



# TJERNLUND PRODUCTS, INC.

1601 Ninth Street • White Bear Lake, MN 55110-6794  
PHONE (800) 255-4208 • (651) 426-2993 • FAX (651) 426-9547  
Visit our web site • www.tjernlund.com

## INSTALLATION INSTRUCTIONS FOR ND-1 (950-2043) POST PURGE BURNER KIT

### **WARNING**

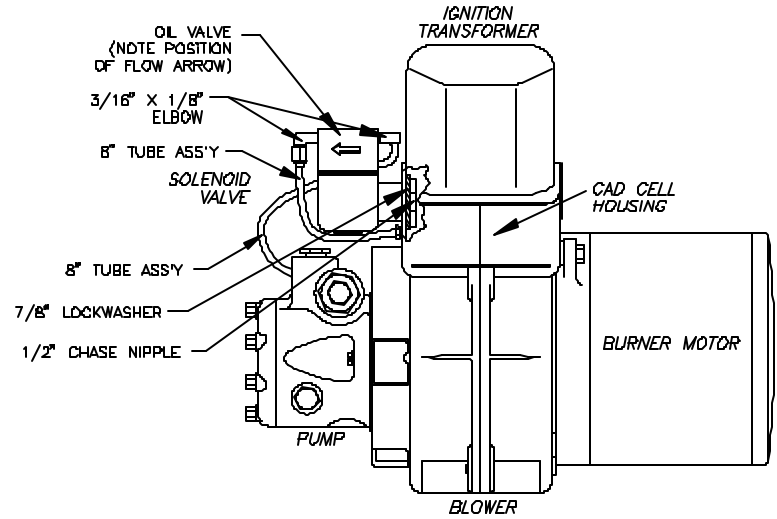
Make sure all power is disconnected from the furnace/boiler before attempting to install the ND-1. Failure to do so can cause electrical shock resulting in personal injury or death.

### INSTALLATION OF OIL SOLENOID VALVE ON A BECKETT BURNER (SEE DIAGRAM A)

NOTE: The Solenoid Mounting "U" Bracket, 24" Conduit and fittings are not necessary when mounting on a Beckett Burner or burner with knock-out on Cad Cell housing.

1. Apply pipe sealant to the Elbows and attach the Elbows to the Valve in the positions shown.
2. Place the Chase Nipple through the cad cell housing with the 13/16" Lockwasher on the inside of the housing.
3. Thread the Chase Nipple into the Valve passing the wires of the Valve through the Chase Nipple.
4. Connect one 8" Tube Assy. from the pump to the Valve and the remaining 8" Tube Assy. from the Valve to the nozzle line paying attention to the direction of flow as shown.
5. Thread wires (two) from Solenoid Valve through cad cell housing of burner to the existing junction box.

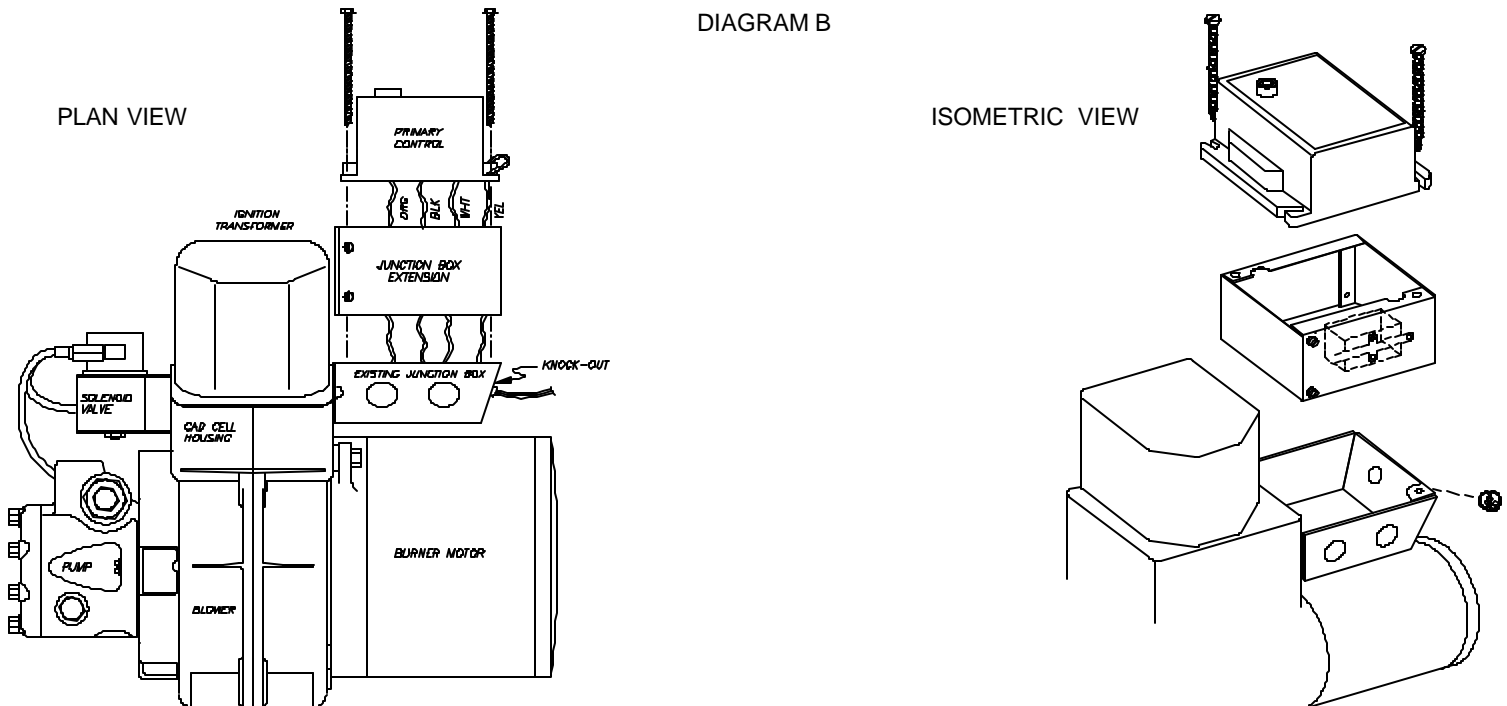
DIAGRAM A



### INSTALLATION OF RELAY AND JUNCTION BOX EXTENSION ON A BECKETT BURNER (DIAGRAM B)

1. NOTE: Install the junction box extension only after the wiring has been completed.
2. Rotate the junction box extension so that the relay locates to the front. (toward the cabinet door)
3. Align the junction box extension to the top of the existing burner motor junction box.
4. Insert and start the 2 1/2" sheet metal screws to locate the junction box extension to the existing junction box.
5. Install the R8184G primary control and tighten the 2 1/2" sheet metal screws.

DIAGRAM B



## WARNING

Make sure all power is disconnected from the furnace/boiler before attempting to install the ND-1. Failure to do so can cause electrical shock resulting in personal injury or death.

### INSTALLATION OF OIL SOLENOID VALVE ON NON-BECKETT BURNERS

1. Apply pipe sealant to the Solenoid Elbows, insert and tighten to position necessary for oil tubing.
2. Place the metal "U" Solenoid Bracket around Solenoid Valve.
3. Insert 1/2" Chase Nipple to Solenoid Valve and tighten.
4. Using screws provided, attach Solenoid to appliance wall. NOTE: Solenoid tubing is 8" long. If Oil Tubing does not reach pump and burner chamber the installer must provide a means of mounting the Solenoid Bracket on an extension. If mounting on a boiler attach Solenoid to exterior boiler wall with the 3/8" self tapping screws using the larger holes in Bracket, (See Diagram C). If mounting on a furnace install Solenoid on interior wall with the 3/8" self tapping screws using the smaller holes in Bracket, (See Diagram D).
5. Connect one 8" Tube Assy. from the pump to the Valve and the remaining 8" Tube Assy. from the Valve to the nozzle line paying attention to the direction of flow as shown, (See Diagram E).
6. The 24" long 3/8" diameter metal Conduit will have to be added to accommodate the placement of the Solenoid Valve on the wall of the appliance.
7. Thread wires through metal conduit for connection to primary control.

### INSTALLATION OF RELAY AND JUNCTION BOX EXTENSION ON NON-BECKETT BURNERS (DIAGRAM E)

1. NOTE: Install the junction box extension only after the wiring has been completed.
2. Rotate the junction box extension so that the relay locates to the front. (toward the cabinet door)
3. Align the junction box extension to the top of the existing burner motor junction box.
4. Insert and start the 2 1/2" sheet metal screws to locate the junction box extension to the existing junction box.
5. Install the primary control and tighten the 2 1/2" sheet metal screws.

DIAGRAM C

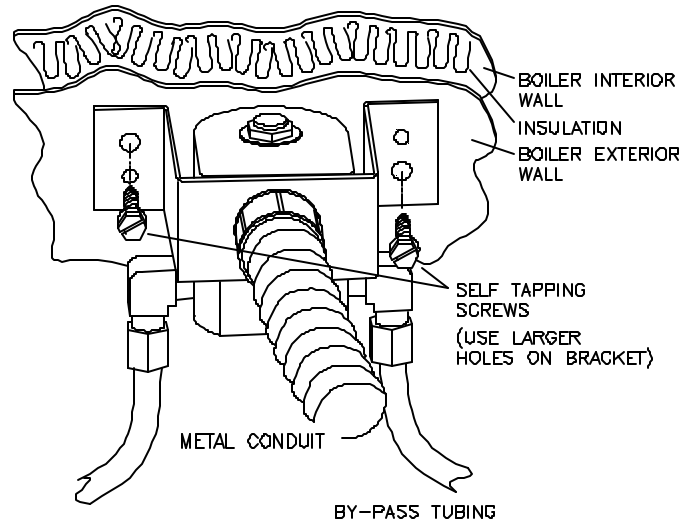


DIAGRAM D

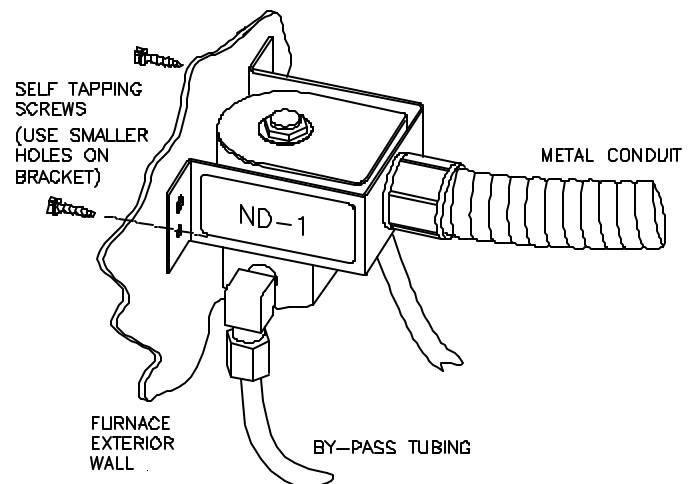
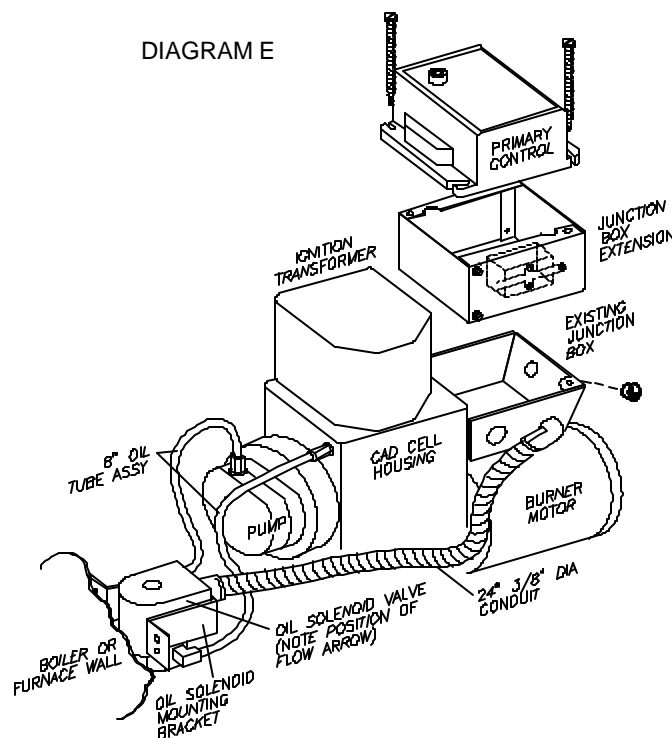


DIAGRAM E



## ELECTRICAL WIRING CONNECTIONS

The electrical contact ratings for the Oil Solenoid Valve and the Relay are as follows:

**OIL SOLENOID VALVE:** 0.115 Amps at 120 VAC

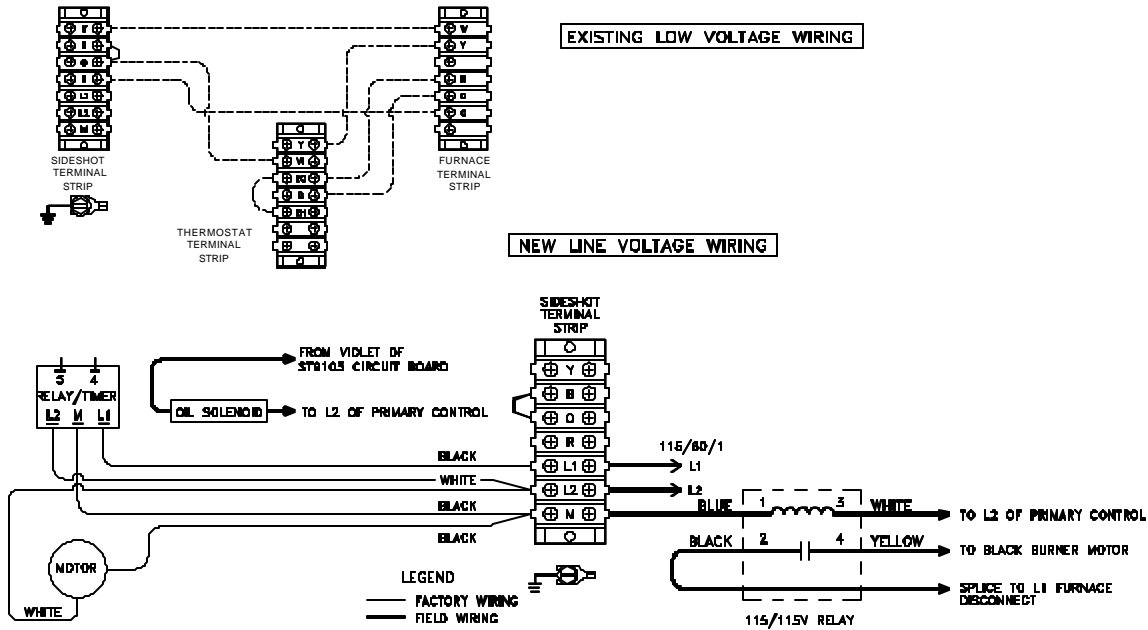
**RELAY:** 0.10 Amps at 120 VAC (Coil), 12 Amps (full load) at 124 VAC (Contacts), 60 Amps (locked rotor) at 125 VAC (Contacts)

### **▲ WARNING**

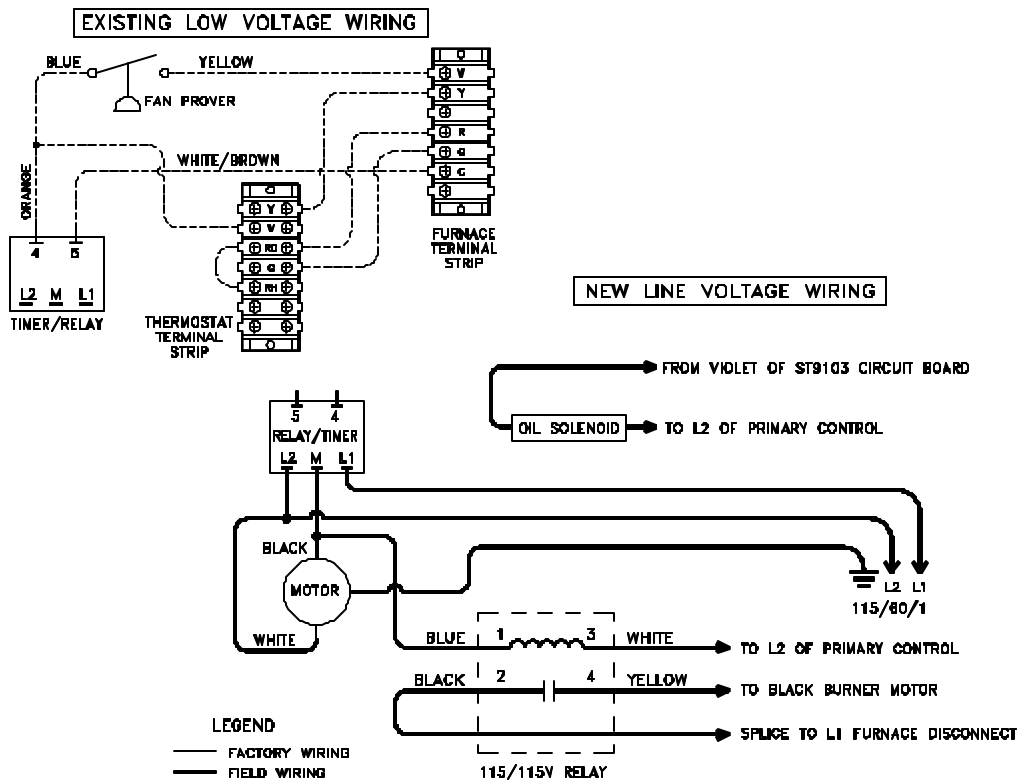
Make sure all power is disconnected from the furnace/boiler before attempting to install the ND-1. Failure to do so can cause electrical shock resulting in personal injury or death.

All wiring from the to the post purge kit must be appropriate Class 1 wiring as follows: installed in rigid metal conduit, intermediate metal conduit, rigid non-metallic conduit, electrical metallic tubing, Type MI Cable, Type MC Cable, or be otherwise suitably protected from physical damage.

### SIDESHOT® WIRED WITH STANDARD HONEYWELL ST9103 CONTROL & BURNER MOTOR POST PURGE



### HST-SERIES WIRED WITH HONEYWELL ST9103 CONTROL AND BURNER MOTOR POST PURGE KIT

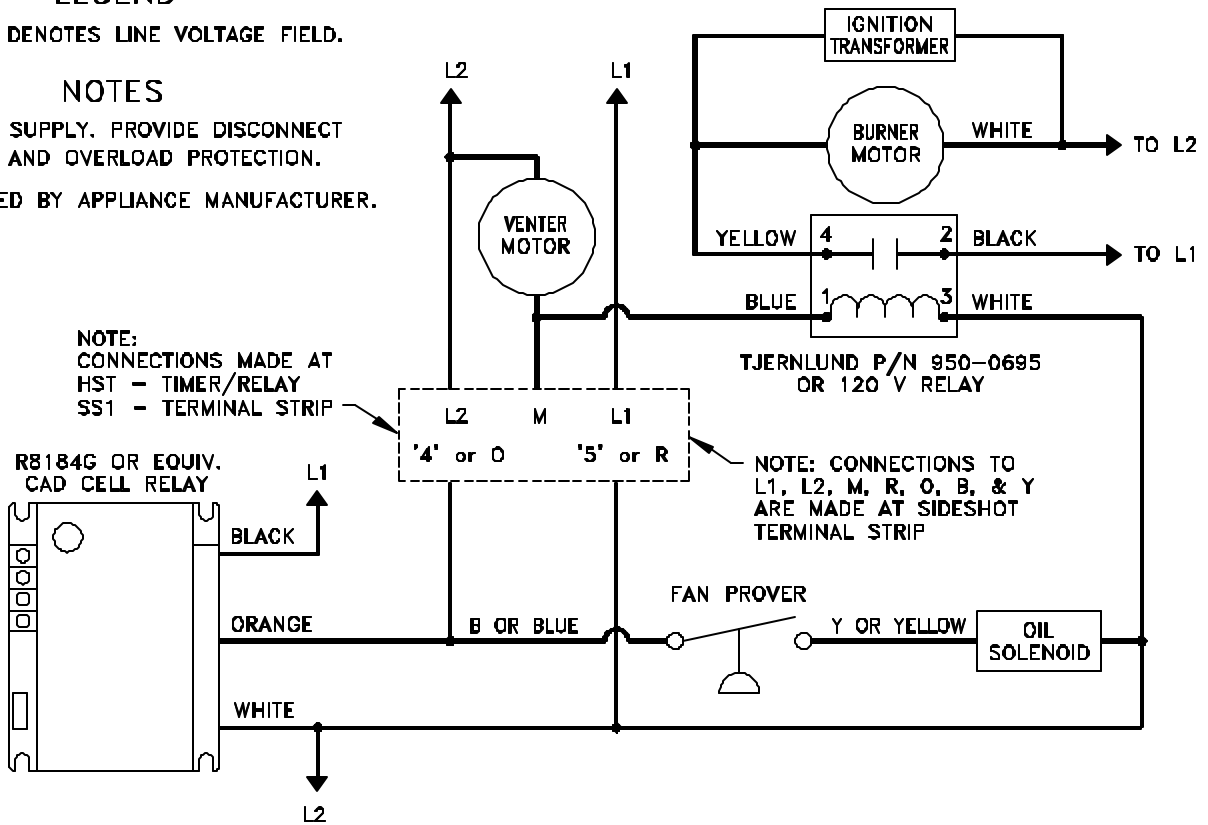


LEGEND

— DENOTES LINE VOLTAGE FIELD.

NOTES

- 1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION.
- 2 SUPPLIED BY APPLIANCE MANUFACTURER.



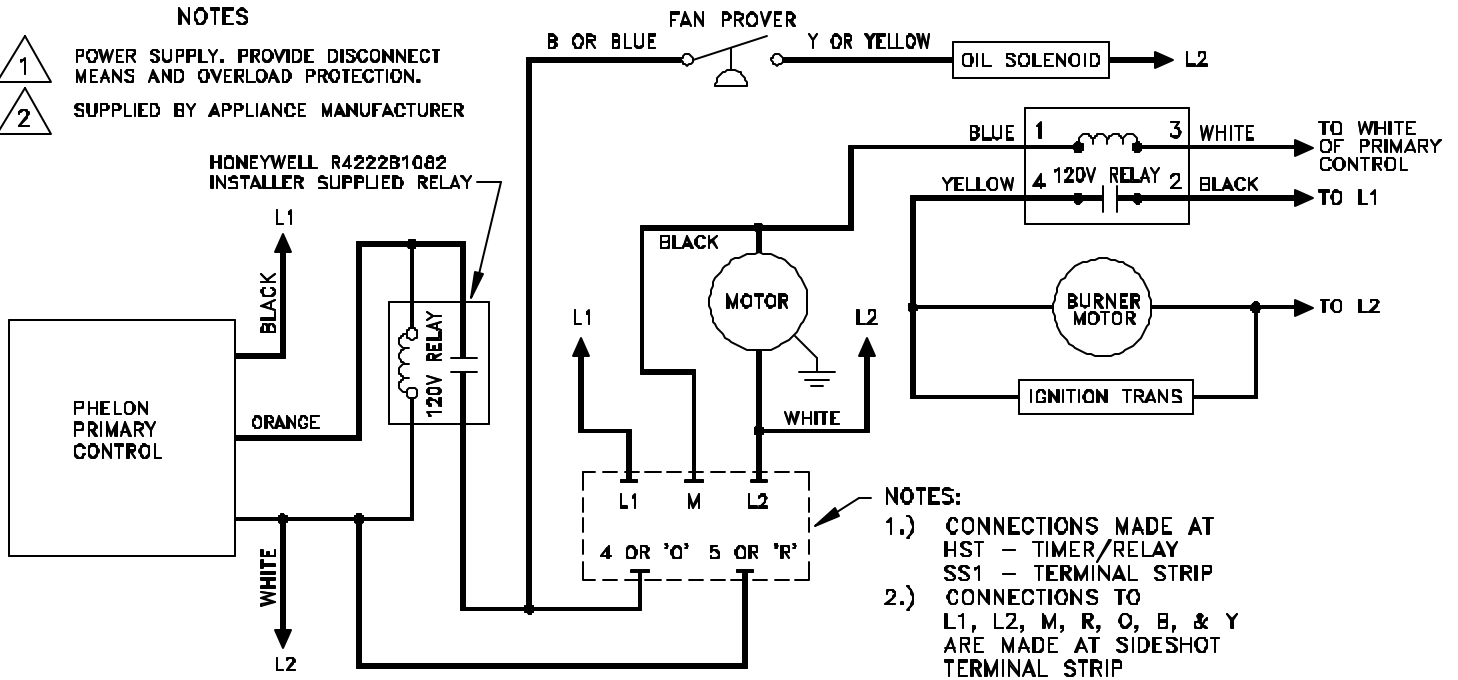
SIDESHOT® OR HST-SERIES WIRED WITH PHELON CONTROL AND BURNER MOTOR POST PURGE KIT

LEGEND

— DENOTES LINE VOLTAGE FIELD.

NOTES

- 1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION.
- 2 SUPPLIED BY APPLIANCE MANUFACTURER



REPLACEMENT PARTS

OIL SOLENOID PART# 950-0690  
 115V RELAY PART# 950-0695