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separate  
safety  
manual  
before  
installing,  
operating,  
or servicing**

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# Schematic/Electrical Parts

**48040M7K**

**68036M5K & 72046M5K**

**with CHUTE DOOR LOADING**

**MILTOUCH-EX(TM) CONTROLS**





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# COMPONENT PARTS LIST

W6H5KZPL/2022462N

| COMPONENT<br>NUMBER | FUNCTION OF THIS |                                         | WHERE TO FIND  |  | MILNOR P/N  |  | DESCRIPTION                           |  | LOCATION     |  |
|---------------------|------------------|-----------------------------------------|----------------|--|-------------|--|---------------------------------------|--|--------------|--|
|                     | COMPONENT NUMBER | LOCATION DETAILS                        | THIS COMPONENT |  |             |  |                                       |  |              |  |
|                     |                  | >>>COMPONENT LOCATION DETAILS           |                |  |             |  |                                       |  |              |  |
| 001                 |                  | DETAIL LOW VOLTAGE CONTROL BOX          | W6H5KZTG1      |  | B2T2014014  |  | TAG 68MIH5K LV BOX PLUS AUTOLOAD      |  | CONTROL BOX  |  |
| 002                 |                  | DETAIL HOW TO SET POWER SUPPLIES        | W6H5KZTG1      |  | B2T2014012  |  | TAG: MILTOUCH-EX POWER SUPY SET       |  | CONTROL BOX  |  |
| 003                 |                  | DETAIL CONTROL BOARDS IN/OUT LIST       | W6H5KZTG1      |  | B2T2014016  |  | TAG MTOUCH-EX BDS+DRYELL IN/OUT LIST  |  | CONTROL BOX  |  |
| 004                 |                  | DETAIL HIGH VOLTAGE CONTROL BOX         | W6H5KZTG2      |  | B2T2014015  |  | TAG:47H7R-K/68H5K HIGH VOLT BOX       |  | CONTROL BOX  |  |
| ACBA                |                  | >>>ACCELEROMETERS                       |                |  |             |  |                                       |  |              |  |
| ACBA                |                  | BOARD-ACCELEROMETER                     | W6H5KZEC       |  | EACCLRM5    |  | ASSY:ACCEL 1-5G ADXL 105+TEST         |  | SHELL FRONT  |  |
| BA                  |                  | >>>PRINTED CIRCUIT BOARDS               |                |  |             |  |                                       |  |              |  |
| BAD-1               |                  | BOARD-ANALOG TO DIGITAL CONVERTER       | W6H5KZBW       |  | 08BSADCT    |  | BD: SERIAL A-D CONVERT->TEST          |  | CONTROL BOX  |  |
| BAHI                |                  | BOARD-HELM CHEM. INTERFACE              | W6H5KZBW       |  | 08BHSSRAT   |  | BD:ARM9 CHEM INF GPIO->TESTED         |  | SWITCH PANEL |  |
| BAS                 |                  | BOARD-16 SNUBBER CIRCUITS               | W6H5KZCF       |  | 08BNCMBT    |  | COIN MACHINE SNUBBER->TESTED          |  | CONTROL BOX  |  |
| BAS                 |                  | BOARD-16 SNUBBER CIRCUITS               | W6H5KZHDA      |  | 08BNCMBT    |  | COIN MACHINE SNUBBER->TESTED          |  | CONTROL BOX  |  |
| BBAD-1              |                  | BOARD-BALANCE A-D CONVERTER             | W6H5KZEC       |  | 08BSBADCTE  |  | SR BALANCE A-D BD EXTACTR-TEST        |  | CONTROL BOX  |  |
| BDA-1               |                  | BOARD-DIGITAL TO ANALOG CONVERTOR       | W6H5KZBW       |  | 08BSDACHT   |  | BD:HI-RES SERIAL D-A->TEST            |  | CONTROL BOX  |  |
| BIO-1               |                  | BOARD-8OUTPUT/16INPUT #1                | W6H5KZBW       |  | 08BS16CHT   |  | BD 8OUT-16IN HIGH SPD->TEST           |  | CONTROL BOX  |  |
| BIO-3               |                  | BOARD-8OUTPUT/16INPUT #3                | W6H5KZBW       |  | 08BS16CT    |  | SERIAL 8OUT-16INPUT-TESTED            |  | CONTROL BOX  |  |
| BIO-4               |                  | BOARD-8OUTPUT/16INPUT #4                | W6H5KZBW       |  | 08BS16CT    |  | SERIAL 8OUT-16INPUT-TESTED            |  | CONTROL BOX  |  |
| BLB                 |                  | BOARD-LEVEL TRANSDUCER                  | W6H5KZBW       |  | 08BNLT      |  | LEVEL TRANSDUCER BD->TEST             |  | CONTROL BOX  |  |
| BMTH                |                  | BOARD-8 CHANNEL MOTHER                  | W6H5KZBW       |  | 08BS8MTHAT  |  | BD:SERIAL 8 CARD MOTHER->TEST         |  | CONTROL BOX  |  |
| BO24-1              |                  | BOARD-24 OUTPUT #1                      | W6H5KZBW       |  | 08BSO24AT   |  | BD:SERIAL 24 OUTPUT->TEST             |  | CONTROL BOX  |  |
| BO24-2              |                  | BOARD-24 OUTPUT #2                      | W6H5KZBW       |  | 08BSO24AT   |  | BD:SERIAL 24 OUTPUT->TEST             |  | CONTROL BOX  |  |
| BO24-3              |                  | BOARD-24 OUTPUT #3                      | W6H5KZBW       |  | 08BSO24AT   |  | BD:SERIAL 24 OUTPUT->TEST             |  | CONTROL BOX  |  |
| BO24-4              |                  | BOARD-24 OUTPUT #4                      | W6H5KZBW       |  | 08BSO24AT   |  | BD:SERIAL 24 OUTPUT->TEST             |  | CONTROL BOX  |  |
| BPB                 |                  | BOARD-ARM9 WITH TOUCH SCREEN            | W6H5KZBW       |  | 08BHA9E4T   |  | ASSY:ARM9 PROC+8.4 OPTREX DSP-TESTED  |  | SWITCH PANEL |  |
| BSP                 |                  | BOARD-SPEED SENSING                     | W6H5KZBW       |  | 08BNDSRAT   |  | BD DRY SAFETY ROTATION->TEST          |  | CONTROL BOX  |  |
| CP                  |                  | >>>PHOTOEYE                             |                |  |             |  |                                       |  |              |  |
| CPLC                |                  | PHOTOEYE-LIGHT CURTAIN EMITTER/RECIEVER | W6H5KZLCA      |  | 09RPE018LBA |  | LITE BEAM EMITTER/RECEIVER 600MM BANN |  | LOW VOLT BOX |  |
| CPLCB               |                  | PHOTOEYE-LOAD CHUTE RECEIVER            | W6H5KZ12A      |  | 09RPE006B   |  | PHOTOEYE RECEIVER 24/120V AC          |  | LOAD CHUTE   |  |
| CPLCB               |                  | PHOTOEYE-LOAD CHUTE RECEIVER            | W6H5KZ12A      |  | 09RPE007C   |  | P.E. PWR.BLK. NO-OUT 240V-IN          |  | LOAD CHUTE   |  |
| CPLCB               |                  | PHOTOEYE-LOAD CHUTE RECEIVER            | W6H5KZ12A      |  | 09RP007B2   |  | PHOTOEYE ON/OFF LOGICMOD #LM3         |  | LOAD CHUTE   |  |
| CPLCC               |                  | PHOTOEYE-LOAD CHUTE SENDER              | W6H5KZ12A      |  | 09RPE006A   |  | PHOTOEYE EMITTER 24/120V AC,          |  | LOAD CHUTE   |  |
| CPLCC               |                  | PHOTOEYE-LOAD CHUTE SENDER              | W6H5KZ12A      |  | 09RPE007C1  |  | P.E. PWR.BLK. 240V-OUT 240V-IN        |  | LOAD CHUTE   |  |
| CPSP                |                  | PHOTOEYE-SPEED                          | W6H5KZBW       |  | 09RPE013Q   |  | SENSOR E-Z BEAM QUICK CONN DC         |  | MAIN PULLEY  |  |

# COMPONENT PARTS LIST

| COMPONENT<br>NUMBER | FUNCTION OF THIS<br>COMPONENT NUMBER   | WHERE TO FIND  |  | MIL/NOR P/N | DESCRIPTION                       | LOCATION     |
|---------------------|----------------------------------------|----------------|--|-------------|-----------------------------------|--------------|
|                     |                                        | THIS COMPONENT |  |             |                                   |              |
| CR                  | >>>RELAY-PILOT OR CONTROL              |                |  |             |                                   |              |
| CRAD                | RELAY-BASE BLOCK ON MIL/TOUCH POWER UP | W6H5KZVP       |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | LOW VOLT BOX |
| CRBO                | RELAY-LIGHT CURTAIN BEAM OK            | W6H5KZLCA      |  | 09C024E24   | RELAY 4PDT DIFGLD 14PIN 24DC      | LOW VOLT BOX |
| CRBO                | RELAY GATE IS CLOSED                   | W6H5KZLCA      |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | LOW VOLT BOX |
| CRBSL               | RELAT-SPEED AT OR ABOVE DRAIN SPEED    | W6H5KZLCA      |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | LOW VOLT BOX |
| CRC01               | RELAY-INTERPRET #1                     | W6H5KZCP       |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | CONTROL BOX  |
| CRC02               | RELAY-INTERPRET #2                     | W6H5KZCP       |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | CONTROL BOX  |
| CRC03               | RELAY-INTERPRET #3                     | W6H5KZCP       |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | CONTROL BOX  |
| CRC04               | RELAY-INTERPRET #4                     | W6H5KZCP       |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | CONTROL BOX  |
| CRC05               | RELAY-INTERPRET #5                     | W6H5KZCP       |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | CONTROL BOX  |
| CRC06               | RELAY-INTERPRET #6                     | W6H5KZCP       |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | CONTROL BOX  |
| CRC07               | RELAY-INTERPRET #7                     | W6H5KZCP       |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | CONTROL BOX  |
| CRC08               | RELAY-INTERPRET #8                     | W6H5KZCP       |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | CONTROL BOX  |
| CRC09               | RELAY-INTERPRET #9                     | W6H5KZCP       |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | CONTROL BOX  |
| CRC10               | RELAY-INTERPRET #10                    | W6H5KZCP       |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | CONTROL BOX  |
| CRC11               | RELAY-INTERPRET #11                    | W6H5KZCP       |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | CONTROL BOX  |
| CRC12               | RELAY-INTERPRET #12                    | W6H5KZCP       |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | CONTROL BOX  |
| CRC13               | RELAY-INTERPRET #13                    | W6H5KZCP       |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | CONTROL BOX  |
| CRC14               | RELAY-INTERPRET #14                    | W6H5KZCP       |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | CONTROL BOX  |
| CRC15               | RELAY-INTERPRET #15                    | W6H5KZCP       |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | CONTROL BOX  |
| CRDCA               | RELAY-BIFOLD DOORS CLOSED              | W6H5KZRHA      |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | CONTROL BOX  |
| CRDCA               | RELAY-DOOR CLOSED                      | W6H5KZRH8      |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | CONTROL BOX  |
| CRDOA               | RELAY-DOOR FULL OPEN                   | W6H5KZDD       |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | CONTROL BOX  |
| CRDOA               | RELAY-BIFOLD DOORS OPEN                | W6H5KZRHA      |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | CONTROL BOX  |
| CRDOA               | RELAY-DOOR OPEN                        | W6H5KZRH8      |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | CONTROL BOX  |
| CRDRR               | RELAY-DRAIN TO REUSE                   | W6H5KZEV       |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | CONTROL BOX  |
| CRLCB               | RELAY-LOAD CHUTE BLOCKED               | W6H5KZI2A      |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | CONTROL BOX  |
| CRLPB               | RELAY-LIGHT BEAM BY PASS               | W6H5KZLCA      |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | LOW VOLT BOX |
| CRMAM               | RELAY-MANUAL                           | W6H5KZHD8      |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | LOW VOLT BOX |
| CRMAM               | RELAY-MANUAL                           | W6H5KZHD8      |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | LOW VOLT BOX |
| CRMAM               | RELAY-MANUAL                           | W6H5KZHD8      |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | LOW VOLT BOX |
| CRMAM               | RELAY-MANUAL                           | W6H5KZHD8      |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | LOW VOLT BOX |
| CROD                | RELAT-OPEN DOOR                        | W6H5KZLCA      |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED | LOW VOLT BOX |
| CRPLL               | RELAY-DOOR CLOSED                      | W6H5KZDRA      |  | 09C024D71   | RELAY 4PDT DIFGLD 14PIN 240V      | ALT DRAIN BX |

# COMPONENT PARTS LIST

| COMPONENT<br>NUMBER | FUNCTION OF THIS<br>COMPONENT NUMBER | WHERE TO FIND  |  | MIL/NOR P/N | DESCRIPTION                             | LOCATION       |
|---------------------|--------------------------------------|----------------|--|-------------|-----------------------------------------|----------------|
|                     |                                      | THIS COMPONENT |  |             |                                         |                |
| CRPLL               | RELAY-DOOR CLOSED                    | W6H5KZDD       |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED       | CONTROL BOX    |
| CRPLR               | RELAY-CHUTE CLOSED & LOCKED TIGHT    | W6H5KZDRA      |  | 09C024D71   | RELAY 4PDT DIFGLD 14PIN 240V            | CONTROL BOX    |
| CRRTD               | RELAY-REAR FULL DOWN                 | W6H5KZRHA      |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED       | CONTROL BOX    |
| CRRTD               | RELAY-REAR FULL DOWN                 | W6H5KZRHB      |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED       | CONTROL BOX    |
| CRRTU               | RELAY-REAR FULL UP                   | W6H5KZRHA      |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED       | CONTROL BOX    |
| CRRTU               | RELAY-REAR FULL UP                   | W6H5KZRHB      |  | 09C024D71   | RELAY 4PDT DIFGLD 14PN 240V W/LED       | CONTROL BOX    |
| CS                  | >>>CONTACTOR-MOTOR STARTER           |                |  |             |                                         |                |
| CSDO                | CONTACTOR-HYDRAULIC DOOR OPEN        | W6H5KZHDA      |  | 09MC08C371  | 16A 3P MCS CONT NR 240V5/6              | CONTROL BOX    |
| CSDO                | CONTACTOR-HYDRAULIC DOOR OPEN        | W6H5KZHDB      |  | 09MC08C371  | 16A 3P MCS CONT NR 240V5/6              | CONTROL BOX    |
| EB                  | >>>BUZZER OR AUDIBLE SIGNAL          |                |  |             |                                         |                |
| EF                  | >>>FUSE OR FUSE HOLDER               |                |  |             |                                         |                |
| EF01                | FUSE-CONTROL CIRCUIT                 | W6H5KZLV       |  | 09FF006AMA  | FUSE BK/ABC 6 AMP 250V BUSS             | CONTROL BOX    |
| EF02                | FUSE-CONTROL CIRCUIT                 | W6H5KZLV       |  | 09FF006AMA  | FUSE BK/ABC 6 AMP 250V BUSS             | CONTROL BOX    |
| EF01                | FUSE-CONTROL CIRCUIT 200-240VOLTS    | W6H5KZLV       |  | 09FF006AWV  | FUSE BUSS STYLE CC TYPE FNQ-R 6 AMP 600 | CONTROL BOX    |
| EF01                | FUSE-CONTROL CIRCUIT 380-600VOLTS    | W6H5KZLV       |  | 09FF003AWV  | FUSE BUSS STYLE CC TYPE FNQ-R 3 AMP 600 | CONTROL BOX    |
| EF02                | FUSE-CONTROL CIRCUIT 200-240VOLTS    | W6H5KZLV       |  | 09FF006AWV  | FUSE BUSS STYLE CC TYPE FNQ-R 6 AMP 600 | CONTROL BOX    |
| EF02                | FUSE-CONTROL CIRCUIT 380-600VOLTS    | W6H5KZLV       |  | 09FF003AWV  | FUSE BUSS STYLE CC TYPE FNQ-R 3 AMP 600 | CONTROL BOX    |
| EL                  | >>>LIGHT-PILOT OR INDICATOR          |                |  |             |                                         |                |
| ELLPB               | LIGHT-LIGHT BEAM BY PASSED BEACON    | W6H5KZLCA      |  | 09H025V71   | BEACON ROTARY 8.5"DIA AMBER             | TOP OF CNTR BX |
| ELSG                | LIGHT-SIGNAL VISUAL                  | W6H5KZS+       |  | 09J060A71   | LAMP 1/2" AMB 250V IDI 1051QC3          | SWITCH PANEL   |
| EM                  | >>>ELECTRIC METERS                   |                |  |             |                                         |                |
| EMHR                | OPTIONAL RUN HOUR METER              | W6H5KZS+       |  | 38C203      | HOUR METER 3.8IN 3 HOLE MTG 230V/60C    | CONTROL BOX    |
| ES                  | >>>POWER SUPPLY-ELECTRONIC           |                |  |             |                                         |                |
| ESLC                | POWER SUPPLY-24VDC LIGHT CURTAIN     | W6H5KZLCA      |  | 09RPE018LBD | LITE BEAM SAFETY RATING 24VDC POWER S   | LOW VOLT BOX   |
| ESPS                | POWER SUPPLY-CONTROL BOARDS          | W6H5KZBW       |  | 08PSS3401T  | 40 WATT POWER SUPPLY TESTED             | CONTROL BOX    |
| ESPS2               | POWER SUPPLY-PROCESSOR/TOUCHSCREEN   | W6H5KZBW       |  | 08PSS2401T  | PRW SUPY 40WATT 120/240V TO 12V TESTED  | CONTROL BOX    |
| ET                  | >>>THERMAL OVERLOAD DEVICES          |                |  |             |                                         |                |
| ETDO                | OVERLOAD-HYDRAULIC PUMP MOTOR        | W6H5KZHDA      |  | 09FTD0037T  | E1 PLUS OL RELAY 3.2-16A                | CONTROL BOX    |
| ETDO                | OVERLOAD-HYDRAULIC PUMP MOTOR        | W6H5KZHDB      |  | 09FTD0037T  | E1 PLUS OL RELAY 3.2-16A                | CONTROL BOX    |
| ETR                 | OVERLOAD-REC.PUMP-LOW VOLT           | W6H5KZVP       |  | 09FTD0037T  | E1 PLUS OL RELAY 3.2-16A                | CONTROL BOX    |
| ETR                 | OVERLOAD-REC.PUMP-HIGH VOLT          | W6H5KZVP       |  | 09FTD0016T  | E1 PLUS OL RELAY 1.0-5.0A               | CONTROL BOX    |
| ETVS                | OVERLOAD-VARIABLE SPEED INVERTER     | W6H5KZVP       |  | 09FTD0230T  | E1 PLUS OL RELAY 18-90A                 | CONTROL BOX    |
| EX                  | >>>TRANSFORMERS                      |                |  |             |                                         |                |

# COMPONENT PARTS LIST

| COMPONENT NUMBER | FUNCTION OF THIS COMPONENT NUMBER   | WHERE TO FIND  |             |  | MILNOR P/N | DESCRIPTION                              | LOCATION     |
|------------------|-------------------------------------|----------------|-------------|--|------------|------------------------------------------|--------------|
|                  |                                     | THIS COMPONENT |             |  |            |                                          |              |
| EX96A            | TRANSFORMER-600V TO 480V -480/40H7  | W6H5KZMT6      | 09US050A96  |  |            | XFMR 1PH 5KVA 240/480X120/240            | SIDE OF MACH |
| EX96A            | TRANSFORMER-600V TO 480V -680/36H5  | W6H5KZMT6      | 09US100A96  |  |            | XFMR 1PH 10KVA 240/480X120/240           | SIDE OF MACH |
| EX96B            | TRANSFORMER-600V TO 480V -480/40H7  | W6H5KZMT6      | 09US050A96  |  |            | XFMR 1PH 5KVA 240/480X120/240            | SIDE OF MACH |
| EX96B            | TRANSFORMER-600V TO 480V -680/36H5  | W6H5KZMT6      | 09US100A96  |  |            | XFMR 1PH 10KVA 240/480X120/240           | SIDE OF MACH |
| EXHV             | TRANSFORMER-208 TO 240V             | W6H5KZLV       | 09UB25AU71  |  |            | AUTOXFMR 208V/230V 250VA UL/CSA          | CONTROL BOX  |
| EXHV             | TRANSFORMER-380/480 TO 240VAC       | W6H5KZLV       | 09UA025AAB  |  |            | XFMR 380-480PRI/120-240SEC250V           | CONTROL BOX  |
| IN               | >>>INVERTER BRAKING UNIT            |                |             |  |            |                                          |              |
| INVD1-H          | BRAKING UNIT-68036H5K 380-480VOLTS  | W6H5KZVP       | 09MVB725HC  |  |            | BRAKE MODULE-OPEN CHASSIS                | CONTROL BOX  |
| INVD1-L          | BRAKING UNIT-68036H5K 200-240VOLTS  | W6H5KZVP       | 09MVB725LC  |  |            | BRAKEMODULE OPEN CHASIS INVERT           | CONTROL BOX  |
| MT               | >>>MOTORS                           |                |             |  |            |                                          |              |
| MTD              | MOTOR-DRIVE                         | W6H5KZVP       | MESSAGE SO  |  |            | SEE SPECIFIC COMPONENT+NAMEPLATE         | MACHINE      |
| MTDH             | MOTOR-HYDRAULIC PUMP                | W6H5KZHDA      | 39T050CAN   |  |            | 5HP 4P TEFC 208-230/460 60C              | MACHINE REAR |
| MTDH             | MOTOR-HYDRAULIC PUMP                | W6H5KZHDB      | 39T050CAN   |  |            | 5HP 4P TEFC 208-230/460 60C              | MACHINE REAR |
| MTLF             | FILTER-INVERTER/MOTOR POWER         | W6H5KZS+       | 09MVFIL TR1 |  |            | INCOME POWER FILTER CAP                  | CONTROL BOX  |
| MTR              | MOTOR-RECIRCULATION PUMP (OPTIONAL) | W6H5KZVP       | MESSAGE SO  |  |            | SEE SPECIFIC COMPONENT+NAMEPLATE         | MACHINE      |
| MTVS             | FAN-INVERTOR COOLING                | W6H5KZS+       | 13AF235A71  |  |            | FAN 235CFM 230V 50/60                    | BACK C-BOX   |
| MV               | >>>MOTOR POWER INVERTERS            |                |             |  |            |                                          |              |
| MVDBR            | RESISTOR-DYNAMIC BRAKE-48HV         | W6H5KZVP       | 09MV100RET  |  |            | RESIST 100 OHM 280WATT FIXED             | BELOW C-BX   |
| MVDBR            | RESISTOR-DYNAMIC BRAKE-48LV         | W6H5KZVP       | 09MV050REV  |  |            | RESISTOR 500HM 225W #FVT200-50           | BELOW C-BX   |
| MVDBR            | RESISTOR-DYNAMIC BRAKE-68HV         | W6H5KZVP       | 09MVR272S9  |  |            | RESISTOR 27.2 OHMS SINGLE 600V 10 AMP    | BELOW C-BX   |
| MVDBR            | RESISTOR-DYNAMIC BRAKE-68LV         | W6H5KZVP       | 09MVR068S9  |  |            | RESISTOR 6.8OHM SINGLE 600V              | BELOW C-BX   |
| MVINV-H          | INVERTER-4840H7N/F7W 380-460 VOLTS  | W6H5KZVP       | 09MWE03996  |  |            | GA800 INVERTER 39 AMP 460V               | CONTROL BOX  |
| MVINV-H          | INVERTER-4840H7N/F7W 380-460 VOLTS  | W6H5KZVP       | 09MWA03996  |  |            | INVERTER 39AMPS 480V F7                  | CONTROL BOX  |
| MVINV-H          | INVERTER-6836H5N/F5W 380-460 VOLTS  | W6H5KZVP       | 09MWE07596  |  |            | GA800 INVERTER 75 AMP 460V               | CONTROL BOX  |
| MVINV-H          | INVERTER-6836H5N/F5W 380-460 VOLTS  | W6H5KZVP       | 09MWC07596  |  |            | A1000 INVERTER 75 AMP                    | CONTROL BOX  |
| MVINV-L          | INVERTER-4840H7N/F7W 200-240VOLTS   | W6H5KZVP       | 09MWE07574  |  |            | GA800 INVERTER 75 AMP 230V               | CONTROL BOX  |
| MVINV-L          | INVERTER-4840H7N/F7W 200-240VOLTS   | W6H5KZVP       | 09MWA07174  |  |            | F7 INVERTER 71AMP                        | CONTROL BOX  |
| MVINV-L          | INVERTER-6836H5N/F5W 200-240VOLTS   | W6H5KZVP       | 09MWE14574  |  |            | GA800 INVERTER 145 AMP 230V              | CONTROL BOX  |
| MVINV-L          | INVERTER-6836H5N/F5W 200-240VOLTS   | W6H5KZVP       | 09MWC14574  |  |            | A1000 INVERTER 145AMPS                   | CONTROL BOX  |
| MVLF             | FILTER-LINE                         | W6H5KZVP       | 09MVFIL TR1 |  |            | RFI NOISE INPUT FILTER                   | CONTROL BOX  |
| MVRTR            | REACTOR-48 LOW VOLT                 | W6H5KZVP       | 09MX600A96  |  |            | REACTOR LV/HV 3%/1.5% 50/60HP 460V-25/30 | CONTROL BOX  |
| MVRTR            | REACTOR-48 HIGH VOLT                | W6H5KZVP       | 09MX400A96  |  |            | REACTOR LV/HV 3%/1.5% 40HP 460V-20HP 23  | CONTROL BOX  |
| MVRTR            | REACTOR-68 LOW VOLT                 | W6H5KZVP       | 09MX600B74  |  |            | REACTOR 1.5% 150HP 230V 200A             | CONTROL BOX  |



# COMPONENT PARTS LIST

W6H5KZPL/2022462N

| COMPONENT<br>NUMBER | FUNCTION OF THIS<br>COMPONENT NUMBER | WHERE TO FIND  |  | MIL/NOR P/N | DESCRIPTION                              | LOCATION       |
|---------------------|--------------------------------------|----------------|--|-------------|------------------------------------------|----------------|
|                     |                                      | THIS COMPONENT |  |             |                                          |                |
| MVRTR               | REACTOR-68 HIGH VOLT                 | W6H5KZVP       |  | 09MX600B96  | REACTOR 1.5% 50/60HP 460V-25/30HP 230V 8 | CONTROL BOX    |
| PSFL                | POWER SUPPLY-OPTIONAL FLASHING LIGHT | W6H5KZS+       |  | 08PSS2401T  | PRW SUPY 40WATT 120/240V TO 12V TESTED   | CONTROL BOX    |
| PX                  | >>>PROXIMITY SWITCHES                |                |  |             |                                          |                |
| PXDCL               | PROX SW BIFOLD DOORS CLS LEFT        | W6H5KZRHA      |  | 09RPS18CAU  | PRXSW QK CONN 18M NO-AC UNSHLD           | LOAD CHUTE     |
| PXDCL               | PROX SW BIFOLD DOORS CLS LEFT        | W6H5KZRHB      |  | 09RPS18CAU  | PRXSW QK CONN 18M NO-AC UNSHLD           | LOAD CHUTE     |
| PXDCR               | PROX SW BIFOLD DOORS CLS RIGHT       | W6H5KZRHA      |  | 09RPS18CAU  | PRXSW QK CONN 18M NO-AC UNSHLD           | LOAD CHUTE     |
| PXDCR               | PROX SW BIFOLD DOORS CLS RIGHT       | W6H5KZRHB      |  | 09RPS18CAU  | PRXSW QK CONN 18M NO-AC UNSHLD           | LOAD CHUTE     |
| PXDOL               | PROX SW BIFOLD DOORS OPEN LEFT       | W6H5KZRHA      |  | 09RPS18CAU  | PRXSW QK CONN 18M NO-AC UNSHLD           | LOAD CHUTE     |
| PXDOL               | PROX SW BIFOLD DOORS OPEN LEFT       | W6H5KZRHB      |  | 09RPS18CAU  | PRXSW QK CONN 18M NO-AC UNSHLD           | LOAD CHUTE     |
| PXDOR               | PROX SW BIFOLD DOORS OPEN RIGHT      | W6H5KZRHA      |  | 09RPS18CAU  | PRXSW QK CONN 18M NO-AC UNSHLD           | LOAD CHUTE     |
| PXDOR               | PROX SW BIFOLD DOORS OPEN RIGHT      | W6H5KZRHB      |  | 09RPS18CAU  | PRXSW QK CONN 18M NO-AC UNSHLD           | LOAD CHUTE     |
| PXRTD               | PROX SW-REAR FULL DOWN               | W6H5KZRHA      |  | 09RPS30CAS  | PROXSW QK CONN 30M NO-AC SHLD            | SIDE OF MACH   |
| PXRTD               | PROX SW-REAR FULL DOWN               | W6H5KZRHB      |  | 09RPS30CAS  | PROXSW QK CONN 30M NO-AC SHLD            | SIDE OF MACH   |
| PXRTU               | PROX SW-REAR FULL UP                 | W6H5KZRHA      |  | 09RPS30CAS  | PROXSW QK CONN 30M NO-AC SHLD            | SIDE OF MACH   |
| PXRTU               | PROX SW-REAR FULL UP                 | W6H5KZRHB      |  | 09RPS30CAS  | PROXSW QK CONN 30M NO-AC SHLD            | SIDE OF MACH   |
| PXWP                | PROX SW-AT WASH LEVEL                | W6H5KZ11A      |  | 09RPS30DAS  | PROX SW QK CONN 30M NO-DC SHLD           | SIDE OF MACH   |
| RS                  | >>>RESISTORS                         |                |  |             |                                          |                |
| RS01                | RESISTOR 16 OHM 25W                  | W6H5KZBW       |  | ECEUV8R     | LOAD RESISTOR ASSY MIL TOUCH             | LOW VOLT BOX   |
| RS02                | RESISTOR 40 OHM 25W                  | W6H5KZBW       |  | ECEUMTRES   | LOAD RESISTOR ASSY MIL TOUCH EX          | LOW VOLT BOX   |
| SH                  | >>>SWITCH-HAND OPERATED              |                |  |             |                                          |                |
| SH01                | SWITCH-208-240V SELECT               | W6H5KZLV       |  | 09N050      | TOGSW SPDT NO OFF 10A250V                | CONTROL BOX    |
| SHFL                | SWITCH-MANUAL FLUSH                  | W6H5KZCF       |  | 09N405PB10  | SWASS PBBK 1NO                           | SIDE OF MACH   |
| SHFS                | SWITCH-FORMULA SELECTOR              | W6H5KSAI       |  | 09N041N     | ROTSW 5-POLE 8-POSIT 5A125V              | FORMULA SELECT |
| SHMF                | SWITCH-MANUAL FLUSH SOAP CHUTE       | W6H5KZCF       |  | 09N405PB10  | SWASS PBBK 1NO                           | SUPPLY INJEC   |
| SHMHE               | SWITCH-MANUAL HYDRAULIC ENABLED      | W6H5KZ12A      |  | 09N405PB10  | SWASS PBBK 1NO                           | SWITCH PANEL   |
| SHRF                | SWITCH-RANGE SELECT                  | W6H5KZAI       |  | 09N405M210  | SWASS M2W 1NO                            | FORMULA SELECT |
| SHRM                | SWITCH-TILT UP/DOWN                  | W6H5KZHDB      |  | 09N405S320  | SWASS S3W 2NO                            | SWITCH PANEL   |
| SHS+                | SWITCH-START                         | W6H5KZS+       |  | 09N405PG10  | SWASS PBGN 1NO                           | SWITCH PANEL   |
| SHSMA               | SWITCH-MASTER                        | W6H5KZS+       |  | 09N405M210  | SWASS M2W 1NO                            | SWITCH PANEL   |
| SHSOE               | SWITCH-EMERGENCY STOP                | W6H5KZS+       |  | 09N505      | SW ASSY EMER STOP                        | SWITCH PANEL   |
| SHWDO               | SWITCH-DOOR OPEN                     | W6H5KZDD       |  | 09N405S320  | SWASS S3W 2NO                            | SWITCH PANEL   |
| SHWDO               | SWITCH-DOOR OPEN                     | W6H5KZHDB      |  | 09N405S320  | SWASS S3W 2NO                            | SWITCH PANEL   |
| SK                  | >>>SWITCH-KEY OPERATED               |                |  |             |                                          |                |

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W6H5KZPL/2022462N

| COMPONENT<br>NUMBER | FUNCTION OF THIS<br>COMPONENT NUMBER | WHERE TO FIND  |  | MILNOR P/N | DESCRIPTION                    | LOCATION      |
|---------------------|--------------------------------------|----------------|--|------------|--------------------------------|---------------|
|                     |                                      | THIS COMPONENT |  |            |                                |               |
| SKAM                | SWITCH-AUTO/MANUAL                   | W6H5KZ12A      |  | 09N127C    | KEYSW SPST 7A120VAC SCREW TERM | LOW VOLT BOX  |
| SKLPB               | KEY SWITCH-LIGHT CURTAIN BY-PASS     | W6H5KZLCA      |  | 09N127C    | KEYSW SPST 7A120VAC SCREW TERM | LOW VOLT BOX  |
| SM                  | >>>SWITCH-MECHANICAL OPERATED        |                |  |            |                                |               |
| SMDFO               | SWITCH-DOOR FULL OPEN                | W6H5KZDD       |  | 96RH706E71 | VLVPARKER 220V50/240V60 7GPM   | MACHINE REAR  |
| SMDLU1              | SWITCH-CHUTE LOCKED UP LEFT          | W6H5KZ12A      |  | 09R012     | MICSW SPDT PAINTED BZE6-RN 01  | LOAD CHUTE    |
| SMDLU2              | SWITCH-CHUTE LOCKED UP RIGHT         | W6H5KZ12A      |  | 09R012     | MICSW SPDT PAINTED BZE6-RN 02  | LOAD CHUTE    |
| SMEB                | SWITCH-EXCURSION                     | W6H5KZ11A      |  | 09R008A    | MICSW SPDT BZE6-2RN183         | UNDER SHELL   |
| SMPLL               | SWITCH-DOOR SWITCH                   | W6H5KZDRA      |  | 09R012     | MICSW SPDT PAINTED BZE6-RN 02  | DOOR LATCH    |
| SMPLL               | SWITCH-DOOR SWITCH                   | W6H5KZDD       |  | 09R012     | MICSW SPDT PAINTED BZE6-RN 02  | DOOR LATCH    |
| SMPLR               | SWITCH-CHUTE CLOSED & LOCKED RIGHT   | W6H5KZDRA      |  | 09R012     | MICSW SPDT PAINTED BZE6-RN 02  | LOAD CHUTE    |
| SMWVB               | SWITCH-VIBRATION                     | W6H5KZS+       |  | 09R020     | SWITCH NC VIBR#WZ-2RW84429-P52 | CONTROL BOX   |
| SP                  | >>>SWITCH-PRESSURE OPERATED          |                |  |            |                                |               |
| SPBP                | PRESSURE SW-BEARING SEAL             | W6H5KZ11A      |  | 09N082B05  | PRESSW NASON CLOSE @ 5 LB      | AIR VALVE BX  |
| SPBS                | PRESSURE SW-BRAKE PRESSURE           | W6H5KZ11A      |  | 09N082A    | PRESSW NASON CLOSE @ 62 LB     | AIR VALVE BX  |
| SPOF                | PRESSURE SW-OVERFILL                 | W6H5KZEV       |  | 09M069     | PRESS SW 4"WC INVENSYS 738-719 | LEVEL SW BOX  |
| SPWDP               | PRESS SWITCH-LOW DOOR PRESSURE       | W6H5KZDRA      |  | 09N082B10  | PRESSW NASON CLOSE @ 10 LB     | AIR VALVE BX  |
| SPWDP               | PRESS SWITCH-LOW DOOR PRESSURE       | W6H5KZDD       |  | 09R012     | MICSW SPDT PAINTED BZE6-RN 02  |               |
| ST                  | >>>SWITCH-TEMPERATURE OPERATED       |                |  |            |                                |               |
| STDB                | SWITCH-THERMOSTAT                    | W6H5KZS+       |  | 30RA175T   | THERMOSTAT OPEN AT 175F        | CONTROL BOX   |
| VE                  | >>>VALVE-ELECTRIC OPERATED           |                |  |            |                                |               |
| VEBP                | VALVE-BEARING PRESSURE               | W6H5KZEV       |  | 96TBC2BA71 | 1/4" N/C 2WAY 220V50/60C VALVE | AIR VALVE BX  |
| VEBR                | VALVE-BRAKE RELEASE                  | W6H5KZS+       |  | 96R301B71  | 1/8" AIRPILOT 3W NC 240V50/60  | AIR VALVE BOX |
| VEC01               | VALVE-CHEMICAL #1 FLUSH              | W6H5KZCF       |  | 96P013G71  | 3/4" 2WAYPLASTCVAL 240V/60C    | SUPPLY INJEC  |
| VEC02               | VALVE-CHEMICAL #2 FLUSH              | W6H5KZCF       |  | 96P013G71  | 3/4" 2WAYPLASTCVAL 240V/60C    | SUPPLY INJEC  |
| VEC03               | VALVE-CHEMICAL #3 FLUSH              | W6H5KZCF       |  | 96P013G71  | 3/4" 2WAYPLASTCVAL 240V/60C    | SUPPLY INJEC  |
| VEC04               | VALVE-CHEMICAL #4 FLUSH              | W6H5KZCF       |  | 96P013G71  | 3/4" 2WAYPLASTCVAL 240V/60C    | SUPPLY INJEC  |
| VEC05               | VALVE-CHEMICAL #5 FLUSH              | W6H5KZCF       |  | 96P013G71  | 3/4" 2WAYPLASTCVAL 240V/60C    | SUPPLY INJEC  |
| VEC06               | VALVE-CHEMICAL #6                    | W6H5KZCX       |  | MESSAGE EW | SUPPLIED BY OTHERS             | SUPPLY VLVST  |
| VEC07               | VALVE-CHEMICAL #7                    | W6H5KZCX       |  | MESSAGE EW | SUPPLIED BY OTHERS             | SUPPLY VLVST  |
| VEC08               | VALVE-CHEMICAL #8                    | W6H5KZCX       |  | MESSAGE EW | SUPPLIED BY OTHERS             | SUPPLY VLVST  |
| VEC09               | VALVE-CHEMICAL #9                    | W6H5KZCX       |  | MESSAGE EW | SUPPLIED BY OTHERS             | SUPPLY VLVST  |
| VEC10               | VALVE-CHEMICAL #10                   | W6H5KZCX       |  | MESSAGE EW | SUPPLIED BY OTHERS             | SUPPLY VLVST  |
| VEC11               | VALVE-CHEMICAL #11                   | W6H5KZCX       |  | MESSAGE EW | SUPPLIED BY OTHERS             | SUPPLY VLVST  |

# COMPONENT PARTS LIST

| COMPONENT<br>NUMBER | FUNCTION OF THIS<br>COMPONENT NUMBER  | WHERE TO FIND  |            |                                  | MILNOR P/N | DESCRIPTION | LOCATION      |
|---------------------|---------------------------------------|----------------|------------|----------------------------------|------------|-------------|---------------|
|                     |                                       | THIS COMPONENT |            |                                  |            |             |               |
| VEC12               | VALVE-CHEMICAL #12                    | W6H5KZCX       | MESSAGE EW | SUPPLIED BY OTHERS               |            |             | SUPPLY VLVST  |
| VEC13               | VALVE-CHEMICAL #13                    | W6H5KZCX       | MESSAGE EW | SUPPLIED BY OTHERS               |            |             | SUPPLY VLVST  |
| VEC14               | VALVE-CHEMICAL #14                    | W6H5KZCX       | MESSAGE EW | SUPPLIED BY OTHERS               |            |             | SUPPLY VLVST  |
| VEC15               | VALVE-CHEMICAL #15                    | W6H5KZCX       | MESSAGE EW | SUPPLIED BY OTHERS               |            |             | SUPPLY VLVST  |
| VECFL               | VALVE-FLUSH SOAP CHUTE                | W6H5KZCF       | 96P013G71  | 3/4" 2WAYPLASTCVAL 240V/60C      |            |             | SUPPLY INJEC  |
| VEDF                | VALVE-CHUTE FLUSH OPEN                | W6H5KZDEA      | 96R301B71  | 1/8" AIRPILOT 3W NC 240V50/60    |            |             | AIR VALVE BX  |
| VEDL                | VALVE DOOR UNLATCH                    | W6H5KZDRA      | 96R301B71  | 1/8" AIRPILOT 3W NC 240V50/60    |            |             | AIR VALVE BX  |
| VEDL                | VALVE-DOOR UNLATCH                    | W6H5KZDD       | 96R301B71  | 1/8" AIRPILOT 3W NC 240V50/60    |            |             | AIR VALVE BX  |
| VEDR                | VALVE-RETRACT PINS TO UNLOCK CHUTE RT | W6H5KZDRA      | 96R301B71  | 1/8" AIRPILOT 3W NC 240V50/60    |            |             | AIR VALVE BX  |
| VEDRR               | VALVE-REUSE DRAIN                     | W6H5KZEV       | 96R302B71  | 1/8" AIRPILOT 3W NO 240V50/60    |            |             | AIR VALVE BX  |
| VEDRS               | VALVE-DRAIN                           | W6H5KZEV       | 96R301B71  | 1/8" AIRPILOT 3W NC 240V50/60    |            |             | REAR OF MACH  |
| VEEB1               | VALVE-EXTRACT BALANCE WATER RIB 1     | W6H5KZEB2      | 96P056B71  | 3/4"NC 230V50/60 W/LEADS BURKERT |            |             | REAR OF SHELL |
| VEEB2               | VALVE-EXTRACT BALANCE WATER RIB 2     | W6H5KZEB2      | 96P056B71  | 3/4"NC 230V50/60 W/LEADS BURKERT |            |             | REAR OF SHELL |
| VEEB3               | VALVE-EXTRACT BALANCE WATER RIB 3     | W6H5KZEB2      | 96P056B71  | 3/4"NC 230V50/60 W/LEADS BURKERT |            |             | REAR OF SHELL |
| VEFL                | VALVE-FLUSH                           | W6H5KZCF       | 96P013G71  | 3/4" 2WAYPLASTCVAL 240V/60C      |            |             | SUPPLY INJEC  |
| VEHDC               | VALVE-HYDRAULIC DOOR CLOSED           | W6H5KZHDA      | 96RH705E37 | VALVE-HYD.VICKERS#DG4S4W012CB60  |            |             | MACHINE REAR  |
| VEHDC               | VALVE-HYDRAULIC DOOR OPEN             | W6H5KZHDB      | 96RH705E37 | VALVE-HYD.VICKERS#DG4S4W012CB60  |            |             | MACHINE REAR  |
| VEHDL               | VALVE-DOOR TILT LATCH                 | W6H5KZDD       | 96R301B71  | 1/8" AIRPILOT 3W NC 240V50/60    |            |             | AIR VALVE BX  |
| VEHDO               | VALVE-HYDRAULIC DOOR OPEN             | W6H5KZHDA      | 96RH705E37 | VALVE-HYD.VICKERS#DG4S4W012CB60  |            |             | MACHINE REAR  |
| VEHDO               | VALVE-HYDRAULIC DOOR CLOSED           | W6H5KZHDB      | 96RH705E37 | VALVE-HYD.VICKERS#DG4S4W012CB60  |            |             | MACHINE REAR  |
| VEHTD               | VALVE-HYDRAULIC TILT DOWN             | W6H5KZPHA      | 96RH711E71 | DIRECTIONAL CNT VLV D05NG10 230V |            |             | AIR VALVE BX  |
| VEHTD               | VALVE-HYDRAULIC TILT DOWN             | W6H5KZPHA      | 96RH711E71 | DIRECTIONAL CNT VLV D05NG10 230V |            |             | AIR VALVE BX  |
| VEHTU               | VALVE-HYDRAULIC TILT UP               | W6H5KZPHA      | 96RH711E71 | DIRECTIONAL CNT VLV D05NG10 230V |            |             | AIR VALVE BX  |
| VEHTU               | VALVE-HYDRAULIC TILT UP               | W6H5KZPHA      | 96RH711E71 | DIRECTIONAL CNT VLV D05NG10 230V |            |             | AIR VALVE BX  |
| VELDU               | VALVE-CHUTE DOWN                      | W6H5KZDEA      | 96R301B71  | 1/8" AIRPILOT 3W NC 240V50/60    |            |             | CONTROL BOX   |
| VELRU               | VALVE-CHUTE UP                        | W6H5KZDEA      | 96R301B71  | 1/8" AIRPILOT 3W NC 240V50/60    |            |             | CONTROL BOX   |
| VEPPO               | VALVE-DOOR SEAL                       | W6H5KZDRA      | 96R302B71  | 1/8" AIRPILOT 3W NO 240V50/60    |            |             | AIR VALVE BX  |
| VEPPO               | VALVE-DOOR SEAL                       | W6H5KZDD       | 96R302B71  | 1/8" AIRPILOT 3W NO 240V50/60    |            |             | AIR VALVE BX  |
| VESTM               | VALVE-STEAM                           | W6H5KZEV       | 96R301B71  | 1/8" AIRPILOT 3W NC 240V50/60    |            |             | AIR VALVE BX  |
| VETCW               | VALVE-COOL DOWN NC                    | W6H5KZEV       | 96R301B71  | 1/8" AIRPILOT 3W NC 240V50/60    |            |             | AIR VALVE BX  |
| VEWWC               | VALVE-COLD WATER                      | W6H5KZEV       | 96R301B71  | 1/8" AIRPILOT 3W NC 240V50/60    |            |             | AIR VALVE BX  |
| VEWWH               | VALVE-HOT WATER                       | W6H5KZEV       | 96R301B71  | 1/8" AIRPILOT 3W NC 240V50/60    |            |             | AIR VALVE BX  |
| VEWWX               | VALVE-EXTRA WATER                     | W6H5KZEV       | 96R301B71  | 1/8" AIRPILOT 3W NC 240V50/60    |            |             | AIR VALVE BX  |

# COMPONENT PARTS LIST

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|---------------------|--------------------------------------|---------------------------------|----------|--|------------|-------------------------------|--------------|
|                     |                                      |                                 |          |  |            |                               |              |
| WFM                 | >>>METERS                            |                                 |          |  |            |                               |              |
| WFM                 | METER-WATER FLOW                     |                                 | W6H5KZBW |  | 30F515     | FLOW SENSOR SIGNET #P51530-PO | INLET PIPING |

# **PELLERIN MILNOR CORPORATION**

## **LIMITED STANDARD WARRANTY**

We warrant to the original purchaser that MILNOR machines including electronic hardware/software (hereafter referred to as "equipment"), will be free from defects in material and workmanship for a period of one year from the date of shipment (unless the time period is specifically extended for certain parts pursuant to a specific MILNOR published extended warranty) from our factory with no operating hour limitation. This warranty is contingent upon the equipment being installed, operated and serviced as specified in the operating manual supplied with the equipment, and operated under normal conditions by competent operators.

Providing we receive written notification of a warranted defect within 30 days of its discovery, we will—at our option—repair or replace the defective part or parts, EX Factory (labor and freight specifically NOT included). We retain the right to require inspection of the parts claimed defective in our factory prior to repairing or replacing same. We will not be responsible, or in any way liable, for unauthorized repairs or service to our equipment, and this warranty shall be void if the equipment is tampered with, modified, or abused, used for purposes not intended in the design and construction of the machine, or is repaired or altered in any way without MILNOR's written consent.

Parts damaged by exposure to weather, to aggressive water, or to chemical attack are not covered by this warranty. For parts which require routine replacement due to normal wear—such as gaskets, contact points, brake and clutch linings, belts, hoses, and similar parts—the warranty time period is 90 days.

We reserve the right to make changes in the design and/or construction of our equipment (including purchased components) without obligation to change any equipment previously supplied.

ANY SALE OR FURNISHING OF ANY EQUIPMENT BY MILNOR IS MADE ONLY UPON THE EXPRESS UNDERSTANDING THAT MILNOR MAKES NO EXPRESSED OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR USE OR PURPOSE OR ANY OTHER WARRANTY IMPLIED BY LAW INCLUDING BUT NOT LIMITED TO REDHIBITION. MILNOR WILL NOT BE RESPONSIBLE FOR ANY COSTS OR DAMAGES ACTUALLY INCURRED OR REQUIRED AS A RESULT OF: THE FAILURE OF ANY OTHER PERSON OR ENTITY TO PERFORM ITS RESPONSIBILITIES, FIRE OR OTHER HAZARD, ACCIDENT, IMPROPER STORAGE, MIS-USE, NEGLIGENCE, POWER OR ENVIRONMENTAL CONTROL MALFUNCTIONS, DAMAGE FROM LIQUIDS, OR ANY OTHER CAUSE BEYOND THE NORMAL RANGE OF USE. REGARDLESS OF HOW CAUSED, IN NO EVENT SHALL MILNOR BE LIABLE FOR SPECIAL, INDIRECT, PUNITIVE, LIQUIDATED, OR CONSEQUENTIAL COSTS OR DAMAGES, OR ANY COSTS OR DAMAGES WHATSOEVER WHICH EXCEED THE PRICE PAID TO MILNOR FOR THE EQUIPMENT IT SELLS OR FURNISHES.

THE PROVISIONS ON THIS PAGE REPRESENT THE ONLY WARRANTY FROM MILNOR AND NO OTHER WARRANTY OR CONDITIONS, STATUTORY OR OTHERWISE, SHALL BE IMPLIED.

WE NEITHER ASSUME, NOR AUTHORIZE ANY EMPLOYEE OR OTHER PERSON TO ASSUME FOR US, ANY OTHER RESPONSIBILITY AND/OR LIABILITY IN CONNECTION WITH THE SALE OR FURNISHING OF OUR EQUIPMENT TO ANY BUYER.

BMP720097/19036

## How to Get the Necessary Repair Components



This document uses Simplified Technical English.  
Learn more at <http://www.asd-ste100.org>.

You can get components to repair your machine from the approved supplier where you got this machine. Your supplier will usually have the necessary components in stock. You can also get components from the Milnor® factory.

Tell the supplier the machine model and serial number and this data for each necessary component:

- The component number from this manual
- The component name if known
- The necessary quantity
- The necessary transportation requirements
- If the component is an electrical component, give the schematic number if known.
- If the component is a motor or an electrical control, give the nameplate data from the used component.

To write to the Milnor factory:

Pellerin Milnor Corporation  
Post Office Box 400  
Kenner, LA 70063-0400  
UNITED STATES

Telephone: 504-467-2787  
Fax: 504-469-9777  
Email: [parts@milnor.com](mailto:parts@milnor.com)

— End of BIUUUD19 —

BIUUUK01 (Published) Book specs- Dates: 20130308 / 20130308 / 20130308 Lang: ENG01 Applic: PCR UUU

## How to Use Milnor® Electrical Schematic Diagrams

Milnor® electrical schematic manuals contain a table of contents/component list and a set of schematic drawings. These documents are cross referenced and must be used together.

The table of contents/components list shows, for every component on every schematic in the manual, the component item number (explained in detail below), statement of function, parent schematic number, part number, description and electric box location. In older manuals, two component lists are provided: List 1 sorts the components by function, and List 2 by type of component. Newer schematic manuals include only the list sorted by component number.

The schematic drawings use symbols for each electromechanical component, and indicate the function of each. Integrated circuits are not shown, but the function of each microprocessor input and output is stated. Certain electrical components not pertinent to circuit logic, such as wire connectors, are not represented on the schematic.

Most machines require several schematics to describe the complete control system and all the options available on the included models. In most manuals there are some schematic pages that don't apply to your specific machine because certain options and configurations are mutually exclusive or are not necessary in all markets. You may find it helpful to mark or remove such pages. A schematic page that only applies to a subset of machines will normally state, in the title, which models and/or options it covers. Compare this with the nameplate on your machine and with your purchase records.

Each schematic is devoted to circuits with common functions (e.g., microprocessor inputs, motor contactors). Schematics appear in the manual in alphanumeric order.

### 1. Component Prefix Classifications and Descriptions

Component item numbers consist of up to six characters and appear as part of a component's symbol on the schematic. The first two characters indicate the general class of component, and the remaining characters are a mnemonic for the function. For example, "CD" is the code for all time delay relays, and "SR" stands for safety reset. Thus, CDSR is a time delay relay that serves as a safety reset.

The following are descriptions of electrical components used in Milnor® machines. Descriptions are in alphabetical order by the component class code (two character prefix).

**Note 1:** Some component class codes do not have a corresponding symbol, but are represented by a box and an accompanying note describing the component. Examples of such codes are BA (printed circuit board), ED (electronic display), and ES (electronic power supply).

**BA=Printed Circuit Board**—Insulating substrate on which a thin pattern of copper conductors has been formed to connect discrete electronic components also mounted on the board.

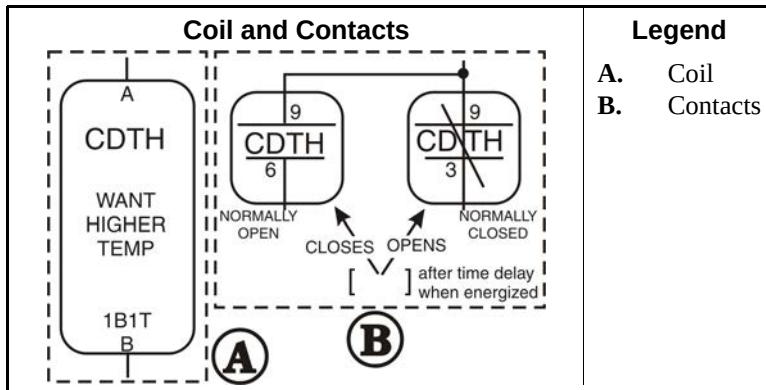
**CB=Circuit Breaker (Figure 1)**—Automatic switch that opens an electric circuit in abnormal current conditions (e.g., an overload).

**Figure 1: Circuit Breaker (CB)**



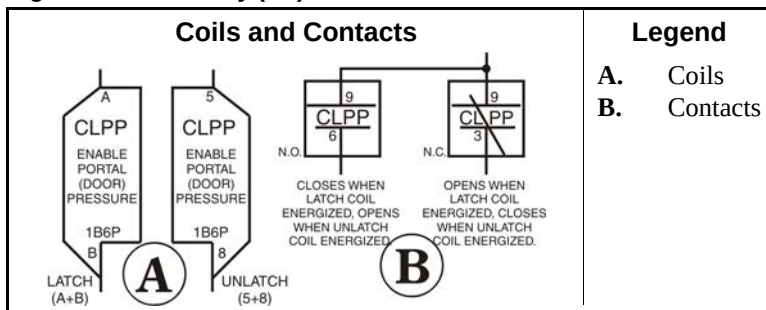
**CD=Control, Time Delay Relay (Figure 2)**—A relay whose contacts switch only after a fixed or adjustable delay, once voltage has been applied to its coil. The contacts switch back to normal (de-energized state) immediately when the voltage is removed.

**Figure 2: Time Delay Relay (CD)**



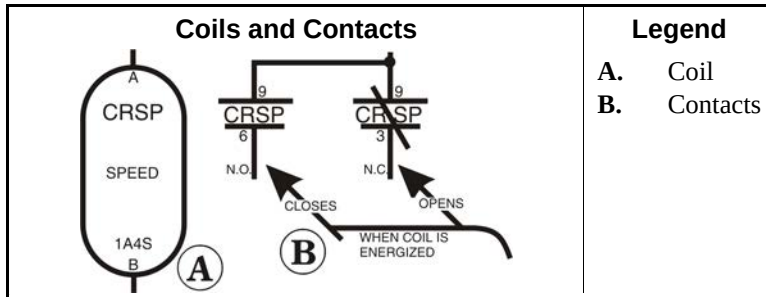
**CL=Control, Latch Relay (Figure 3)**—A relay which latches in an energized or set position when operated by one coil (the latch/set coil). The relay stays latched even though coil voltage is removed. The relay releases or unlatches when voltage is applied to a second coil (the unlatch/reset coil).

**Figure 3: Latch Relay (CL)**



**CR=Control, Relay (Figure 4)**—A relay whose contacts switch immediately when voltage is applied to its coil and revert to normal when the voltage is removed.

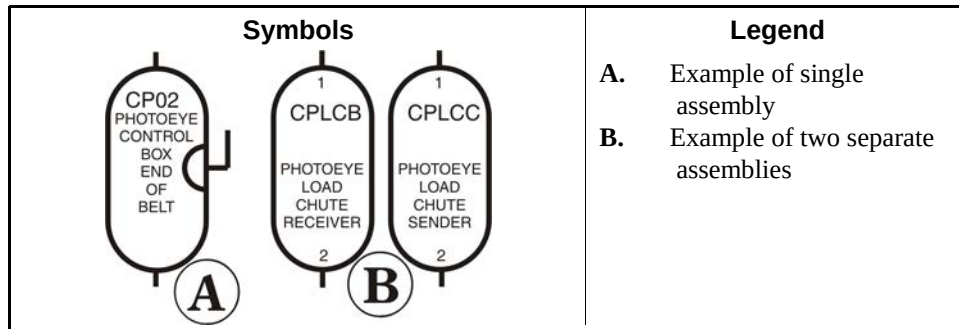
**Figure 4: Standard Relay (CR)**



**CP=Control, Photo-Eye (Figure 5)**—Photo-eyes sense the presence of an object without direct physical contact. Photo-eyes consist of a transmitter, receiver, and output module. These components may be housed in one assembly with the transmitter bouncing light off of a reflector to the receiver, or these components can be housed in two separate assemblies with the transmitter pointed directly at the receiver. The photo-eye can be set to turn on its output either when the light beam becomes blocked (dark operate) or when it becomes un-blocked (light operate).

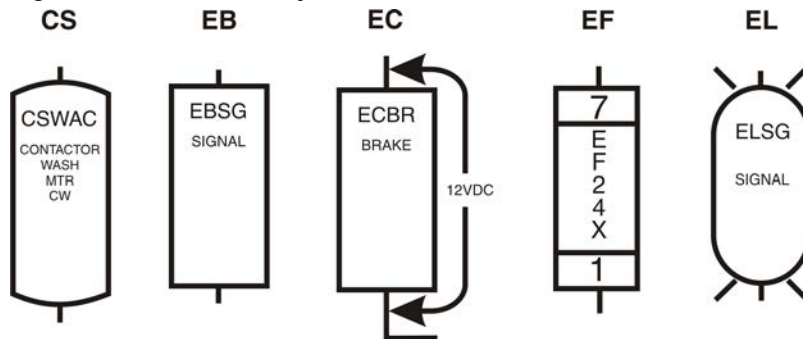


Figure 5: Photo-eye (CP)



**CS=Control, Contactor/Motor Starter (Figure 6)**—A relay capable of handling heavier electrical loads, usually a motor.

Figure 6: Other Control Symbols



**EB=Electric Buzzer (Figure 6)**—An audible signaling device.

**EC=Electric Clutch (Figure 6)**—A clutch consists of a coil and a rotor. The rotor has two separate rotating plates. These plates are free to rotate independent of each other until the coil is energized. Once energized the two plates turn as one.

**ED=Electronic Display**—A visual presentation of data, such as an LCD (liquid crystal display), LED (light emitting diode) display, or VFD (vacuum florescent display).

**EF=Electric Fuse (Figure 6)**—A fuse is an over-current safety device with a circuit opening fusible member which is heated and severed by the passage of over-current through it.

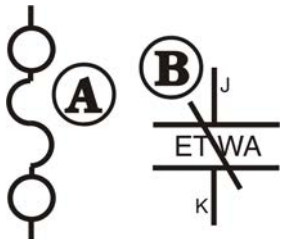
**EL=Electric Light (Figure 6)**—Indicator lights may be either incandescent or fluorescent.

**EM=Electro Magnet Solenoid**—A device consisting of a core surrounded by a wire coil through which an electric current is passed. While current is flowing, iron is attracted to the core (e.g., a pinch tube drain valve solenoid).

**ES=Electronic Power Supply**—A device that converts AC (alternating current) to filtered and regulated DC (direct current). The input voltage to the power supply is usually 120 or 240 VAC. The output is +5, +12, and -12 VDC.

**ET=Thermal Overload (Figure 7)**—A safety device designed to protect a motor. A thermal overload consists of an overload block, heaters, and an auxiliary contact. The auxiliary contact is normally installed in a safety (three-wire) circuit that stops power to the motor contactor coil when a motor overload occurs.

Figure 7: Thermal Overload (ET)

| Schematic Symbol                                                                  | Legend                                                                                                |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
|  | <p>A. Heater (one per phase)</p> <p>B. Overload relay; contacts open if overload condition exists</p> |

**EX=Electrical Transformer (Figure 8)**—A device that transfers electrical energy from one isolated circuit to another, often raising or lowering the voltage in the process.

**KB=Keyboard**—Device similar to a typewriter for making entries to a computer.

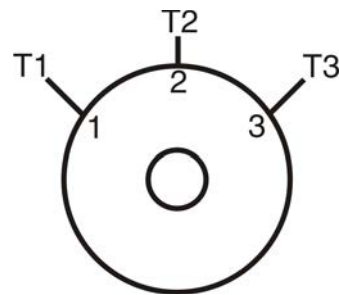
**MN=Electronic Monitor (CRT)**—A cathode ray tube used for visual presentation of data.

**MR=Motors (Figure 9)**—Electromechanical device that converts electrical energy into mechanical energy.

Figure 8: Transformer (EX)



Figure 9: Electric Motor (MR)

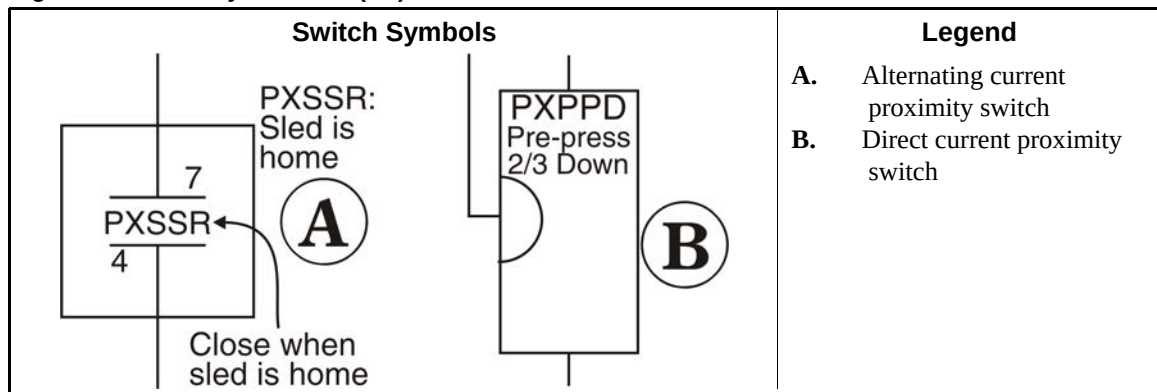


**MV=Motor (Variable Speed) Inverter**—To vary the speed of an AC motor, the volts to frequency ratio must be kept constant. The motor will overheat if this ratio is not maintained. The motor variable speed inverter converts three phase AC to DC. The inverter then uses this DC voltage to generate AC at the proper voltage and frequency for the commanded speed.

**Note 2:** Switch symbols used in the schematics and described below always depict the switch in its un-actuated state.

**PX=Proximity Switch (Figure 10)**—A device which reacts to the proximity of a target without physical contact or connection. The actuator or target causes a change in the inductance of the proximity switch which causes the switch to operate. Proximity switches can be two-wire (AC) or three-wire (DC) devices.

Figure 10: Proximity Switches (PX)



**SC=Switch, Cam Operated (Figure 11)**—A switch in which the electrical contacts are opened and/or closed by the mechanical action of a cam(s). Applications include 35-50 pound timer operated machines, Autospot, timer reversing motor assembly, and some balancing systems.

**SH=Switch, Hand Operated (Figure 12)**—A switch that is manually operated (e.g., *Start button*, *Master switch*, etc.).

Figure 11: Cam Switch (SC)

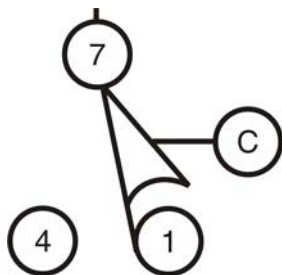
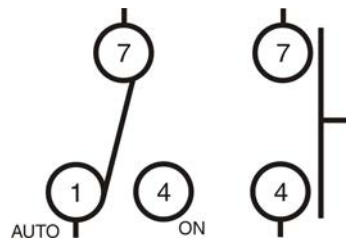


Figure 12: Hand Operated Switch (SH)



**SK=Switch, Key Lock (Figure 13)**—A switch that requires a key to operate. This prevents unauthorized personnel from gaining access to certain functions (e.g., the *Program menu*).

**SL=Switch, Level Operated (Figure 14)**—A switch connected to a float that causes the switch to open and close as the level changes.

Figure 13: Key Switch (SK)

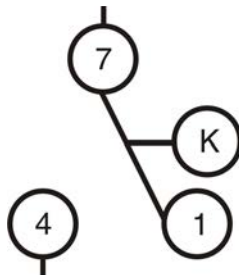
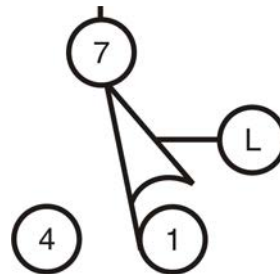


Figure 14: Level Switch (SL)



**SM=Switch, Mechanically Operated (Figure 15)**—A switch that is mechanically operated by a part of or the motion of the machine (e.g., door closed switch, tilt limit switches, etc.)

**SP=Switch, Pressure Operated (Figure 16)**—A switch in which a diaphragm presses against a switch actuator.

Figure 15: Mechanical Switch (SM)

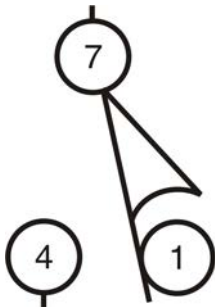
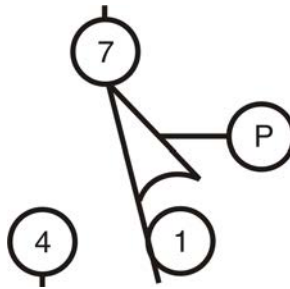


Figure 16: Pressure Switch (SP)



**ST=Switch, Temperature Operated (Figure 17)**—A switch that is actuated at a preset temperature (e.g., dryer safety probes) or has adjustable set points (e.g., Motometers or Combistats).

**TB=Terminal Board (Figure 18)**—A strip or block for attaching or terminating wires.

Figure 17: Temperature Switch (ST)

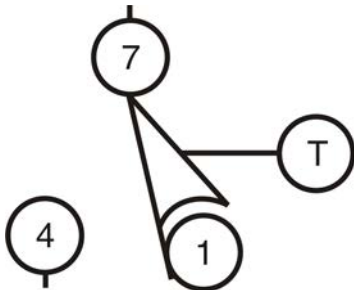
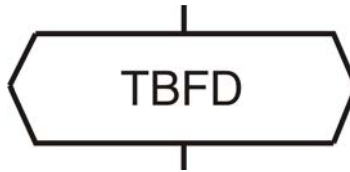


Figure 18: Terminal Board (TB)



**VE=Valve, Electric Operated (Figure 19)**—A valve operated by an electric coil to control the flow of fluid. The fluid can be air, water or hydraulic.

Figure 19: Electrically Operated Valve (VE)



**ZF=Rectifier (Figure 20)**—A solid state device that converts alternating current to direct current.

Figure 20: Bridge Rectifier (ZF)

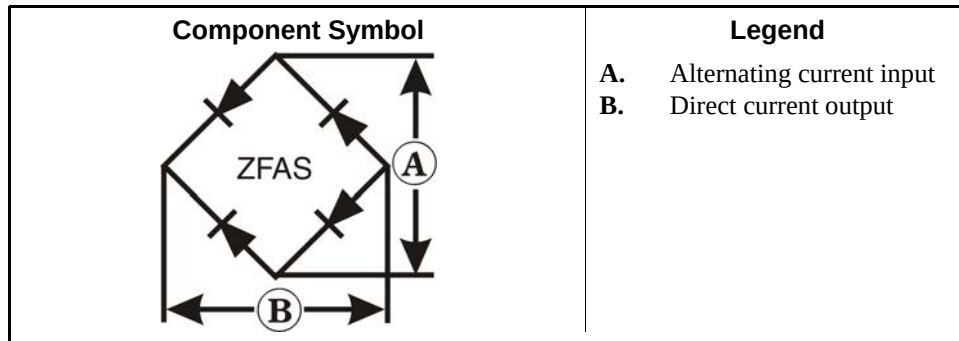
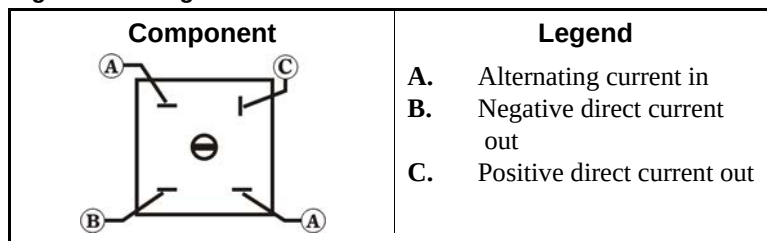


Figure 21: Bridge Rectifier



**WC=Wiring Connector**—A coupling device for joining two cables or connecting a cable to an electronic circuit or piece of equipment. Connectors are male or female, according to whether they plug into or receive the mating connector.

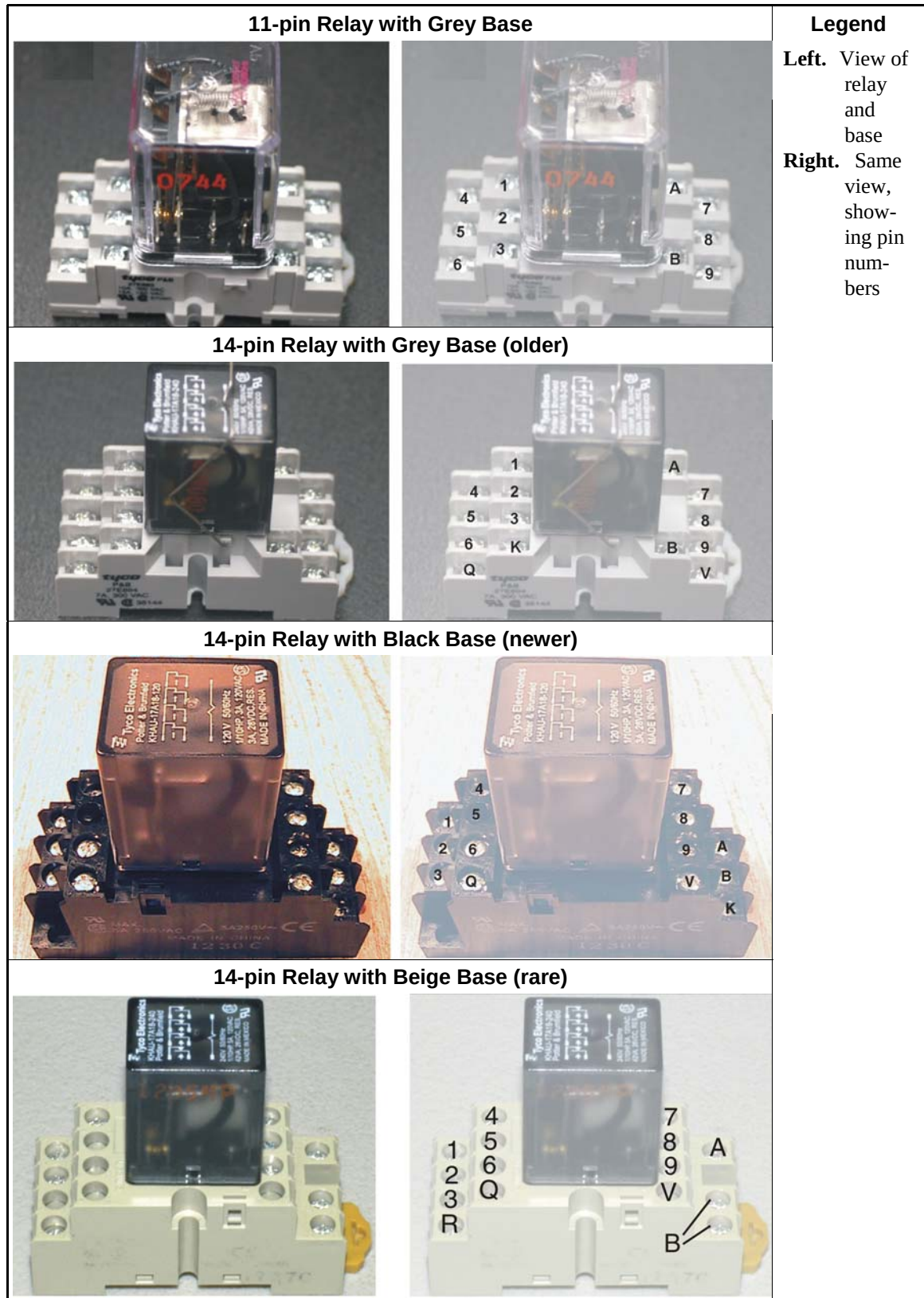
## 2. Component Terminal Numbering



**CAUTION 1: Risk of Mis-wiring**—Due to electrical component manufacturing inconsistencies, the pin numbers imprinted on components such as connectors and relay bases used on Milnor machines often do not correspond to the pin numbers shown in the schematics.

- Ignore pin numbers imprinted on in-line connectors (e.g., Molex connectors) and relay bases.
- Use the pin identification illustrations herein to identify pins on these components.

Figure 22: Plug-in Relays





**Note 3:** Relay functional names ending with the letter "M" (e.g., CRxxM) are not discrete components but are a component of a printed circuit board. They are usually not individually replaceable.

**Figure 23: AMP Connector Pin Locations**

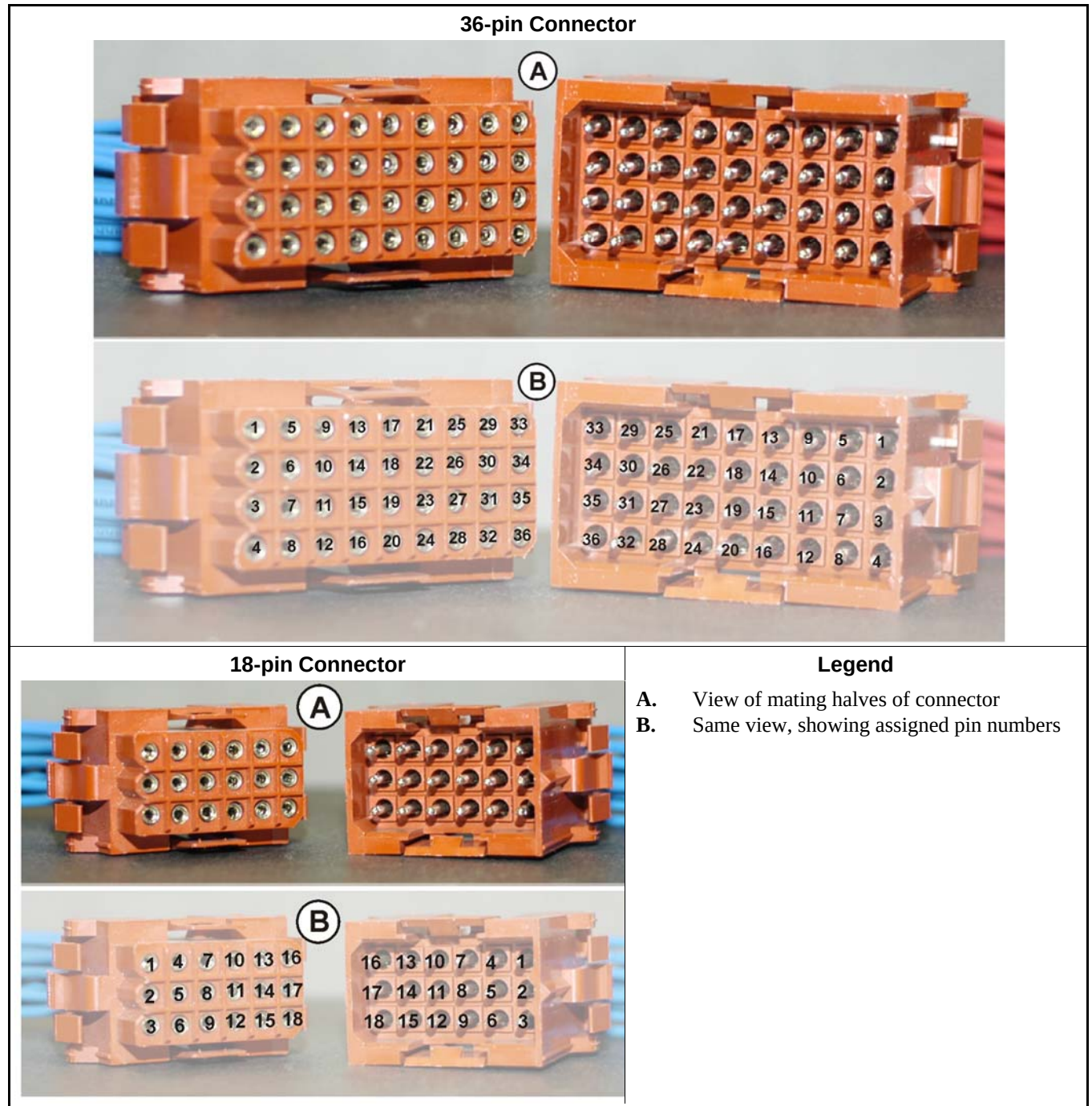


Figure 24: Molex Connector Pin Locations

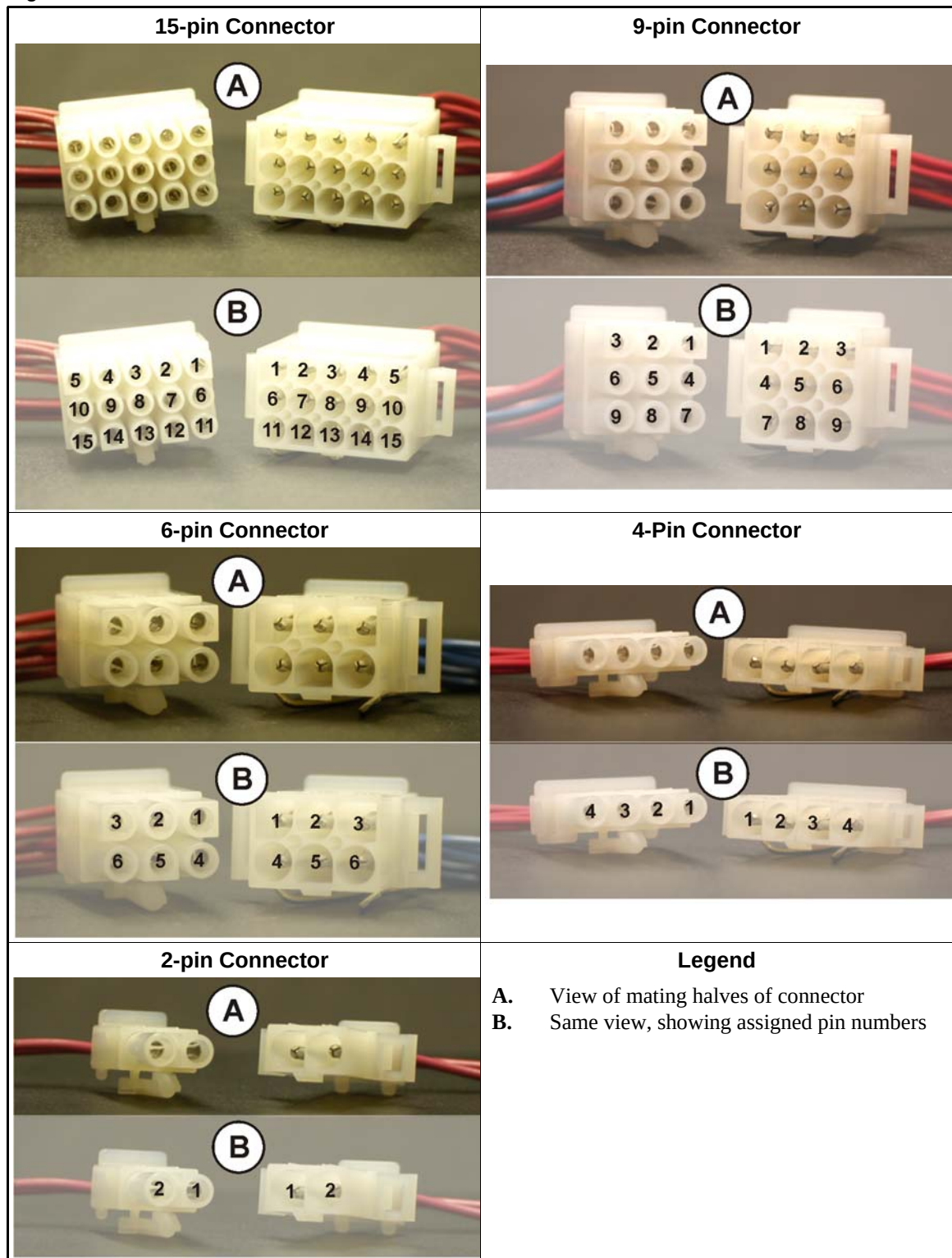




Figure 25: Pressure Switch

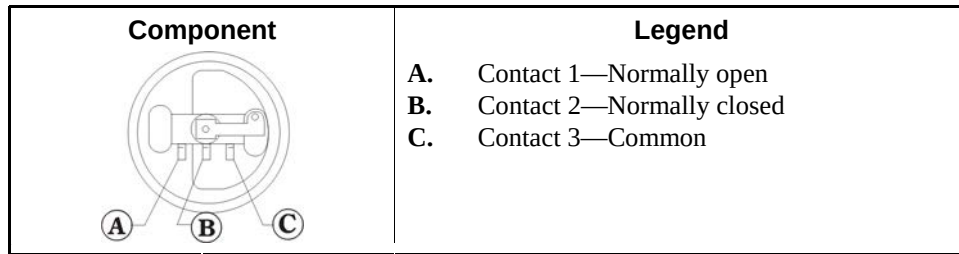


Figure 26: Toggle Switch

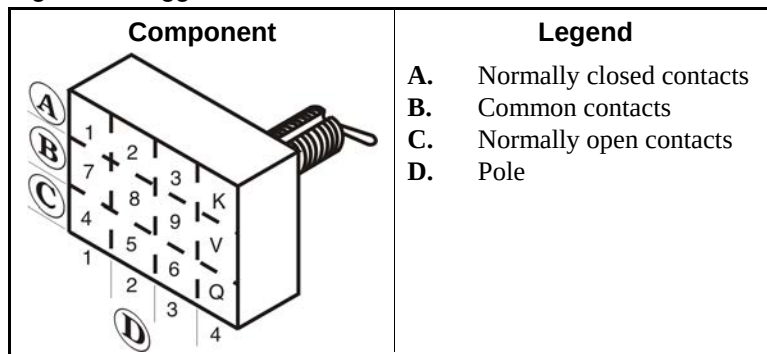
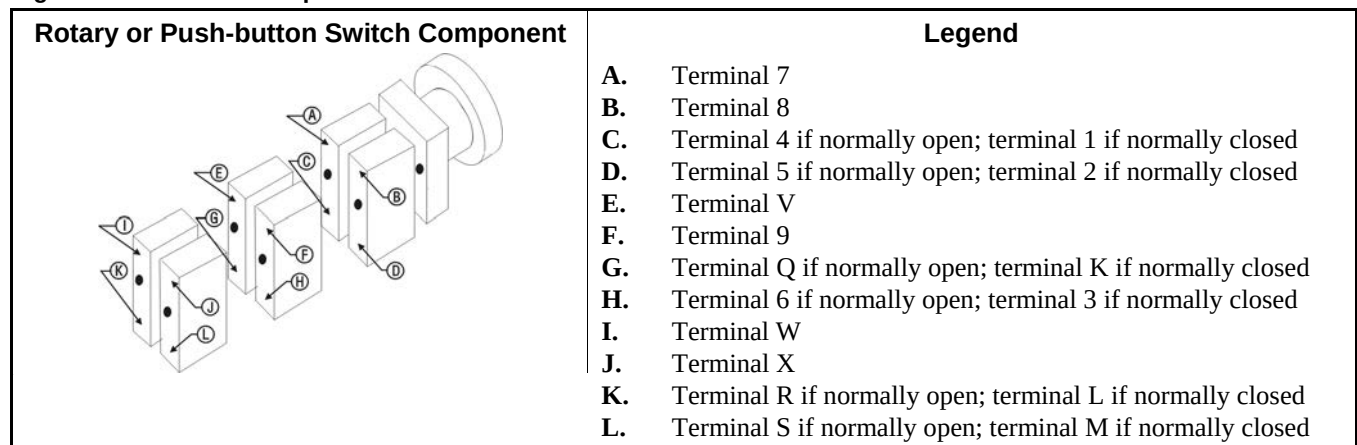


Figure 27: Switch with Replaceable Contact Blocks



### 3. Features of Milnor® Electrical Schematic Diagrams

Document BMP010012 (following this section) is a sample schematic, based on a schematic diagram for the Milnor® gas dryer. For the purposes of this exercise, the schematic is shown gray and explanations of the items on the schematic are shown black.

The item numbers below correspond to the circled item numbers shown on the drawing.

1. The first six characters of the drawing number (W6DRYG) indicate that this is a wiring diagram (W), identify the generation of controls (6), and identify the type of machine (DRYG=Gas Dryer). These characters appear in the drawing number of every schematic in the set.

The characters following the first six are unique to each drawing. The two characters identified as the page number are an abbreviation for the function performed by the depicted

circuitry (S+=three-wire circuit) and establish the order in which the schematic occurs in the manual (schematics are arranged in alpha-numeric order in the manual).

Whenever circuitry changes are significant enough to warrant publishing a new schematic drawing, the new drawing number will be the same as the old except for the major revision letter (A in the example).

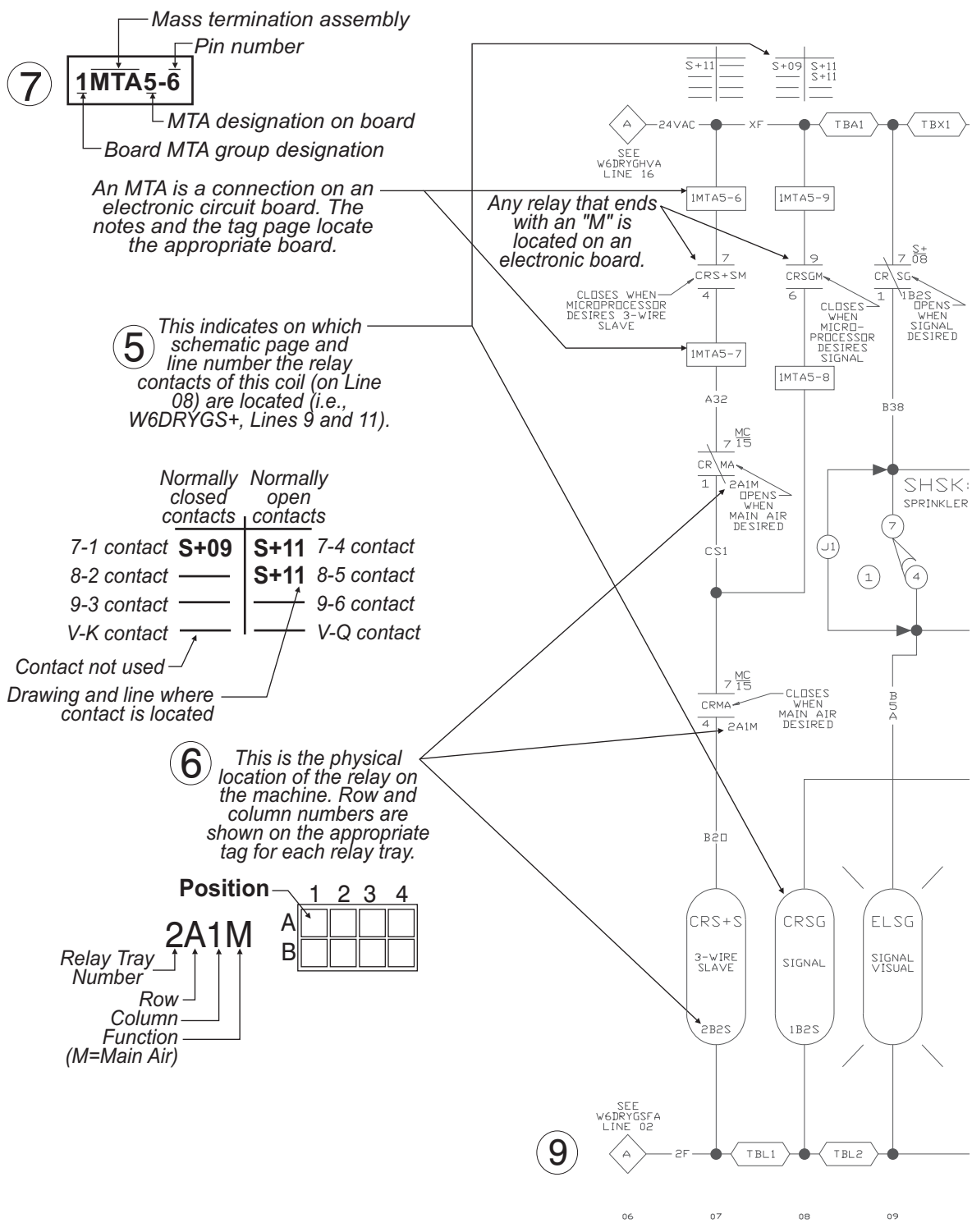
2. Included in the drawing title are the class of control system, the title of this circuit, and the circuit voltage.
3. Line numbers are provided along the bottom edge of the drawing. These permit service personnel in the field and at the Milnor® factory to quickly relate circuit locations when discussing troubleshooting over the phone. Page and line numbers are referenced on the drawing as explained in items five and six below.
4. Relay contacts show the page and line number on which the relay coil may be found. This is the type of cross referencing most frequently used in troubleshooting.
5. Relay coils show the page and line number on which its associated contacts are located.
6. Relay contacts and relay coils show the physical location of the relay.
7. The designation MTA applies to electronic circuit board connections. Typically, a control system will contain several different types of circuit boards and one or more boards of each type. A numerical suffix identifies the board type and a numerical prefix identifies which one of several boards of a given type is being depicted. For example, the designation 1MTA5 identifies this as the first I/O board (8 output, 16 input board) in the control system. As shown on the drawing, a pin number follows the board number, separated by a dash. Thus, 1MTA5-9 is pin 9 on this board. The numerical designations for board types vary from one control system to another. Some of the board types commonly encountered on the Mark V and Mark VI washer-extractor control and their designations are as follows:
  - MTM1-MTM8 = Mother board
  - MTA1-MTA5 = 8 output, 16 input (8/16) boards
  - MTA11-MTA14 = 24 output boards
  - MTA30-MTA40 = processor boards
  - MTA41-MTA43 = digital to analog (D/A) boards
  - MTA51-MTA55 = analog to digital (A/D) boards
  - MTA81-MTA85 = balance A-D board

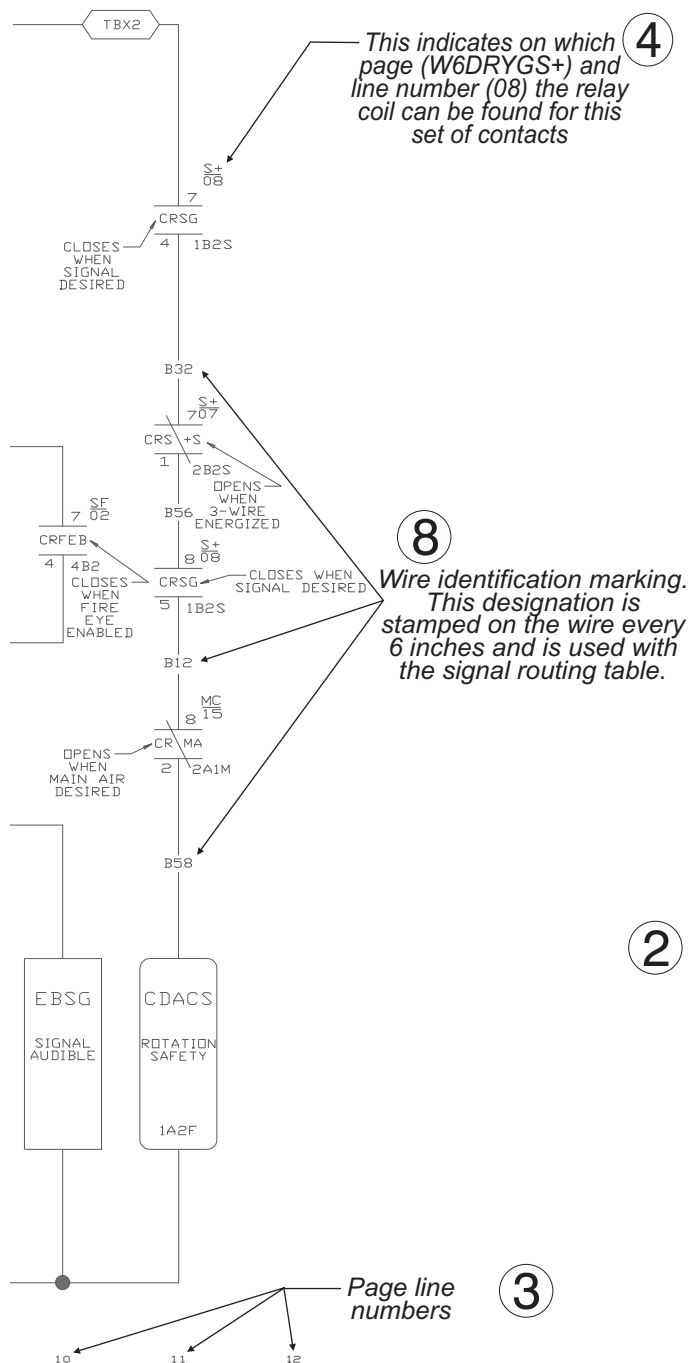
The complete listing of the boards utilized in a given control system can be found in the component list for that system.

8. Wire numbers, as described earlier in this section, are shown at appropriate locations on the schematic drawing.
9. Where diamond symbols appear at the end of a conductor, these are match points for continuing the schematic on another drawing. The page and line number that continues the circuit is printed adjacent to the diamond symbol. Where more than one match point appears on the referenced page, match diamonds containing corresponding letters.

— End of BIUUUK01 —

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Major revision (letter)

① Page number (S+)

Machine type (Gas fired dryer)

6th generation of controls

W = Wiring

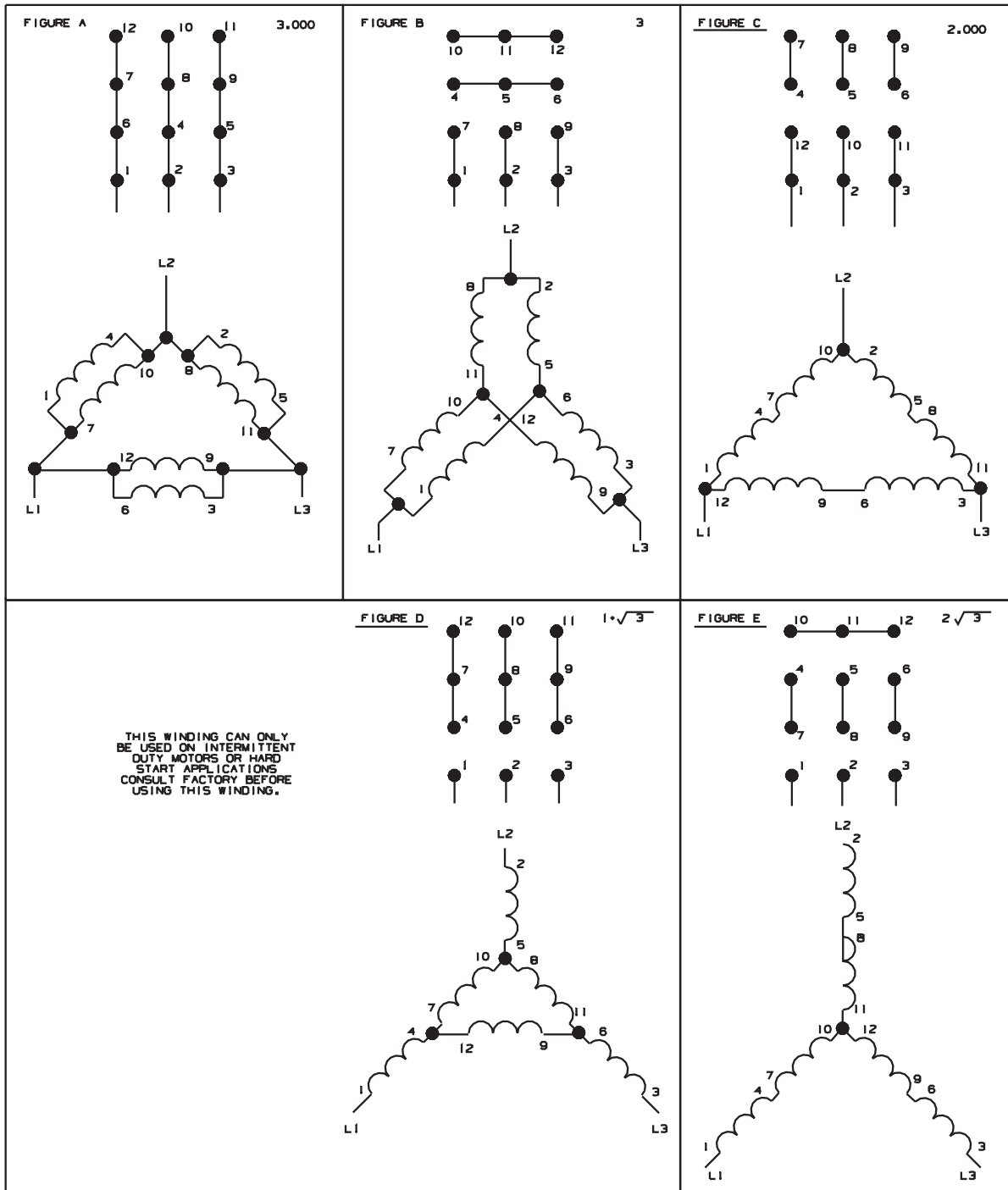
Class of control system

Title of this circuit  
Voltage of this circuit

#### NOTES:

1. TBL IS LOCATED IN LEFT CONTROL BOX.
2. TBA IS LOCATED IN RIGHT CONTROL BOX.
3. TBX IS LOCATED IN LEFT CONTROL BOX.
4. 1MTA5 IS LOCATED ON BID1 (8 OUTPUT-16 INPUT BOARD).
5. REMOVE (J1) IF DRYER HAS VALVE SET SHUT OPTION.

| FIGURE | ELECTRICAL<br>VALUES | SUFFIXES |      |      |      |      |      |      |      |
|--------|----------------------|----------|------|------|------|------|------|------|------|
|        |                      | B        |      | H    |      | M    |      | T    |      |
|        |                      | 50HZ     | 60HZ | 50HZ | 60HZ | 50HZ | 60HZ | 50HZ | 60HZ |
| A      | 1,000                | 208      | 230  |      |      | 200  | 220  | 220  | 240  |
| B      | $\sqrt{3}$           |          |      | 208  | 240  | 346  | 380  | 380  |      |
| C      | 2,000                | 416      | 460  | 220  | 240  | 400  | 440  | 440  | 480  |
| D      | $1 + \sqrt{3}$       |          |      |      |      |      | 600  |      |      |
| E      | $2\sqrt{3}$          |          |      | 380  |      |      |      |      |      |



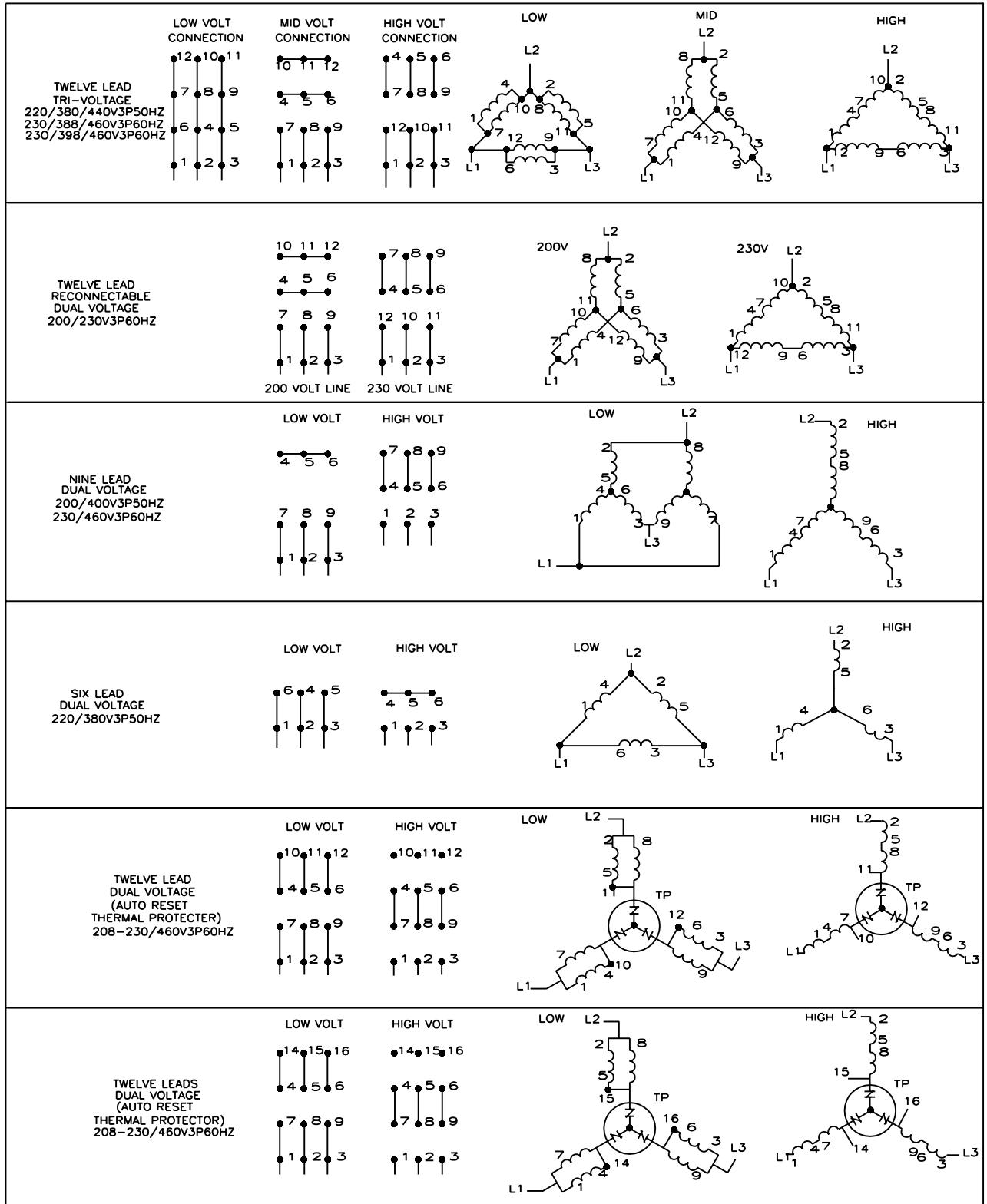
06 07 08 09 10 11 12 13 14 15 16 17

## BMP850029

### MOTOR CONNECTION DIAGRAMS

THREE PHASE SINGLE SPEED MOTORS WITH MULTIPLE VOLTAGE RATINGS  
(ONLY FOR MOTOR SUFFIXES LISTED)

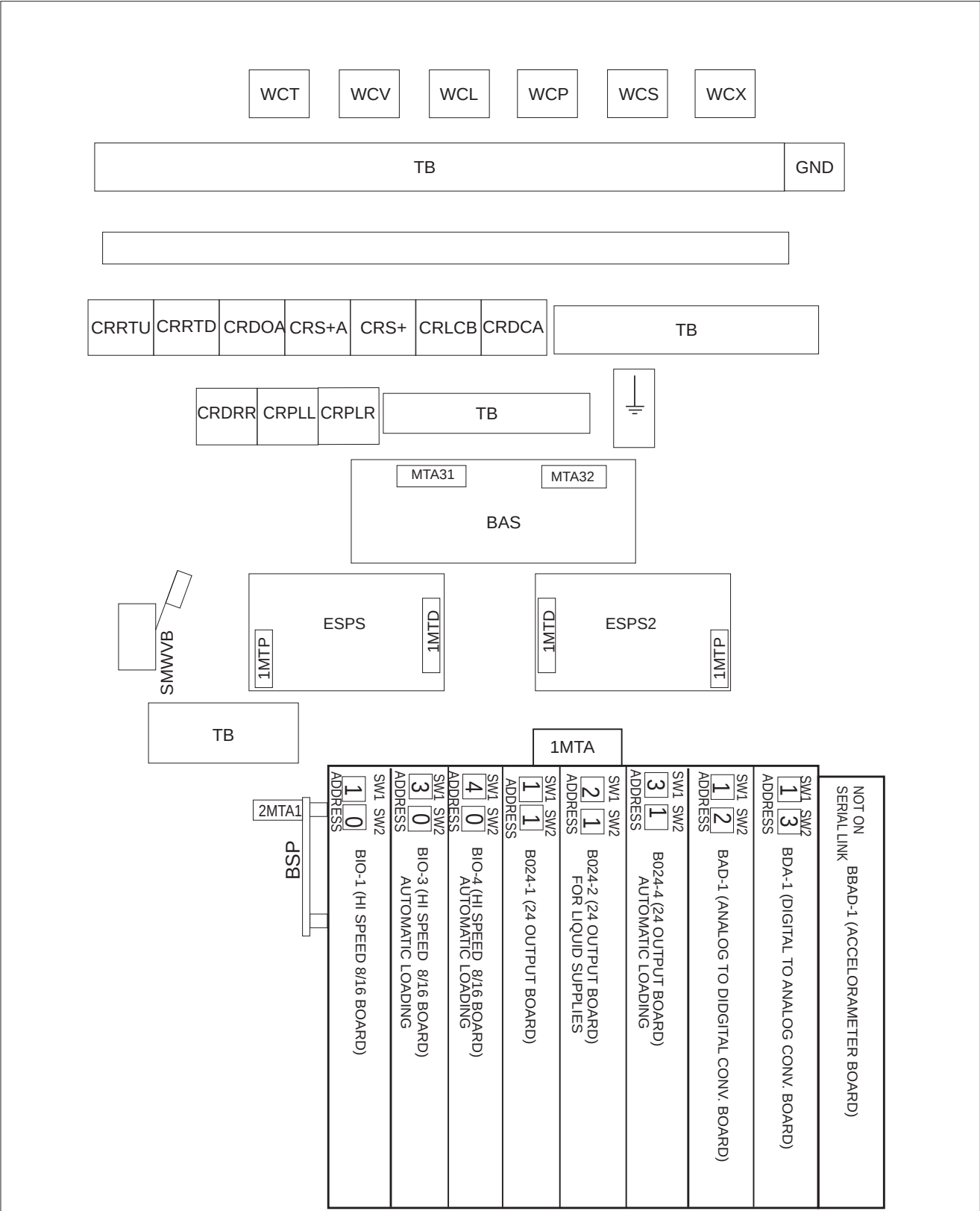
PELLERIN MILNOR CORPORATION



# W80008

THREE PHASE  
MOTOR CONNECTION DIAGRAMS  
SINGLE SPEED MOTORS WITH MULTIPLE VOLTAGE RATINGS  
PELLERIN MILNOR CORPORATION

W80008  
2001253A



68036H5K/M5K W/ AUTOMATIC LOADING  
MILTOUCH-EX™ CONTROLS  
LOW VOLTAGE CONTROL BOX  
PELLERIN MILNOR CORPORATION

B2T2014014  
2015233A



## IMPORTANT SETTING MILTOUCH-EX™ POWER SUPPLIES

**!** ESPS and ESPS2 ARE DIFFERENT. TAKE CARE TO NOT MIX UP PART NUMBERS. IF WRONG POWER SUPPLY IS USED PERMANENT BOARD DAMAGE WILL OCCUR.

### TO TEST POWER SUPPLIES OUTPUT

1. MAKE SURE MACHINE IS ON.
2. USING HIGH QUALITY DIGITAL VOLTMETER (FLUKE MODEL 77 OR EQUAL) MEASURE THE VOLTAGE ON ANY ONE OF BOARDS IN THE CARD CAGE \*MTA#2 BETWEEN PINS 3 (+5V) AND PIN 4 (GND). THE VOLTAGE RANGE SHOULD BE 5.01-5.12VDC. SEE FIGURE 1.
3. MEASURE THE VOLTAGE AT BPB ON CONNECTOR J4 BETWEEN PIN 1 (+12V) AND PIN 2 (GND). THE VOLTAGE RANGE SHOULD BE 12.2-12.4VDC. SEE FIGURE 2

### TO ADJUST POWER SUPPLY VOLTAGES

1. +5V,+12V & -12V IS PROVIDED BY PART NUMBER 08PSS3401T LABELED ESPS. POWER SUPPLY PART NUMBER 08PSS2401T PROVIDES THE +12V FOR THE PROCESSOR BD LABELED ESPS2.
2. LOCATE THE VOLTAGE ADJUSTMENT POTENTIOMETER. THE POTENTIOMETER WILL BE A SMALL BLUE COMPONENT. IT IS SOLDERED ON EACH POWER SUPPLY'S PRINTED CIRCUIT BOARD. THERE MAY HAVE A SPOT OF SILICONE ON ADJUSTMENT SCREW. SEE FIGURE 3.
3. USING A SMALL (POCKET TYPE) SCREW DRIVER REMOVE THE SILICONE AND TURN THE POTENTIOMETER TURNING CLOCKWISE TO RAISE THE VOLTAGE AND COUNTER-CLOCKWISE TO LOWER.
4. RE-APPLY SPOT OF ELECTRONIC GRADE SILICONE ON ADJUSTMENT SCREW TO FIX IN PLACE. RE-TEST TO VERIFY +5VDC ON ESPS AND +12VDC ON ESPS2 ARE WITHIN CORRECT VOLTAGE RANGES.

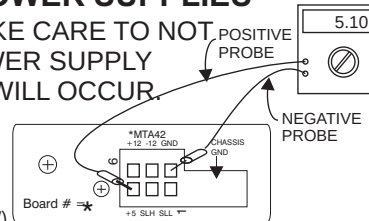


FIG 1.

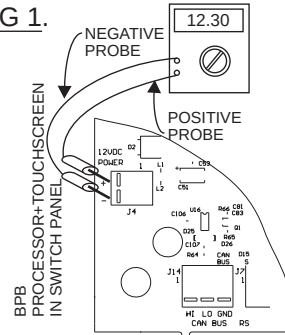


FIG 2.

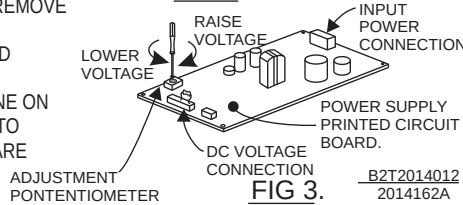


FIG 3.

# W6H5KZTG1

## MILTOUCH-EX™ CONTROLS CONTROL BOX LAYOUTS

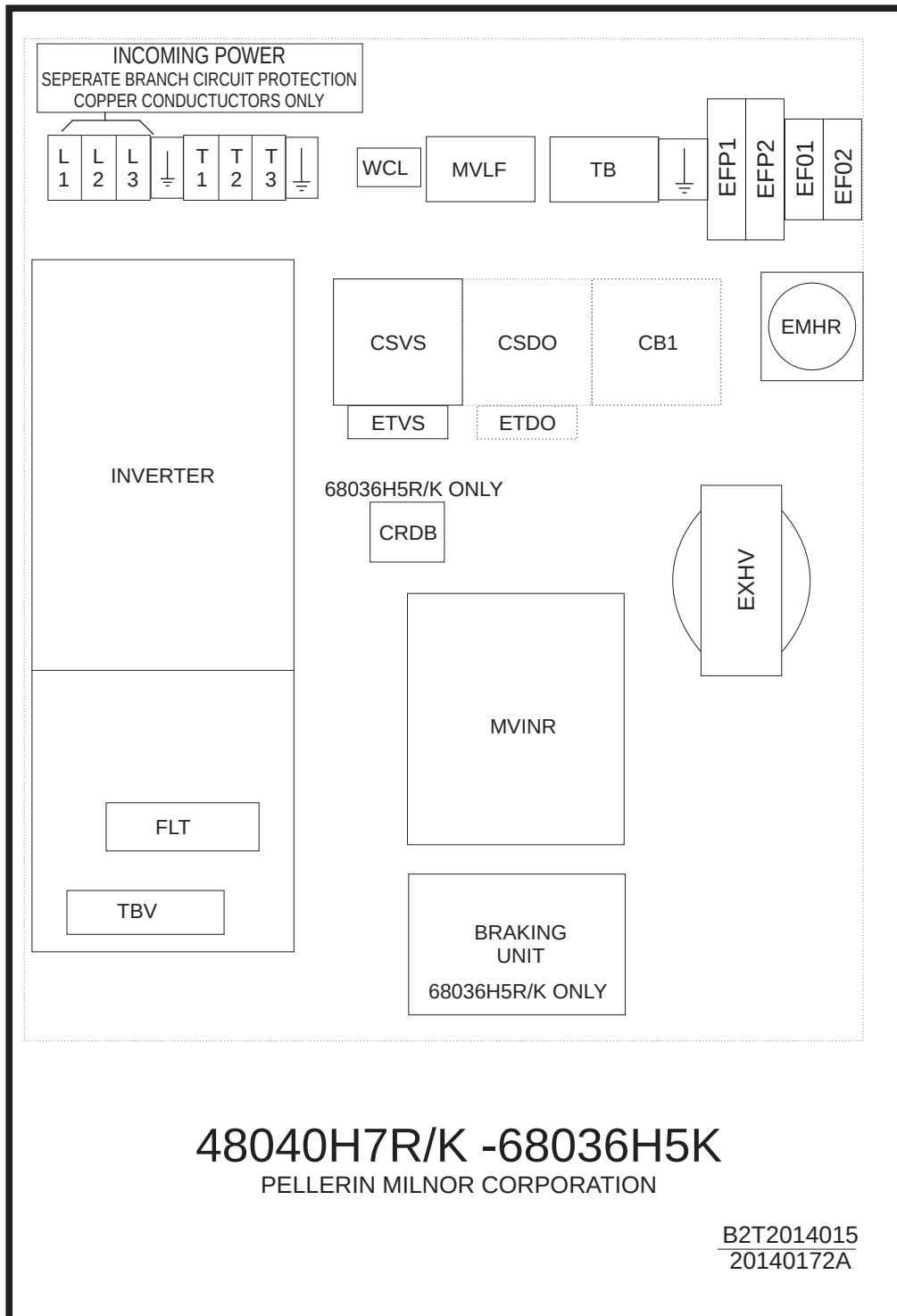
PELLERIN MILNOR CORPORATION

| BIO-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | BO24-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | BO24-2                                                                                                                                                                                                                                                                                                                                                                                                                         | BIO-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | BO24-4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>INPUTS</b><br>0 BEARING SEAL DEFLATED<br>1 DOOR CLOSED<br>2 INVERTER FAULT<br>3 NOT USED<br>4 WASH POSITION<br>5 LOAD POSITION<br>6 DON'T ALLOW CHEM<br>7 BASKET ROTATING<br>8 EXCURSION<br>9 NOT USED<br>10 BRAKE PAD WORN<br>11 BRAKE IS OFF<br>12 DOOR OPEN DESIRED<br>13 EXTRACT SPEED LIMIT<br>14 NOT USED<br>15 3-WIRE ON<br><br><b>OUTPUTS</b><br>0 RECIRCULATE PUMP<br>1 COOLDOWN<br>2 CHEMICAL FLUSH<br>3 CHEMICAL #4<br>4 CHEMICAL #1<br>5 CHEMICAL #3<br>6 CHEMICAL #2<br>7 CHEMICAL #5 | <b>OUTPUTS</b><br>8 TANK TO MACHINE<br>9 ACCELERATE/DECELERATE<br>10 DOOR UNLOCK<br>11 CLOCKWISE WASH<br>12 COUNTER CLOCKWISE WASH<br>13 STEAM<br>14 SIGNAL<br>15 3-WIRE ENABLED<br>16 BRAKE RELEASE<br>17 HOT WATER<br>18 COLD WATER<br>19 EXTRA WATER<br>20 DRAIN TO SEWER<br>21 DRAIN TO REUSE<br>22 MACHINE TO MACHINE<br>23 MACHINE TO TANK<br>24 NOT USED<br>25 NOT USED<br>26 NOT USED<br>27 NOT USED<br>28 NOT USED<br>29 NOT USED<br>30 NOT USED<br>31 NOT USED | <b>OUTPUTS</b><br>40 CHEM #14<br>41 CHEM #9<br>42 CHEM #13<br>43 FLUSH MANIFOLD<br>44 CHEM #15<br>45 CHEM #11<br>46 CHEM SAVE<br>47 NOT USED<br>48 CHEM #10<br>49 NOT USED<br>50 CHEM #6<br>51 CHEM #7<br>52 CHEM #8<br>53 CHEM #12<br>54 AUTO RECIRCULATION<br>55 NOT USED<br>56 NOT USED<br>57 NOT USED<br>58 DRAIN SAVER<br>59 MOVE TO LOAD POSITION<br>60 NOT USED<br>61 MOVING<br>62 NOT USED<br>63 MOVE TO WASH POSITION | <b>INPUTS</b><br>32 ELBOW UP LOCKED<br>33 NOT USED<br>34 ELBOW DOWN LOCKED<br>35 MANUAL DESIRED<br>36 DISCHARGE ALLOWED<br>37 LOAD ALLOWED<br>38 LOAD TERMINATED<br>39 ELBOW EYE BLOCKED<br>40 NOT USED<br>41 DOOR FULL OPEN<br>42 ALLIED START LOADING<br>43 NOT USED<br>44 NOT USED<br>45 ALLIED LOAD TERMINATED<br>46 ALLIED START DISCHARGING<br>47 HYDRAULIC ENABLED<br><br><b>OUTPUTS</b><br>64 CHUTE BLOW<br>65 CHUTE UP LOCK RELEASE<br>66 CHUTE DN LOCK RELEASE<br>67 LOAD DESIRED<br>68 CHUTE FLUSH<br>69 DISCHARGE TERMINATED<br>70 CHUTE MOVE UP<br>71 CHUTE MOVE DOWN | <b>OUTPUTS</b><br>104 HYDRAULIC PUMP<br>105 OPEN DOOR<br>106 CLOSE DOOR<br>107 DISCHARGE DESIRED<br>108 LOAD/UNLOAD TERMINATED<br>109 TILT UP<br>110 TILT DOWN<br>111 BALANCE ENABLED<br>112 NOT USED<br>113 DEFLATE DOOR<br>114 START LOADING<br>115 START DISCHARGING<br>116 TILT DOOR LATCH<br>117 DOOR UNLATCH<br>118 SEQ LOAD ALLOWED<br>119 SEQ LOAD DESIRED<br>120 NOT USED<br>121 NOT USED<br>122 FLAG DOWN<br>123 SEQ LOAD UNLOAD TERM<br>124 SEQ DISCHARGE DESIRED<br>125 SEQ DISCHARGE ALLOWED<br>126 SEQ FLAG DOWN DISCH<br>127 NOT USED |

MILTOUCH-EX™ CONTROLS  
WASHER EXTRACTOR W/ AUTOMATIC LOADING  
CONTROL BOARDS INPUTS/OUTPUTS  
PELLERIN MILNOR CORPORATION

B2T2014016  
2023294A

W6H5KZTG1  
2023294B



**W6H5KZTG2**  
MILTOUCH-EX™ CONTROLS  
CONTROL BOX LAYOUTS  
PELLERIN MILNOR CORPORATION

W6H5KZTG2  
2014156B

W6H5KZTG2  
2014156B

TO  
MICRO-  
PROCESSOR  
INPUT

4MTA4-4

WCY04

503

FORMULA  
RANGE 9-16

1

4

7 SHRF:  
RANGE  
SELECT

TO  
MICRO-  
PROCESSOR  
INPUT

4MTA4-3

WCY03

502

34

35

36

33

37

32

38

31

SHFS  
FORMULA SELECTOR

00

01

02

03

04

05

06

07

08

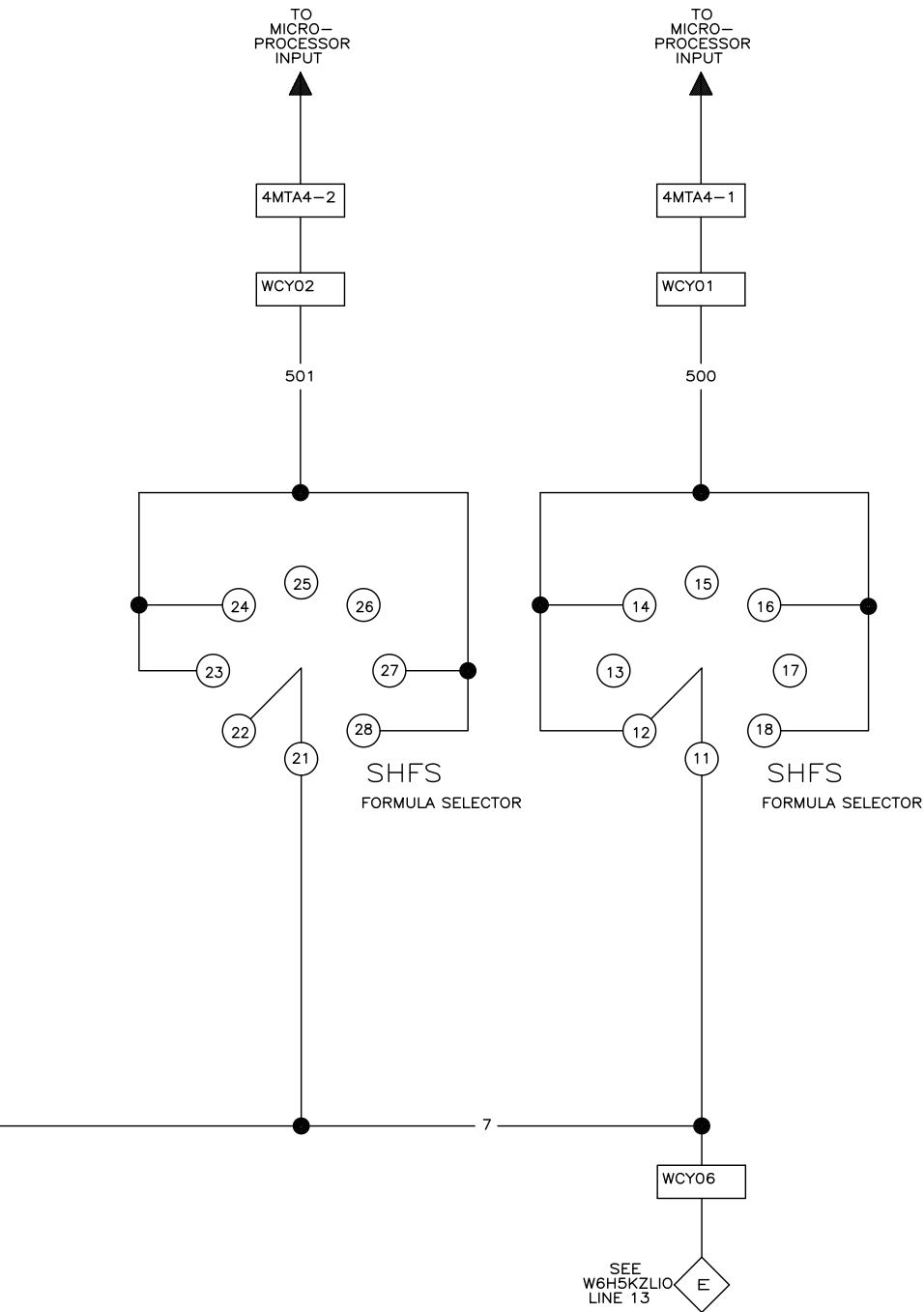
09

# W6H5KZAI

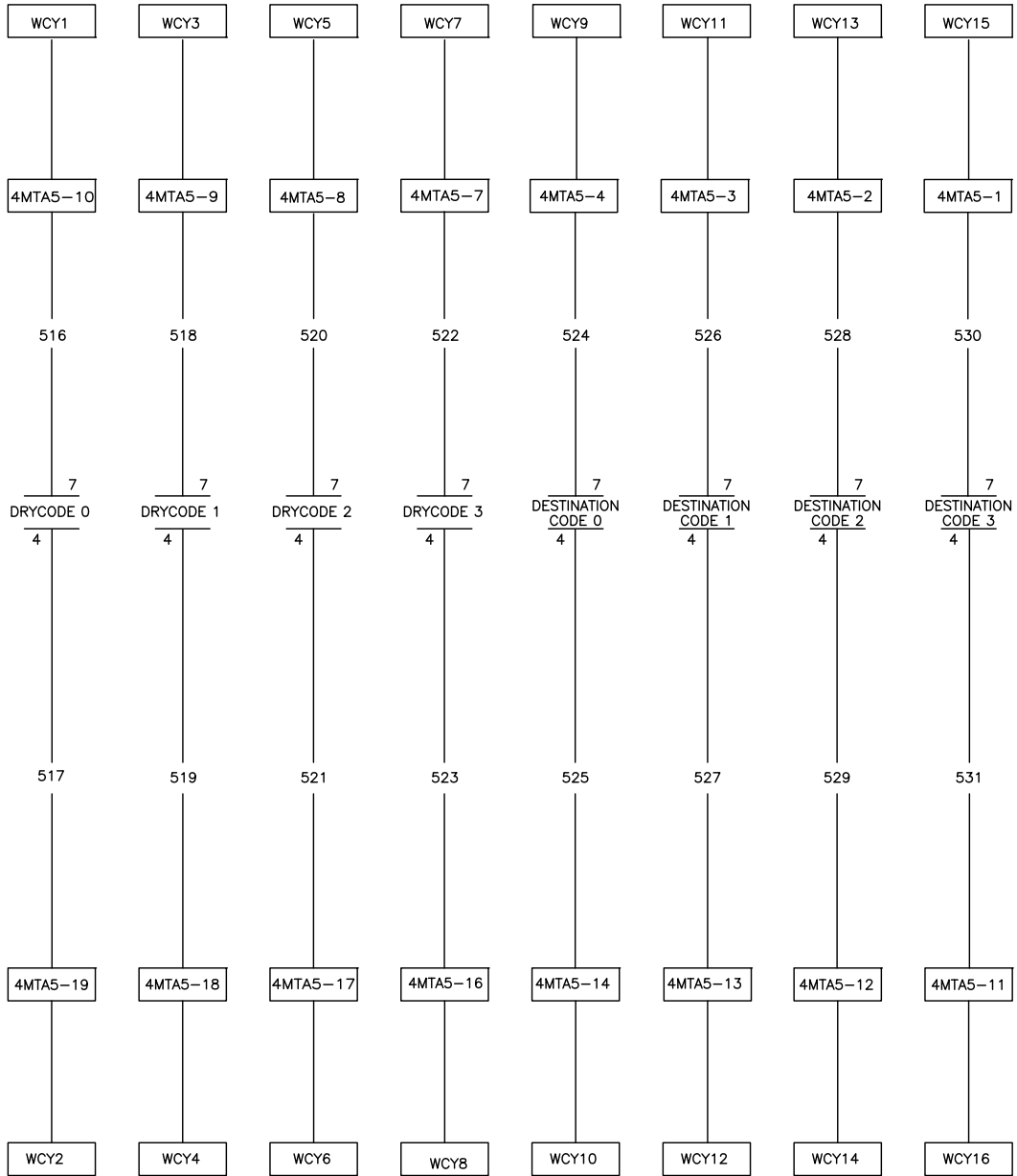
## MILTOUCH-EX™ DOOR CHUTE

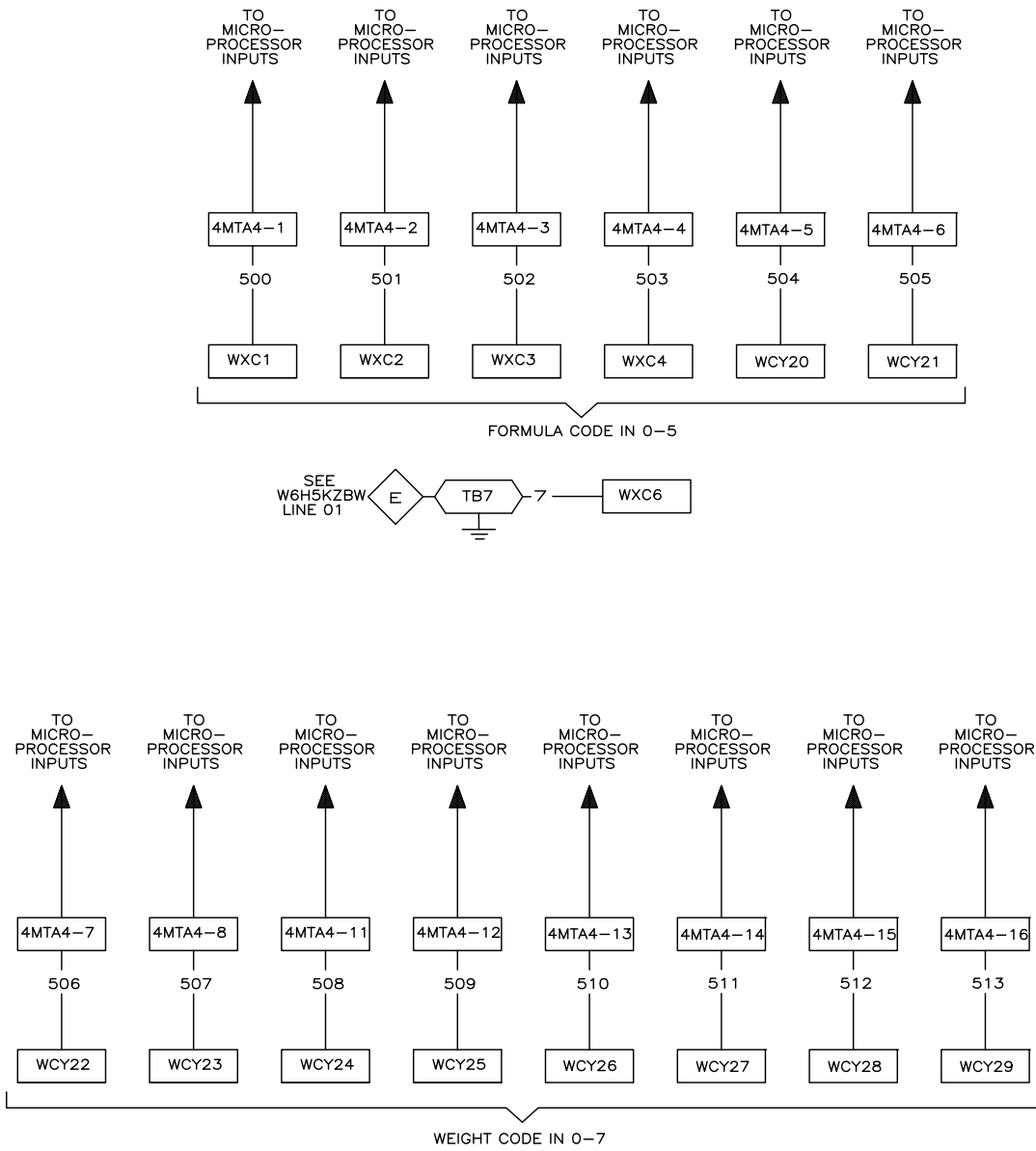
### SCHEMATIC: 16 FORMULA INPUT

PELLERIN MILNOR CORPORATION

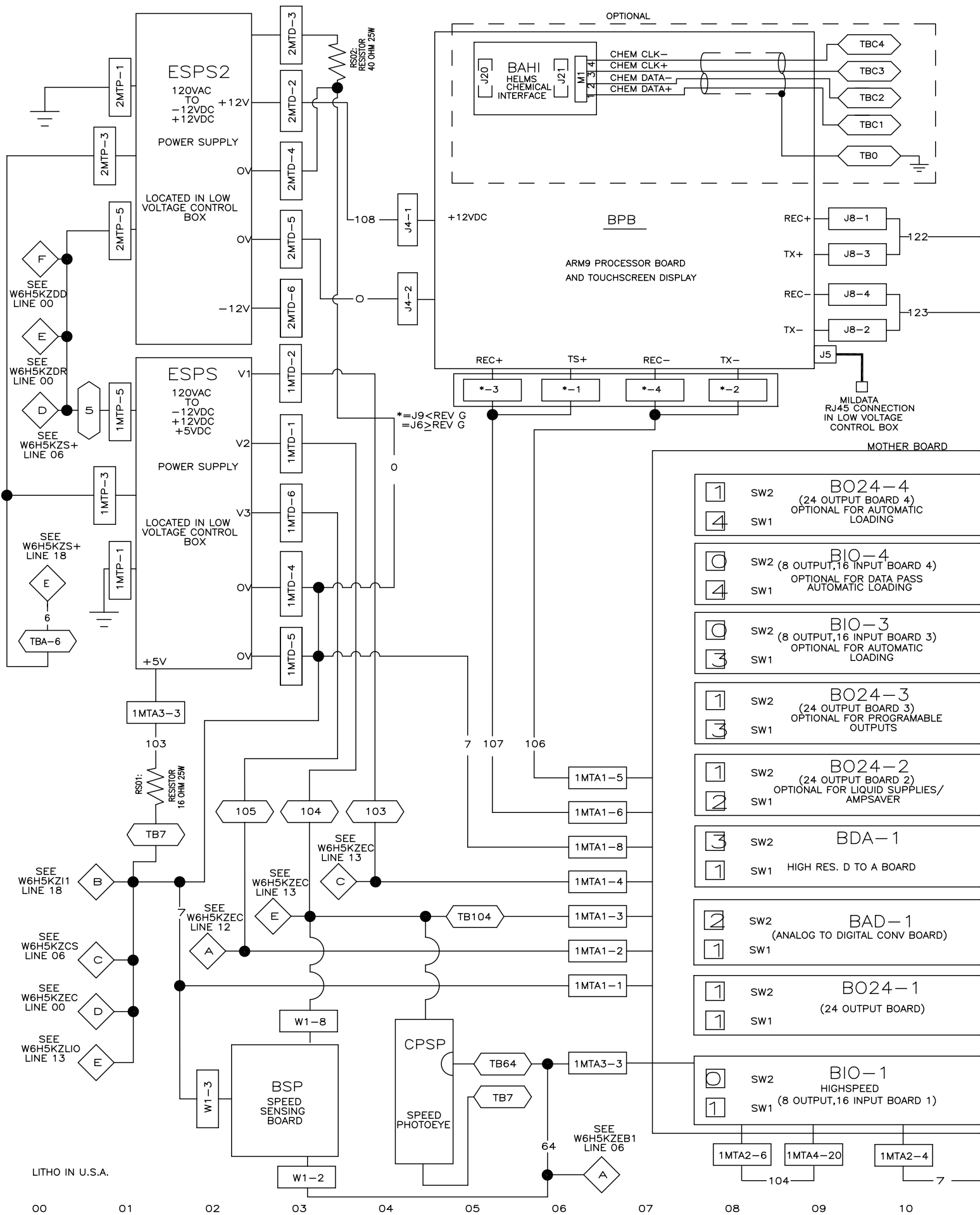


10 11 12 13 14 15





W6H5KZAIA  
MILTOUCH-EX™ DRYELL  
SCHEMATIC: ALLIED INPUTS/OUTPUTS  
(SOFTROL INTERFACE)  
PELLERIN MILNOR CORPORATION

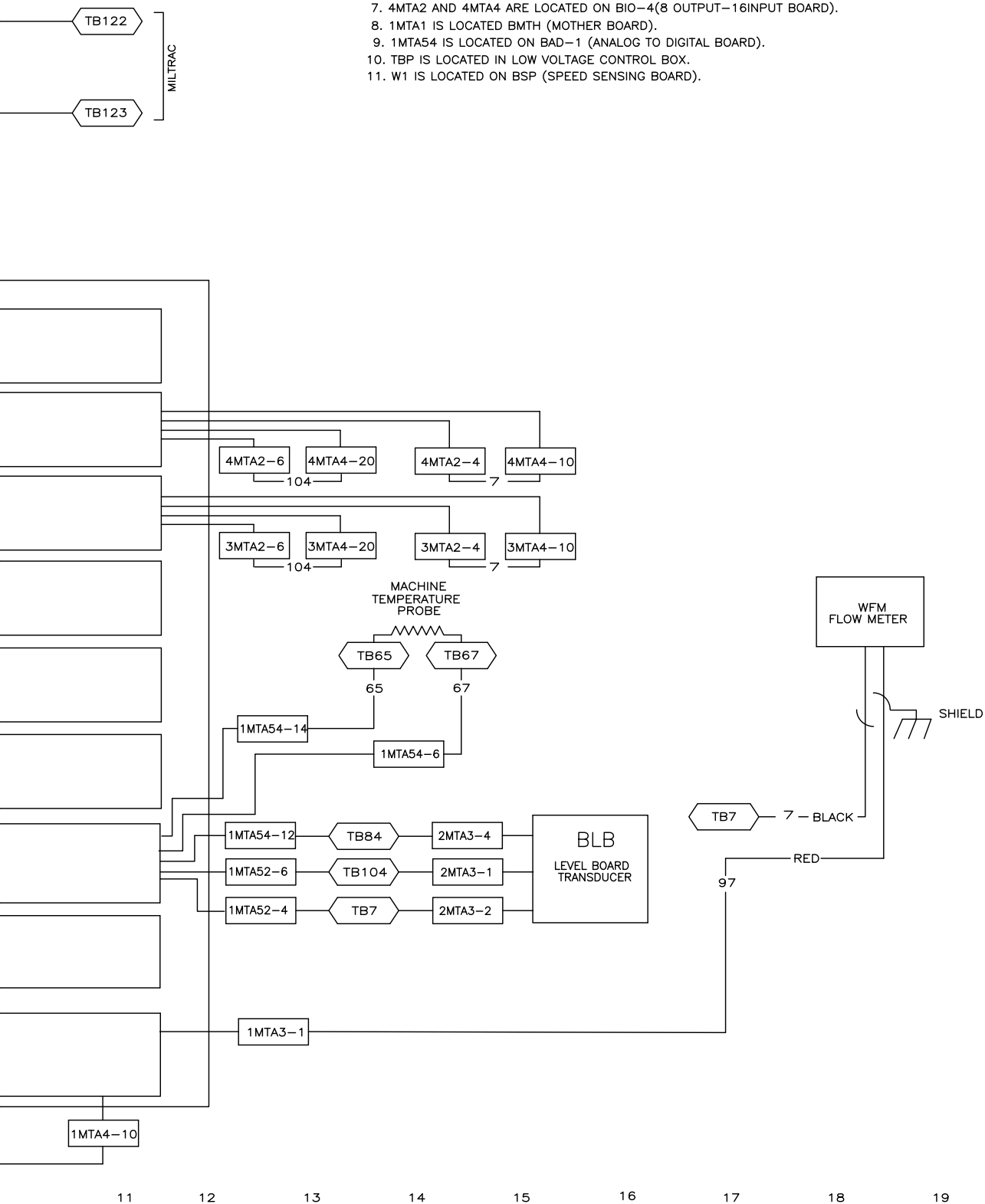


W6H5KZBW  
2023352B

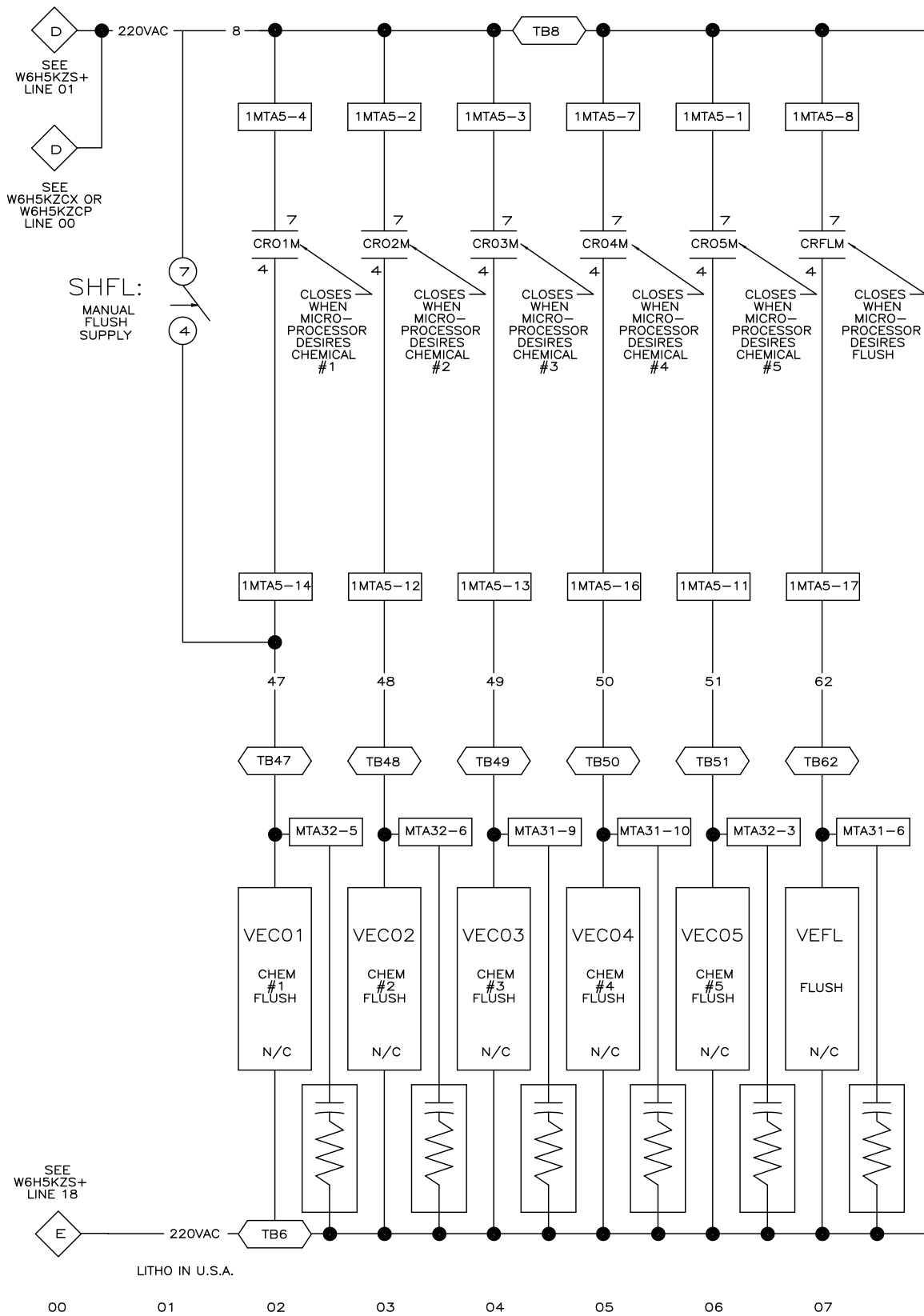


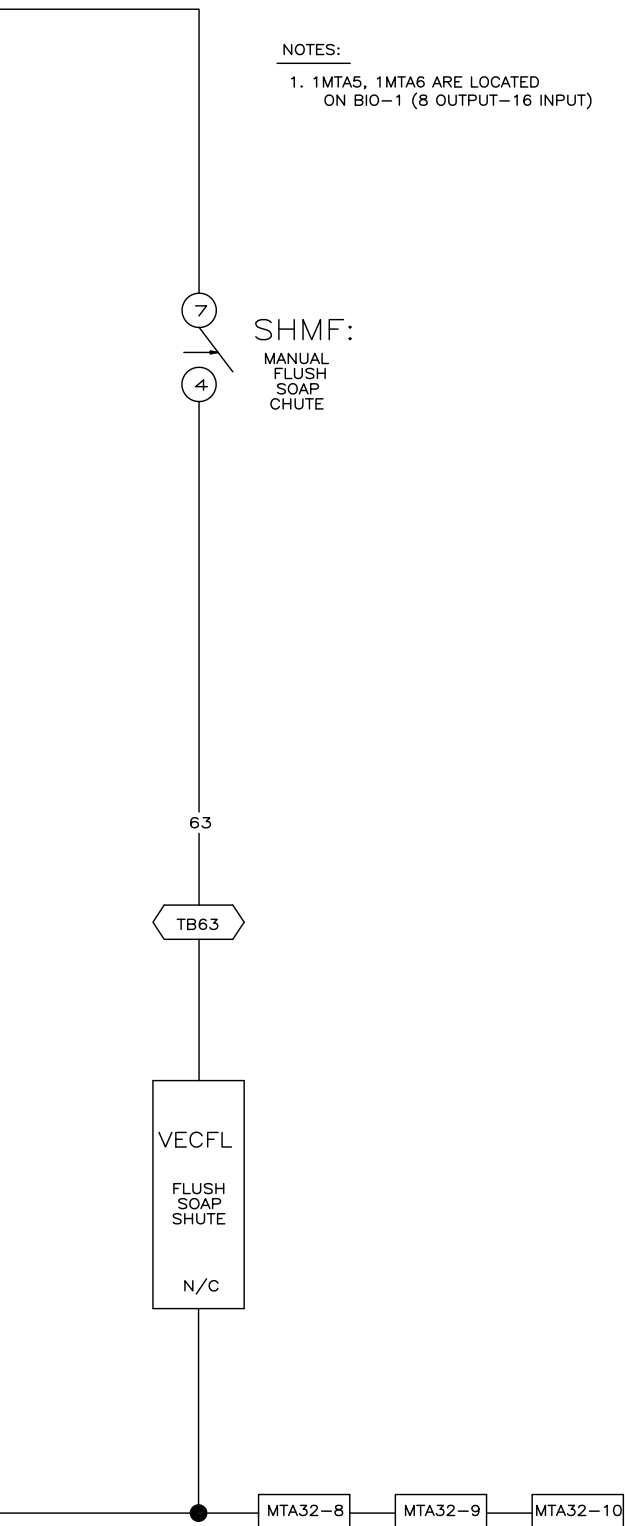
NOTES:

1. 1MTP, 1MTD ARE LOCATED ON ESPS (POWER SUPPLY).
2. 2MTP, 2MTD ARE LOCATED ON ESPS2 (POWER SUPPLY FOR PROCESSOR).
3. J4 AND J9 ARE LOCATED ON BPB (ARM 9 PROCESSOR BOARD)
4. 1MTA2, 1MTA3, AND 1MTA4 ARE LOCATED ON BIO-1 (8 OUTPUT-16INPUT BOARD).
5. 2MTA2 AND 2MTA4 ARE LOCATED ON BIO-2 (8 OUTPUT-16INPUT BOARD).
6. 3MTA2 AND 3MTA4 ARE LOCATED ON BIO-3 (8 OUTPUT-16INPUT BOARD).
7. 4MTA2 AND 4MTA4 ARE LOCATED ON BIO-4 (8 OUTPUT-16INPUT BOARD).
8. 1MTA1 IS LOCATED BMTH (MOTHER BOARD).
9. 1MTA54 IS LOCATED ON BAD-1 (ANALOG TO DIGITAL BOARD).
10. TBP IS LOCATED IN LOW VOLTAGE CONTROL BOX.
11. W1 IS LOCATED ON BSP (SPEED SENSING BOARD).



**W6H5KZBW**  
 MILTOUCH-EXT™ CONTROLS  
 SCHEMATIC: M5K BOARD TO BOARD WIRING  
 PELLERIN MILNOR CORPORATION





# W6H5KZCF

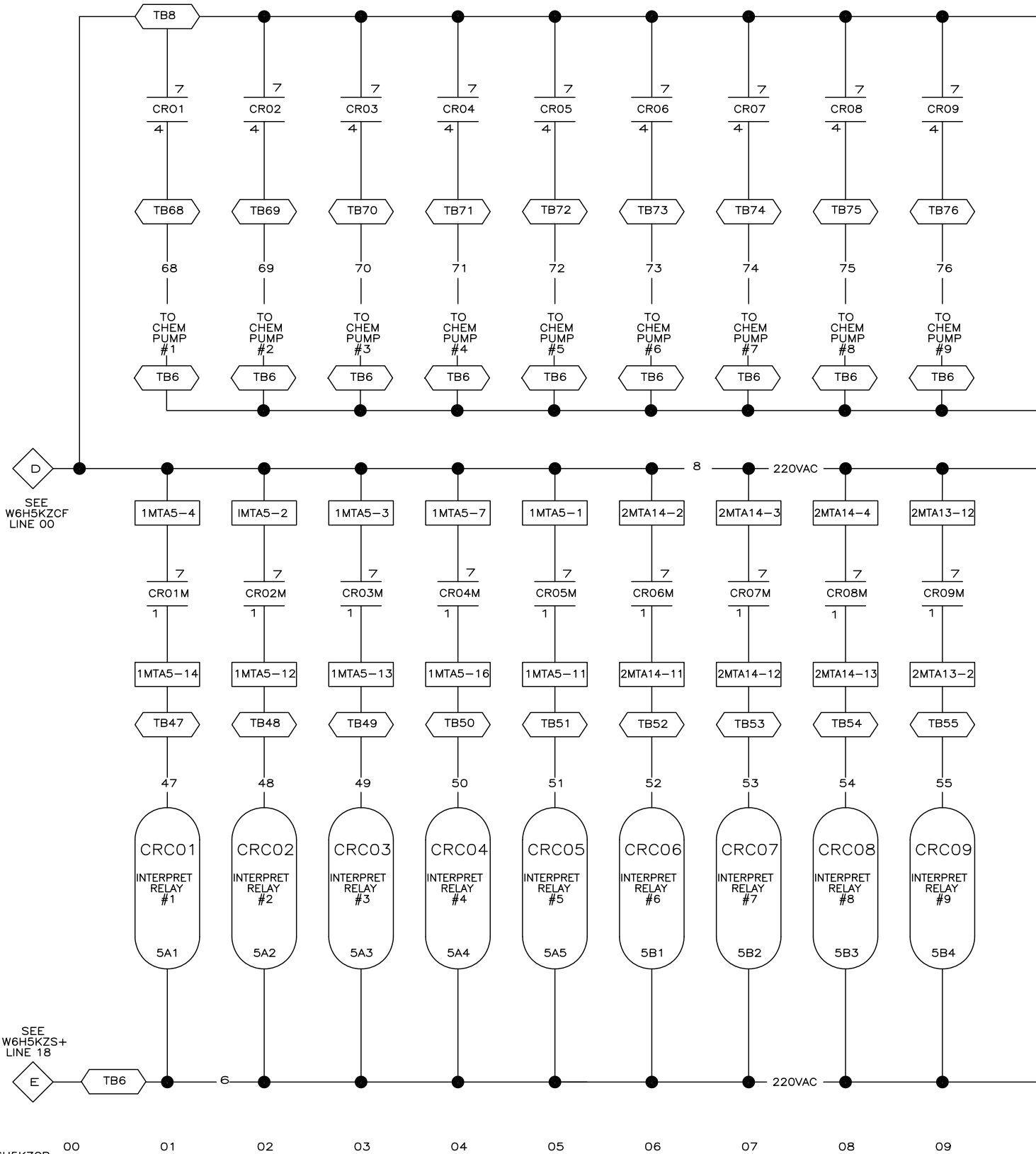
## MILTOUCH-EX™ CONTROLS

### SCHEMATIC: FLUSHING SUPPLIES

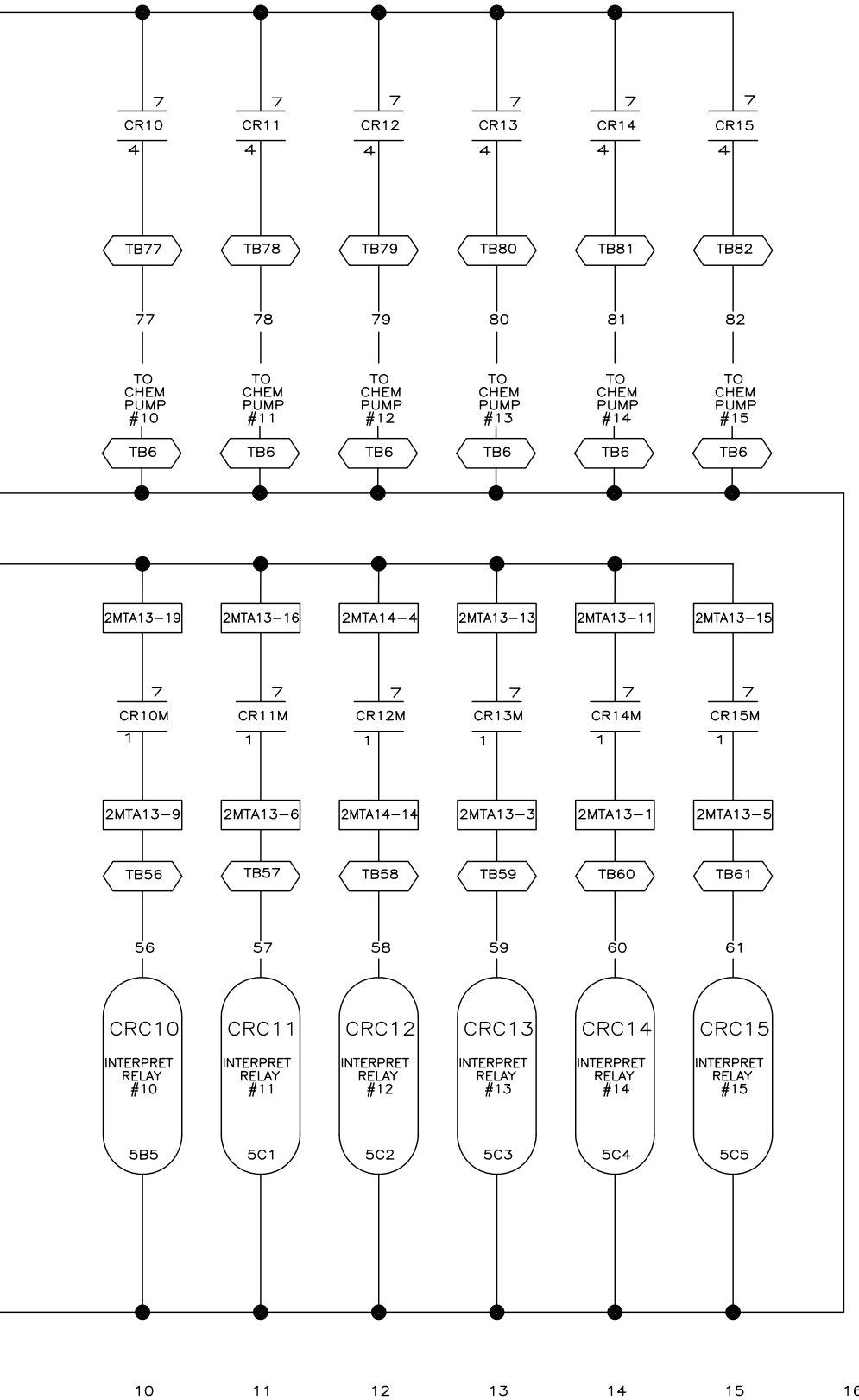
220V1P50HZ/240V1P60HZ

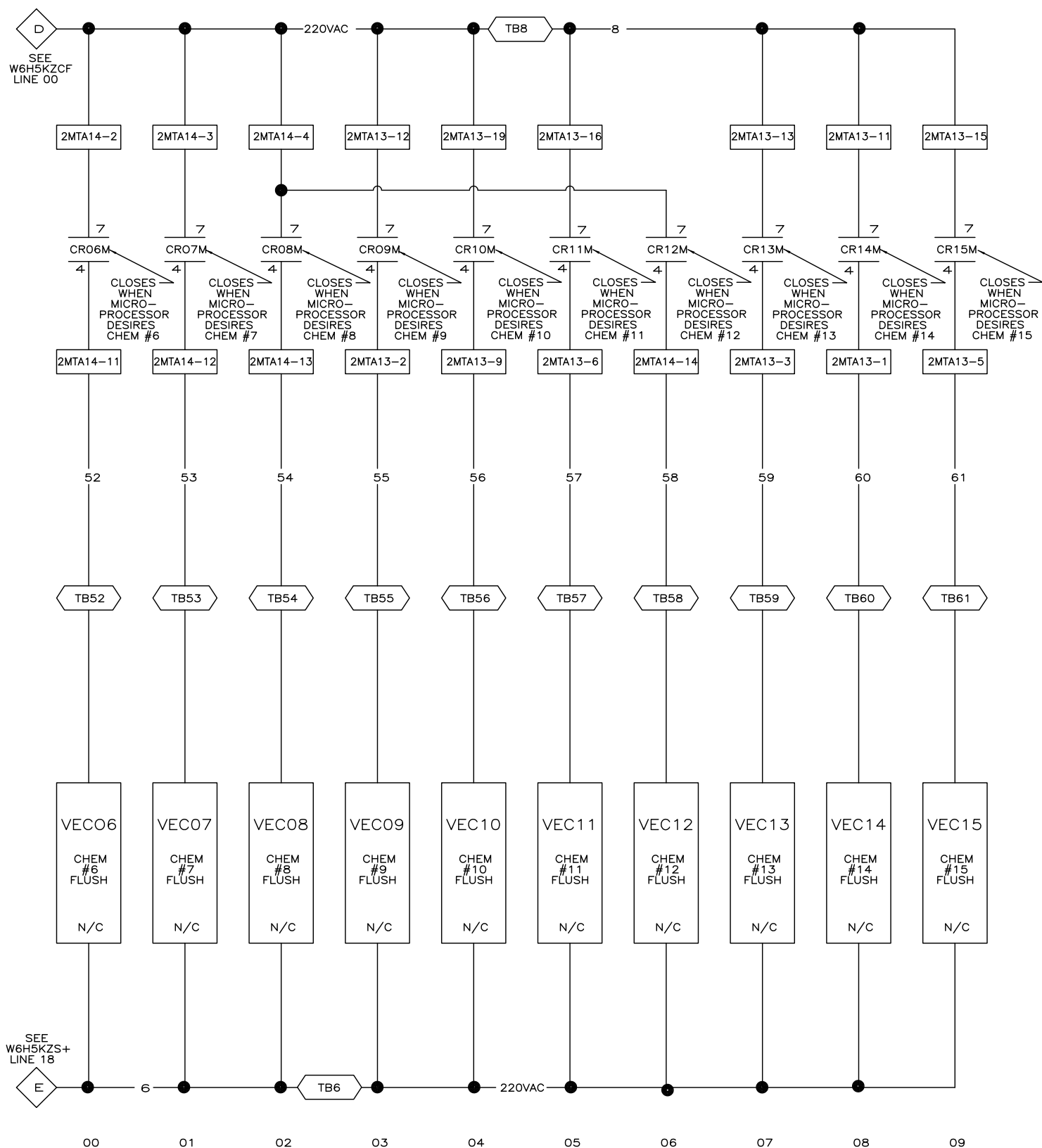
PELLERIN MILNOR CORPORATION

IF CUSTOMER IS SUPPLYING  
VOLTAGE FOR CHEMICAL  
PUMPS THEN TB17 & TB6 FEEDING  
THE INTERPRET RELAY CONTACTS  
MUST BE DISCONNECTED FROM  
THE INTERNAL 220V/240VAC SUPPLY.

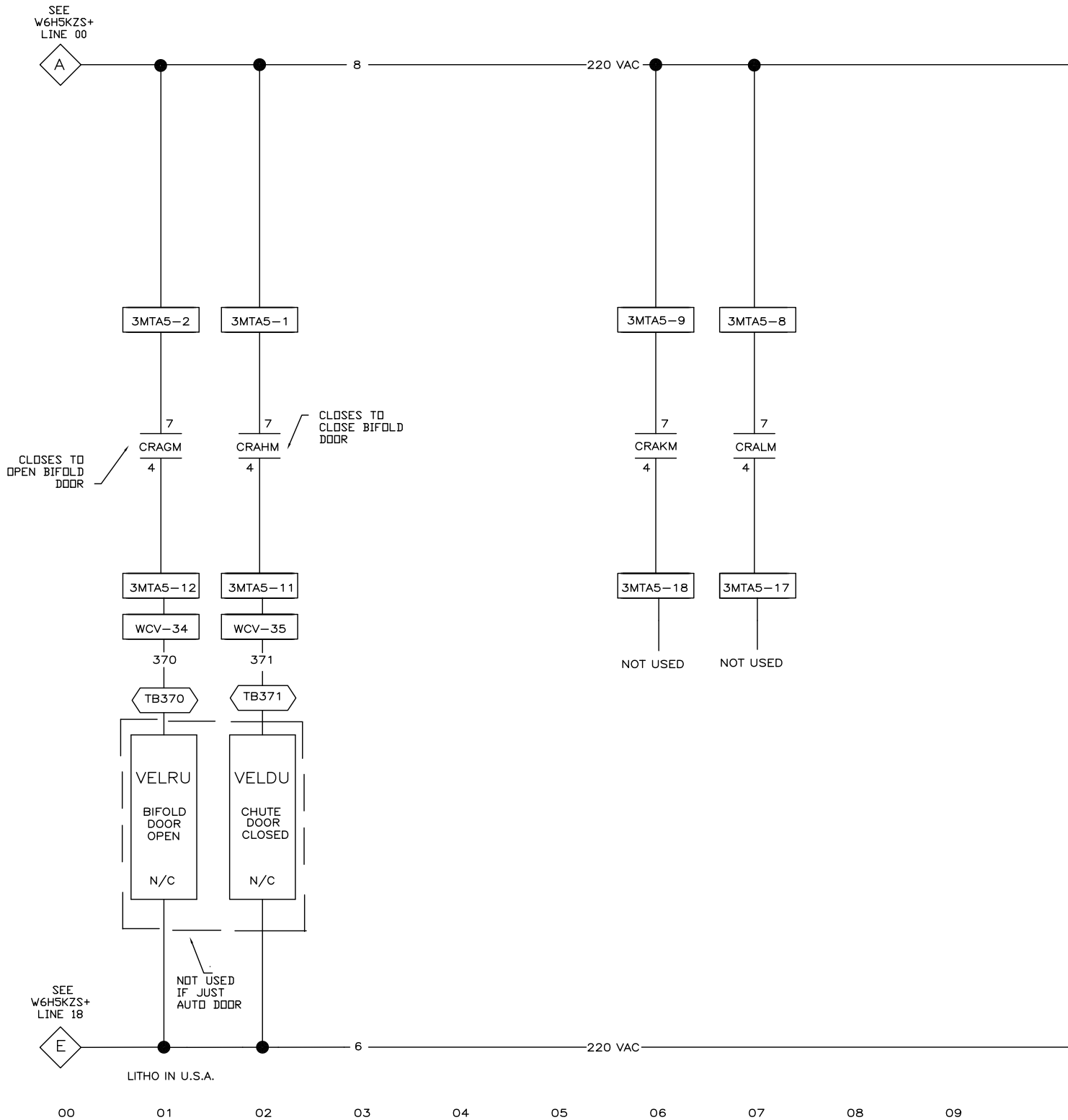


W6H5KZCP  
MILTOUCH-EX™ DOOR CHUTE  
SCHEMATIC: LIQUID SUPPLY-INTERPRET RELAYS  
220V1P50HZ/240V1P60HZ





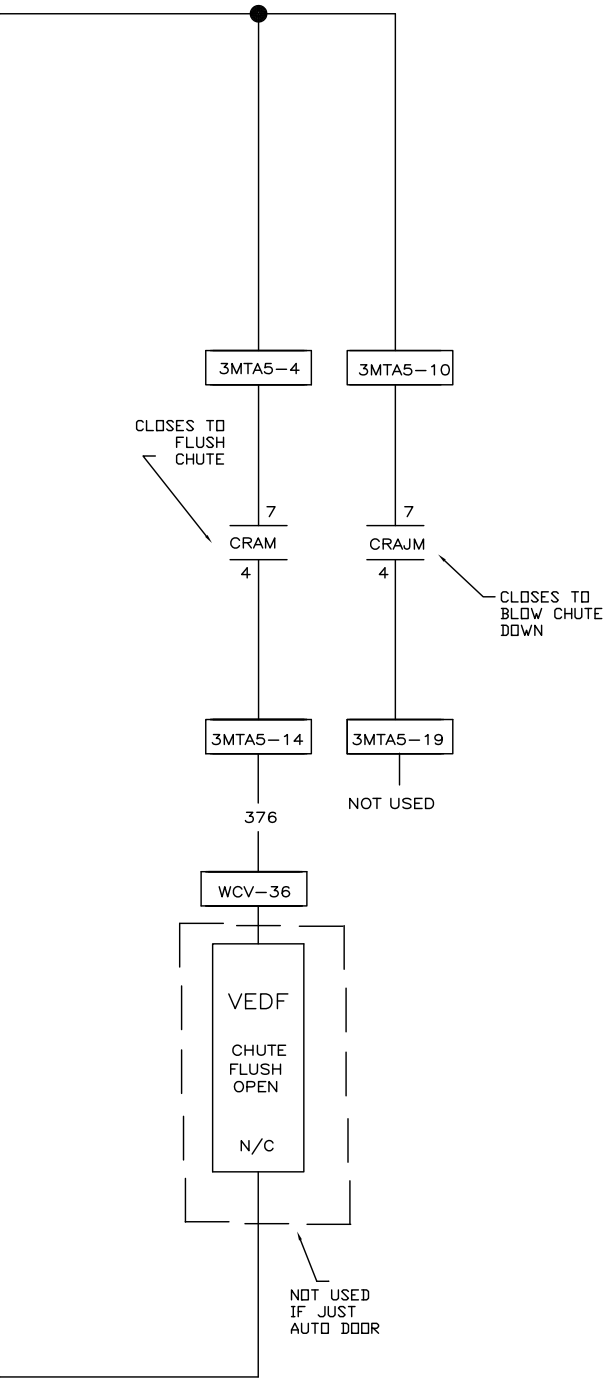
W6H5KZCX  
MILTOUCH-EX™ DOOR CHUTE  
SCHEMATIC: CENTRAL LIQUID SUPPLY  
FLUSH 6 THRU 15



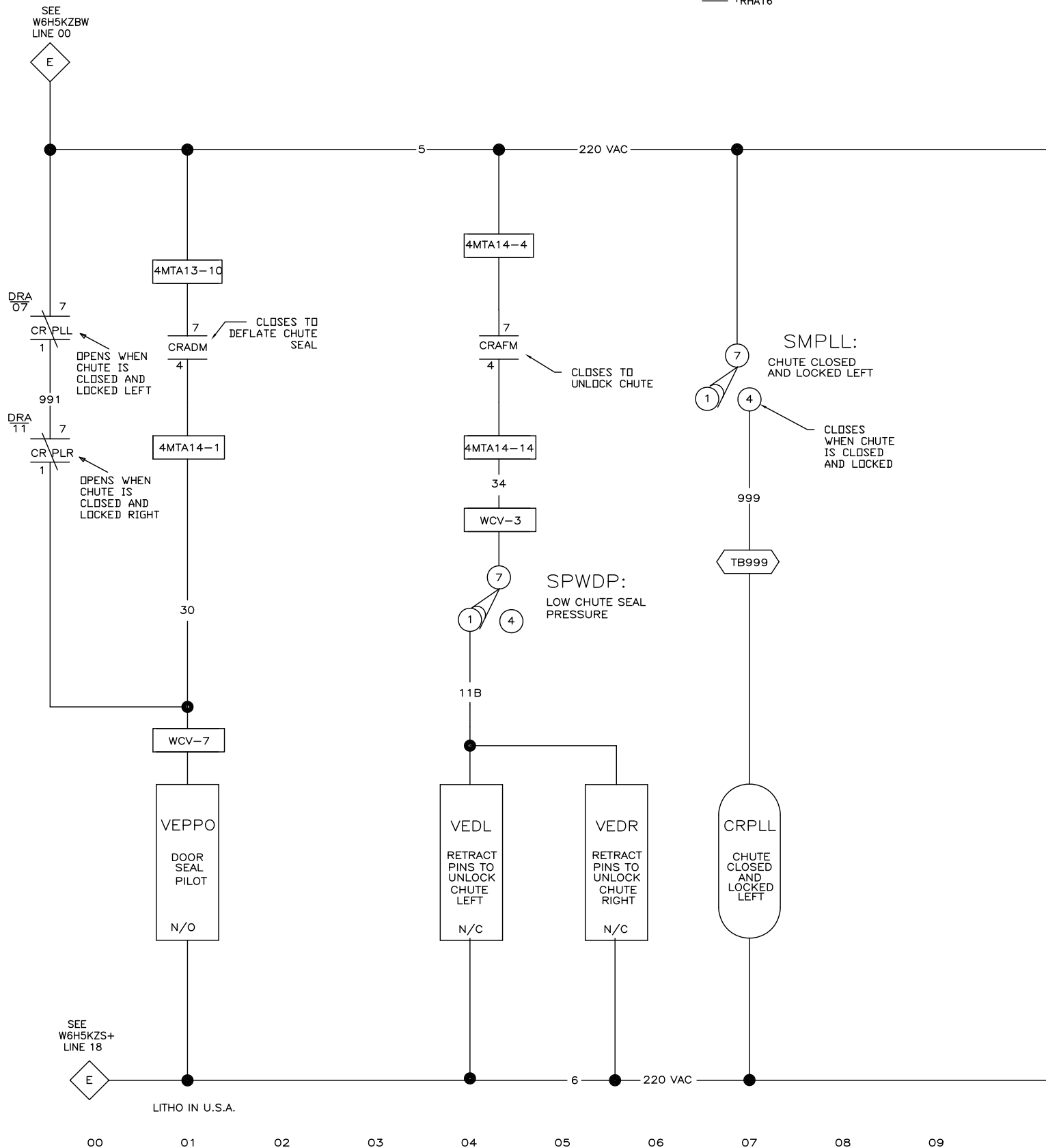


# W6H5KZDEA

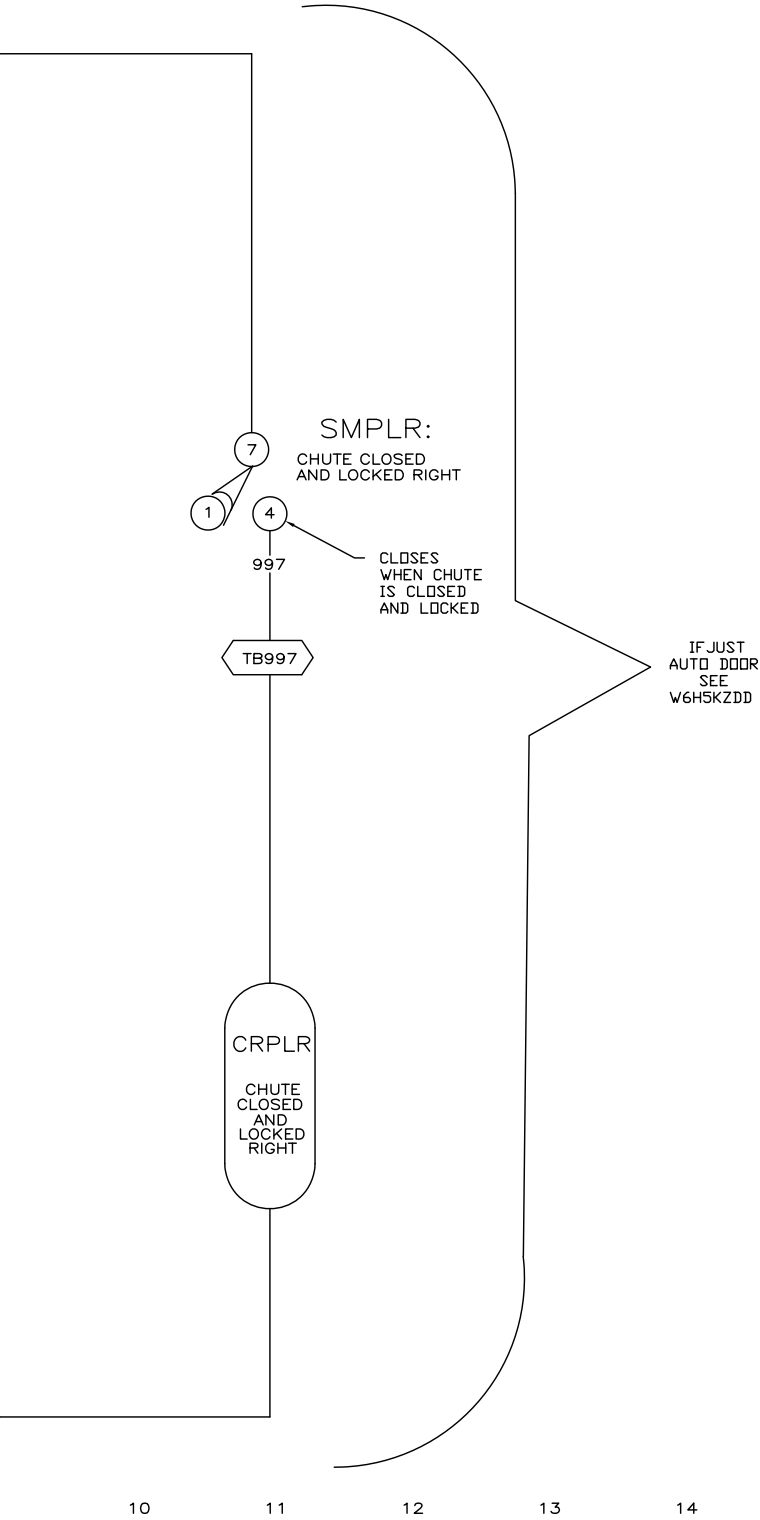
MILTOUCH-EX™ CONTROLS  
SCHEMATIC:M5K BIFOLD DOOR  
220V1P50HZ/240V1P60HZ  
PELLERIN MILNOR CORPORATION



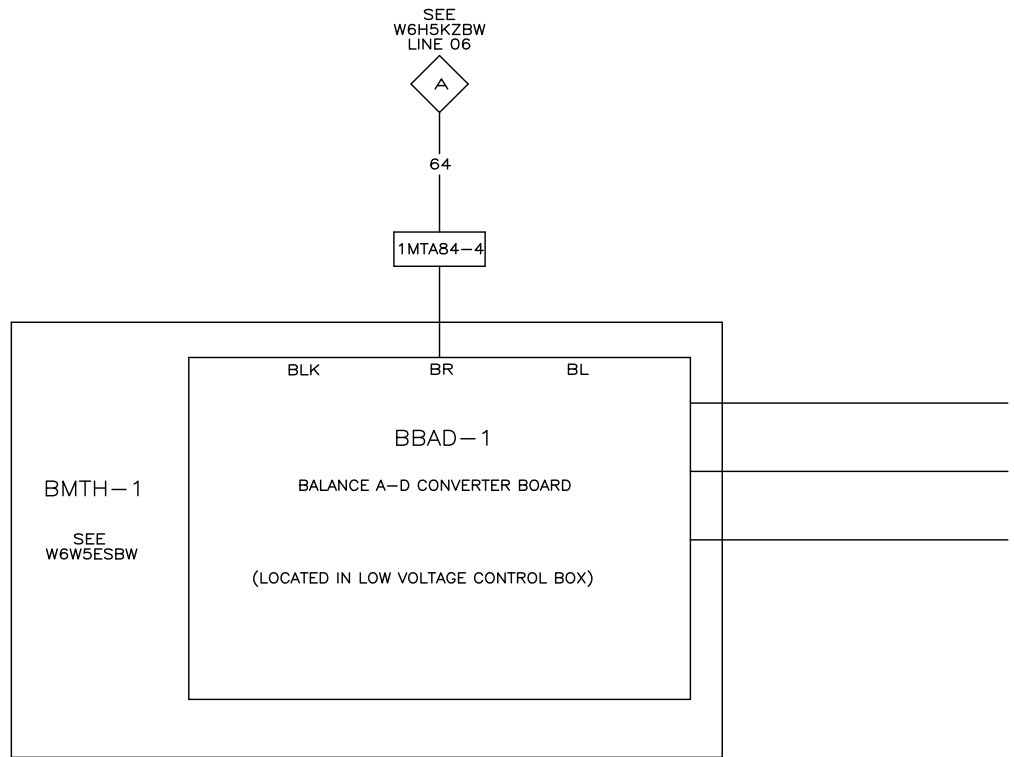
|       |       |
|-------|-------|
| DRA00 | —     |
| —     | —     |
| —     | 11A03 |
| —     | RHA16 |



W6H5KZDRA  
2024123B



W6H5KZDRA  
MILTOUCH-EX™ CONTROLS  
SCHEMATIC:M5K CHUTE LOCKS ( ONLY )  
( NOT FOR JUST AUTO DOOR )  
IF JUST AUTO DOOR, SEE  
SCHEMATIC W6H5KZDD  
220V1P50HZ/240V1P60HZ  
PELLERIN MILNOR CORPORATION



# W6H5KZEB1

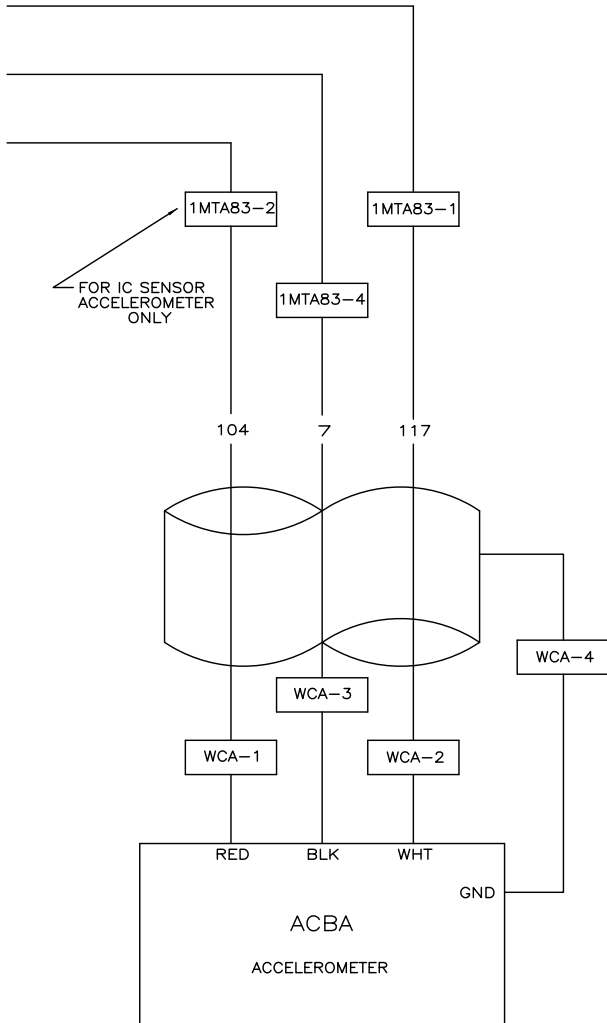
## MICRO 6 SYSTEMS

### MARK V

#### SCHEMATIC: ELECTRONIC BALANCE/LEVEL

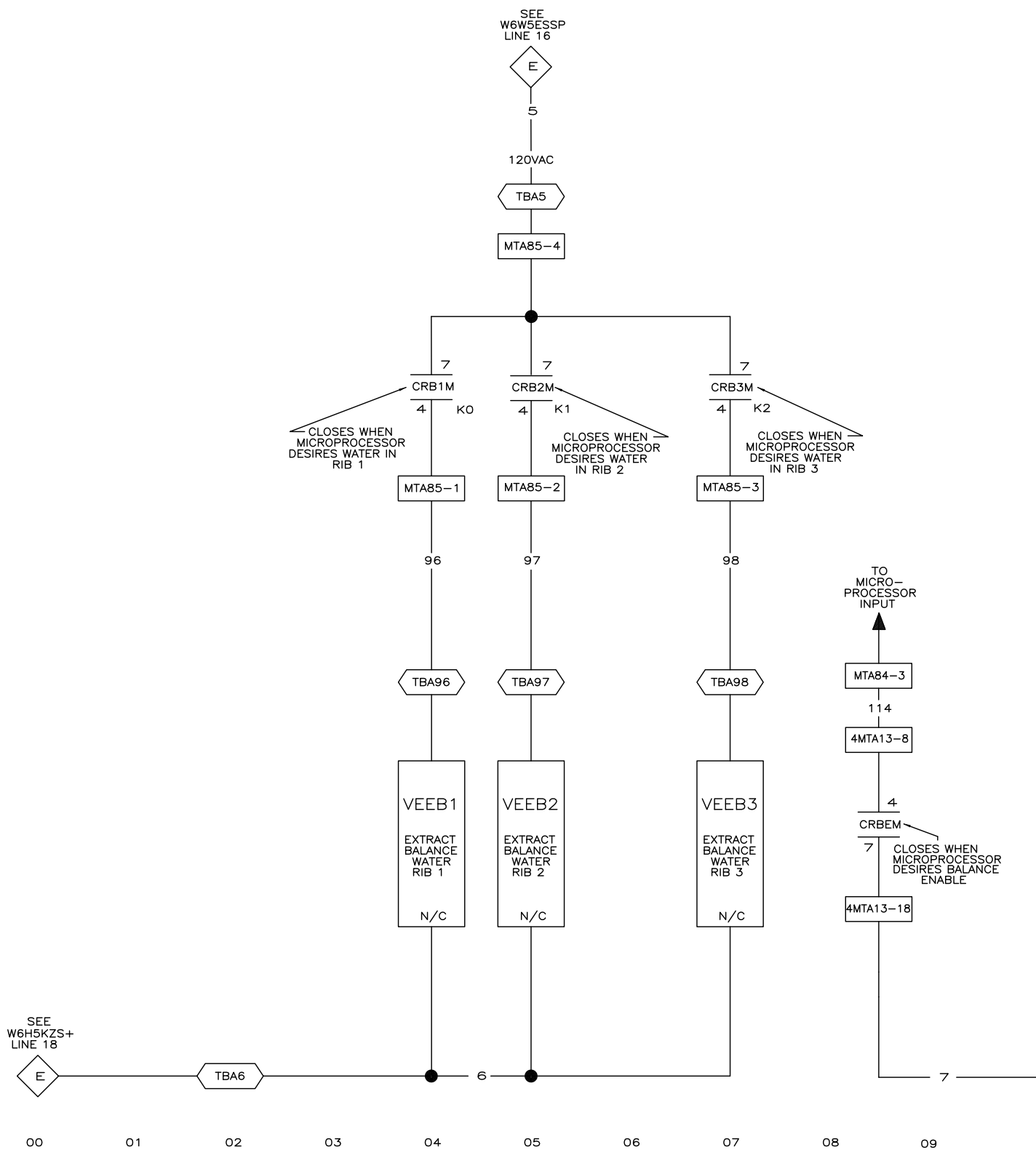
PELLERIN MILNOR CORPORATION

| WIRING | VOLTAGE        | WIRE COLOR  |
|--------|----------------|-------------|
| 103    | +5VDC          | BLUE        |
| 104    | +12VDC         | BLUE/ORANGE |
| 105    | -12VDC         | BLUE/BLACK  |
| 7      | GROUND         | BLUE/WHITE  |
| 107    | SERIAL HIGH    | BLUE/RED    |
| 106    | SERIAL LOW     | BLUE/BLACK  |
| INPUTS | —              | BLUE/BLACK  |
| —      | 24VAC          | BLUE/RED    |
| —      | 120VAC         | RED         |
| 6      | CONTROL GROUND | RED/WHITE   |



#### NOTES:

1. WIRE 2H IS AN ANALOG GROUND WHICH CONNECTS DIRECTLY TO COPPER BUSS BAR.
2. TB3 IS LOCATED IN THE LOW VOLTAGE CONTROL BOX.
3. WCA IS LOCATED AT THE ACCELEROMETER.



W6H5KZEB2  
2024123B

SEE  
W6W5ESI2  
LINE 09



10

11

12

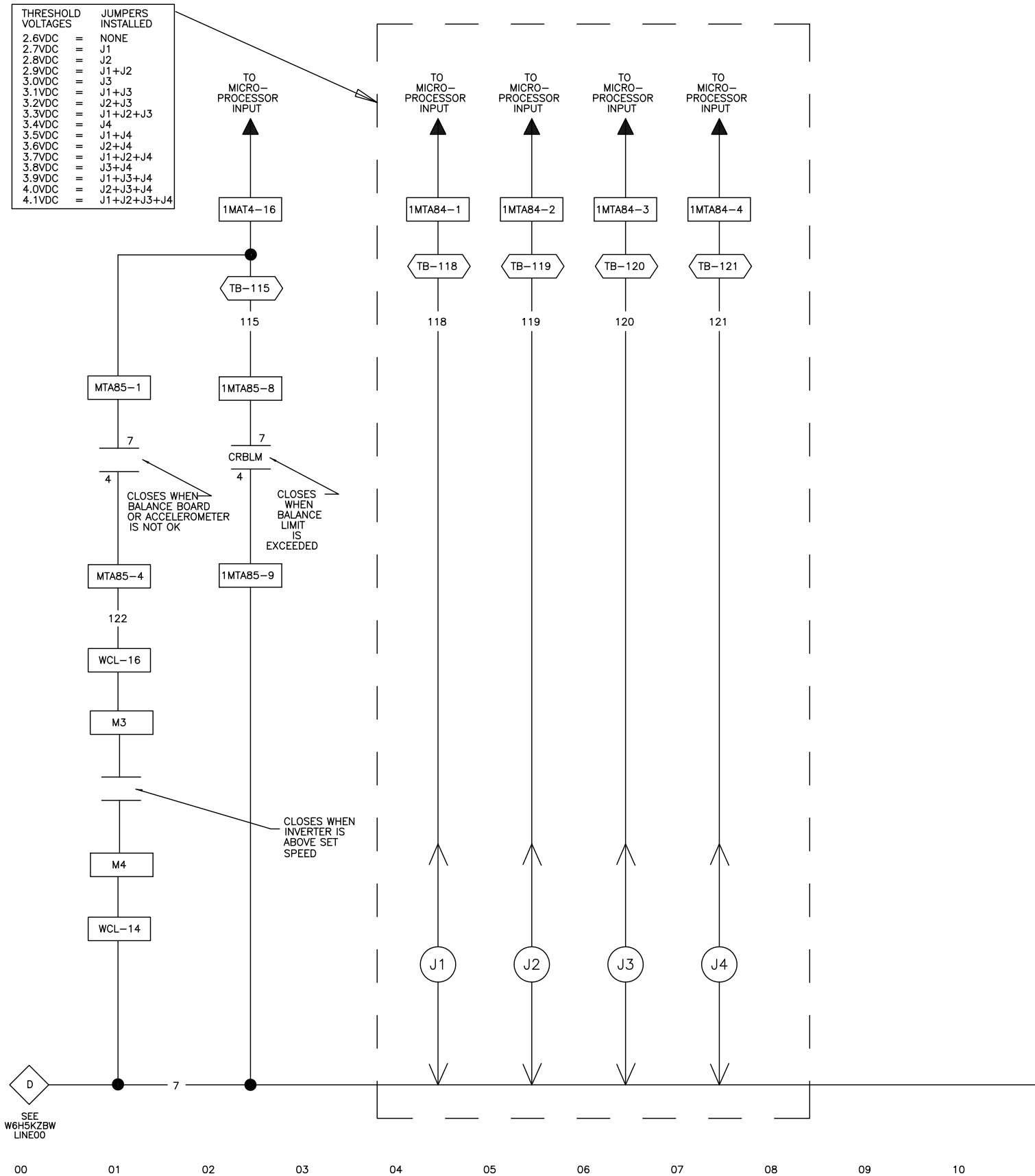
W6H5KZEB2  
MICRO 6 SYSTEMS  
MARK V  
SCHEMATIC: BALANCING VALVES  
MODIFIED FOR ELECTRONIC BALANCE  
FOR 7246 ONLY  
110V1P50HZ/120V1P60HZ  
PELLERIN MILNOR CORPORATION

W6H5KZEB2  
2024123B

W6H5KZEB2  
2024123B

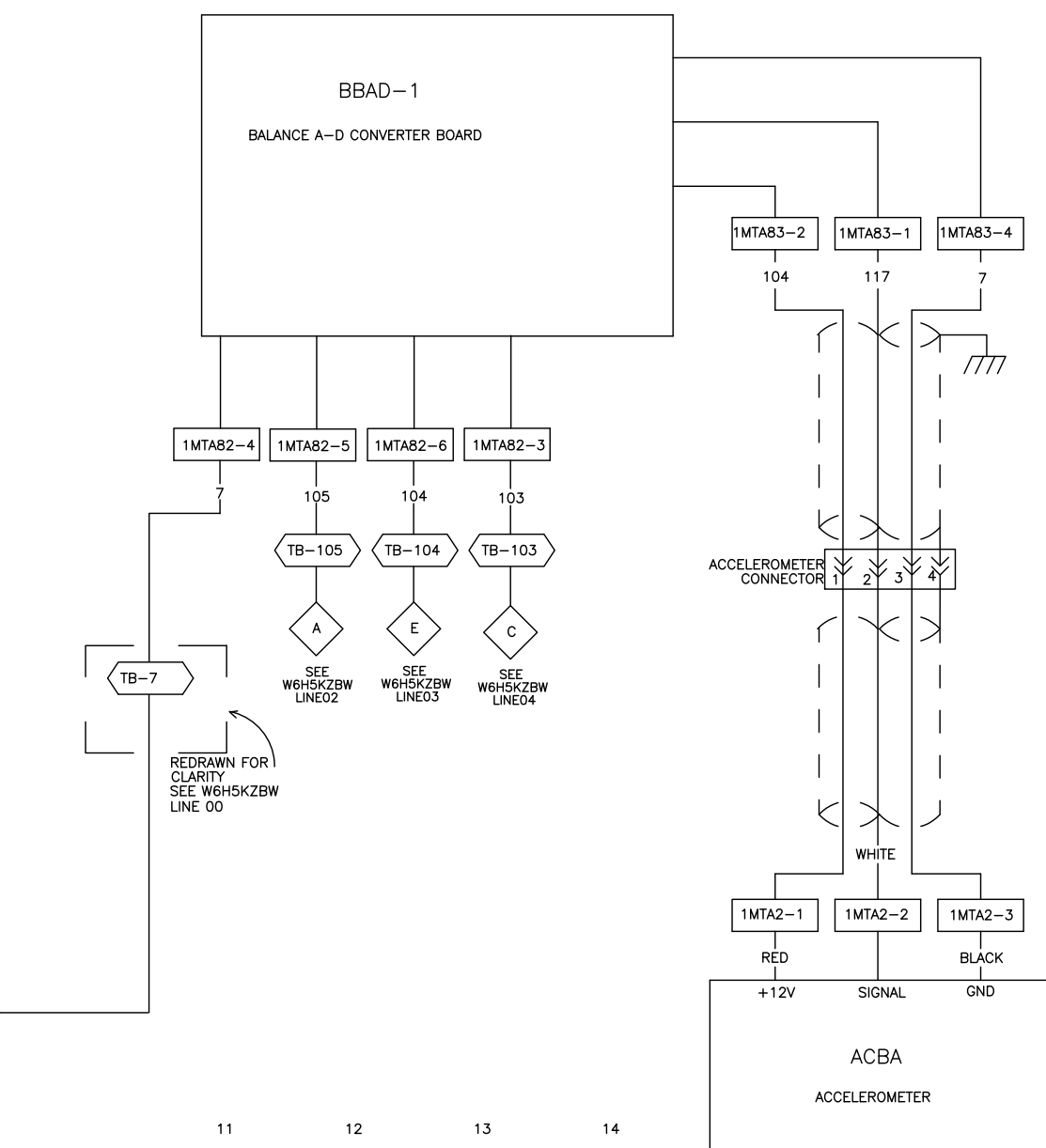
SPEED LIMIT THRESHOLD  
INPUTS ARE TO LIMIT  
SPEED IN EXTRACT WHEN  
THE MACHINE IS OUT OF BALANCE.  
JUMPERS ARE ADDED AT THE  
FACTORY TO ADJUST FOR VARIATIONS  
IN ACCELEROMETERS.

| THRESHOLD<br>VOLTAGES | JUMPERS<br>INSTALLED |
|-----------------------|----------------------|
| 2.6VDC                | = NONE               |
| 2.7VDC                | = J1                 |
| 2.8VDC                | = J2                 |
| 2.9VDC                | = J1+J2              |
| 3.0VDC                | = J3                 |
| 3.1VDC                | = J1+J3              |
| 3.2VDC                | = J2+J3              |
| 3.3VDC                | = J1+J2+J3           |
| 3.4VDC                | = J4                 |
| 3.5VDC                | = J1+J4              |
| 3.6VDC                | = J2+J4              |
| 3.7VDC                | = J1+J2+J4           |
| 3.8VDC                | = J3+J4              |
| 3.9VDC                | = J1+J3+J4           |
| 4.0VDC                | = J2+J3+J4           |
| 4.1VDC                | = J1+J2+J3+J4        |

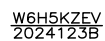


W6H5KZEC  
2020236B





W6H5KZEC



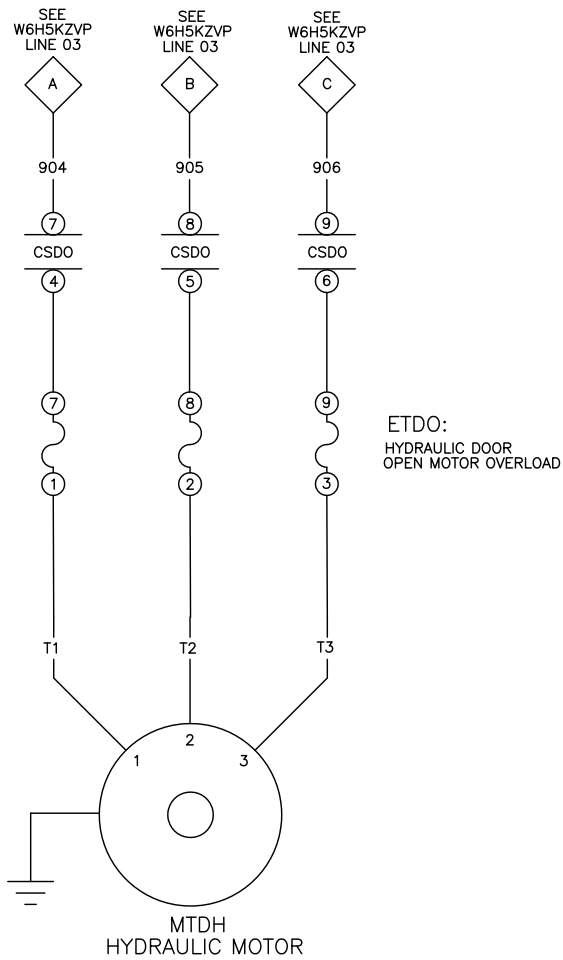
NOTE:  
REMOVE (J1) FOR DRAIN TO REUSE OPTION.

NOTE:  
REMOVE (J2) IF MACHINE IS EQUIPPED  
WITH SEPARATE COOLDOWN WATER VALVE.

W6H5KZEV

MILTOUCH-EX™ DOOR CHUTE  
SCHEMATIC: ELECTRICAL VALVES  
220V1P50HZ/240V1P60HZ  
PELLERIN MILNOR CORPORATION





# W6H5KZHDA

MILTOUCH-EX™ DOOR CHUTE  
SCHEMATIC; HYDRAULIC ROTATING CHUTE  
220V1P50HZ/240V1P60HZ  
PELLERIN MILNOR CORPORATION



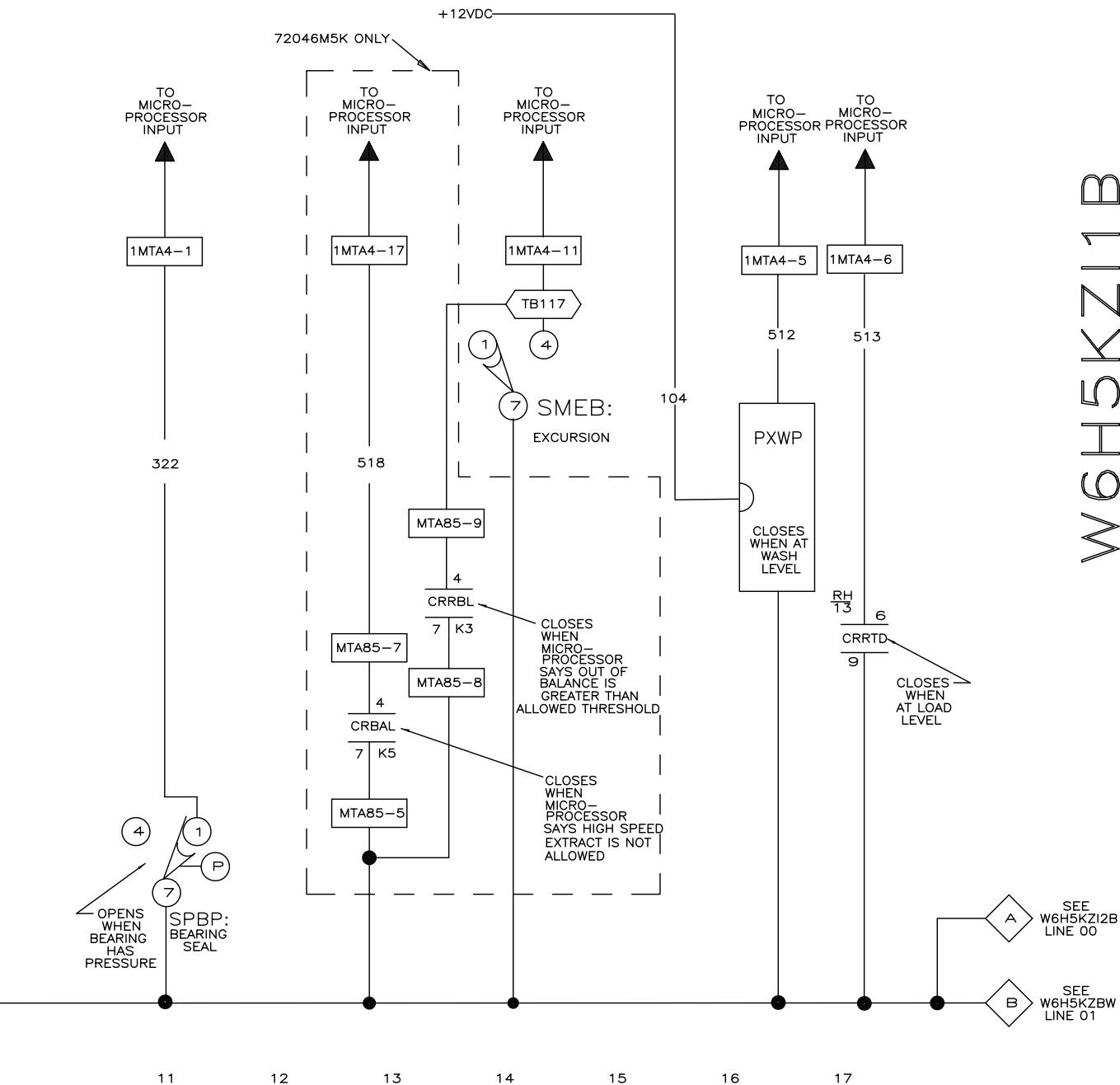
1. 1MTA3 AND 1MTA4 ARE LOCATED ON BIO-1 (8 OUTPUT-16 INPUT BOARD).
2. 2MTA4 IS LOCATED ON BIO-2 (8 OUTPUT-16 INPUT BOARD).
3. TBR, TBP, AND TB3 (COPPER BUS BAR) ARE LOCATED IN LOW VOLTAGE CONTROL BOX.
4. W1 IS LOCATED ON THE BSP (SPEED SENSING BOARD).

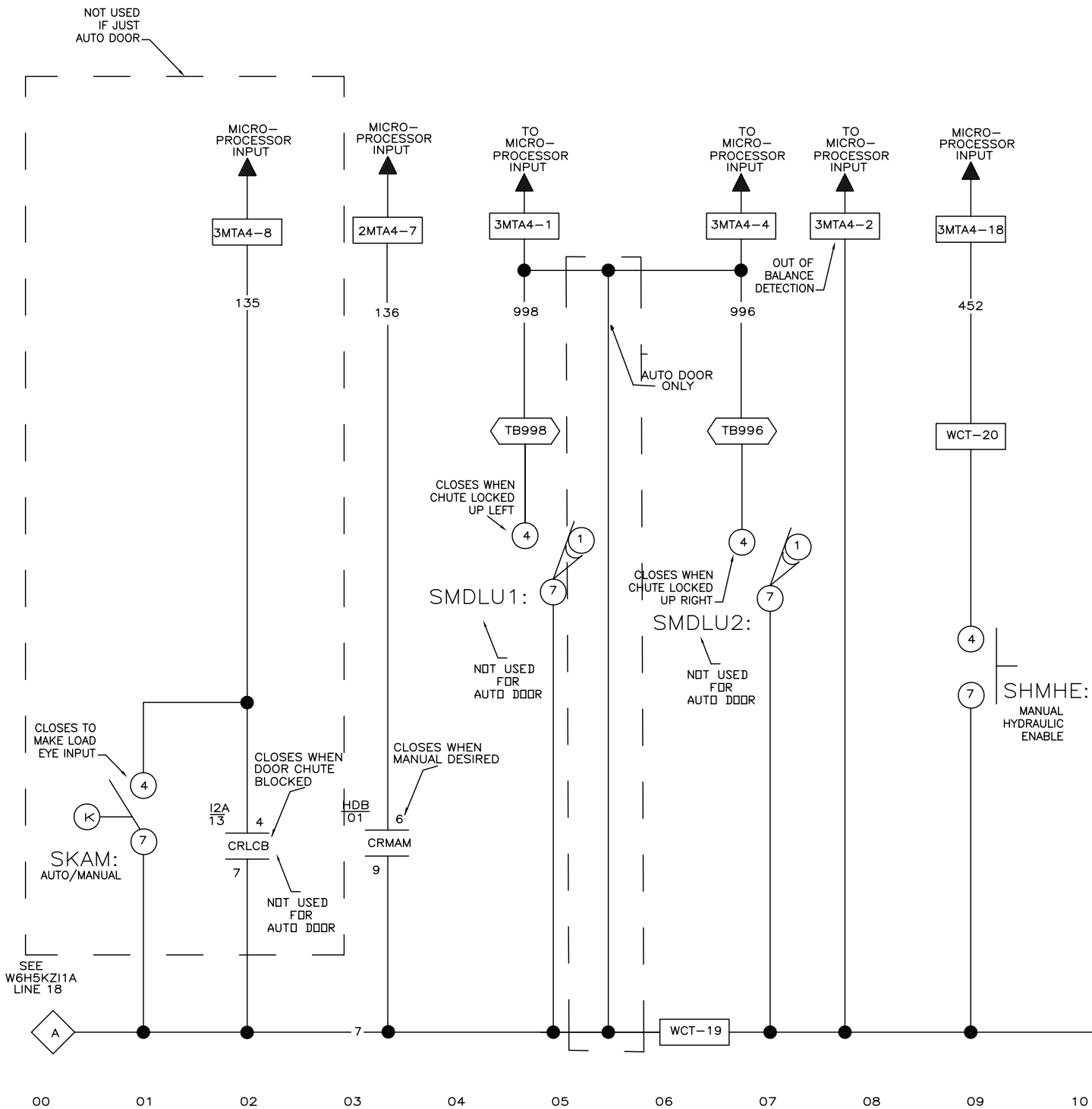
# W6H5KZ11B

## MILTOUCH-EX™ CONTROLS

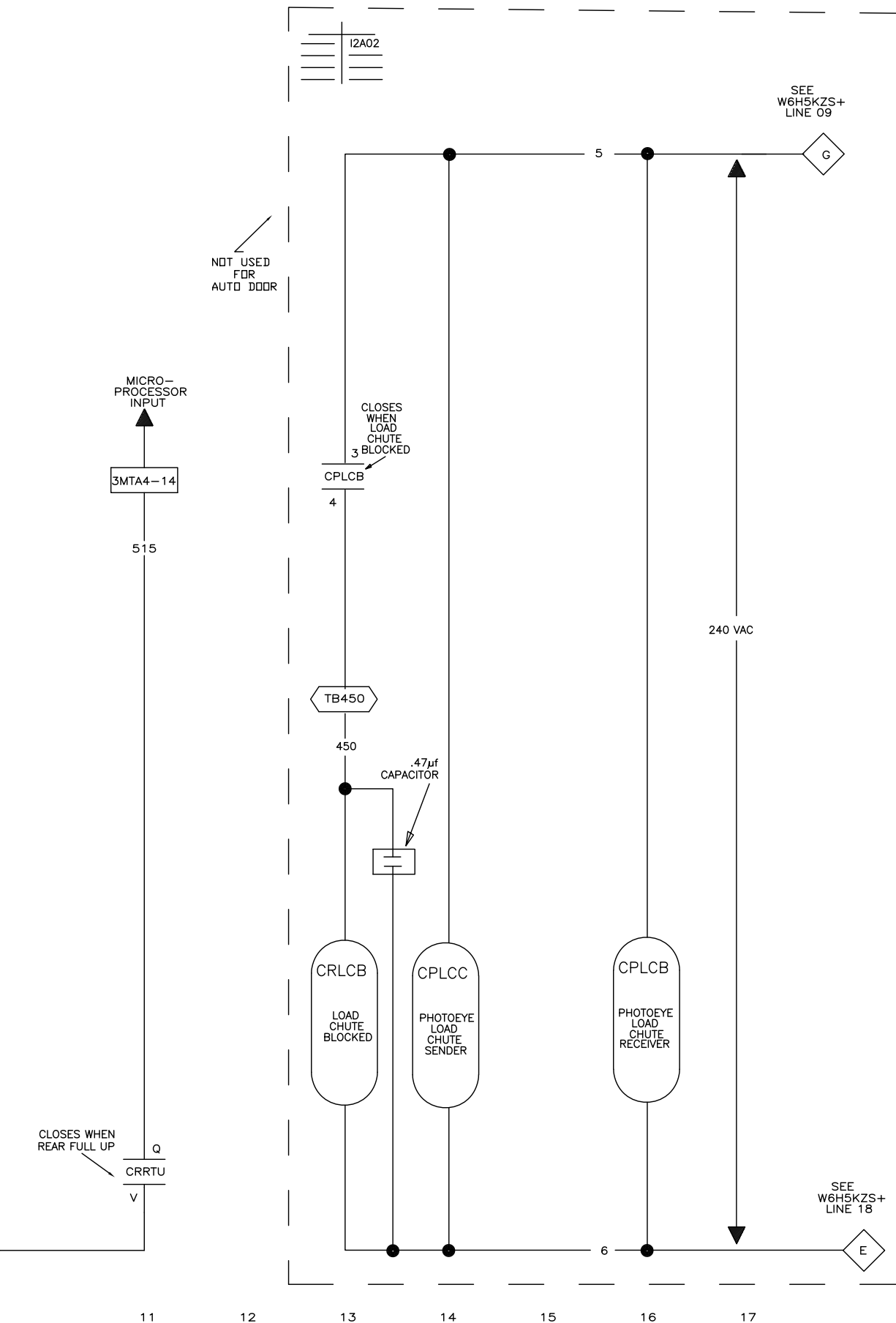
### SCHEMATIC: M5K MICROPROCESSOR INPUTS

PELLERIN MILNOR CORPORATION









# W6H5KZ12A

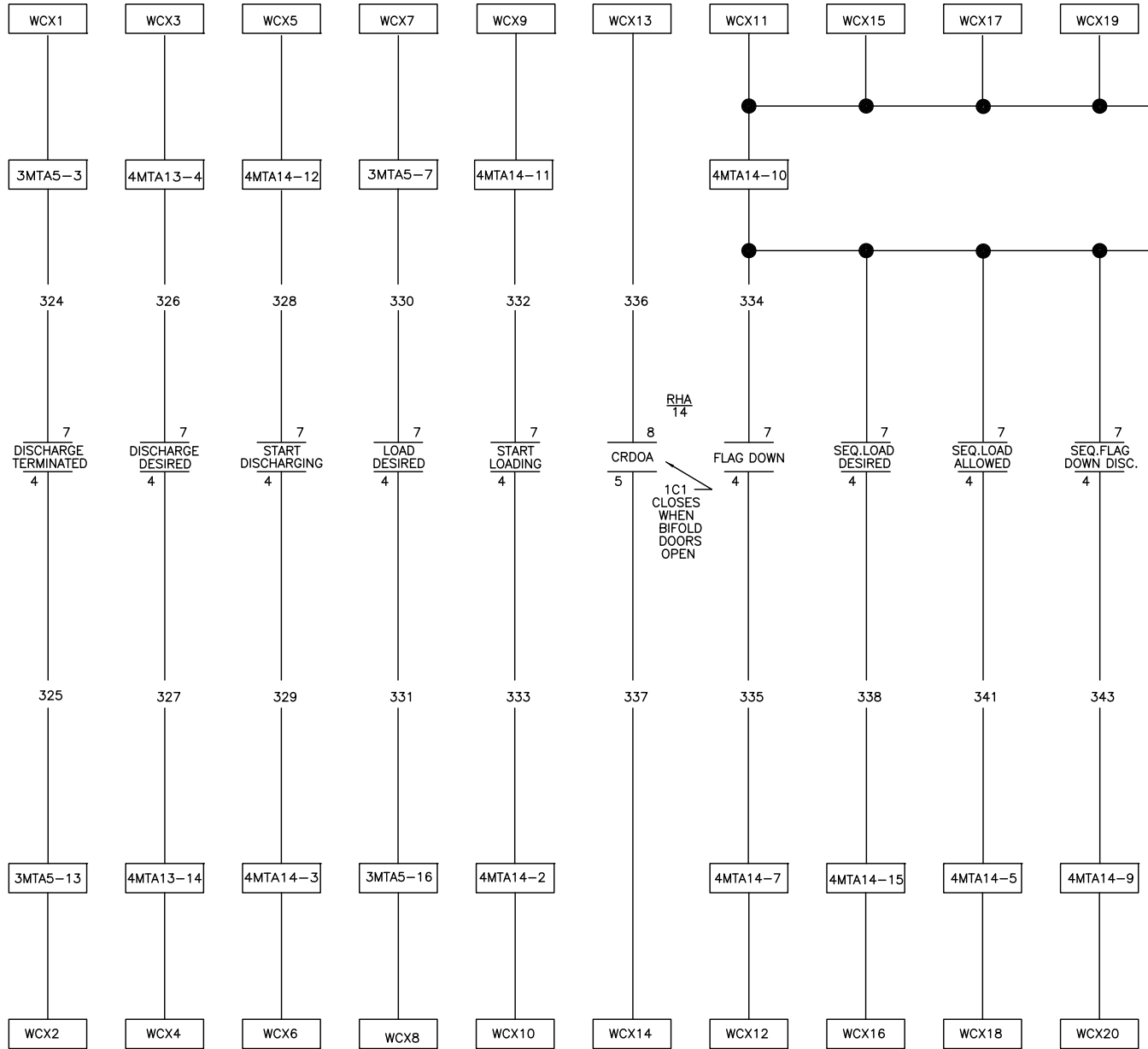
## MILTOUCH-EX™ CONTROLS

### SCHEMATIC: M5K MICROPROCESSOR INPUTS

PELLERIN MILNOR CORPORATION

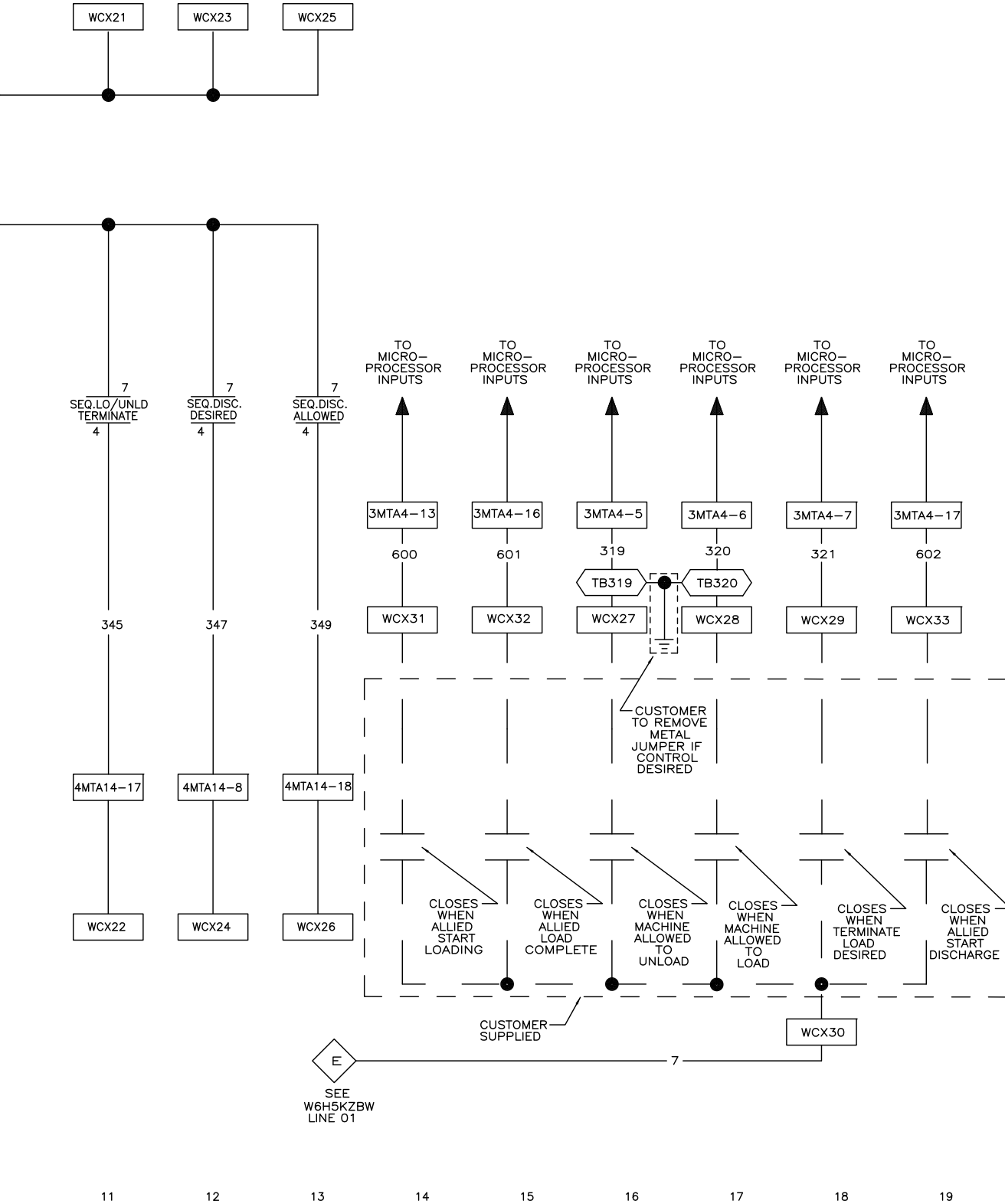
W6H5KZ12A  
2024123B

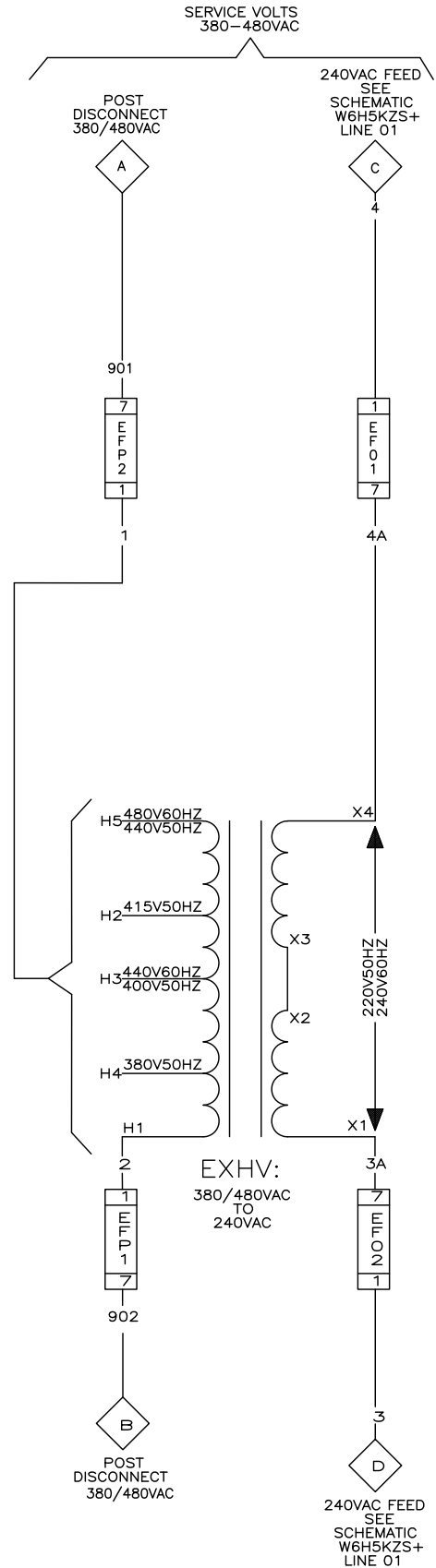
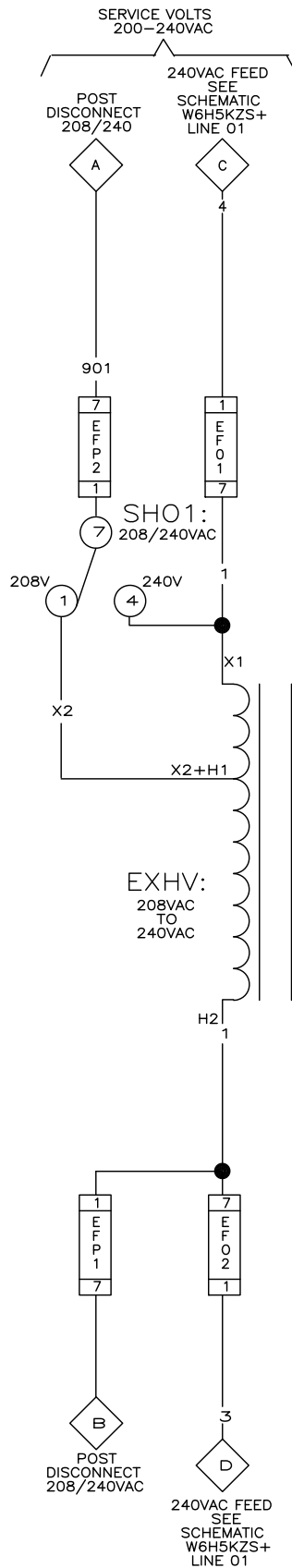
W6H5KZ12A  
2024123B



00 01 02 03 04 05 06 07 08 09 10

W6H5KZ10A  
MILTOUCH-EX™ DOOR CHUTE  
SCHEMATIC: M5K AUTOMATIC LOADING INPUTS/OUTPUTS  
PELLERIN MILNOR CORPORATION





00

01

02

03

04

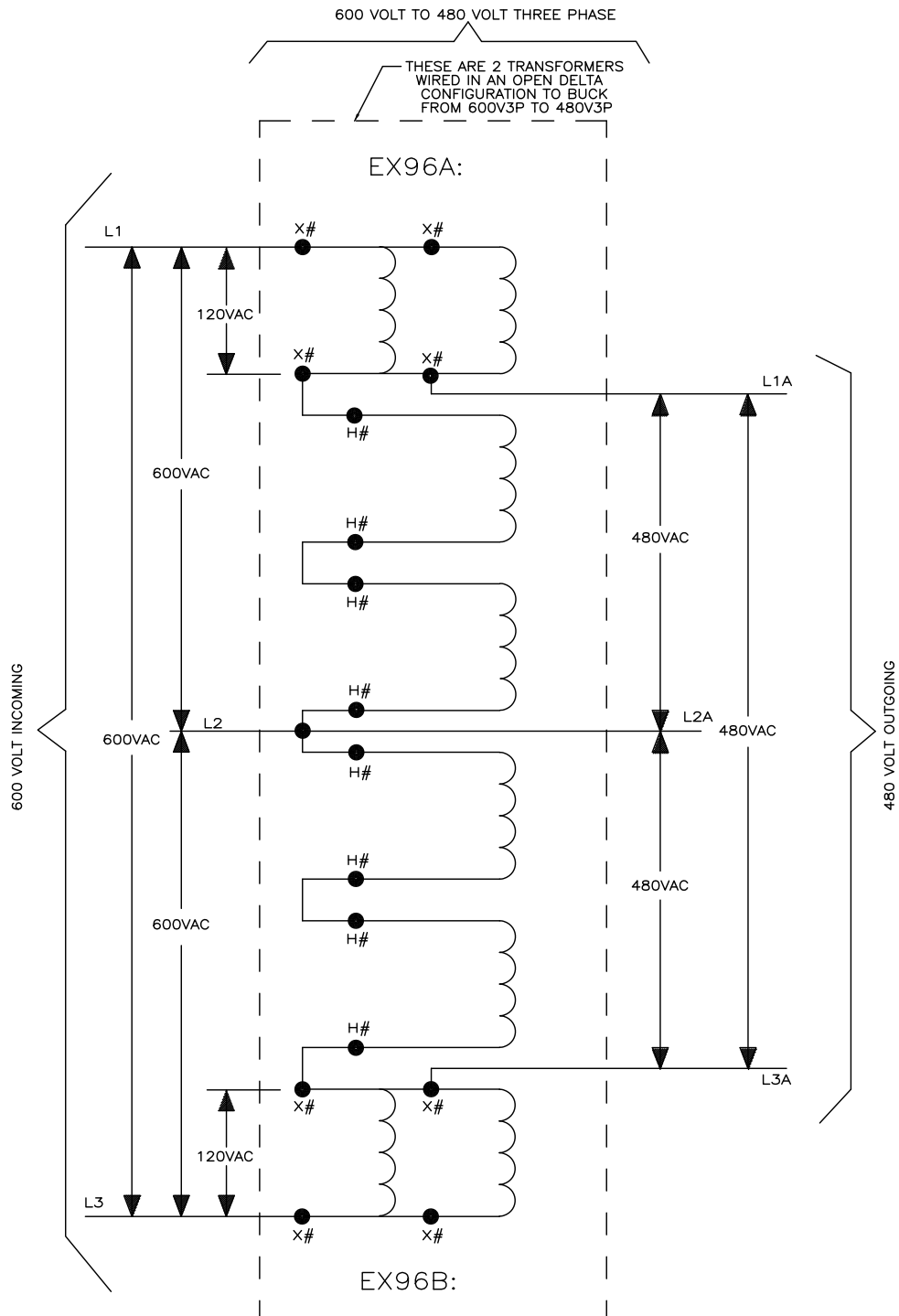
05

06

07

08

W6H5KZLV  
MILTOUCH-EX™ DOOR CHUTE  
SCHEMATIC:CONTROL CIRCUIT TRANSFORMER  
220V1P50HZ/240V1P60HZ  
PELLERIN MILNOR CORPORATION



REFER TO TRANSFORMER WIRING DIAGRAM  
FOR APPROPRIATE WIRE NUMBERS.

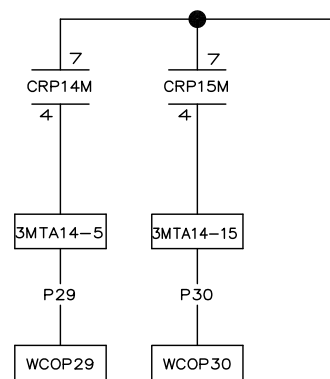
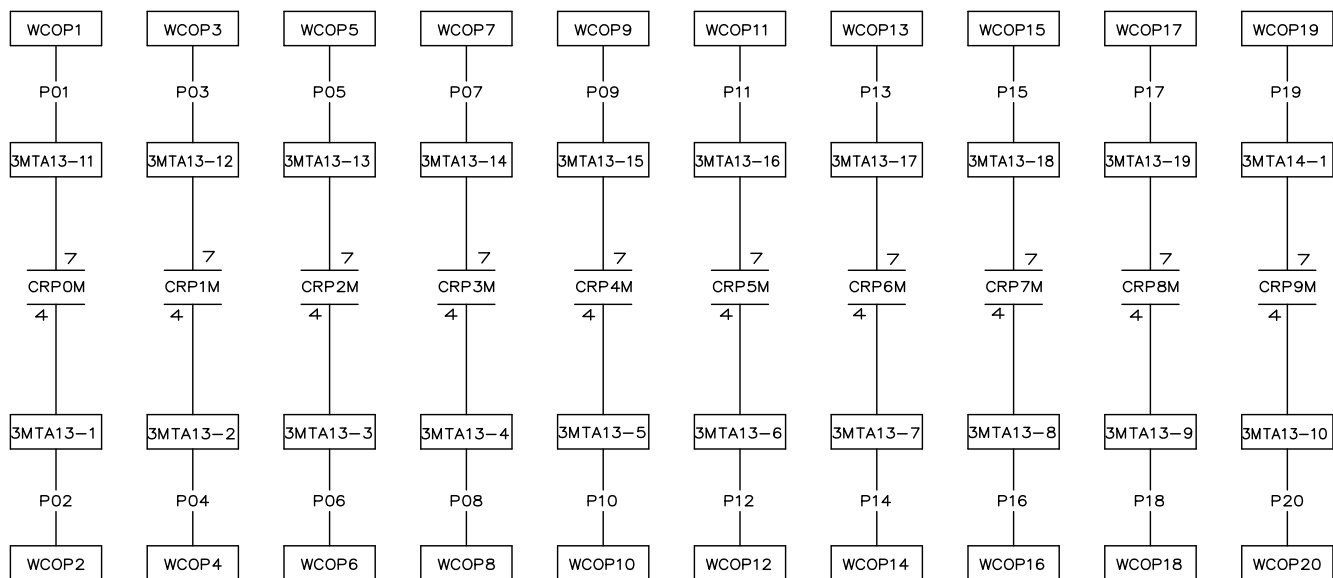
THE PRIMARY OF EACH TRANSFORMER  
NOTED BY H# MUST BE WIRED FOR 480  
VOLTS. THE SECONDARY OF EACH  
TRANSFORMER NOTED BY X# MUST BE  
WIRED FOR 120 VOLTS.

| INPUT (SUPPLY SYSTEM) | DESIRED OUTPUT CONNECTION |            |
|-----------------------|---------------------------|------------|
| DELTA 3 WIRE          | WYE 3 OR 4 WIRE           | DO NOT USE |
| OPEN DELTA 3 WIRE     | WYE 3 OR 4 WIRE           | DO NOT USE |
| WYE 3 OR 4 WIRE       | CLOSED DELTA 3 WIRE       | DO NOT USE |
| WYE 4 WIRE            | WYE 3 OR 4 WIRE           | OK         |
| WYE 3 OR 4 WIRE       | OPEN DELTA 3 WIRE         | OK         |
| CLOSED DELTA 3 WIRE   | OPEN DELTA 3 WIRE         | OK         |

W6H5KZMT6  
2020236B

# W6H5KZMT6

## MILTOUCH-EX™ DOOR CHUTE SCHEMATIC: 600V MACHINES 600V TO 480 VOLT STEP DOWN PELLERIN MILNOR CORPORATION

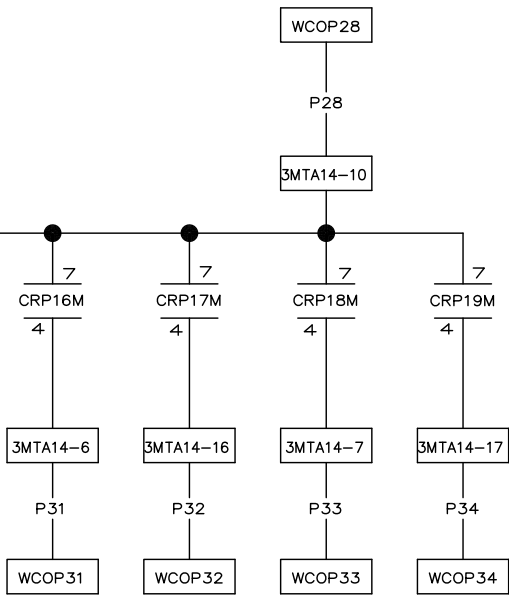
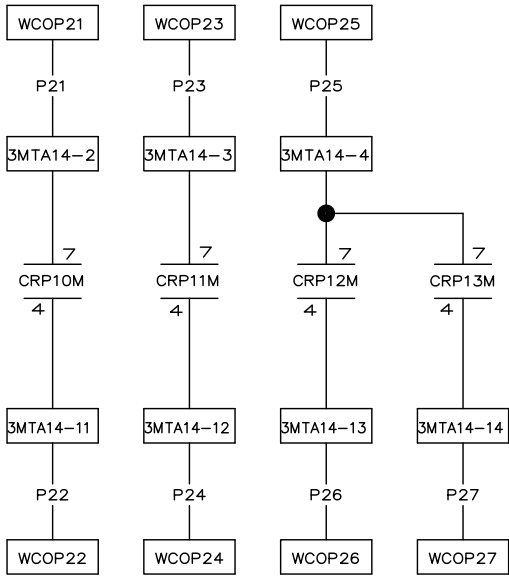




# W6H5KZOP

## MILTOUCH-EX™ DOOR CHUTE

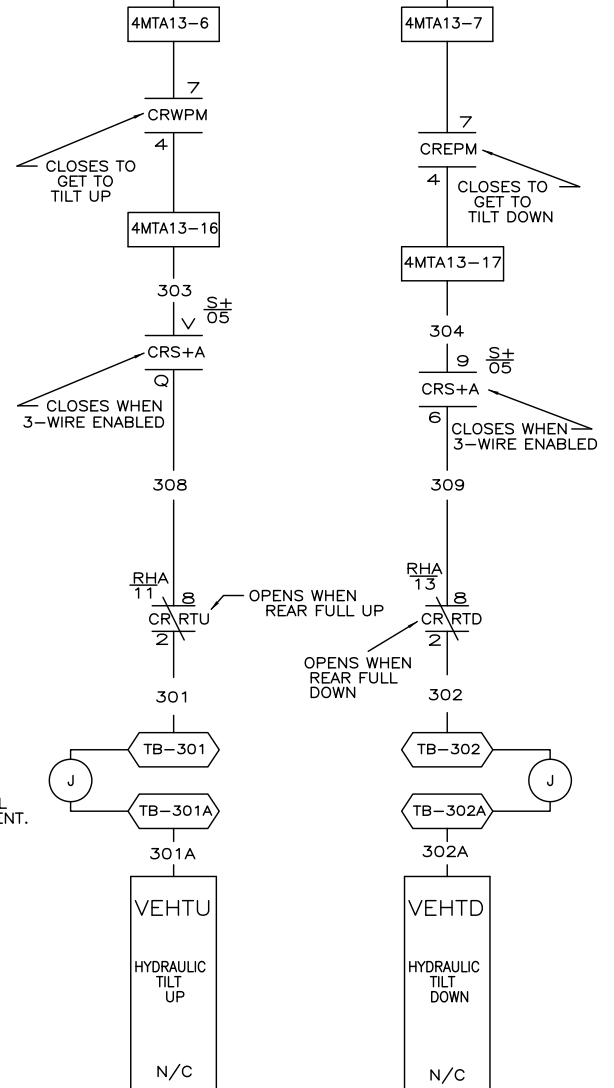
### SCHEMATIC: 20 OPTIONAL PROGRAMABLE OUTPUTS



C  
SEE  
W6H5KZS+  
LINE 00

8

240 VAC



SEE  
W6H5KZS+  
LINE 18

E

6

00

01

02

03

04

05

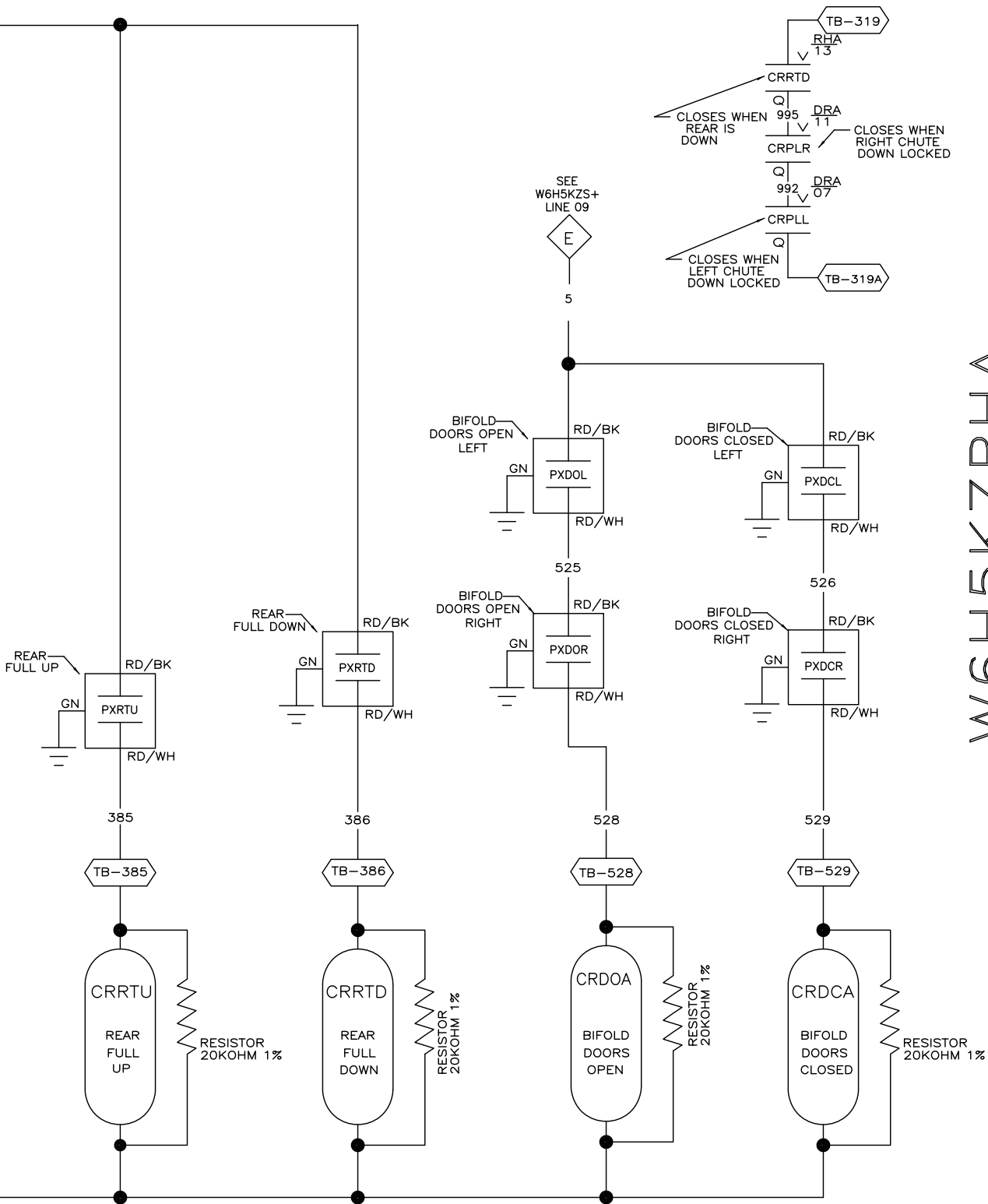
06

07

08

09

W6H5KZRHA  
2024123B

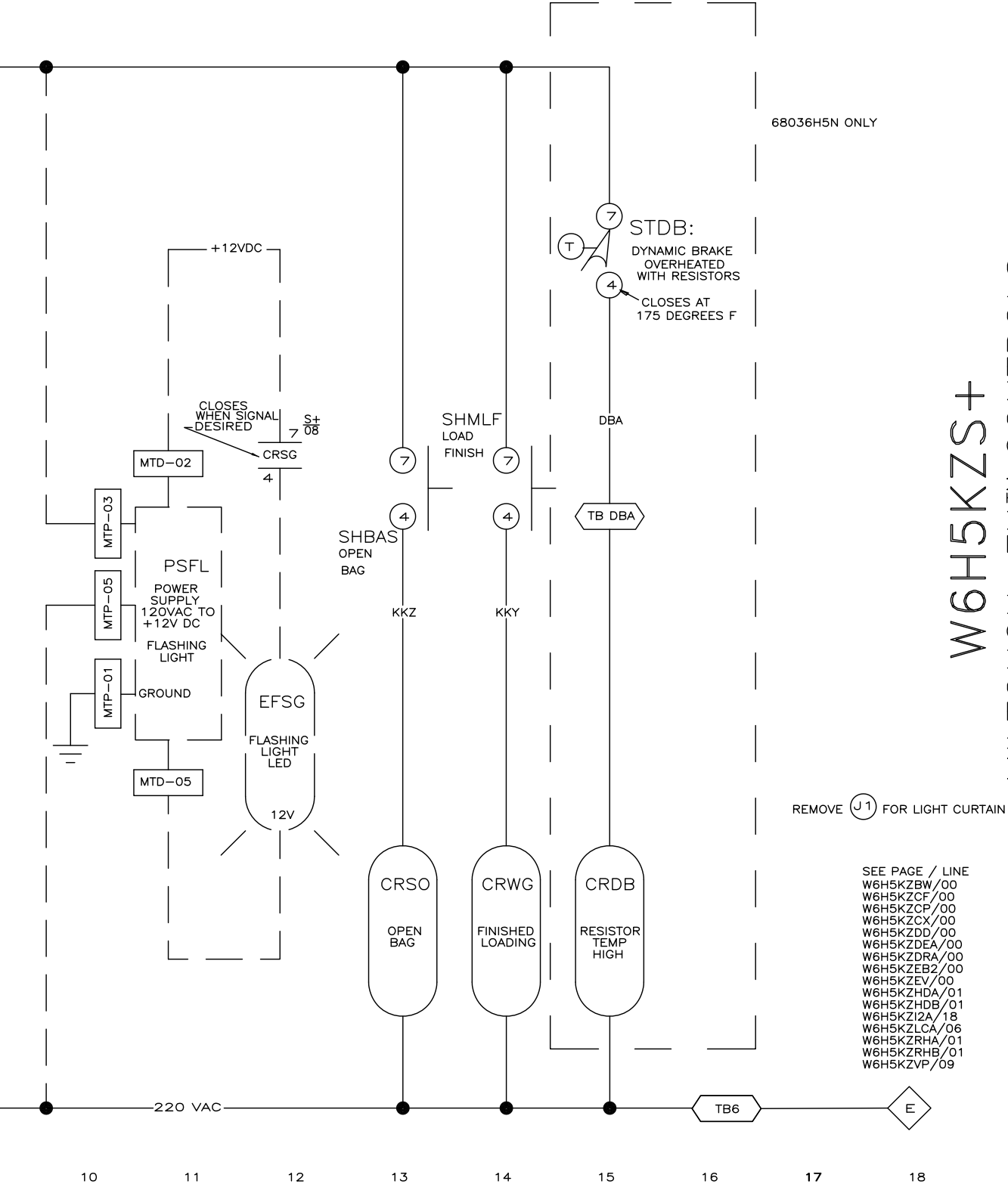


W6H5KZRHA  
MILTOUCH—EX™ DOOR CHUTE  
SCHEMATIC: M5K RAISE HOUSE  
220V1P50HZ/240V1P60HZ  
PELLERIN MILNOR CORPORATION



|  |       |  |       |  |      |  |
|--|-------|--|-------|--|------|--|
|  | LI014 |  | LI015 |  | S+04 |  |
|  |       |  |       |  |      |  |
|  |       |  |       |  |      |  |
|  |       |  |       |  |      |  |

W6H5KZS+  
2024123B



# W6H5KZS+

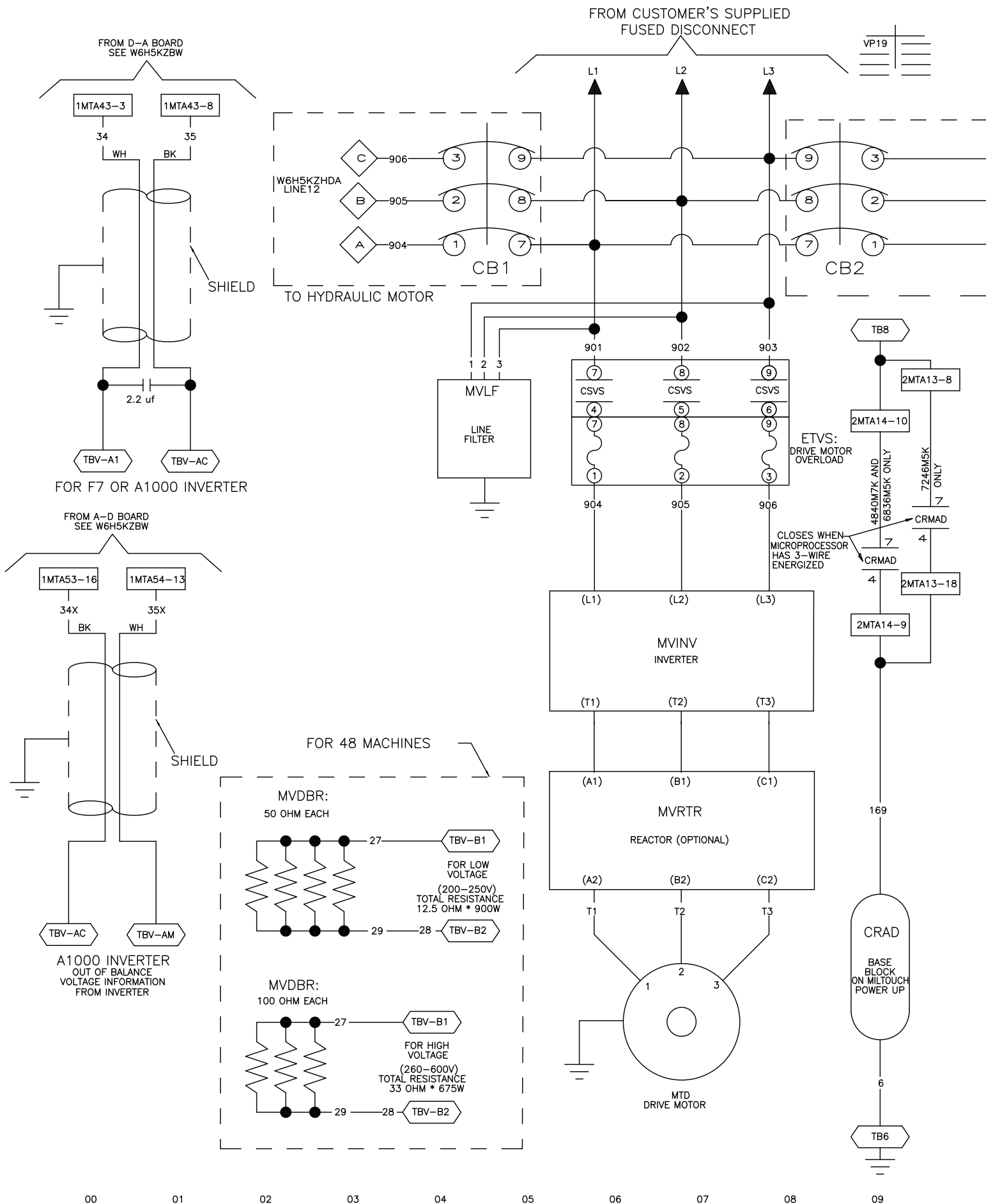
## MILTOUCH-EX™ CONTROLS

### SCHEMATIC: M5K START

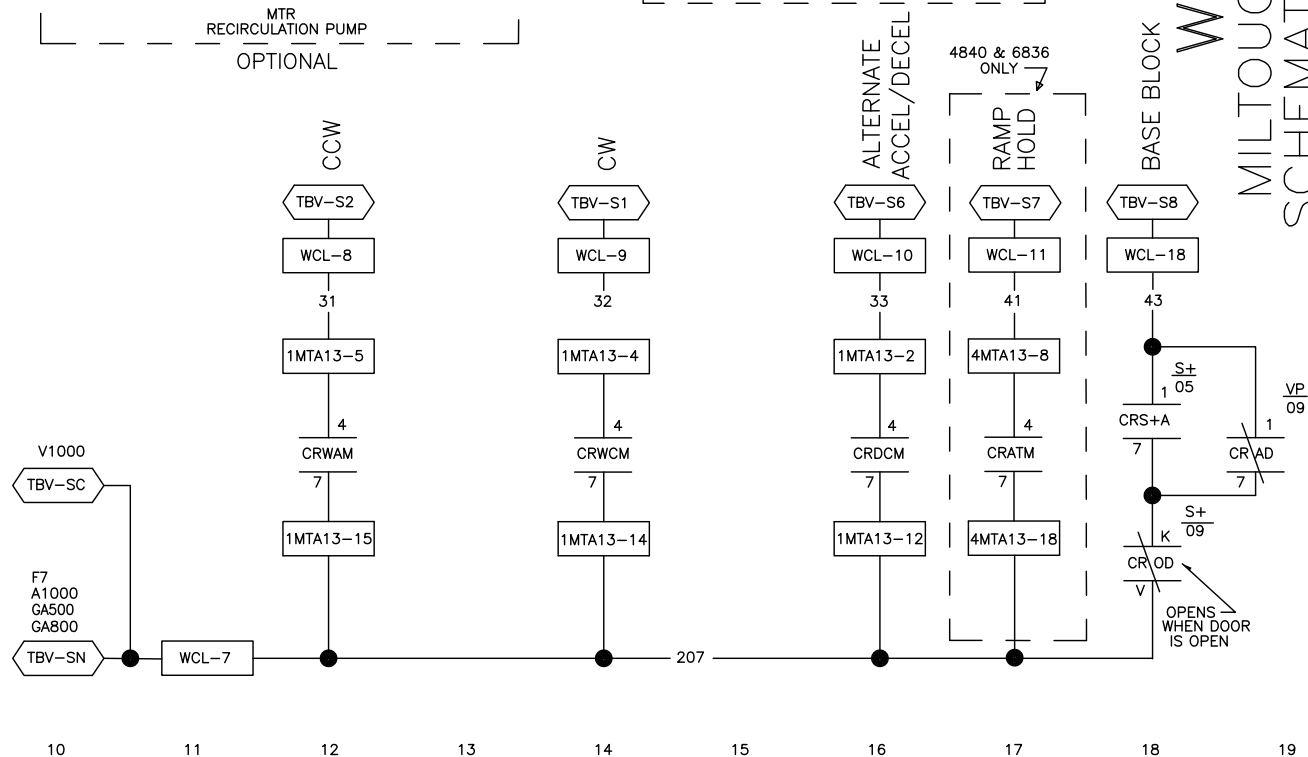
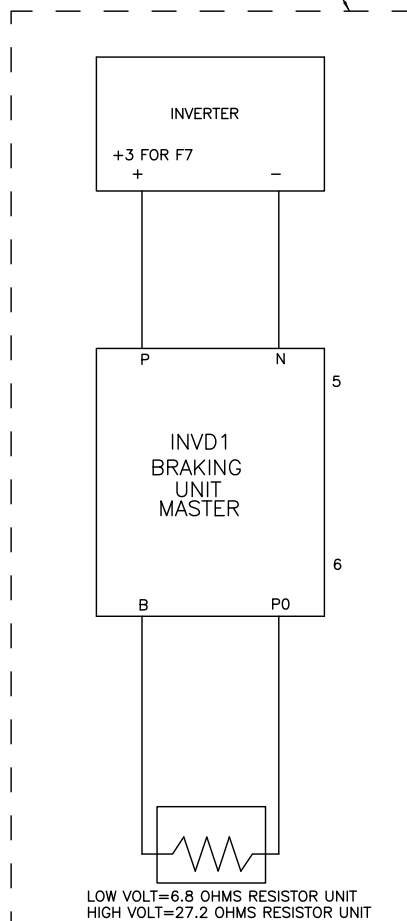
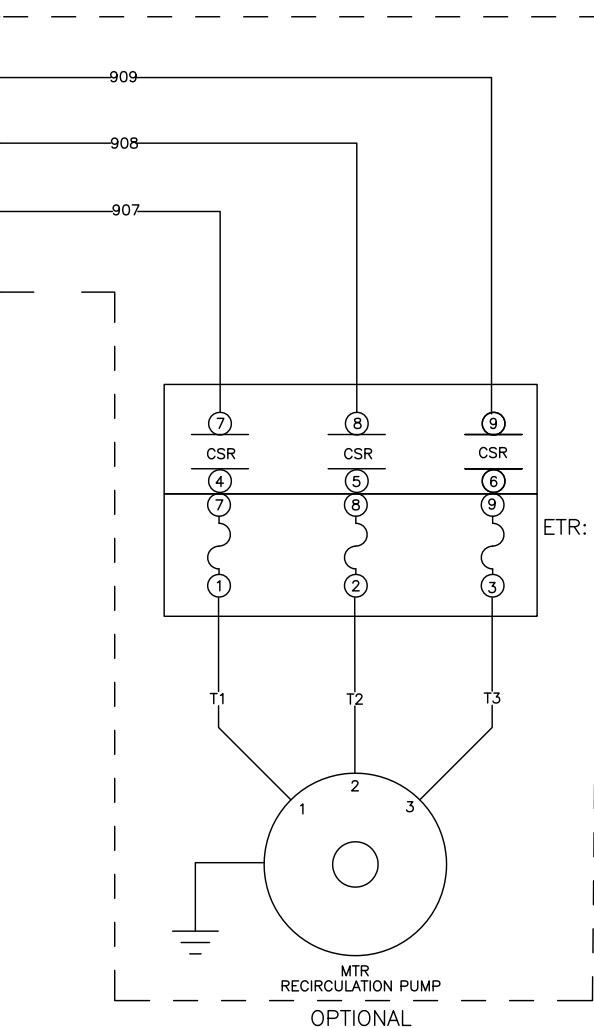
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