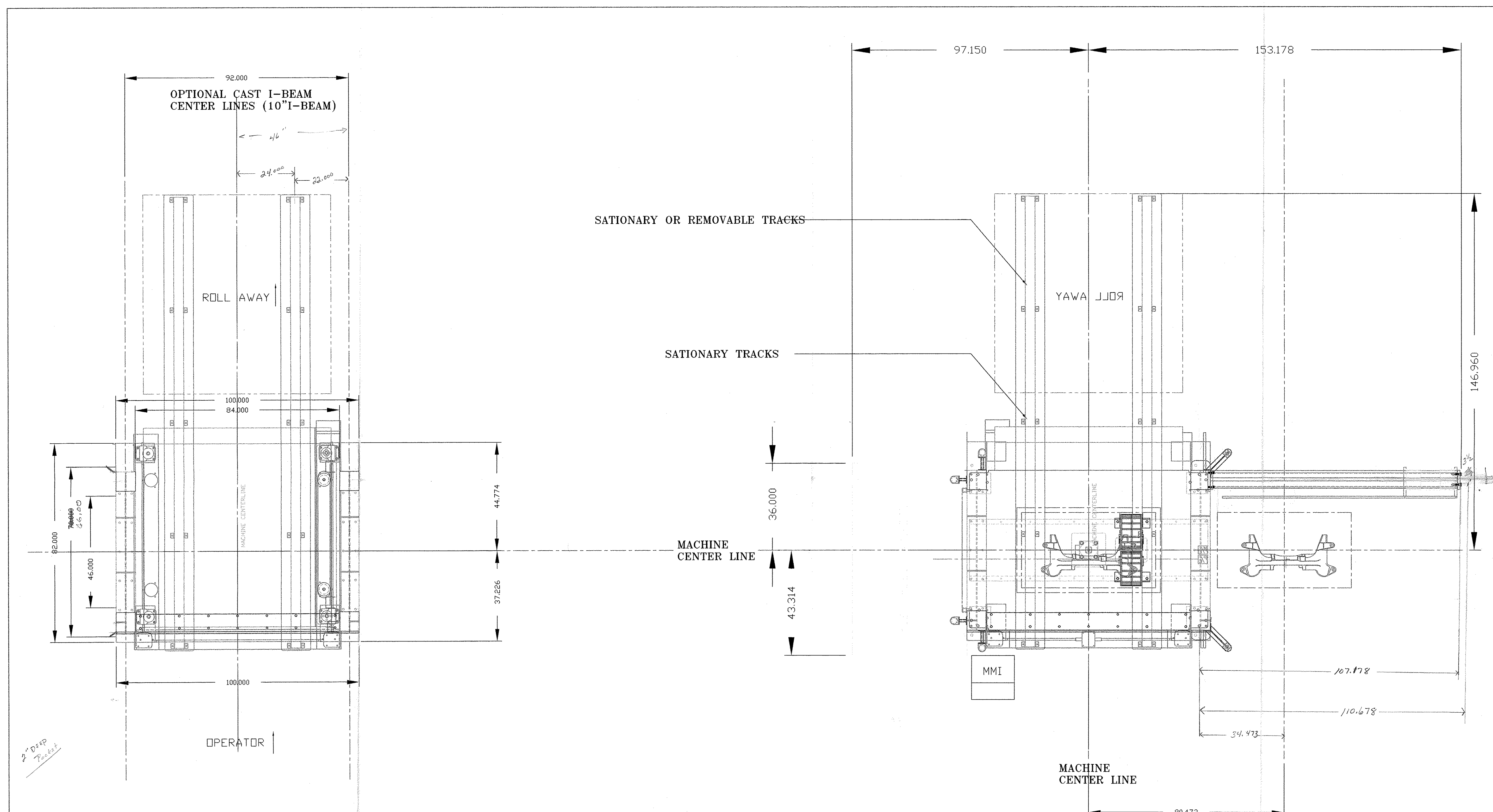


PEDESTAL MOUNTING PLATE (1) REQ'D
1 5/8 X 48 X 48 ~ BPL

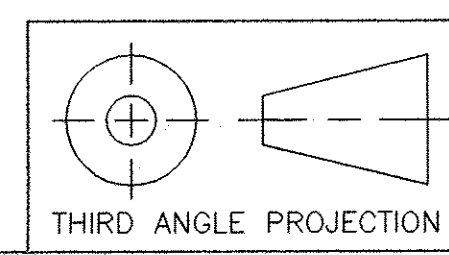


SYM	QTY	UNIT	DESCRIPTION	MATERIAL
SCALE	1=4		TITLE	
DRAWN BY	T.M.		AAP ST. MARYS CORP CROSSMEMBER TRANSFER	
CHKD BY				
DATE	3/25/97			
			SHEET	SHEETS
			DRAWING NO. 64093	

PROTOMARK # ~ CAD#



ITEM	DESCRIPTION	DRAWING NO.	QTY
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: DECIMALS FRACTIONS ANGLES .XXX ±.005 ±1/16 ±1/2° .XX ±.01 BREAK SHARP EDGES .010 DRAWING PER ANSI Y14.5		APPROVALS DATE DRAWN BY J ALLEN 25 JAN 00 CHECKED BY APPROVED BY ENGINEERING JAMES WATERS 25 JAN 00 MANUFACTURING CUSTOMER DO NOT SCALE DRAWING	
MATERIAL X		3195 REGIONAL PARKWAY, SANTA ROSA, CA 95403	
FINISH X		BASIC FOOT PRINT EC02A	
		EMPIRE WORK ORDER NO. AAPM08	EMPIRE DRAWING NO. PLAN001
		QTY	SCALE NONE SHEET 1



THIRD ANGLE PROJECTION

—	ENGINEERING RELEASE	25 JAN 00	
REV	DESCRIPTION	DATE	APP'D
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