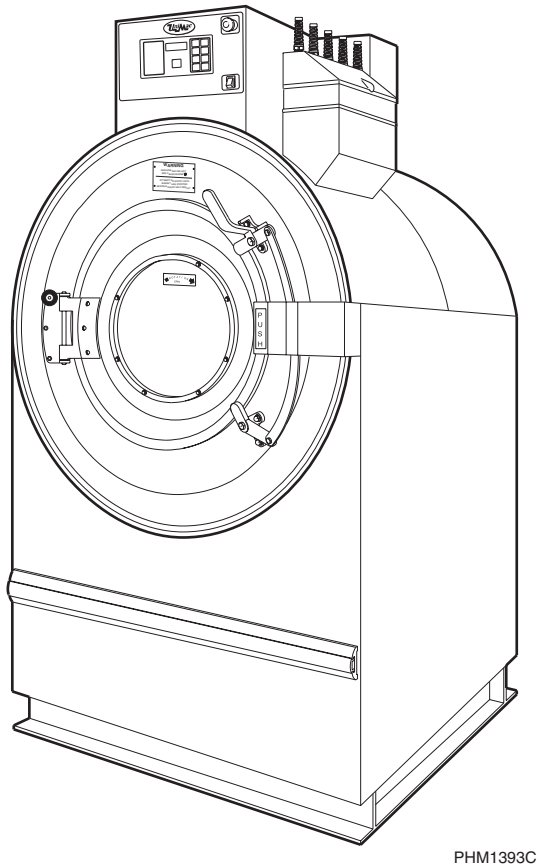
Washer-Extractor

Pocket Hardmount
UWAV and UWB2

Refer to Page 5 for Model Numbers



PHM1393C

Troubleshooting

Alliance Laundry Systems

www.comlaundry.com

Part No. F232218R1
July 2008

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Section 1
Safety Information

Throughout this manual and on machine decals, you will find precautionary statements ("CAUTION," "WARNING," and "DANGER") followed by specific instructions. These precautions are intended for the personal safety of the operator, user, servicer and those maintaining the machine.

⚠ DANGER
Danger indicates the presence of a hazard that **will** cause **severe** personal injury, death or substantial property damage if the danger is ignored.

⚠ WARNING
Warning indicates the presence of a hazard that **can** cause **severe** personal injury, death or substantial property damage if the warning is ignored.

⚠ CAUTION
Caution indicates the presence of a hazard that **will** or **can** cause **minor** personal injury or property damage if the caution is ignored.

Additional precautionary statements ("IMPORTANT" and "NOTE") are followed by specific instructions.

IMPORTANT
The word "IMPORTANT" is used to inform the reader of specific procedures where minor machine damage will occur if the procedure is not followed.

NOTE
The word "NOTE" is used to communicate installation, operation, maintenance or servicing information that is important but not hazard related.

General Safety Precautions

In the interest of safety, some general precautions relating to the operation of this machine follow.

WARNING

- **Failure to install, maintain and/or operate this product according to the manufacturer's instructions may result in conditions which can produce serious injury, death and/or property damage.**
- **Do not repair or replace any part of the product or attempt any servicing unless specifically recommended or published in this Service Manual and unless you understand and have the skills to carry out the servicing.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the product is properly grounded and to reduce the risk of fire, electric shock, serious injury or death.**

W006R2

(continued)

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WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer-extractor before servicing.**
- **Never start the washer-extractor with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer-extractor is properly grounded.**

W460

WARNING

Repairs that are made to your products by unqualified persons can result in hazards due to improper assembly or adjustments subjecting you or the inexperienced person making such repairs to the risk of serious injury, electrical shock or death.

W007

WARNING

If you or an unqualified person perform service on your product, you must assume the responsibility for any personal injury or property damage which may result. The manufacturer will not be responsible for any injury or property damage arising from improper service and/or service procedures.

W008

Always contact your dealer, distributor, service agent or the manufacturer about any problems or conditions you do not understand.

Important Safety Instructions

WARNING

To reduce the risk of fire, electric shock, serious injury or death to persons when using your washer, follow these basic precautions:

W023E

1. Read all instructions before using the washer-extractor.
2. Refer to the GROUNDING INSTRUCTIONS in the INSTALLATION manual (supplied with your washer-extractor) for the proper grounding of the washer-extractor.
3. Do not wash textiles that have been previously cleaned in, washed in, soaked in or spotted with gasoline, dry-cleaning solvents or other flammable or explosive substances. They give off vapors that could ignite or explode.
4. Do not add gasoline, dry-cleaning solvents or other flammable or explosive substances to the wash water. These substances give off vapors that could ignite or explode.
5. Under certain conditions, hydrogen gas may be produced in a hot water system that has not been used for two weeks or more. HYDROGEN GAS IS EXPLOSIVE. If the hot water system has not been used for such a period, before using a washer-extractor, turn on all hot water faucets and let the water flow from each for several minutes. This will release any accumulated hydrogen gas. The gas is flammable. Do not smoke or use an open flame during this time.

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6. Do not allow children to play on or in a washer-extractor. Close supervision of children is necessary when the washer-extractor is used near children.
7. Before the washer-extractor is removed from service or discarded, remove the door to the washing compartment.
8. Do not reach into the washer-extractor if the wash basket is moving.
9. Do not install or store the washer-extractor where it will be exposed to water and/or weather.
10. Do not tamper with the washer-extractor's controls.
11. Do not repair or replace any part of the washer-extractor or attempt any servicing unless specifically recommended in the user-maintenance instructions or in published user-repair instructions that the user understands and has the skills to carry out.
12. To reduce the risk of an electrical shock or fire, DO NOT use an extension cord or an adapter to connect the washer-extractor to an electrical power source.
13. Use the washer-extractor only for its intended purpose, washing clothes.
14. ALWAYS disconnect the washer-extractor from its electrical supply before attempting any service.
15. Install the washer-extractor according to the INSTALLATION INSTRUCTIONS. All connections for water, drain, electrical power and grounding must comply with local codes and, when required, be made by licensed personnel.
16. To reduce the risk of fire, textiles which have traces of any flammable substances such as vegetable oil, cooking oil, machine oil, flammable chemicals, thinner, etc. or anything containing wax or chemicals such as in mops or cleaning cloths, must not be put into the washer-extractor. These flammable substances may cause the fabric to ignite.
17. Do not use fabric softeners or products to eliminate static unless recommended by the manufacturer of the fabric softener or product.
18. Keep the washer-extractor in good condition. Bumping or dropping the washer-extractor can damage its safety features. If this occurs, have the washer-extractor checked by a qualified service person.
19. Replace worn power cords and/or loose plugs.
20. Be sure that water connections have a shut-off valve and that fill hose connections are tight. CLOSE the shut-off valves at the end of each wash day.
21. The loading door MUST BE CLOSED any time the washer-extractor is to fill, tumble or spin. DO NOT by-pass the loading door switch and permit the washer-extractor to operate with the loading door open.
22. Always read and follow the manufacturer's instructions on packages of laundry and cleaning aids. Heed all warnings and precautions. To reduce the risk of poisoning or chemical burns, keep them out of the reach of children at all times (preferably in a locked cabinet).
23. Always follow the fabric care instructions supplied by the textile manufacturer.
24. Never operate the washer-extractor with any guards and/or panels removed.
25. DO NOT operate the washer-extractor with missing or broken parts.
26. DO NOT by-pass any safety devices.
27. Failure to install, maintain and/or operate this washer-extractor according to the manufacturer's instructions may result in conditions that can produce bodily injury and/or property damage.

NOTE: The WARNING and IMPORTANT SAFETY INSTRUCTIONS appearing in this manual are not meant to cover all possible conditions and situations that may occur. Common sense, caution and care must be exercised when installing, maintaining and operating the washer-extractor.

Any problems or conditions not understood should be reported to the dealer, distributor, service agent or the manufacturer.

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Locating an Authorized Servicer

Alliance Laundry Systems is not responsible for personal injury or property damage resulting from improper service. Review all service information before beginning repairs.

Warranty service must be performed by an authorized technician, using authorized factory parts. If service is required after the warranty expires, Alliance Laundry Systems also recommends contacting an authorized technician and using authorized factory parts.

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Section 2
Introduction

Customer Service

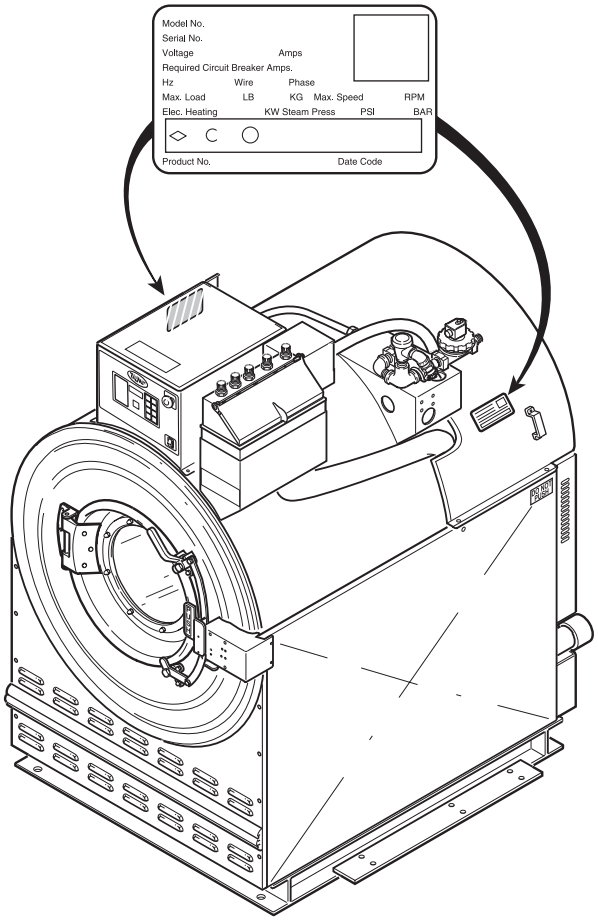
Alliance Laundry Systems is not responsible for personal injury or property damage resulting from improper service. Review all service information before beginning repairs.

If literature or replacement parts are required, contact the source from whom the machine was purchased or contact Alliance Laundry Systems at (920) 748-3950 for the name of the nearest authorized parts distributor.

For technical assistance, call (920) 748-3121.

Nameplate Location

When calling or writing about your product, be sure to mention model and serial numbers. Model and serial numbers are located on nameplate(s) as shown.



PHM2517P

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Model Identification

Information in this manual is applicable to these washer-extractors.

UW35AV	UW35B2
UW60AV	UW60B2
UW80AV	
UW100AV	
UW125AV	

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Section 3
Theory of Operation

Starting the Machine

The door lock will not allow a cycle to be started until the door has been closed.

Fill

The operator selects a cycle and starts the machine. Water enters the machine through water valves that are controlled by the microcomputer. As water fills the basket, a column of air is trapped in a pressure bulb and hose. The air pressure continues to increase as the basket flls with water. When the desired water level is reached, the water level switch triggers the microcomputer and the water valves turn off.

A vacuum breaker installed in the inlet plumbing or a shell overflow and air gap prevents the backflow of water.

Supply

The operator can either connect external liquid supplies to the machine or fill the supply dispenser with liquid or dry supplies. The supply dispenser's nozzles flush the compartments with water at the appropriate times throughout a cycle.

Wash

The basket includes ribs that lift the laundry from the wash water. The laundry then tumbles back into the bath.

In 2-speed and variable-speed models, 1 dual-speed motor drives the basket's shaft with a V-belt. In 3-speed models, 2 motors drive the basket's cylinder with a V-belt.

UW35, UW60, UW80, UW100 and UW125 models use 2 flange-type bearing that are bolted to the frame. UW150 models use 2 bearings that are held in place by a single cast-iron trunnion that is bolted to the frame.

Spray-Rinse

The spray-rinse consists of a hose connected from the hot and cold water inlet valves to the center of the door glass. A nozzle on the inside of the door glass produces a fan-shaped spray that disperses water throughout the load.

Drain

UW washer-extractors use a normally-open gravity-type drain system. No pump is used. When the drain valve opens, the perforated basket allows water to drain from it.

In the event of a power failure, the drain valve will open automatically and the machine will drain.

Standard UW washer-extractors include a single drain valve. Dual drain models are available as an option. On dual drain models, the 2 drain valves open and close together.

Extract

A final high-speed extract step removes water from the load, which maximizes drying efficiency.

The door lock system will not allow the door to be opened until the cycle has finished.

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Section 4
Troubleshooting



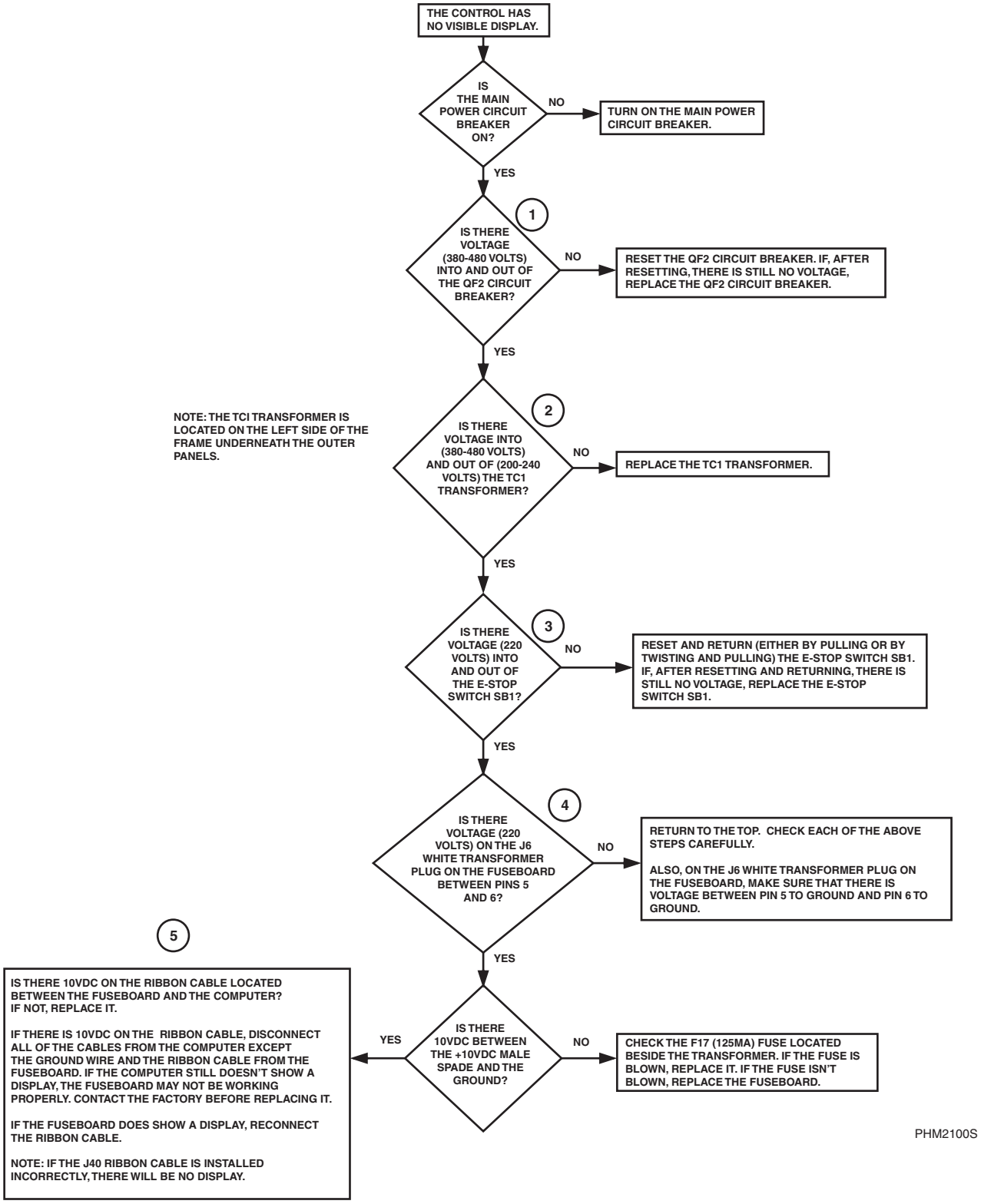
WARNING

To reduce the risk of electrical shock, fire, explosion, serious injury or death:
- **Disconnect electrical power to the washer-extractor before servicing it.**
- **Close the gas shut-off valve to the washer-extractor (when applicable) before servicing it.**
- **Never start the washer-extractor with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer-extractor is properly grounded.**

W461R1

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1. Control Has No Visible Display (F-Voltage)

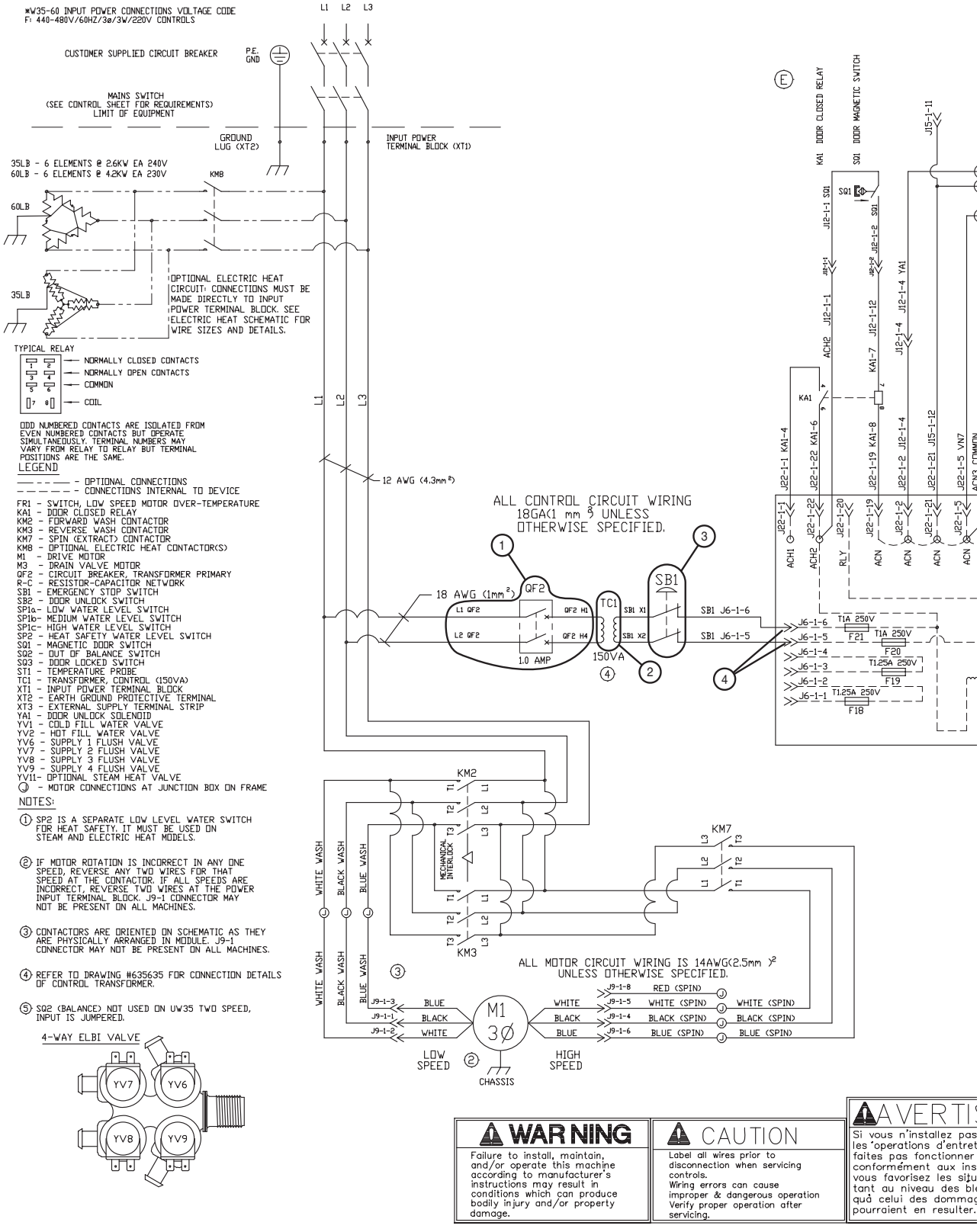


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Control Has No Visible Display (F-Voltage) (Sheet 1 of 2)



⚠ WARNING

Failure to install, maintain, and/or operate this machine according to manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

⚠ CAUTION

Label all wires prior to disconnection when servicing controls.
Wiring errors can cause improper & dangerous operation
Verify proper operation after servicing.

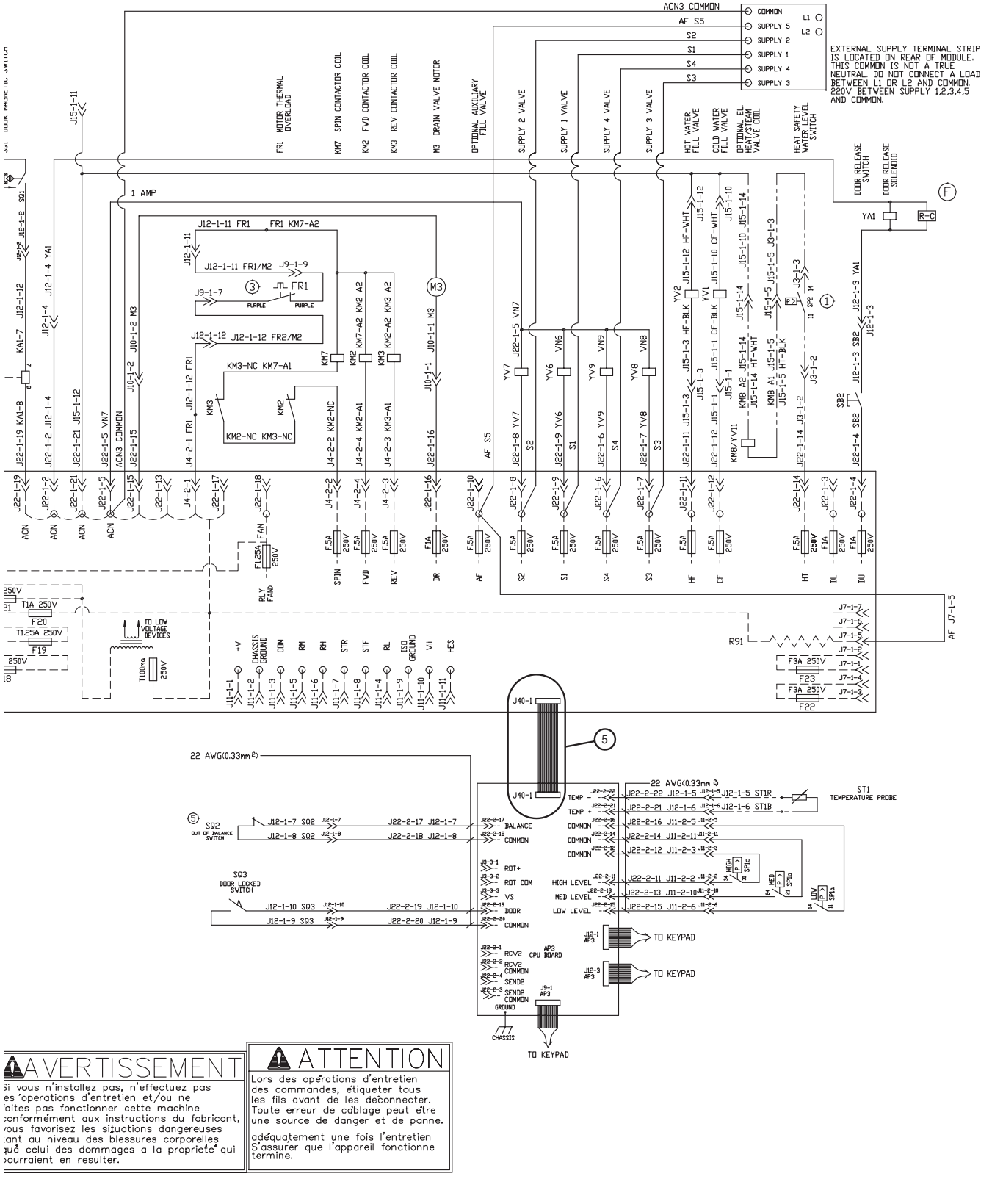
⚠ AVERTI

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NOTE: REFER TO THE WIRING DIAGRAM SUPPLIED WITH YOUR MACHINE.

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Control Has No Visible Display (F-Voltage) (Sheet 2 of 2)



AVERTISSEMENT

Si vous n'installez pas, n'effectuez pas les opérations d'entretien et/ou ne faites pas fonctionner cette machine conformément aux instructions du fabricant, vous favorisez les situations dangereuses ayant au niveau des blessures corporelles jusqu'à celui des dommages à la propriété qui pourraient en resulter.

ATTENTION

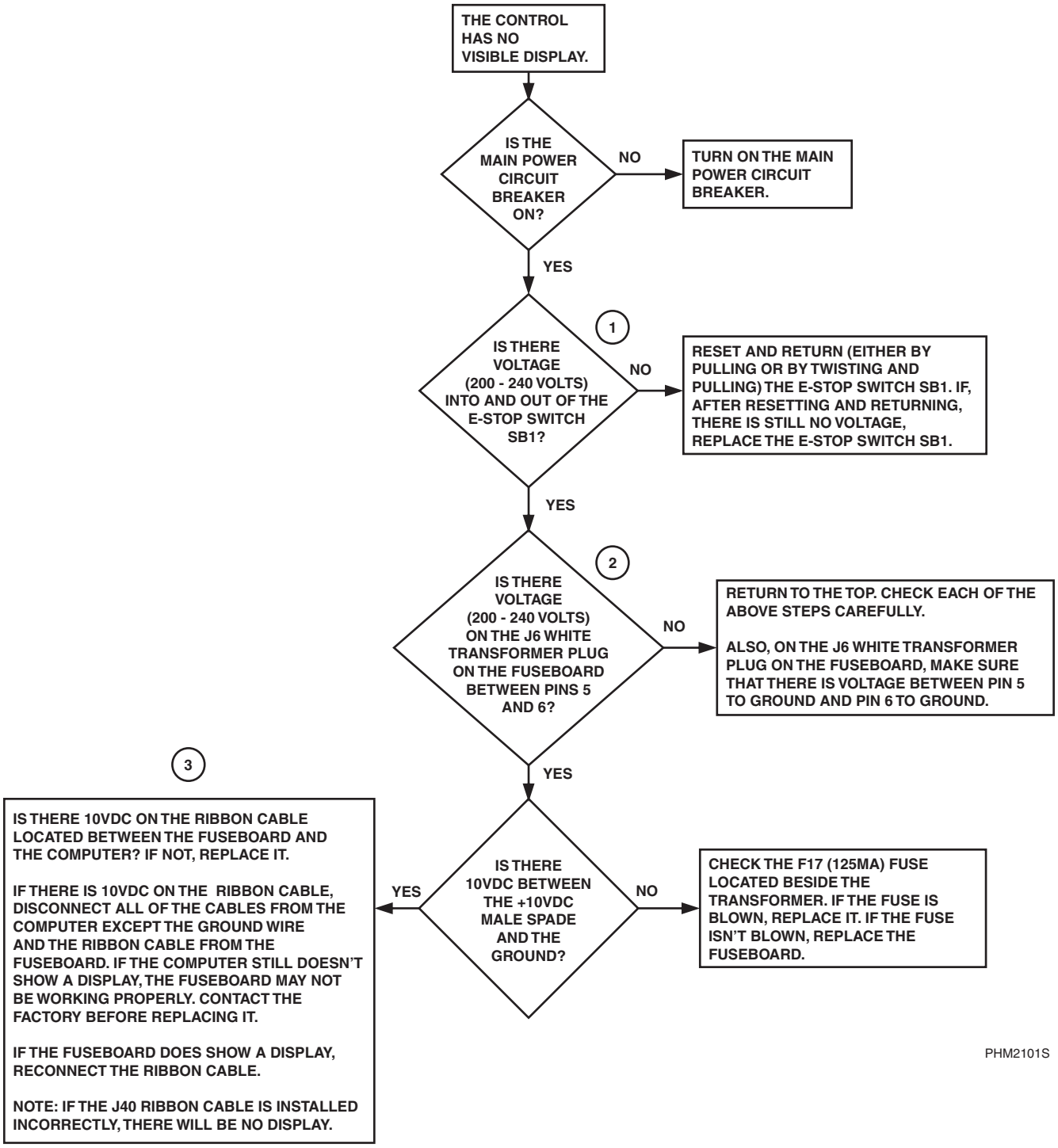
Lors des opérations d'entretien des commandes, étiqueter tous les fils avant de les déconnecter. Toute erreur de câblage peut être une source de danger et de panne.

adéquatement une fois l'entretien S'assurer que l'appareil fonctionne termine.

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2. Control Has No Visible Display (Q-Voltage)

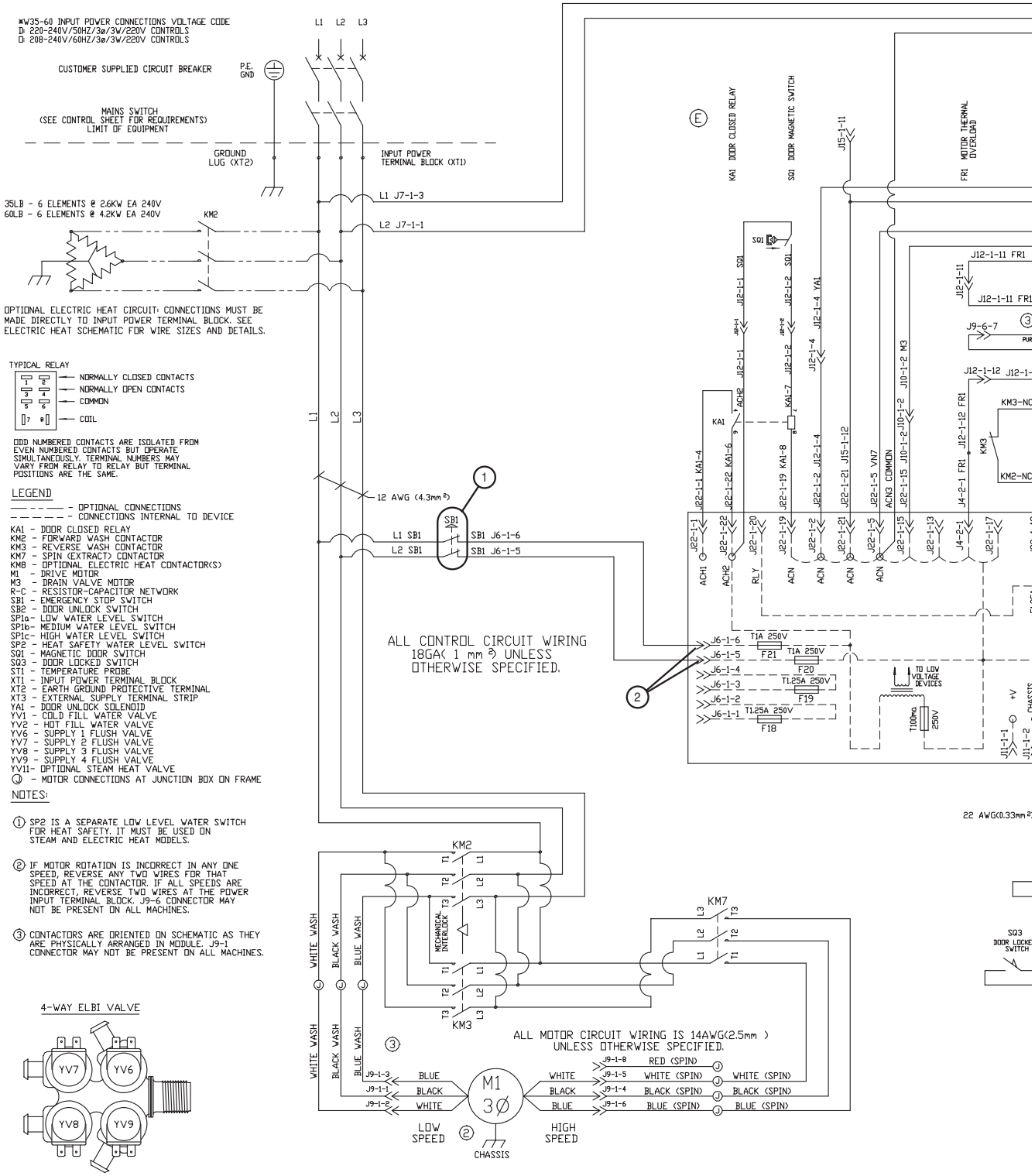


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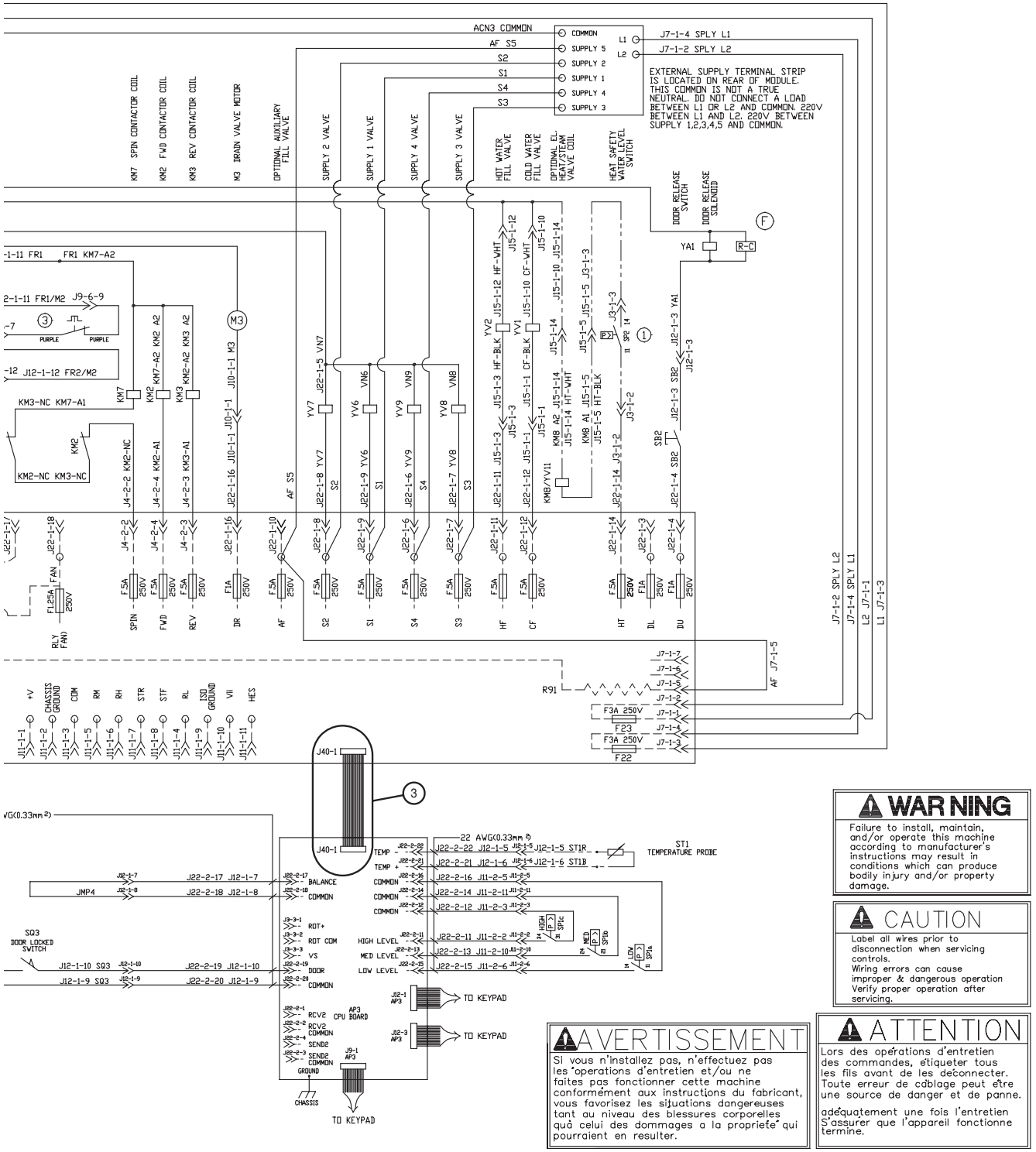
Control Has No Visible Display (Q-Voltage) (Sheet 1 of 2)



NOTE: REFER TO THE WIRING DIAGRAM SUPPLIED WITH YOUR MACHINE.

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Control Has No Visible Display (Q-Voltage) (Sheet 2 of 2)



WARNING

Failure to install, maintain, and/or operate this machine according to manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

CAUTION

Label all wires prior to disconnection when servicing controls.
Wiring errors can cause improper & dangerous operation
Verify proper operation after servicing.

AVERTISSEMENT

Si vous n'installez pas, n'effectuez pas les operations d'entretien et/ou ne faites pas fonctionner cette machine conformément aux instructions du fabricant, vous favorisez les situations dangereuses tant au niveau des blessures corporelles quà celui des dommages a la propriefé qui pourraient en resulter.

ATTENTION

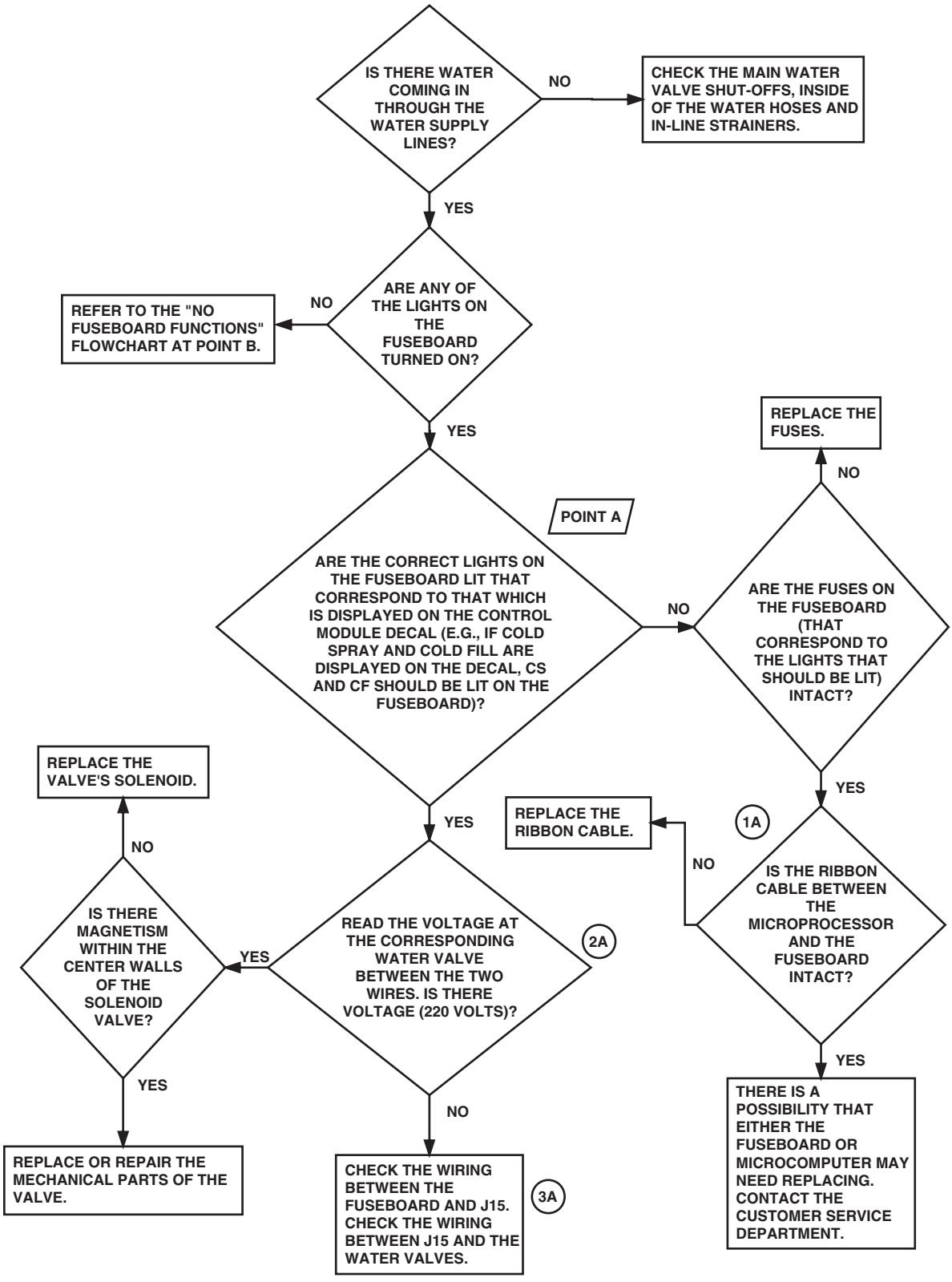
Lors des opérations d'entretien des commandes, étiqueter tous les fils avant de les déconnecter. Toute erreur de câblage peut être une source de danger et de panne.

adéquatement une fois l'entretien S'assurer que l'appareil fonctionne termine.

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3. No Fill Analysis



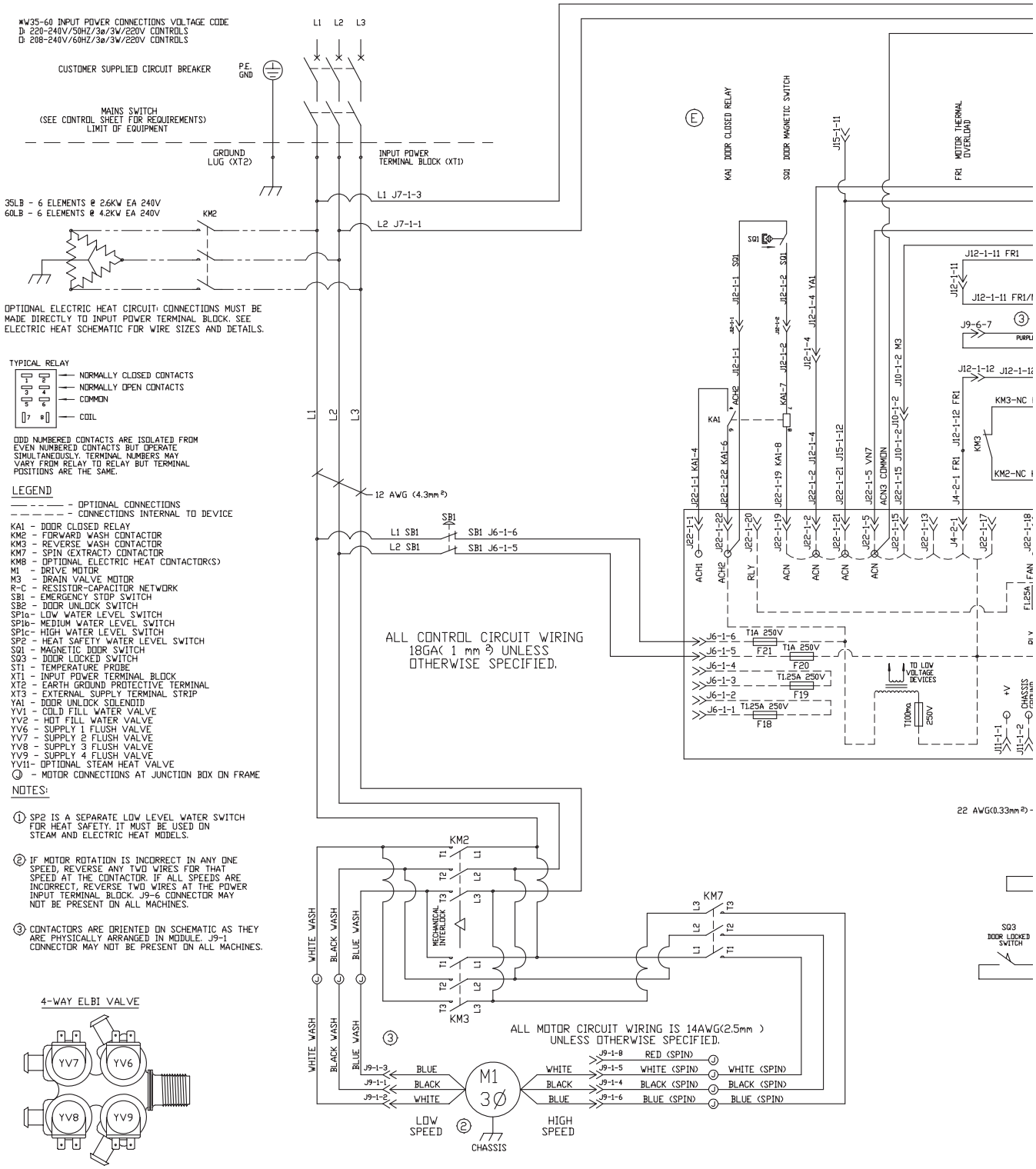
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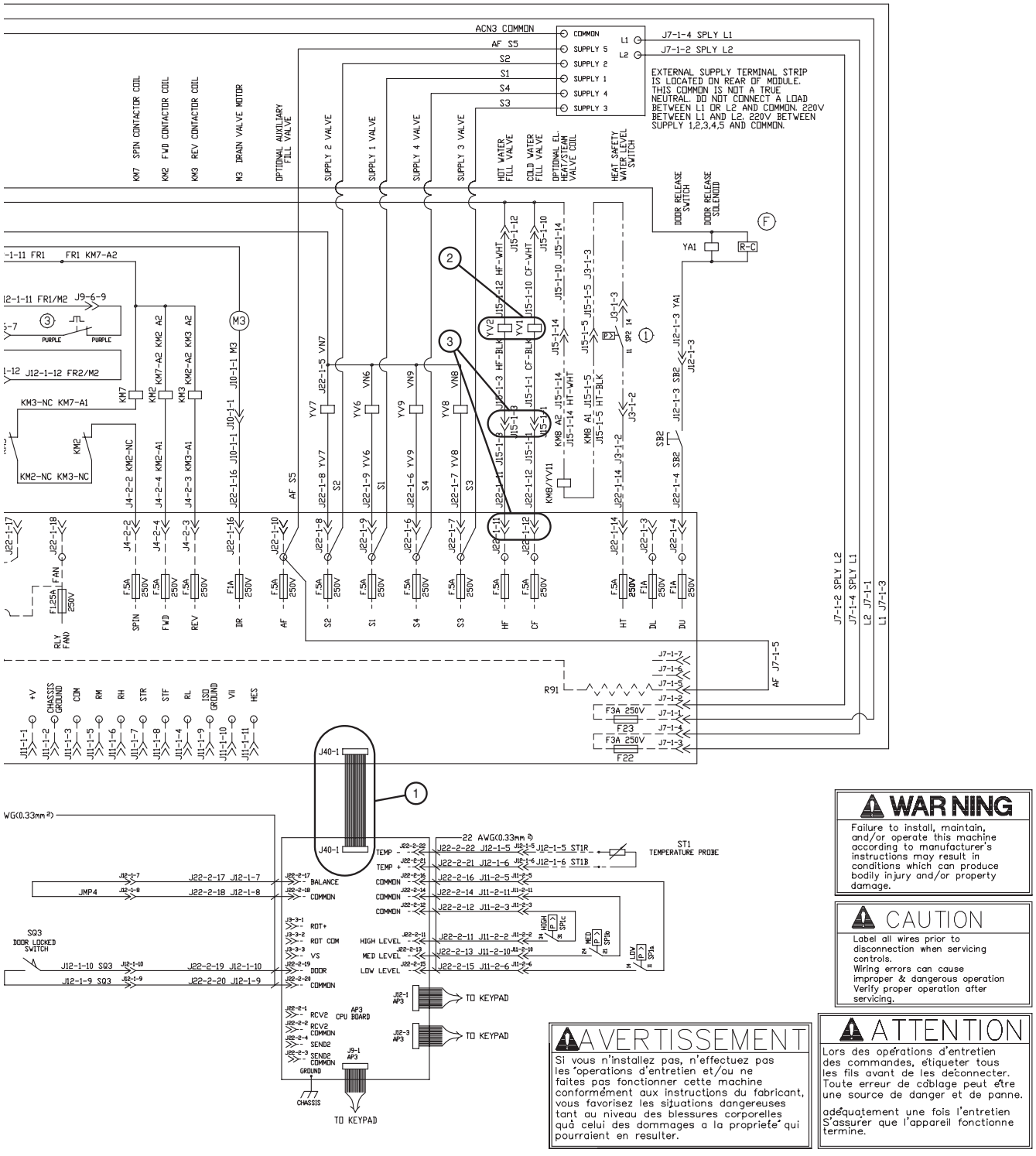
No Fill Analysis (Sheet 1 of 2)



NOTE: REFER TO THE WIRING DIAGRAM SUPPLIED WITH YOUR MACHINE.

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No Fill Analysis (Sheet 2 of 2)



⚠ WARNING

Failure to install, maintain, and/or operate this machine according to manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

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Wiring errors can cause improper & dangerous operation
Verify proper operation after servicing.

⚠ AVERTISSEMENT

Si vous n'installez pas, n'effectuez pas les operations d'entretien et/ou ne faites pas fonctionner cette machine conformément aux instructions du fabricant, vous favorisez les situations dangereuses tant au niveau des blessures corporelles quà celui des dommages a la propriete qui pourraient en resulter.

⚠ ATTENTION

Lors des opérations d'entretien des commandes, étiqueter tous les fils avant de les déconnecter. Toute erreur de câblage peut être une source de danger et de panne.

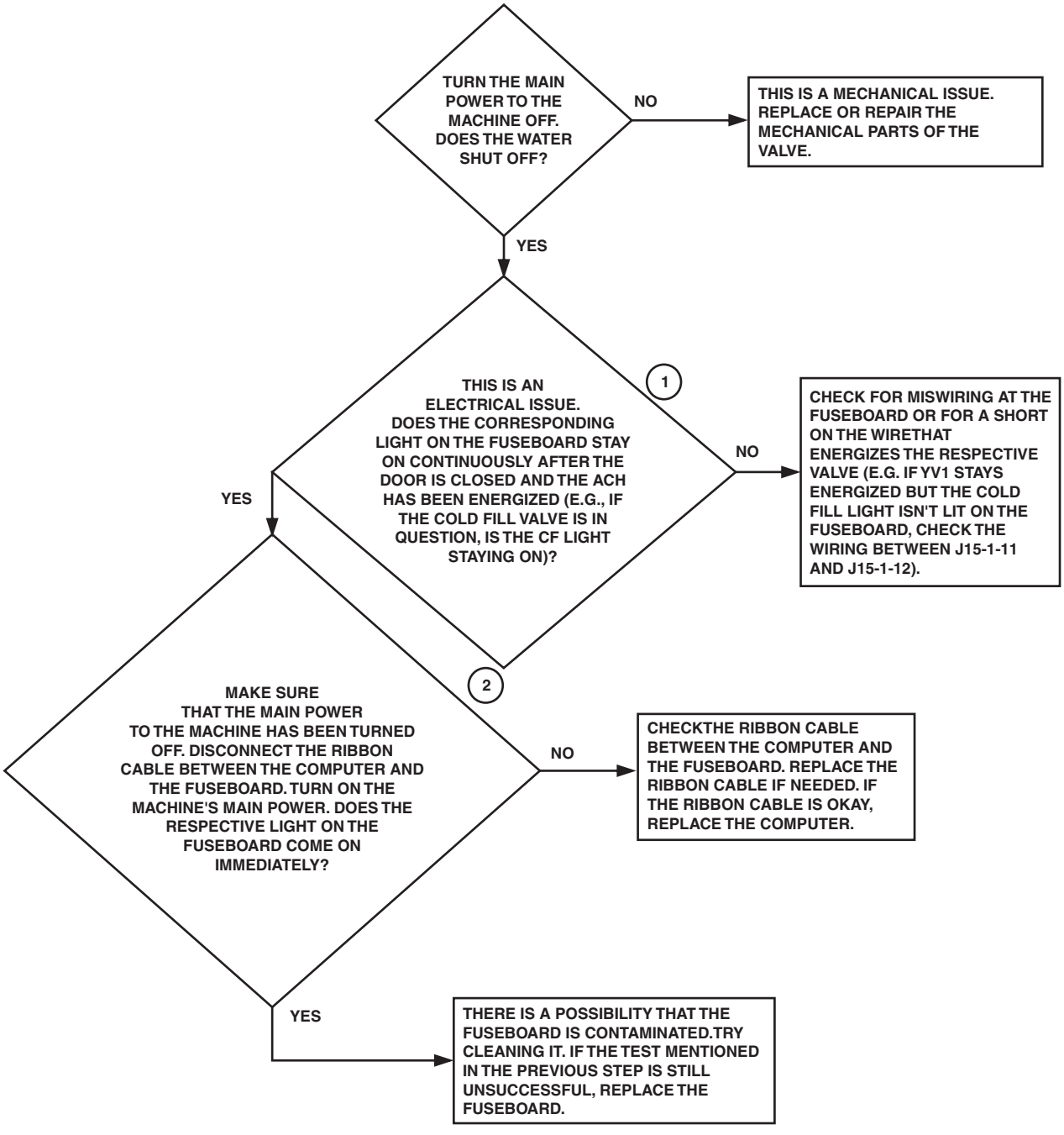
adéquatement une fois l'entretien S'assurer que l'appareil fonctionne termine.

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4. Water Runs Continuously into the Washer-Extractor

Note: This information applies to the four main fill valves as well as the 4-way supplyvalves. The first task in this process is to determine which valve is staying on. If it is one of the four mainvalves (i.e., hot spray, hot fill, cold spray or cold fill), this may be done by individually shutting off the water supply to each valve. If it is a supply valve that is staying open, find the location in the dry supply box where the water is flushing into and follow the hose back to the solenoid. Once the valve has been identified, proceed as follows:



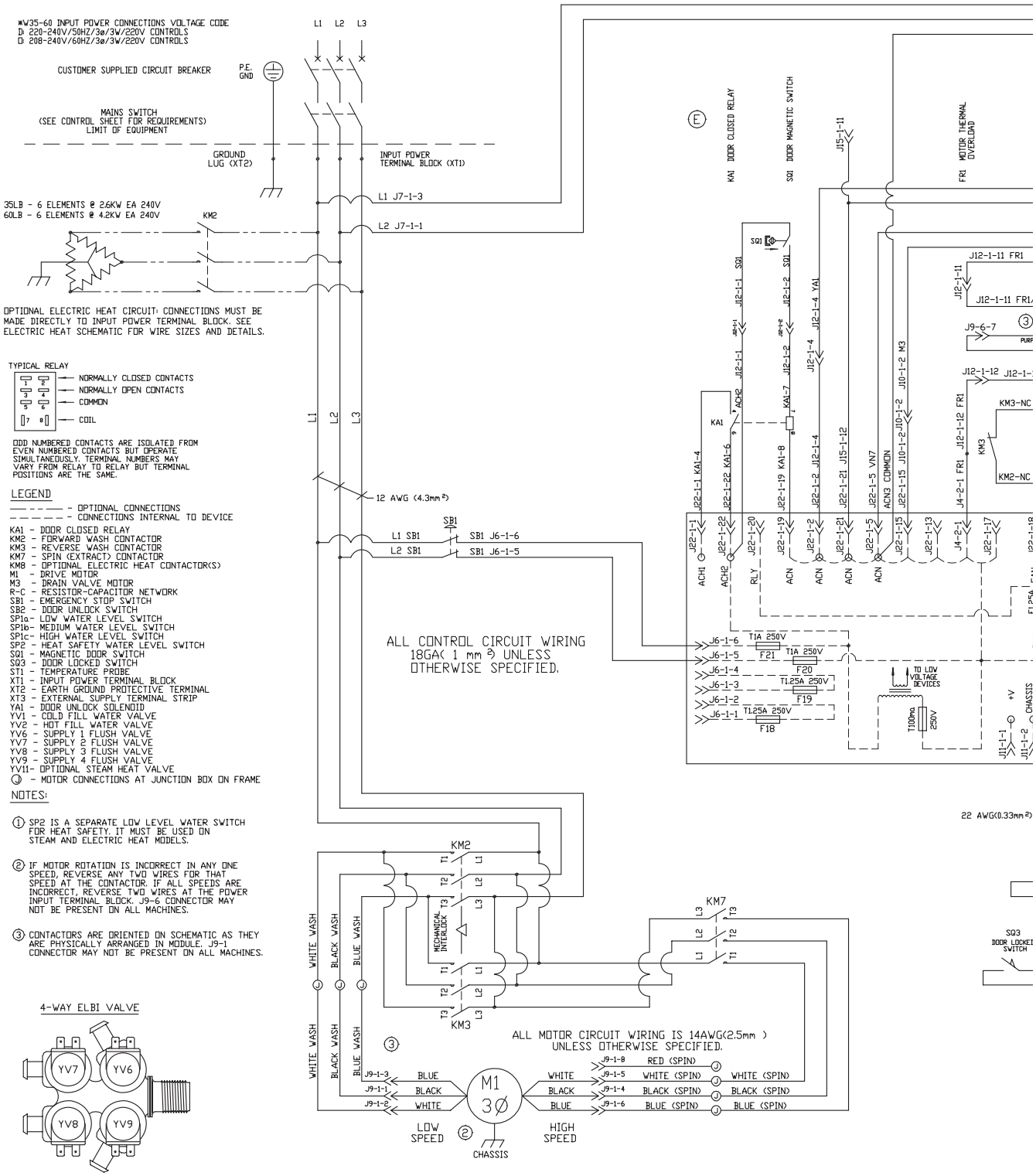
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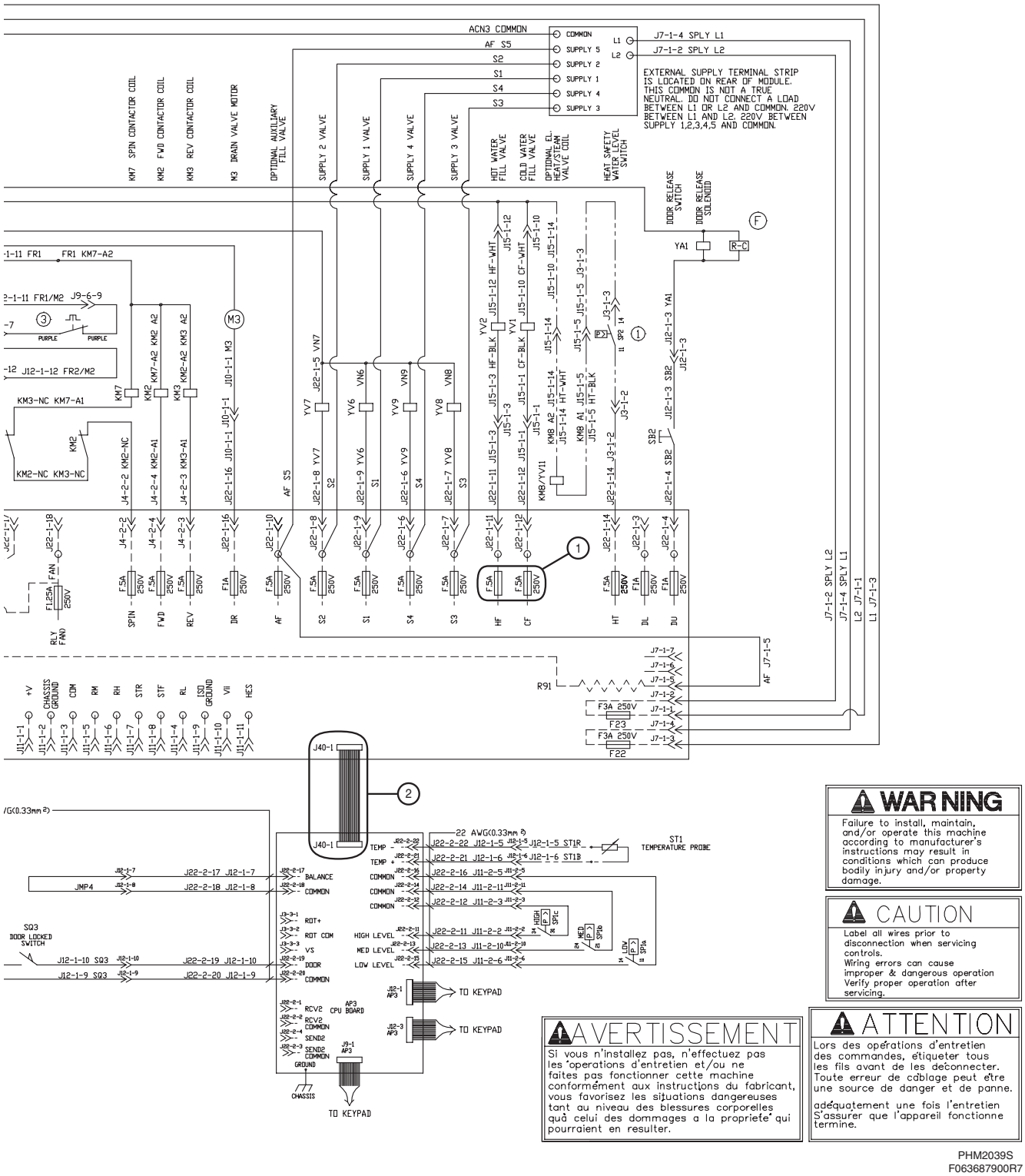
Water Runs Continuously into the Washer-Extractor (Sheet 1 of 2)



NOTE: Refer to the wiring diagram supplied with your machine.

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Water Runs Continuously into the Washer-Extractor (Sheet 2 of 2)



WARNING

Failure to install, maintain, and/or operate this machine according to manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

CAUTION

Label all wires prior to disconnection when servicing controls.
Wiring errors can cause improper & dangerous operation
Verify proper operation after servicing.

AVERTISSEMENT

Si vous n'installez pas, n'effectuez pas les operations d'entretien et/ou ne faites pas fonctionner cette machine conformément aux instructions du fabricant, vous favorisez les situations dangereuses tant au niveau des blessures corporelles quà celui des dommages a la propriete qui pourraient en resulter.

ATTENTION

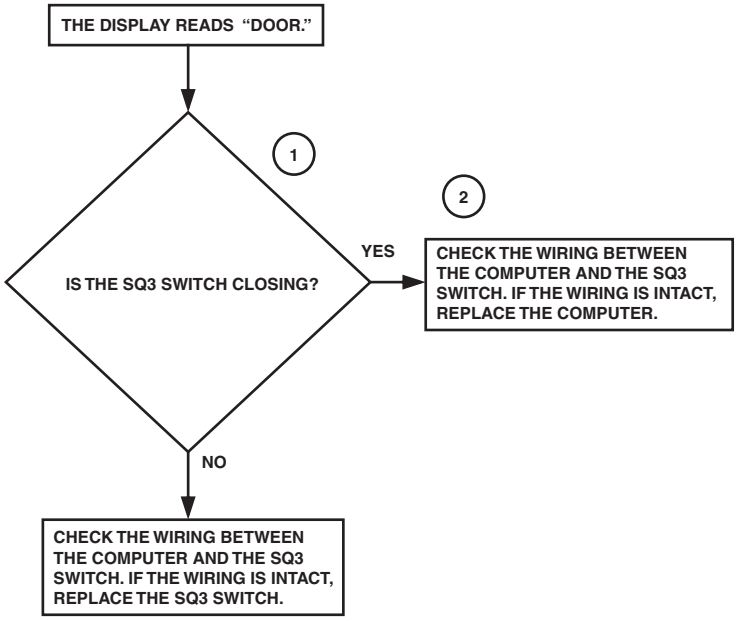
Lors des opérations d'entretien des commandes, étiqueter tous les fils avant de les déconnecter. Toute erreur de câblage peut être une source de danger et de panne.

adéquatement une fois l'entretien S'assurer que l'appareil fonctionne termine.

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5. Door Lock Switch Analysis



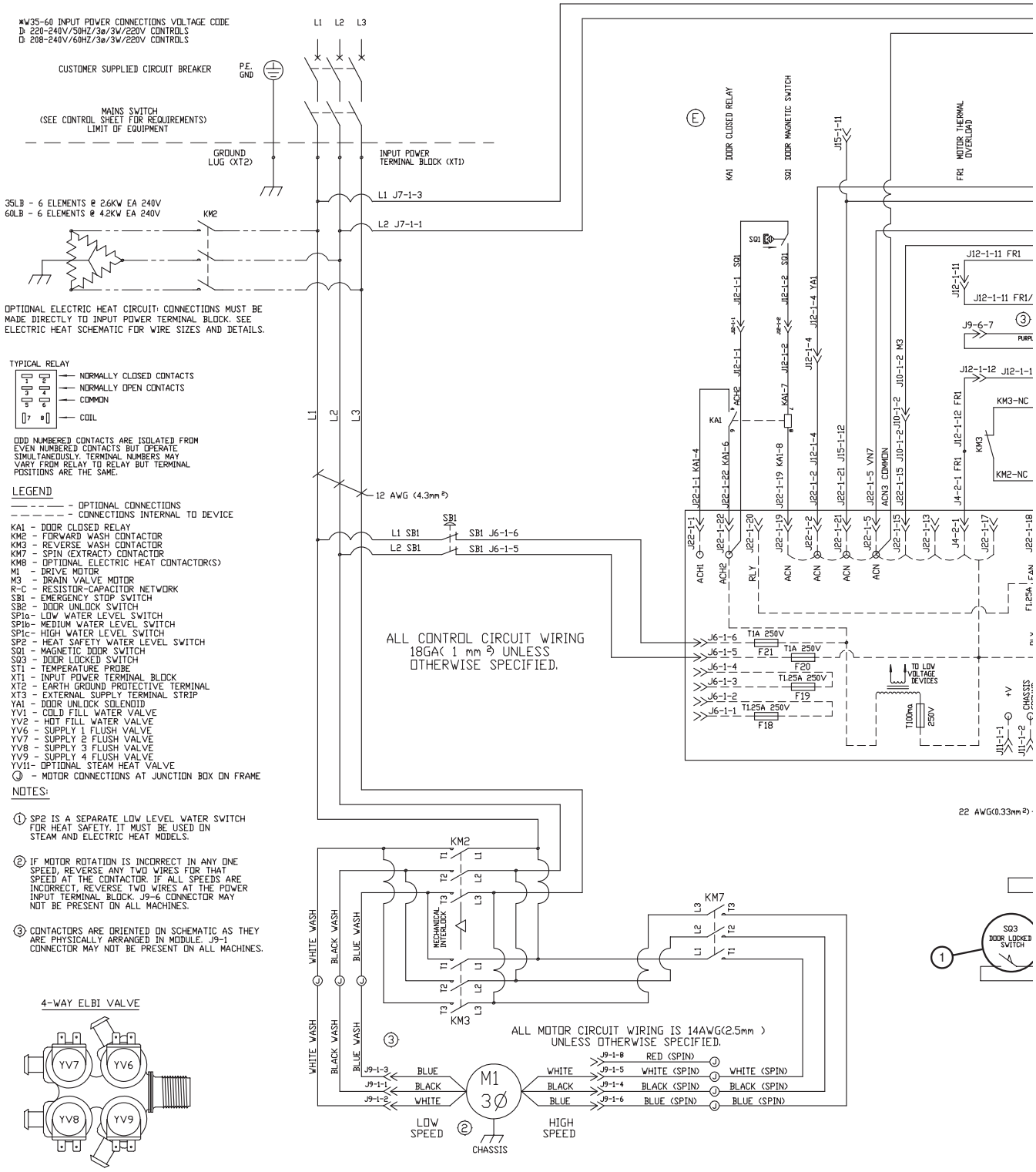
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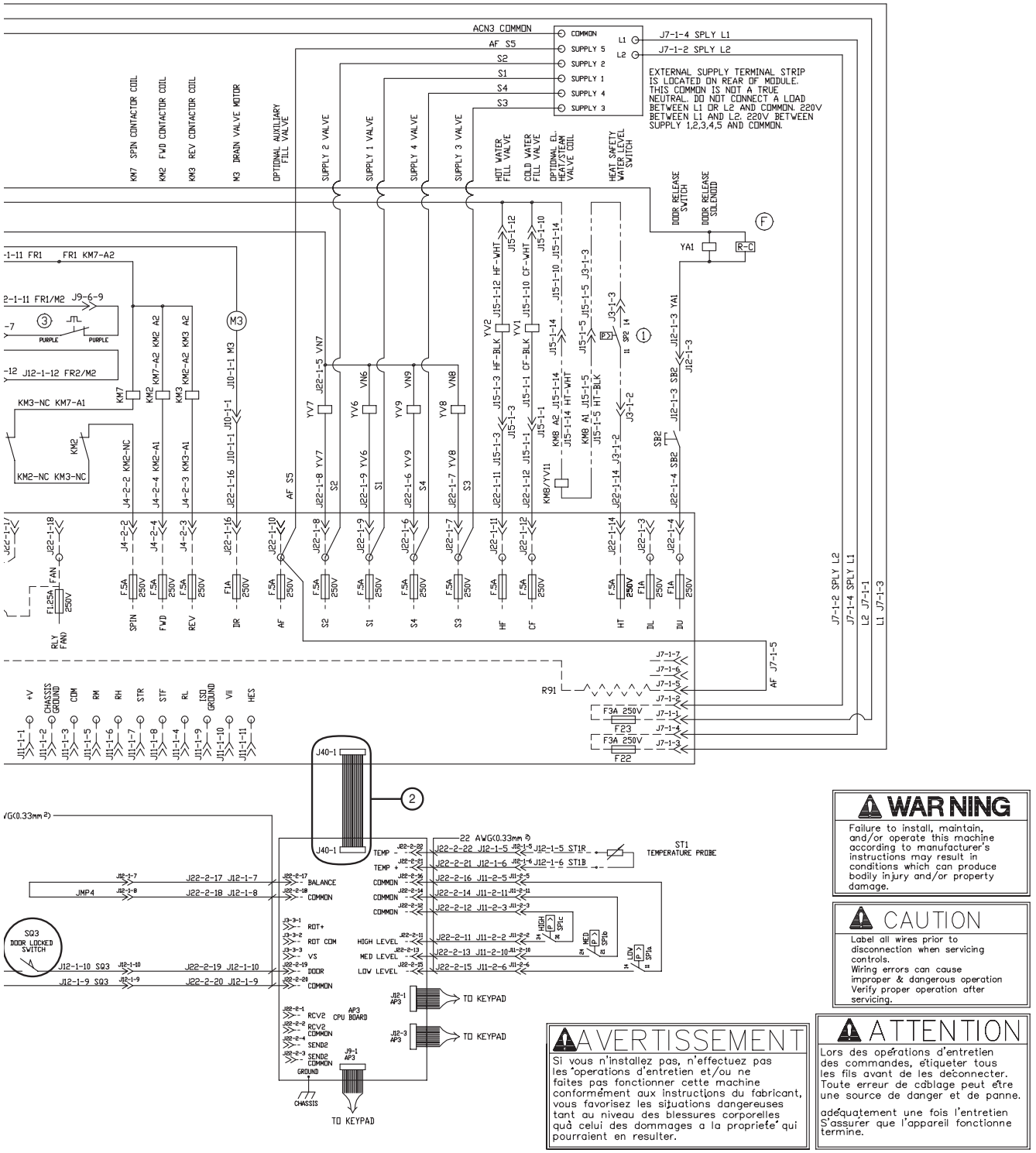
Door Lock Switch Analysis (Sheet 1 of 2)



NOTE: Refer to the wiring diagram supplied with your machine.

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Door Lock Switch Analysis (Sheet 2 of 2)



WARNING

Failure to install, maintain, and/or operate this machine according to manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

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ATTENTION

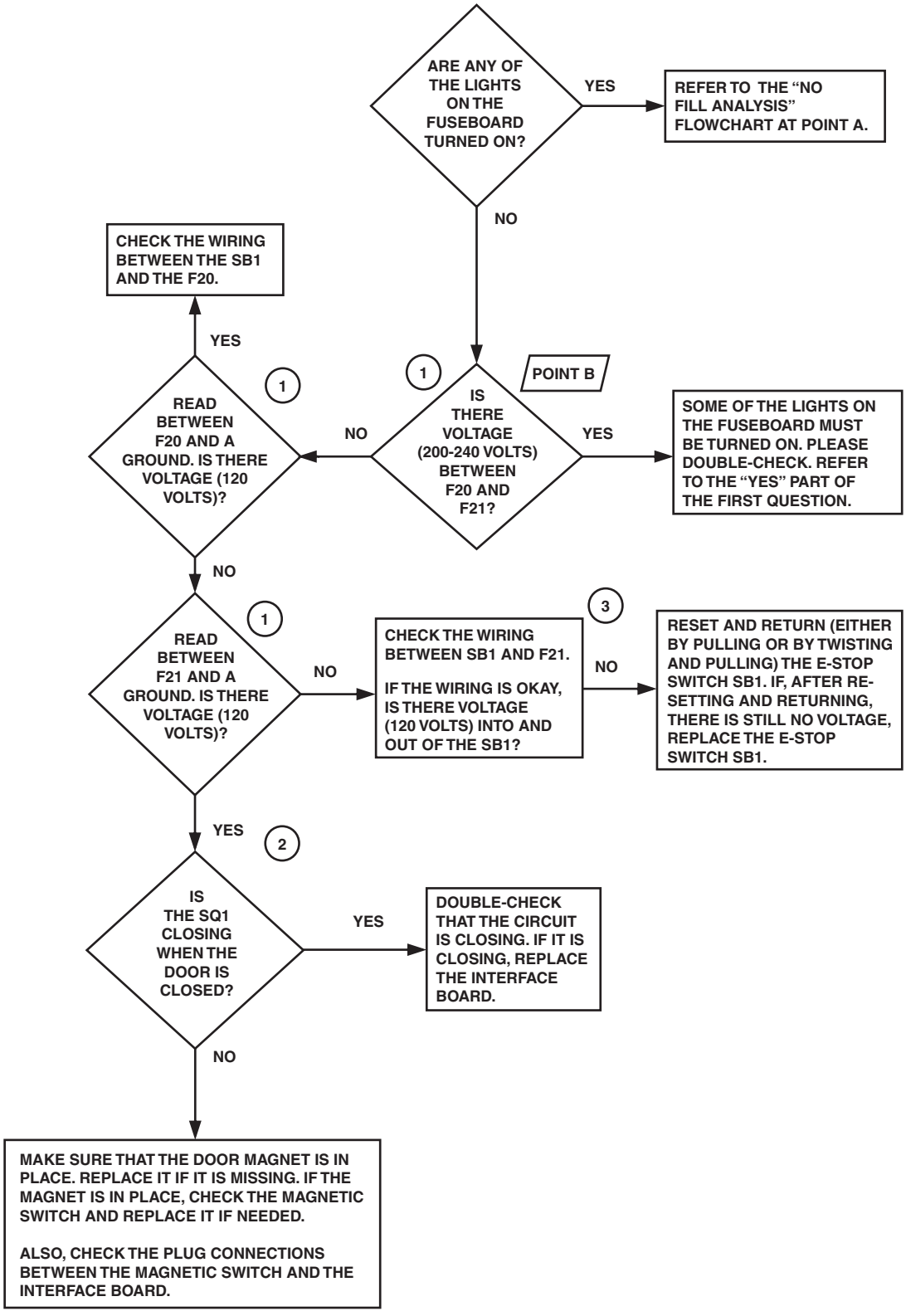
Lors des opérations d'entretien des commandes, étiqueter tous les fils avant de les déconnecter. Toute erreur de câblage peut être une source de danger et de panne.

adéquatement une fois l'entretien S'assurer que l'appareil fonctionne termine.

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6. No Fuseboard Functions



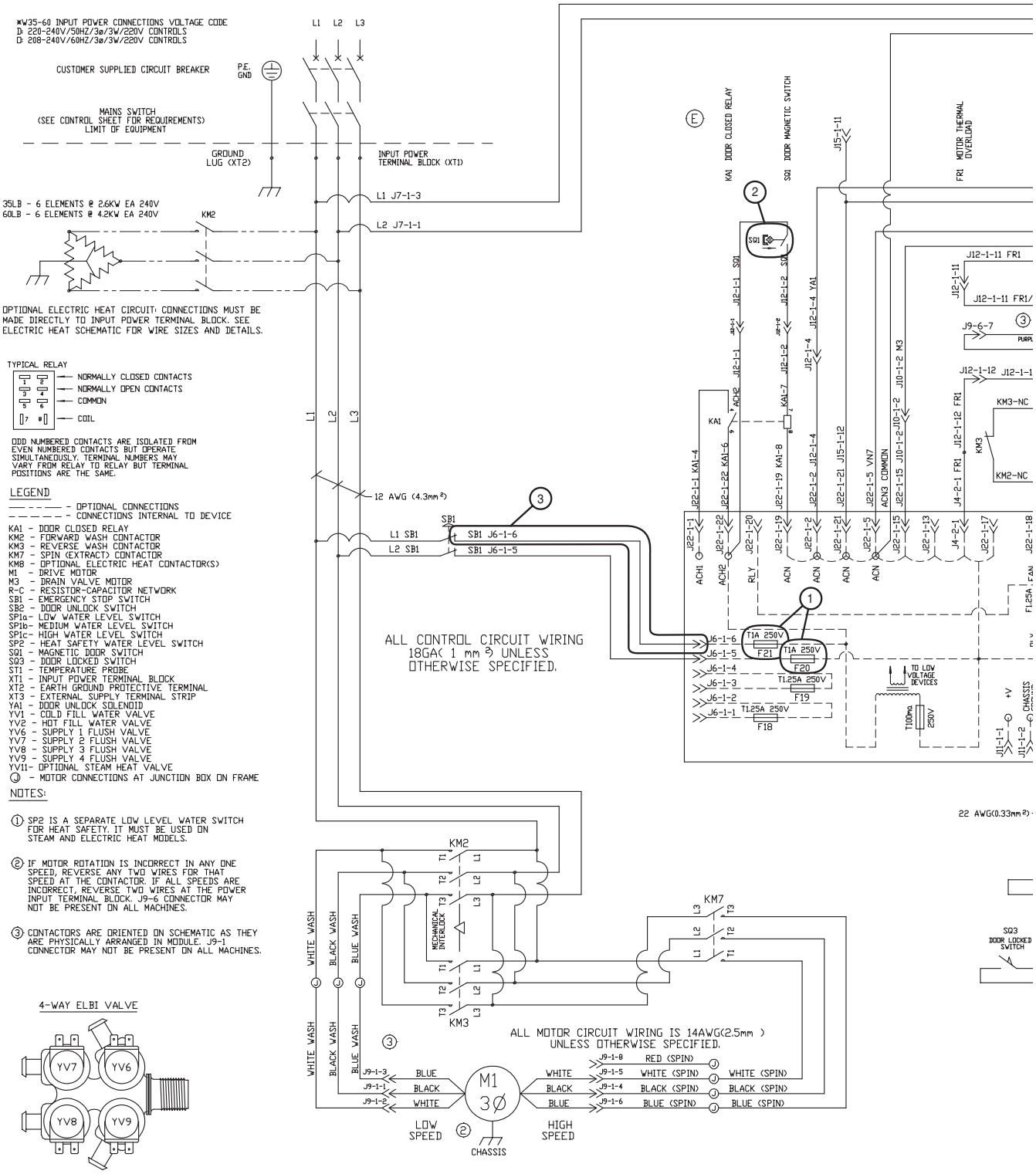
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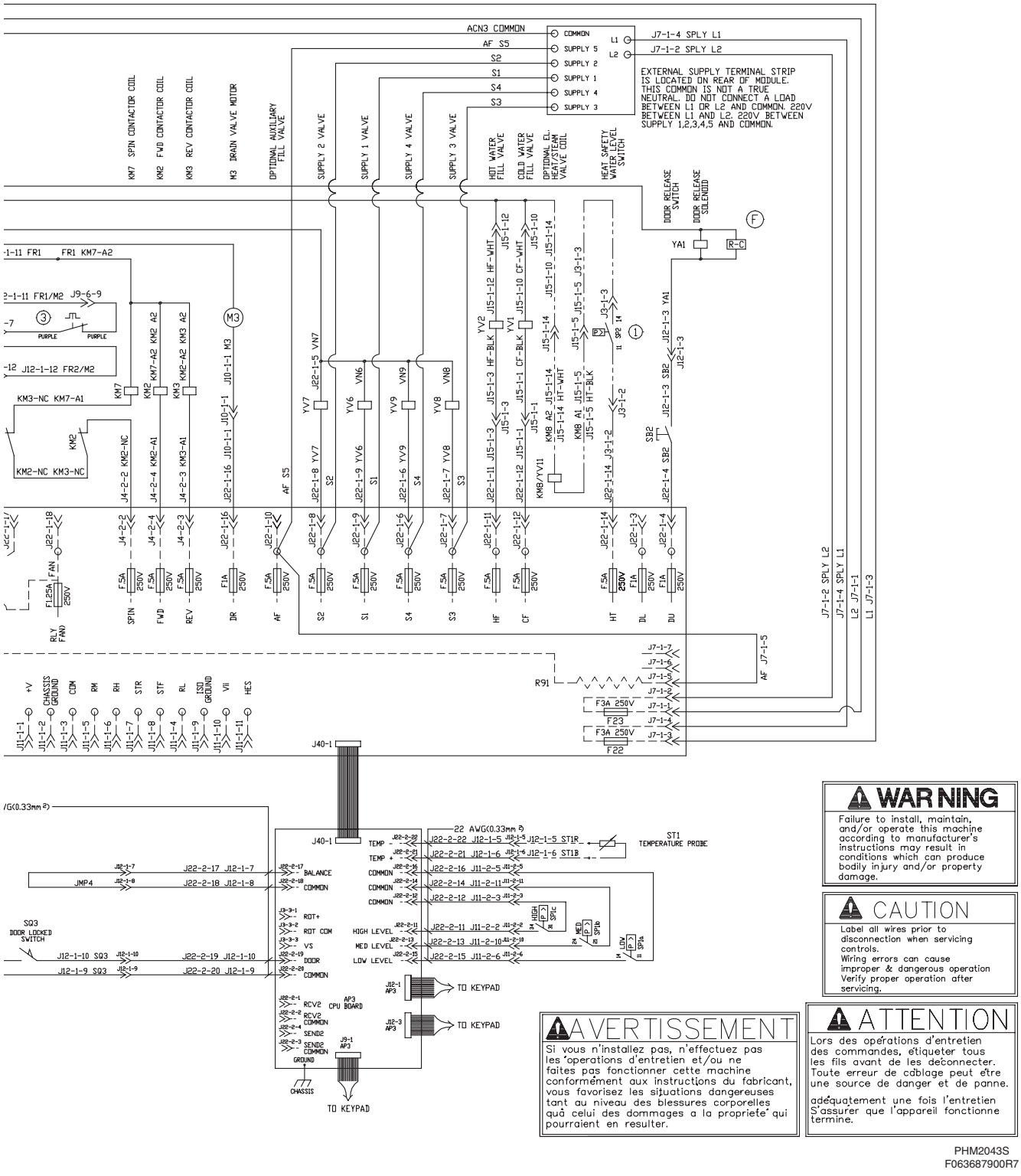
No Fuseboard Functions (Sheet 1 of 2)



NOTE: Refer to the wiring diagram supplied with your machine.

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No Fuseboard Functions (Sheet 2 of 2)



WARNING

Failure to install, maintain, and/or operate this machine according to manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

CAUTION

Label all wires prior to disconnection when servicing controls.
Wiring errors can cause improper & dangerous operation
Verify proper operation after servicing.

AVERTISSEMENT

Si vous n'installez pas, n'effectuez pas les 'operations d'entretien et/ou ne faites pas fonctionner cette machine conformément aux instructions du fabricant, vous favorisez les situations dangereuses tant au niveau des blessures corporelles quâ celui des dommages a la propriete' qui pourraient en resulter.

ATTENTION

Lors des opérations d'entretien des commandes, étiqueter tous les fils avant de les déconnecter. Toute erreur de câblage peut être une source de danger et de panne.

adéquatement une fois l'entretien S'assurer que l'appareil fonctionne termine.

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7. No Motor Operation (With No AC Drive Fault)

Symptom: The motor is not running and there is no apparent AC drive fault present.
Refer to reference point "1" on the following "No Motor Operation (With No AC Drive Fault)" schematics.

Preliminary Checks:

a. Check for any mechanical problems in the drive system (e.g., check the motor, motor bearings, pulleys and belt).
b. Check all electrical connections between the interface board and the AC drive.
c. Check for proper control signal wiring.

Secondary Checks:

a. Check for incoming AC voltage into the AC drive.
b. Using a parameter unit, check the parameter set for your motor/AC drive combination.

NOTE: Contact the factory with your washer-extractor's model and serial number to obtain the proper AC drive illustration.

c. Check the control signals between the interface board and the AC drive with the voltage test shown on the following charts.

A-B 160 Control Logic

H – Control Voltage High 12 Volts DC			Logic 0													
L – Control Voltage Low <1 Volt DC			Logic 1													
Voltage Reading Pos (+) Volts DC			4	2	1	6	8	5	Input Status							
Voltage Reading Neg (-) Volts DC			3	3	3	3	3	3	Parameter 15				Parameter 12			
V Computer & EDC																
Action	A-B 160 Frequency Preset Parameter	Preset #	Preset Input/ SW3	Preset Input/ SW2	Preset Input/ SW1	Forward Motion/ STF	Stop	Reverse Motion/ STR	N/A	SW3	SW2	SW1	N/A	STF	Stop	STR
Half Wash Fwd	62	1	H	H	L	L	L	H	0	0	0	1	0	1	1	0
Half Wash Rev	62	1	H	H	L	H	L	L	0	0	0	1	0	0	1	1
Wash Fwd	63	2	H	L	H	L	L	H	0	0	1	0	0	1	1	0
Wash Rev	63	2	H	L	H	H	L	L	0	0	1	0	0	0	1	1
Distribution	65	4	L	H	H	L	L	H	0	1	0	0	0	1	1	0
Spin 1	64	3	H	L	L	L	L	H	0	0	1	1	0	1	1	0
Spin 2	67	6	L	L	H	L	L	H	0	1	1	0	0	1	1	0
Spin 3	66	5	L	H	L	L	L	H	0	1	0	1	0	1	1	0
WE-6 Computer																
Half Wash Fwd	65	4	L	H	H	L	L	H	0	1	0	0	0	1	1	0
Half Wash Rev	65	4	L	H	H	H	L	L	0	1	0	0	0	0	1	1
Wash Fwd	63	2	H	L	H	L	L	H	0	0	1	0	0	1	1	0
Wash Rev	63	2	H	L	H	H	L	L	0	0	1	0	0	0	1	1
Distribution	62	1	H	H	L	L	L	H	0	0	0	0	0	1	1	0
Med. Spin	67	6	L	L	H	L	L	H	0	1	1	0	0	1	1	0
High Spin 1	66	5	L	H	L	L	L	H	0	1	0	1	0	1	1	0
High Spin 2	64	3	H	L	L	L	L	H	0	0	1	1	0	1	1	0
High Spin 3	68	7	L	L	L	L	L	H	0	1	1	1	0	1	1	0

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A-B 1305 Control Logic

H – Control Voltage High 5 Volts DC			Logic 0												
L – Control Voltage Low <1 Volt DC			Logic 1												
Voltage Reading Pos (+) Volts DC			18	17	19	13	8	6	Input Status Parameter 55						
Voltage Reading Neg (-) Volts DC			7	7	7	7	7	7							
V Computer & EDC															
Action	A-B 1305 Frequency Preset Parameter	Preset #	Preset Input/ SW3	Preset Input/ SW2	Preset Input/ SW1	Reverse Motion/ STR	Stop	Forward Motion/ STF	X	SW3	SW2	SW1	N/A	STR	Stop	STF
Half Wash Fwd	27	1	H	H	L	H	L	L	x	0	0	1	0	0	1	1
Half Wash Rev	27	1	H	H	L	L	L	H	x	0	0	1	0	1	1	0
Wash Fwd	28	2	H	L	H	H	L	L	x	0	1	0	0	0	1	1
Wash Rev	28	2	H	L	H	L	L	H	x	0	1	0	0	1	1	0
Distribution	73	4	L	H	H	H	L	L	x	1	0	0	0	0	1	1
Spin 1	29	3	H	L	L	H	L	L	x	0	1	1	0	0	1	1
Spin 2	75	6	L	L	H	H	L	L	x	1	1	0	0	0	1	1
Spin 3	74	5	L	H	L	H	L	L	x	1	0	1	0	0	1	1
WE-6 Computer																
Half Wash Fwd	73	4	L	H	H	H	L	L	x	1	0	0	0	0	1	1
Half Wash Rev	73	4	L	H	H	L	L	H	x	1	0	0	0	1	1	0
Wash Fwd	28	2	H	L	H	H	L	L	x	0	1	0	0	0	1	1
Wash Rev	28	2	H	L	H	L	L	H	x	0	1	0	0	1	1	0
Distribution	27	1	H	H	L	H	L	L	x	0	0	1	0	0	1	1
Med. Spin	75	6	L	L	H	H	L	L	x	1	1	0	0	0	1	1
High Spin 1	74	5	L	H	L	H	L	L	x	1	0	1	0	0	1	1
High Spin 2	29	3	H	L	L	H	L	L	x	0	1	1	0	0	1	1
High Spin 3	76	7	L	L	L	H	L	L	x	1	1	1	0	0	1	1

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A-B 1336 Control Logic

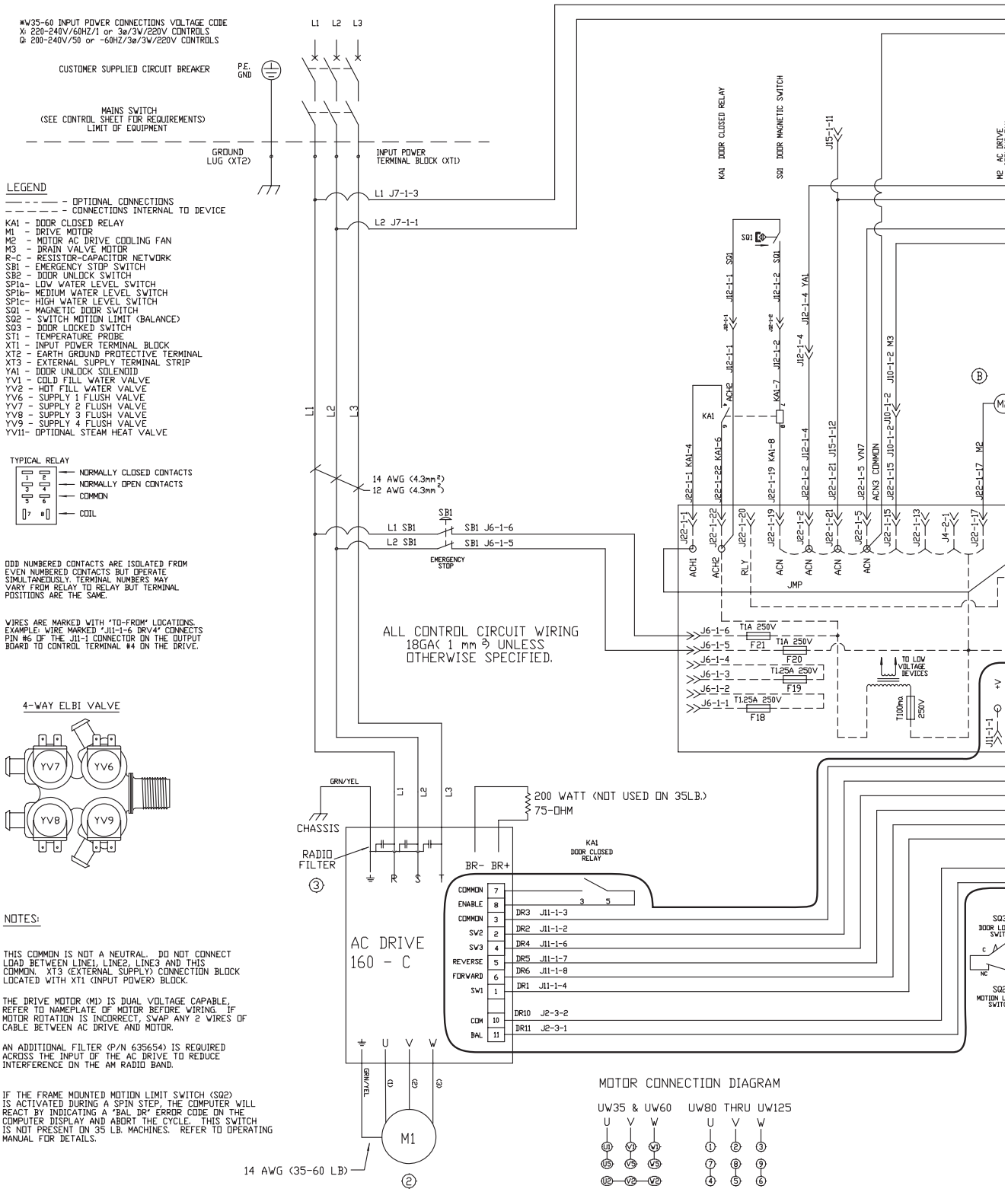
H – Control Voltage High 5 Volts DC			Logic 0													
L – Control Voltage Low <1 Volt DC			Logic 1													
Voltage Reading Pos (+) Volts DC			27	28	26	22	20	19	Input Status Parameter #55							
Voltage Reading Neg (-) Volts DC			29	29	29	29	29	29								
V Computer																
Action	A-B 1336 Frequency Preset Parameter	Preset #	Preset Input/ SW2	Preset Input/ SW1	Preset Input/ SW3	Reverse Motion/ STR	Stop	Forward Motion/ STF	SW2	SW1	SW3	MTR TEMP	STR	N/A	STOP	STF
Half Wash Fwd	73	4	H	H	L	H	L	L	0	0	1	1	0	0	1	1
Half Wash Rev	73	4	H	H	L	L	L	H	0	0	1	1	1	0	1	0
Wash Fwd	28	2	L	H	H	H	L	L	1	0	0	1	0	0	1	1
Wash Rev	28	2	L	H	H	L	L	H	1	0	0	1	1	0	1	0
Distribution	27	1	H	L	H	H	L	L	0	1	0	1	0	0	1	1
Spin 1	75	6	L	H	L	H	L	L	1	0	1	1	0	0	1	1
Spin 2	29	3	L	L	H	H	L	L	1	1	0	1	0	0	1	1
Spin 3	74	5	H	L	L	H	L	L	0	1	1	1	0	0	1	1
WE-6 Controller																
Half Wash Fwd	73	4	H	H	L	H	L	L	0	0	1	1	0	0	1	1
Half Wash Rev	73	4	H	H	L	L	L	H	0	0	1	1	1	0	1	0
Wash Fwd	28	2	L	H	H	H	L	L	1	0	0	1	0	0	1	1
Wash Rev	28	2	L	H	H	L	L	H	1	0	0	1	1	0	1	0
Distribution	27	1	H	L	H	H	L	L	0	1	0	1	0	0	1	1
Med. Spin	75	6	L	H	L	H	L	L	1	0	1	1	0	0	1	1
High Spin 1	74	5	H	L	L	H	L	L	0	1	1	1	0	0	1	1
High Spin 2	29	3	L	L	H	H	L	L	1	1	0	1	0	0	1	1
High Spin 3	76	7	L	L	L	H	L	L	1	1	1	1	0	0	1	1

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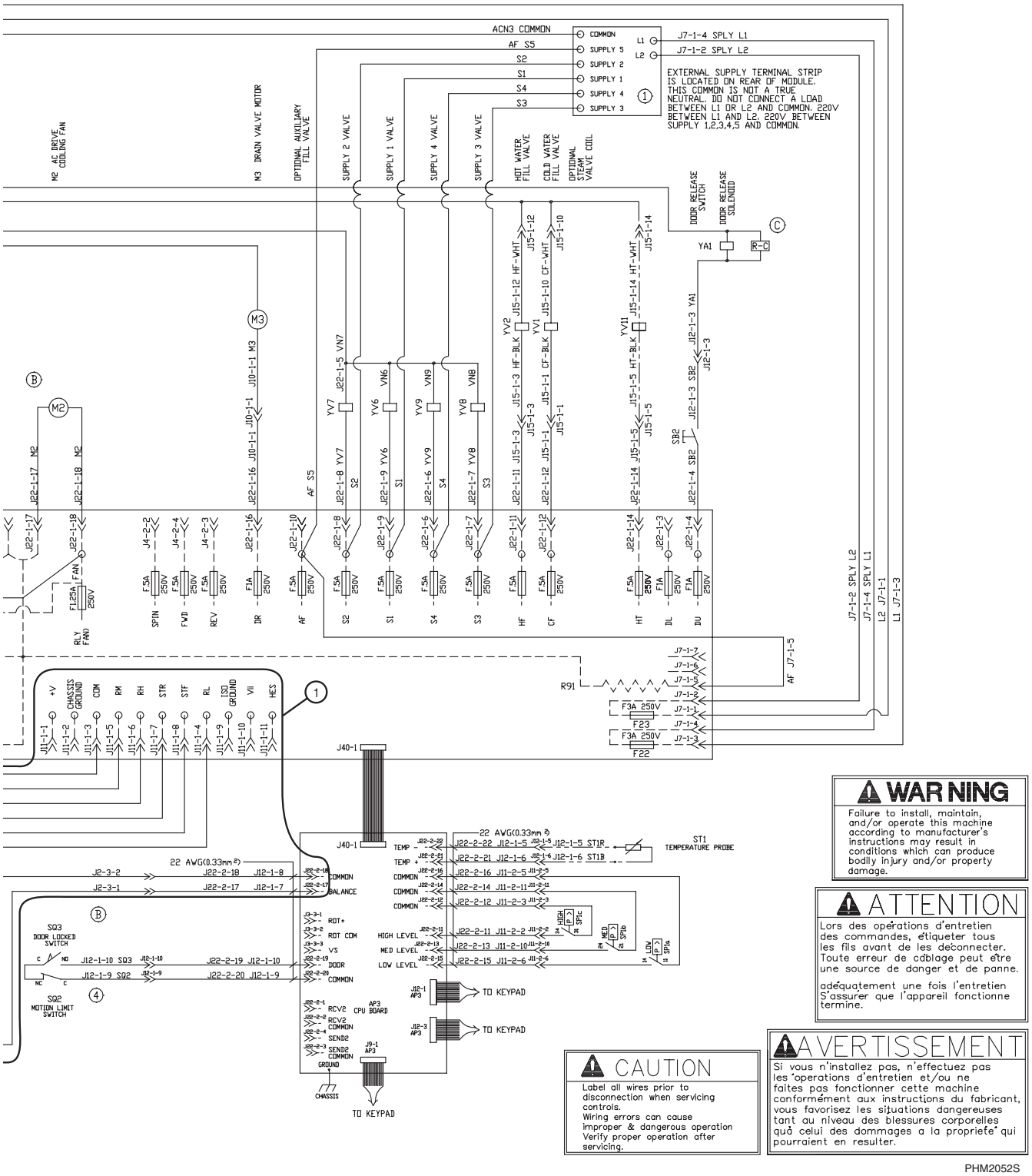
No Motor Operation (With No AC Drive Fault) (Sheet 1 of 2)



NOTE: Refer to the wiring diagram supplied with your machine.

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No Motor Operation (With No AC Drive Fault) (Sheet 2 of 2)

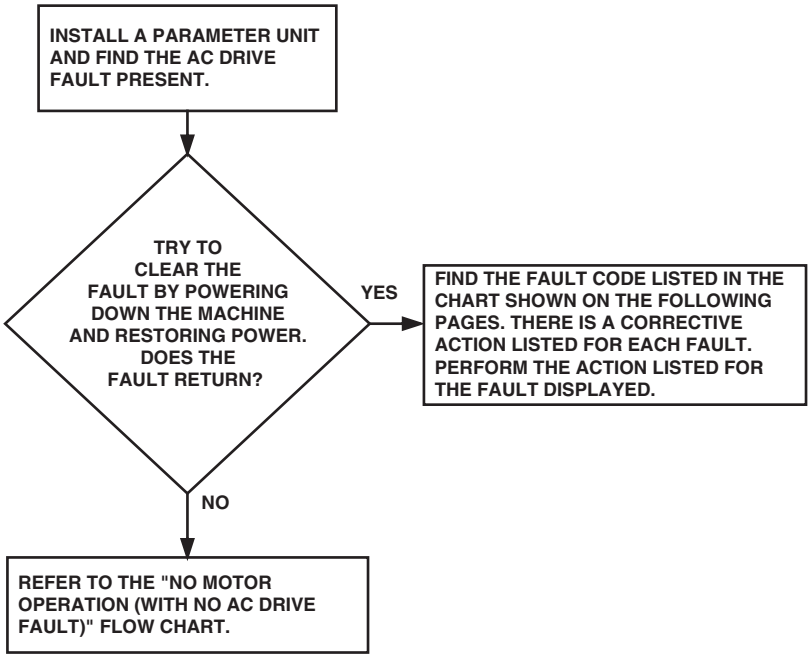


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8. No Motor Operation (With AC Drive Fault)

SYMPTOM: THE MOTOR IS NOT RUNNING AND THERE IS AN APPARENT AC DRIVE FAULT PRESENT.



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9. The Motor is Running, But at an Abnormal Speed

Preliminary Checks:

a. Check all electrical connections between the computer board and the AC drive. Refer to reference point "1" on the "No Motor Operation (with No AC Drive Fault)" schematic.

Secondary Checks:

a. Using a parameter unit, check the parameter set for your motor/AC drive combination.

NOTE: Contact the factory with your washer-extractor's model and serial number to obtain the proper AC drive illustration.

b. Check the control signals between the computer board and the AC drive with the voltage test shown on the charts included on the following pages.

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AC Drive Fault Codes and Troubleshooting Information

Bulletin 160	Bulletin 1305	Bulletin 1336	Fault	Description	Corrective Action/Remarks
		02	Motor Temp Fault	The motor thermal switch path is open.	Motor temperature high. Check for: ambient air, cooling fan blockage or operation, break in switch wire path (not on all machines).
03	03	03	Power Loss Fault	DC Bus voltage remains below 85% nominal for longer than 0.005 seconds.	Monitor incoming AC line for low voltage or line power interruption.
04	04	04	Under Voltage Fault	DC Bus voltage fell below minimum.	Monitor AC incoming AC line for low voltage or line power interruption.
05	05	05	Over Voltage Fault	DC Bus maximum voltage exceeded.	Monitor the AC line for high line voltage or transient conditions. High voltage can result from motor regeneration. Buck transformer may be required.
06	06	06	Motor Stall	Motor has stalled. Motor load is excessive	Check motor wiring and connection terminals. Check wash basket freedom of movement and excess belt tension.
07	07	07	Motor Overload Fault	Internal electronic overload trip. Excessive motor load exists.	Check motor wiring and connection terminals. Check wash basket freedom of movement and excess belt tension.
08	08	08	Over Temperature Fault	Excessive heat detected by heatsink transducer.	Clear blocked or dirty heatsink fins. Check ambient temperature. Check for blocked or nonoperating fan.
	10	10	Serial Fault	Drive lost communication with controlling device.	HIM removed while power applied, cycle power to clear.
12	12	12	Overcurrent Fault	Overcurrent detected in instantaneous hardware trip circuit.	Check short circuit at the controller output or excessive load conditions at motor.
22	22	22	Controller Reset Fault	Stop input not present.	Check stop input into control terminal board. Close door and ensure any jumpers are placed correctly.
32	32	32	EEPROM Fault	EEProm has invalid data.	Consult the factory for further instructions.
33	33	33	Max Retries Fault	Controller failed to reset fault within the number of retries.	Fault exists that must be corrected before further operation. Check “Fault Buffer 1” on 1305 and 1336 for specific fault that triggered max retries fault.
38	38	38	Phase U Fault	Phase-to-ground fault detected between controller and motor in Phase U.	Check wiring between the drive and motor. Check for grounded phase.
39	39	39	Phase V Fault	Phase to ground fault detected between controller and motor in Phase V.	Check wiring between the drive and motor. Check for grounded phase.
40	40	40	Phase W Fault	Phase to ground fault detected between controller and motor in Phase W.	Check wiring between the drive and motor. Check for grounded phase.

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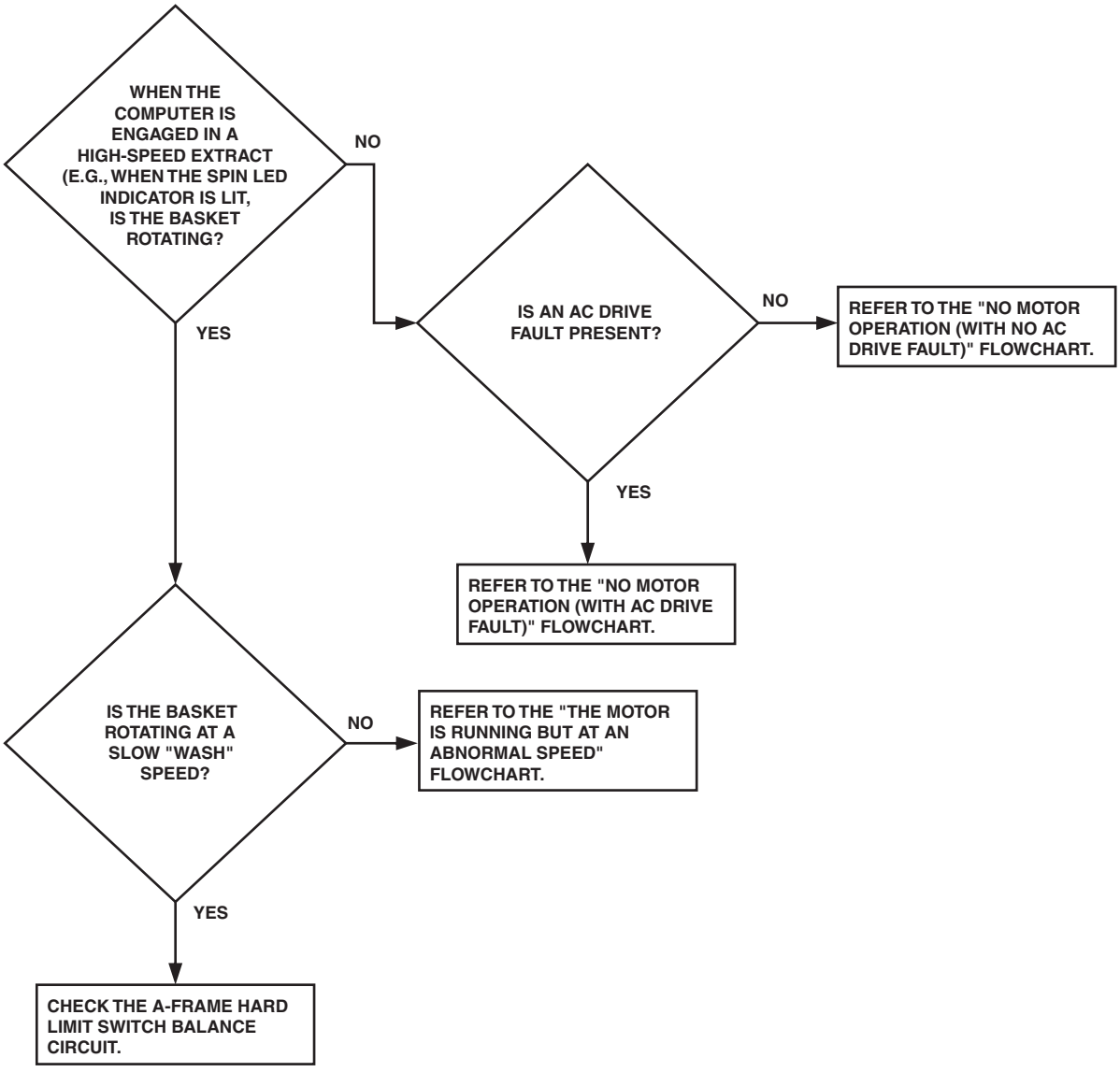
AC Drive Fault Codes and Troubleshooting Information *(continued)*

Bulletin 160	Bulletin 1305	Bulletin 1336	Fault	Description	Corrective Action/Remarks
41	41	41	UV Short Fault	Excessive current has been detected between two controller output terminals.	Check motor and external wiring to the controller output terminals for shorted condition.
43	43	43	VW Short Fault	Excessive current has been detected between two controller output terminals.	Check motor and external wiring to the controller output terminals for shorted condition.
	44		IPM Current Fault	Internal power module overcurrent limit exceeded.	Check for short circuit at the drive output or excessive load conditions at the motor, specifically cable capacitance to ground.
	45		IPM Overtemp Fault	Internal power module thermal limit exceeded.	Check for blocked or dirty heatsink fins. Check ambient air. Check fan operation or filter blockage.
		57	Ground Warning	A current path to ground in excess of 2A has been detected at one or more of the drive output terminals.	Check motor and external wiring to drive output terminals for a grounded condition.

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10. No Spin

NOTE: WHILE PERFORMING THIS CHECK, MAKE SURE THAT THE WASHER-EXTRACTOR IS RUNNING WITH A NORMAL-SIZE LOAD.

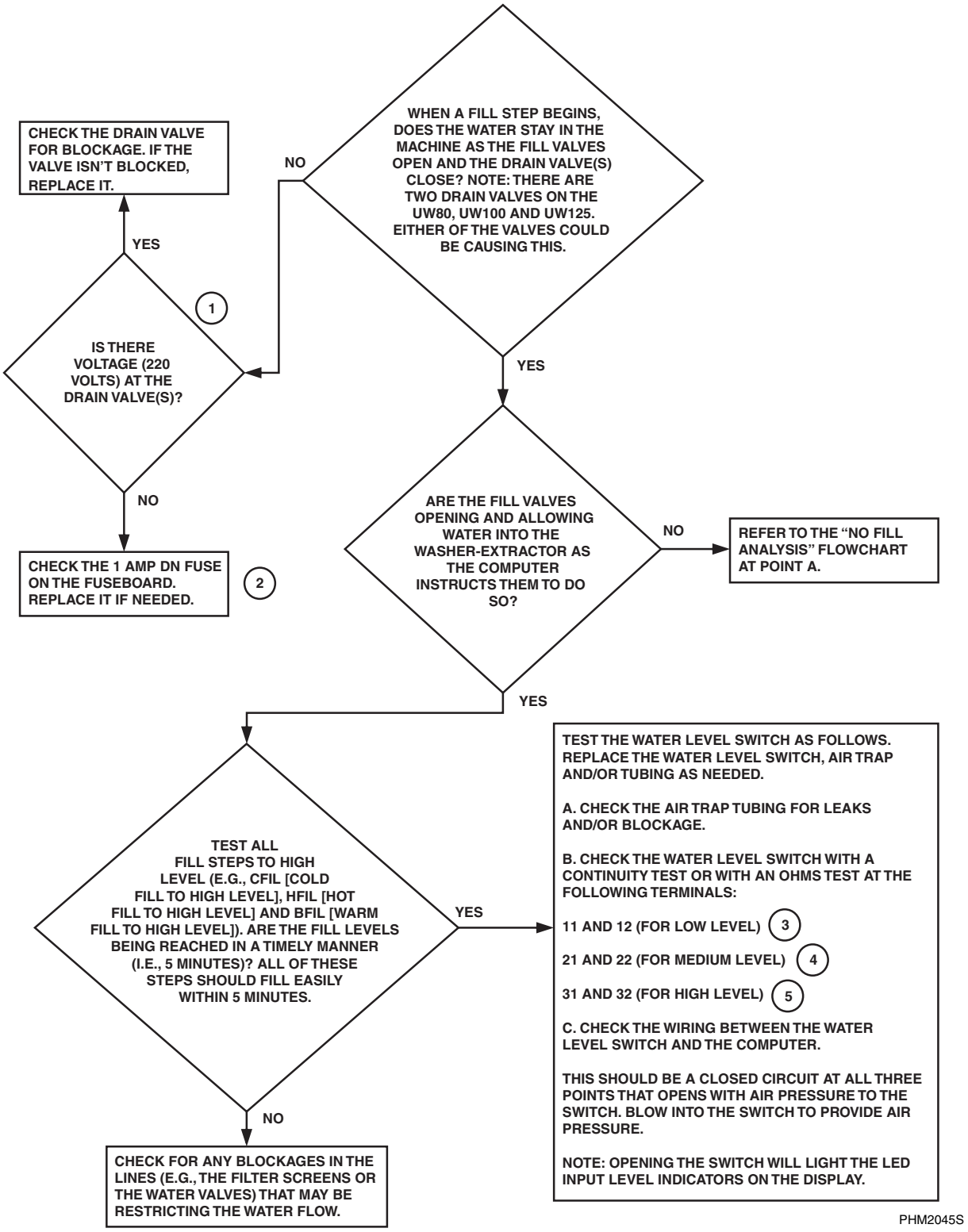


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11. Fill Alarm Analysis

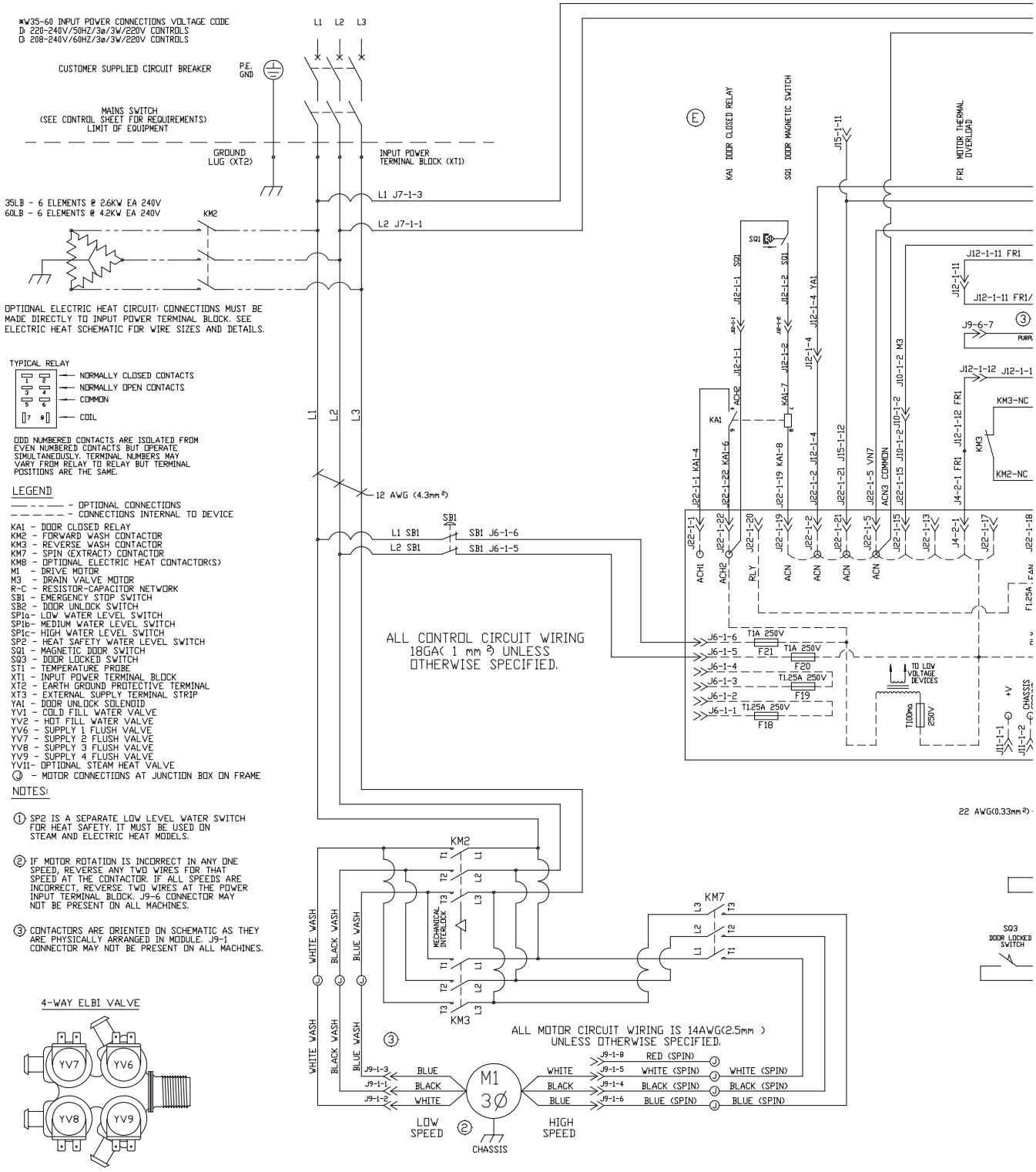
SYMPTOM: THE DISPLAY READS "STOP/FILL OR EN FL," THE SIGNAL LIGHT ILLUMINATES AND THE BUZZER ALARMS. THE COMPUTER DID NOT RECEIVE AN INPUT FROM THE RESPECTIVE WATER LEVEL CIRCUIT TELLING IT THAT THE WASHER-EXTRACTOR FILLED IN THE TIME PROGRAMMED.



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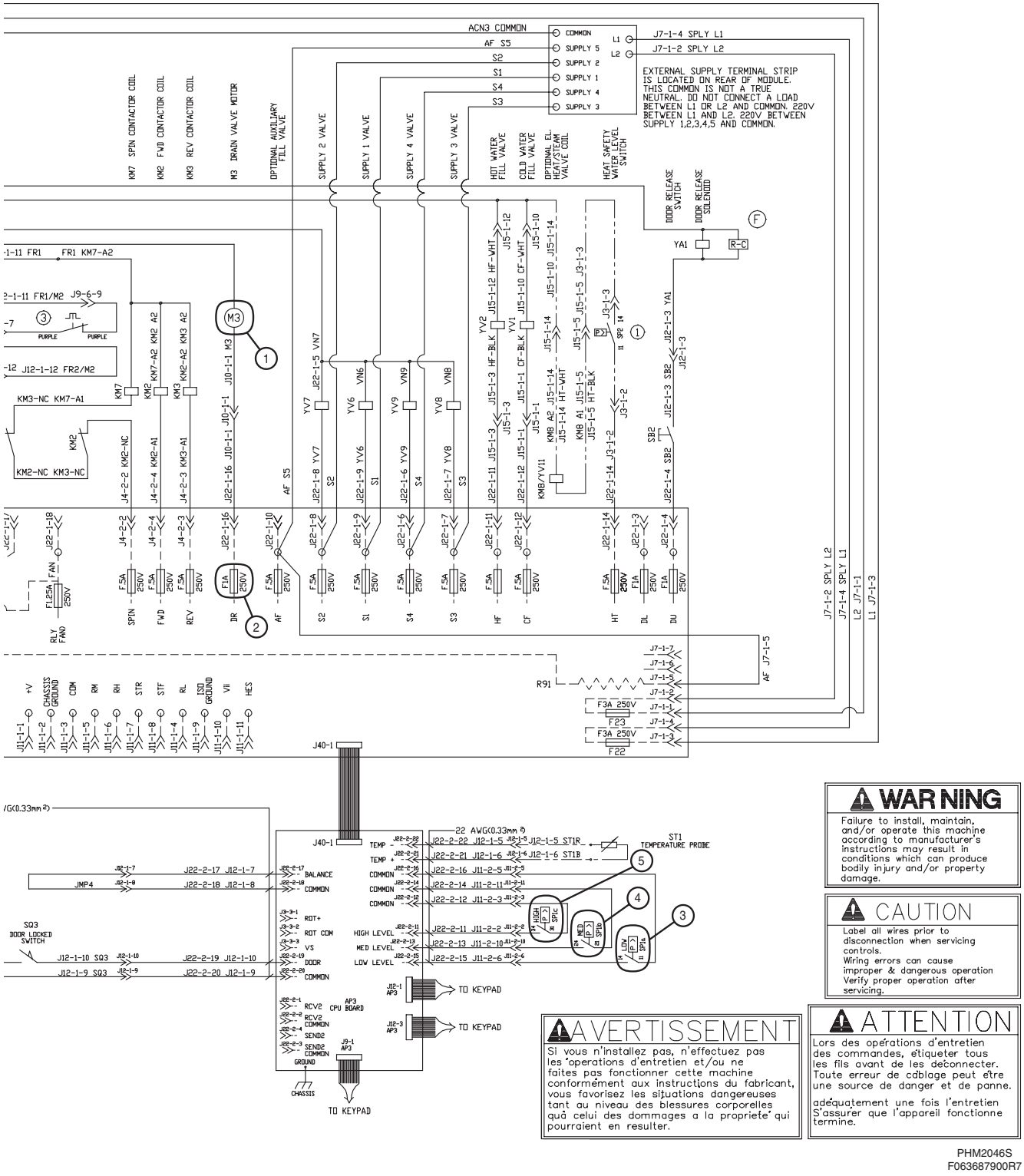
Fill Alarm Analysis (Sheet 1 of 2)



NOTE: Refer to the wiring diagram supplied with your machine.

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Fill Alarm Analysis (Sheet 2 of 2)



WARNING

Failure to install, maintain, and/or operate this machine according to manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

CAUTION

Label all wires prior to disconnection when servicing controls.
Wiring errors can cause improper & dangerous operation
Verify proper operation after servicing.

AVERTISSEMENT

Si vous n'installez pas, n'effectuez pas les 'operations d'entretien et/ou ne faites pas fonctionner cette machine conformément aux instructions du fabricant, vous favorisez les situations dangereuses tant au niveau des blessures corporelles quà celui des dommages a la propriete' qui pourraient en resulter.

ATTENTION

Lors des opérations d'entretien des commandes, étiqueter tous les fils avant de les déconnecter. Toute erreur de câblage peut être une source de danger et de panne.

adéquatement une fois l'entretien S'assurer que l'appareil fonctionne termine.

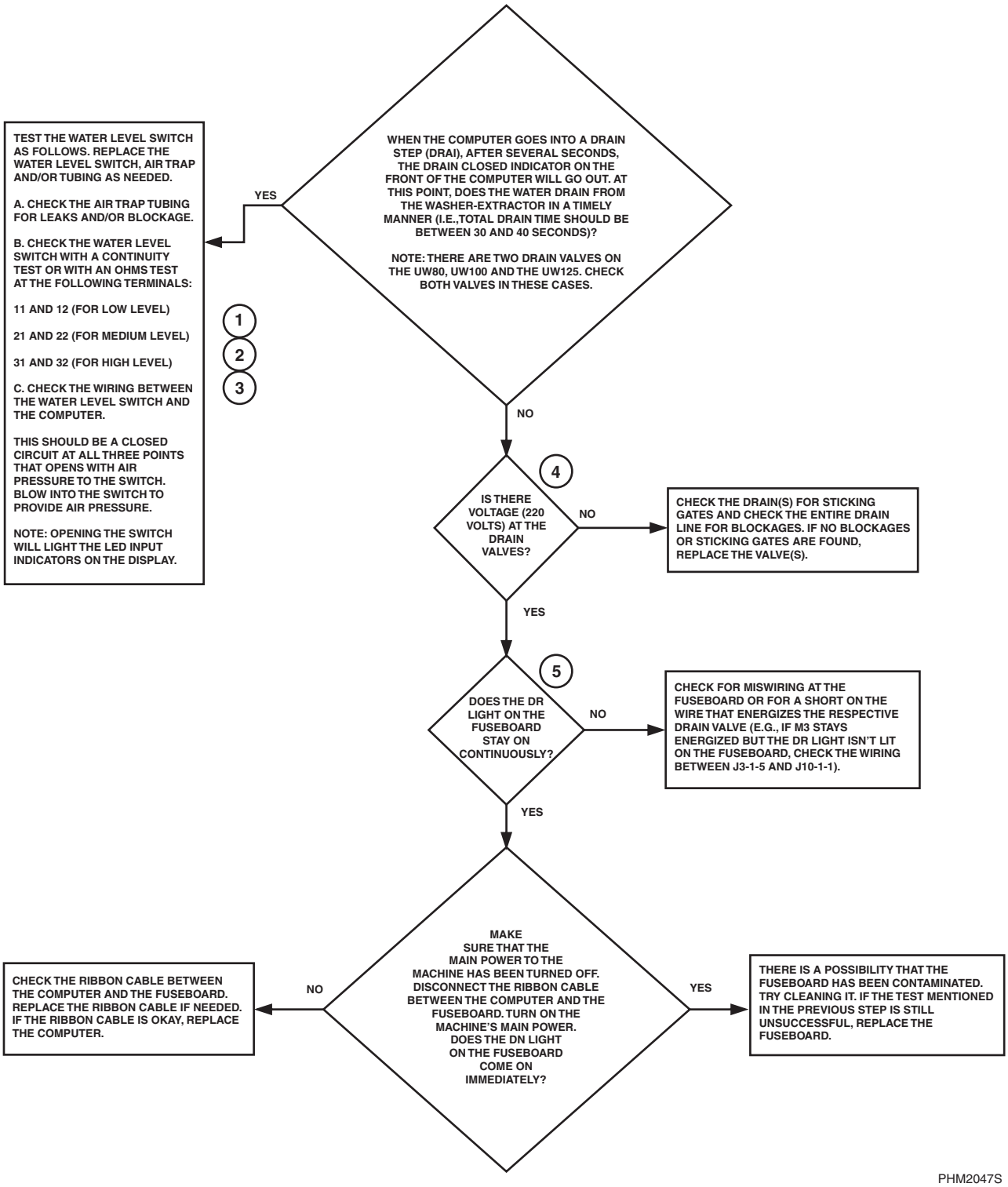
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12. Empty Alarm Analysis

SYMPTOM: THE DISPLAY READS "ERDN," THE BUZZER SOUNDS AND THE SIGNAL LIGHT IS DISPLAYED. THE COMPUTER DID NOT RECEIVE AN INPUT FROM THE LOW SIDE OF THE WATER LEVEL SWITCH TELLING IT THAT THE WASHER-EXTRACTOR EMPTIED IN THE TIME THAT HAD BEEN PROGRAMMED.

NOTE: IF THE EMPTY ALARM OCCURS IN LESS THAN ONE MINUTE FROM THE POINT WHEN THE DRAIN CLOSED LIGHT GOES OUT, CHECK THE DRAIN TIME THAT HAS BEEN PROGRAMMED INTO THIS STEP OF THE COMPUTER. THE FACTORY RECOMMENDS THAT AT LEAST ONE MINUTE SHOULD BE PROVIDED FOR EACH DRAIN STEP.



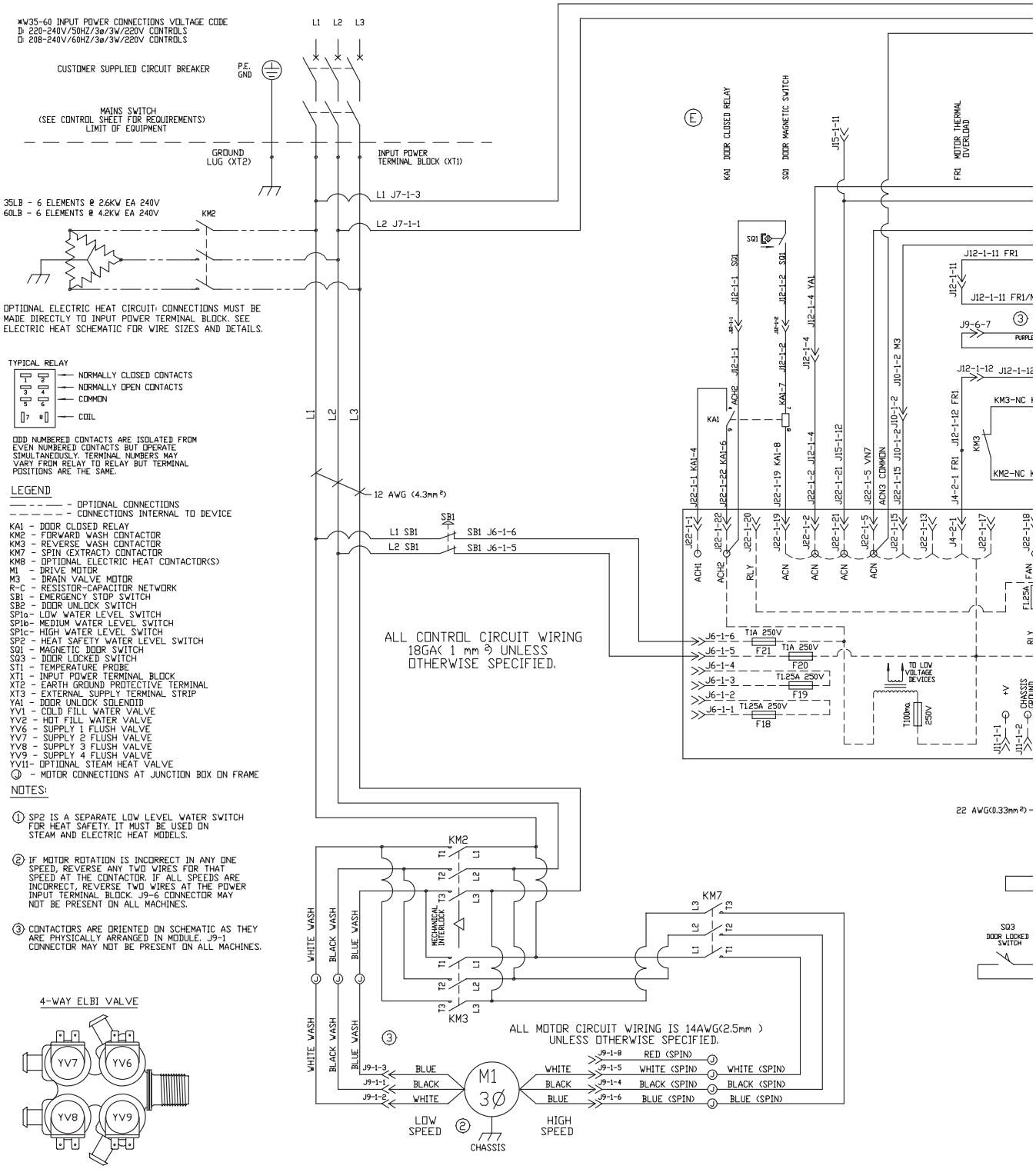
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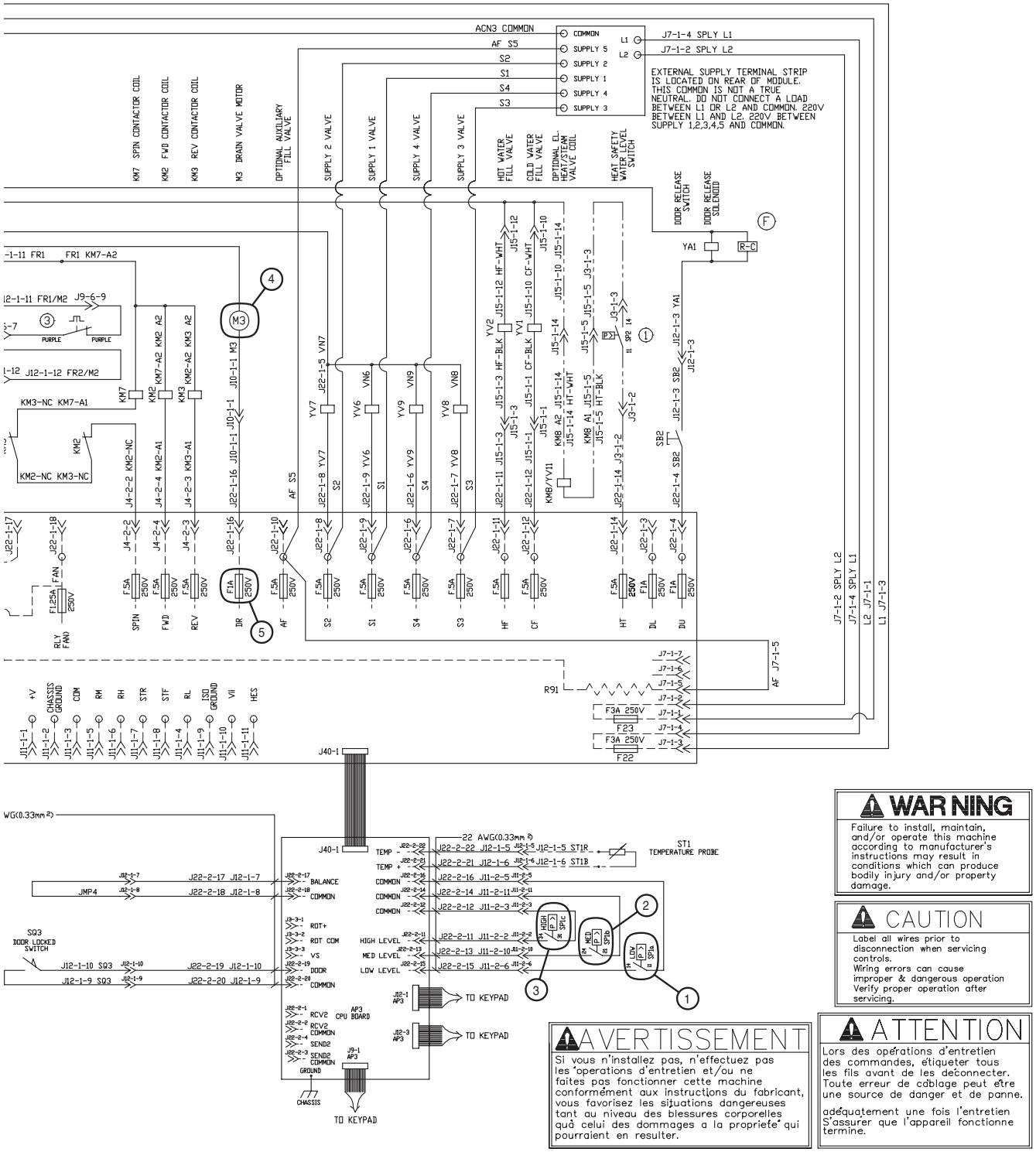
Empty Alarm Analysis (Sheet 1 of 2)



NOTE: Refer to the wiring diagram supplied with your machine.

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Empty Alarm Analysis (Sheet 2 of 2)



WARNING

Failure to install, maintain, and/or operate this machine according to manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

CAUTION

Label all wires prior to disconnection when servicing controls.
Wiring errors can cause improper & dangerous operation
Verify proper operation after servicing.

AVERTISSEMENT

Si vous n'installez pas, n'effectuez pas les operations d'entretien et/ou ne faites pas fonctionner cette machine conformément aux instructions du fabricant, vous favorisez les situations dangereuses tant au niveau des blessures corporelles quà celui des dommages a la propriete qui pourraient en resulter.

ATTENTION

Lors des opérations d'entretien des commandes, étiqueter tous les fils avant de les déconnecter. Toute erreur de cdblage peut etre une source de danger et de panne.

adéquatement une fois l'entretien S'assurer que l'appareil fonctionne termine.

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13. Automatic Supply Dispenser Analysis

Program and run the following steps into any available cycle to test the system.

NOTE: Pre-programmed cycle 39 already has a portion of this cycle pre-programmed into it.

Step	Description	Program	Min:sec
1	Warm Fill to Low Level	Warm Fill	5:00
2	Supply 1	Supply 1	2:00
3	Supply 2	Supply 2	2:00
4	Supply 3	Supply 3	2:00
5	Supply 4	Supply 4	2:00
6	Supply 6	Supply 1 and 2	2:00
7	Supply 7	Supply 4 and 5	2:00
9	Wash 1	Wash	:30
10	Drain 1	Drain	1:00

Run the cycle and, with the respective supply on the main display, refer to the following chart for the function that should be occurring:

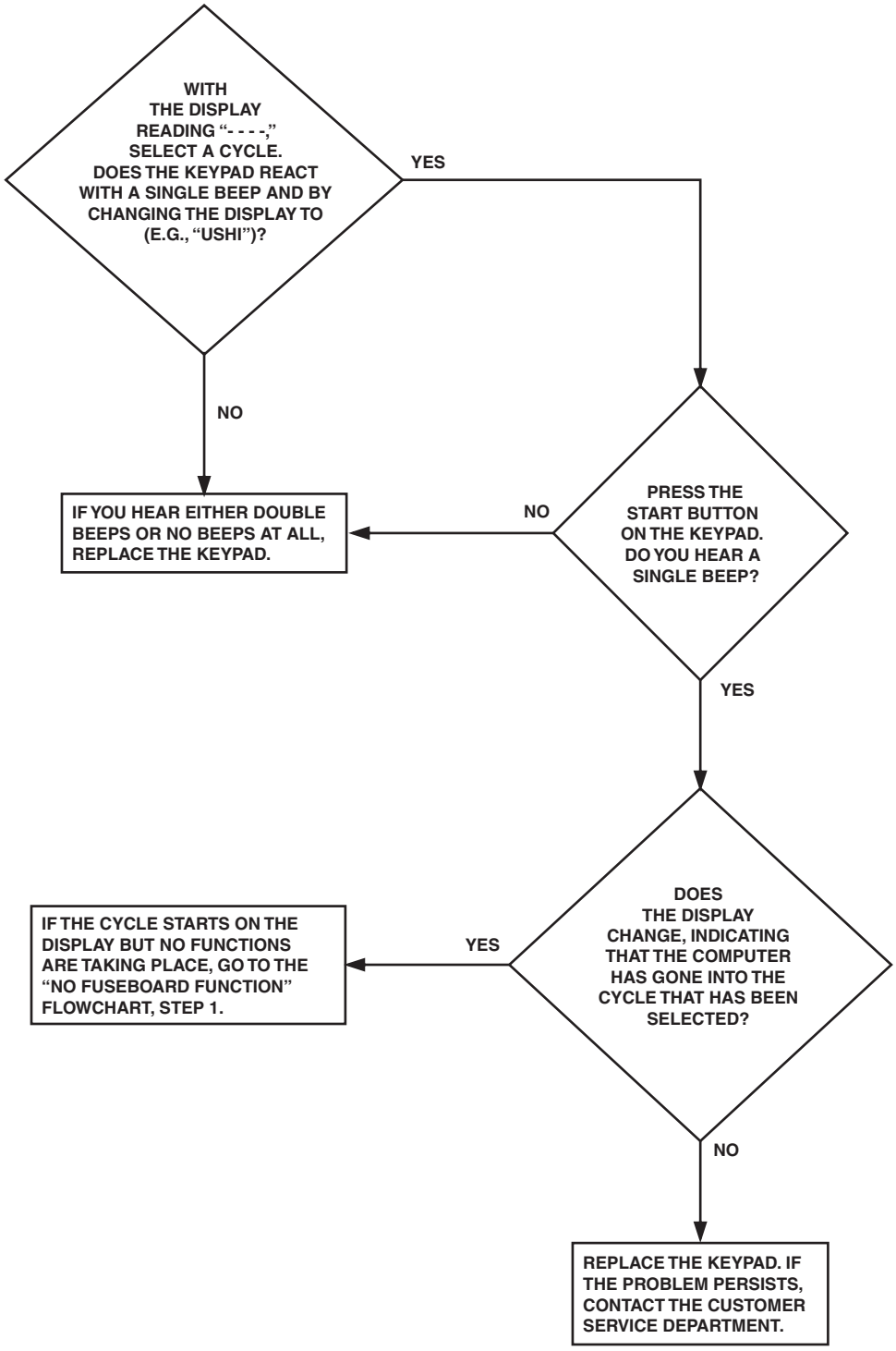
Supply	Function
1	Flushes Compartment 1
2	Flushes Compartment 2
3	Flushes Compartment 3
4	Flushes Compartment 4
6	Flushes Compartments 1 and 2
7	Flushes Compartments 4 and 5

During each step, test for voltage (220 Volts) between each respective supply terminal and the common terminal on the XT3 terminal strip.

NOTE: The XT3 terminal strip is located toward the back of the control module, next to the power input block.

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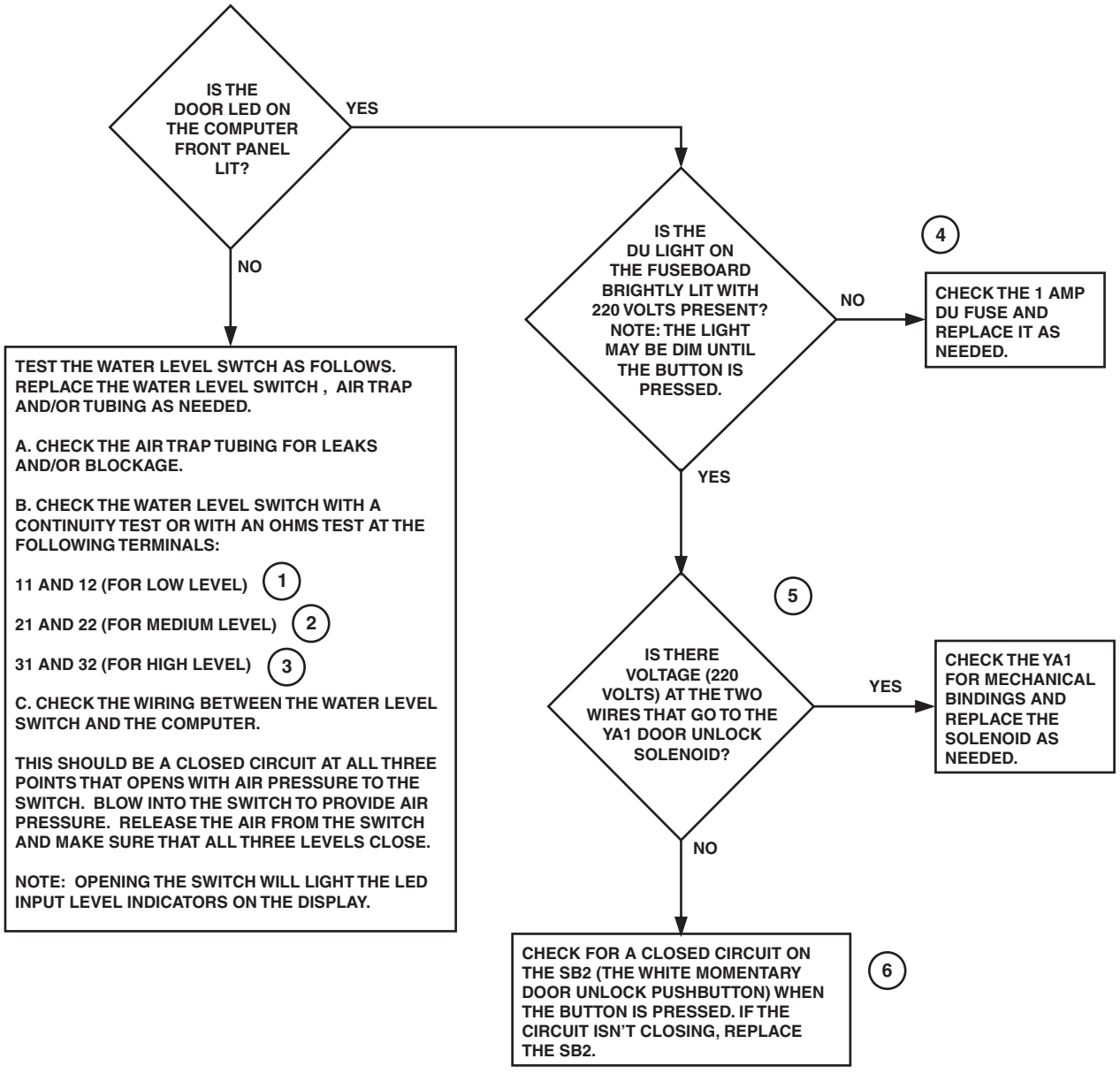
14. No Keypad Functions



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15. Door Unlocking Function



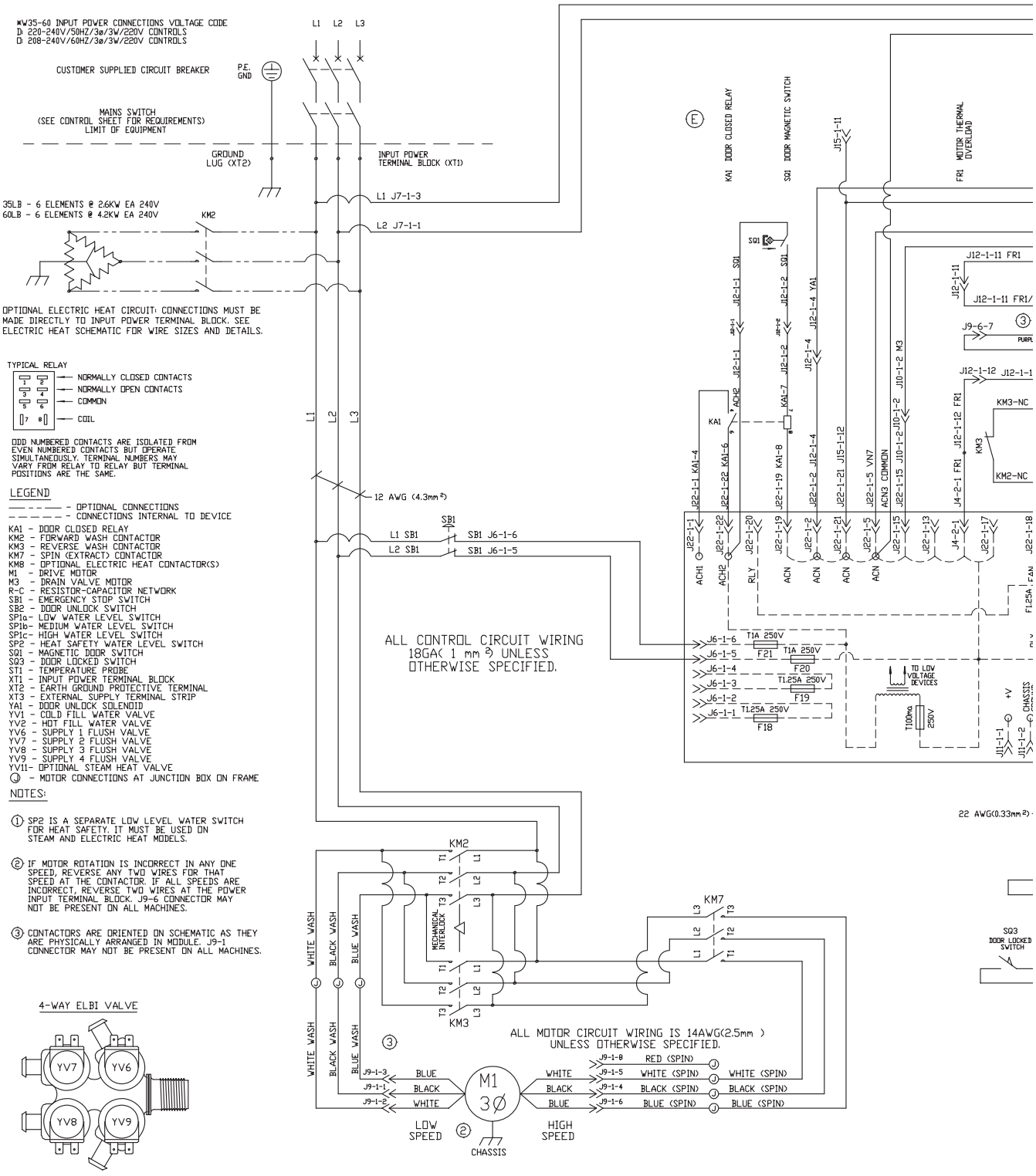
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Please refer to the following 2 pages for wiring diagram information.

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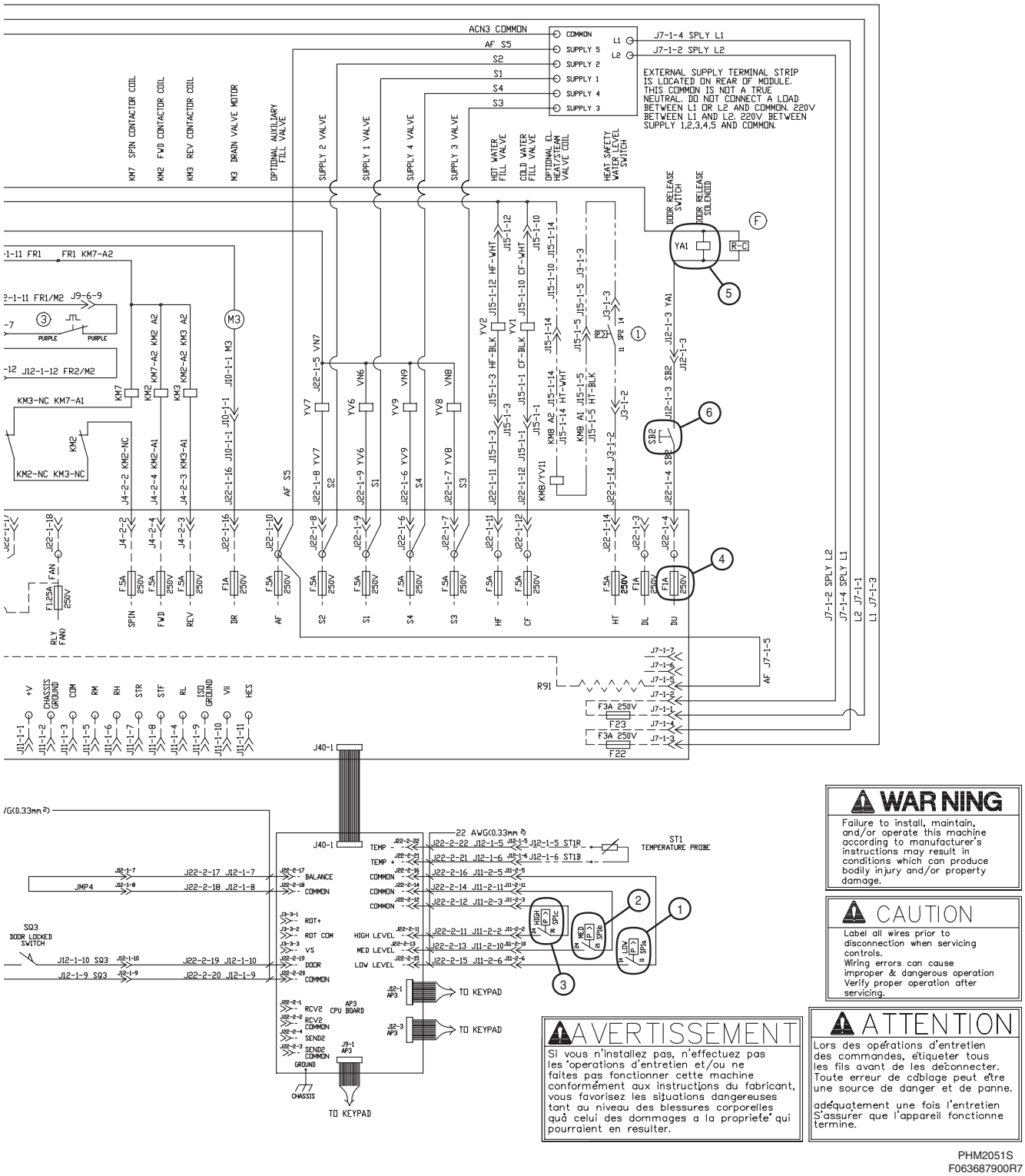
Door Unlocking Function (Sheet 1 of 2)



NOTE: Refer to the wiring diagram supplied with your machine.

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Door Unlocking Function (Sheet 2 of 2)



WARNING

Failure to install, maintain, and/or operate this machine according to manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

CAUTION

Label all wires prior to disconnection when servicing controls.
Wiring errors can cause improper & dangerous operation
Verify proper operation after servicing.

AVERTISSEMENT

Si vous n'installez pas, n'effectuez pas les operations d'entretien et/ou ne faites pas fonctionner cette machine conformément aux instructions du fabricant, vous favorisez les situations dangereuses tant au niveau des blessures corporelles quà celui des dommages a la propriete qui pourraient en resulter.

ATTENTION

Lors des opérations d'entretien des commandes, étiqueter tous les fils avant de les déconnecter. Toute erreur de câblage peut être une source de danger et de panne.

adéquatement une fois l'entretien S'assurer que l'appareil fonctionne termine.

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16. Excessive Cycle Time

When experiencing excessive cycle time, there are three main causes which are as follows:

a. Fill Time:

(1) Check for excessively long fill times. Refer to the "Fill Alarm Analysis" flowchart if any are found.

(2) Check for excessively long programmed fill times.

NOTE: All pre-programmed fill times are for 5 minutes. Any fill should easily complete during this time.

b. Drain Time:

(1) Look for excessively long programmed drain times (i.e., greater than one minute).

NOTE: Any drain step should not exceed 30-40 seconds.

c. Unnecessary Programming Steps:

(1) E.g., in the first fill of a cycle, if "SUP1" is programmed for 45 seconds and "SUP2" is programmed for 45 seconds, the two steps can be accomplished together at the same time, saving 45 seconds. Refer to your washer-extractor's programming manual.

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17. Excessive Vibration and/or Noise During Spin

When experiencing excessive vibration and/or noise during a spin cycle, there are three main causes, which are as follows:

a. Improper Loading:
(1) Always make sure that full loads are used. Never wash partial loads.
(2) Do not mix various laundry items together in the same wash (e.g., do not wash towels and sheets together).

b. Improper Installation:
(1) Make sure that the washer-extractor is anchored to a flat, level surface with the proper depth of concrete.
(2) Tighten all anchor bolts and nuts. Make sure that they are of the correct size and grade.
(3) Make sure that the washer-extractor is grouted properly.
(4) Refer to your washer-extractor's installation manual for exact installation specifications.

c. Faulty Front and/or Rear Bearings:
(1) Check the front and rear bearings' noise factor.
(2) Lift up on the basket at the front of the tub. Check for any up and down play that would indicate bearing wear.
(3) Replace the bearings as needed.

18. Stop/Done Situation in Mid Cycle

If the washer-extractor stops in mid-cycle, this indicates that the computer saw an open circuit at the door lock microswitch.

Check the door lock microswitch for loose connections or broken wires. Repair the wires or replace the microswitch as needed.

19. Pumps Turning on in Mid Cycle Without Being Programmed to Do So

Pumps turning on in mid-cycle without being programmed to do so may be the result of resistors on the output board allowing low voltage leaks (between 1 and 40 VAC).

Replace the resistors on the output board (that correspond to the pumps that are turning on in mid cycle) as needed.

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