

Installation Manual for Buderus G115 Direct Vent Oil Boilers



Save These Instructions!

- The heating boiler must be installed in accordance with local and state codes by a qualified installer.
- Burner start-up must be performed by a qualified service person.
- Explain the operation of the heating unit to the home owner.
- Keep manual in a dry place near the boiler.

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Notice: This version Nr. BHSG115DV-7 4/04 supersedes all previous manuals. Buderus Hydronic Systems Inc. reserves the right to make changes without notice due to continuing engineering and technological improvements.

1 Location of Wall Terminals

The location of the wall terminations is one of the most important aspects of a direct-vent installation. Both the intake and exhaust terminations **must** be located on the same outside wall in order to balance wind pressure effects against the flow of exhaust gases. In addition, the wall terminations shall not be installed on that side of the building exposed to the prevailing wind direction or in alcoves and exterior building recesses where swirling wind conditions may occur.

IMPORTANT: Consult with local authorities to insure compliance with local building, plumbing and electrical codes.

Guidelines For The Location Of The Exhaust Termination.

See Figure 2 for details.

1. The exhaust terminal must be located such that the products of combustion will be freely dispersed outside without reentering the building. The exhaust gases shall not interfere with people, overheat combustible materials, or enter adjacent buildings.
2. Exhaust terminal shall be at least 2 ft from an adjacent building.
3. The exhaust terminal shall be at least 7 ft above grade when above public walkways.
4. The exhaust terminal shall not be located underneath a porch or crawl space.
5. The exhaust terminal shall not be located less than 3 ft from an L-shaped inside building corner and no less than 3 feet away from an outside corner.
6. The exhaust terminal shall be located at least 3 ft above any forced air inlet within 10 ft horizontally.
7. The exhaust terminal shall not be less than 4 ft below, 1 ft above, or 4 ft horizontally from any door, window or gravity air inlet into the building.
8. The exhaust terminal shall be at least 1 ft above grade and placed in such a location where the exhaust terminal is not susceptible to blockage from debris, leaves or falling snow or ice from roofs. A 1/2" wire-mesh screen at the exhaust terminal must be maintained in good working order.
9. The exhaust terminal shall terminate more than 3 ft from any other building opening, oil tank vent or oil tank fill inlet. (6 ft from any gas service regulator vent outlet).

Guidelines for the location of the intake air terminal:

1. The air intake must be placed on the same side of the building as the exhaust to balance wind pressure effects.
2. The intake terminal must be at least 1 ft above maximum local snow level. An outside air intake riser is permitted provided a downturned intake terminal is used (Fig. 1).
3. The intake and exhaust terminals must be at least 4 ft apart when using the Aerocowl exhaust termination. This minimum distance can be reduced to 2 ft when the intake terminal is at least 1 ft below the exhaust terminal.
4. The intake terminal shall be equipped and maintained with a 1/2" wire mesh screen in good working order to prevent accidental blockage from entry of foreign objects.

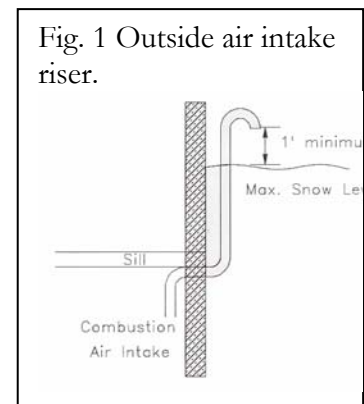


Figure 2

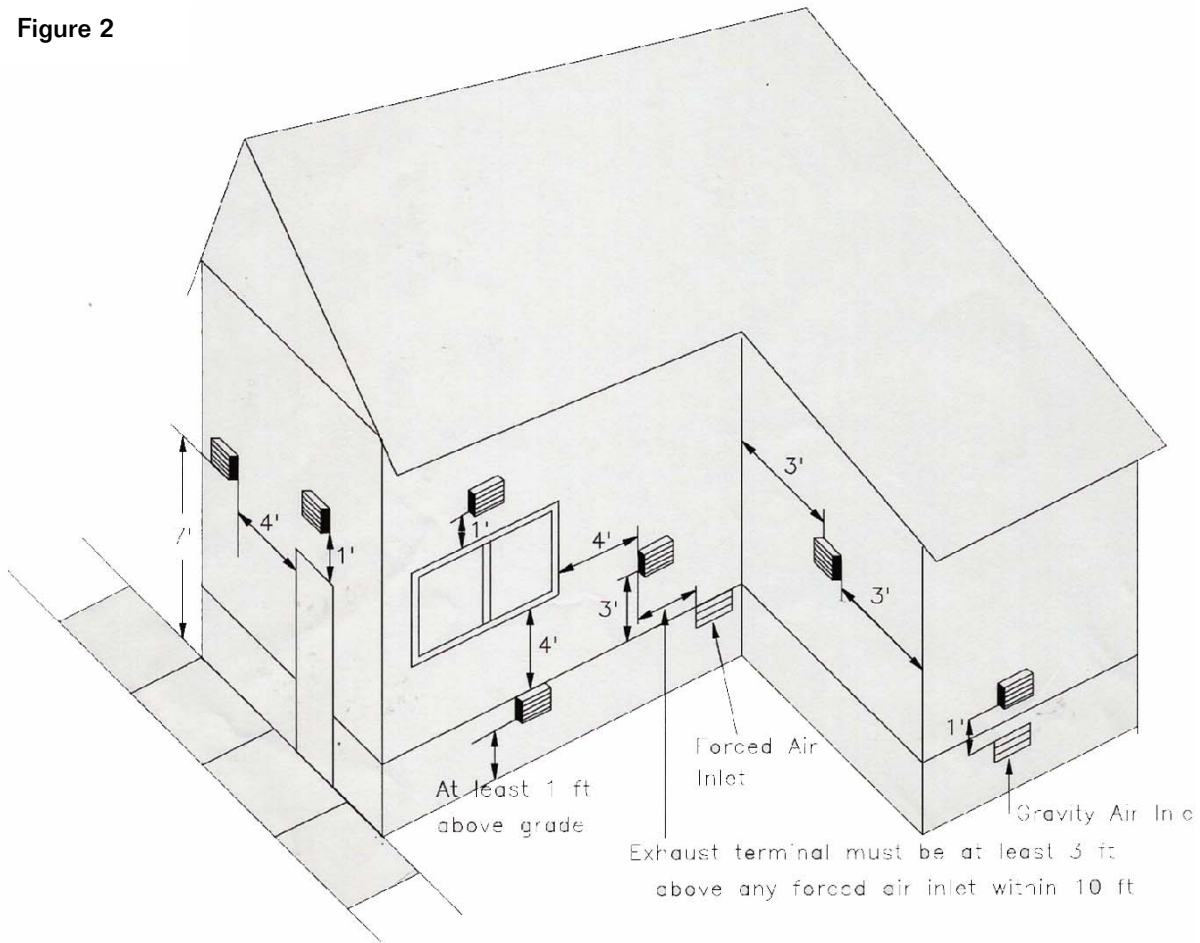


Figure 2: Permissible exhaust termination locations.

The venting system is **only for a single appliance**. Venting of an additional appliance could cause serious injury or loss of life. The venting system shall not be routed into, through, or within any other vent, such as an existing masonry or factory-built chimney. Screens on intake and exhaust terminals must be kept in good working order to prevent debris from entering the venting system.

Sealing of the Vent Piping:

The discharge side of the sealed combustion venting system operates under a slight positive pressure. It is **of vital importance** to seal all flue joints and screw penetrations to prevent leakage of flue gases into the building. Pipe joints and other possible flue gas leakpaths should be sealed with high temperature silicone (500 °F rated silicone, G.E. 106 or equivalent), or high temperature tape (360 °F rated aluminum foil tape, VentureTape 3520CW or equivalent) as necessary.

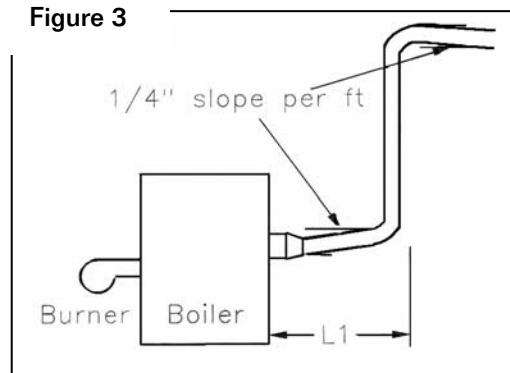
The venting system shall not be pierced **under any circumstance after initial installation**.

Combustion measurements shall be performed at the exhaust termination and/or overfire. The breeching can be pierced for testing as long as the hole is sealed airtight with a bolt, washers and high temperature silicone.

2 Installation Procedures for Venting System

General Guidelines:

1. The oil-fired boiler installation must be performed by a qualified installer in accordance with the regulations put forth in NFPA-31 Installation of Oil-Burning Equipment. The installation must comply with all local codes and authorities having jurisdiction. The installer must have the proper licensing and be experienced with all local codes and regulations.
2. Select boiler location and wall termination positions based on required boiler clearances. (See Table 1), the guidelines of pages 3 and 4, compliance with local codes and on using minimum lengths of vent pipe.
3. Select the point of wall penetration for the exhaust termination based on maintaining a minimum slope of $\frac{1}{4}$ " per foot down towards the termination on the last horizontal pipe section. The wall termination assembly must also slope $\frac{1}{4}$ " per foot down towards the outside. This allows possible condensate to drain from the venting system.
4. Slope all other horizontal pipe runs $\frac{1}{4}$ " per foot down towards the boiler vent connection. (Fig. 3).
5. Avoid any dips in the venting when using the flexible insulated stainless steel oil vent. **Never** install a barometric damper into the exhaust piping.



Minimum wall clearance (L1) needed for:

- flex. Stainless Steel oil vent: 24"
- 4" galvanized pipe: 16"

The Buderus G115 Direct Vent boiler system has been approved for use with two different intake/exhaust options. Follow the guidelines on pages 3 and 4 regarding termination placement.

Option 1: *Separate air intake hood and Aerocowl exhaust termination.* (Part No. AT-4).

This system consists of a 4" air intake hood, a 5" x 4" reducer and a 26 $\frac{1}{2}$ " long, insulated Aerocowl exhaust termination. This termination has a zero clearance rating to combustibles.

Option 2: *Combination air intake/exhaust termination.* (Part No. FT-4).

This system consists of a 5" x 4" reducer and a zero clearance concentric combination intake/exhaust termination with a 4" provision for fresh air intake piping.

Both exhaust terminations are approved for use with two different exhaust vent pipe options. Always use 4" galvanized or 4" flexible metal pipe for fresh air intake for both venting systems.

Pipe Option 1: Flexible, insulated 4" stainless steel oil vent. Maximum length of 10 ft. Oil vent adaptors are supplied. The insulated oil vent is rated for 1" clearance to combustibles. Wrap the adaptors with 3" of ceramic wool covered with foil tape or sheet metal to maintain 1" clearance.

Pipe Option 2: Standard, 26 gauge galvanized vent pipe. Maximum straight length is 6 ft with up to 2 90° elbows. Maintain 18" clearance to combustibles with galvanized vent pipe.

Installation Procedures: Exhaust Terminations and Exhaust Vent Piping.

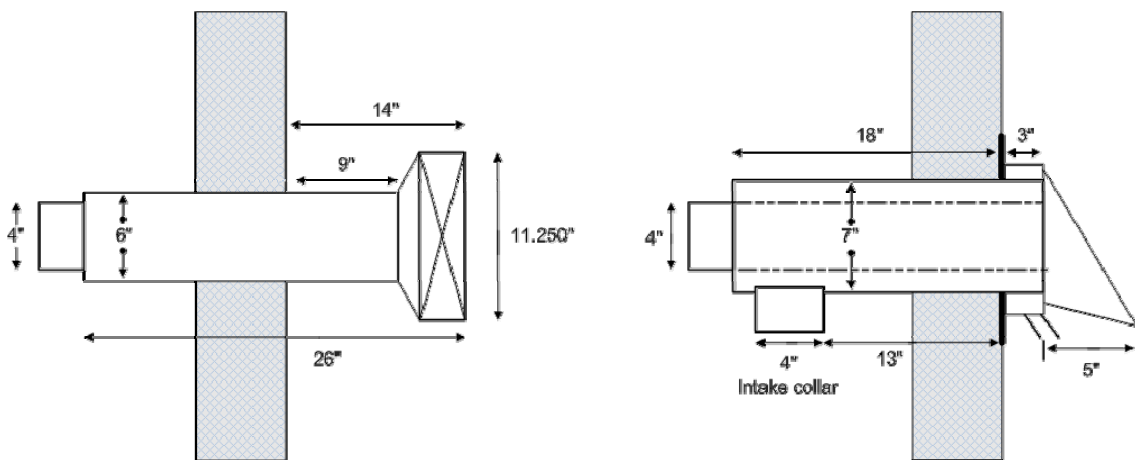
NOTE: Use only the approved materials listed on the previous page for direct venting of oil-fired Buderus G115 boilers. Use of any other materials, or systems not installed in accordance with the instructions contained in this manual will void the ITS listing.

NOTE: Use strictly high temperature rated silicone (500 °F rated silicone, G.E. 106 or equivalent) and/or high temperature tape (360° F rated aluminum foil tape) for sealing at all exhaust pipe joints. Check all seams and joints of the exhaust venting for gas tightness.

NOTE: Maintain clearances to combustibles as indicated in Table 1.

Table 1: Boiler and exhaust vent pipe clearances to combustibles

Front	Side	Rear	Top	Galv. Pipe	Insul. Oil Vent
24"	6"	6"	6"	18"	1"



Option 1: Aerocowl termination.

Option 2: Concentric termination.

Figure 4: Exhaust termination options.

Option 1: Installation of the Aerocowl termination.

1. Cut a 6" round opening in the outside wall at the selected location. Apply silicone to the backside of the outer face plate and secure it to the outside wall.
2. Insert the Aerocowl termination from the outside up to the outer wall stop. Ensure proper slope.
3. Slide inner plate on the termination up to the inside wall, tighten the gear clamp and secure the inner plate to the wall.

Option 2: Installation of the concentric termination.

1. Cut a square 7" opening in the outside wall at the selected location. Remove the 4" air intake collar from the termination assembly.
2. Apply silicone to the back side of the wall face plate. Insert the concentric termination from the outside. Ensure proper slope. Secure the face plate to the outside wall. Reinstall the 4" collar.

Installation of Insulated Flexible Oil Vent.

1. Apply a 1/4" wide bead of high temperature silicone all around the boiler vent connection 1" from the end. Install 5" to 4" reducer on boiler vent connection. Secure properly with a clamp.
2. Carefully measure the required length of vent pipe and cut with a hacksaw. Allow for the two end adapters in your measurement.
3. Apply a small bead of silicone to the outside of the oil vent ends. Twist end adapters to each end of the oil vent. Turn adapters counter clockwise. Engage the outer cover of the adaptor evenly over the exterior of the vent pipe. Turn the adaptor until the vent pipe interior seats evenly against the expanded teflon gasket of the end connector. Secure adaptors to the vent pipe with the provided clamps.
4. Apply a 1/4" wide bead of high temperature silicone all around at the 5" x 4" boiler reducer and wall termination connection. Slide adaptors on reducer and wall termination pipe all the way. Tighten with clamps.
5. Support the flexible vent pipe at regular intervals with brackets or hangers. Maintain a 1/4" rise per foot on horizontal runs. Avoid any sag in the vent. Do not bend pipe excessively.

NOTE: Wrap 3" ceramic insulation around adaptor near termination and secure with sheet metal or foil tape and hose clamps to maintain 1" clearance.

Installation of Galvanized Vent Pipe.

1. Apply a 1/4" wide bead of high temperature silicone all around the boiler vent connection 1" from the end. Install 5" to 4" reducer on boiler vent connection. Secure properly with a clamp.
2. Install 4" galvanized vent pipe (**maximum of 6 ft**) and 90° elbows (**maximum of 2**) as needed. Apply high temperature silicone at all pipe joints and screw heads. Make sure all joints are sealed hermetically.

IMPORTANT NOTICES:

Once the entire venting system is installed, make sure all joints are secure. **All seams and joints of the exhaust venting must be checked for gas tightness.** High temperature tape or high temperature silicone sealant can be used to ensure an air-tight venting system. It is required to have the entire system checked and serviced by a qualified technician at least once annually following initial installation.

Installation Procedure for Air Intake Terminal and Inlet Air Pipe

1. Cut properly sized opening in the outside wall and install the 4" air intake hood. (Applies only when the Aerocowl termination is used). Caulk as needed.
2. Install a 4" air supply pipe from the intake terminal to the air intake boot on the burner. Galvanized pipe (4") or flexible 4" metal piping can be used. Use minimum number of elbows and keep the total pipe length to a minimum. Properly support pipe sections every 4 feet with a hanger or bracket. The installation must comply with all local codes and authorities having jurisdiction.

Note: In climates where the outside air temperature drops below -20 °F, it is recommended to have a minimum of 6 to 8 ft of 4" diameter metal pipe in conditioned (warm) space to prevent cold combustion air from causing fuel gelling problems. A vacuum relief breaker on the air intake side can also be used to draw in some conditioned combustion air.

3. Total inlet pipe length is not to exceed total equivalent length of 15 ft. In case an outside intake riser (Fig. 1) is used, add in this intake length to the total inlet pipe length. (Allow 1 ft for each 90° elbow).
4. Use the provided 4" to 3" reducer to connect duct to burner intake (Riello burner only). Secure with silicone to burner intake. Use wrap-around clamps at both the burner and the inlet termination to provide an easy means of disconnecting the combustion air intake from the burner for service and inspection purposes.

IMPORTANT NOTICES:

ADVISE OWNER to keep intake and exhaust terminations free of debris and snow.

Warning: Buderus Hydronic Systems, Inc. will not assume any responsibility for the possible effects of an obstructed air intake or exhaust termination.

NOTE: MAKE SURE THE BURNER OBSERVATION PORT LOCATED ON THE BURNER DOOR IS SEALED AIR-TIGHT BY PROPERLY TIGHTENING THE PORT SCREW. USE EXTRA SILICONE SEALANT IF NECESSARY. TIGHTEN BURNER DOOR BOLTS EVENLY AND ENSURE AN AIR-TIGHT SEAL.

NOTE: SURFACE DISCOLORATION ON THE OUTSIDE OF THE BUILDING MAY OCCUR IF THE BURNER IS NOT PROPERLY ADJUSTED. BUDERUS HYDRONIC SYSTEMS, INC. WILL NOT ACCEPT ANY RESPONSIBILITY FOR SUCH DISCOLORATION.

NOTE: Buderus Hydronic Systems, Inc. strongly recommends the use of a low micron oil filter such as the Garber oil filter, placed in the fuel line near the burner. This filter is in addition to a regular oil filter placed at the outlet of the oil tank.

3 Operational Procedure

Boiler Piping.

Install the boiler piping according to the Installation manual furnished with the boiler. The pressure relief and tridicator should be installed on the provided tapings on the furnished supply manifold. The pressure relief should be piped to a suitable discharge. Boiler piping and related connections should conform to accepted industry standards using approved joint sealants and conform with local and State codes.

Burner Controls

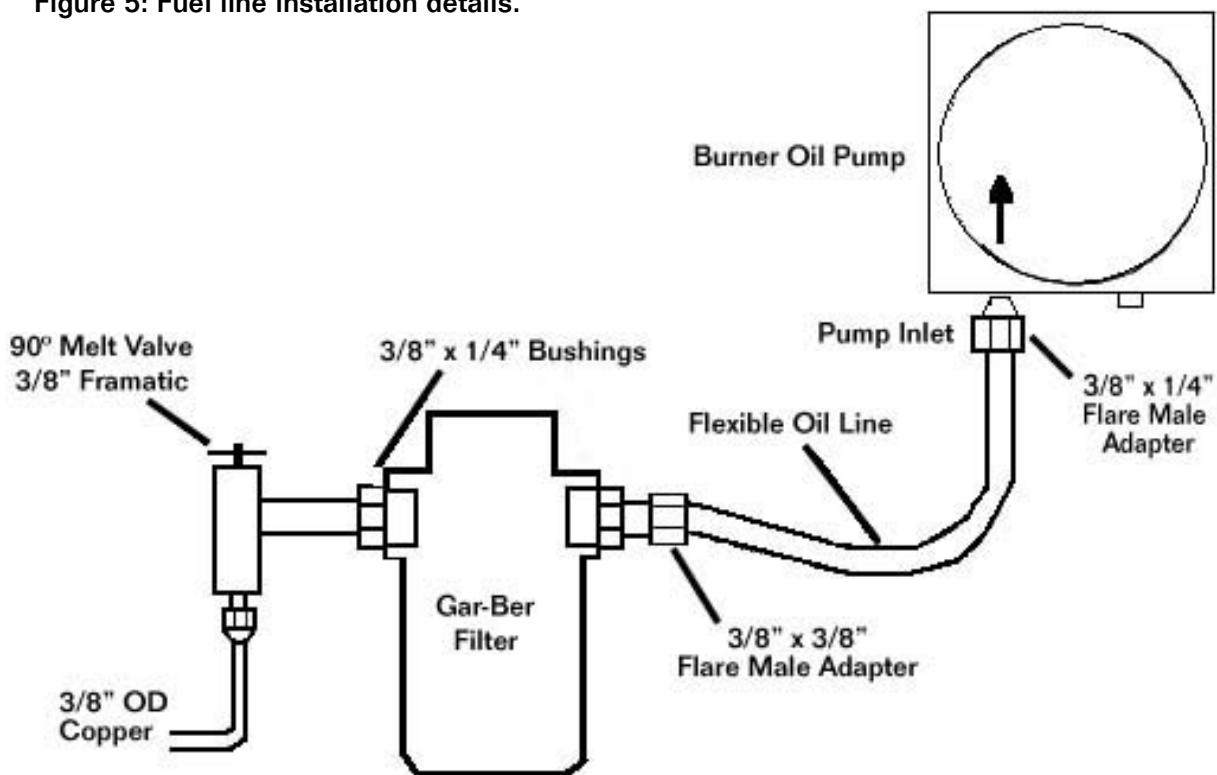
The furnished burner is equipped with a pre-purge and post-purge cycle. The pre-purge is intended to establish air flow through the boiler prior to oil flow to ensure clean combustion under all circumstances. The length of the pre-purge cycle is factory set and does not require adjustment.

The post-purge cycle on the burner ensures that after combustion has stopped, the flue products are discharged to the outside and the venting system is fully cleared of all flue products. The post-purge cycle is factory set and does not require adjustment.

Fuel Supply Delivery System

The fuel line supplying oil to the burner can be set up as either a one pipe or two pipe system. The use of a Garber oil filter at the burner is mandatory to prevent nozzle contamination.

Figure 5: Fuel line installation details.



Burner Settings

Always use instruments to check combustion.

DO NOT ADJUST BURNER OPERATION BY EYE!

Necessary Equipment:

- CO2 analyser
- Draft gauge
- Fuel pressure gauge
- Stack thermometer
- Smoke tester

Overfire measurements should be made from the burner observation port located at the front of the boiler. Make sure when taking measurements that the air space surrounding the pressure probe is completely blocked off with fiberglass or mineral wool.

Breeching measurements should be taken at the exhaust vent termination outside the building.

The furnished burner is factory set for your Buderus boiler model and should require only minor adjustments. Install and set the burner per burner manufacturer's instructions.

Table 2: Preliminary burner settings

Boiler Model	Burner Model	Nozzle*	Air Band Set	Head Set	Press. (psi)	Blast Tube Insertion	Stack Temp*
G115/21	Riello BF3	.5 Dlv. 80°W	3.5	0.0	145	6"	315
G115/21	Beckett NX	.5 Dlv. 60°W	N/A	1.0	150	4.88"	417
G115/21	Carlin P10	.5 Dlv. 60°A	.40	.50	150	4"	340
G115/28	Riello BF3	.65 Dlv. 60°W	5.5	3.0	145	6"	310
G115/28	Beckett NX	.6 Dlv. 60°B	N/A	2.5	175	4.88"	319
G115/28	Carlin P10	.65 Hago 60°ES	.65	.60/.65	150	4"	340
G115/34	Riello BF5	.85 Dlv. 60°W	4.5	3.0	145	10"	350
G115/34	Beckett NX	.75 Dlv. 60°B	N/A	2..25	175	4.88"	330
G115/34	Carlin P10	.85 Dlv. 60°B	.85	.85/1.0	150	4"	400

Blast Tube Insertion depth: Measured from tip of end cone to flange gasket.

* Shows approximate net stack temperature in °F based on air inlet temperature of 70 °F.

NOTE: Actual operating settings on the burner may differ from the factory setting. Adjust burner settings to obtain a #0 smoke reading with a CO2 value of 11.0% - 12.5%. Above settings were obtained with baffle plates removed. Boiler baffle plates may have to be removed to keep net stack temperatures sufficiently high (above 220 °F).

NOTE: Run burner for 30 to 60 minutes on new boiler installations before performing smoke readings. Initial smoke readings may be high due to burn-off of sealing compound.

Verify the following after 5 to 10 minutes of burner operation:

1. Oil pump pressure should be 140 - 150 psi for the Riello BF burners; 140 - 150 psi for the Carlin P10 burners. Make adjustments if necessary.
2. Adjust the air set to get a CO2 value of 11.0% – 12.5% with 0 smoke #. Perform final test with all covers and inlet piping in place.

NOTE: Stop burner operation at once if smoke emerges from the exhaust terminal. Check and make necessary burner adjustments to obtain smoke-free flue products.

NOTE: MAKE SURE the burner observation port located on the burner door is sealed air-tight by properly tightening the port screw. Use extra sealant if necessary.

NOTE: Affix the transparent blank cover label over the boiler rating plate. Affix the electrical and clearance label on the boiler jacket near the boiler rating plate.

4 Annual Maintenance

The boiler and vent system should be inspected and serviced once annually by a qualified service person to maintain efficient operation of the system. Proper operation of boiler controls and safety devices must be verified during the annual service.

Maintenance and service procedures

1. Disconnect the electrical power to the system and the fuel supply and air intake duct to the burner. Remove front panel jacket from the boiler. Remove burner door bolts and swing open burner door.
2. Brush the combustion chamber and heat exchanger surface with a flexible bristle brush and remove deposits with a vacuum cleaner.
3. Tap gently against flue pipe to loosen possible build-up and slide vacuum hose through the upper portion of the heat exchanger into the flue pipe to remove deposits. Make sure that no obstructions are present in the flue pipe and air intake pipe.
4. Close burner door, tighten burner door bolts evenly and ensure that entire boiler and venting system is gas tight.
5. Service oil burner in accordance with oil burner manufacturer's instructions.
6. Test the Garber oil filter cartridge with a vacuum gauge under full purge. Compare reading to original vacuum reading of the initial installation and replace if necessary.
7. Replace the oil filter at the oil tank discharge.
8. Reinstall all shields and covers, reconnect fuel line and bleed air from oil delivery supply and connect electrical power to the boiler.
9. Perform complete combustion test with instruments to ensure proper burner operation. Make necessary adjustments.
10. Make sure all test ports are properly sealed after completion of combustion test. Verify that the exhaust venting system is air-tight. Use silicone sealant if necessary.

Testing of boiler controls and safety devices.

Temporarily disconnect power to the heating circulator(s), turn room thermostat to a high setting to fire the burner and verify proper operation of the high limit control. After verification, turn room thermostat to original setting and restore power to the circulator(s).

NOTE: Upon completion of the annual service, verify that all cover plates, guards and vent pipe connections are properly in place. Make sure that the exhaust venting is gas tight. Use silicone sealant if necessary.

5 Homeowner Information

Warnings:

1. Never tamper with boiler or burner controls and settings.
2. Never place combustible materials within 5 ft of the boiler.
3. Only use fuel oil #2 or kerosene for your oil boiler. Never use gasoline, waste oil or other combustible materials in your boiler.
4. Never ignite any material in your boiler. The unit is designed for hands-off operation.
5. Do not plant vegetation directly under vent termination.

General Information:

Your boiler/burner unit should be serviced **at least once annually** by a qualified service person to maintain highly efficient operation and avoid unnecessary expenses.

Keep your fuel tank full, especially during the summer to prevent moisture condensing and build-up on the inside surface of the fuel tank.

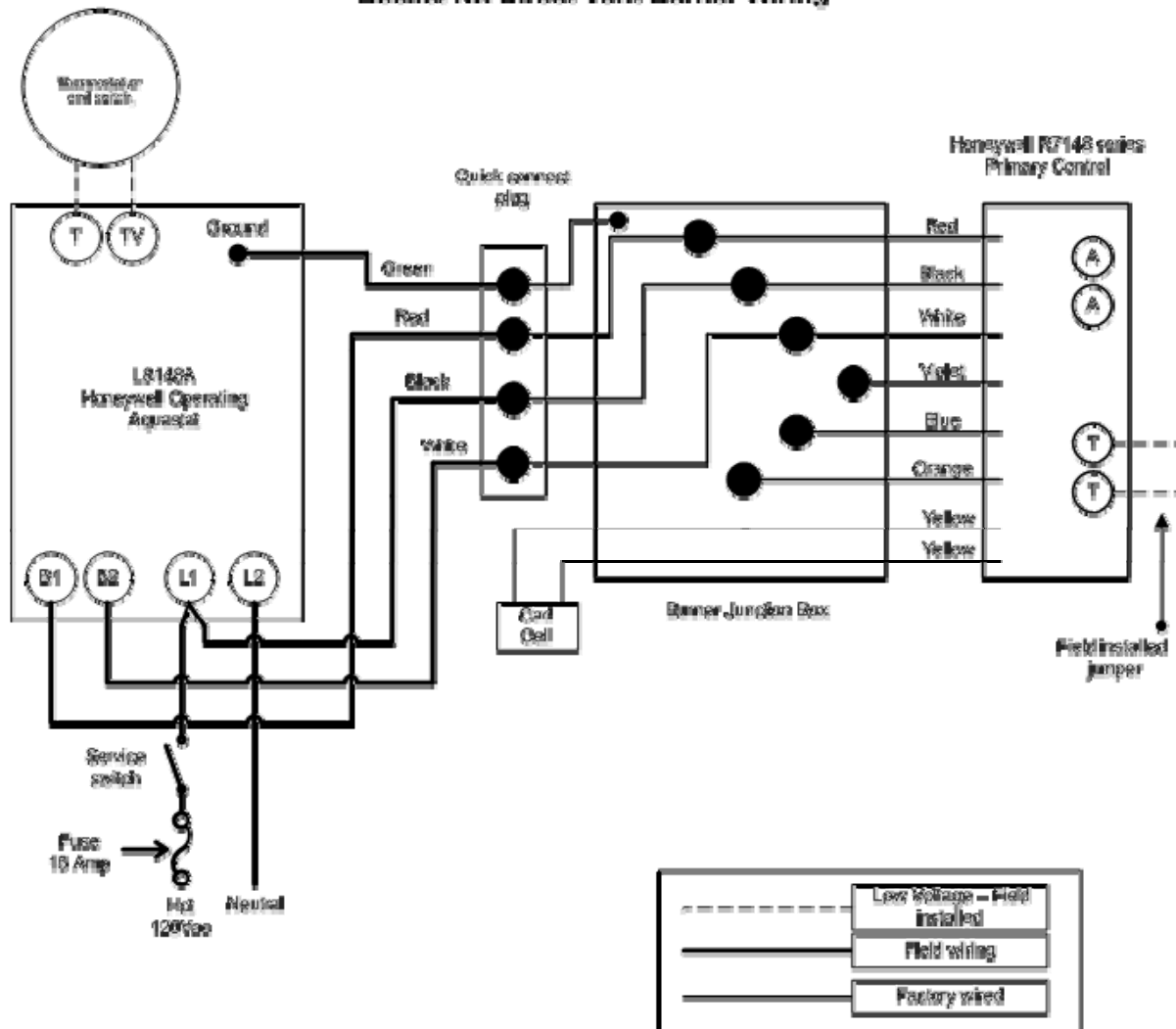
Regularly check the air intake and exhaust terminals for any blockage or debris that could hinder the flow of combustion air to the burner and flue gases from the boiler. Any obstructions could jeopardize clean combustion and could result in poor combustion, smoky and fuel smelling flue gases.

In case of troublesome operation of the boiler, check the following items prior to contacting the service person:

1. Check fuel level in fuel tank.
 2. Check if room thermostat is set high enough.
 3. Check if all burner emergency switches are in **ON** position.
 4. Check if boiler manual safety switch is in place.
 5. Check fuse or breaker supplying power.
 6. Check burner reset control button; press only once.
- Contact service person for assistance if burner does **NOT** operate.

6 Wiring Diagrams

Beckett NX Direct Vent Burner Wiring



Beckett NXP Wiring Schematic -

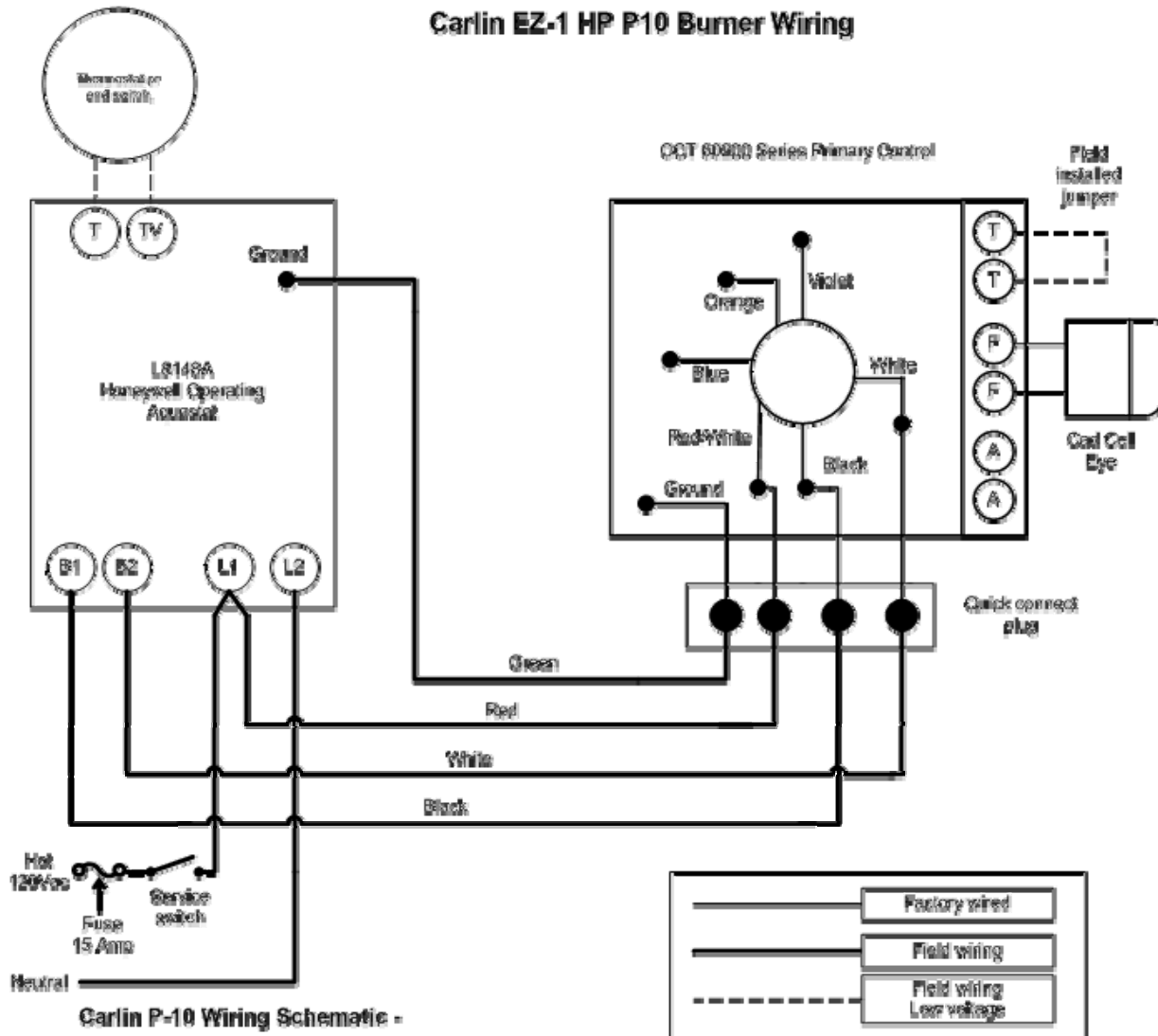
The Beckett NXP Burner is equipped with the R7184P Series Primary Control with pre-purge and post-purge. The NXP burner requires a constant 120 volt input for post-purge operation. The NXP burner requires a second 120 volt input to activate the burner firing sequence.

Using a L8148A Aquastat -

- 1) Connect room thermostat or end switch wiring to the T & TV terminals of the L8148A Aquastat.
Note: DO NOT CONNECT ROOM THERMOSTAT TO THE T - T TERMINALS OF THE BECKETT NXP BURNER!
- 2) Connect 120VAC power source to L1 on the L8148A.
- 3) Connect Black wire to L1 on L8148A, and to the black wire on the R7184P Control.
- 4) Connect neutral source to L2 on the L8148A.
- 5) Connect white wire to B2 on L8148A and to the white wire on the R7184P Control.
- 6) Connect red wire to B1 of the L8148A and to the red wire on the R7184P Control.
- 7) Install a jumper wire on the T T terminals of the R7184P Control.
- 8) Connect green wire to ground termination on L8148A and to Ground termination on R7184P Control.

Note: This drawing is conceptual in nature and does not purport to address all design, installation or safety considerations. Additional safety and/or auxiliary equipment may be needed. This diagram is for reference use by officials, designers and licensed installers. It is expected that installers have adequate knowledge of accepted industry practices for the equipment, procedures, and applications involved.

Carlin EZ-1 HP P10 Burner Wiring



Carlin P-10 Wiring Schematic -

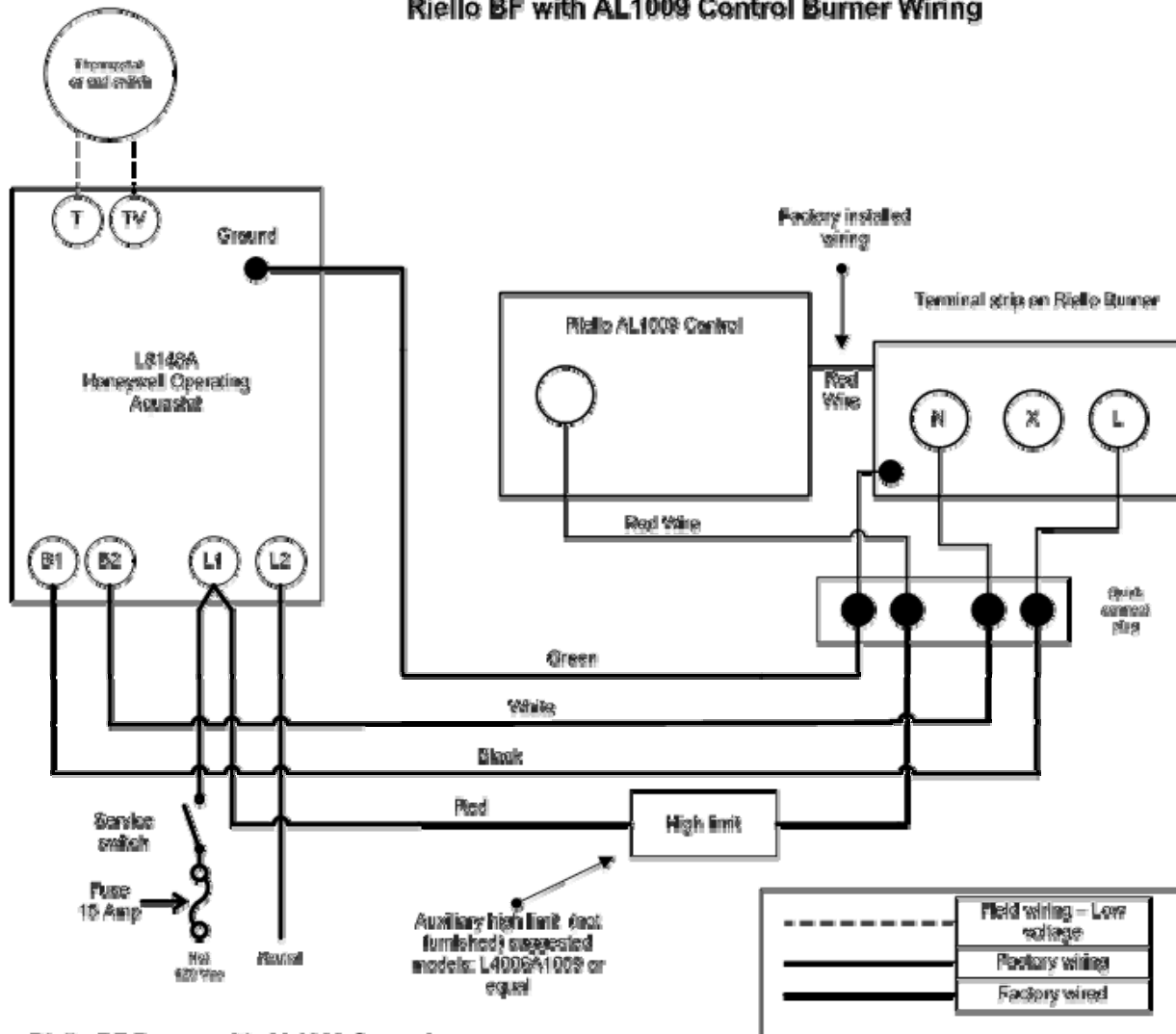
The Carlin P-10 burner is equipped with the 60200 Series Primary Control with pre-purge and post-purge. The Carlin P10 burner requires a constant 120 volt input for post-purge operation. The P-10 burner requires a second 120 volt input to activate the burner firing sequence.

Using a L8148A Aquastat -

- 1) Connect room thermostat or end switch wiring to the T & TV terminals of the L8148A Aquastat.
Note: DO NOT CONNECT ROOM THERMOSTAT TO THE T - T TERMINALS OF THE CARLIN P-10 BURNER!
- 2) Connect 120 Vac power source to L1 on the L8148A.
- 3) Connect red wire to terminal L1 on L8148A and to the red/white wire on the 60200 Control.
- 4) Connect neutral source to L2 on the aquastat.
- 5) Connect white wire to terminal B2 on L8148A and to the white wire on the 60200 Control.
- 6) Connect B1 of the L8148A to the black wire on the 60200 Control.
- 7) Install a jumper wire on the T T terminals of the 60200 Control.
- 8) Connect Green wire to ground termination on L8148A and to ground termination on Carlin Burner.
- 9) The pink wires from the Carlin "In line heater" are connected to the red/white wire and the white wire in the Carlin 60200 Primary Control.

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Riello BF with AL1009 Control Burner Wiring



Riello BF Burner with AL1009 Control -

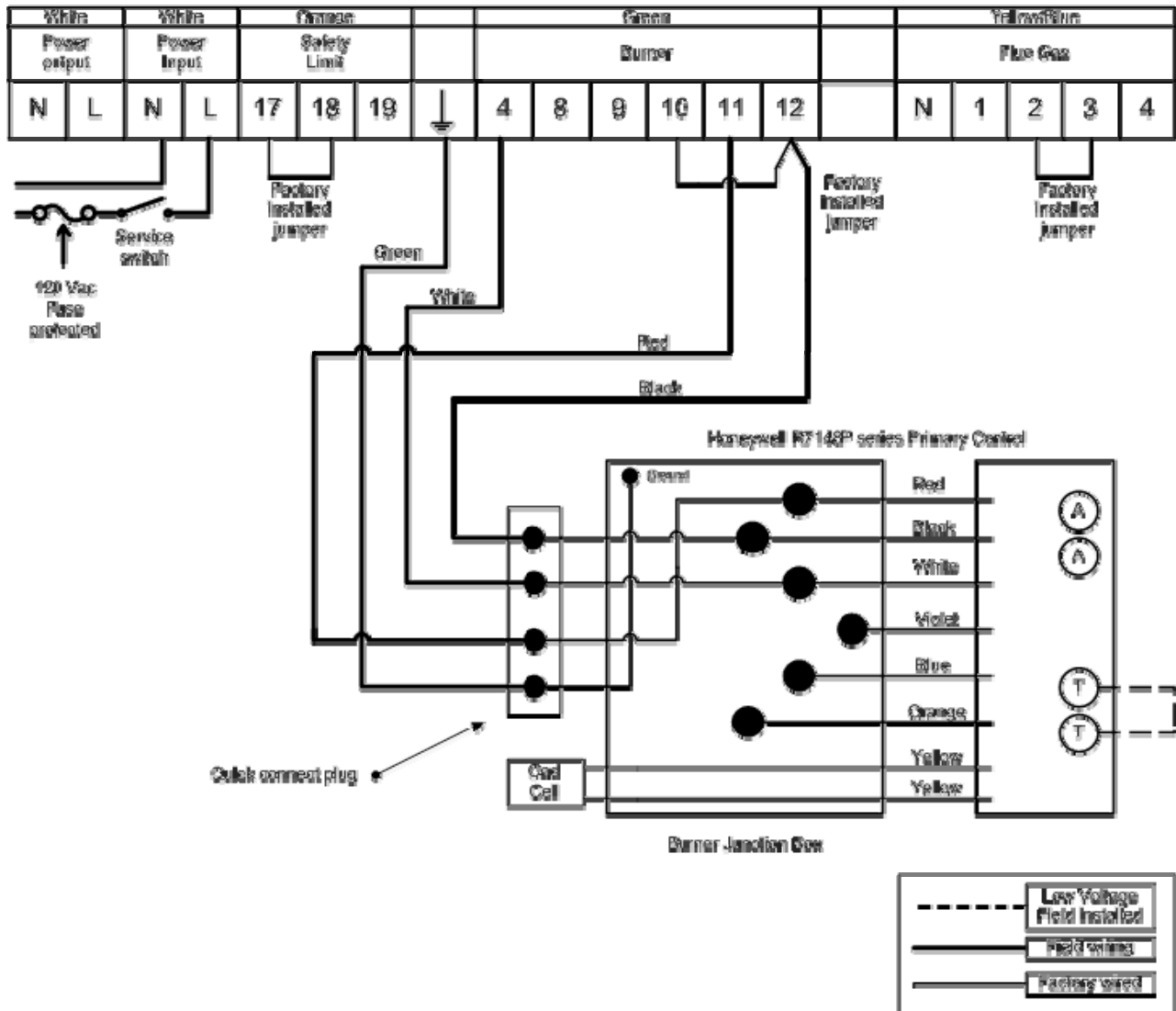
The Riello BF Burner is equipped with the AL1009 Series Control with pre-purge and post-purge. The Riello AL1009 Burner requires a constant 120 volt input. The Riello BF Burner requires a second 120 volt input to activate the burner firing sequence.

Using a L8148A Aquastat -

- 1) Connect room thermostat wiring to the T Tv terminals of the L8148A Aquastat.
- 2) Connect incoming 120 VAC power source to L1 on the L8148A.
- 3) Connect red wire to L1 on the L8148A and to the red wire on the AL1009 Control in the Riello Burner.
note: For localities requiring removal of cover from the burner in case of unsafe temperature condition, it is necessary to install an auxiliary high limit as shown.
- 4) Connect neutral source to L2 on the L8148A.
- 5) Connect white wire to B2 on L8148A, and to the N terminal of the Riello Burner.
- 6) Connect Black wire to B1 terminal of the L8148A to the "L" terminal Black on the Riello Burner.
- 7) Connect green wire to ground termination on L8148A and ground termination on Riello Burner

Note: This drawing is conceptual in nature and does not purport to address all design, installation or safety considerations. Additional safety and/or auxiliary equipment may be needed. This diagram is for reference use by officials, designers and licensed installers. It is expected that installers have adequate knowledge of accepted industry practices for the equipment, procedures, and applications involved.

R2107 Logamatic Terminal Board with Beckett NX Burner



Beckett NX Wiring Schematic -

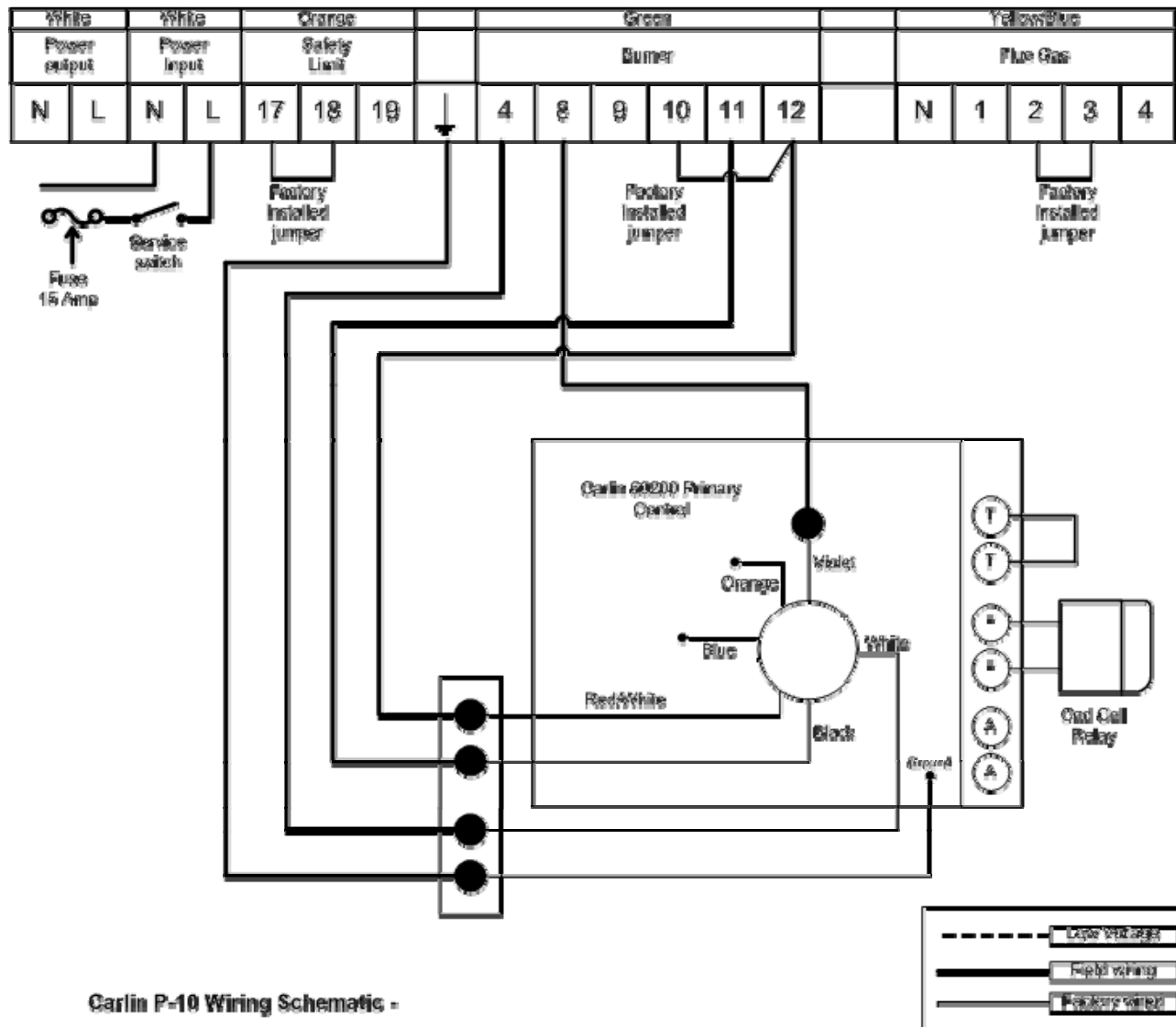
The Beckett NX burner is equipped with the Honeywell R7184P Series Primary Control with pre-purge and post-purge.

Using the Logamatic 2107 or 2108 Control -

- 1) Connect black wire from terminal #12 in the Logamatic Control to the black wire on the Honeywell R7184P Control.
Note: DO NOT CONNECT ROOM THERMOSTAT TO THE T T TERMINALS OF THE BECKETT NX BURNER!
- 2) Connect the red wire from terminal #11 in the Logamatic Control to the red wire on the Honeywell R7184P Control.
- 3) Connect white wire from terminal #4 on the Logamatic (Neutral) to the white wire on the Honeywell R7184P Control.
- 4) Connect green wire to ground terminal on the Logamatic Control and to ground connection on the Beckett Burner.
- 5) Install jumper wire on the T T terminals on the R7184P Control.
- 6) To energize the optional hour meter on the Logamatic 2107 Control connect a wire from terminal #8 on the Logamatic to the violet wire in the Honeywell R7184P Control.

Note: This drawing is conceptual in nature and does not purport to address all design, installation or safety considerations. Additional safety and/or auxiliary equipment may be needed. This diagram is for reference use by officials, designers and licensed installers. It is expected that installers have adequate knowledge of accepted industry practices for the equipment, procedures, and applications involved.

R2107 Logamatic Terminal Board with Carlin EZ 1 P10 Burner



Carlin P-10 Wiring Schematic -

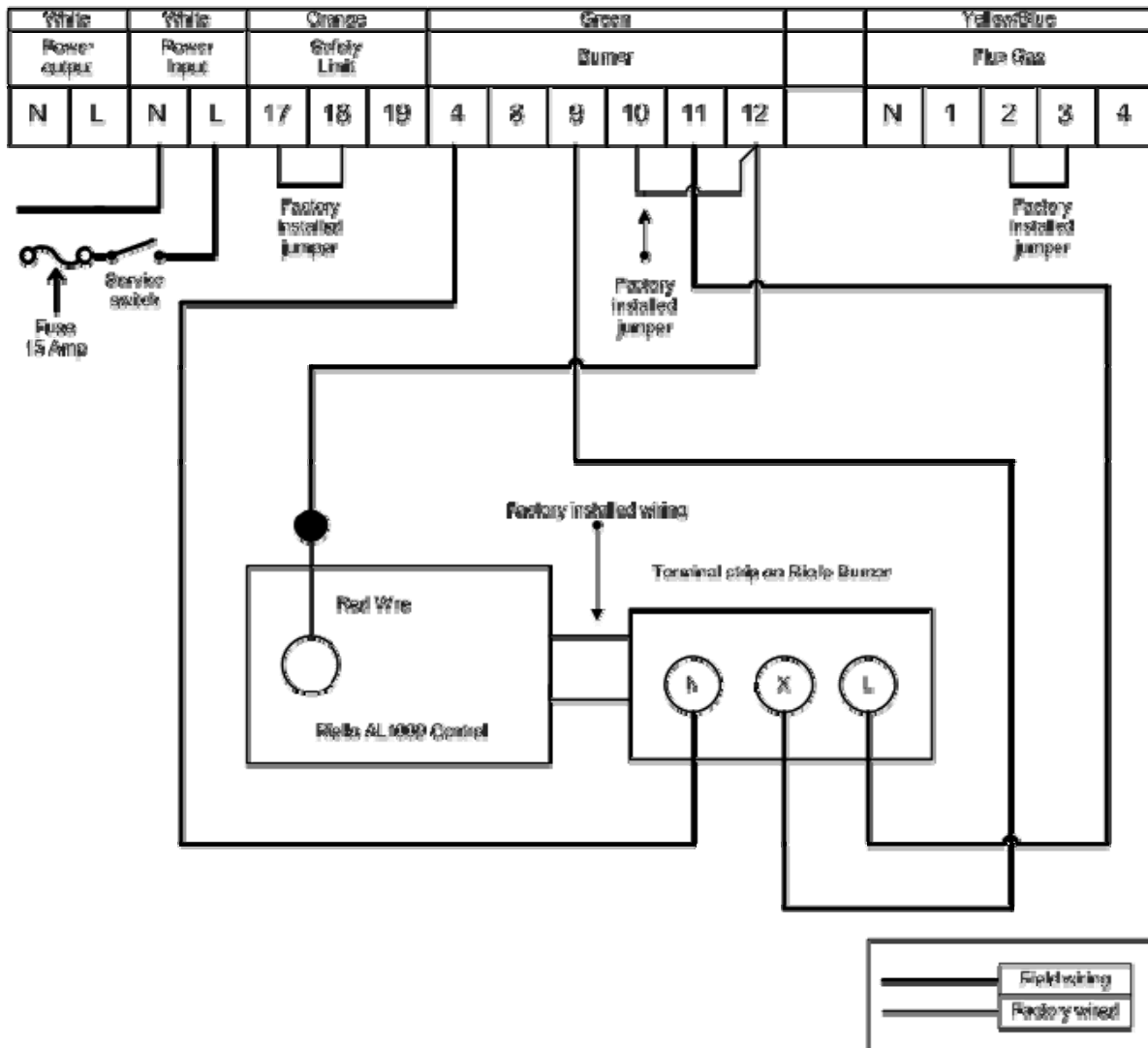
The Carlin P-10 burner is equipped with the 60200 Series Primary Control with pre-purge and post-purge. The Carlin P10 burner requires a constant 120 volt input for post-purge operation.

Using the Logamatic 2107 or 2108 Control -

- 1) Connect red wire to terminal #12 in the Logamatic (Constant power source - 120VAC) to the red/white wire on the Carlin 60200 Control.
 note: For localities requiring removal of power from the burner in case of unsafe temperature condition, the Logamatic has a manual reset high limit as standard accessory.
Note: DO NOT CONNECT ROOM THERMOSTAT TO THE T T TERMINALS OF THE CARLIN P-10 BURNER!
- 2) Connect black wire to terminal #11 in the Logamatic Control to the black wire on the Carlin 60200 Control.
- 3) Connect white wire to terminal #4 on the Logamatic Control (Neutral) to the white wire on the Carlin 60200 Control.
- 4) Connect green wire to ground in the Logamatic Control to ground connection on burner.
- 5) To energize the optional hour meter on the Logamatic connect a wire from terminal #8 on the Logamatic to the violet wire on the Carlin 60200 Control.
- 6) The pink wires for the Carlin "In line heats" can be connected to the red/white wire and the white wire in the 60200 Control.

Note: This drawing is conceptual in nature and does not purport to address all design, installation or safety considerations. Additional safety and/or auxiliary equipment may be needed. This diagram is for reference use by officials, designers and licensed installers. It is expected that installers have adequate knowledge of accepted industry practices for the equipment, procedures, and applications involved.

R2107 Logamatic Terminal Board with Riello BF Burner



Riello BF Burner with AL1009 Control-

The Riello BF Burner is equipped with the AL1009 Control with pre-purge and post-purge. The Riello AL1009 Control requires a constant 120 Vac input. A second 120Vac input is required to activate the firing sequence of the burner.

Using the Logamatic 2107 or 2108 Control -

- 1) Connect a wire from terminal # 12 in the Logamatic (Constant power source - 120VAC) to the red wire on the Riello AL1009 Control
 Note: For localities requiring removal of power from the burner in case of unsafe temperature conditions, the Logamatic has a manual reset high limit as standard accessory.
- 2) Connect a wire from terminal #4 on the Logamatic (Heating) to the "N" terminal on the Riello burner strip.
- 3) Connect a wire from terminal #11 to the "L" terminal of the Riello burner strip.
- 4) To complete the "Burner On" signal on the Logamatic Control, connect a wire from terminal "X" on the Riello burner terminal strip to terminal # 9 on the Logamatic R2107 Control.

Note: This drawing is conceptual in nature and does not purport to address all design, installation or safety considerations. Additional safety and/or auxiliary equipment may be needed. This diagram is for reference use by officials, designers and licensed installers. It is expected that installers have adequate knowledge of accepted industry practices for the equipment, procedures, and applications involved.

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due to continuing engineering and technological advances.*