



MODEL YK CENTRIFUGAL LIQUID CHILLERS

RENEWAL PARTS

Supersedes: 160.54-RP1 (513)

Form 160.54-RP1 (315)

OPTIVIEW™ CONTROL CENTER

371-02264-101, 102, 103

371-02486-101, 102, 103

371-02448-101, 102, 103

371-02778-101, 102, 103

371-02780-101, 102, 103

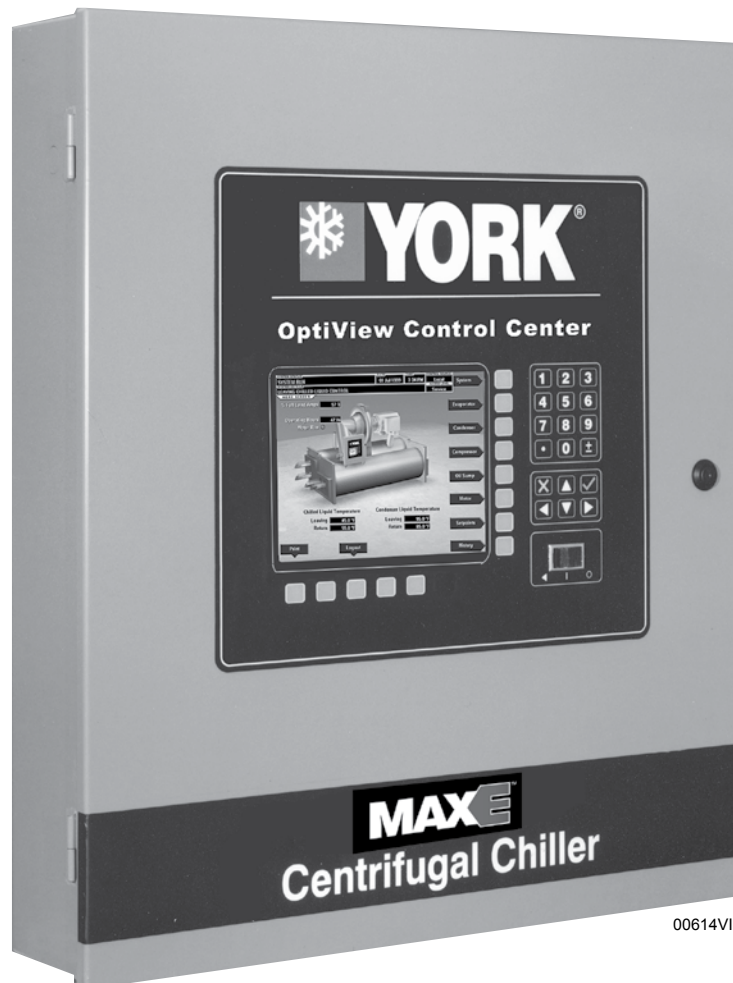
371-02779-101, 102, 103

371-04118-101, 102, 103, 104, 105, 106, 110, 111, 112

371-04119-101, 102, 103, 104, 105, 106, 110, 111, 112

371-04120-101, 102, 103, 104, 105, 106, 110, 111, 112

MODEL YK (THROUGH STYLE G)



00614VIP

Issue Date:
March 31, 2015



IMPORTANT!

READ BEFORE PROCEEDING!

GENERAL SAFETY GUIDELINES

This equipment is a relatively complicated apparatus. During rigging, installation, operation, maintenance, or service, individuals may be exposed to certain components or conditions including, but not limited to: heavy objects, refrigerants, materials under pressure, rotating components, and both high and low voltage. Each of these items has the potential, if misused or handled improperly, to cause bodily injury or death. It is the obligation and responsibility of rigging, installation, and operating/service personnel to identify and recognize these inherent hazards, protect themselves, and proceed safely in completing their tasks. Failure to comply with any of these requirements could result in serious damage to the equipment and the property in

which it is situated, as well as severe personal injury or death to themselves and people at the site.

This document is intended for use by owner-authorized rigging, installation, and operating/service personnel. It is expected that these individuals possess independent training that will enable them to perform their assigned tasks properly and safely. It is essential that, prior to performing any task on this equipment, this individual shall have read and understood the on-product labels, this document and any referenced materials. This individual shall also be familiar with and comply with all applicable industry and governmental standards and regulations pertaining to the task in question.

SAFETY SYMBOLS

The following symbols are used in this document to alert the reader to specific situations:



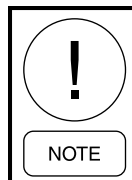
Indicates a possible hazardous situation which will result in death or serious injury if proper care is not taken.



Identifies a hazard which could lead to damage to the machine, damage to other equipment and/or environmental pollution if proper care is not taken or instructions and are not followed.



Indicates a potentially hazardous situation which will result in possible injuries or damage to equipment if proper care is not taken.



Highlights additional information useful to the technician in completing the work being performed properly.



External wiring, unless specified as an optional connection in the manufacturer's product line, is not to be connected inside the control cabinet. Devices such as relays, switches, transducers and controls and any external wiring must not be installed inside the micro panel. All wiring must be in accordance with Johnson Controls' published specifications and must be performed only by a qualified electrician. Johnson Controls will NOT be responsible for damage/problems resulting from improper connections to the controls or application of improper control signals. Failure to follow this warning will void the manufacturer's warranty and cause serious damage to property or personal injury.

CHANGEABILITY OF THIS DOCUMENT

In complying with Johnson Controls' policy for continuous product improvement, the information contained in this document is subject to change without notice. Johnson Controls makes no commitment to update or provide current information automatically to the manual or product owner. Updated manuals, if applicable, can be obtained by contacting the nearest Johnson Controls Service office or accessing the Johnson Controls QuickLIT website at <http://cgproducts.johnsoncontrols.com>.

It is the responsibility of rigging, lifting, and operating/service personnel to verify the applicability of these documents to the equipment. If there is any question

regarding the applicability of these documents, rigging, lifting, and operating/service personnel should verify whether the equipment has been modified and if current literature is available from the owner of the equipment prior to performing any work on the chiller.

CHANGE BARS

Revisions made to this document are indicated with a line along the left or right hand column in the area the revision was made. These revisions are to technical information and any other changes in spelling, grammar or formatting are not included.

HOW TO USE RENEWAL PARTS MANUALS

Johnson Controls offers an assortment of replacements parts for Johnson Controls, YORK and UPG units. Each replacement part is manufactured and fitted for a specific model. This Replacement Parts Manual is for standard Johnson Controls units. Chiller units built with special options, modifications, or conversions are not covered in this manual.

This Replacement Parts Manual provides Johnson Controls chiller replacement parts by part numbers, descriptions, quantities and drawing figures. To determine the correct replacement part, locate the item on drawing figure and refer to the parts list for the part number, description and quantity.

NOTE: Provide a unit model number, unit serial number and part number when requesting a quotation or placing an order. Failure to include this information may delay processing of your request.

Model and Serial Number Locations:

- **Unit** - Namplate on side of Control Panel
- **Compressor** - Namplate on Compressor Housing
- **VSD** - Namplate on VSD Panel

Contact the following sources to order parts.

NORTH AMERICA

Baltimore Parts Center

Contrators within USA

Telephone: (800)-932-1701

Equipment Owners within USA who maintain their own equipment

Telephone: (800)-482-2778

Email: cg-baltimore-parts-customer@jci.com

For parts availability and ordering YORK HVAC Parts within the USA please use the following link: http://www.johnsoncontrols.com/content/us/en/products/building_efficiency/products-and-systems/integrated_hvac_systems/parts_center/baltimorepartscenter.html

EUROPE

HVAC Parts Centre (Europe)

Telephone: +44 (0) 1268 246 400

Email: ALLParts@jci.com

ITEM	DESCRIPTION	PART NUMBER	QTY.	FIGURE
1	Terminal block (NEMA 1, 4, 12) (CE)	025-33290-000	1	2
		025-34121-000		2
2	Input / Output Board	031-01743-002	1	2
3	Microboard	331-02430-601	1	2
	<p>The Control Center could be equipped with one of the following microboards, depending on the vintage of the Control Center. Regardless of which board is present, order part number 331-02430-601. (Replacement microboards can not be ordered by the basic board part number of 031-02430-001</p> <p>031-01730-000 – supplied in new production chillers until January 2004. Uses BIOS EPROM (item 14), BRAM (item 32) and Flash Memory Card (item 20). Replacement kit 331-02430-601 is supplied as service replacement for this board.</p> <p>031-02430-000 – supplied in new production chillers from January 2004 until June 2006. Uses BIOS EPROM (item 64) and BRAM (item 65). Replacement kit 331-02430-601 is supplied as service replacement for this board.</p> <p>031-02430-001 – Supplied in new production chillers and as replacement part number 331-02430-601 after June 2006. The board is supplied pre-programmed with the latest version of the YK "Controls" software and it comes equipped with a BRAM (U38) (item 65A) and BIOS EPROM (U37) (item 64). It is shipped with a label on the outside of the shipping box that lists the part number of the pre-programmed Microboard (331-02430-601, the basic Microboard part number (031-02430-001) and the version of the "Controls" software (for example, C.OPT.01.14.306) that the board has been programmed with. This board is provided as service replacement for microboards 031-01730-000, 031-02430-000 and 031-02430-001.</p>			
4	Power Supply	025-34111-000	1	2
5	Transformer	025-30889-000	1	2
6	Keypad (NEMA 1) (NEMA 4/12 & CE)	024-30993-000	1	1
		024-30994-000		1
7	Fuse, 5a, 1FU	025-14019-000	1	2
8	Fastener, Pawl, Adjustable (NEMA 1)	021-17252-000	1	1
9	Switch Rocker (NEMA 1)	024-23143-000	1	1
10	Display Kit (Note 1)	331-01771-000	1	9
11	Cover, Display	071-02264-346	1	9
12	Cable, Ribbon (NEMA 1) (NEMA 4/12 & CE)	031-01772-000	1	2
		031-02015-000		2
13	Cable, Ribbon	031-01779-000	1	2
14	<p>EPROM, BIOS (U45) Used on Microboard 031-01730-000 only. Not compatible with with Microboard 031-02430-000 or 031-02430-001. *IMPORTANT! Flash memory Card version C.MLM. 01.03 and earlier (ie; C.MLM.01.02, C.MLM.01.01, C.MLM.01.00) CANNOT be used with this EPROM. The chiller will not run with this combination. The Flash Memory Card must be upgraded to version C.MLM.01.04 or later (ie; .05, .06, etc). Refer to item 20.</p>	031-01796-002*	1	2
15	Fuseholder (For Item 16)	025-17407-000	1	2
16	Fuse, 20A, 2FU	025-28967-000	1	2
17	Fuseholder (For Item 7)	025-13991-000	1	2
18	Cable, Ribbon (EM Start & SSS Only)	031-01799-000	1	2, 3
19	Cable, Shielded (VSD Application Only)	571-02264-411	1	2

ITEM	DESCRIPTION	PART NUMBER	QTY.	FIGURE
20	Flash Memory Card, Programmed (U46) Used on Microboard 031-01730-000 only. Not compatible with Microboard 031-02430-000 or 031-02430-001.			
20A	See note 5 for version analysis Version C.MLM.nn.nn.nnn Allows Display Screens to be displayed in English, Chinese Traditional, Chinese Simplified, French, Portuguese or Spanish language. Supplied in new NEMA 1-4/12 OptiView Control Centers, but can be installed in any OptiView Control Center.	031-01797-001	1	2
20B	Version C.MLM.nn.nn.nnn Allows Display Screens to be displayed in English, French, Italian, German, or Hungarian language. Supplied in new CE (European Community) OptiView Control Centers, but can be installed in any OptiView Control Center.	031-01797-002		
21	Switch, Knob Selector (NEMA 4/12, CE)	024-30931-000	1	5
22	Contact Block (NEMA 4/12, CE)	024-30932-000	2	5
23	Buss Bar (Ground) (NEMA 4/12, CE)	025-34122-000	1	8
24	Suppressor (Note 3)	031-00808-000	6	
25	Control, Current Mod. CM-2 (Electro-Mech. Starter App. Only)	031-00947-000	1	3
26	Diode Bridge (Electro-Mechanical Starter App. Only)	031-00210-000	1	3
27	Resistor, Variable (Electro-Mechanical Starter App. Only)	025-20789-000	2	3
27A	Resistor Assembly (Includes Both Resistors Configured For Installation)	575-00364-001	1	3
28	Control, Logic - 7Lk (Mod. A Solid State Starter App. Only)	031-00936-002	1	4
29	Control, Logic - 14Lk (Mod. A Solid State Starter App. Only)	031-00936-003	1	4
30	Control, Logic - 26Lk (Mod. A Solid State Starter App. Only)	031-00936-004	1	4
31	Control, Logic - 33Lk (Mod. A Solid State Starter App. Only)	031-00936-005	1	4
32	IC, Bram-U52 Used On Microboard 031-01730-000 Only. Not compatible with Microboard 031-02430-000 Or 031-02430-001.	031-02028-000	1	2
33	Transducers (R-22) Condenser, High Oil (Water & Brine App.) - NPTF threads	025-28678-001		(Not Shown)
33A	Evaporator (Water Applications) - NPTF Threads	025-28678-102		
33B	Evaporator (Water Applications) - Straight Threads With O-Ring	025-28678-113		
33C	Evaporator (Brine Applications) - NPTF Threads	025-28678-003		
33D	Evaporator (Brine Applications) - Straight Threads With O-Ring	025-28678-114		
33E	Low Oil (Water & Brine Applications) - NPTF Threads	025-28678-004		
34	Transducers (R-134A) Cond., High & Low Oil (Water & Brine App.) – straight threads with O-ring	025-28678-006		(Not Shown)
34A	Evaporator (Water & Brine App.) – Straight Threads With O-Ring	025-28678-112		
34B	Evaporator (Water & Brine App.) – NPTF threads	025-28678-104		
34C	Stall Detection - Straight Threads With O-Ring (Chillers Equipped With Variable Geometry Diffuser)	Check actual P/N installed: 025-39464-000 (early vintage) 025-40088-000 (later vintage)		
34D	Seal, O-Ring for Items 33B, 33D, 34, 34A, 34B, & 34C	028-12961-002		

ITEM	DESCRIPTION	PART NUMBER	QTY.	FIGURE
35	Thermistors Entering Chilled Water Temperature	025-29964-000		(Not Shown)
35A	Leaving Chilled Water Temperature	025-29964-000		
35B	Sensor Well With Threaded Top	026-32328-000		
35C	Entering Condenser Water Temperature	025-28935-000		
35D	Leaving Condenser Water Temperature	025-28935-000		
35E	Oil Temperature – NPTF Threads	025-28936-000		
35F	Oil Temperature – Straight Threads With O-Ring (Ref. Item 56)	025-31301-000		
35G	Discharge Temperature – NPTF Threads	025-28936-000		
35H	Discharge Temperature – Straight Threads With O-Ring (Ref. Item 56)	025-31301-000		
36	Probe, Proximity IMPORTANT! - If Control Center is equipped with Microboard 031-01730-000, Flash Memory Card must be version C.MLM.01.03.xxx or later (ie; C.MM..01.04.xxx, C.MLM..01.05.xxx, etc.)	(Refer to YORK form 160.73-RP3) (See note 6)	1	(Not Shown)
37	Not Used			
38	Board, Adaptive Capacity Control (VSD App. Only)	(See 160.00-RP4 & 160.00-RP2)	1	2
39	Circuit Breaker, Pole, 6A (CE)	024-30935-000	1	8
40	Switch, Disconnect (CE)	024-34171-000	1	8
41	Circuit Breaker, 25A (CE)	024-30956-000	1	8
42	Circuit Breaker 16A (CE)	024-30947-000	1	8
43	Circuit Breaker (CE)	024-30936-000		
44	Mount, Anti-Vibration	021-19191-000	4	2
45	Backlight Bulb	See Note 4	1	9
46	Backlight Inverter Board	See Note 4	1	9
47	Backlight Inverter Board Ribbon Cable	See Note 4	1	9
48	Display Interface Board	See Note 4	1	9
49	Display Interface Board Ribbon Cable	031-01769-000	1	9
50	Strip, Neoprene	028-07533-000	2.8 ft	9
51	E-Link (Optional) BACnet MS/TP, N2, MODBUS RTU E-Link Installation Kit	025-43893-000 025-43894-000	1	2
52	Frick Analog I/O Board (Optional) (Hot Gas Bypass Control)	371-02514-000	1	2
52A	LTC I/O Analog Board (Optional) (Hot Gas Bypass Control)	371-02895-000	1	2
53	Wiring Harness, 8 Inch, Power Supply To Microboard J1 12 Inch	571-02264-272 571-03774-272		
54	Fuse, F1 & F2, 5 Amp (Revision "E" and later 031-01730-000 Microboards and all 031-02430-000 Microboards)	025-34592-000	2	10
55	Evaporator Refrigerant Temperature Sensor (Straight Threads. Not Supplied With O-Ring. See Item 56)	025-34159-000	1	(Not Shown)
56	Seal, O-Ring For Items 55, 35F And 35H	028-12961-004		
57	Fuse, 5A (4Fu, 6Fu)	025-15759-000	2	2
58	Fuse, 4A (5Fu)	025-34566-000	1	2
59	Fuseholder, (For Item 57 & 58)	025-34565-000	1	2

ITEM	DESCRIPTION	PART NUMBER	QTY.	FIGURE
60	RS-485 Driver LC. U53, U54, U91 On 031-01730-000 Microboard U45, U46, U47 On 031-02430-000 Microboard (Supplied In Package Of 4 Each)	031-02074-000	3	2
61	Housing, Connector P8, 22 Position	025-34117-000	1	2
62	Housing, Connector P9, 20 Position	025-34116-000	1	2
63	Contacts, Sockets For P8, P9	025-28386-000	42	2
64	EPROM, BIOS (U37) Used on Microboard 031-02430-000 & 031-02430-001 only. Not compatible with Microboard 031-01730-000. Refer to note 2 for version analysis.	031-02429-001	1	2
64a	EPROM, BIOS (U37) Used on Microboard 031-02430-001 only. Required for software C.OPT.01.24.xxx and later	031-02429-002	1	2
65	BRAM (U38) Used on Microboard 031-02430-000 only. Not compatible with Microboard 031-01730-000 or 031-02430-001.	031-02431-000	1	2
65A	BRAM (U38) Used on Microboard 031-02430-001 only. Not compatible with Microboard 031-01730-000 or 031-02430-000.	031-02565-000	1	2
66	Program Card Used to download YK chiller operating program into 031-02430-000 or 025-02430-001 Microboards. Contains the YK chiller operating program. Refer to note 7 for version analysis.	031-02474-001	1	6
67	Stall Detector Board (chillers equipped with Variable Geometry Diffuser)	031-02418-001 (See Note 8)	1	2
68	Housing, Connector P33, 9 position (Style F and later chillers)	025-21191-000	1	11
69	Housing, Connector J33, 9 Position (Style F And Later Chillers)	025-21192-000	1	11
70	Housing, Connector P34, 15 Position (Style F And Later Chillers)	025-20788-000	1	11
71	Housing, Connector J34, 15 Position (Style F And Later Chillers)	025-20918-000	1	11
72	Housing, Connector P35, 6 Position (Style F And Later Chillers)	025-20963-000	1	11
73	Housing, Connector J35, 6 Position (Style F And Later Chillers)	025-19670-000	1	11
74	Contacts, Pins For P33, P34, P35	025-22214-000	26	11
75	Contacts, Sockets For J33, J34, J35	025-22215-000	26	11
76	Housing, Connector J30, 12 Position	025-34147-000	1	11
77	Contacts, Pins For J30	025-30999-000		
78	Housing, Connector P32, 8 Position	025-34144-000	1	11
79	Contacts, Sockets For P32	025-34145-000		
80	Motor Monitoring Board Fully Populated	031-02893-001	1	*
80A	Motor Monitoring Board No Bearing RTD or Vibration Inputs	031-02893-000	1	*

NOTE: Items with an * are NOT represented.

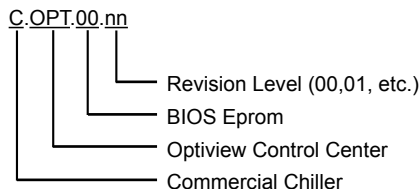
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NOTES:

1. The replacement Liquid Crystal Display supplied by YORK might not be by the same manufacturer as the original Display. Each Display requires a specific Display Interface Board (Item 48), Backlight Inverter Board (Item 46), and Backlight Inverter Board ribbon cable (Item 47). Therefore, the Liquid Crystal Display is not available separately. **Service replacement Displays or supporting components must not be arbitrarily selected! Non-compatibility of components will result in incorrect operation!** To assure compatible supporting components, the Display is supplied as a kit (331-01771-000), which contains a replacement Display and all compatible supporting components on a mounting plate. For future reference, a label attached to the side of the mounting plate (Fig. 9) lists the YORK part numbers of these compatible components and the required configuration of the Microboard Program Jumpers. These Program Jumpers must be configured for this Display by a qualified Service Technician following instructions in YORK Service manual 160.54-M1. The contents of the kit are as follows:

- a. Liquid Crystal Display
- b. Backlight Bulb (Item 45)
- c. Appropriate Display Interface Board (Item 48) for Display
- d. Appropriate Display Interface Board ribbon cable (Item 49) for Item 48.
- e. Appropriate Backlight Inverter Board (Item 46) for Display.
- f. Appropriate Backlight Inverter Board ribbon cable (Item 47) for Item 46.
- g. All mounting hardware.
- h. Installation instructions.

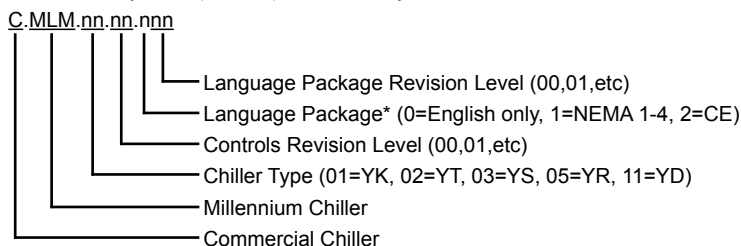
2. BIOS Eprom (item 64) version analysis:



3. Extra Suppressors are shipped in cloth bag. They are applied at solenoids and relays located on chiller.

4. Refer to label (Fig. 9) on Display mounting plate for YORK part number of applicable replacement part. **Service replacement Display supporting components must not be arbitrarily selected! Non-compatibility of components will result in incorrect operation!**

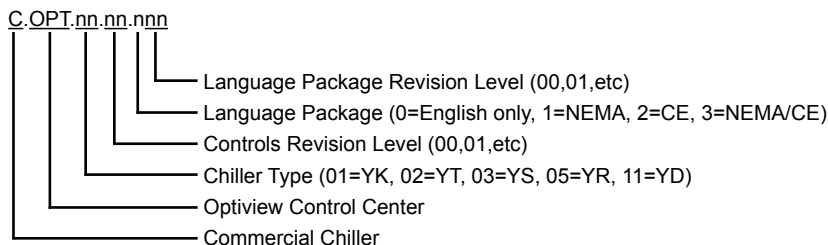
5. Flash Memory Card (item 20) version analysis:



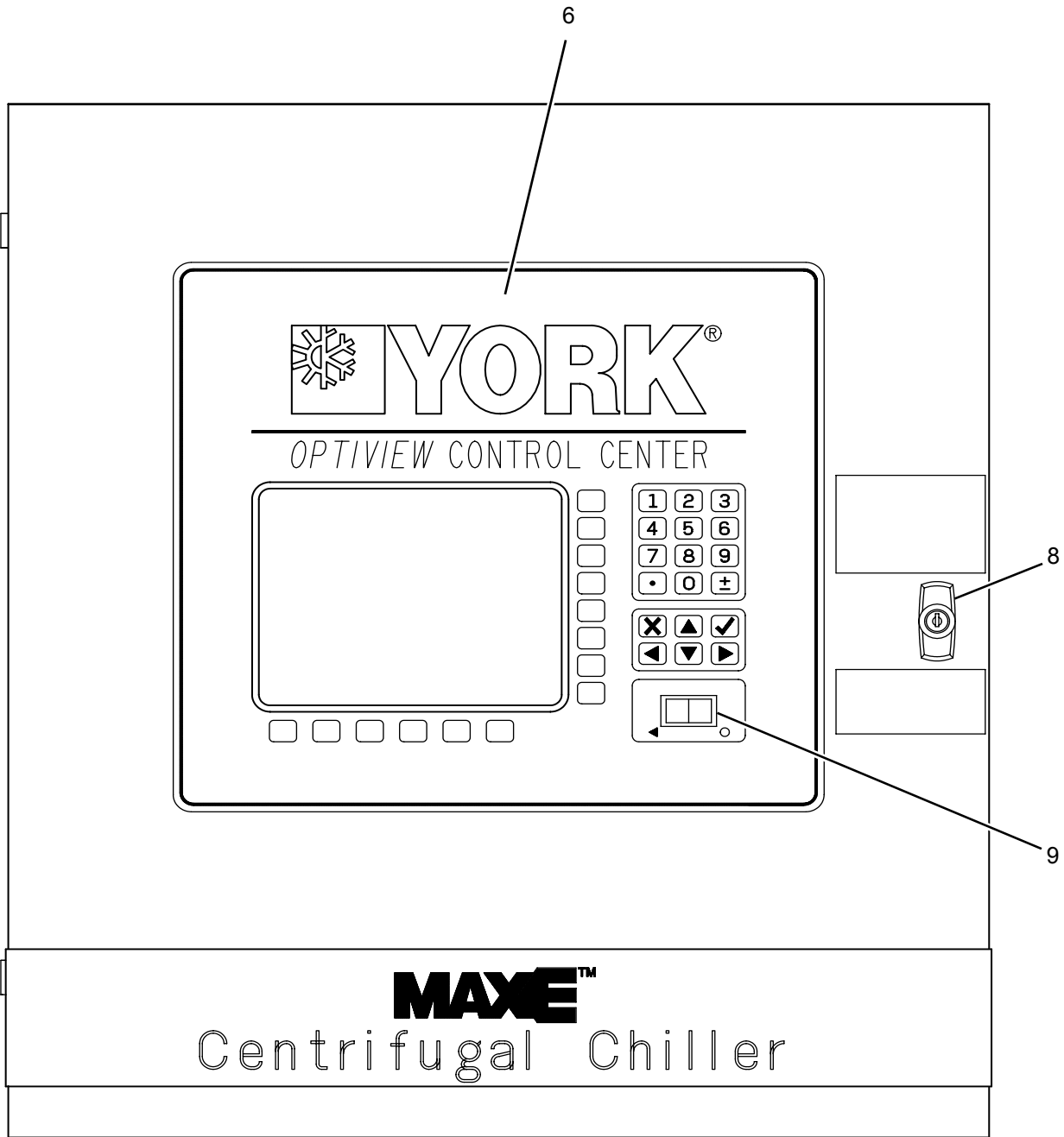
- *1 = Supplied in new NEMA 1-4 OptiView Control Centers
- 2 = Supplied in new CE (European Community) OptiView Control Centers

6. The Replacement Proximity Probe does not sense the High Speed Drain Line Temperature. Therefore, if equipped with Microboard 031-01730-000, the Flash Memory Card version must be revision C.MLM.01.03.xxx or later (ie; 04.05, etc.), since these revisions do not read nor perform safety shutdowns based on this parameter. If this Probe is installed in a chiller equipped with an earlier version, the chiller will be prevented from starting due to one of the High Speed Drain Line Oil temperature Safety faults. If the Control Center does not contain a Compatible Flash Memory Card version, it will have to be upgraded at the time of Probe replacement.

7. Program Card (item 66) version analysis:



8. Supercedes Stall Detector Board 031-02418-000.



LD10326

FIGURE 1 - FRONT OF OPTIVIEW CONTROL CENTER

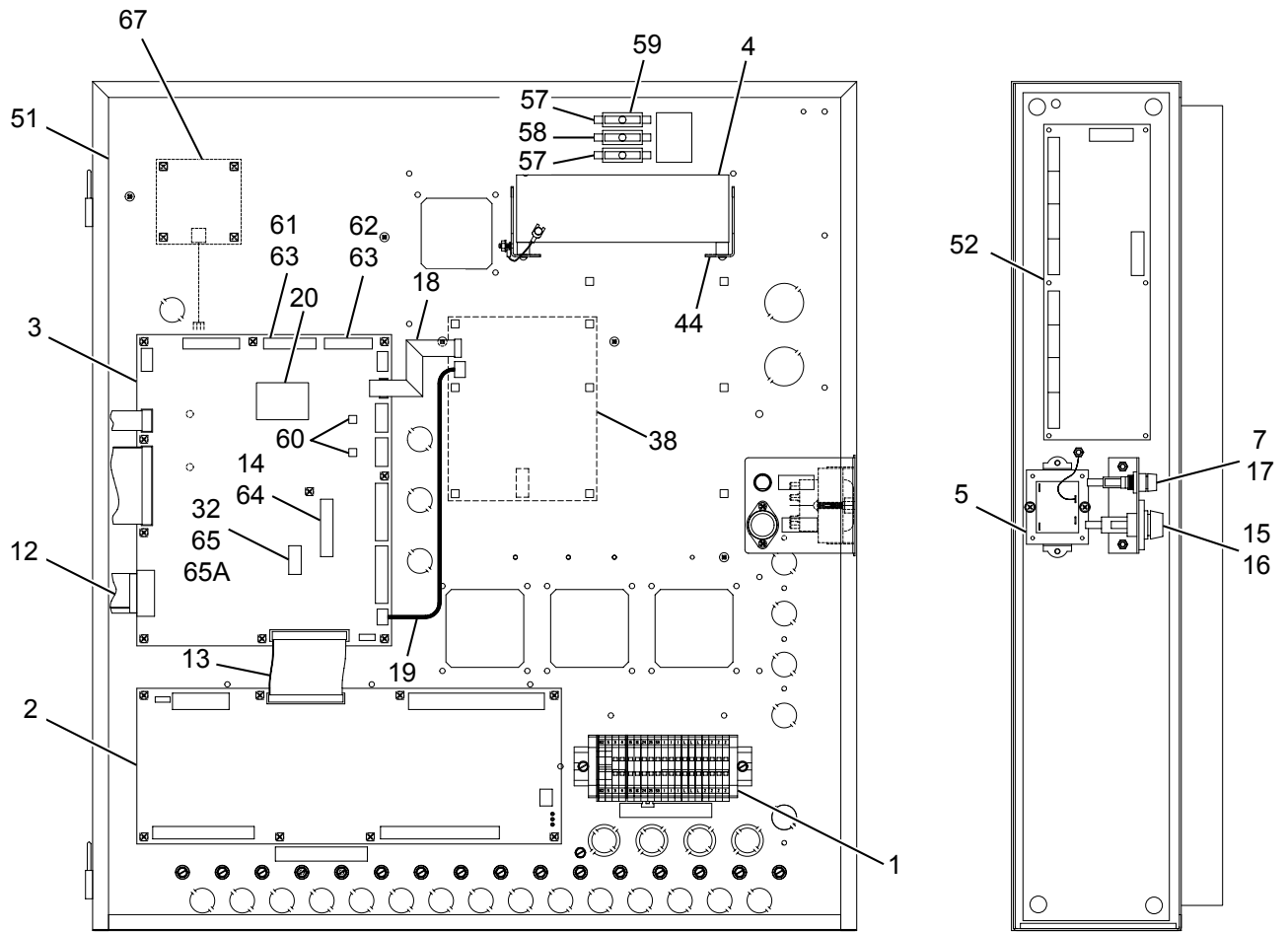
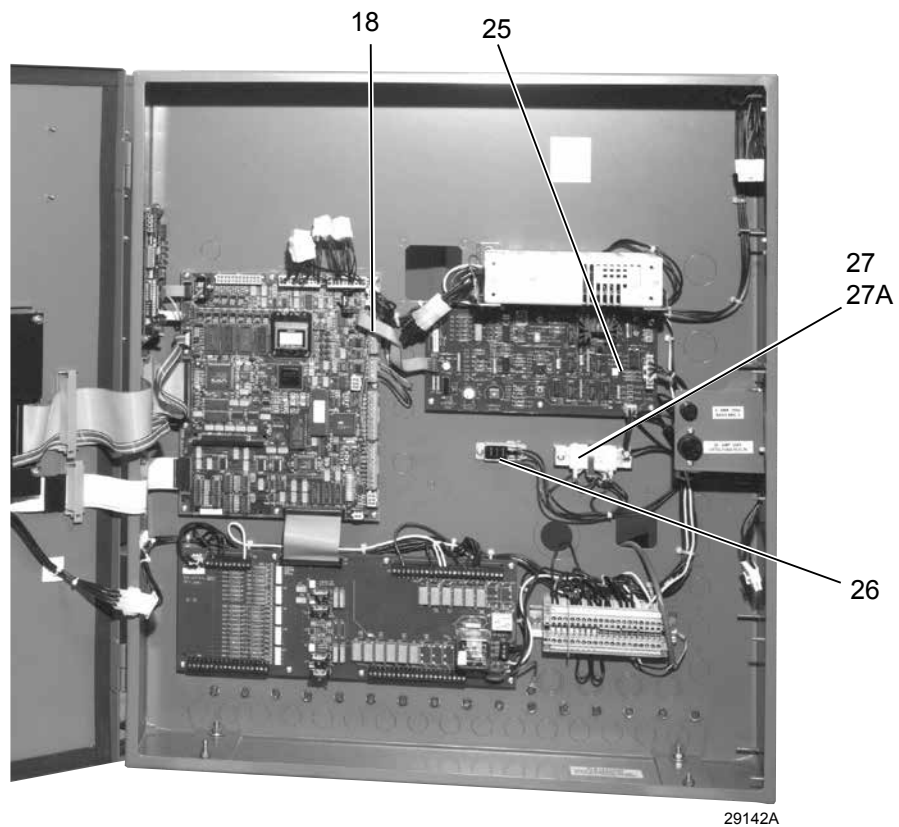


FIGURE 2 - INSIDE OF CONTROL CENTER

LD10327



29142A

FIGURE 3 - EM STARTER APPLICATIONS

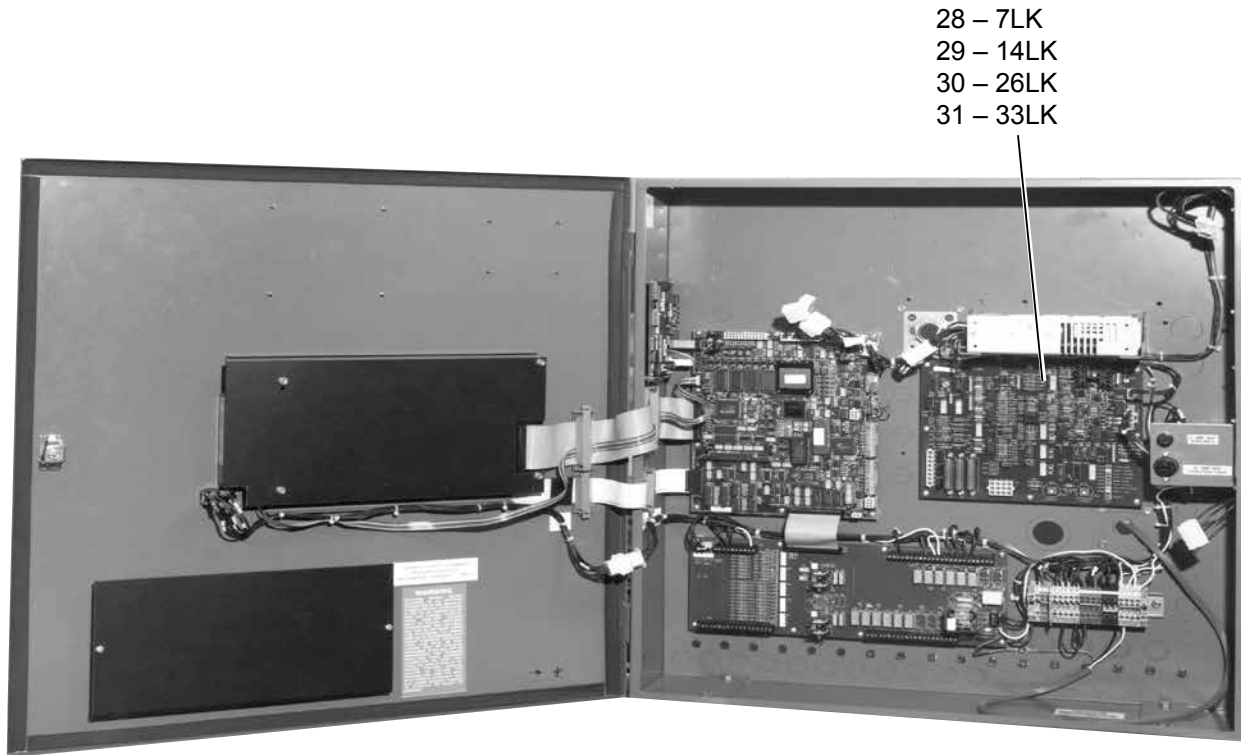


FIGURE 4 - STYLE "A" SOLID STATE STARTER APPLICATIONS

29139A

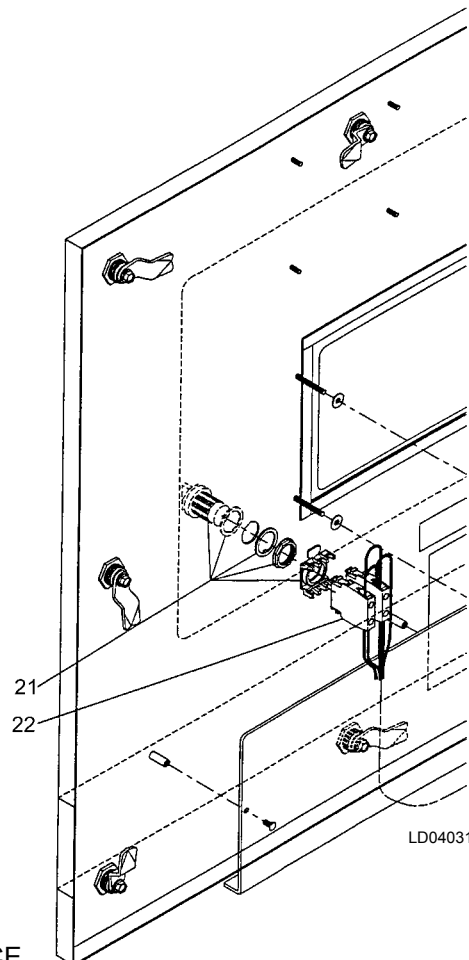
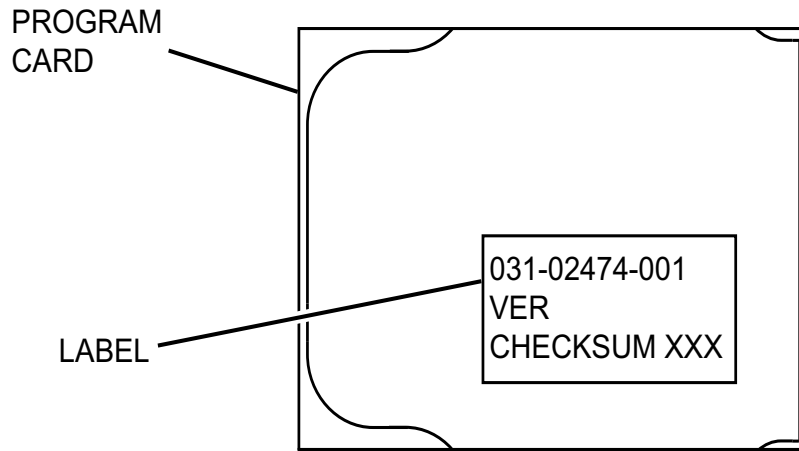
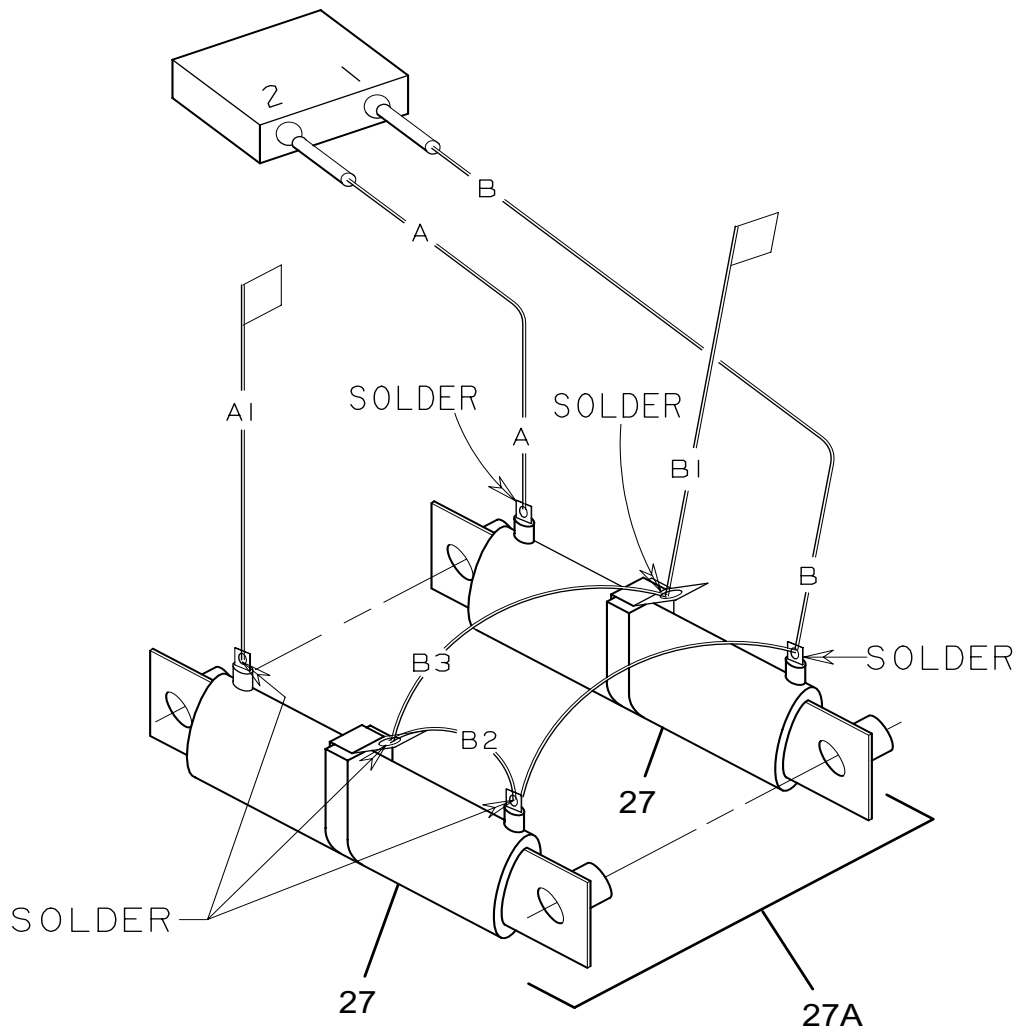


FIGURE 5 - INSIDE OF DOOR - NEMA 4/12, CE



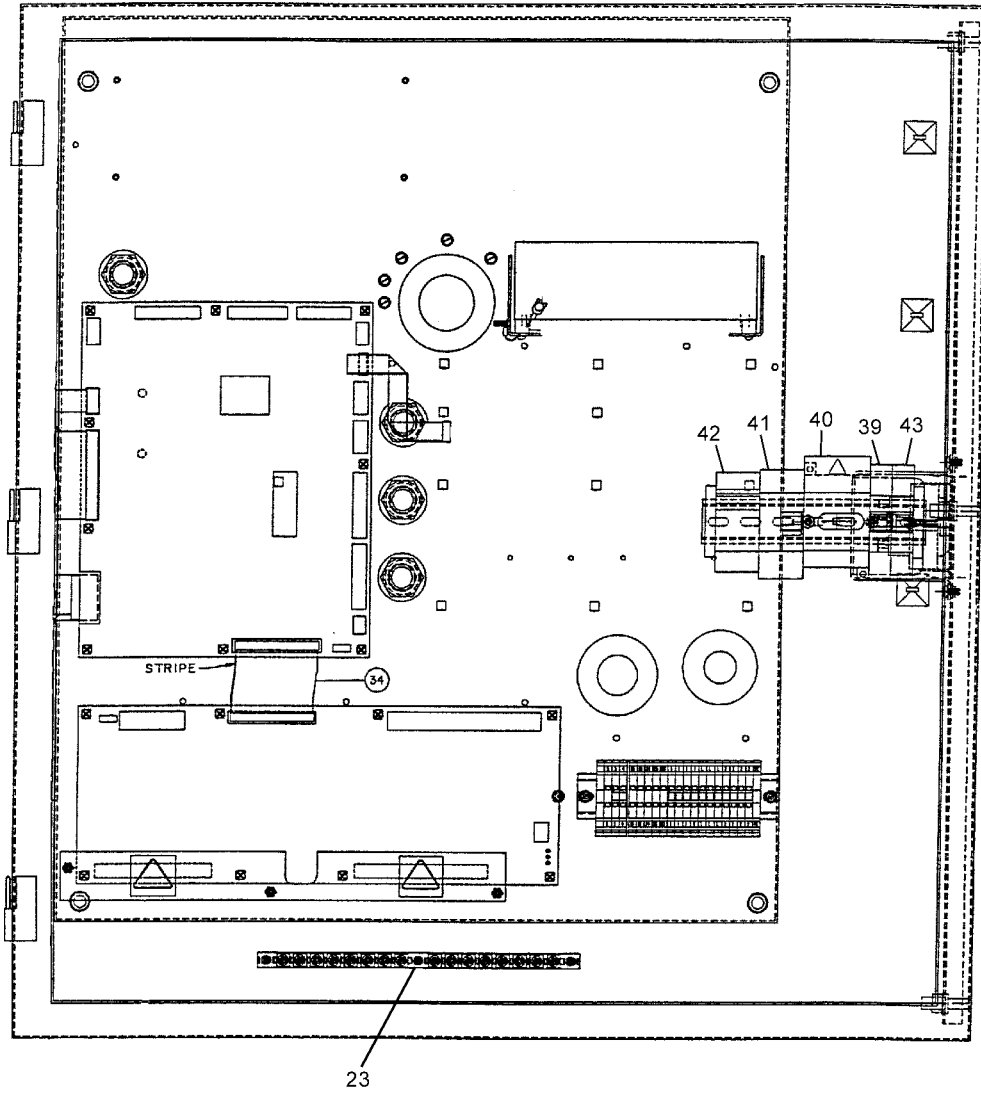
LD10328

FIGURE 6 - PROGRAM CARD (ITEM 66)



LD10329

FIGURE 7 - RESISTOR ASSEMBLY (ITEM 27A)



LD04032

FIGURE 8 - INSIDE OF CONTROL CENTER - NEMA 4/12, CE

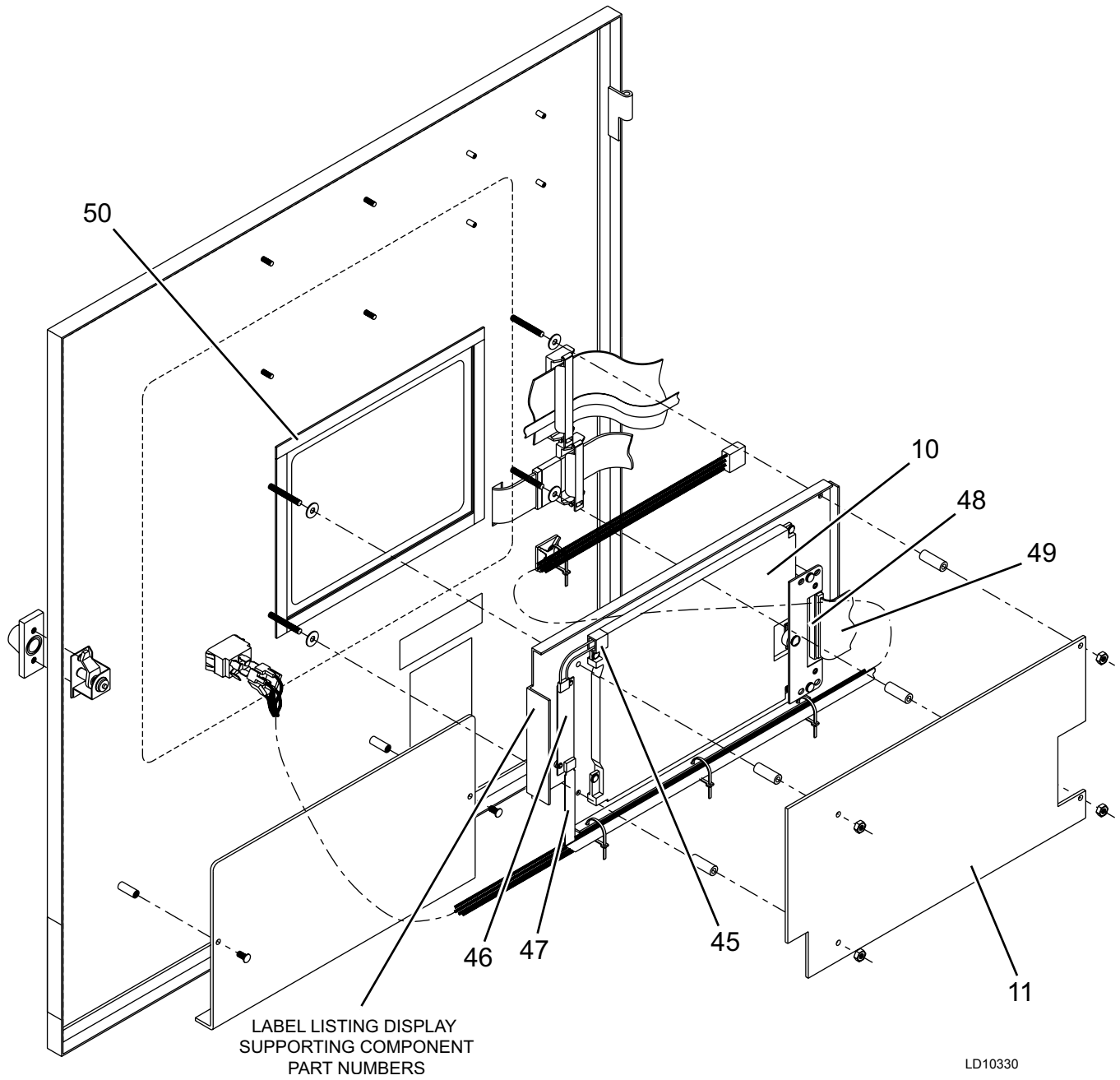
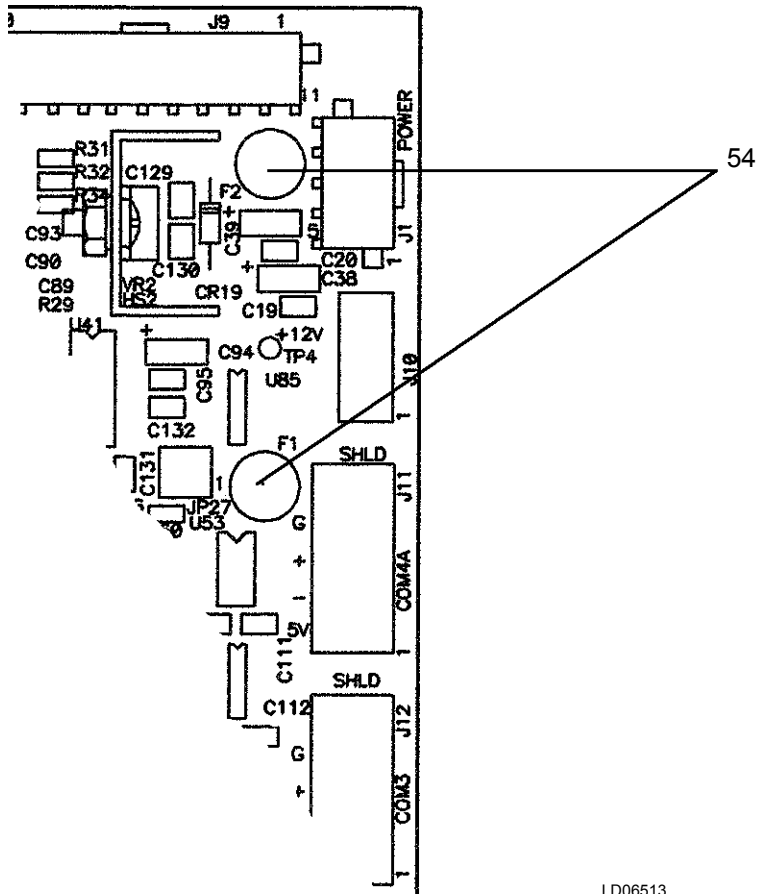


FIGURE 9 - DISPLAY COMPONENTS (SEE NOTES 1 & 4, PAGE 3)



LD06513

FIGURE 10 - MICROBOARD FUSES (REF. ITEM 3)

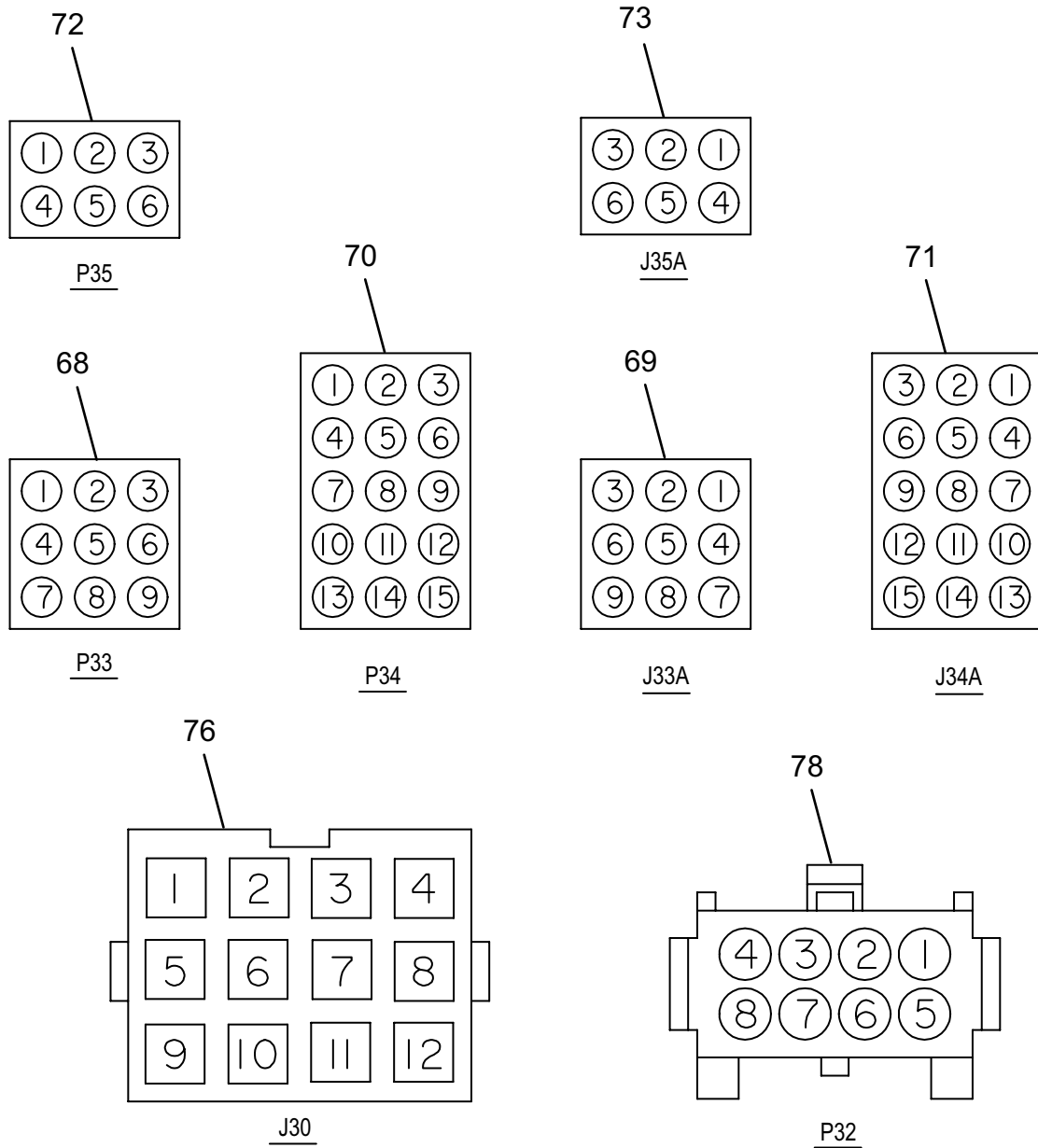


FIGURE 11 - CONNECTORS

LD10332



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