



EG•PEG•EGH

Gas-Fired Boilers – Series 4

Control supplement – Universal control systems

For additional information, refer to . . .

EG • PEG • EGH Boiler manual

for Natural or Propane gas

(tankless heater application optional)



WARNING

This supplement must only be used by a qualified heating installer/service technician. **Before installing**, read all instructions, including this supplement, the boiler manual and any related documents. Perform steps in the order given. Failure to comply could result in severe personal injury, death or substantial property damage.



Please read this page first!

Hazard definitions

The following defined terms are used throughout these instructions to bring attention to the presence of hazards of various risk levels or to important information concerning the life of the product.

DANGER Indicates presence of hazards that **will cause severe** personal injury, death or substantial property damage.

WARNING Indicates presence of hazards that **can cause severe** personal injury, death or substantial property damage.

CAUTION Indicates presence of hazards that **will or can cause minor** personal injury or property damage.

NOTICE Indicates special instructions on installation, operation or maintenance that are important but not related to personal injury or property damage.

Note to the installer

WARNING Controls must only be installed by a Weil-McLain distributor or other qualified installer/service technician in accordance with this Supplement and all applicable codes and requirements of the authority having jurisdiction. Read this Control Supplement completely before beginning the installation. If the information in this Supplement is not followed exactly, a fire, explosion, carbon monoxide emission or other hazardous conditions can result, causing severe personal injury, death or substantial property damage.

WARNING This system is used on gas-fired boilers without vent dampers as shipped from the factory. This system is not offered for retrofit. Any attempt to apply the system components to boilers shipped for use with a different control system will not be covered under boiler warranty and can cause severe personal injury, death or substantial property damage.

NOTICE When calling or writing about the boiler, please have the boiler model number from the boiler rating label and the CP number from the boiler jacket.



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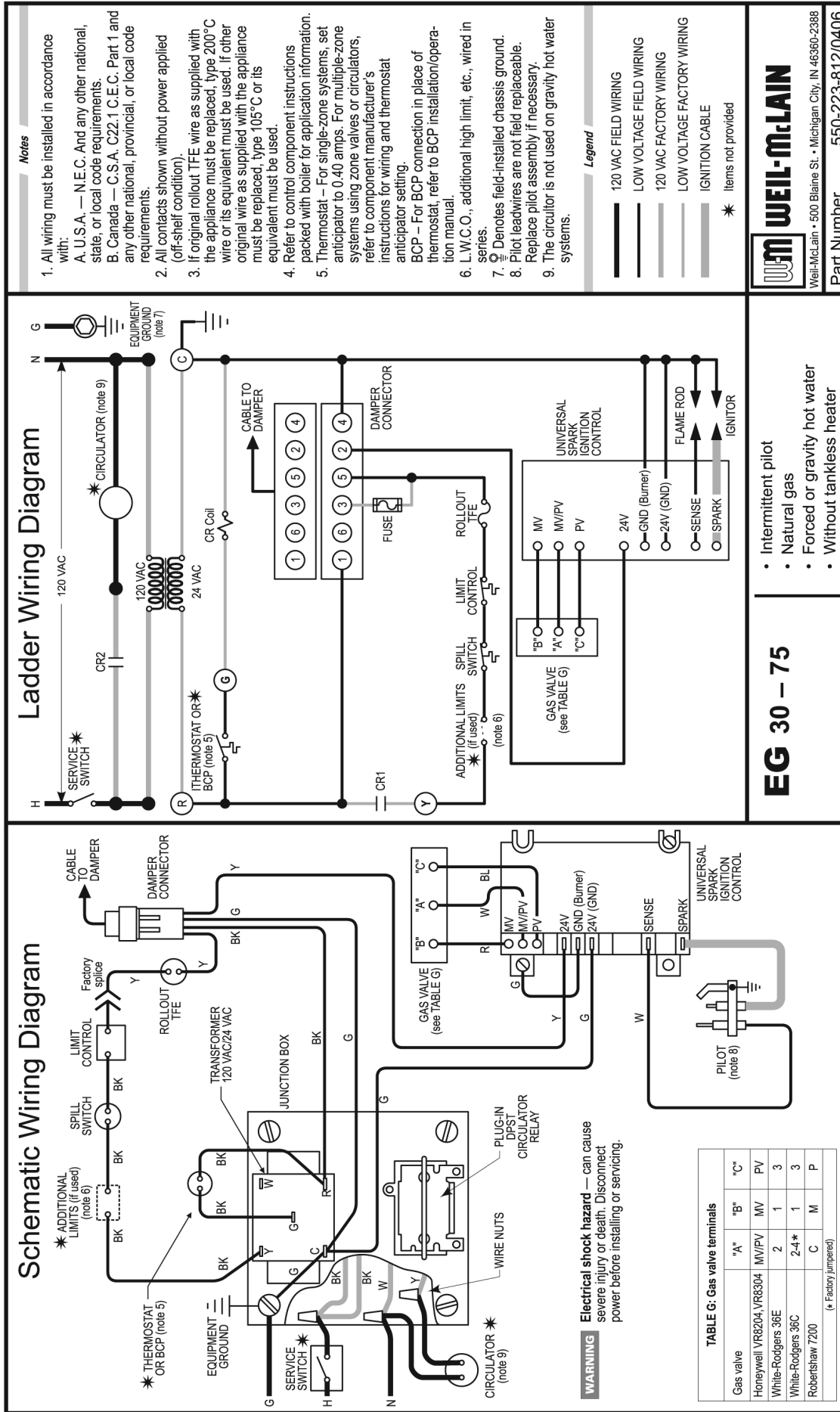
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Control installation

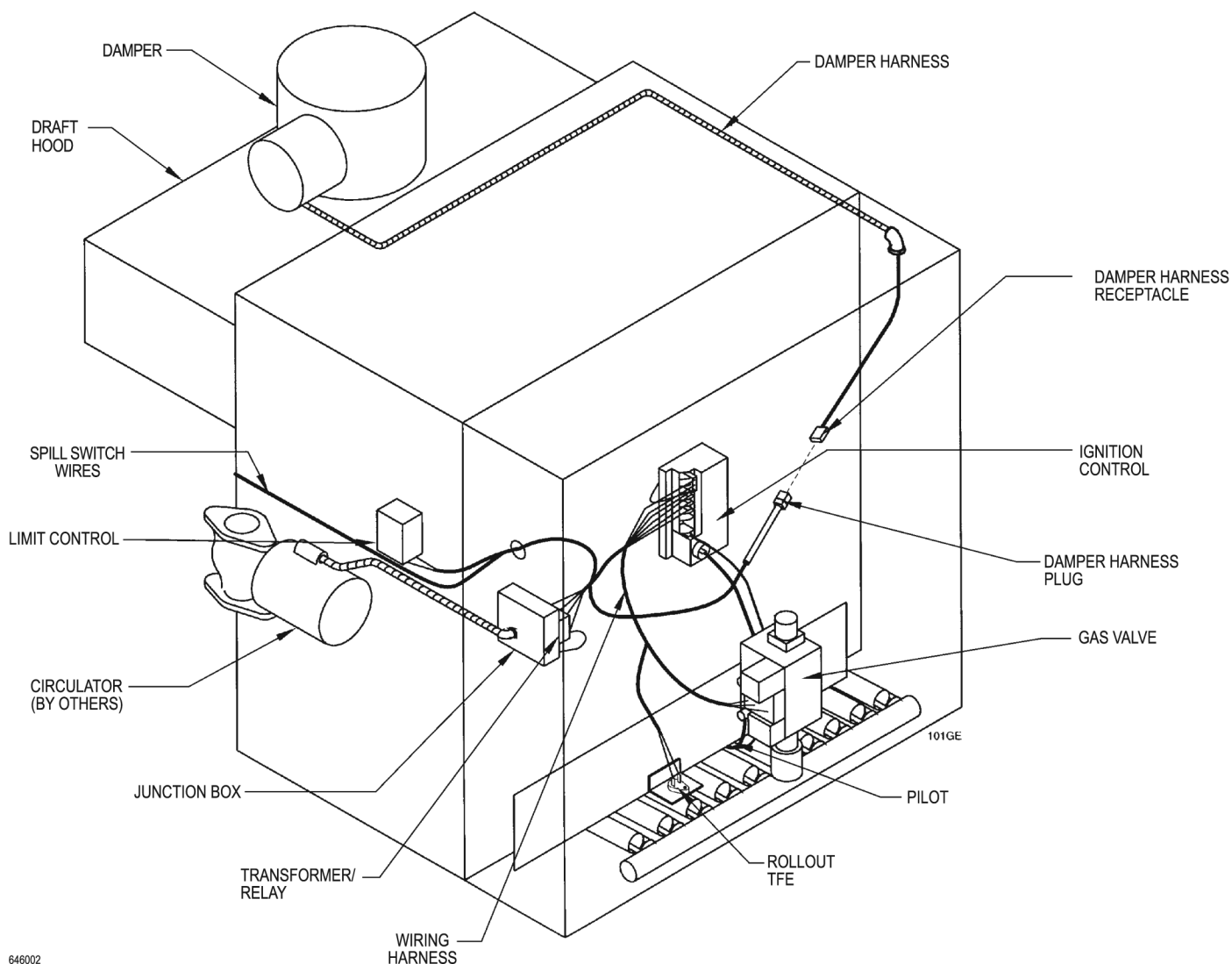
EG-30 through EG-75 water boilers without tankless heaters

WARNING

For your safety, turn off electrical power supply and turn off external gas supply valve before attempting to work on the boiler. Failure to comply can cause severe personal injury, death or substantial property damage.

1. Mount and wire controls per wiring diagram, page 4, and Figure 1.
 - a. Attach junction box inside left jacket panel with #8-32 x 1/2" machine screws provided.
 - b. Install transformer with plug-in relay receptacle and relay.
 - c. Operating and limit circuit wiring must be 18 gauge or heavier.
2. Bring supply wiring to boiler. Must be 14 gauge or heavier.
3. Proceed to page 20.

Figure 1 EG-30 through EG-75 water boilers without tankless heaters



646002

Schematic Wiring Diagram

WARNING Electrical shock hazard — can cause severe injury or death. Disconnect power before installing or servicing.

Gas valve	"A"	"B"	"C"
Honeywell VR8204, VR8304	MV/PV	MV	PV
White-Rodgers 36E	2	1	3
White-Rodgers 36C	2-4*	1	3
Robertshaw 7200	C	M	P

(* Factory jumpered)

Ladder Wiring Diagram

Notes

- All wiring must be installed in accordance with:
A. U.S.A. — N.E.C. And any other national, state, or local code requirements.
B. Canada — C.S.A. C22.1 C.E.C. Part 1 and any other national, provincial, or local code requirements.
- All contacts shown without power applied (off-shelf condition).
- If original rollout TFE wire as supplied with the appliance must be replaced, type 200°C wire or its equivalent must be used. If other original wire as supplied with the appliance must be replaced, type 105°C or its equivalent must be used.
- Refer to control component instructions packed with boiler for application information.
- Thermostat — For single-zone systems, set anticipator to 0.20 amps. For multiple-zone systems using zone valves or circulators, refer to component manufacturer's instructions for wiring and thermostat anticipator setting.
- BCP — For BCP connection in place of thermostat, refer to BCP installation/operation manual.
- L.W.C.O., additional high limit, etc., wired in series.
- ⊕ Denotes field-installed chassis ground.
- Pilot leadwires are not field replaceable. Replace pilot assembly if necessary.

Legend

- 120 VAC FIELD WIRING
- LOW VOLTAGE FIELD WIRING
- 120 VAC FACTORY WIRING
- LOW VOLTAGE FACTORY WIRING
- IGNITION CABLE
- * Items not provided

EG 30 — 75

- Intermittent pilot
- Natural gas
- Forced hot water
- With tankless heater

WEIL-McLAIN

Well-McLain • 500 Blaine St. • Michigan City, IN 46360-2388

Part Number 550-223-815/0406

Control installation continued

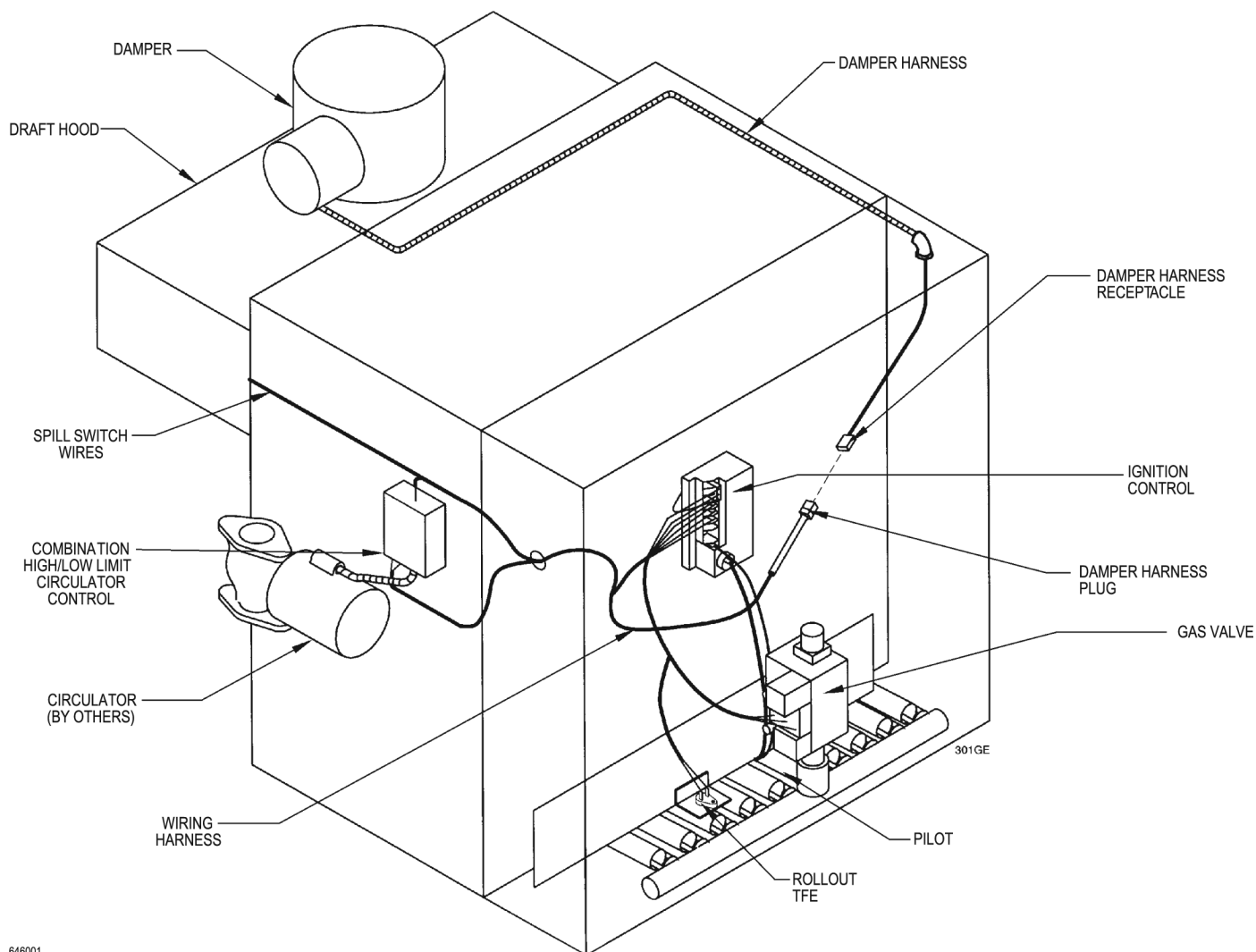
EG-30 through EG-75 water boilers with tankless heaters

WARNING

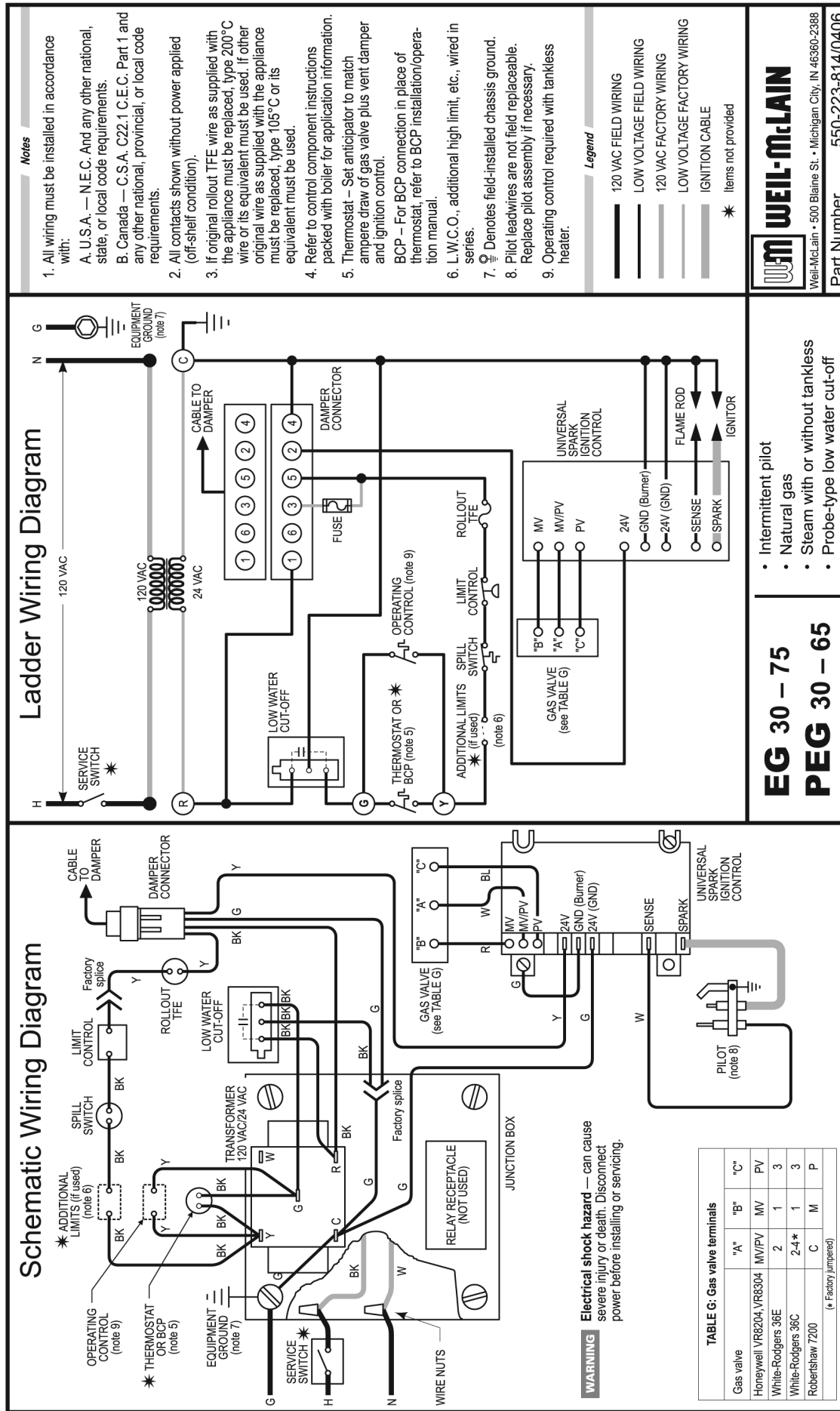
For your safety, turn off electrical power supply and turn off external gas supply valve before attempting to work on the boiler. Failure to comply can cause severe personal injury, death or substantial property damage.

1. Mount and wire controls per wiring diagram, page 6, and Figure 2.
 - a. Install combination limit control and relay in tapping. See Boiler Manual control tapping table. Operating and limit circuit wiring must be 14 gauge or heavier.
2. Bring supply wiring to boiler. Must be 14 gauge or heavier.
3. Proceed to page 20.

Figure 2 EG-30 through EG-75 water boilers with tankless heaters



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Control installation continued

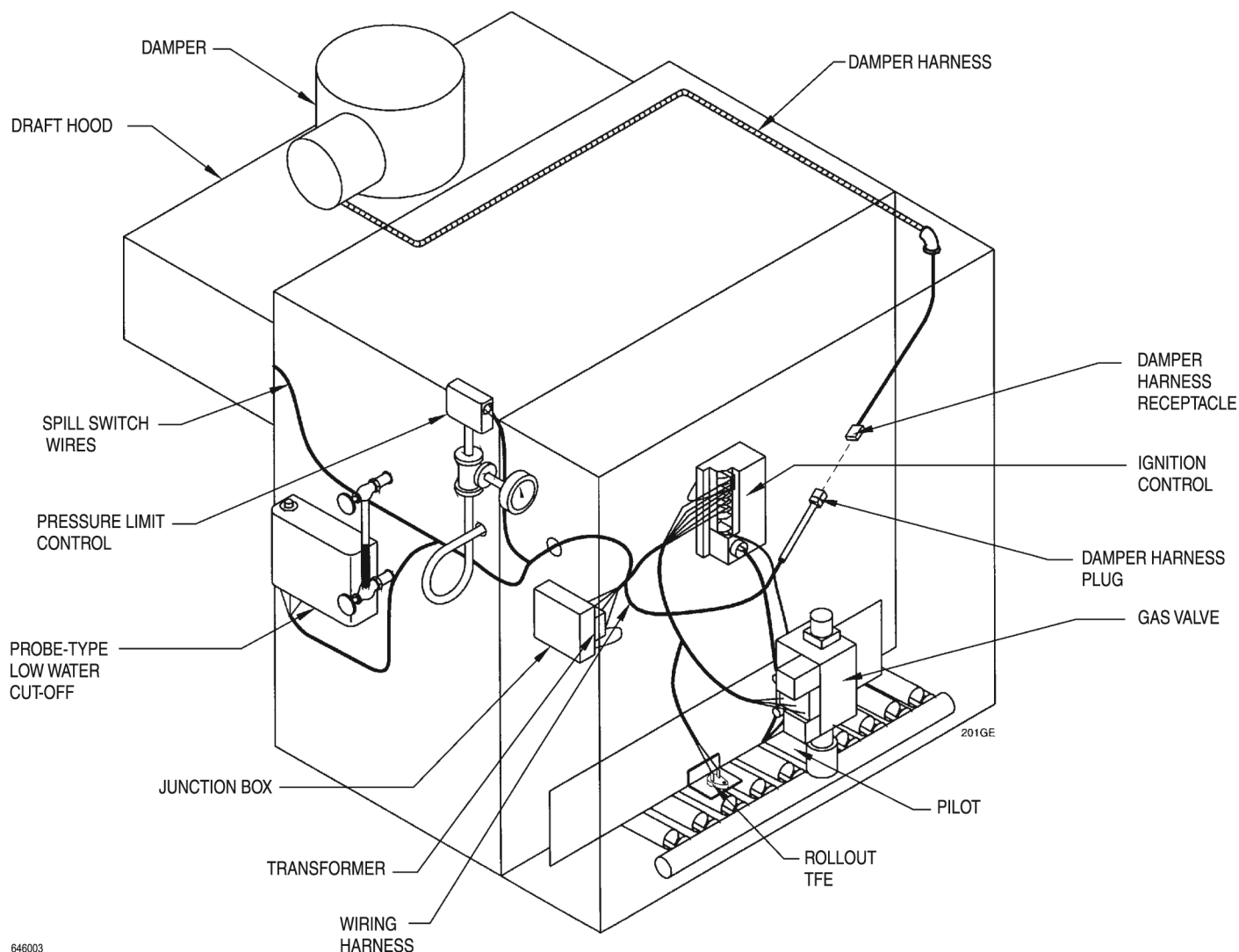
EG and PEG steam boilers with probe-type low water cut-off

WARNING

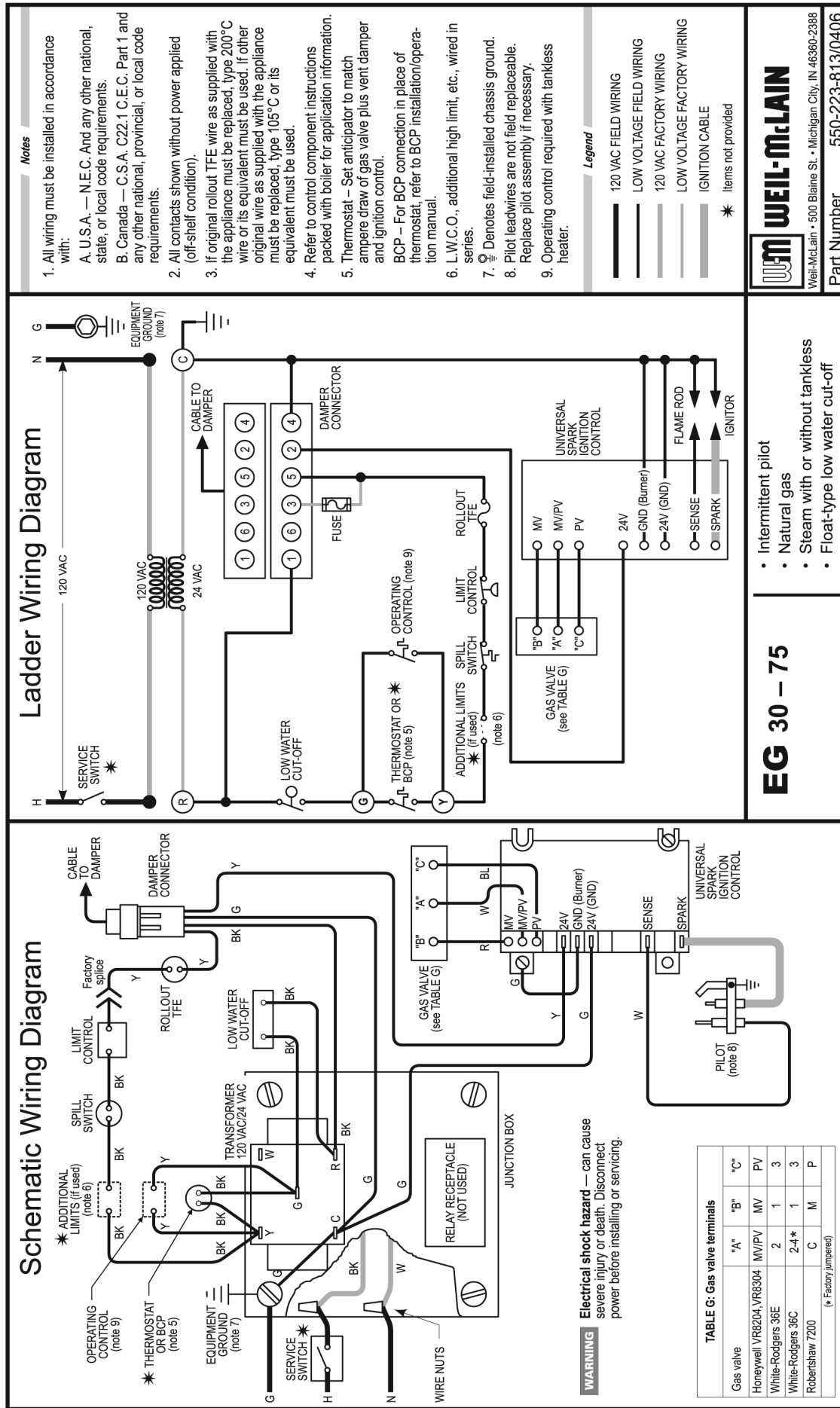
For your safety, turn off electrical power supply and turn off external gas supply valve before attempting to work on the boiler. Failure to comply can cause severe personal injury, death or substantial property damage.

1. Mount and wire controls per wiring diagram, page 8, and Figure 3.
 - a. Attach junction box inside left jacket panel with #8-32 x 1/2" machine screws provided.
 - b. Install transformer with plug-in relay receptacle and relay.
 - c. Operating and limit circuit wiring must be 18 gauge or heavier.
2. Bring supply wiring to boiler. Must be 14 gauge or heavier.
3. Proceed to page 20.

Figure 3 EG and PEG steam boilers with probe-type low water cut-off



646003



Control installation continued

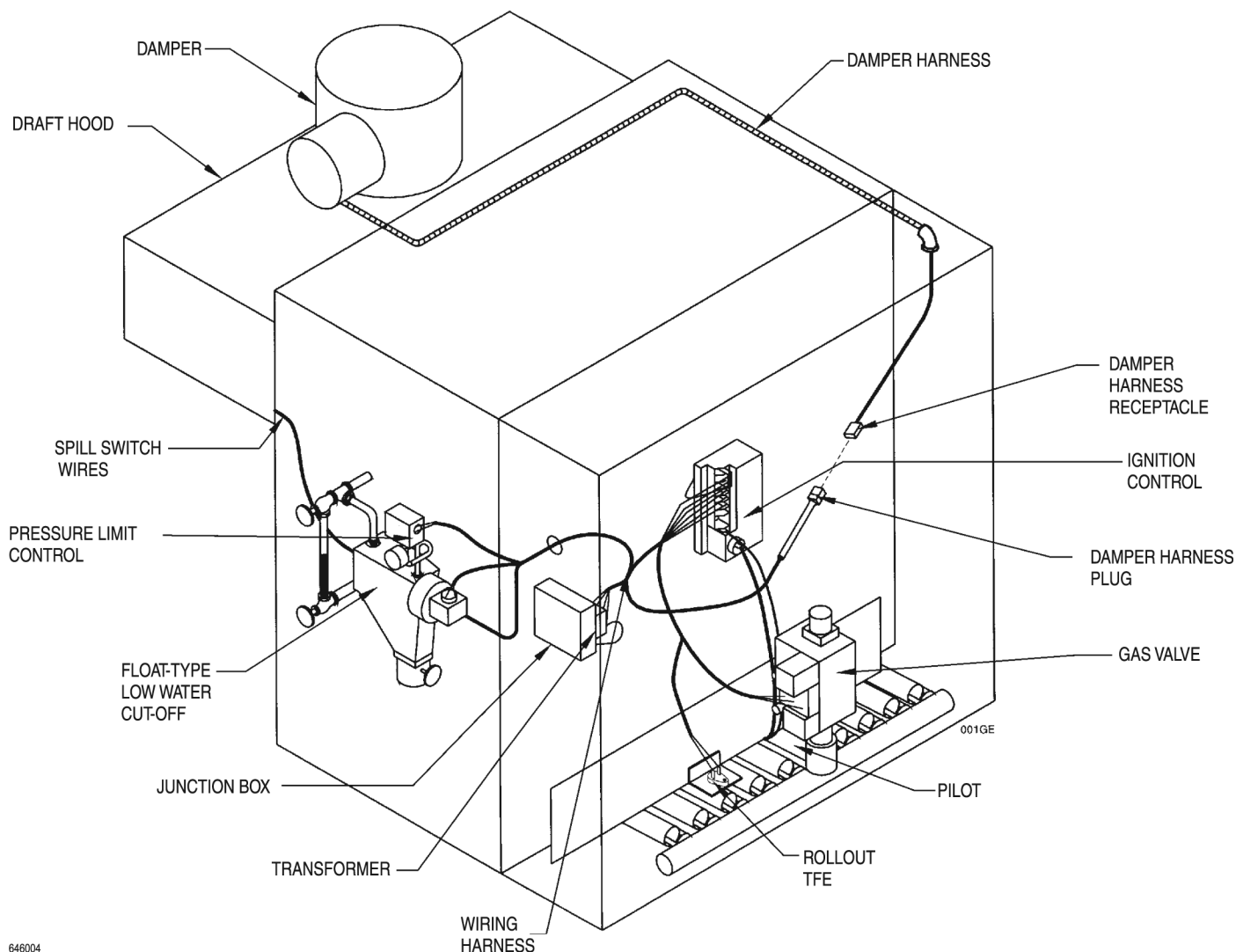
EG steam boilers with float-type low water cut-off

WARNING

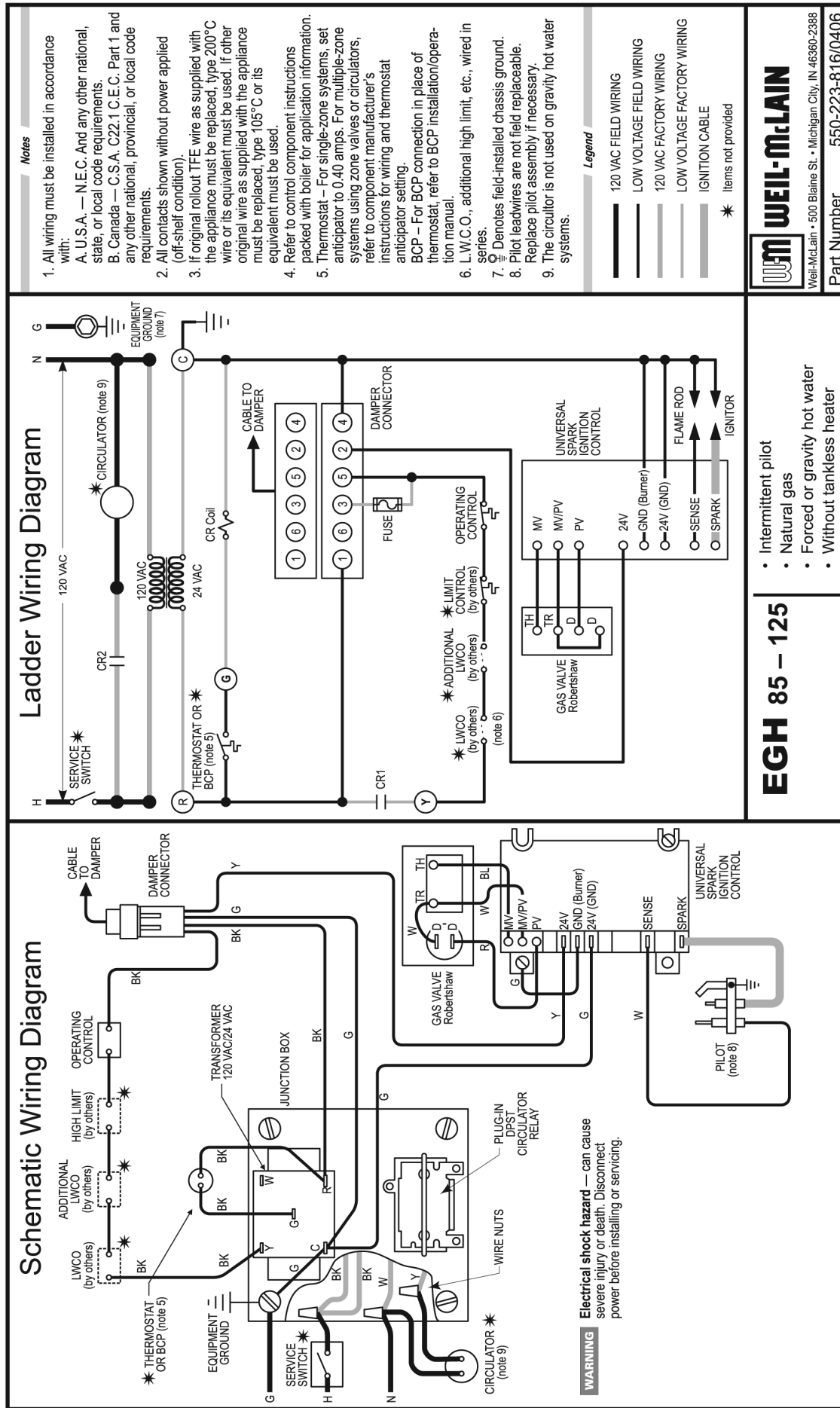
For your safety, turn off electrical power supply and turn off external gas supply valve before attempting to work on the boiler. Failure to comply can cause severe personal injury, death or substantial property damage.

1. Mount and wire controls per wiring diagram, page 10, and Figure 4.
 - a. Attach junction box inside left jacket panel with #8-32 x 1/2" machine screws.
 - b. Install transformer with plug-in relay receptacle and relay.
 - c. Operating and limit circuit wiring must be 18 gauge or heavier.
2. Bring supply wiring to boiler. Must be 14 gauge or heavier.
3. Proceed to page 20.

Figure 4 EG steam boilers with float-type low water cut-off



646004



WARNING Electrical shock hazard — can cause severe injury or death. Disconnect power before installing or servicing.

Control installation continued

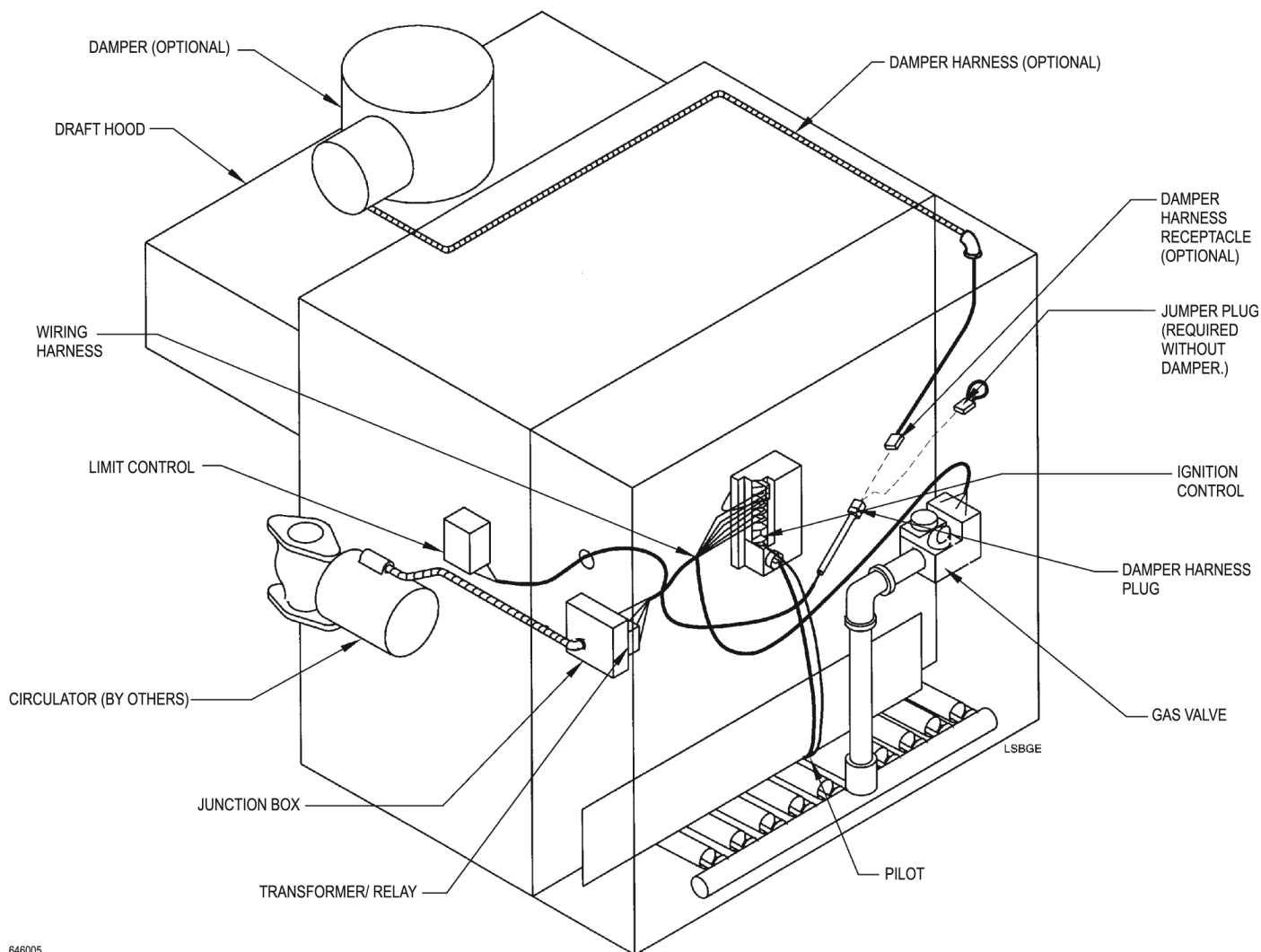
EGH water boilers without tankless heaters

WARNING

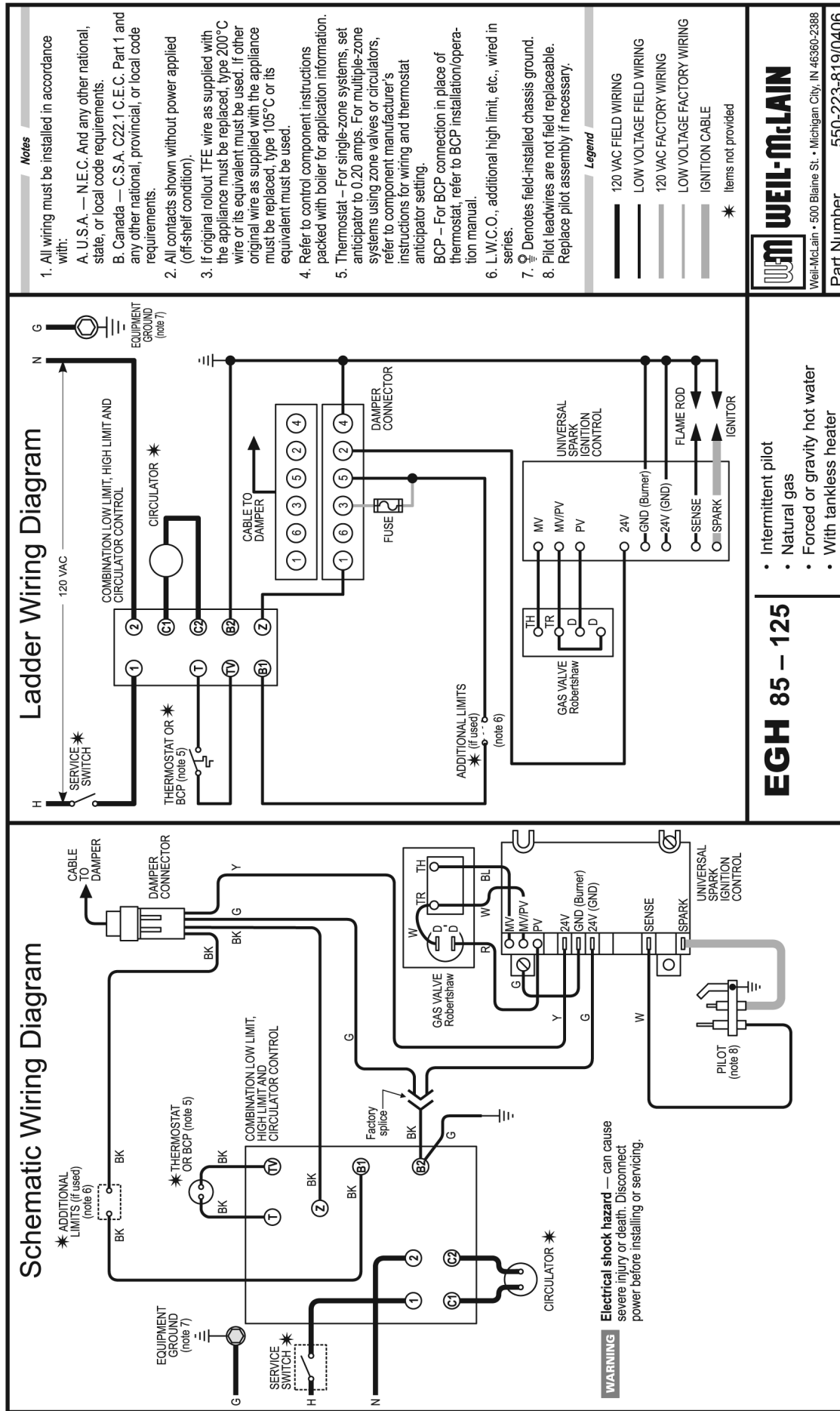
For your safety, turn off electrical power supply and turn off external gas supply valve before attempting to work on the boiler. Failure to comply can cause severe personal injury, death or substantial property damage.

1. Mount and wire controls per wiring diagram, page 12, and Figure 5.
 - a. Attach junction box inside left jacket panel with #8-32 x 1/2" machine screws.
 - b. Install transformer with plug-in relay receptacle and relay.
 - c. Operating and limit circuit wiring must be 18 gauge or heavier.
2. Bring supply wiring to boiler. Must be 14 gauge or heavier.
3. Proceed to page 20.

Figure 5 EGH water boilers without tankless heaters



646005



Control installation continued

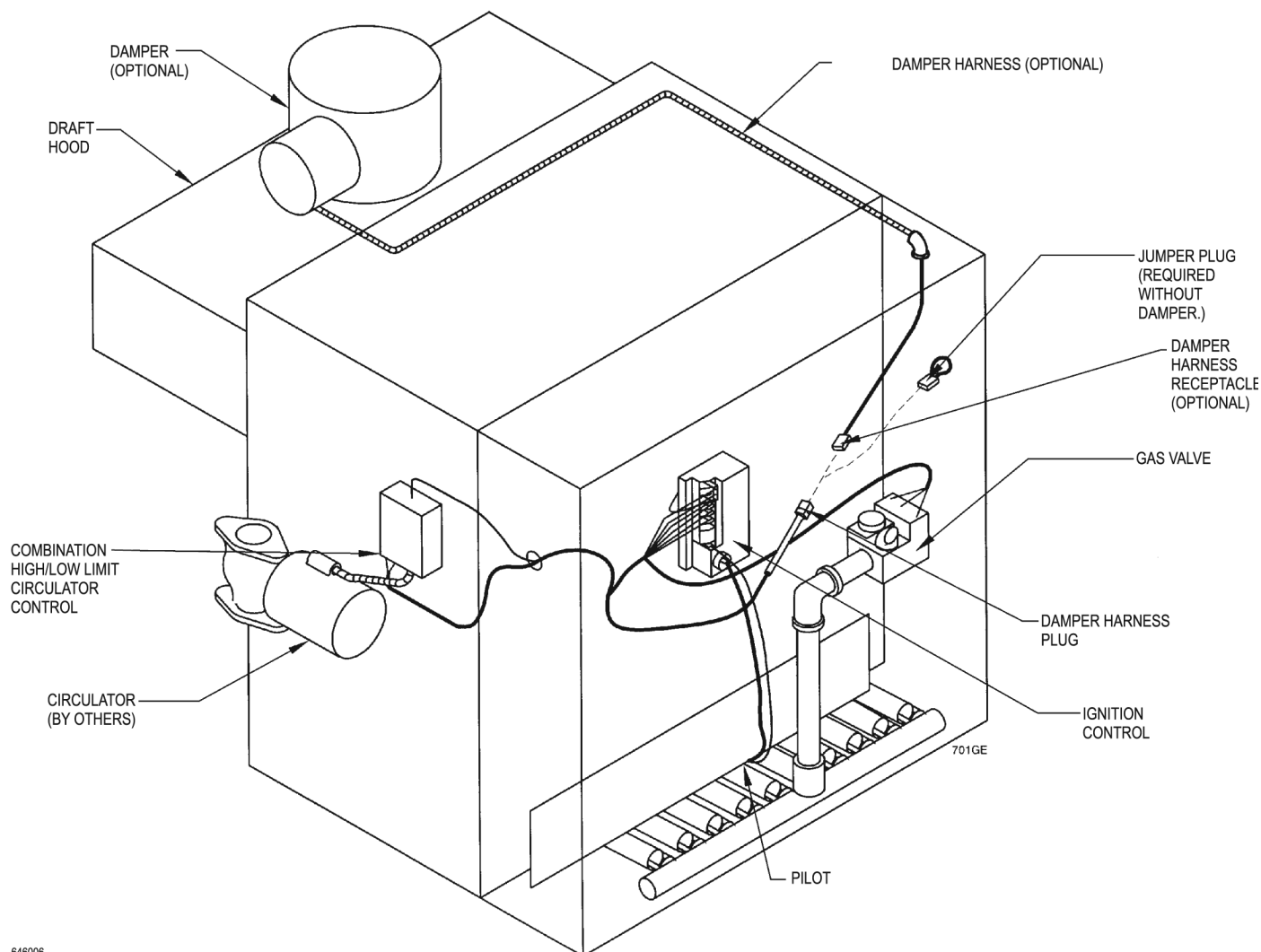
EGH water boilers with tankless heaters

WARNING

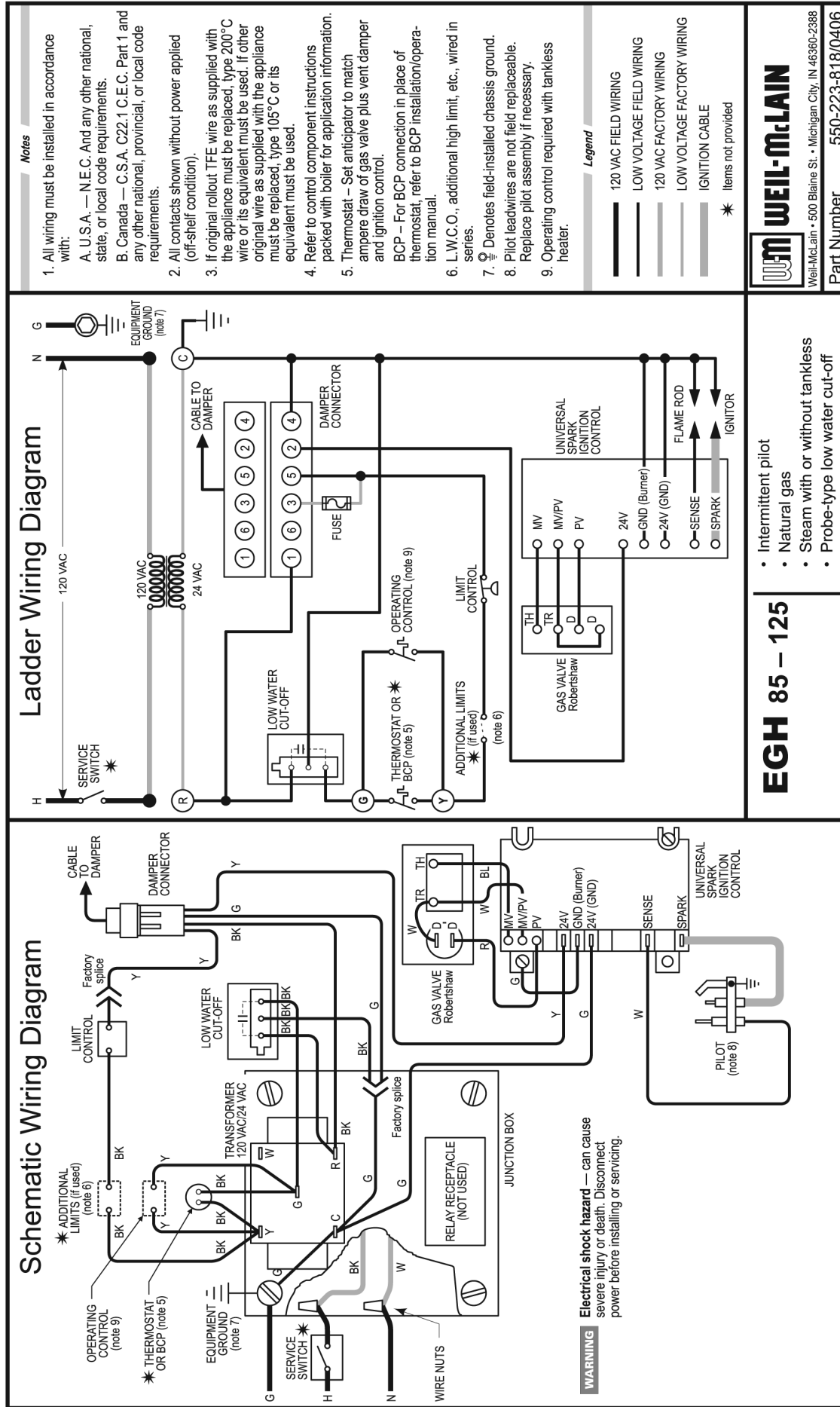
For your safety, turn off electrical power supply and turn off external gas supply valve before attempting to work on the boiler. Failure to comply can cause severe personal injury, death or substantial property damage.

1. Mount and wire controls per wiring diagram, page 14, and Figure 6.
 - a. Install combination limit control and relay in tapping. See Boiler Manual control tapping table. Operating and limit circuit wiring must be 14 gauge or heavier.
2. Bring supply wiring to boiler. Must be 14 gauge or heavier.
3. Proceed to page 20.

Figure 6 EGH water boilers with tankless heaters



646006



Control installation continued

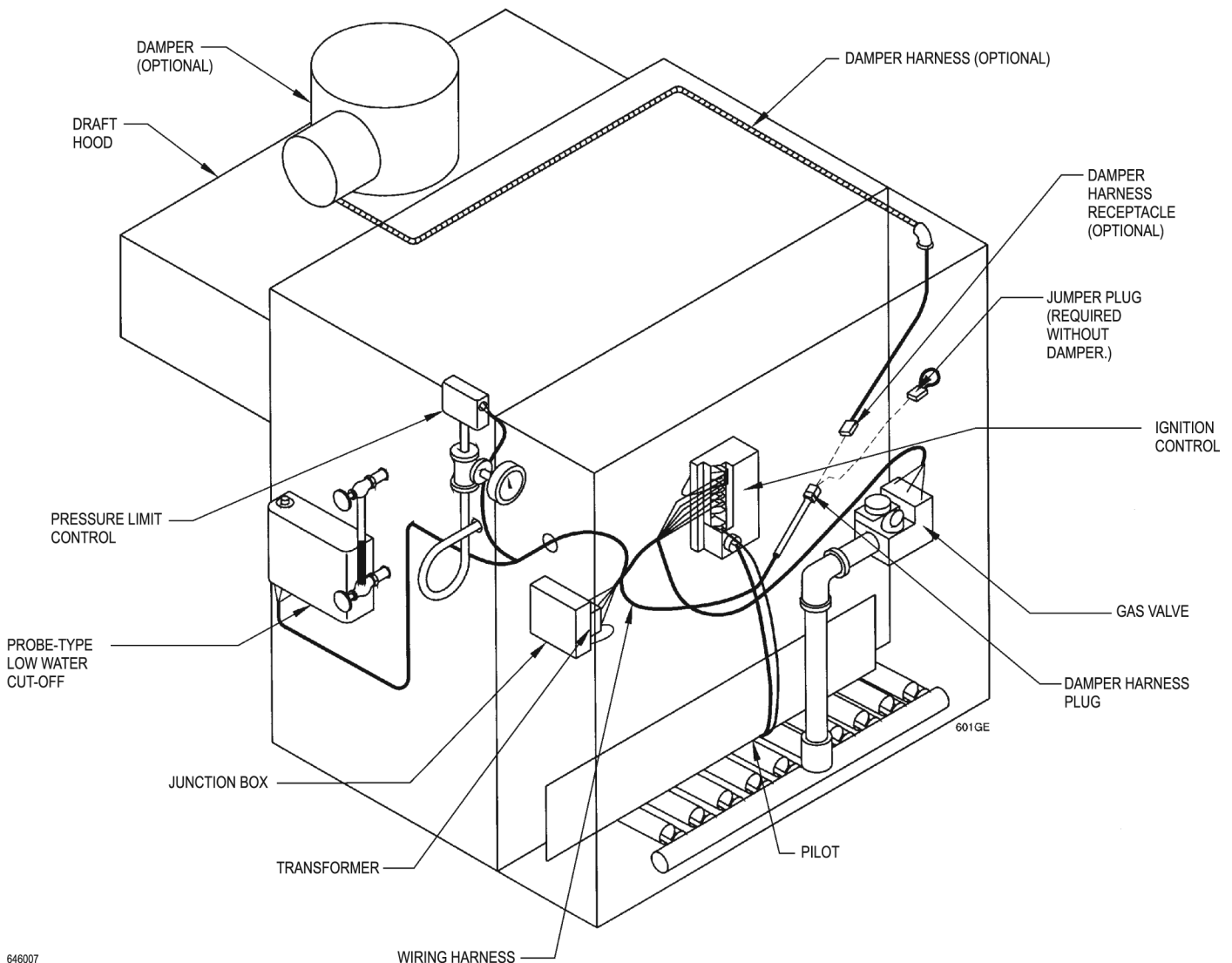
EGH steam boilers with probe-type low water cut-off

WARNING

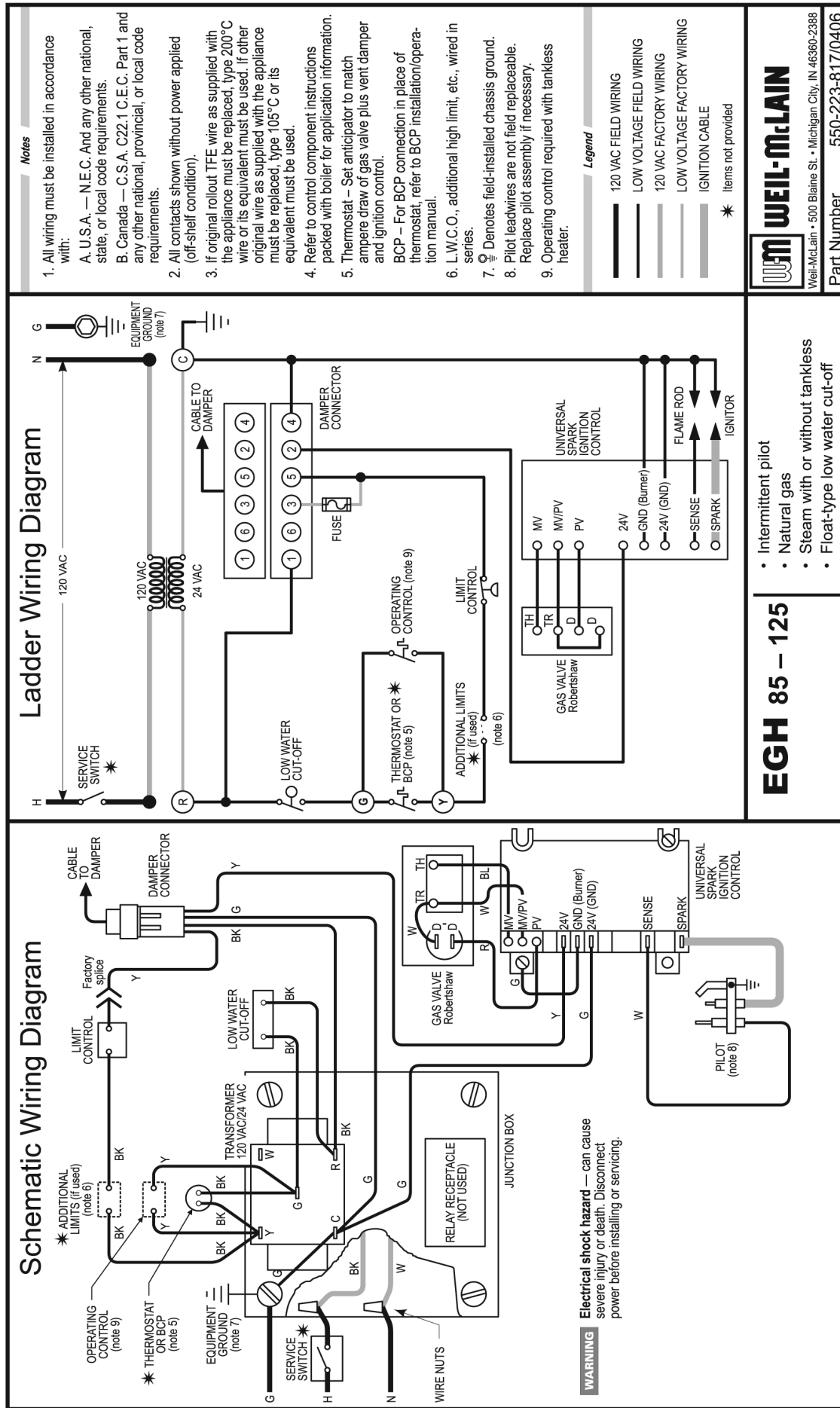
For your safety, turn off electrical power supply and turn off external gas supply valve before attempting to work on the boiler. Failure to comply can cause severe personal injury, death or substantial property damage.

1. Mount and wire controls per wiring diagram, page 16, and Figure 7.
 - a. Attach junction box inside left jacket panel with #8-32 x 1/2" machine screws.
 - b. Install transformer with plug-in relay receptacle and relay.
 - c. Operating and limit circuit wiring must be 18 gauge or heavier.
2. Bring supply wiring to boiler. Must be 14 gauge or heavier.
3. Proceed to page 20.

Figure 7 EGH steam boilers with probe-type low water cut-off



646007



Control installation continued

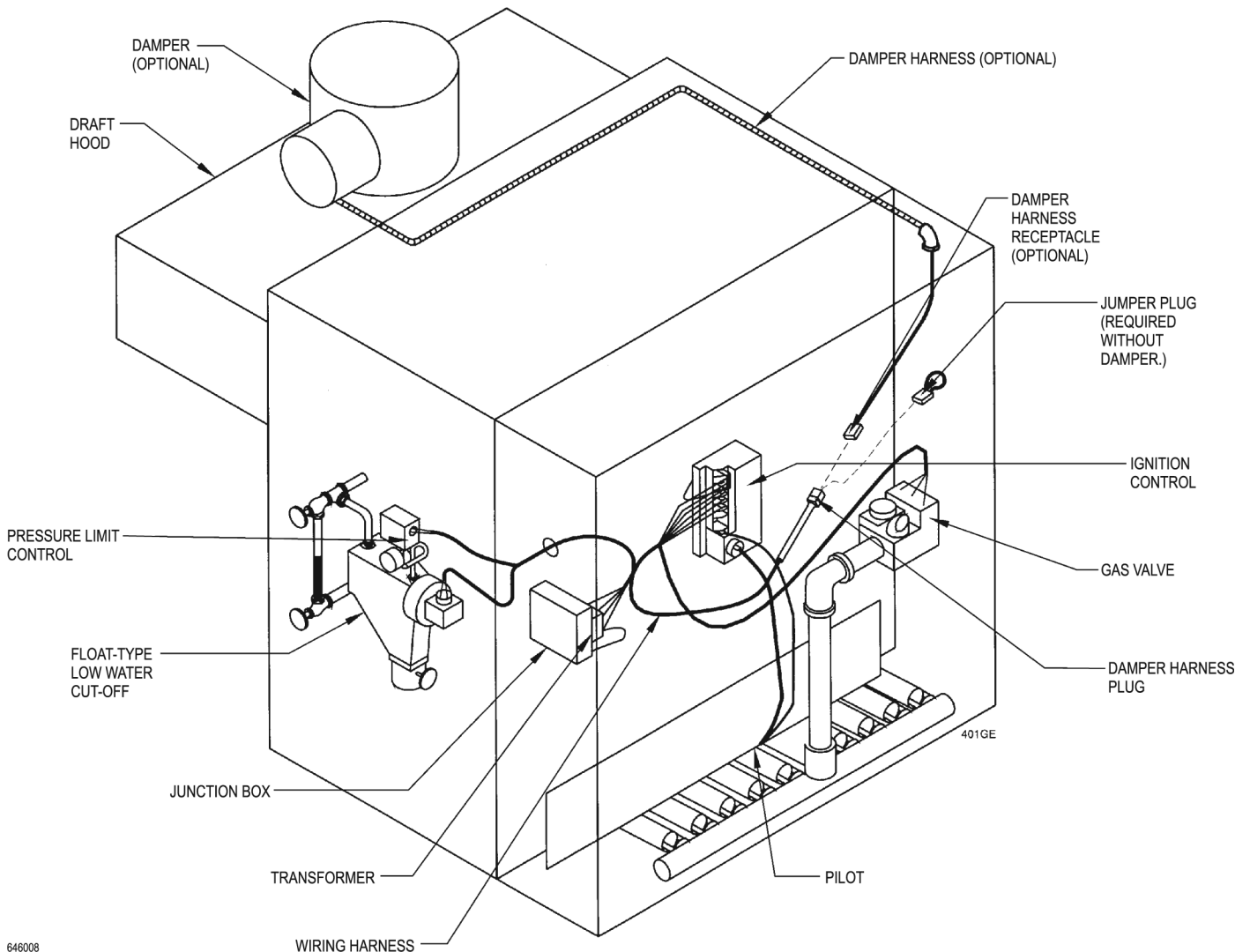
EGH steam boilers with float-type low water cut-off

WARNING

For your safety, turn off electrical power supply and turn off external gas supply valve before attempting to work on the boiler. Failure to comply can cause severe personal injury, death or substantial property damage.

1. Mount and wire controls per wiring diagram, page 18, and Figure 8.
 - a. Attach junction box inside left jacket panel with #8-32 x 1/2" machine screws.
 - b. Install transformer with plug-in relay receptacle and relay.
 - c. Operating and limit circuit wiring must be 18 gauge or heavier.
2. Bring supply wiring to boiler. Must be 14 gauge or heavier.
3. Proceed to page 20.

Figure 8 EGH steam boilers with float-type low water cut-off



646008

Damper installation

NOTICE If not installing a vent damper, proceed to page 21.

NOTICE Once damper is installed, boiler will not operate without a damper installed.

WARNING Only dampers listed in the Replacement parts table on page 32 are approved for use on EG-30 through EG-75 Series 4 and PEG-30 through PEG-65 Series 4 using Universal Control Systems. Any other vent damper installed could cause severe personal injury or death.

The following boiler models must have damper installed:

- EG-30 through EG-65, natural or propane gas.
- PEG-30 through PEG-65, steam, natural gas.

The following boiler models may have damper installed:

- EG-75 and EGH-85 through EGH-125, natural or propane gas.

Minimum clearances to combustibles

Provide a minimum of 6" between the vent damper and any combustible material. (Provide a minimum of 46" between jacket top and combustible ceiling for EG/PEG, or 24" for EGH.) See EG • PEG • EGH Boiler manual for complete clearance requirements.

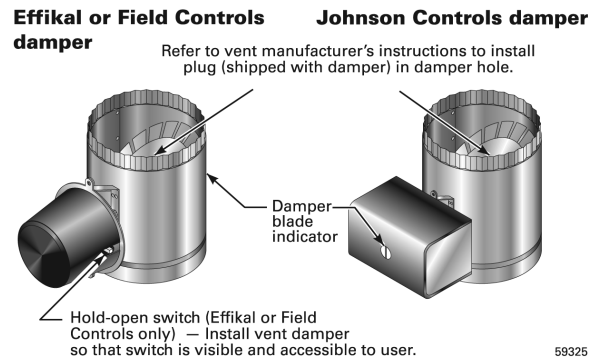
Installation

DANGER Damper must be installed directly on top of draft hood so that it serves only that boiler. Do not modify draft hood or damper, or make another connection between draft hood and damper or boiler except as noted below. This will void CSA certification and will not be covered by Weil-McLain warranty. Any changes will cause severe personal injury, death, or substantial property damage.

1. Install plug (packed in damper carton of 4" through 8" dampers) in hole in damper blade.
2. Install vent damper horizontally or vertically as shown in vent damper manufacturer's instructions. Vent damper must be installed so that it serves only one boiler and so damper blade indicator is visible to the user. See Figure 9.
3. Screws or rivets used to secure the vent damper to the draft hood must not interfere with rotation of the damper blade.
4. Install damper harness between damper actuator and knockout in jacket top panel. Use strain relief connectors and locknuts to secure both ends of the damper harness.

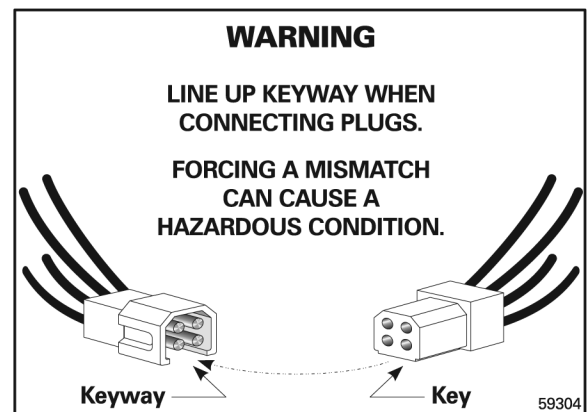
CAUTION Keep wiring harness clear of all hot surfaces.

Figure 9 Vent damper assemblies



59325

Figure 10 Vent damper harness plug warning label



59304

5. Read and apply the harness plug warning label (Figure 10) so that it is visible after installation.
6. Plug damper harness receptacle into damper harness plug.

DANGER Bypassing (jumpering) vent damper will cause flue products such as carbon monoxide to escape into the house. This will cause severe personal injury or death.

CAUTION After boiler has operated once, if either end of the harness is disconnected, the system safety shutdown will occur. The boiler will not operate until harness is reconnected.

NOTICE **Effikal or Field Controls damper** — Damper hold open switch must be in "Automatic Operation" position for system to operate properly.



Checkout procedure

1. See pages 22–26 for “Operating instructions.”
2. Raise room thermostat to call for heat. Damper actuator will slowly open damper.
3. When damper is fully open, main gas valve will open and main burners will ignite.

DANGER Damper must be fully open before main burners light. If damper does not fully open, flue products will escape into house, causing severe personal injury or death.

4. Lower thermostat setting. Main burner flames will go out, then damper will close.
5. Repeat steps 1 through 3 several times to verify operation.
6. Return thermostat to normal setting.

Room thermostat anticipator settings

Water without tankless heater — 0.40 amps

Water with tankless heater — 0.20 amps

Steam — Select based on gas valve and damper. See table below.

Boilers with United Technologies Ignition control (control load of 0.10 amps is included in the values at right)	Gas valve	Without damper (amps)	With Effikal damper (amps)	With Johnson damper (amps)
	Honeywell VR8200	0.60	0.70	0.80
	Honeywell VR8300	0.80	0.90	1.00
	Robertshaw 7200ER	0.50	0.60	0.70
	Robertshaw 7000ERHC	0.80	0.90	1.00
	White-Rodgers 36E	0.40	0.50	0.60
	White-Rodgers 36C	0.70	0.80	0.90

Boilers with Honeywell Ignition control (control load of 0.20 amps is included in the values at right)	Gas valve	Without damper (amps)	With Effikal damper (amps)	With Johnson damper (amps)
	Honeywell VR8200	0.70	0.80	0.90
	Honeywell VR8300	0.90	1.00	1.10
	Robertshaw 7200ER	0.60	0.70	0.80
	Robertshaw 7000ERHC	0.90	1.00	1.10
	White-Rodgers 36E	0.50	0.60	0.70
	White-Rodgers 36C	0.80	0.90	1.00

Operating instructions – **EG and PEG with Honeywell VR8204/VR8304 gas valve**

FOR YOUR SAFETY READ BEFORE OPERATING

WARNING If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

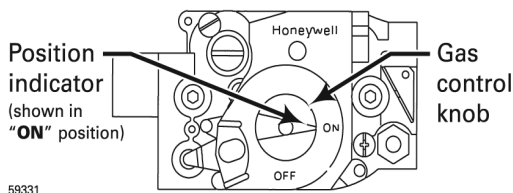
- A. This appliance is equipped with an ignition device which automatically lights the pilot. Do not try to light the pilot by hand.
- B. BEFORE OPERATING, smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor. See below.
- C. Use only your hand to turn the gas control knob. Never use tools. If the knob will not turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.
- D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control, which has been under water.

WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electric switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

OPERATING INSTRUCTIONS

1. STOP! Read the safety information above on this label.
2. Set the thermostat to lowest setting.
3. Turn off all electrical power to the appliance.
4. Remove front panel.
5. This appliance is equipped with an ignition device which automatically lights the pilot. Do not try to light the pilot by hand.
6. Turn gas control knob clockwise ↻ to "OFF."
7. Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, STOP! Follow "B" in the safety information above. If you don't smell gas, go to the next step.
8. Turn gas control knob counterclockwise ↺ to "ON."
9. Turn on all electric power to the appliance.
10. Set thermostat to desired setting.
11. If the appliance will not operate, follow the instructions "To Turn Off Gas To The Appliance" and call your service technician or gas supplier.
12. Replace front panel.



TO TURN OFF GAS TO THE APPLIANCE

1. Set the thermostat to lowest setting.
2. Turn off all electric power to the appliance if service is to be performed.
3. Remove front panel.
4. Turn gas control knob clockwise ↻ to "OFF." Do not force.
5. Replace front panel.

550-223-041(0906)

Operating instructions – EG/PEG-30 through EG/PEG-50 with White-Rodgers 36E gas valve

FOR YOUR SAFETY READ BEFORE OPERATING

WARNING If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

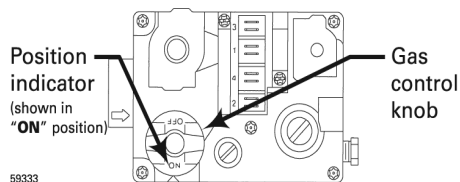
- A. This appliance is equipped with an ignition device which automatically lights the pilot. Do not try to light the pilot by hand.
- B. **BEFORE OPERATING**, smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor. See below.
- C. Use only your hand to turn the gas control knob. Never use tools. If the knob will not turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.
- D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control, which has been under water.

WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electric switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

OPERATING INSTRUCTIONS

1. **STOP!** Read the safety information above on this label.
2. Set the thermostat to lowest setting.
3. Turn off all electrical power to the appliance.
4. Remove front panel.
5. This appliance is equipped with an ignition device which automatically lights the pilot. Do not try to light the pilot by hand.
6. Turn gas control knob clockwise ↻ to "OFF."
7. Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, **STOP!** Follow "B" in the safety information above. If you don't smell gas, go to the next step.
8. Turn gas control knob counterclockwise ↺ to "ON."
9. Turn on all electric power to the appliance.
10. Set thermostat to desired setting.
11. If the appliance will not operate, follow the instructions "To Turn Off Gas To The Appliance" and call your service technician or gas supplier.
12. Replace front panel.



TO TURN OFF GAS TO THE APPLIANCE

1. Set the thermostat to lowest setting.
2. Turn off all electric power to the appliance if service is to be performed.
3. Remove front panel.
4. Turn gas control knob clockwise ↻ to "OFF." Do not force.
5. Replace front panel.

550-223-042(0906)

Operating instructions – **EG/PEG-30 through EG/PEG-50 with Robertshaw 7200 gas valve**

FOR YOUR SAFETY READ BEFORE OPERATING

WARNING If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

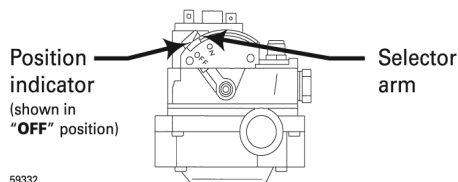
- A. This appliance is equipped with an ignition device which automatically lights the pilot. Do not try to light the pilot by hand.
- B. BEFORE OPERATING, smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor. See below.
- C. Use only your hand to depress or move the selector arm. Never use tools. If the selector arm will not depress or move by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.
- D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control, which has been under water.

WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electric switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

OPERATING INSTRUCTIONS

1. STOP! Read the safety information above on this label.
2. Set the thermostat to lowest setting.
3. Turn off all electrical power to the appliance.
4. Remove front panel.
5. This appliance is equipped with an ignition device which automatically lights the pilot. Do not try to light the pilot by hand.
6. Depress and move selector arm left ↶ to "OFF." Note: Selector arm cannot be moved to "OFF" unless selector arm is depressed slightly. Do not force.
7. Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, STOP! Follow "B" in the safety information above. If you don't smell gas, go to the next step.
8. Move selector arm right ↷ to "ON."
9. Turn on all electric power to the appliance.
10. Set thermostat to desired setting.
11. If the appliance will not operate, follow the instructions "To Turn Off Gas To The Appliance" and call your service technician or gas supplier.
12. Replace front panel.



TO TURN OFF GAS TO THE APPLIANCE

1. Set the thermostat to lowest setting.
2. Turn off all electric power to the appliance if service is to be performed.
3. Remove front panel.
4. Depress and move selector arm to "OFF." Do not force.
5. Replace front panel.

550-223-044(0906)

Operating instructions – **EG/PEG-55, EG/PEG-65, EG-75** with White-Rodgers 36C gas valve

FOR YOUR SAFETY READ BEFORE OPERATING

WARNING If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

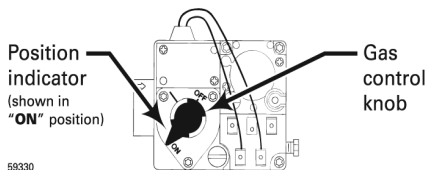
- A. This appliance is equipped with an ignition device which automatically lights the pilot. Do not try to light the pilot by hand.
- B. **BEFORE OPERATING**, smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor. See below.
- C. Use only your hand to depress or turn the gas control knob. Never use tools. If the knob will not depress or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.
- D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control, which has been under water.

WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electric switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

OPERATING INSTRUCTIONS

1. **STOP!** Read the safety information above on this label.
2. Set the thermostat to lowest setting.
3. Turn off all electrical power to the appliance.
4. Remove front panel.
5. This appliance is equipped with an ignition device which automatically lights the pilot. Do not try to light the pilot by hand.
6. Depress gas control knob slightly and turn clockwise ↻ to "OFF." Note: Knob cannot be turned to "OFF" unless knob is depressed slightly. Do not force.
7. Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, **STOP!** Follow "B" in the safety information above. If you don't smell gas, go to the next step.
8. Turn gas control knob counterclockwise ↺ to "ON."
9. Turn on all electric power to the appliance.
10. Set thermostat to desired setting.
11. If the appliance will not operate, follow the instructions "To Turn Off Gas To The Appliance" and call your service technician or gas supplier.
12. Replace front panel.



TO TURN OFF GAS TO THE APPLIANCE

1. Set the thermostat to lowest setting.
2. Turn off all electric power to the appliance if service is to be performed.
3. Remove front panel.
4. Depress gas control knob slightly and turn clockwise ↻ to "OFF." Do not force.
5. Replace front panel.

550-223-043(0906)

Operating instructions – **EGH** with Robertshaw 7000DERHC gas valve

FOR YOUR SAFETY READ BEFORE OPERATING

WARNING If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

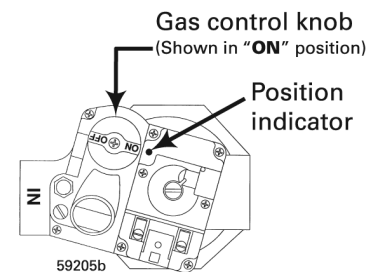
- A. This appliance is equipped with an ignition device which automatically lights the pilot. Do not try to light the pilot by hand.
- B. **BEFORE OPERATING**, smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor. See below.
- C. Use only your hand to depress or turn the gas control knob. Never use tools. If the knob will not depress or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.
- D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control, which has been under water.

WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electric switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

OPERATING INSTRUCTIONS

1. **STOP!** Read the safety information above on this label.
2. Set the thermostat to lowest setting.
3. When equipped with Effikal vent damper Model RVGP, place service switch in "HOLD DAMPER OPEN" position. See Control Supplement for additional information.
4. Turn off all electrical power to the appliance.
5. Remove front panel.
6. This appliance is equipped with an ignition device which automatically lights the pilot. Do not try to light the pilot by hand.
7. When equipped with Johnson Controls vent damper Model M35, manually rotate damper blade in direction of arrow to OPEN position indicated on damper assembly.
8. Turn gas control knob clockwise ↻ to "OFF."
9. When equipped with vent damper, verify damper blade is in full open position.
10. Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, **STOP!** Follow "B" in the safety information above. If you don't smell gas, go to the next step.
11. Turn gas control knob counterclockwise ↶ to "ON."
12. Turn on all electric power to the appliance.
13. When equipped with Effikal vent damper, place service switch in "AUTOMATIC OPERATION" position.
14. Set thermostat to desired setting.
15. If the appliance will not operate, follow the instructions "To Turn Off Gas To The Appliance" and call your service technician or gas supplier.
16. Replace front panel.



TO TURN OFF GAS TO THE APPLIANCE

1. Set the thermostat to lowest setting.
2. Turn off all electric power to the appliance if service is to be performed.
3. Remove front panel.
4. Turn gas control knob clockwise ↻ to "OFF." Do not force.
5. Replace front panel.

550-223-045(1101)

Troubleshooting

DANGER

Burner access panel must be in position during boiler operation to prevent momentary flame rollout on ignition of main flame. Severe personal injury or substantial property damage will result.

WARNING

Never jumper (bypass) any device except for momentary testing as outlined in Troubleshooting Charts. Substantial property damage and/or severe personal injury could occur.

WARNING

Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation.

WARNING

Verify proper operation after servicing. See vent damper manufacturer's instructions packed with vent damper for additional information. Failure to comply could result in severe personal injury, death or substantial property damage.

Before troubleshooting

1. Have a voltmeter that can check 120 VAC, 24 VAC, and a continuity tester.
2. Check for 120 VAC (minimum 102 to maximum 132) to boiler.
3. Make sure thermostat is calling for heat and contacts (including appropriate zone controls) are closed. Check for 24VAC between thermostat wire nuts and ground.

In event of vent damper failure:

Effikal or Field Controls vent damper

If troubleshooting chart recommends replacing actuator and actuator is not immediately available, damper blade can be fixed in an open position to allow boiler operation. **Manually turning blade can cause actuator damage.** Follow these instructions only in case of no heat or damper actuator malfunction.

1. Move damper service switch to **Hold Damper Open** position. Apply call for heat to boiler. Damper blade should then rotate to open position and boiler will fire.
2. If step 1 does not open damper, manually rotate damper blade to open position using wrench or pliers on flat shaft between damper and actuator. Boiler will fire. Verify that damper service switch is in Hold Damper Open position (Figure 11).
3. **Do not leave vent damper permanently in this position.** Replace actuator immediately. If vent damper is left in open position, boiler will not operate at published efficiencies.

Johnson Controls vent damper

If troubleshooting chart recommends replacing actuator and actuator is not immediately available, damper blade can be fixed in an open position to allow boiler operation. Follow these instructions only in case of no heat or damper actuator malfunction. See Figure 11.

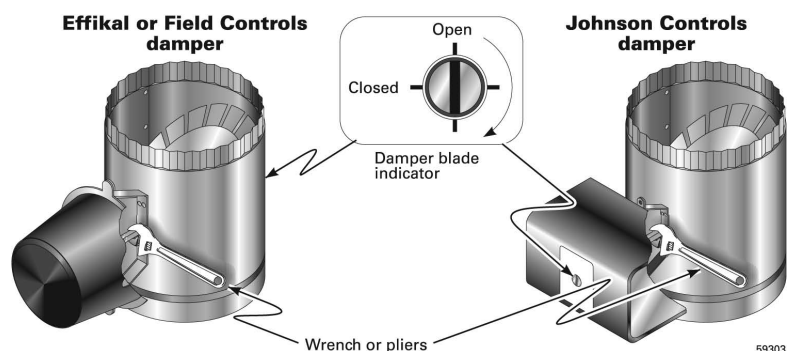
1. Turn off power to boiler.

WARNING

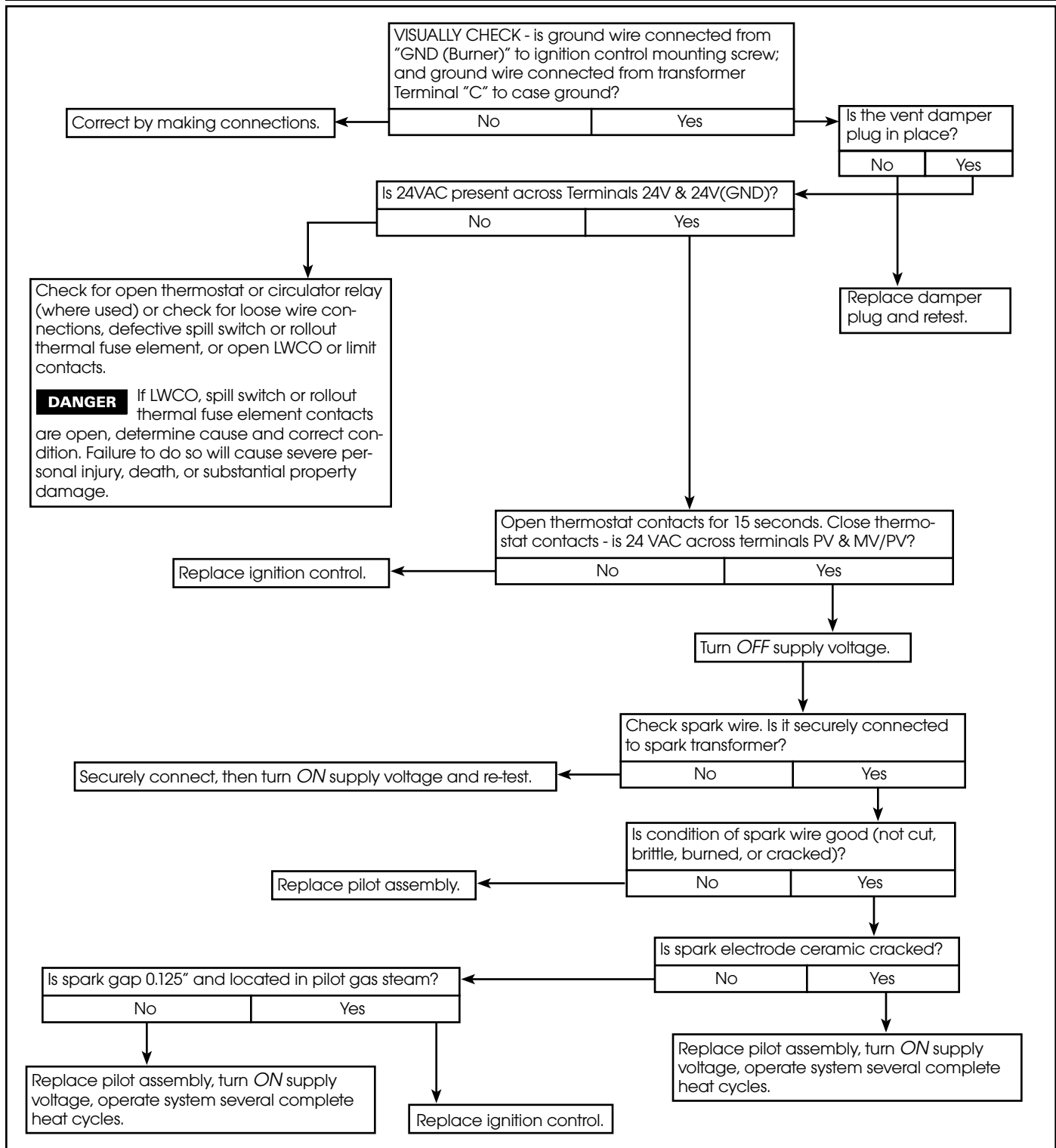
Failure to turn off power to boiler can result in severe personal injury, death or substantial property damage.

2. Refer to vent damper manufacturer's instructions for procedure to fix vent damper in open position.
3. Turn on power to boiler.
4. Using wrench or pliers on flat shaft section, manually rotate damper blade until green light turns on. Boiler will fire (Figure 11).
5. **Do not leave vent damper permanently in this position.** Replace actuator immediately. If vent damper is left in open position, boiler will not operate at published efficiencies.

Figure 11 Manually opening vent damper

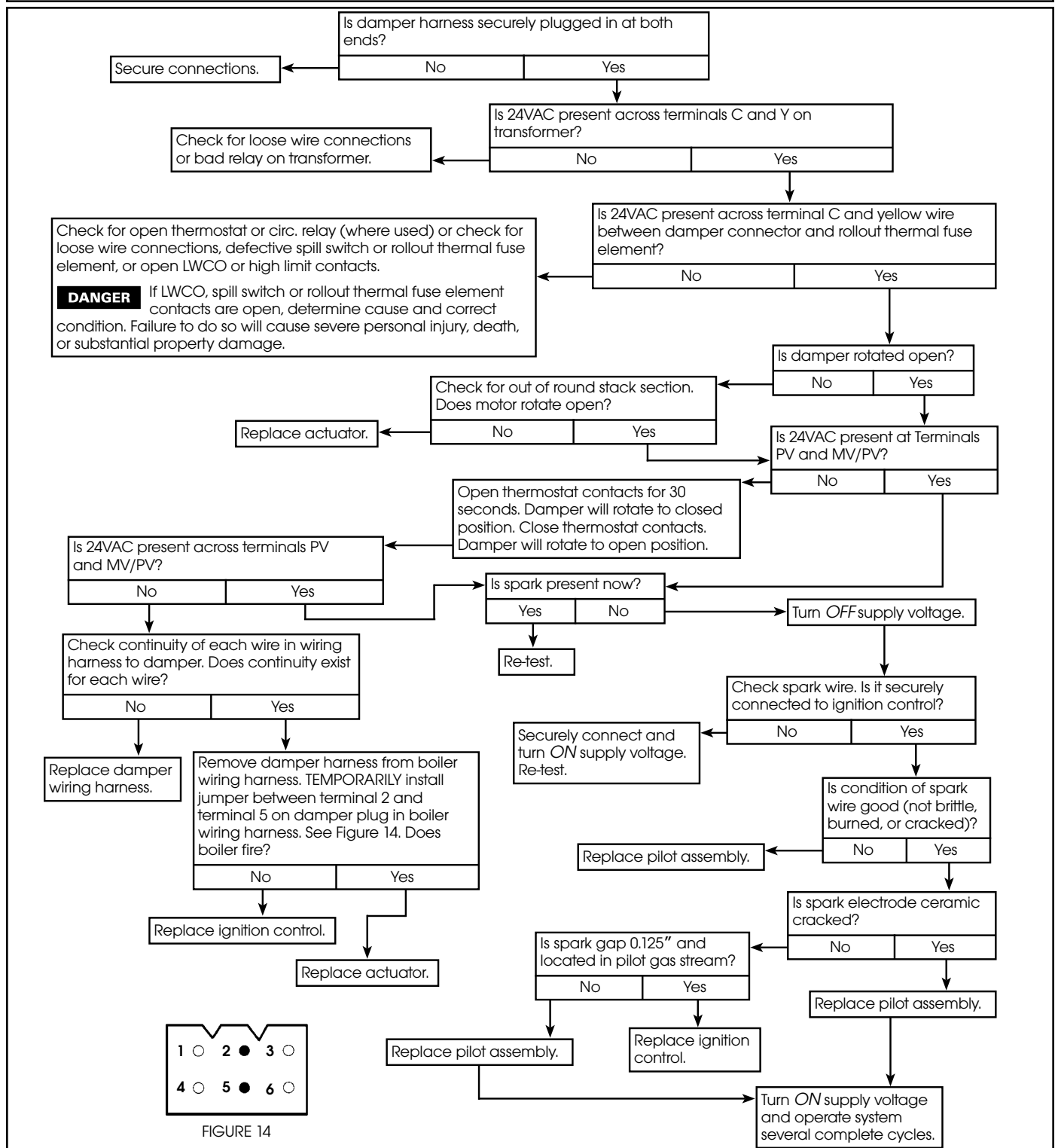


Troubleshooting continued

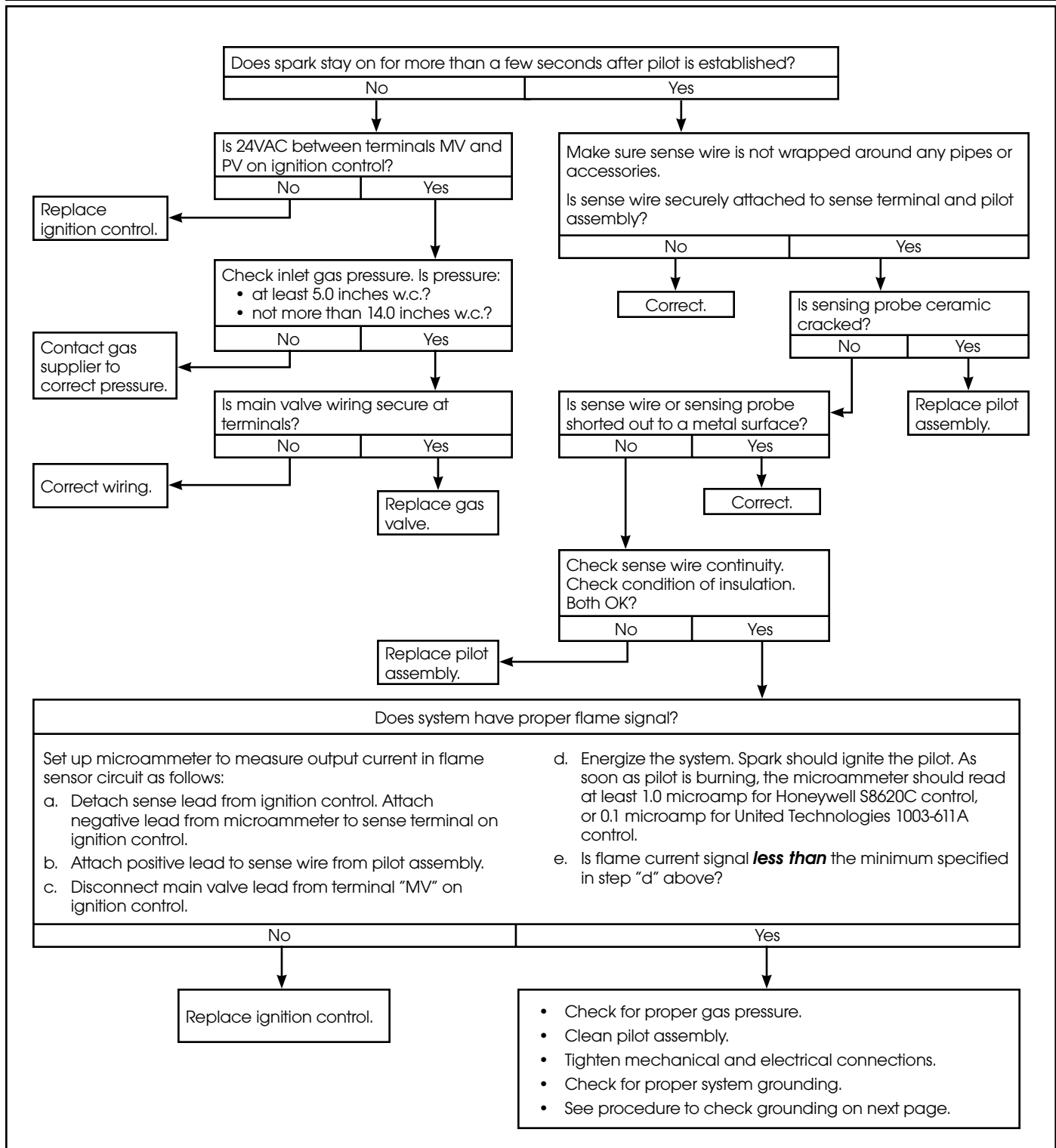
CHART 1: NO SPARK — System does not work — Without vent damper


Troubleshooting continued

CHART 2: NO SPARK — System does not work — With vent damper



Troubleshooting continued

CHART 3: PILOT LIGHTS — Main valve will not come on — With or without vent damper




Troubleshooting continued

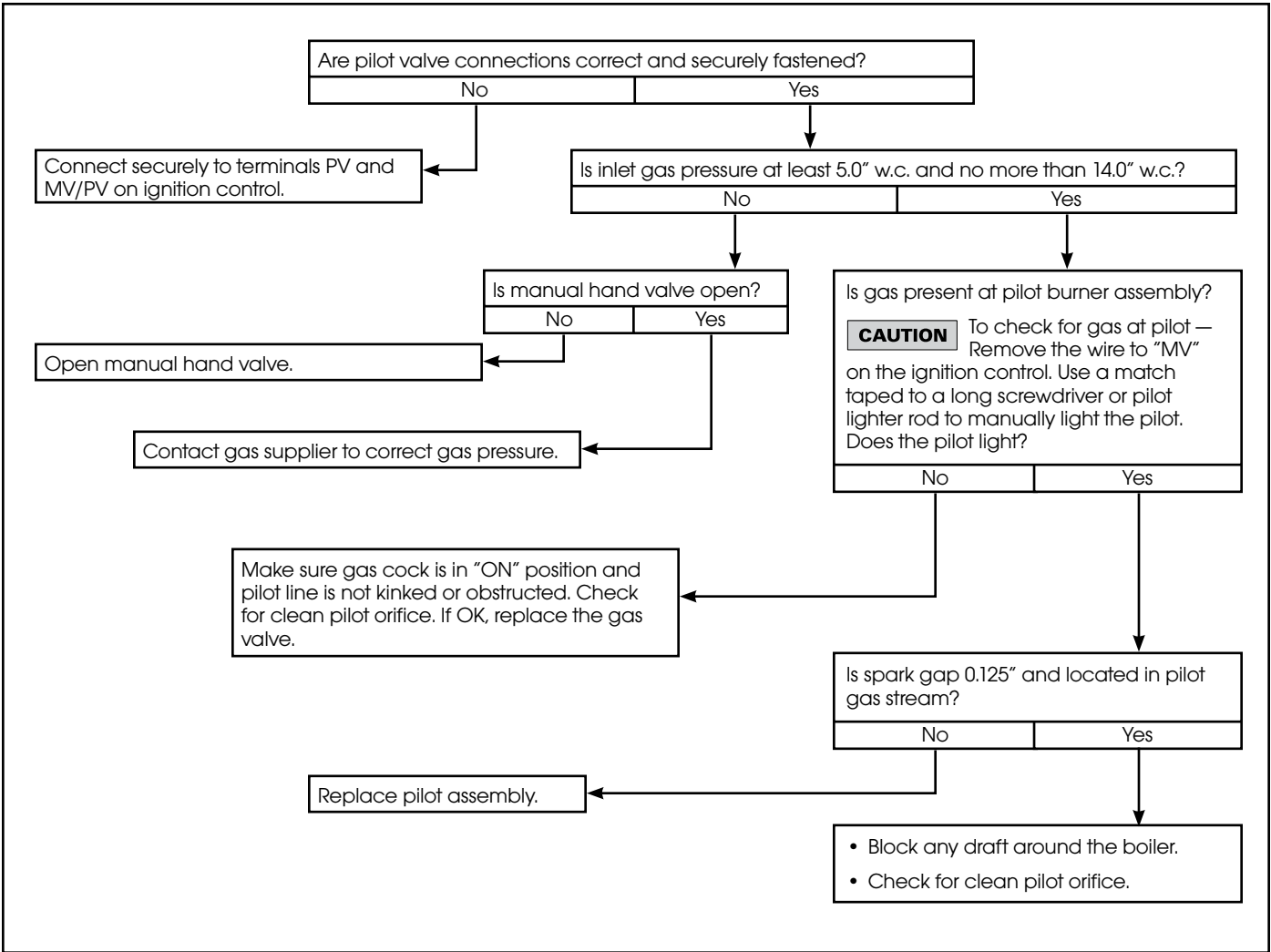
CHART 3 (continued): Procedure to check system grounding

Pilot assembly and ignition control must share common ground with main burner. Nuisance shutdowns are often caused by poor or erratic ground.

- Check for good metal-to-metal contact between pilot burner bracket and main burner, and between main burner and burner rest.

- Check ground lead from "GND (Burner)" terminal on ignition control to ignition control mounting screw, and from "C" on transformer to transformer case ground. Make sure connections are clean and tight. If wire is damaged or deteriorated, replace with No. 18 gauge moisture-resistant, thermoplastic-insulated wire with 105°C minimum rating.

CHART 4: PILOT LIGHTS — Main valve will not come on — With or without vent damper





Replacement parts

WARNING

Only dampers listed below are approved for use on EG, PEG and EGH Series 4 boilers. Any other damper installed can cause severe personal injury or death.

Description		Manufacturer / Mfr's part number	Weil-McLain part number
Damper assembly	5" — EG-30, EG-35, PEG-30, PEG-35	Effikal RVGP-KS-5BKF Johnson Q35GD-2	381-800-475
	6" — EG-40, EG-45, PEG-40, PEG-45	Effikal RVGP-KS-6BKF Field Controls 02722701 Johnson Q35GF-2	381-800-476
	7" — EG-50, EG-55, PEG-50, PEG-55	Effikal RVGP-KS-7BKF Field Controls 02723101 Johnson Q35GH-2	381-800-477
	8" — EG-65, EG-75, PEG-65	Effikal RVGP-KS-8BKF Johnson Q35GK-2	381-800-478
	9" — EGH-85	Effikal RVGP-KS-9BKF Johnson Q35GM-2	381-800-445
	10" — EGH-95, EGH-105	Effikal RVGP-KS-10BKF Johnson Q35GP-2	381-800-446
	12" — EGH-115, EGH-125	Effikal RVGP-KS-10BKF Johnson Q35GR-2	381-800-447
Damper actuator		Effikal RVGP Johnson M35BE-1C	510-512-337 510-312-255
Damper harness		Weil-McLain	591-391-795
UCS Ignition control		Honeywell S8620C1003 United Technologies 1003-611A	511-330-097
Boiler wiring harness (in envelope assembly)	EG-30 through -75 water	Weil-McLain	540-130-959
	EG-35 through -75 water with tankless heater		540-130-960
	EG-30 through -75 steam, float LWCO		540-130-961
	EG-30 through -75, PEG-30 through -65 steam, probe LWCO		540-130-962
	EGH water without tankless heater		540-130-966
	EGH water with tankless heater		540-130-969
	EGH steam, float LWCO		540-130-967
Pilot burner assembly	EGH steam, probe LWCO		540-130-968
		Precision Speed Equipment PSE-NA16	511-330-218
Gas valve, natural gas	½" x ½", sizes 30 through 50	Honeywell VR8204A2001 White-Rodgers 36E36-266 Robertshaw 7200IPER	511-044-381
	¾" x ¾", sizes 55 through 75	Honeywell VR8304P4348 White-Rodgers 36C74-474	511-044-382
	¾" x 1", sizes 85 through 95	Robertshaw 7000DERHC-S7C	511-044-286
	1" x 1", sizes 105 through 125	Robertshaw 7000DERHC-S7C	511-044-287



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