



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

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Schematic/Electrical Parts

36021, 36026, 42026 & 42030 V#Z

MilTouch Controls



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COMPONENT PARTS LIST

W7V6ZPL/2021274N

<u>COMPONENT NUMBER</u>	<u>FUNCTION OF THIS COMPONENT NUMBER</u>	<u>WHERE TO FIND THIS COMPONENT</u>	<u>MIL/NOR P/N</u>	<u>DESCRIPTION</u>	<u>LOCATION</u>
	>>>CONTROL BOX LAYOUTS				
01	DETAIL- CONTROL PANEL 36, 42 V6Z	W7V6ZTG1	B2T2012010	TAG 36/42V6/7Z PANEL	SEE FUNCTION
02	DETAIL- CONTROL PANEL 36021/26V5Z	W7V6ZTG1	B2T2012011	TAG 36V5Z MIL TOUCH	SEE FUNCTION
AC	>>ACCELEROMETER				
ACBA	BOARD-ACCELEROMETER	W7V6ZEC	EACCLRM7	ASSY ACCMTR RIGID EXT EXT+TEST	REAR OF MACH
BA	>>PRINTED CIRCUIT BOARDS				
BAFR	BOARD-START-RELAY	W7V6ZS+	08BHFRC7	BD-TV/X START CIRCUIT->TEST	REAR CNT PANEL
BAFR<7/1/17	BOARD-START-RELAY	W7V6ZS+A	08BHFRC7	BD-TV/X START CIRCUIT->TEST	REAR CNT PANEL
BAFR	BOARD-START-RELAY	W7V6ZS+A	08BHFRC7	START CIRCUIT BD-24VDC> TESTED	REAR CNT PANEL
BAUP < 2/5/16	BOARD=ARM9 PROCESSOR+TOUCH SCREEN	W7V6ZBW	08BHA9D3T	ASSY:ARM9 PROC+OPTREX DSP-TESTED	CNT BX ON SHELL
BAUP > 2/5/16	BOARD=ARM9 PROCESSOR+TOUCH SCREEN	W7V6ZBW	08BHA9E3GT	ASSY:ARM9 PROC+OPTREX DSP>REV G-TEST CNT BX ON SHELL	CNT BX ON SHELL
BBAD-1	BOARD- A TO D CONVERTER	W7V6ZEC	08BSBADCTE	SR BALANCE A-D BD EXTACTR-TEST	CONTROL BOX
BIO	BOARD=ARM9 INPUT/OUTPUT	W7V6ZBW	08BHF120AT	BD:ARM9 REMOTE PERIPHEAL-TESTED	CONTROL BOX
CB	>>CIRCUIT BREAKER				
CB1	CIRCUIT CREAKER-HEAT/CONTROLS 36021/26	W7V6ZEZ	09FC032CAA	IEC MINI CIR.BREAK 32A 480V3P D CURVE	CONTROL BOX
CB1	CIRCUIT CREAKER-HEAT/CONTROLS 42026/30	W7V6ZEZ	09FC050CAA	THERM MAG CIR.BREAK 50A 480V3P D CURVE	CONTROL BOX
CR	>>RELAY-PILOT OR CONTROL				
CRC1	RELAY-FLUSH CHEMICAL #1	W7V6ZCM	09C024D37	4PDT "KH" 110/120V	CONTROL BOX
CRC2	RELAY-FLUSH CHEMICAL #2	W7V6ZCM	09C024D37	4PDT "KH" 110/120V	CONTROL BOX
CRC3	RELAY-FLUSH CHEMICAL #3	W7V6ZCM	09C024D37	4PDT "KH" 110/120V	CONTROL BOX
CRC4	RELAY-FLUSH CHEMICAL #4	W7V6ZCM	09C024D37	4PDT "KH" 110/120V	CONTROL BOX
CRC5	RELAY-FLUSH CHEMICAL #5	W7V6ZCM	09C024D37	4PDT "KH" 110/120V	CONTROL BOX
CRC6	RELAY-FLUSH CHEMICAL #6	W7V6ZCM	09C024D37	4PDT "KH" 110/120V	CONTROL BOX
CRD	RELAY-OK TO OPEN DOOR	W7V6ZS+	09C024D37	4PDT "KH" 110/120V	CONTROL BOX
CRD	RELAY-OK TO OPEN DOOR	W7V6ZS+A	09C024D37	4PDT "KH" 110/120V	START/RELAY BD
CRDL	RELAY-DOOR CLOSED AND LOCKED	W7V6ZS+	09C024D37	4PDT "KH" 110/120V	START/RELAY BD
CRDL	RELAY-DOOR CLOSED AND LOCKED	W7V6ZS+A	09C024D37	4PDT "KH" 110/120V	START/RELAY BD
CRDRR	RELAY-DRAIN TO REUSE	W7V6ZEV	09C024D37	4PDT "KH" 110/120V	CONTROL BOX
CRE	RELAY-OK TO LOCK DOOR	W7V6ZS+A	09C024D37	4PDT "KH" 110/120V	START/RELAY BD
CS	>>CONTACTOR-MOTOR STARTER				
CSEH	CONTACTOR-ELECTRIC HEAT 36021/26	W7V6ZEV	09MC08L337	60A 3P MCS CONT NR 120V5/6	CONTROL BOX
CSEH	CONTACTOR-ELECTRIC HEAT 42026/30	W7V6ZEV	09MC08T337	115A 3P MCS CONT. NR 120V5/6	CONTROL BOX
CSVS	CONTACTOR-INVERTER 42V	W7V6ZS+A	09MC08J337	43A 3P MCS CONT NR 120V5/6	CONTROL BOX

COMPONENT PARTS LIST

<u>COMPONENT NUMBER</u>	<u>FUNCTION OF THIS COMPONENT NUMBER</u>	<u>WHERE TO FIND THIS COMPONENT</u>	<u>MIL/NOR P/N</u>	<u>DESCRIPTION</u>	<u>LOCATION</u>
CSV5	CONTACTOR-INVERTER 36V	W7V6ZS+A	09MC08G337	37A 3P MCS CONT NR 120V5/6	CONTROL BOX
CSV5	CONTACTOR-INVERTER 42V	W7V6ZS+	09MC08J337	43A 3P MCS CONT NR 120V5/6	CONTROL BOX
CSV6	CONTACTOR-INVERTER 36V	W7V6ZS+	09MC08G337	37A 3P MCS CONT NR 120V5/6	CONTROL BOX
EB	>>AUDIBLE SIGNAL				
EBSG	BUZZER-AUDIBLE SIGNAL	W7V8ZBW	09H020	ALARM SONALERT 115V	E-STOP BOX
EF	>>FUSE OR FUSE HOLDER				
EF1	FUSE-120V SECONDARY CIRCUIT	W7V6ZLV	09FF002AMG	FUSE BK/MDX 2 AMP 250V BUSS	CONTROL BOX
EPF1HV	FUSE-XFORMER PRIMARY <415 VOLTS	W7V6ZLV	09FF002AWN	FUSE BUSS #KTK 2 1/2 AMP 600V	CONTROL BOX
EPF1LV	FUSE-XFORMER PRIMARY >415 VOLTS	W7V6ZLV	09FF005AWN	FUSE #KTK 5A600V=HPS HOLDER	CONTROL BOX
EPF2HV	FUSE-XFORMER PRIMARY <415 VOLTS	W7V6ZLV	09FF002AWN	FUSE BUSS #KTK 2 1/2 AMP 600V	CONTROL BOX
EPF2LV	FUSE-XFORMER PRIMARY >415 VOLTS	W7V6ZLV	09FF005AWN	FUSE #KTK 5A600V=HPS HOLDER	CONTROL BOX
EL	>>LIGHTS /VISIBLE SIGNALS				
ELSG	LIGHT-FLASHING SIGNAL	W7V6ZBW	09H025V37	BEACON ROTARY 5.5" AMBER	TOP
EM	>>ELECTROMAGNET AND SOLENOID				
EMCF	FAN-INVERTER COOLING	W7V6ZS+	13AF100A37	FAN 92CFM115V60 NEWARK#90F6921	CONTROL BOX
EMCF	FAN-INVERTER COOLING	W7V6ZS+A	13AF100A37	FAN 92CFM115V60 NEWARK#90F6921	CONTROL BOX
EMDL	SOLENOID-DOOR UNLOCK	W7V6ZS+	09K062B37	SOLENOID (C-7)120/60--110/50	DOOR LTCH BX
EMDL	SOLENOID-DOOR UNLOCK	W7V6ZS+A	09K063C24	DOOR LOCK SOLENOID 24V	DOOR LOCK ASSY
EMDR	SOLENOID-DRAIN VALVE	W7V6ZEV	96D350A37	DRINVAL 3"N/O MTRDR120V 50/60C NO COV/D BELOW SHELL	DOOR LOCK ASSY
ES	>>POWER SUPPLY-ELECTRONIC				
ESPS	POWER SUPPLY-MICROPROCESSOR	W7V6ZBW	08PSS3401T	40 WATT POWER SUPPLY TESTED	CONTROL BOX
EX	>>TRANSFORMERS				
EX96A	TRANSFORMER-600V PRI/480V SEC	W7V6ZMT6	09US010A96	XFMR 1PH1.5KVA240/480X120/240	SIDE OF MACH
EX96B	TRANSFORMER-600V PRI/480V SEC	W7V6ZMT6	09US010A96	XFMR 1PH1.5KVA240/480X120/240	SIDE OF MACH
EXHV-1	TRANSFORMER-208/240>120VAC	W7V6ZLV	09UA025A37	XFMR 200-240PRI/I120SEC 250V5/6	CONTROL BOX
EXHV-2	TRANSFORMER-380/480>120VAC	W7V6ZLV	09UA025AAB	XFMR 380-480PRI/I120-240SEC250V	CONTROL BOX
INVERTER	INVERTER-4230V6Z <250V	W7V6ZVPA	09MWC04774	A1000 INVERTER 47 AMP	CONTROL BOX
INVERTER	INVERTER-4226V6Z <250V	W7V6ZVPA	09MWB03374	V1000 INVERTER 33AMP 230V	CONTROL BOX
INVERTER	INVERTER-36"V6Z <250V	W7V6ZVPA	09MWB02574	V1000 INVERTER 25AMP 230V	CONTROL BOX
INVERTER	INVERTER-4230V6Z >250V	W7V6ZVPA	09MWB01896	V1000 INVERTER 18AMP 460V	CONTROL BOX
INVERTER	INVERTER-36"V5Z <250V	W7V6ZVPA	09MWB01774	V1000 INVERTER 17.5AMP 230V	CONTROL BOX
INVERTER	INVERTER-36"V7Z >250V	W7V6ZVPA	09MWB01596	V1000 INVERTER 15AMP 460V	CONTROL BOX
INVERTER	INVERTER-36"V5Z >250V	W7V6ZVPA	09MWB00996	V1000 INVERTER 9.2AMP 460	CONTROL BOX

COMPONENT PARTS LIST

<u>COMPONENT NUMBER</u>	<u>FUNCTION OF THIS COMPONENT NUMBER</u>	<u>WHERE TO FIND THIS COMPONENT</u>	<u>MIL/NOR P/N</u>	<u>DESCRIPTION</u>	<u>LOCATION</u>
INVERTER	INVERTER-4226V6Z >250V	W7V6ZVPA	09MWB02496	V1000 INVERTER 24AMP 460V	CONTROL BOX
MOV	VARIATOR-TRANSIENT VOLTAGE PROTECTOR	W7V6ZBW	08MOV0240	VARIATER-METAL OXIDE 240VAC	CONTROL BOX
MT	>> MOTORS				
MTWE	MOTOR-36V7	W7V6ZVPA	39G820AAT	10HP 4P 220/380/440 50/60HZ	BOTTOM REAR
MTWE	MOTOR-4226V6	W7V6ZVPA	39G820AAT	10HP 4P 220/380/440 50/60HZ	BOTTOM REAR
MTWE	MOTOR-36V5	W7V6ZVPA	39G809AAT	5HP 6P ODP 208-240/480 50/6	BOTTOM REAR
MTWE	MOTOR-4230V6	W7V6ZVPA	39G830AAT	15HP 4P 220/380/440 50/60HZ	BOTTOM REAR
MV	>>> MOTOR POWER INVERTERS				
MV/DBR	RESISTOR-36+42 LOW VOLT, 42 HIGH VOLT	W7V6ZVPA	09MV050REV	RESISTOR 50OHM 225W #FVT200-50	CONTROL BOX
MV/DBR	RESISTOR-42 LOW VOLT	W7V6ZVPA	09MV010REV	RESISTOR 100HM 225W #FVT200-10	CONTROL BOX
MV/INR	REACTOR - INVERTER HIGH VOLTAGE	W7V6ZVPA	09MX075A96	REACTOR 7.5HP 460V 12A	REAR CNT PANEL
MV/INR	REACTOR - INVERTER LOW VOLTAGE	W7V6ZVPA	09MX075A74	INVERT RECTR 5HP 200-240V 25A	REAR CNT PANEL
MV/INV	INVERTER-3621/26V5Z LOW VOLTAGE	W7V6ZVPA	09MWB01774	V1000 INVERTER 17.5AMP 230V	REAR CNT PANEL
MV/INV	INVERTER-3621/26V5Z LOW VOLTAGE	W7V6ZVPA	09MWD01774	GA500 INVERTER 17 AMP 230V	REAR CNT PANEL
MV/INV	INVERTER-3621/26V5Z HIGH VOLTAGE	W7V6ZVPA	09MWB00996	V1000 INVERTER 9.2AMP 460V	REAR CNT PANEL
MV/INV	INVERTER-3621/26V5Z HIGH VOLTAGE	W7V6ZVPA	09MWD00996	GA500 INVERTER 9.2 AMP 460V	REAR CNT PANEL
MV/INV	INVERTER-3621/26V7Z LOW VOLTAGE	W7V6ZVPA	09MWB03374	V1000 INVERTER 33AMP 230V	REAR CNT PANEL
MV/INV	INVERTER-3621/26V7Z LOW VOLTAGE	W7V6ZVPA	09MWD03374	GA500 INVERTER 33 AMP 230V	REAR CNT PANEL
MV/INV	INVERTER-3621/26V7Z HIGH VOLTAGE	W7V6ZVPA	09MWB01596	V1000 INVERTER 15AMP 460V	REAR CNT PANEL
MV/INV	INVERTER-3621/26V7Z HIGH VOLTAGE	W7V6ZVPA	09MWD01596	GA500 INVERTER 15AMP 460V	REAR CNT PANEL
MV/INV	INVERTER-4226/30V7Z LOW VOLTAGE	W7V6ZVPA	09MWB03374	V1000 INVERTER 33AMP 230V	REAR CNT PANEL
MV/INV	INVERTER-4226/30V7Z LOW VOLTAGE	W7V6ZVPA	09MWD03374	GA500 INVERTER 33 AMP 230V	REAR CNT PANEL
MV/INV	INVERTER-4226/30V7Z LOW VOLTAGE	W7V6ZVPA	09MWC04774	A1000 INVERTER 47 AMP	REAR CNT PANEL
MV/INV	INVERTER-4226/30V7Z LOW VOLTAGE	W7V6ZVPA	09MWD04774	GA500 INVERTER 47 AMP 230V	REAR CNT PANEL
MV/INV	INVERTER-4226/30V7Z HIGH VOLTAGE	W7V6ZVPA	09MWB01896	V1000 INVERTER 18AMP 460V	REAR CNT PANEL
MV/INV	INVERTER-4226/30V7Z HIGH VOLTAGE	W7V6ZVPA	09MWD01896	GA500 INVERTER 18 AMP 460V	REAR CNT PANEL
RS	>> RESISTOR				
RS01	RESISTOR-POWER SUPPLY LOADING	W7V6ZBW	09AR16R25	RESISTOR 16 OHMS 25 WATTS	CONTROL BOX
SH	>> SWITCH-HAND OPERATED				
SHDD	SWITCH-UNLATCH DOOR	W7V6ZS+	09N405PB10	SWASS PBBK 1NO	SWITCH PANEL
SHDO	SWITCH-DOOR OPEN	W7V6ZIA		NOT USED	
SHES	SWITCH-OPTIONAL EMERGENCY STOP	W7V6ZS+	09N508	SW ASSY EMER STOP VERSION 3	SWITCH PANEL
SHES	SWITCH-OPTIONAL EMERGENCY STOP	W7V6ZS+A	09N508	SW ASSY EMER STOP VERSION 3	SWITCH PANEL

COMPONENT PARTS LIST

<u>COMPONENT</u> <u>NUMBER</u>	<u>FUNCTION OF THIS</u> <u>COMPONENT NUMBER</u>	<u>WHERE TO FIND</u> <u>THIS COMPONENT</u>	<u>MIL/NOR P/N</u>	<u>DESCRIPTION</u>	<u>LOCATION</u>
SHMA	SWITCH-MASTER	W7V6ZS+	09N405M210	SWASS M2W 1NO	SWITCH PANEL
SHMA	SWITCH-MASTER	W7V6ZS+A	09N405M210	SWASS M2W 1NO	SWITCH PANEL
SHWD	SWITCH-WASH DIRECTION	W7V6ZIA	09N405M210	SWASS M2W 1NO	SIDE OF SW PANEL
SM	>>>SWITCH-MECHANICAL OPERATED				
SMD	SWITCH-DOOR INTERLOCK	W7V6ZS+	09R014A	MINI-SW SPDT STAKON #V15G1C26K	DOOR LTCH BX
SMD	SWITCH-DOOR INTERLOCK	W7V6ZS+A	09R010D	DOOR LOCK SWITCH	DOOR LTCH BX
SME	SWITCH-DOOR LOCKED	W7V6ZS+A	02 04177	MICROSWITCH=W/MAN CUT LEVER	
SMVB	SWITCH-VIBRATION	W7V6ZIA	09R020	SWITCH NC VIBR#WZ-2RW84429-P52	CONTROL BOX
SP	>>>PRESSURE SWITCH				
SPEH	SWITCH-MINIMUM LEVEL FOR ELEC. HEAT	W7V6ZEV	09N069	PRESS SW 4"WC INVEN SYS 738-719	CONTROL BOX
ST	>>>TEMPERATURE SWITCH				
STDB	SWITCH-THERMOSTAT DYNAMIC BRAKE	W7V6ZS+	30RA175T	THERMOSTAT OPENS AT 175F	BRAKING RESIST
STDB	SWITCH-THERMOSTAT DYNAMIC BRAKE	W7V6ZS+A	30RA175T	THERMOSTAT OPENS AT 175F	BRAKING RESIST
TP	>>TEMPERATURE PROBE				
TP1	PROBE-TEMPERATURE	W7V6ZBW	30R0043P	TEMP PROBE:THERMISTOR 30K OHMS	BOTTOM OF SHELL
VE	>>VALVE-ELECTRIC OPERATED				
VEC1	VALVE-FLUSH CHEM POCKET 1	W7V6ZCF	--	CHEMICAL FLUSHING VALVE BY OTHERS	PWR CONN BX
VEC2	VALVE-FLUSH CHEM POCKET 2	W7V6ZCF	--	CHEMICAL FLUSHING VALVE BY OTHERS	PWR CONN BX
VEC3	VALVE-FLUSH CHEM POCKET 3	W7V6ZCF	--	CHEMICAL FLUSHING VALVE BY OTHERS	PWR CONN BX
VEC4	VALVE-FLUSH CHEM POCKET 4	W7V6ZCF	--	CHEMICAL FLUSHING VALVE BY OTHERS	PWR CONN BX
VEC5	VALVE-FLUSH CHEM POCKET 5	W7V6ZCF	--	CHEMICAL FLUSHING VALVE BY OTHERS	PWR CONN BX
VEC6	VALVE-FLUSH CHEM POCKET 6	W7V6ZCF	--	CHEMICAL FLUSHING VALVE BY OTHERS	PWR CONN BX
VEC6	VALVE-STARCH TANK TO MACHINE	W7V6ZCF	96TAC3AA37	1/8" N/C 3WAY 120V50/60C VALVE	CONTROL BOX
VEC6F	VALVE-STARCH TANK FLUSH	W7V6ZCF	96TAC3AA37	1/8" N/C 3WAY 120V50/60C VALVE	CONTROL BOX
VEC7	VALVE-FLUSH CHEM POCKET 7	W7V6ZCF	--	CHEMICAL FLUSHING VALVE BY OTHERS	PWR CONN BX
VEC8	VALVE-FLUSH CHEM POCKET 8	W7V6ZCF	--	CHEMICAL FLUSHING VALVE BY OTHERS	PWR CONN BX
VEDR	VALVE-OPTIONAL ELECTRIC DRAIN	W7V6ZEV	96D350A37	DRIN VAL 3"N/O MTRDR120V 50/60C	BELOW SHELL
VEDRR	VALVE-DRAIN TO REUSE	W7V6ZEV	96D350B37	DRAIN VAL 3"N/C MTRDRV120V 50/6	BELOW SHELL
VESTM	VALVE-STEAM	W7V6ZEV	96R301A37	1/8" PILOT 3W-NC 110/50 120/60	AIR VALVE BX
VEWC	VALVE-COLD WATER	W7V6ZEV	96P056A37	3/4"NC 110V 50/60 W/LEADS BURK	SIDE OF MACH
VEWH	VALVE-HOT WATER	W7V6ZEV	96P056A37	3/4"NC 110V 50/60 W/LEADS BURK	SIDE OF MACH
VEVWX	VALVE-EXTRA WATER	W7V6ZEV	96P056A37	3/4"NC 110V 50/60 W/LEADS BURK	SIDE OF MACH

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

— 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.

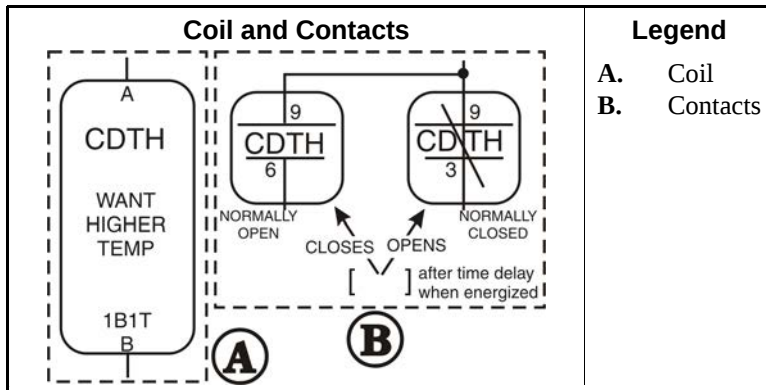
CB=Circuit Breaker (Figure 1)—Automatic switch that opens an electric circuit in abnormal current conditions (e.g., an overload).

Figure 1: Circuit Breaker (CB)



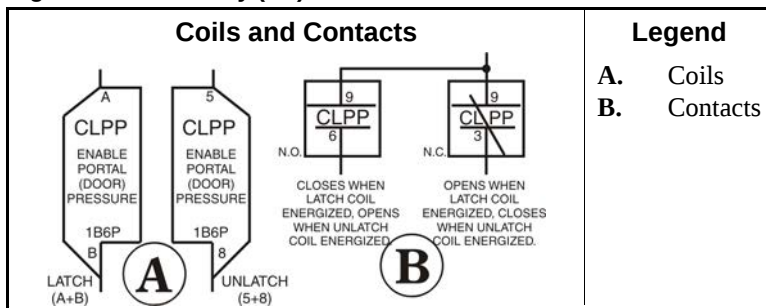
CD=Control, Time Delay Relay (Figure 2)—A relay whose contacts switch only after a fixed or adjustable delay, once voltage has been applied to its coil. The contacts switch back to normal (de-energized state) immediately when the voltage is removed.

Figure 2: Time Delay Relay (CD)



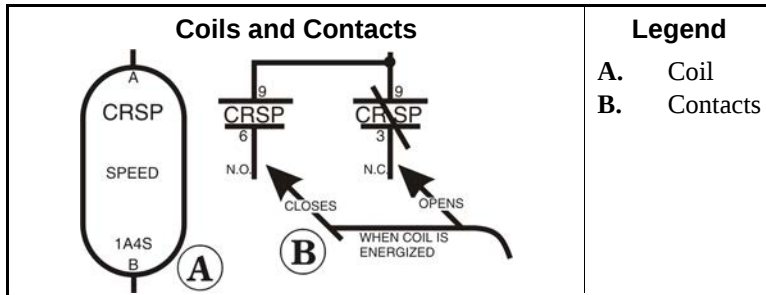
CL=Control, Latch Relay (Figure 3)—A relay which latches in an energized or set position when operated by one coil (the latch/set coil). The relay stays latched even though coil voltage is removed. The relay releases or unlatches when voltage is applied to a second coil (the unlatch/reset coil).

Figure 3: Latch Relay (CL)



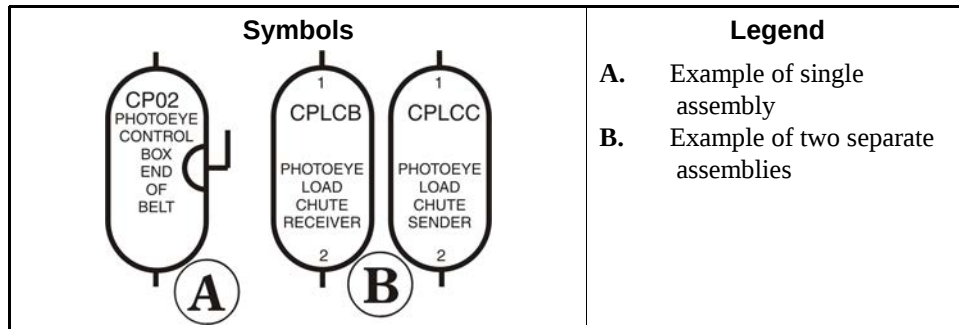
CR=Control, Relay (Figure 4)—A relay whose contacts switch immediately when voltage is applied to its coil and revert to normal when the voltage is removed.

Figure 4: Standard Relay (CR)



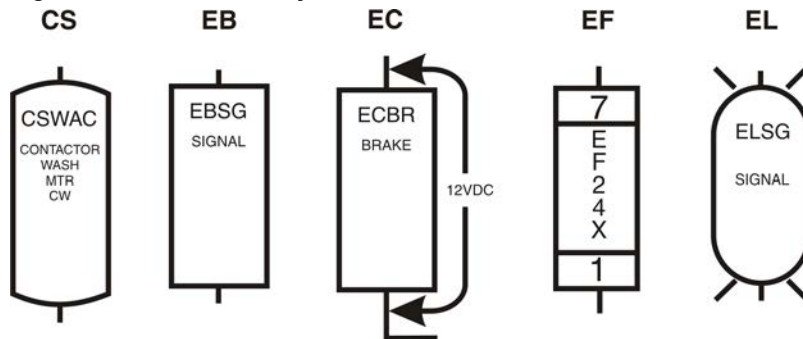
CP=Control, Photo-Eye (Figure 5)—Photo-eyes sense the presence of an object without direct physical contact. Photo-eyes consist of a transmitter, receiver, and output module. These components may be housed in one assembly with the transmitter bouncing light off of a reflector to the receiver, or these 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.

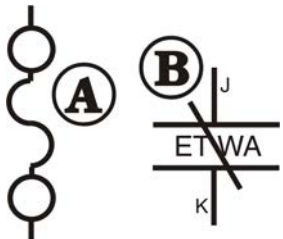
EL=Electric Light (Figure 6)—Indicator lights may be either incandescent or fluorescent.

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
	A. Heater (one per phase) B. Overload relay; contacts open if overload condition exists

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.

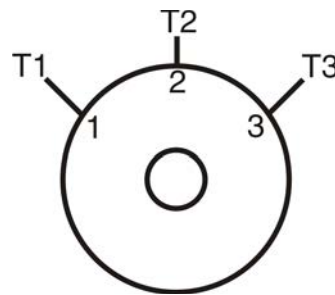
MN=Electronic Monitor (CRT)—A cathode ray tube used for visual presentation of data.

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

Figure 8: Transformer (EX)



Figure 9: Electric Motor (MR)

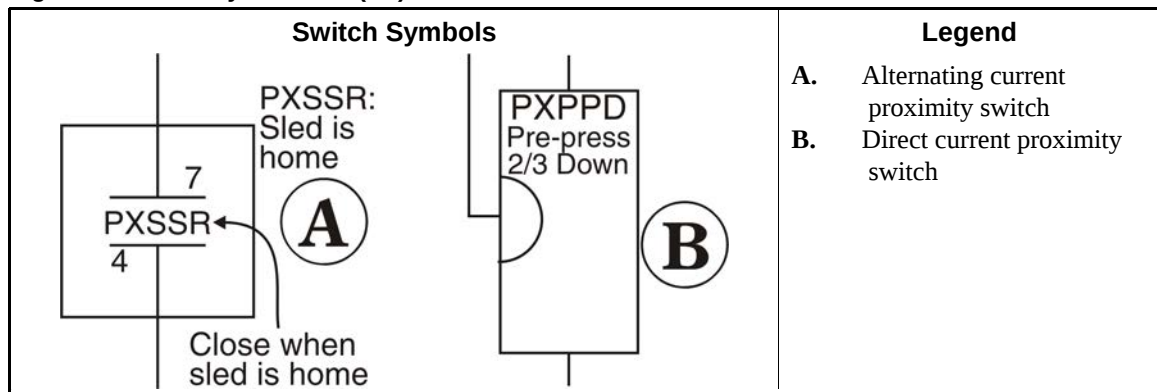


MV=Motor (Variable Speed) Inverter—To vary the speed of an AC motor, the volts to frequency ratio must be kept constant. The motor will overheat if this ratio is not maintained. The motor variable speed inverter converts three phase AC to DC. The inverter then uses this DC voltage to generate AC at the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

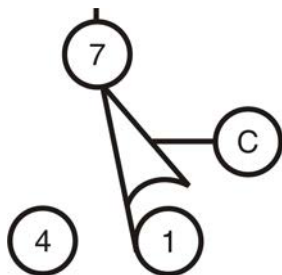
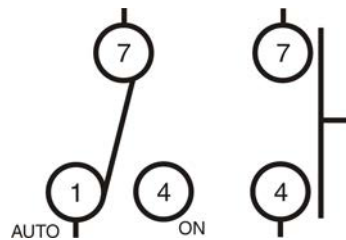


Figure 12: Hand Operated Switch (SH)



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)

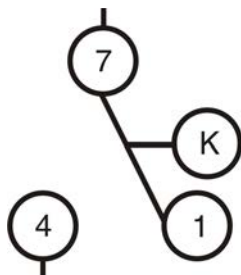
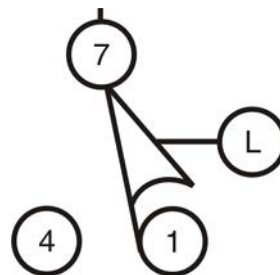


Figure 14: Level Switch (SL)



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)

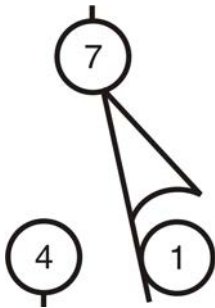
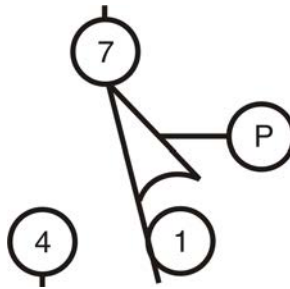


Figure 16: Pressure Switch (SP)



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)

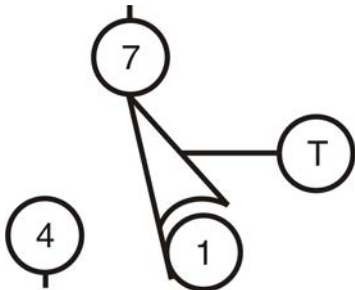
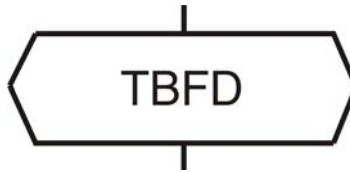


Figure 18: Terminal Board (TB)



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)

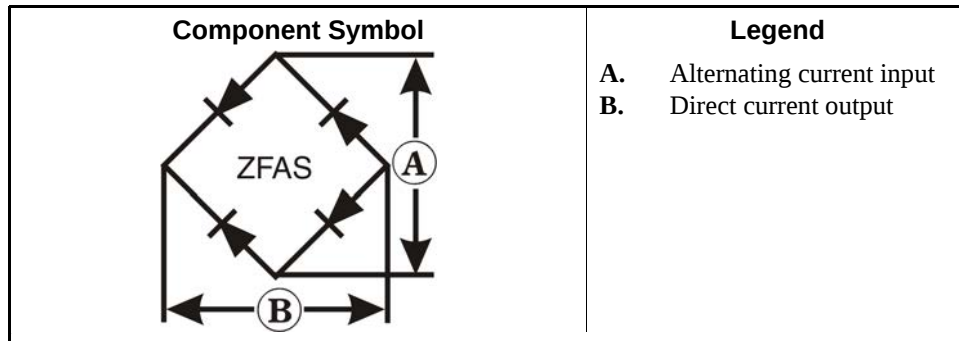
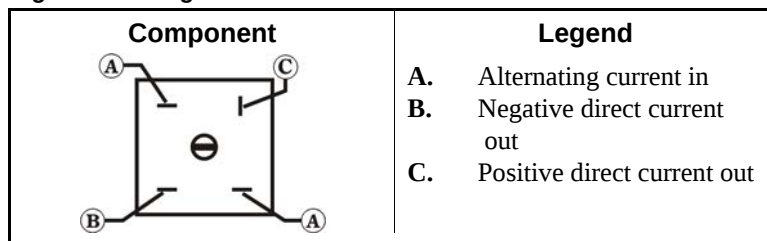


Figure 21: Bridge Rectifier



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.

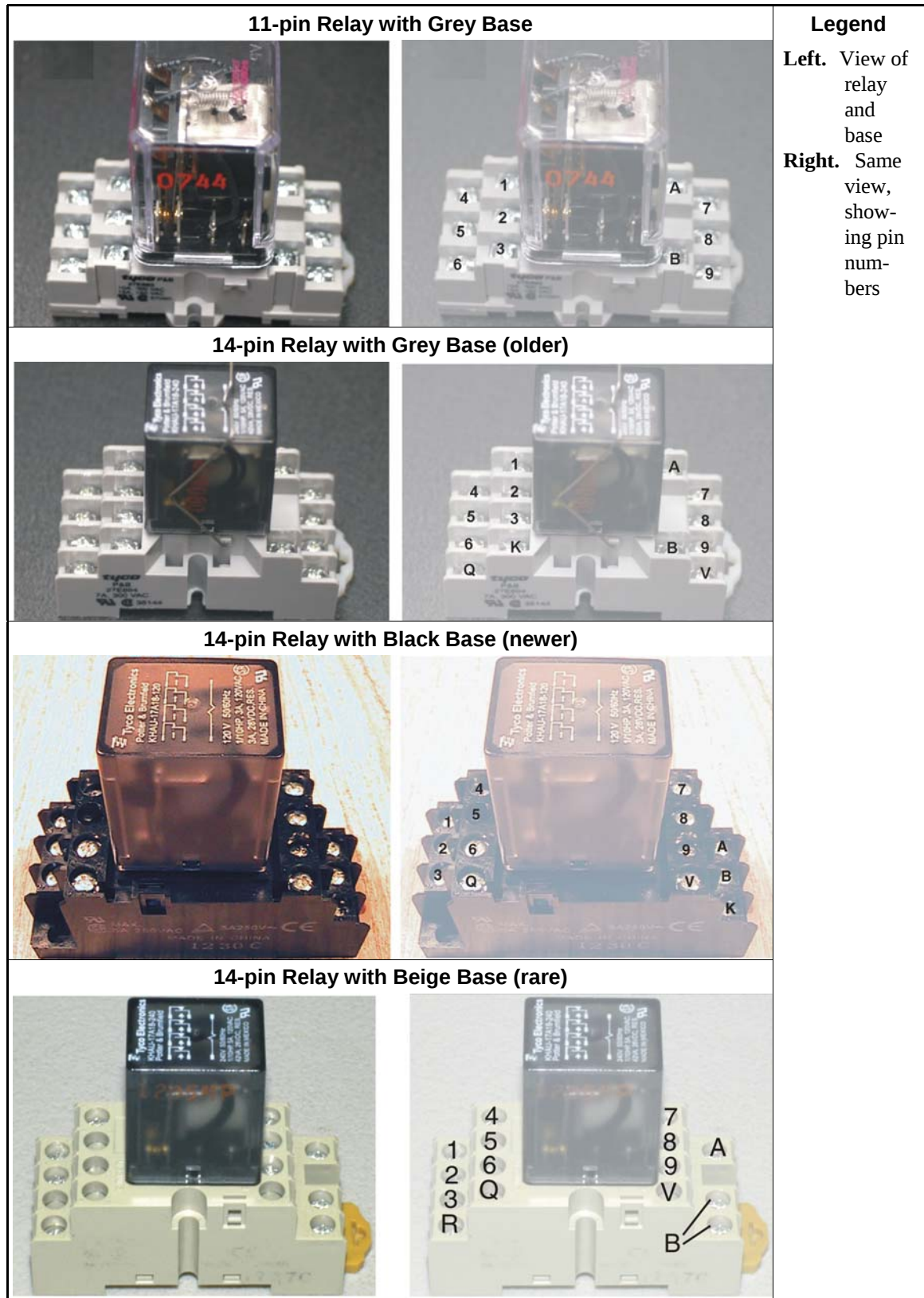
2. Component Terminal Numbering



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

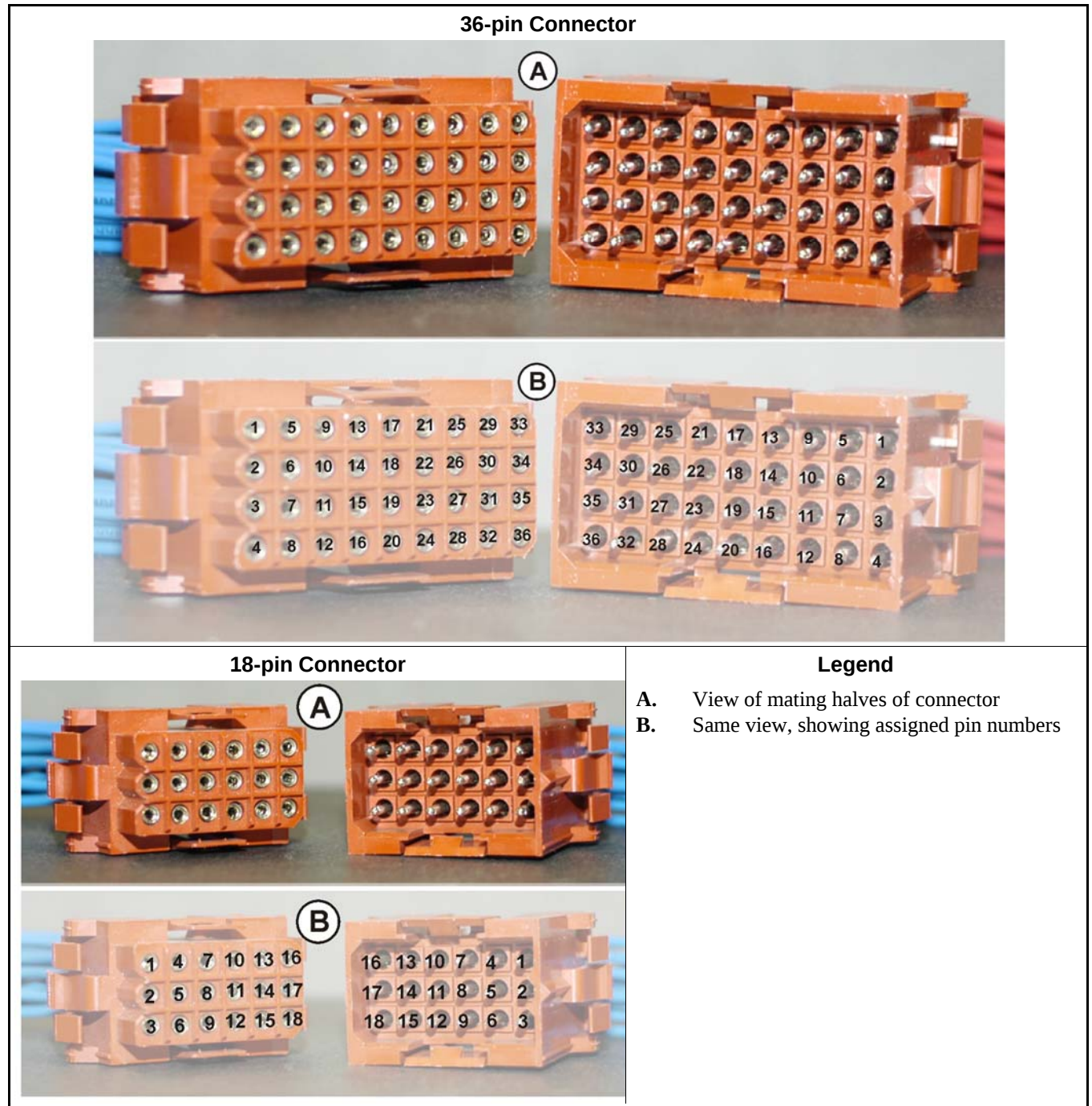


Figure 24: Molex Connector Pin Locations

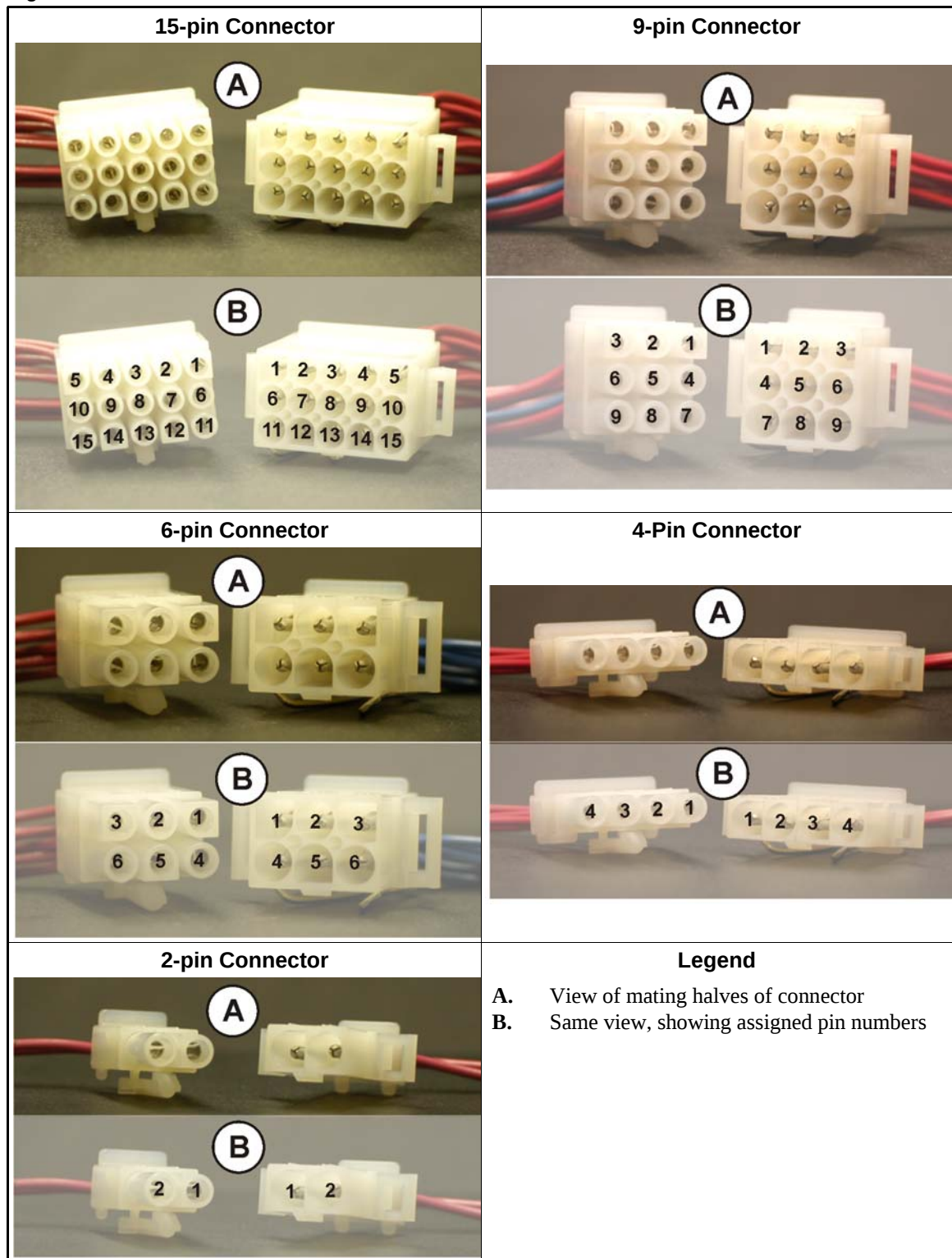


Figure 25: Pressure Switch

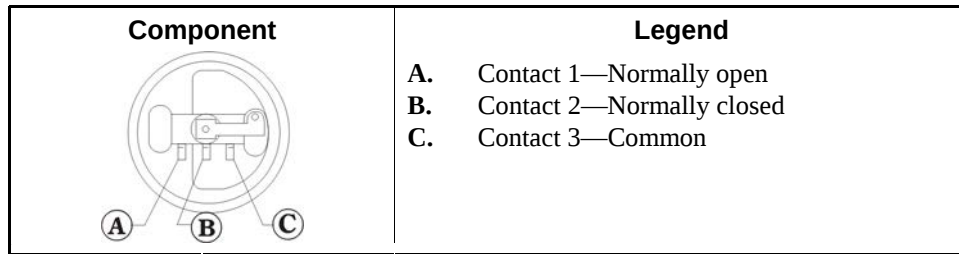


Figure 26: Toggle Switch

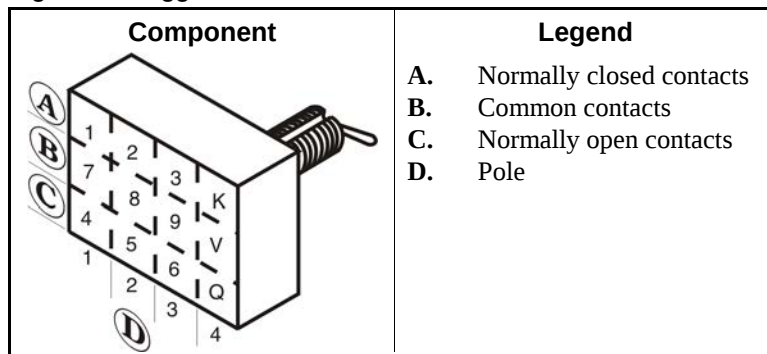
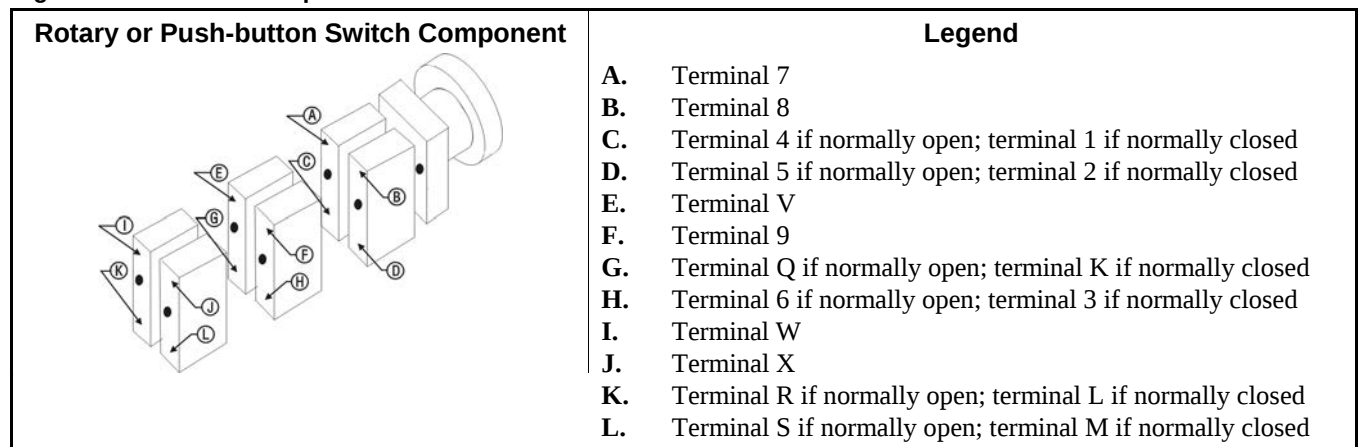


Figure 27: Switch with Replaceable Contact Blocks



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).

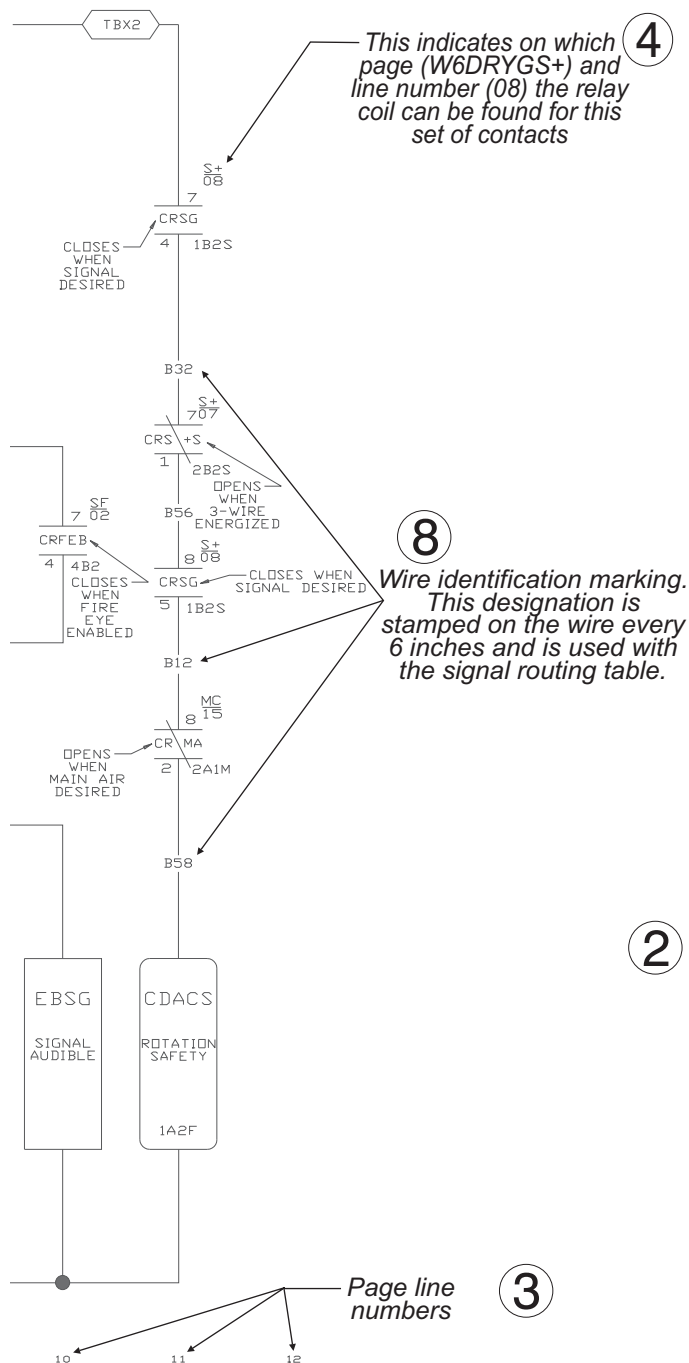
2. Included in the drawing title are the class of control system, the title of this circuit, and the circuit voltage.
3. Line numbers are provided along the bottom edge of the drawing. These permit service personnel in the field and at the Milnor® factory to quickly relate circuit locations when discussing 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

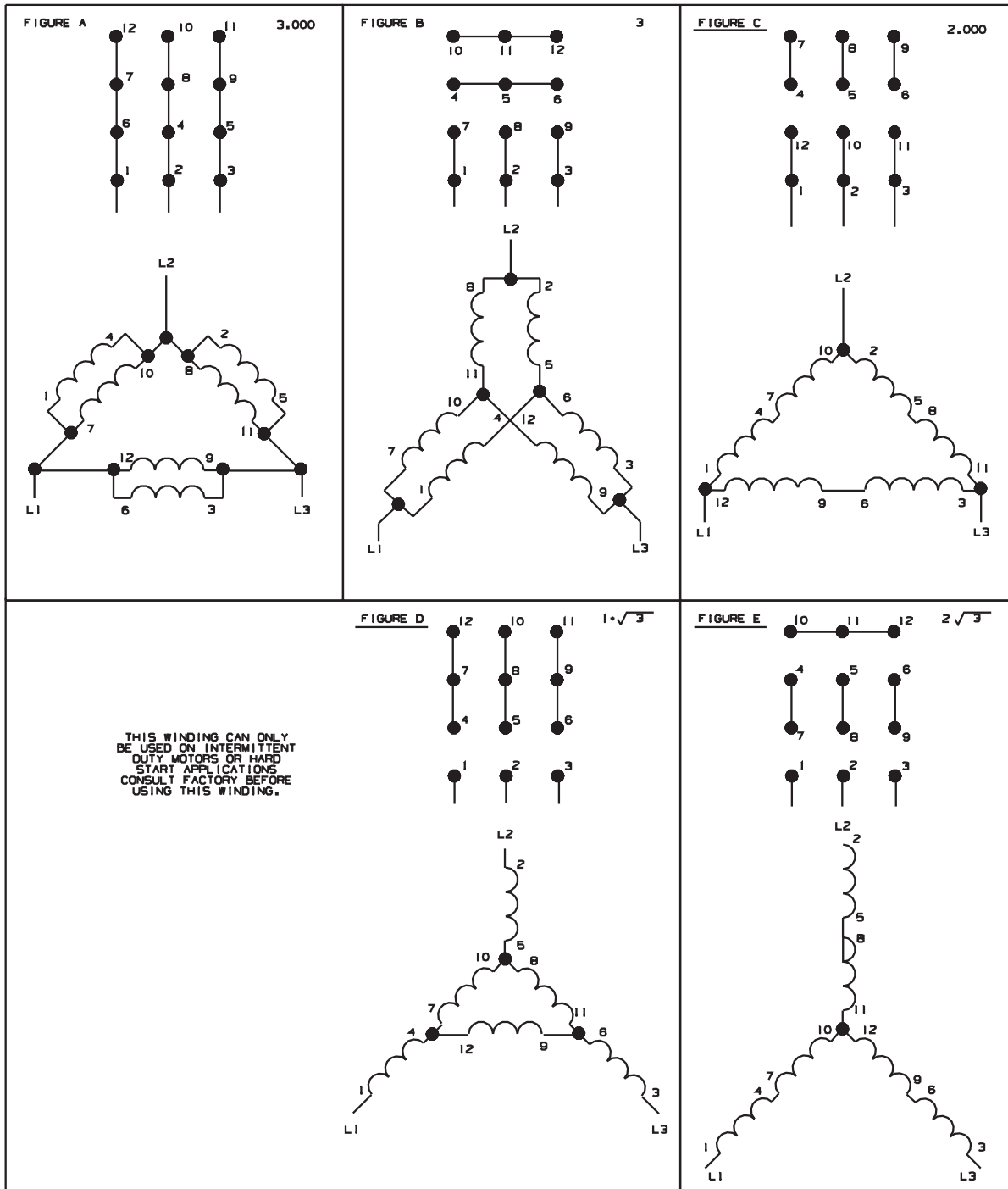
Class of control system

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 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

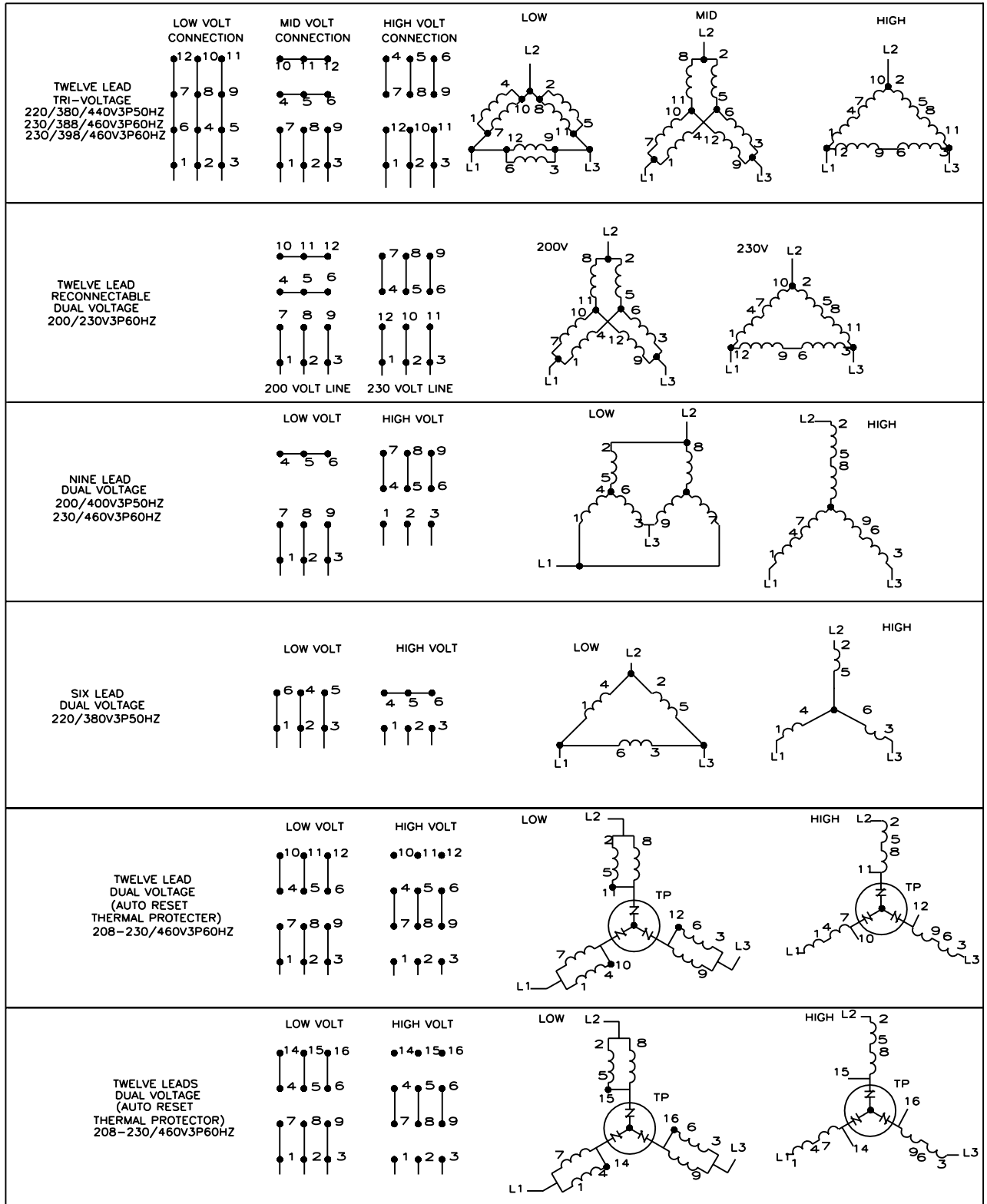
BMP850029

MOTOR CONNECTION DIAGRAMS

THREE PHASE SINGLE SPEED MOTORS WITH MULTIPLE VOLTAGE RATINGS

(ONLY FOR MOTOR SUFFIXES LISTED)

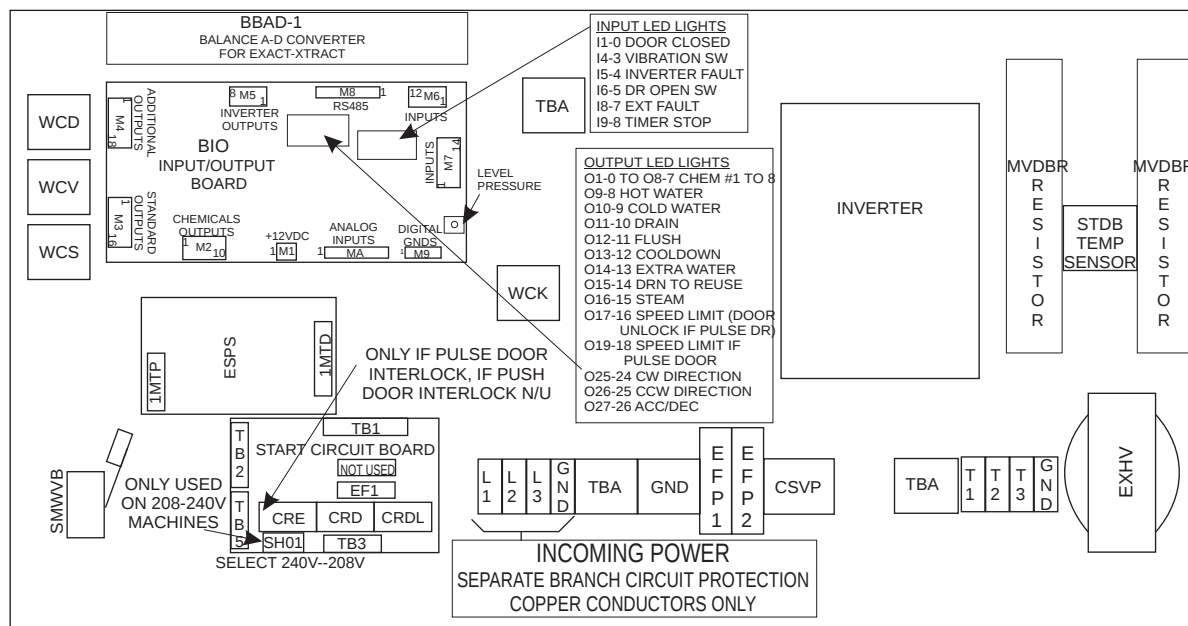
PELLERIN MILNOR CORPORATION



W80008

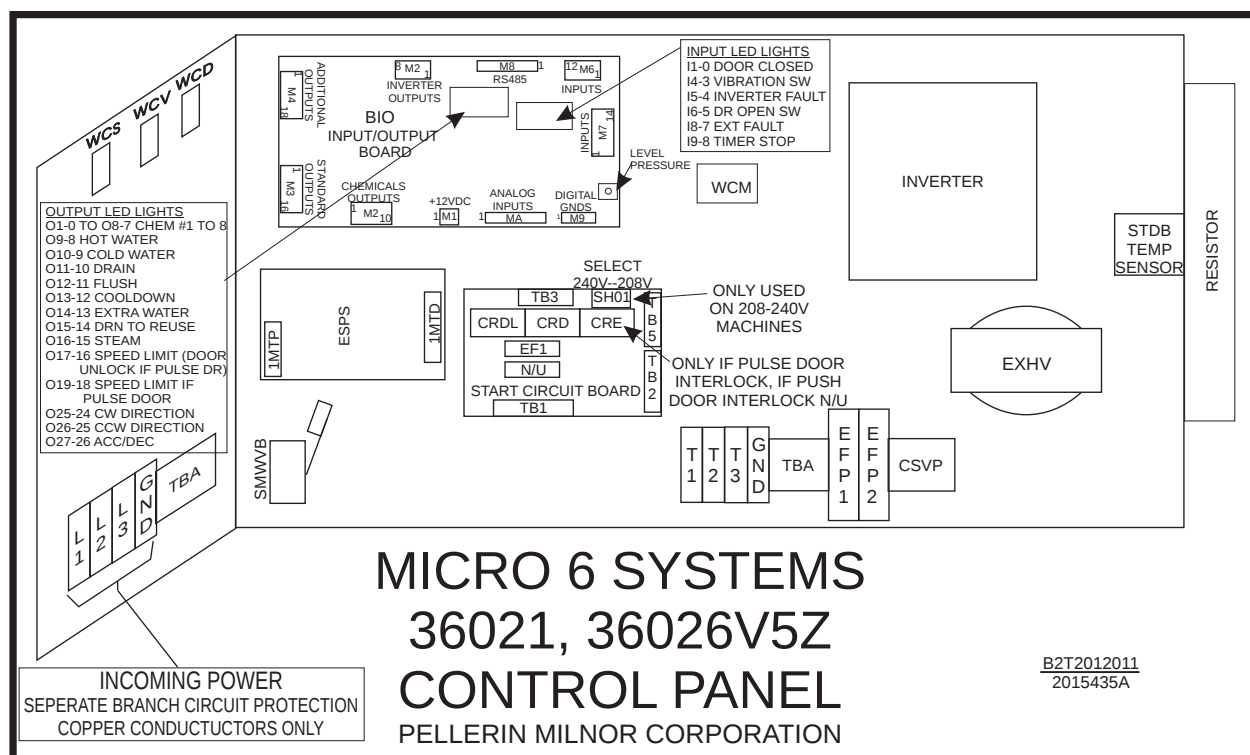
THREE PHASE
MOTOR CONNECTION DIAGRAMS
SINGLE SPEED MOTORS WITH MULTIPLE VOLTAGE RATINGS
PELLERIN MILNOR CORPORATION

W80008
2001253A



MILTOUCH™ SYSTEMS
36021, 36026V7Z/42026, 42030V6Z CONTROL
PANEL
 PELLERIN MILNOR CORPORATION

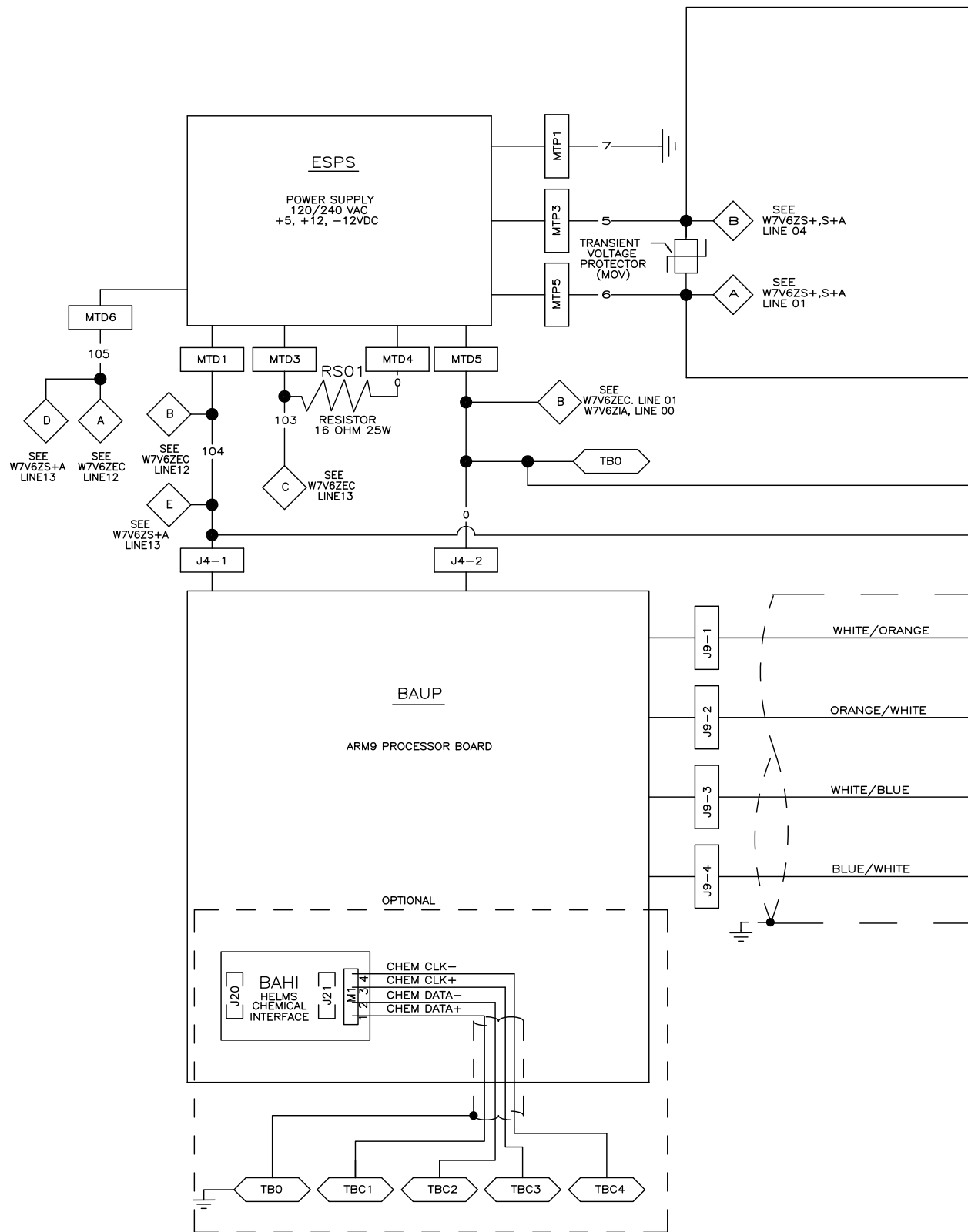
B2T2012010
 2015435A

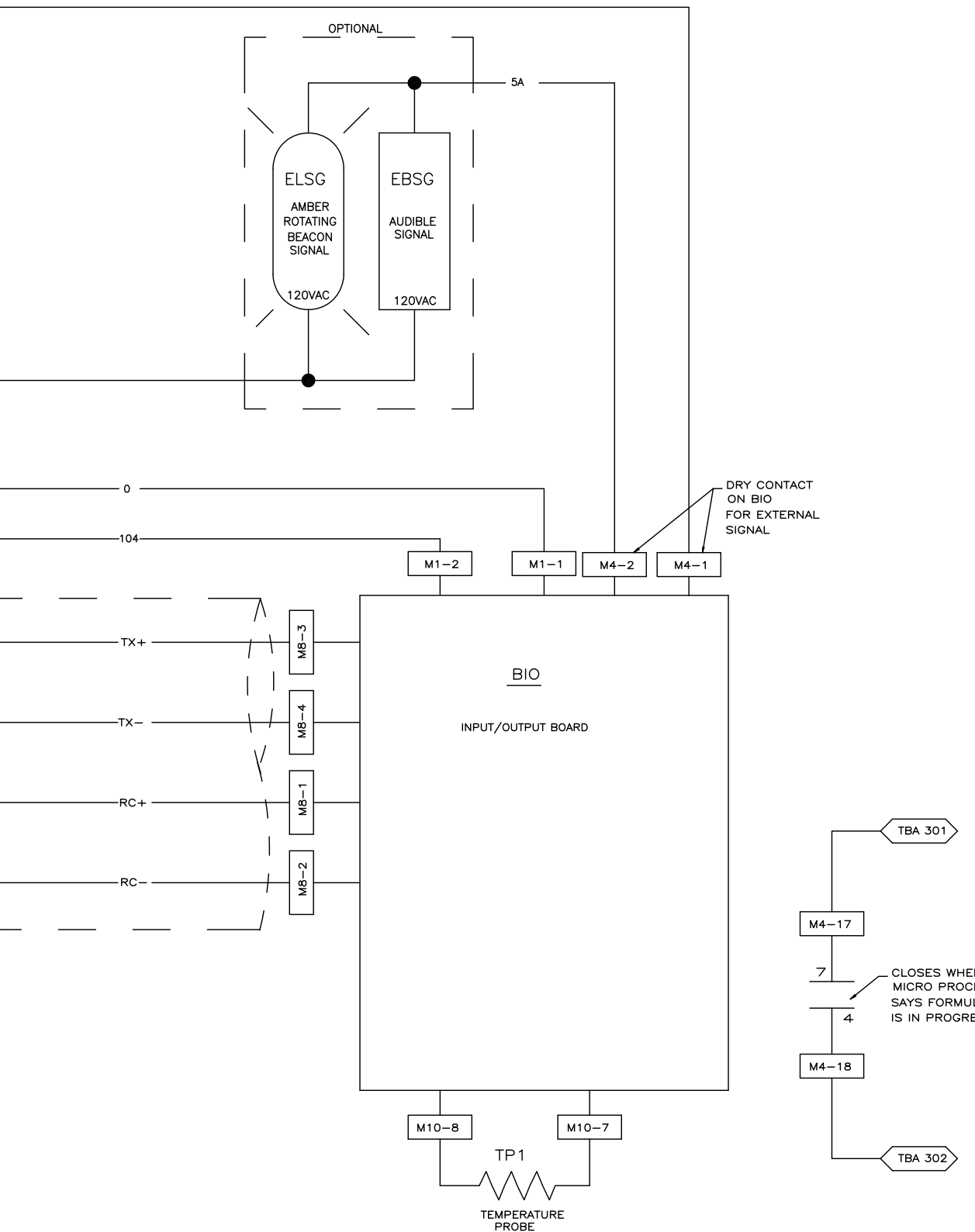


W7V6ZTG1

36 AND 42 V#Z MACHINE TAGS

PELLERIN MILNOR CORPORATION

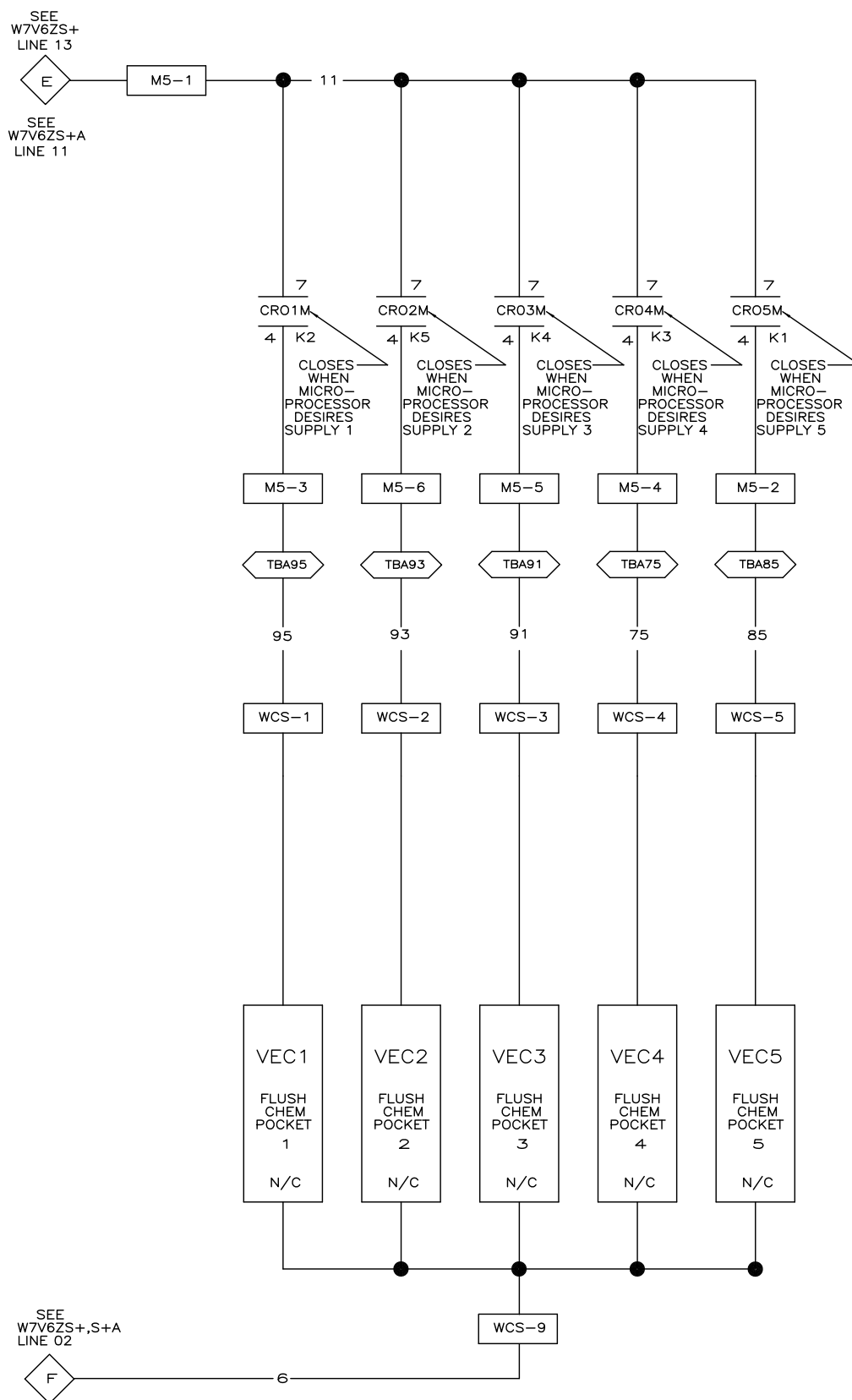




W7V6ZBW
MIL TOUCH CONTROLS
SCHEMATIC: BOARD TO BOARD WIRING
PELLERIN MILNOR CORPORATION

W7V6ZBW
2023442B

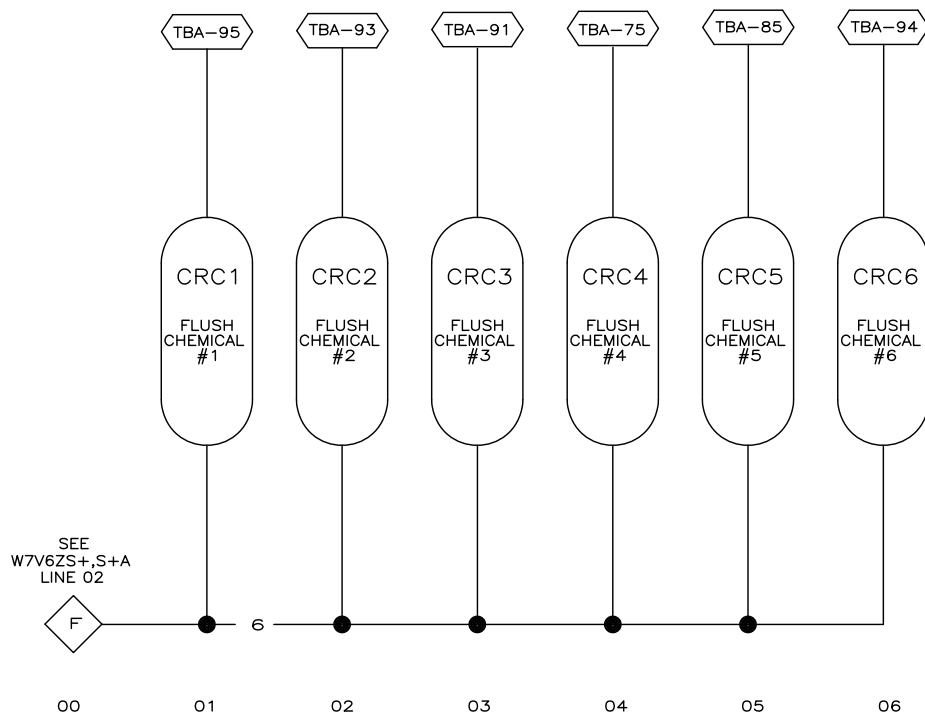
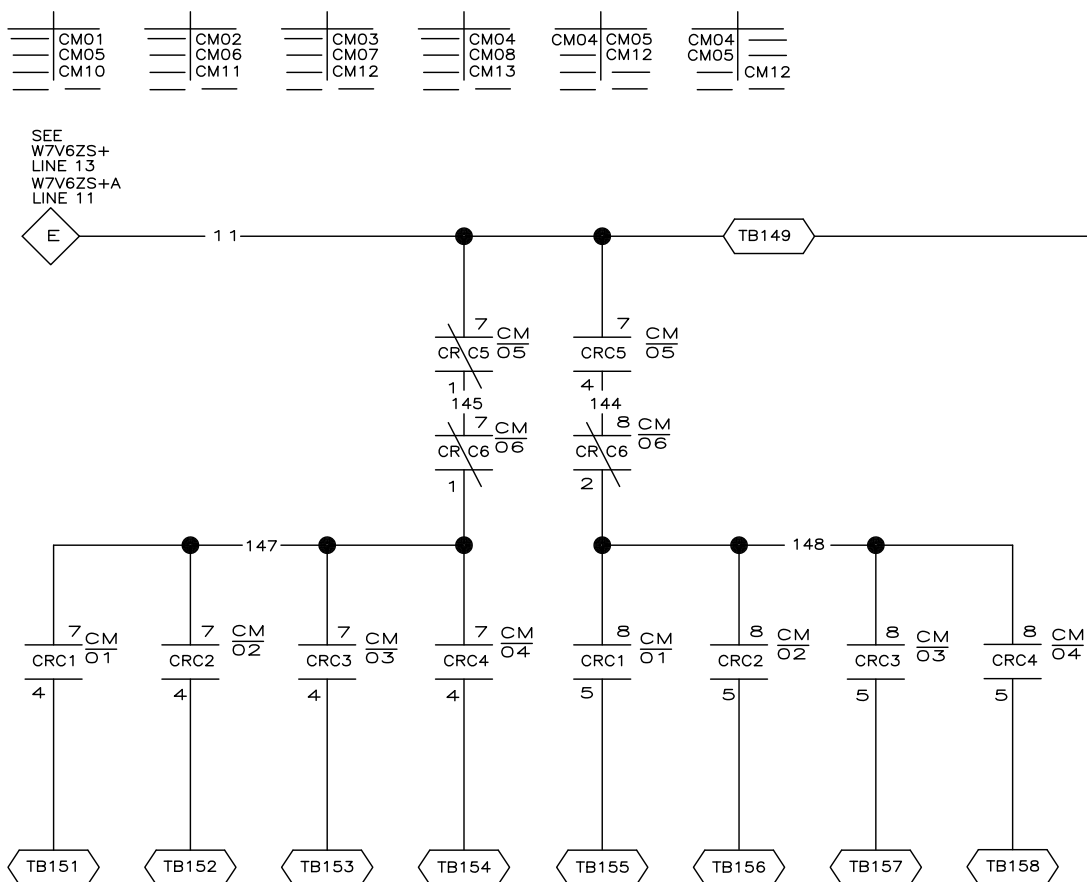
W7V6ZBW
2023442B



W7V6ZCF
SCHEMATIC: FLUSHING SUPPLIES
110V1P50HZ/120V1P60HZ
PELLERIN MILNOR CORPORATION

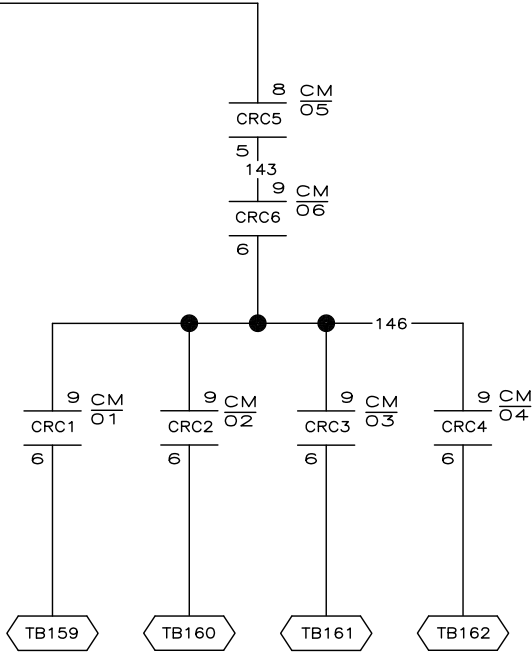
~~W7V6ZCF~~
~~2023442B~~

~~W7V6ZCF~~
~~2023442B~~



W7V6ZCM
2023442B

LITHO IN U.S.A.



W7V6ZCM

MIL TOUCH CONTROLS

SCHEMATIC: OPTIONAL 12 CHEMICAL FLUSHING

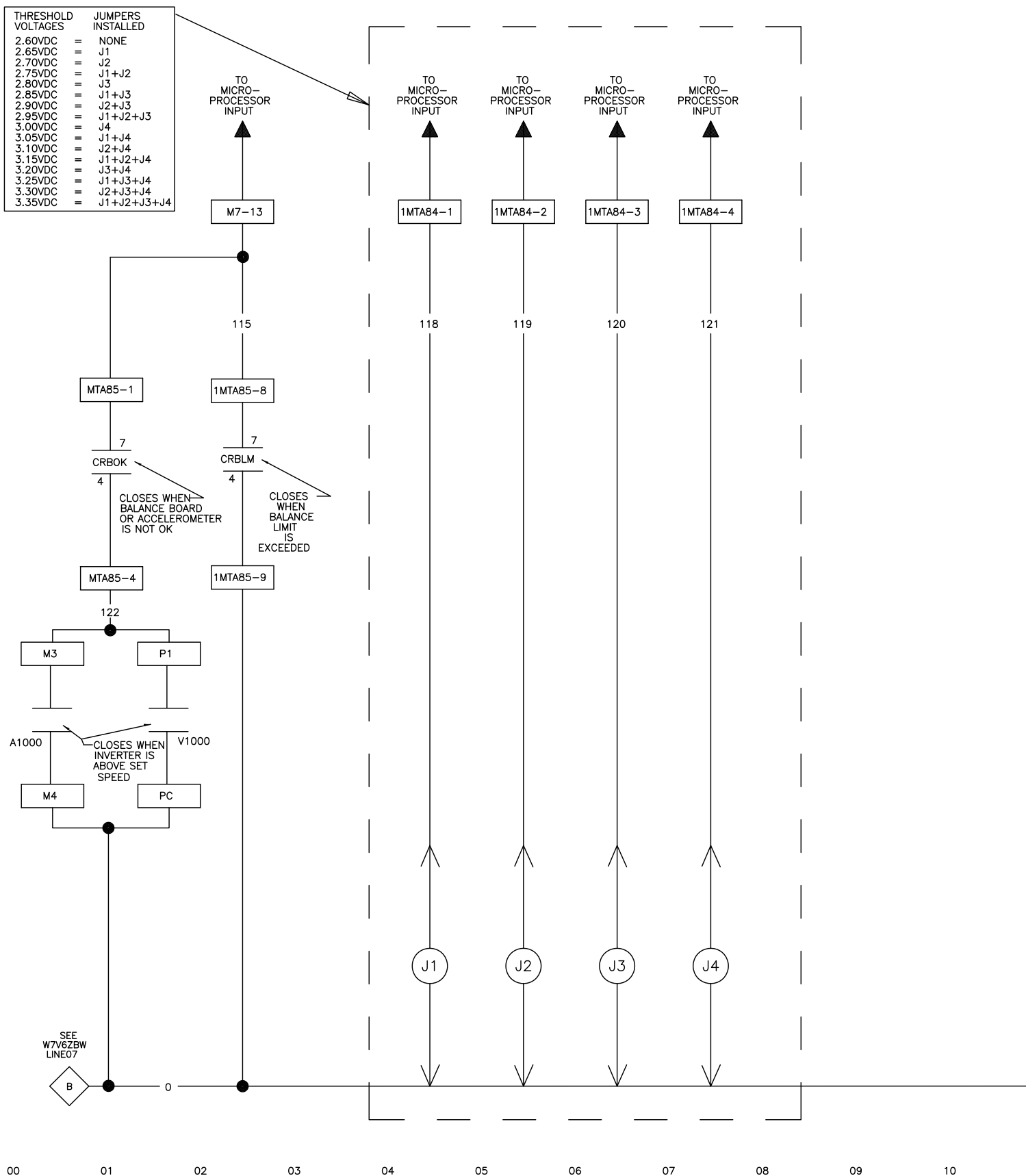
110V 1P 50HZ / 120V 1P 60HZ

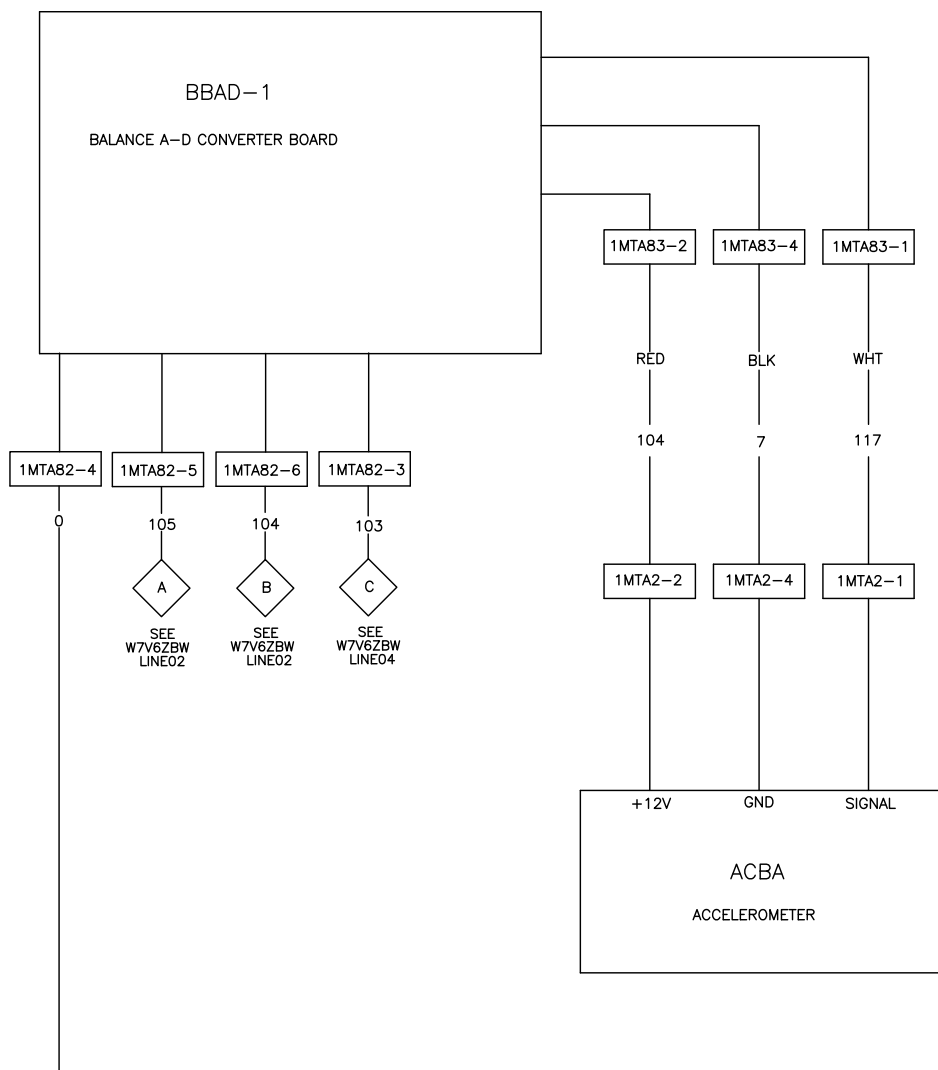
PELLERIN MILNOR CORPORATION

W7V6ZCM
2023442B

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 VOLTAGES	JUMPERS INSTALLED
2.60VDC	= NONE
2.65VDC	= J1
2.70VDC	= J2
2.75VDC	= J1+J2
2.80VDC	= J3
2.85VDC	= J1+J3
2.90VDC	= J2+J3
2.95VDC	= J1+J2+J3
3.00VDC	= J4
3.05VDC	= J1+J4
3.10VDC	= J2+J4
3.15VDC	= J1+J2+J4
3.20VDC	= J3+J4
3.25VDC	= J1+J3+J4
3.30VDC	= J2+J3+J4
3.35VDC	= J1+J2+J3+J4



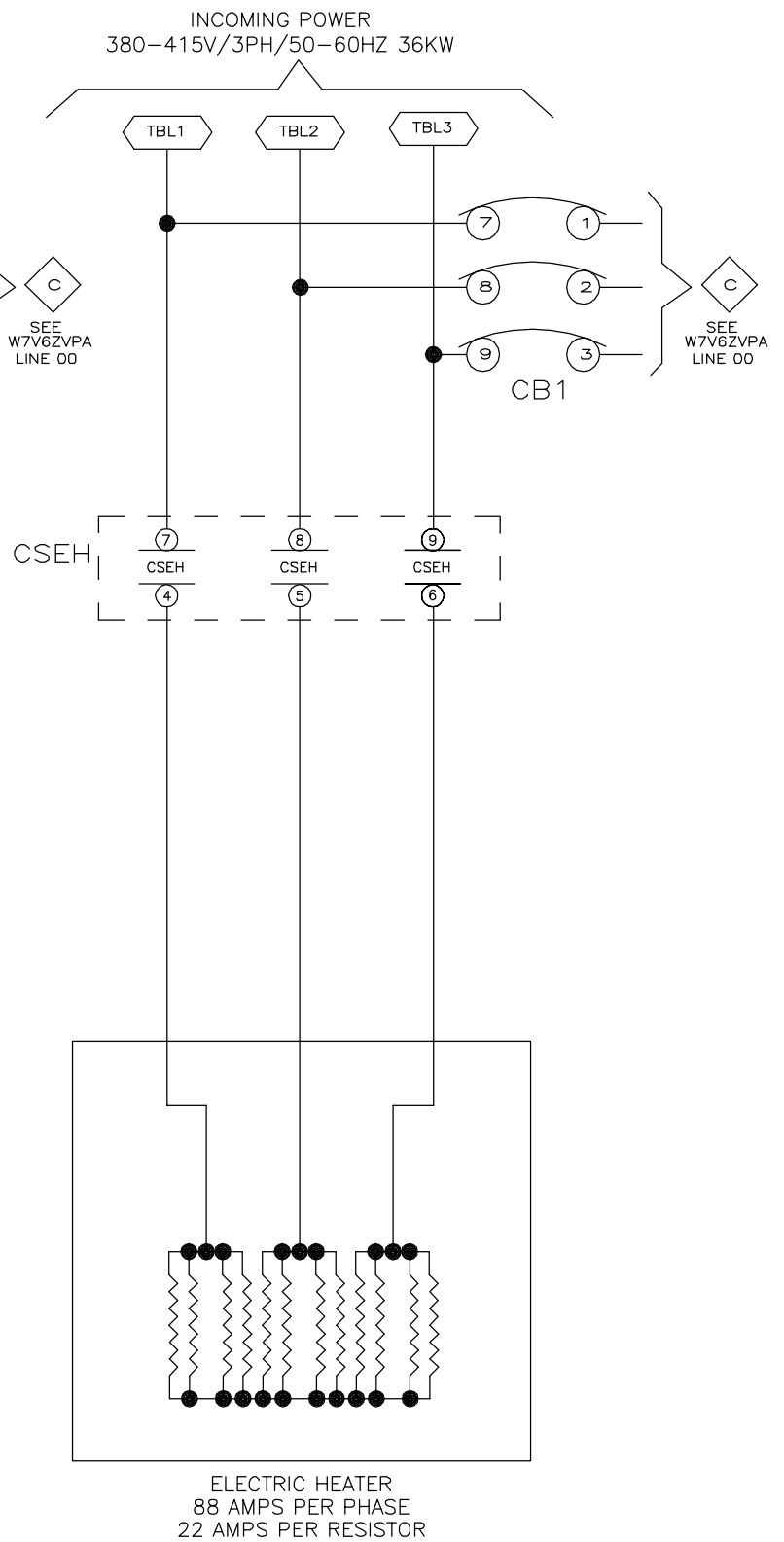
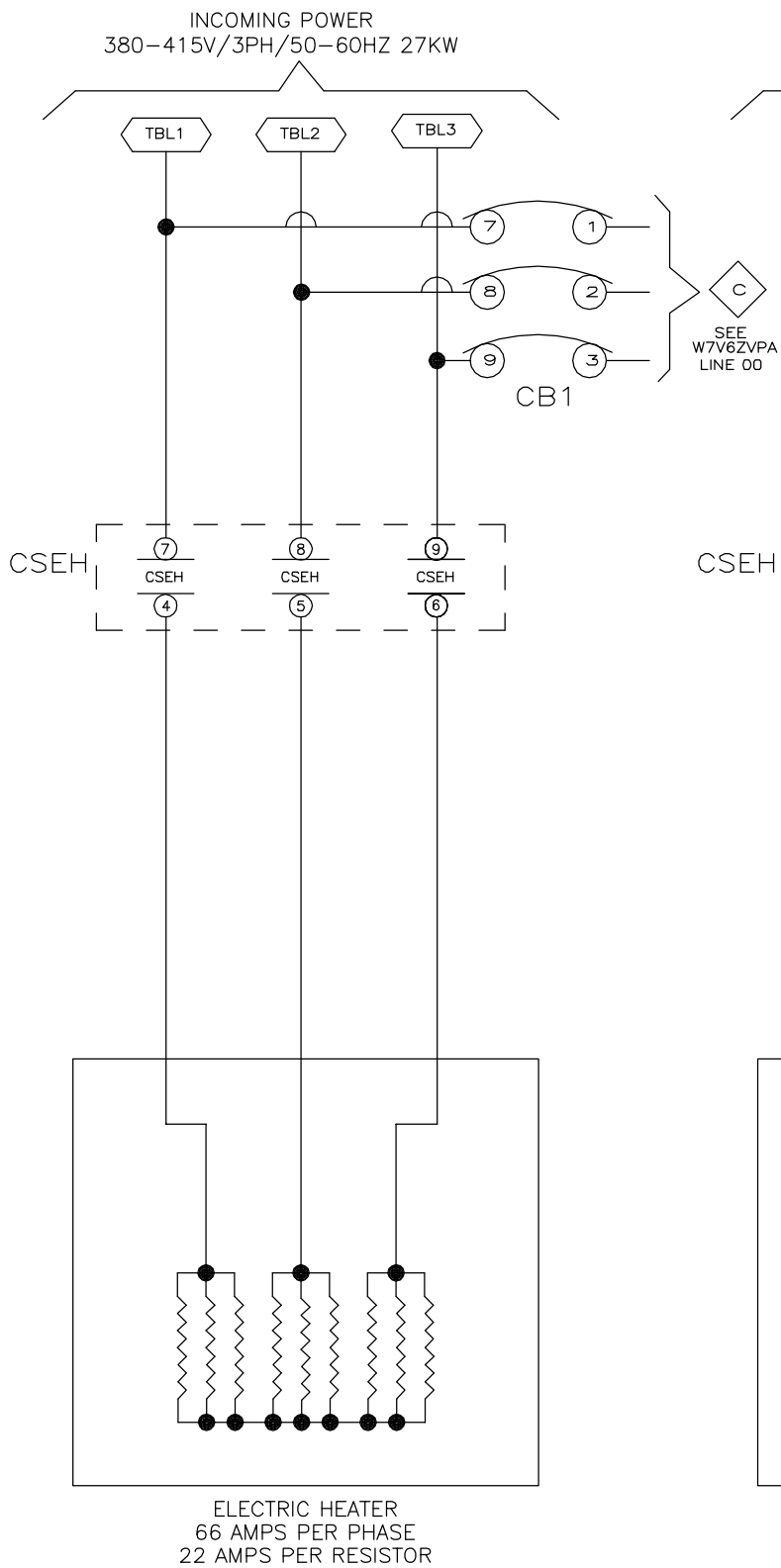


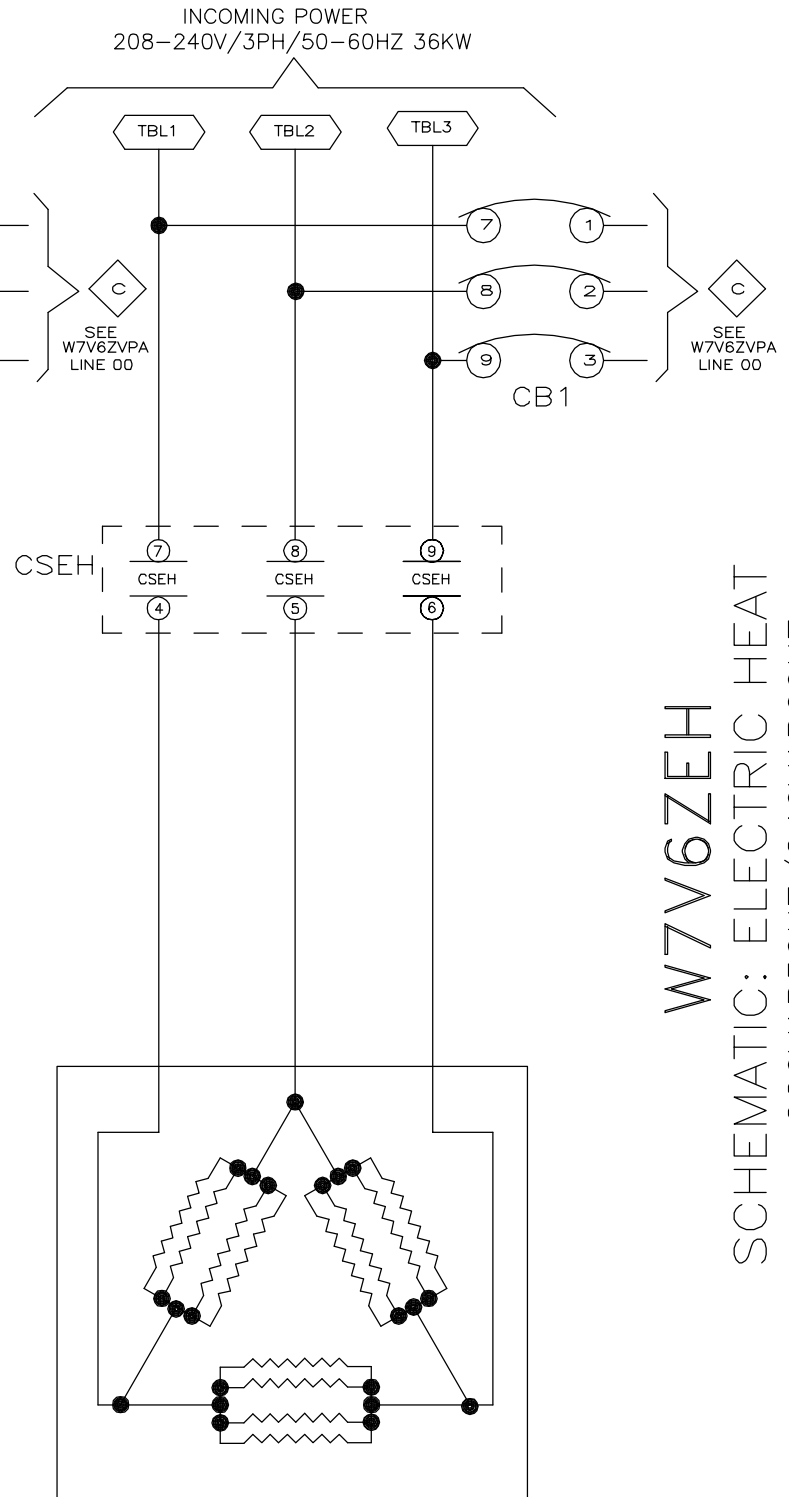
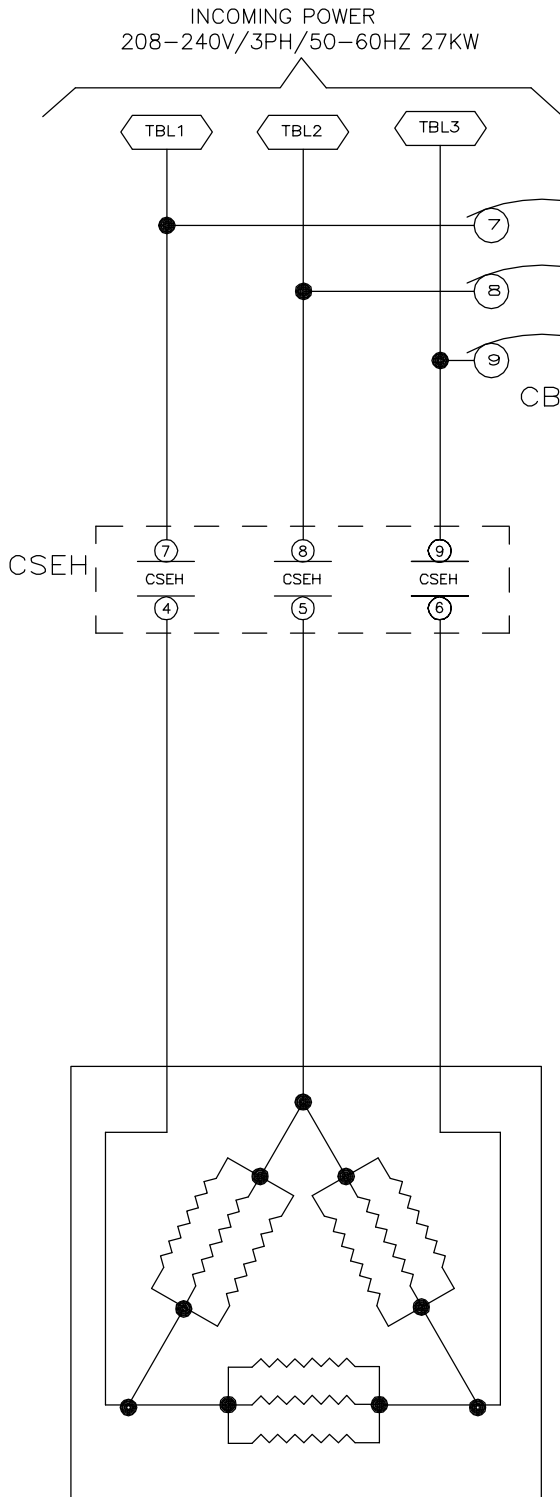
W7V6ZEC

MIL TOUCH CONTROLS
ExactXtract™

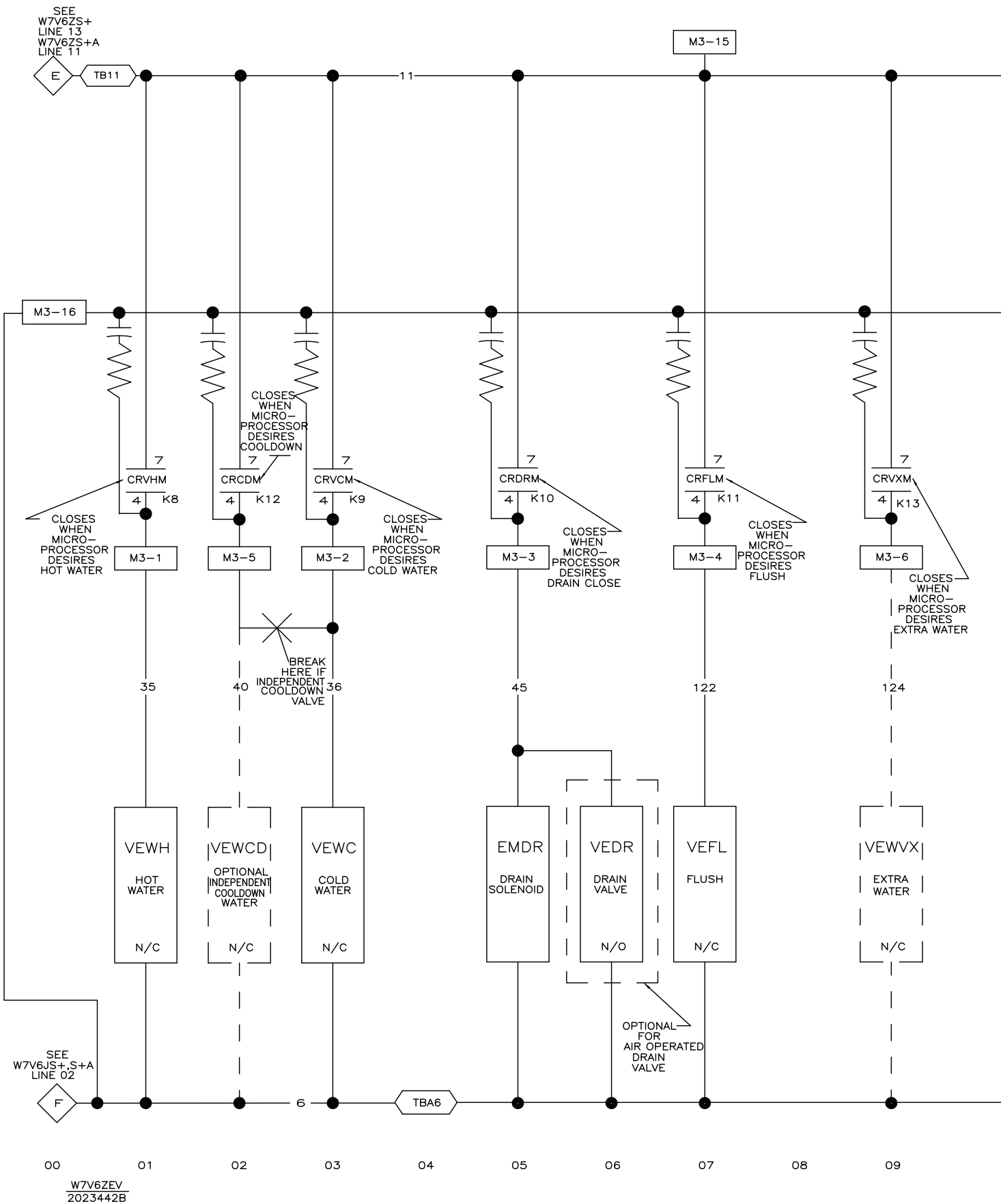
SCHEMATIC: EXTRACT SPEED LIMIT CONTROL

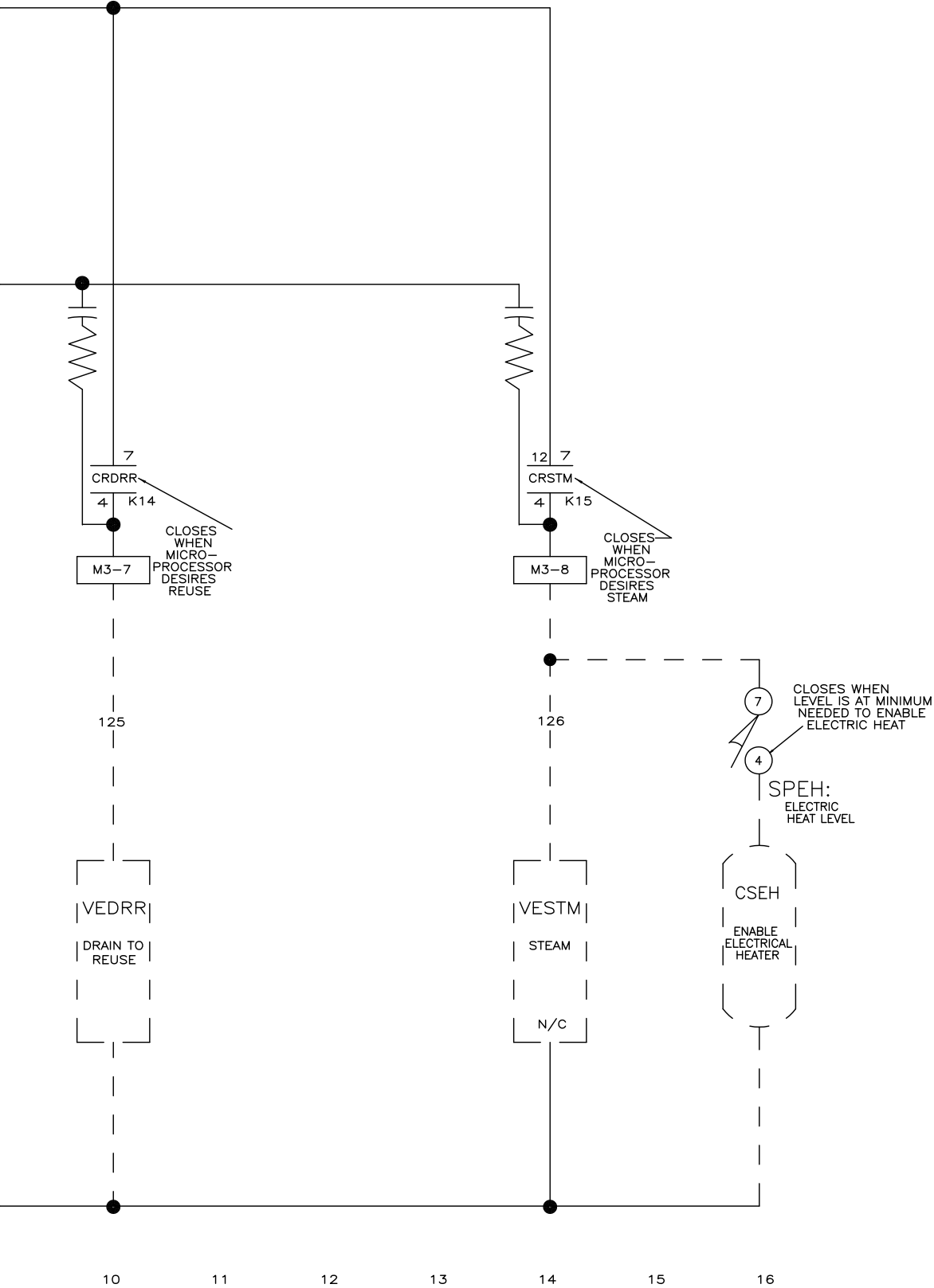
PELLERIN MILNOR CORPORATION



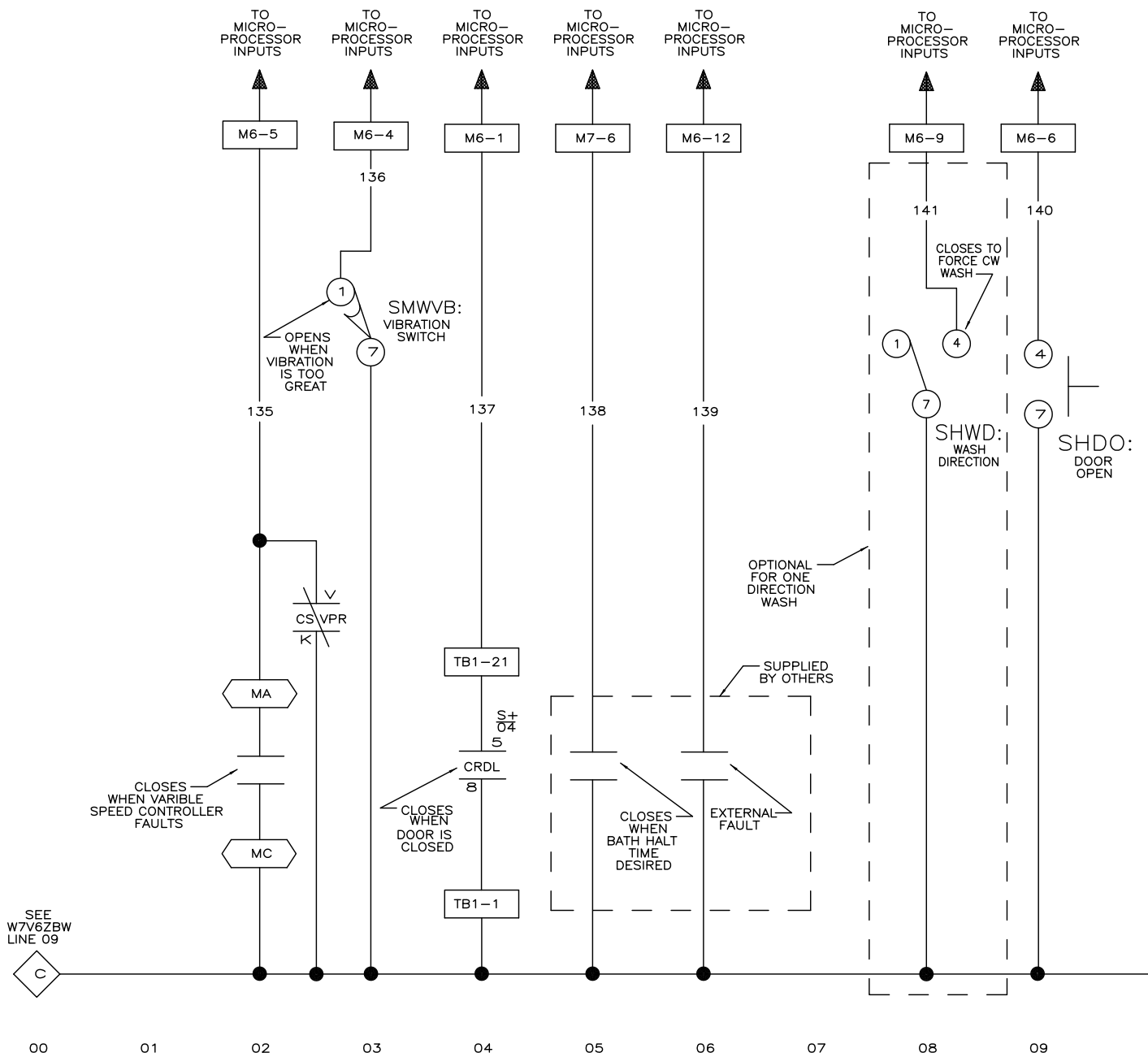


W7V6ZEH
SCHEMATIC: ELECTRIC HEAT
220V1P50HZ/240V1P60HZ
PELLERIN MILNOR CORPORATION





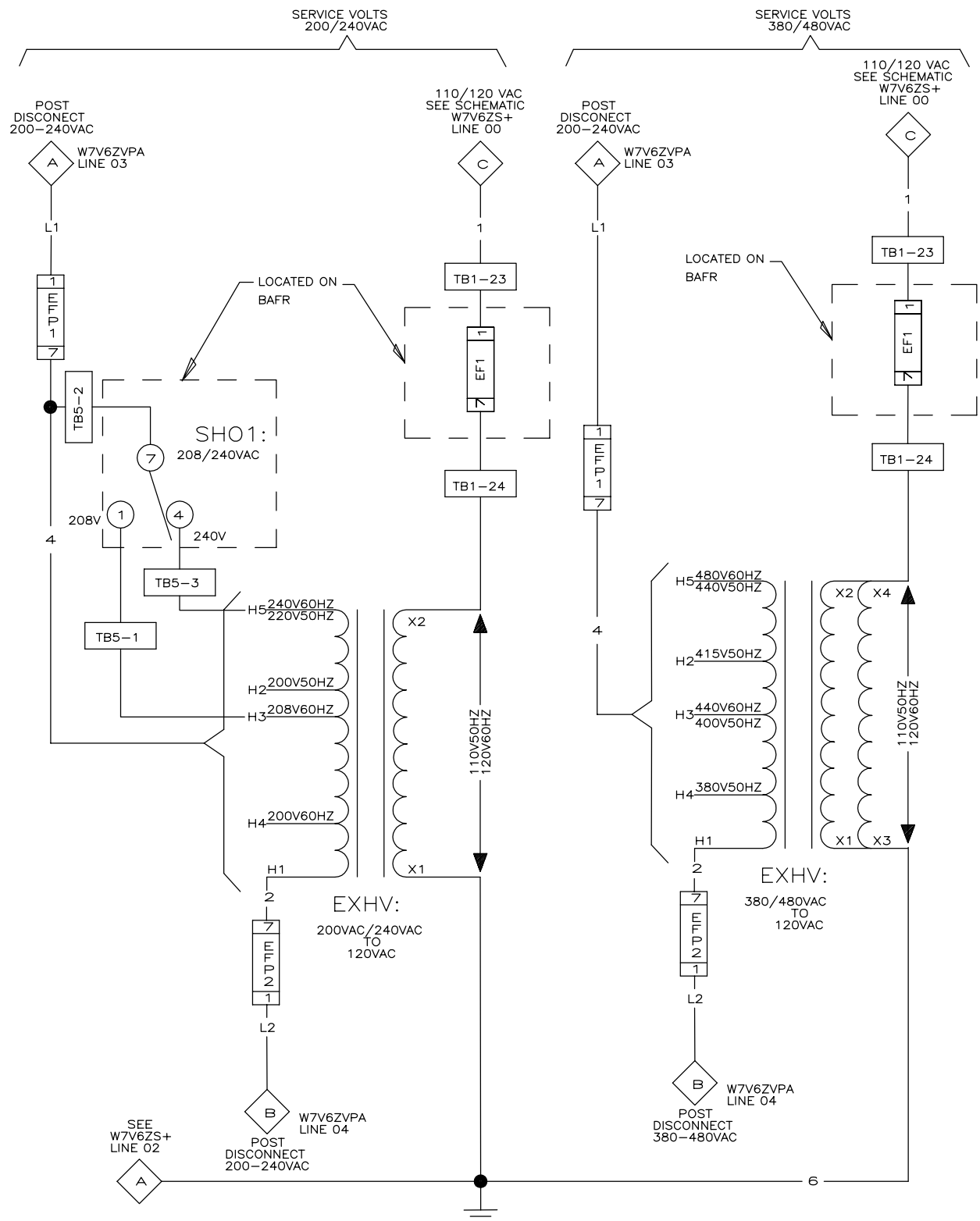
W7V6ZEV
SCHEMATIC: ELECTRIC VALVES
110V1P50HZ/120V1P60HZ
PELLERIN MILNOR CORPORATION



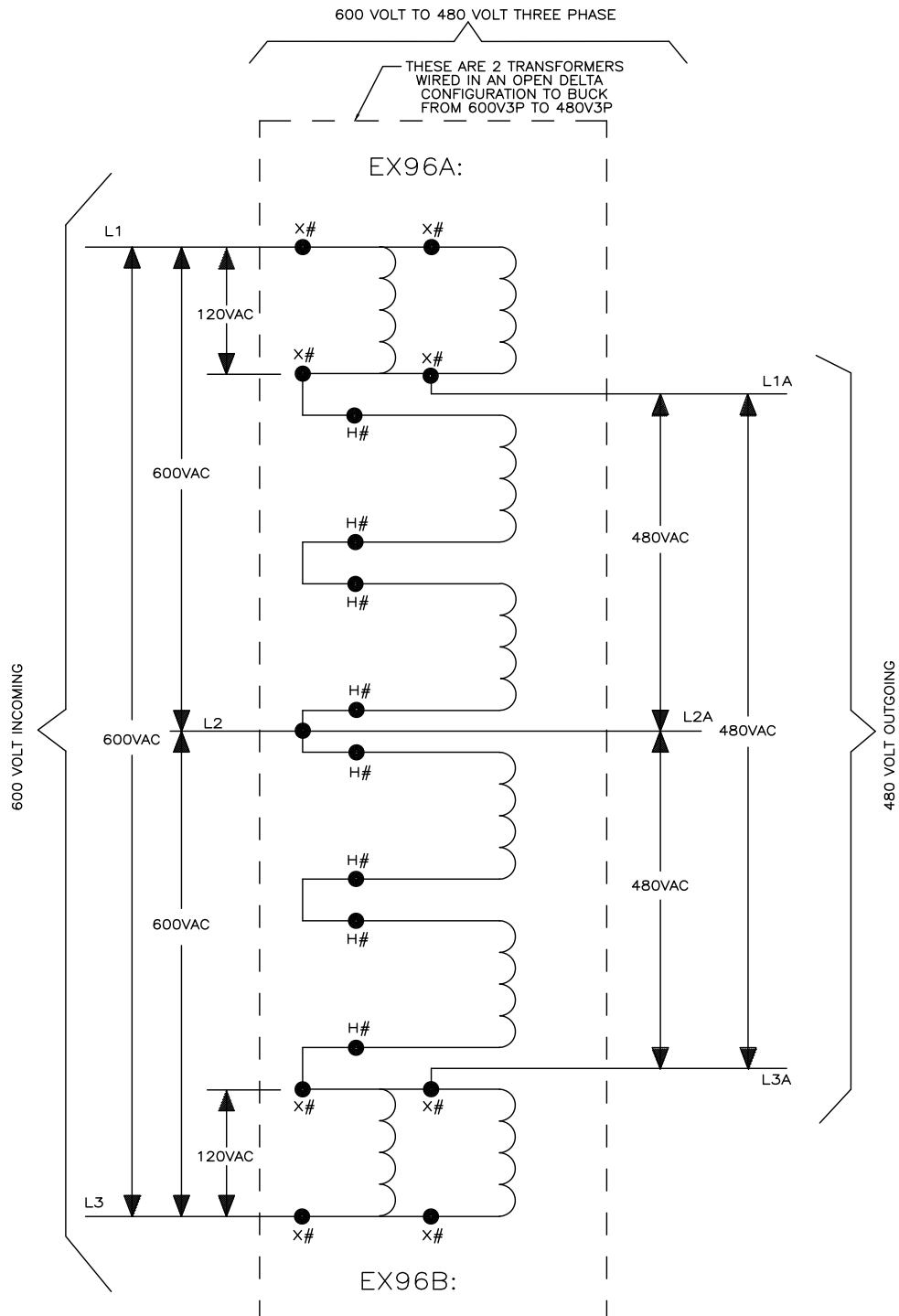
NOTES

- 1. M6 + 7 ARE LOCATED ON THE BIO-INPUT/OUTPUT BOARD

W7V6Z1A
MILTOUCH CONTROLS
SCHEMATIC: MICROPROCESSOR INPUTS
PELLERIN MILNOR CORPORATION



W7V6ZLV
MIL TOUCH CONTROLS
SCHEMATIC:CONTROL CIRCUIT TRANSFORMER
110V1P50HZ/120V1P60HZ
PELLERIN MILNOR CORPORATION



REFER TO TRANSFORMER WIRING DIAGRAM
FOR APPROPRIATE WIRE NUMBERS.

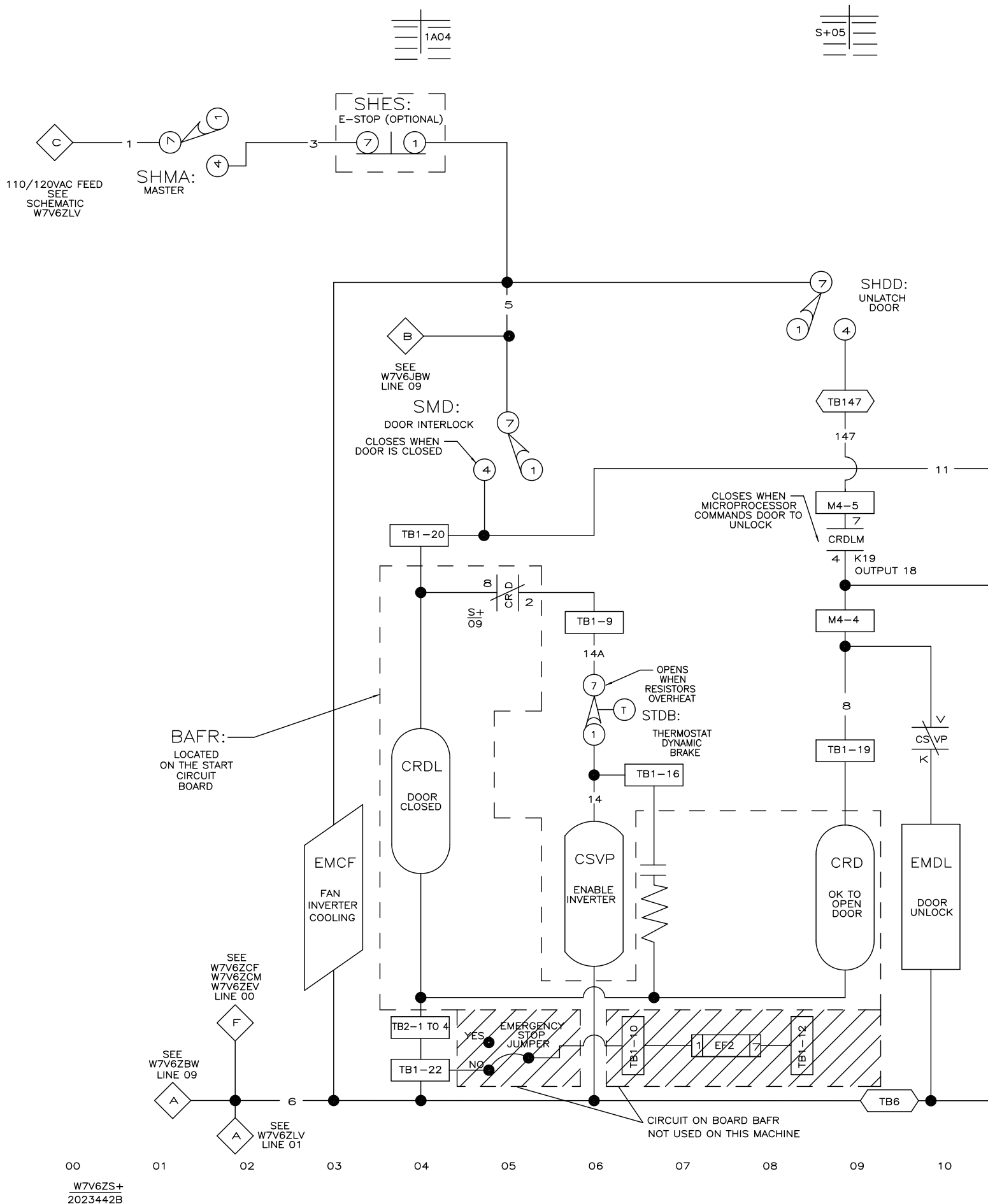
THE PRIMARY OF EACH TRANSFORMER
NOTED BY H# MUST BE WIRED FOR 480
VOLTS. THE SECONDARY OF EACH
TRANSFORMER NOTED BY X# MUST BE
WIRED FOR 120 VOLTS.

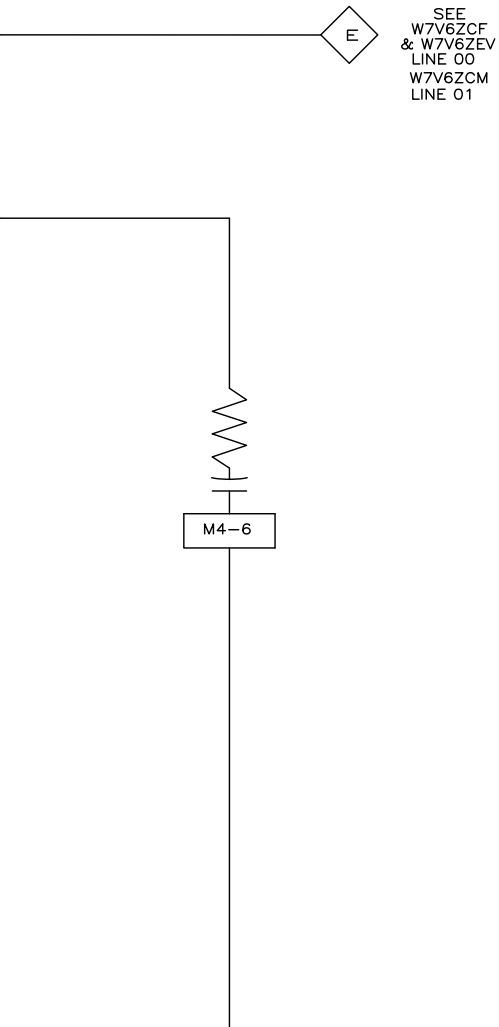
INPUT (SUPPLY SYSTEM)	DESIRED OUTPUT CONNECTION	
DELTA 3 WIRE	WYE 3 OR 4 WIRE	DO NOT USE
OPEN DELTA 3 WIRE	WYE 3 OR 4 WIRE	DO NOT USE
WYE 3 OR 4 WIRE	CLOSED DELTA 3 WIRE	DO NOT USE
WYE 4 WIRE	WYE 3 OR 4 WIRE	OK
WYE 3 OR 4 WIRE	OPEN DELTA 3 WIRE	OK
CLOSED DELTA 3 WIRE	OPEN DELTA 3 WIRE	OK

W7V6ZMT6
2019472B

W7V6ZMT6

MIL TOUCH CONTROLS
SCHEMATIC: 600V MACHINES
600V TO 480 VOLT STEP DOWN
PELLERIN MILNOR CORPORATION





- NOTES:
1. TB1 AND TB2 ARE LOCATED ON THE START CIRCUIT BOARD.
 2. M3 IS LOCATED ON BIO INPUT/OUTPUT BOARD

W7V6ZS+

MILTOUCH CONTROLS

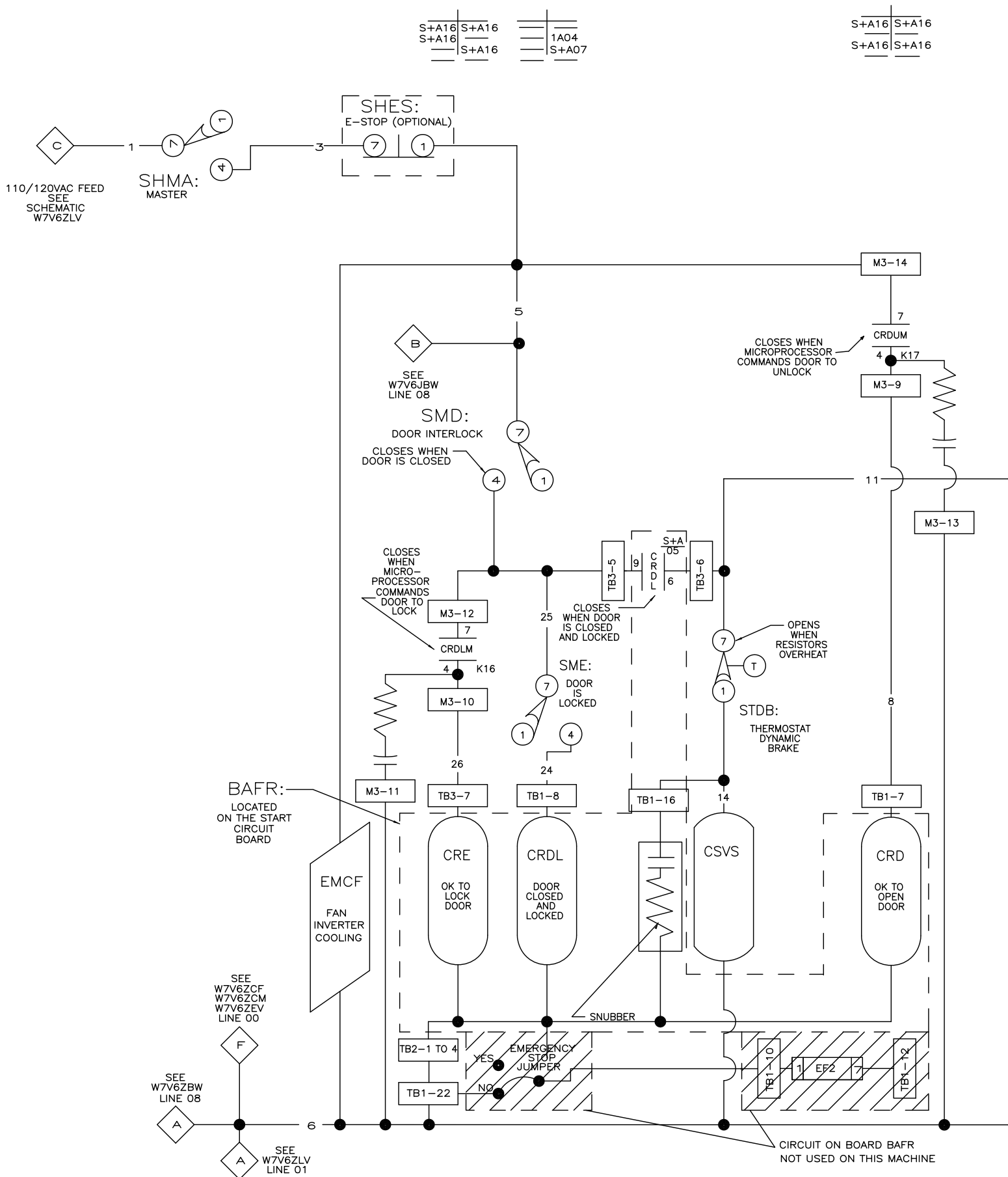
SCHEMATIC: START CIRCUIT & DOOR INTERLOCK

110V, 1P, 50HZ / 120V, 1P, 60HZ

PELLERIN MILNOR CORPORATION

W7V6ZS+
2023442B

W7V6ZS+
2023442B





1. TB1 AND TB2 ARE LOCATED ON THE START CIRCUIT BOARD.
2. M3 IS LOCATED ON BIO INPUT/OUTPUT BOARD

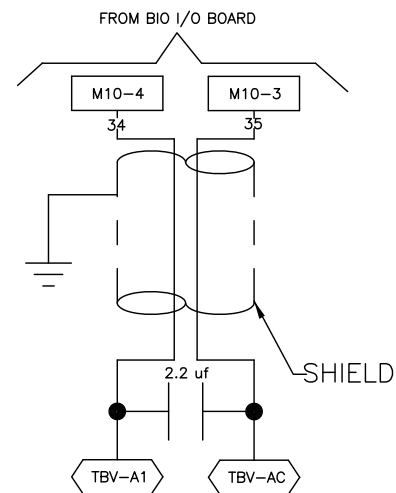
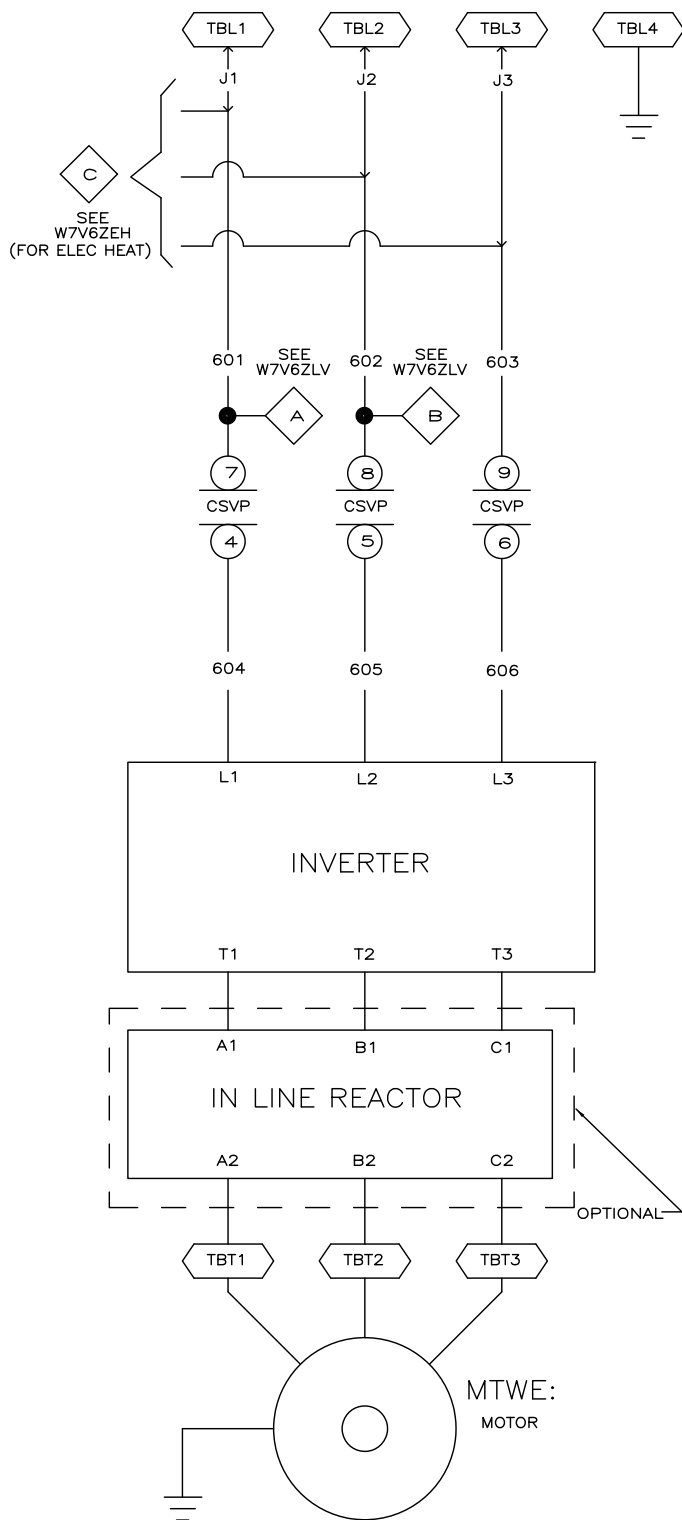
W7V6ZS+A

MILTOUCH CONTROLS

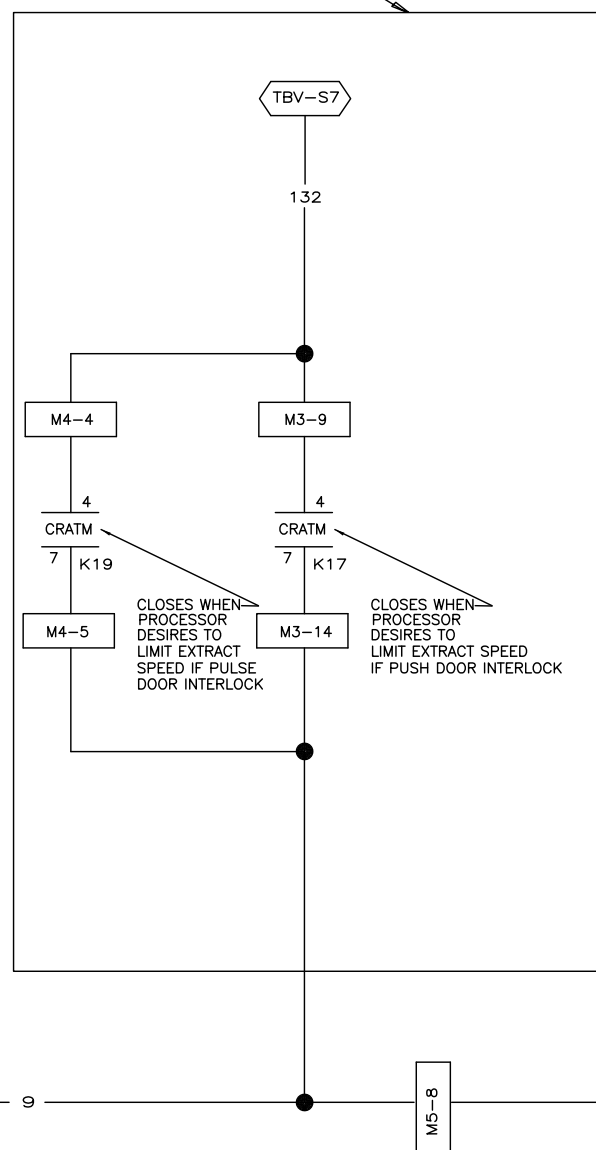
SCHEMATIC: START CIRCUIT & PULSE DOOR INTERLOCK

110V, 1P, 50HZ/120V, 1P, 60HZ

PELLERIN MILNOR CORPORATION



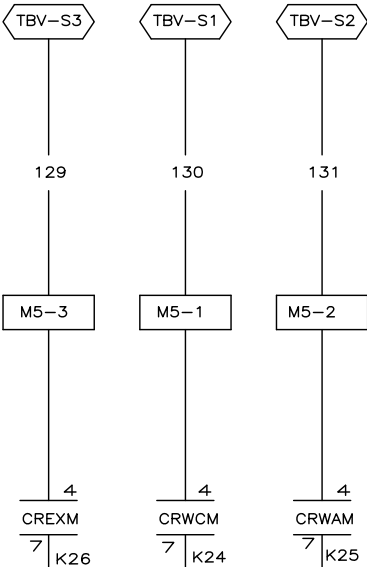
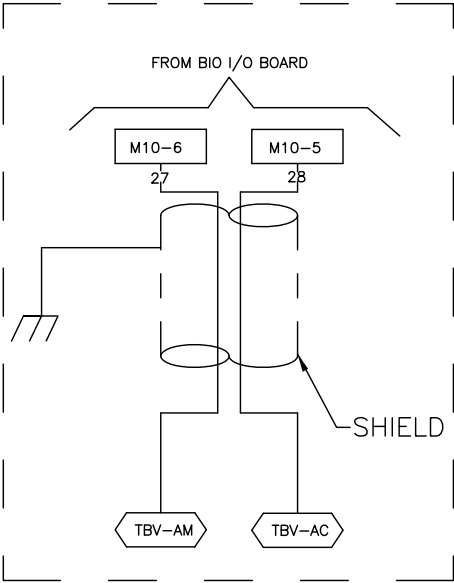
NOT USED AUGUST 2016
WITH OUT OF BALANCE DETECTION



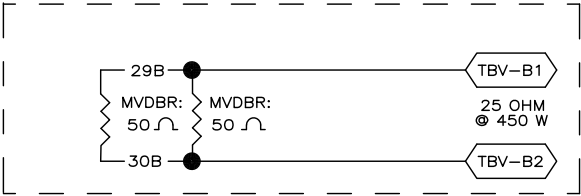
00 01 02 03 04 05 06 07 08 09 10

W7V6ZVPA
2022496B

OUT OF BALANCE CONTROL
AFTER AUGUST 2016



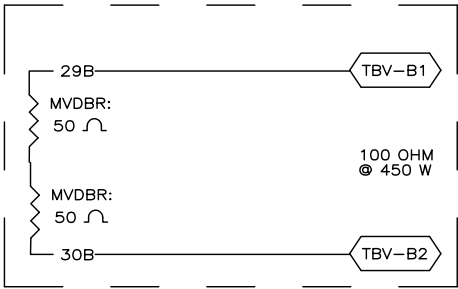
LOW VOLTAGE 36" MACHINE



LOW VOLTAGE 42" MACHINE



HIGH VOLTAGE 36" & 42"



	CW		CCW	
	CRWCM	CRWAM	CREXM	CRATM
WASH 1	X			
WASH 2	X			
DRAIN	X			
RINS SAVE	X			
EXTRACT 1	X		X	
EXTRACT 2	X		X	
EXTRACT 3	X		X	
OUT OF EXTRACT			X	X

NOTES:

1. TBV IS LOCATED ON VARIABLE SPEED CONTROLLER CONTROLLER.
2. Kxx REFERS TO THE LABEL ON THE BOARD MOUNTED RELAY.

W7V6ZVPA
2022496B

W7V6ZVPA
MILTOUCH CONTROLS
FOR F7/V1000/A1000/GA500/GA800 INVERTER
SCHEMATIC: VARIABLE
SPEED CONTROLLER
PELLERIN MILNOR CORPORATION