



**OIL FIRED FURNACE
INSTALLATION AND OPERATION MANUAL
WITH USERS INFORMATION SECTION**

MODELS:

**OL6FA072D48(B/R/C)
OL6FA072DV5(B/R/C)
OL8FA119T60(B/R/C)**

**OL6RA072D48(B/R/C)
OL6RA072DV5(B/R/C)
OL8RA119T60(B/R/C)**

⚠ WARNING: IF THE INFORMATION IN THESE INSTRUCTIONS IS NOT FOLLOWED EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY, OR LOSS OF LIFE.

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

⚠ WARNING: IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE, OR MAINTENANCE CAN CAUSE INJURY OR PROPERTY DAMAGE. REFER TO THIS MANUAL. FOR ASSISTANCE OR ADDITIONAL INFORMATION CONSULT A QUALIFIED INSTALLER, OR SERVICE AGENCY.

⚠ AVERTISSEMENT: SI L'INFORMATION DANS CES INSTRUCTIONS N'EST PAS SUIVI À LA LETTRE, UN INCENDIE OU UNE EXPLOSION ENTRAÎNANT DES DOMMAGES MATÉRIELS, DES BLESSURES CORPORELLES OU DES PERTES DE VIE.

NE PAS ENTREPOSER NI UTILISER D'ESSENCE OU AUTRES VAPEURS ET LIQUIDES INFLAMMABLES À PROXIMITÉ DE CET APPAREIL OU DE TOUT AUTRE APPAREIL.

⚠ AVERTISSEMENT: UNE MAUVAISE INSTALLATION, D'AJUSTEMENT, DE LA MODIFICATION, D'ENTRETIEN OU DE MAINTENANCE PEUVENT CAUSER DES BLESSURES OU DOMMAGES MATÉRIELS, REPORTEZ-VOUS À CE MANUEL POUR OBTENIR DE L'AIDE OU DES RENSEIGNEMENTS SUPPLÉMENTAIRES, CONSULTER UN INSTALLATEUR QUALIFIÉ, OU ORGANISME DE SERVICE.

PLEASE READ THESE INSTRUCTIONS PRIOR TO INSTALLATION, INITIAL FIRING, AND BEFORE PERFORMING ANY SERVICE OR MAINTENANCE. THESE INSTRUCTIONS MUST BE LEFT WITH THE USER AND SHOULD BE RETAINED FOR FUTURE REFERENCE BY QUALIFIED SERVICE PERSONNEL.

VEUILLEZ LIRE CES INSTRUCTIONS AVANT L'INSTALLATION, LES PREMIERS TIRS, ET AVANT D'EFFECTUER TOUT ENTRETIEN OU MAINTENANCE. CES INSTRUCTIONS DOIVENT ÊTRE LAISSÉS AVEC L'UTILISATEUR ET DEVRAIT ÊTRE CONSERVÉ POUR RÉFÉRENCE FUTURE PAR UN TECHNICIEN QUALIFIÉ.

THERMO PRODUCTS, LLC.
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Intertek

(OL6 SERIES)



Intertek

(OL8 SERIES)

All installations and services must be performed by qualified service personnel.

I. SAFETY SECTION

This page contains various warnings and cautions found throughout the Oil Furnace Manual. Please read and comply with the statements below.

⚠WARNING AND CAUTIONS:

⚠WARNING: This furnace is not to be used as a construction heater. See Page 1.

⚠CAUTION MUST BE TAKEN NOT TO EXCEED 90° ROTATION (OF THE FLUE ELBOW) COUNTERCLOCKWISE OR RIGHT FROM THE VERTICAL POSITION.

⚠WARNING: The predetermined limit location on this oil fired furnace has been tested and approved by Thermo Products, LLC. Any attempt to relocate this safety control or replace this safety control with a control that is not approved, or is incompatible, may result in personal injury, substantial property damage or death.

⚠WARNING: THE HEAT EXCHANGER MUST BE CLEANED BY A QUALIFIED SERVICE PERSON.

⚠CAUTION: DO NOT ATTEMPT TO MAKE REPAIRS YOURSELF!

⚠WARNING: The area around the furnace should be kept free and clear of combustible liquids and material, especially papers and rags.

⚠WARNING: NEVER burn garbage or refuse in your furnace. Never try to ignite oil by tossing burning papers or other material into your furnace.

⚠WARNING: This oil furnace is designed to burn No. 1, No. 2, or B5 distillate fuel oil. NEVER USE GASOLINE OR A MIXTURE OF OIL AND GASOLINE.

⚠CAUTION: DO NOT ATTEMPT TO START THE BURNER WHEN:

Excess oil has accumulated,

1. The furnace is full of vapors
2. The combustion chamber is very hot.

IF ONE OR MORE OF THESE CONDITIONS EXIST, CONTACT A QUALIFIED SERVICE PERSON. See Page 20.

All installations and services must be performed by qualified service personnel.

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For additional Oil Heating assistance:

Scan the QR code to view Thermo Product's

Oil Heating Installation, Maintenance & Service Manual

All installations and services must be performed by qualified service personnel.

II. GENERAL INSTRUCTIONS - READ BEFORE START OF INSTALLATION

1. The heating output capacity of the furnace proposed for installation should be based on a heat loss calculation made according to the manuals provided by the Air Conditioning Contractors of America (ACCA) or the American Society of Heating, Refrigeration and Air Conditioning Engineers, Inc. (ASHRAE).
2. All local codes and/or regulations take precedence over the instructions in this manual and should be followed accordingly. In the absence of local codes, installation must conform with these instructions and regulations of the National Fire Protection Association, and to the provisions of the National Electrical Code (ANSI/NFPA 70-1999 or latest edition).
3. The installed furnace must be level and positioned in a central location with respect to outlet registers. It should be located near the chimney to minimize any horizontal run of flue pipe, which may be required.
4. A furnace installed in a residential garage must be installed so the burner and ignition source are located higher than 18 inches above the floor, unless the required combustion air is taken from the exterior of the garage. Also, the furnace must be located or protected to avoid physical damage by vehicles. It is recommended that a commercially available CO alarm be installed in conjunction with any fossil fuel burning appliance. The CO alarm shall be installed according to the alarm manufacturer's installation instructions and be listed in accordance with latest edition of the UL Standard for Single and Multiple Station Carbon Monoxide Alarms, UL 2034, or the CSA International Standard, Residential Carbon Monoxide Alarming Devices, CSA6.19.

⚠WARNING: This unit is not to be used for temporary heating of buildings, or structures, under construction.

5. Listed below are definitions of "COMBUSTIBLE MATERIAL" and "NON-COMBUSTIBLE MATERIAL."

COMBUSTIBLE MATERIAL:

Material made of or surfaced with wood, compressed paper, plant fibers, plastics, or other material that will ignite and burn, whether flame resistant or not.

NON-COMBUSTIBLE MATERIAL:

Material that is not capable of being ignited and burned. Such materials consist entirely of, or a combination of, steel, iron, brick, tile, concrete, slate, or glass.

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Table 1: MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS

TYPE OF UNIT	MODEL NO.	FROM SIDES OF FURNACE	FRONT	TOP & SIDES OF PLENUM	FROM THE FLUE/VENT	REAR
Lowboy	OL6**072D***	0"	6" ‡	1"	7"	0" ‡
Lowboy	OL8**119T60*	0"	6" ‡	1"	8"	0" ‡

‡ The minimum clearances listed in the preceding table are for fire protection. Clearance for servicing the front and rear of the furnace should be at least 24 inches.

NOTE: The OL6 & OL8 furnace are approved for closet installation. If the furnace is installed in a closet, it requires two openings in the closet door for combustion air, each having a minimum area of 181 sq. Inches. This free area intentionally exceeds the recommended minimum free area of 1 square inch per 1000 BTUH of input rate.

Chimney Inspection

The chimney, vent, or any passageway for the stack gases to flow to the outdoor atmosphere is a very important part of the heating system. No furnace, regardless of the efficiency of the design, can perform satisfactorily when the chimney to which it is connected is inadequate or in poor condition. Any of the following symptoms may indicate a chimney has severe structural damage and is unsuitable for use.

- Chimney appears to be leaning to the side.
- Chimney appears to have structural damage, i.e. loose or missing blocks or bricks, or excessive deterioration at mortar joints.
- Tile liner damaged or missing.
- Flue gas leakage along the length of the chimney between the chimney connector and discharge termination.
- Excessive corrosion at the cleanout port or at the chimney connector entrance into the chimney.
- Structural debris, i.e. mortar or tile liner flakes, in base of the flue way.

A qualified person shall inspect the chimney to confirm it is correctly sized for the application, properly constructed, and in sound condition. Refer to the Standard for the Installation of Oil-Burning Equipment, NFPA 31-2001, for details on proper chimney sizing and construction. If needed, the chimney should be cleaned before installing the furnace. Any accumulation of dirt or debris at the bottom of the flue should be removed.

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A. FLUE / CHIMNEY / VENT CONNECTOR

⚠ CAUTION:

- **DO NOT install a manual damper in the chimney or vent connector.**
- **Thermally- activated type vent dampers are NOT recommended for use on these furnaces.**

It is desirable to install the shortest vent connector (also referred to as a flue or chimney connector) possible with the fewest number of fittings, i.e. transitions and elbows. Generally, 6-inch diameter, 24 Ga. or heavier, single wall, lock seam-type, galvanized steel vent pipe and fittings are satisfactory materials for the fabrication of a vent connector. However, always consult local codes and authorities for specific minimum requirements.

For some installations, it may be prudent to turn the furnace flue elbow 90 degrees clockwise, with respect to the front of the furnace, such that the elbow is open to the right-hand side of the unit, rather than upward. Turning the flue elbow may better facilitate connection of the vent connector piping to the flue elbow on the highboy and front flue, lowboy furnaces. Due to the presence of the limit control and the wiring harness, **the elbow may not be rotated 90 degrees counterclockwise**. The installer must carefully mark and cut a hole in the furnace housing to allow the vent connector to pass through the housing.

If desired, with the furnace flue elbow turned to the right, the standard furnace top front panel (p/n 17346-2) may be replaced with the top front panel from the rear flue lowboy model (p/n 17383-2). Refer to Appendix D: Replacement Parts for sketches of these parts. Contact your distributor to purchase this part.

All horizontal sections of the vent connector must slope upward not less than $\frac{1}{4}$ inch per foot from the furnace to the vent termination. Long horizontal sections of the venting system must be supported at least every five (5) feet with metal straps to prevent sagging of the vent piping. Secure all joints in the vent connector with sheet metal screws or equivalent fasteners. Vent piping must **not** be inserted beyond the inside wall of the chimney flue.

B. DRAFT REGULATOR

A barometric-type, draft regulator is supplied with the furnace. Installation or operating conditions that produce excess amounts of draft can reduce the heating efficiency of the furnace. The purpose of the regulator is to adjust and control the flow of flue gases from the furnace by stabilizing the amount of chimney draft to which the furnace is subjected.

Generally, install the barometric draft regulator in the vent connector as close as possible to the flue outlet collar of the furnace. However, always refer to the draft regulator manufacturer's installation instructions for application specific recommendations.

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Direct (Side-Wall) Venting

The furnace may also be horizontally vented through a sidewall. Thermo Products has available the side wall vent kits for such applications. When installing the sidewall vent kits, outside combustion air must also be applied to the burner. The following table identifies application order information.

BURNER	FIELD VENT TERMINATION KIT		SIDE WALL VENT ACCESSORIES KIT	COMBUSTION AIR INTAKE HOOD KIT
	(15' application MAX)		(BURNER SPECIFIC)	(FOR COMBUSTION AIR APPLICATIONS ONLY)
	THERMO PRODUCTS PART NUMBER		THERMO PRODUCTS PART NUMBER	THERMO PRODUCTS PART NUMBER
	(OL6)	(OL8)		
Beckett AFG	AOPS8393	AOPS8414	AOPS8394	AOPS8397
Riello BF5	AOPS8393	AOPS8414	AOPS8395	AOPS8416
Carlin EZ-1HP	N/A	AOPS8414	AOPS8432	AOPS8433

Table 2: Sidewall vent kits

The vent may be installed either through the knock-out on the right or left side casing of the unit or vertically out the top opening of the vestibule.

The combustion air inlet can be installed through the either the lower left side casing knockout or the lower right side casing knockout.

Power (Side-Wall) Venting – Important Note Regarding

⚠CAUTION: Thermo Products, LLC will NOT assume responsibility for damage to, and deterioration of, exterior building materials, e.g. brick, siding, clapboards, and etc., in close proximity to the vent terminal due to operation of a power vented, oil furnace. This policy is applicable regardless of the cause of sooting.

Two (2) problems typically arise when power venting any oil-fired appliance.

- 1) Soot buildup may occur at an accelerated rate on critical components of the furnace oil burner, e.g. the primary control flame sensor (“cad cell”), the burner head, and oil nozzle.
- 2) Severe damage may occur to external surfaces of the structure in the event the furnace continually produces a high level of smoke in the flue gases. Excess smoke and soot can be produced for many reasons, some of which cannot be successfully controlled by the installer and the appliance manufacturer.

NOTICE: Thermo Products recommends the use of a chimney to vent residential oil furnaces. If a power venter must be used, it is the responsibility of the installer and power venter manufacturer to design, assemble, and demonstrate proper operation of the power venting system with the furnace.

All installations and services must be performed by qualified service personnel.

C. DUCT WORK/AIR CONDITIONING/SUPPLY/RETURN AIRFLOW AND AIR TEMPERATURE:

If the furnace is used in connection with summer air conditioning (cooling), the furnace should be installed parallel with or on the upstream side of the evaporator coil to avoid condensation in the furnace heat exchanger. If the cooling unit is installed with a parallel flow arrangement, dampers or other means used to control flow of air should be provided to prevent chilled air from entering the furnace. If such a damper is manually operated, it must be equipped with a means to prevent operation of either unit, unless the damper is in the full heat or cool position.

The supply/return airflow shall be set to obtain an air temperature rise, across the furnace, in the range of 55° to 85°F. Since the flow resistance of each duct system is slightly different, the airflow (fan speed) may have to be changed in the field to achieve a satisfactory temperature rise.

One way to measure the temperature rise across the furnace is to insert temperature measuring devices (e.g. thermometers) into the return air duct and into the supply air duct about 12 inches from the furnace. After the furnace has been firing continually for over 20 minutes, read the temperature difference between the two (2) thermometers. The temperature difference should not exceed 85°F, nor be less than 55°F. A temperature rise of 70°F is considered to be optimum for comfort.

The duct system should again follow the current design standard of Air Conditioning Contractors of America (ACCA) or ASHRAE Fundamentals volume. The most common location for the A-shaped coil (A style) is shown in Fig. 1.

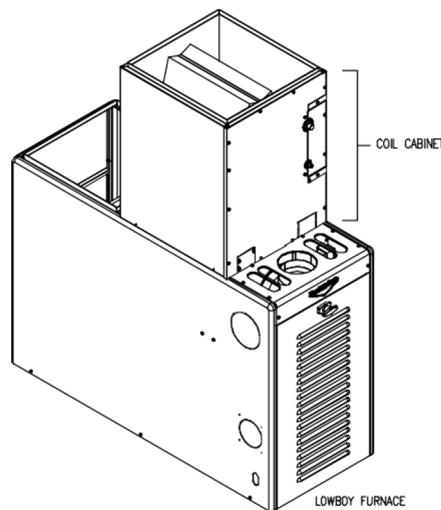


Fig 1: Acceptable locations for the air conditioner evaporator coil.

All installations and services must be performed by qualified service personnel.

NOTICE: The minimum coil pan clearance for a sectional or drum type heat exchanger is three inches unless specified otherwise by the individual coil manufacturer.

NOTICE: The minimum return air temperature is 55° F.

D. AIR FILTERS MOUNTED INTERNAL TO FURNACE:

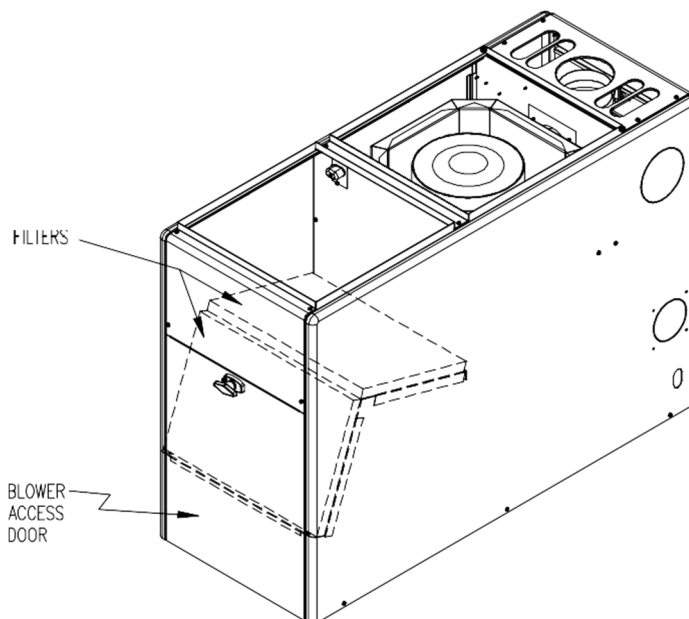


Fig. 2: Internal filter rack.

CAUTION: Failure to comply with minimum filter installation requirements may affect the performance and/or void the warranty on this unit.

If a method other than internal Thermo Pride filter rack is selected for retention of the filters and/or use of a different filter type is desired, refer to Table 4 below for minimum sizing guidelines for selecting filter for the unit.

Filter Type	Maximum Air Velocity (ft/min)	Model Number		Qty
		OL6	OL8	
*Thermo Products Supplied Permanent	600	280 in ²	480 in ²	2
Standard Permanent	500	576 in ²	576 in ²	2
Disposable	300	960 in ²	960 in ²	2

Table 3: Minimum Required Filter Area (in square inches)

*** The Thermo Products supplied filter can be cut to size to fit other filter retention systems as long as the minimum size requirement is met.**

All installations and services must be performed by qualified service personnel.

NOTICE: Any internal stiffeners used in the filter must not be removed, although they can be cut to size as needed.

E. LIMIT POSITION

The limit in these furnaces are fixed and cannot be relocated.

F. BURNER INSTALLATION:

NOTICE: Remove all cardboard packing from around chamber before installing burner.

The oil burner will mount on three stud mounting bolts on the lower mounting plate covering the opening in the front of the heat exchanger. The end of the burner tube should be inserted no further than 1/4 inch back from the inside surface of the combustion chamber. A distance further than 1/4 inch back from the inside chamber wall may cause impingement and sooting. This unit is equipped with a chamber retainer (refer to Fig.3). The retainer secures the chamber during shipping and helps to maintain insertion depth.

DO NOT remove this retainer when installing burner.

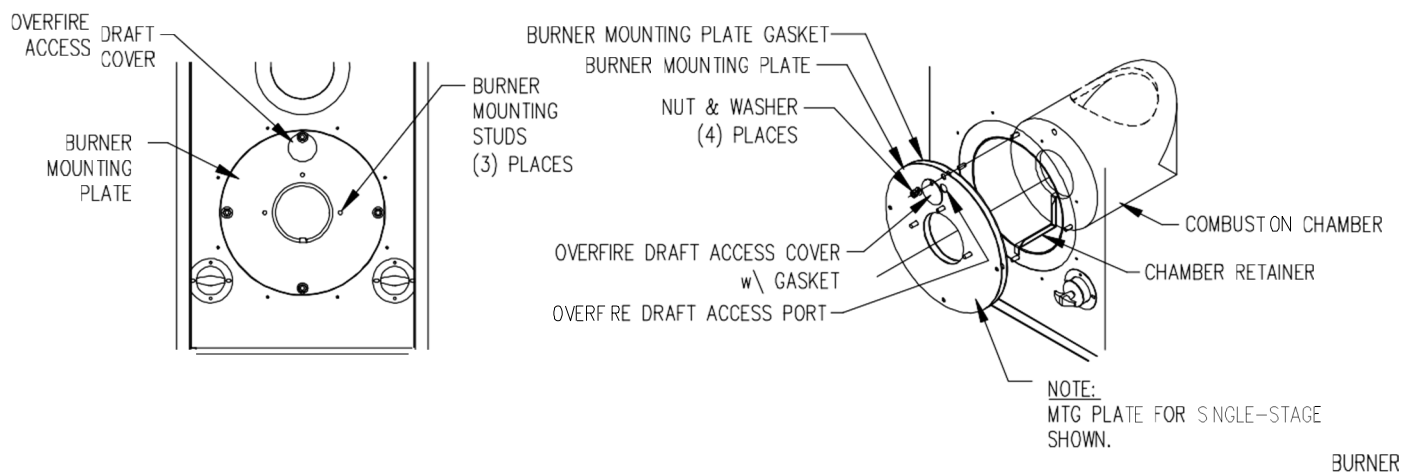


Fig. 3: Typical location of the over fire air tap and components in burner mounting plate area

All installations and services must be performed by qualified service personnel.

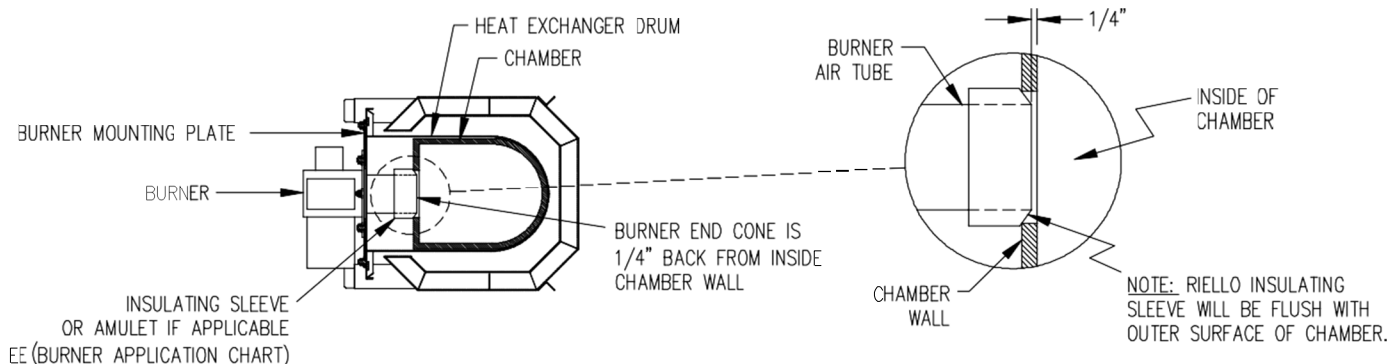


Fig. 4: Burner insertion illustration (Top view)

When mounting the burner, the mounting plate (Fig. 3) must be removed to provide access to the area in front of the combustion chamber. A fiber insulating sleeve or amulet is provided on the burner tube of specific Thermo Pride burners.(see Fig. 4). See Thermo Pride burner application chart for type of insulator. Do not allow the burner tube or end cone to physically touch or protrude into the chamber, as excess heat transfer could result in destruction of the tube, end cone or both. The burner tube/end cone is properly positioned, when the end is 1/4 inch back from the inside surface of the combustion chamber wall.

DO NOT CHANGE POSITION OF THE CHAMBER!

All installations and services must be performed by qualified service personnel.

G. BURNER SPECIFICATIONS AND APPLICATIONS:

Beckett oil burner application

FURNACE MODEL	THERMO PRIDE'S BURNER SPEC NO.	* INS	BECKETT BURNER MODEL & TUBE LENGTH	HEAD	STATIC PLATE	MAXIMUM NOZZLE SIZE**	SHIPPED NOZZLE SIZE	OIL PUMP PRESSURE (PSIG)
OL6*A072D**B	TP2501	N	AFG-4.5"	F3	3-5/8	0.75X70° B	0.60X70° B	120
OL8*A119T**B	TP2502	N	AFG-4.5"	F6	2-3/4U	1.10X80° A	1.00X80° A	120

Carlin oil burner application

FURNACE MODEL	THERMO PRIDE'S BURNER SPEC NO.	INS +	CARLIN BURNER MODEL & TUBE LENGTH	HEAD	STATIC PLATE	MAXIMUM NOZZLE SIZE**	SHIPPED NOZZLE SIZE	OIL PUMP PRESSURE (PSIG)
OL6*A072D**C	99032B	N	EZ-1HP 4.5"	N/A	N/A	0.75X60° A	0.60X60° A	120
OL8*A119T**C	99032C	N	EZ-1HP 4.5"	N/A	N/A	0.90X60° A	0.85X60° A	140

Riello oil burner application

FURNACE MODEL	THERMO PRIDE'S BURNER SPEC NO.	INS +	RIELLO BURNER MODEL & TUBE LENGTH	HEAD	STATIC PLATE	MAXIMUM NOZZLE SIZE**	SHIPPED NOZZLE SIZE	OIL PUMP PRESSURE (PSIG)
OL6*A072D**R	C8511325	S	BF3-4.5"	N/A	N/A	0.70X80° A	0.60X80° A	140
OL8*A119T**R	C8512317	S	BF5-4.5"	N/A	N/A	1.00X80° A	0.85X80° A	140

Table 4: Beckett, Carlin & Riello burners specifications

+ INSULATOR S = SLEEVE OR N = NONE

THE NOZZLE SIZE GIVES THE NOMINAL FLOWRATE, IN GPH, FOLLOWED BY THE SPRAY ANGLE, IN DEGREE'S, AND THE SPRAY PATTERN, EITHER "A" FOR HOLLOW CONE OR "B" FOR SOLID CONE. FOR EXAMPLE, A NOZZLE RATED AT 0.65 GPH @ 100 PSIG THAT PROVIDES AN 80° SPRAY ANGLE AND A HOLLOW SPRAY PATTERN WOULD BE ABBREVIATED IN THE TABLE AS "0.65 X 80°A".

All installations and services must be performed by qualified service personnel.

For more specific burner information, contact:

Thermo Products, LLC

PO Box 237

Denton, NC 27239

800-348-5130

OIL NOZZLE CAPACITY CHART					
UNITS	NOZZLE SIZE (GPH)			EQUIVALENT HEAT INPUT RATE* (BTU/HR)	EFFECTIVE HEATING CAPACITY** (BTU/HR)
	Beckett	Carlin	Riello		
OL6*A060D***	.50	.50	.50	70,000	60,000
OL6*A072D***	.60	.60	.60	85,000	73,000
OL6*A090D***	.75	.75	.70	106,250	90,000
OL8*A101T***	.85	.75	.75	119,000	101,000
OL8*A119T***	1.00	.85	.85	140,000	119,000
OL8*A132T***	1.10	.90	1.00	156,250	132,000

Table 5

All rates shown achieved with 120 PSIG pump pressure for Beckett AFG.

* Based on #2 domestic heating fuel oil having heating value of 140,000 BTU per gallon.

** Based on thermal efficiency of 84%-85%.

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H. HEAT EXCHANGER CLEANING INSTRUCTIONS:

⚠WARNING: THE HEAT EXCHANGER MUST BE CLEANED BY A QUALIFIED SERVICE PERSON.

It is important to inspect and clean the heat exchanger once a year, or as necessary, to remove any build-up of soot. A layer of soot on the inside of the heat exchanger will act as an insulator and reduce heat transfer, resulting in less efficiency.

To clean the heat exchanger, first turn off all power to the unit. Remove clean-out plugs, the vent connector pipe to the chimney, the burner, and the burner mounting plates. When removing the clean-out plugs, remove the screw at the 12 o'clock position. Then, pull clean-out plug straight back.

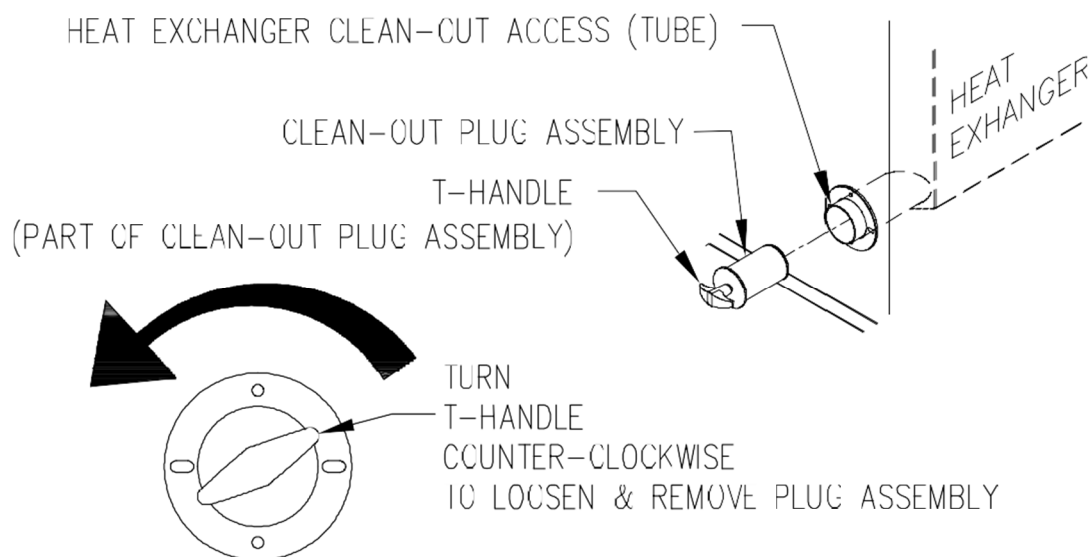


Fig. 5: Heat Exchanger Clean-Outs

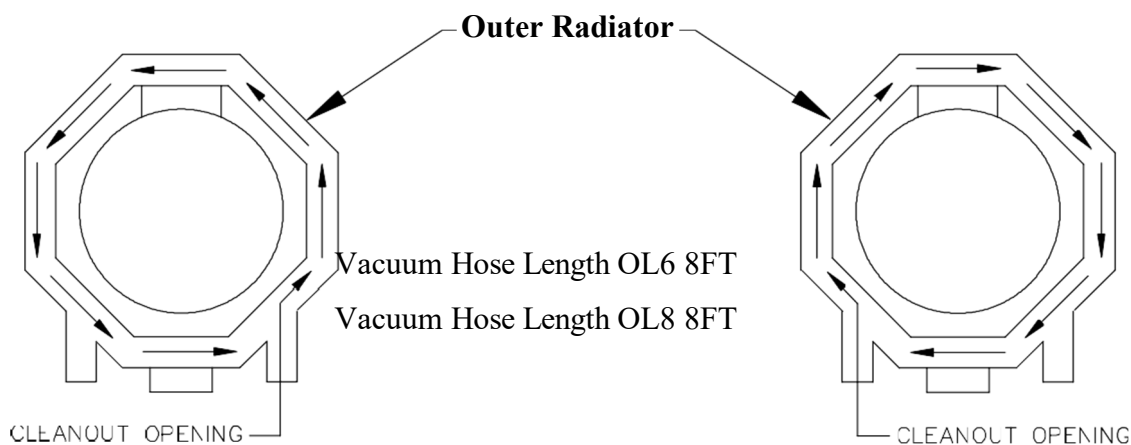


Fig. 6: Recommended method and device for cleaning inside of heat exchanger.

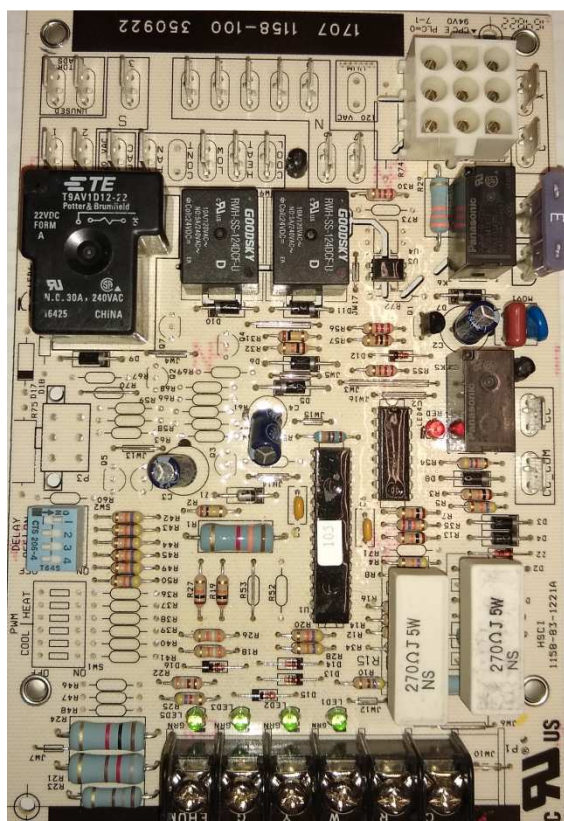
All installations and services must be performed by qualified service personnel.

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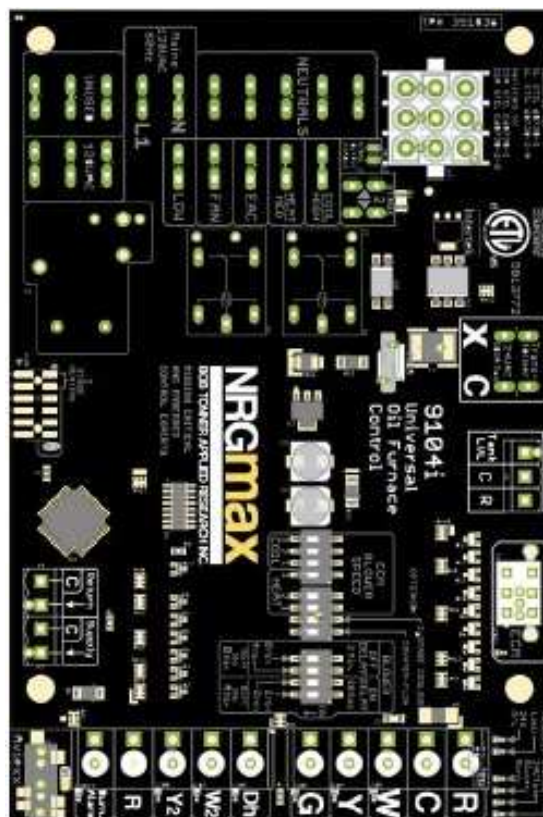
I. FAN CONTROL BOARDS:

Thermo Pride oil furnaces can be equipped with one of the following two boards. Please refer to Fig. 7 to see which board you have.

Wiring Diagrams and Fan Speed Charts can be found in this manual under Appendix B and Appendix C.



UT Fan Control Board



NRGmax Fan Control Board

Fig. 7: Fan Control Board

Note: Refer to ECM Operation Manual for ECM board information.

All installations and services must be performed by qualified service personnel.

Operating Modes for UT board (PSC)

Standby Mode

All outputs are off and the control is waiting for a thermostat demand. The thermostat inputs, and limit switch are continuously monitored. The control initiates action when a thermostat call is received or limit switch opens.

Fan Mode

A call for fan (“G”) is received from the thermostat. If no other mode is calling for blower operation, the control will operate the fan relay (K4) and power the “Low” blower speed terminal. The fan mode will be operated as long as the “G” input is calling and neither the Heat mode nor the Cool mode is calling for blower operation. When the Heat and Cool modes call for blower operation, their respective outputs will take precedence after their respective turn-on time delays have expired.

Cooling Mode

A call for cool (“Y”) is received from the thermostat. If the heat mode is not active or the anti-short cycle delay is not in effect, the control will energize the “CC” terminal and after a 10 second power demand conservation delay energizes the “COOL” speed blower terminal.

When the call for cool is satisfied, the “CC” terminal is de-energized and the cooling off delay of 45 seconds is started. Forty-five seconds later the “COOL” speed blower terminal is de-energized and the control reverts to Standby Mode.

Dehumidification Operation

If a call for dehumidification is received while the Cool Mode is active, blower speeds will be reduced. The “COOL” blower speed terminal will be de-energized and “Low” blower speed will be energized.

Anti-Short Cycle Operation

To prevent compressor short cycling, a call for cooling will be ignored for four minutes after the termination of any cooling call. The anti-short cycle delay is also in effect at power-up.

EAC (electronic air cleaner)

If a call for fan (“G”), cool (“Y”) or heat (“W”) is received from the thermostat, the “EAC” terminal is energized whenever the blower is energized to power an electronic air cleaner.

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Heat Mode

When a call for heat (“W”) is received from the thermostat, if the “Cool” mode is not already active, the “T-T” terminal is energized and the blower on delay is started. The on-off pattern of DIP switch SW2 (positions 1 and 2) select one of four blower on delay values (see Table 6). When the delay time has elapsed, the “HEAT” blower speed is energized. The control remains in steady heat mode until the thermostat is satisfied. When the call for heat signal is removed, the “T-T” terminal is de-energized and the blower off delay is started. The on-off pattern of DIP switch SW2 (positions 3 and 4) select one of four blower off delay values (see Table 8). When the delay time has elapsed, the “HEAT” blower speed terminal is de-energized.

DIP SWITCH 2 SECTION STATE				BLOWER DELAY TIMES		
1	2	3	4	Counter Flow ON - SEC	ON - SEC	OFF - MIN
OF F	OFF			15	30	
ON	OFF			24	60	
OF F	ON			36	120	
ON	ON			48	240	
		OFF	OFF			2
		ON	OFF			4
		OFF	ON			6
		ON	ON			8

Table 7: ON and OFF Blower Delay Time Switch Settings

All installations and services must be performed by qualified service personnel.

Motor Blower Speed

Three interconnected blower speed outputs are provided. A “G” call for fan will provide power to the LOW speed tap only. A “W” heat call will provide power to the Heat speed tap only. A “Y” cooling call will provide power to the Cool speed tap only.

In the case of thermostat calls for “Y” and “W” together, blower speed selection will be determined by the input that was first initiated. In the case where the control is in a cooling mode with both “Y” and “W” inputs energized and then the “Y” input is removed, the cooling blower off time will be executed prior to the control switching into a heating mode. In the case where the control is in a heating mode with both “Y” and “W” inputs energized and then the “W” input is removed, the heating blower off time will be executed prior to the control switching into a cooling mode. In the case where a call for fan “G” already exists and either a “W” or a “Y” call is initiated, the blower speed will switch to the respective “W” or a “Y” speed following the blower on delay for that call.

The speed taps are interconnected and interlocked, only one speed may be powered at any one time. When a speed is to be operated, the speed select relays are operated to select the path to the motor tap and then the enable relay is operated to switch the operating power to the selected motor speed tap. If the speed of the running motor is to be changed, first the enable relay removes power from the motor, the new speed is selected and then power is restored to the motor.

Blower On and Off Delays

Four Heat blower on and four blower off delays are selected by two dip switches for each function. Refer to Table 8 for specific delay values.

Trouble Shooting - Diagnostic Features for UT board

The control board is equipped with 4 green Input Status LEDs and 1 red Board Status LED. These are intended to provide a quick view into furnace performance without requiring a voltmeter.

The green Input Status LEDs are driven by the “Y”, “W”, “G”, and “DEHUM” inputs and are located directly below those inputs. They will light to indicate the presence of these signals.

All installations and services must be performed by qualified service personnel.

The red Board Status LED has two functions:

It will light when the board recognizes a valid input signal and will stay lit until all valid signals are removed. This is intended to show that the board is functioning and able to respond to input signals.

It will flash rapidly while 120VAC is missing from the LIMIT switch. This is intended to give a quick visual indication of the High Limit switch.

Operating Modes for NRGmax board

Standby Mode

All outputs are off and the control is waiting for a thermostat demand. The thermostat inputs, and limit switch are continuously monitored. The control initiates action when a thermostat call is received or limit switch opens.

Fan Mode

A call for fan (“G”) is received from the thermostat. If no other mode is calling for blower operation, the control will operate the fan relay and power the “Low” blower speed terminal. The fan mode will be operated as long as the “G” input is calling and neither the Heat mode nor the Cool mode is calling for blower operation. When the Heat and Cool modes call for blower operation, their respective outputs will take precedence after their respective turn-on time delays have expired.

Cooling Mode

A call for cool (“Y”) is received from the thermostat. If the heat mode is not active the “COOL” speed blower terminal is energized. When the call for cool is satisfied, the “COOL” speed blower terminal is de-energized, the “HEAT” speed blower is energized and the blower off delay of 45 seconds is started. Forty-five seconds later the “HEAT” speed blower terminal is de-energized and the control reverts to Standby Mode.

Dehumidification Operation

If a call for dehumidification is received while the Cool Mode is active, blower speeds will be reduced. The “COOL” blower speed terminal will be de-energized and “Heat” blower speed will be energized.

EAC (electronic air cleaner)

If a call for fan (“G”), cool (“Y”) or heat (“W”) is received from the thermostat, the “EAC” terminal is energized whenever the blower is energized to power an electronic fan cleaner.

All installations and services must be performed by qualified service personnel.

Heat Mode

When a call for heat (“W”) is received from the thermostat, if the “Cool” mode is not already active, the “T-T” terminal is energized and the blower on delay is started. The on-off pattern of DIP switch SW2 (positions 1 and 2) select one of four blower on delay values (see Table 7). When the delay time has elapsed, the “HEAT” blower speed is energized. The control remains in steady heat mode until the thermostat is satisfied. When the call for heat signal is removed, the “T-T” terminal is de-energized and the blower off delay is started. The on-off pattern of DIP switch SW2 (positions 3 and 4) select one of four blower off delay values (see Table 7). When the delay time has elapsed, the “HEAT” blower speed terminal is de-energized.

DIP SWITCH 2 SECTION STATE				BLOWER DELAY TIMES		
1	2	3	4	Counter Flow ON - SEC	ON - SEC	OFF - MIN
OFF	OFF			15	30	
ON	OFF			24	60	
OFF	ON			36	120	
ON	ON			48	240	
		OFF	OFF			2
		ON	OFF			4
		OFF	ON			6
		ON	ON			8

Table 7: ON and OFF Blower Delay Time Switch Settings

Motor Blower Speed

Three interconnected blower speed outputs are provided. A “G” call for fan will provide power to the LOW speed tap only. A “W” heat call will provide power to the Heat speed tap only. A “Y” cooling call will provide power to the Cool speed tap only.

In the case of thermostat calls for “Y” and “W” together, blower speed selection will be determined by the input that was first initiated. In the case where the control is in a cooling mode with both “Y” and “W” inputs energized and then the “Y” input is removed, the cooling blower off time will be executed prior to the control switching into a heating mode. In the case where the control is in a heating mode with both “Y” and “W” inputs energized and then the “W” input is removed, the heating blower off time will be executed prior to the control switching into a cooling mode. In the case where a call for fan “G” already exists and either a “W” or a “Y” call is initiated, the blower speed will switch to the respective “W” or a “Y” speed following the blower on delay for that call.

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The speed taps are interconnected and interlocked, only one speed may be powered at any one time. When a speed is to be operated, the speed select relays are operated to select the path to the motor tap and then the enable relay is operated to switch the operating power to the selected motor speed tap. If the speed of the running motor is to be changed, first the enable relay removes power from the motor, the new speed is selected and then power is restored to the motor.

Blower On and Off Delays

Four Heat blower on and four blower off delays are selected by two dip switches for each function. Refer to Table 7 for specific delay values.

Advanced Features

Tank Level, Refrigerant Temperature and Duct Sensor connections are for future use with a third party cloud based service called Aviexx. Contact Aviexx.com for more information.

Trouble Shooting - Diagnostic Features for NRGmax board

The control board is equipped with 1 Blue Board Status LED, 6 Amber thermostat Input Status LEDs, 3 Green Status LEDs and 3 Red Trouble Status LEDs. These are intended to provide a quick view into furnace performance without requiring a voltmeter.

Normal LED Indicators

Thermostat Inputs: Amber LEDs indicate 24V signal present at terminal

Status: Blue LED pulses at various speeds to indicate operational state

24V Transformer: Green LED indicates that 24V transformer is powered

Blower: Green LED indicates Blower Relay is energized

Burner: Green LED indicates Burner TT Relay is energized

Trouble LED Indicators

Limit: Red LED indicates that High Limit is Open

Burner: Red Led indicates lockout alarm from Oil Burner (requires burner equipped with Lockout Alarm Function)

24V O/L: Red LED indicates that an overload condition has caused the circuit protector to trip.

All installations and services must be performed by qualified service personnel.

III. USERS INFORMATION SECTION

A. OIL SUPPLY: Do not allow the fuel tank to run completely empty. During the summer, keep the tank full to prevent condensation of moisture on the inside surface of the tank. If the fuel tank runs completely dry, it may be necessary to purge the lines of trapped air. Contact a qualified technician to bleed the lines and restart the burner.

OIL SUPPLY VALVE: Turn the oil supply valve off if the burner is shut down for an extended period of time.

B. COMBUSTION AIR SUPPLY: The burner requires a generous amount of clean combustion air to operate safely. Lack of adequate combustion air can result in erratic operation of the burner, noisy combustion, or fuel odors in the air. NEVER BLOCK THE FURNACE FROM THE SUPPLY OF COMBUSTION AIR. If there is an exhaust fan, dryer or return air grill in the furnace room, there should be increased concern and additional efforts may be required to provide adequate combustion air to the furnace at all times.

C. INSPECTION AREAS

VESTIBULE: The furnace vestibule area or burner compartment should be inspected by removing the front door of the furnace and looking for signs of excessive heat such as discoloration of components materials damage, from rust or corrosion, soot or carbon build-up.

EXTERIOR OF FURNACE: The furnace exterior should be inspected for signs of excessive heat such as discoloration of materials and damage from rust or corrosion.

FLUE PIPE, VENT PIPE OR CONNECTOR: The furnace vent pipe should be inspected for signs of rust, corrosion pitting or holes in pipe, and leakage around seams in pipe, indicated by soot or condensate streaks.

CHIMNEY OR VENTING SYSTEM: The furnace venting system should be inspected for signs of rust, corrosion pitting or holes, and signs of condensation or moisture leakage from the venting system.

If any of the above symptoms are evident, call a qualified heating contractor for assistance.

⚠CAUTION: DO NOT ATTEMPT TO MAKE REPAIRS YOURSELF!

⚠WARNING: The area around the furnace should be kept free and clear of combustible liquids and material, especially papers and rags.

⚠WARNING: NEVER burn garbage or refuse in your furnace. Never try to ignite oil by tossing burning papers or other material into your furnace.

⚠WARNING: This oil furnace is designed to burn No. 1 or No. 2 distillate fuel oil. NEVER USE GASOLINE OR A MIXTURE OF OIL AND GASOLINE.

All installations and services must be performed by qualified service personnel.

⚠CAUTION: DO NOT ATTEMPT TO START THE BURNER WHEN:

- 1. Excess oil has accumulated,**
- 2. The furnace is full of vapors**
- 3. The combustion chamber is very hot.**

IF ONE OR MORE OF THESE CONDITIONS EXIST, CONTACT A QUALIFIED SERVICE PERSON.

D. STARTING THE BURNER:

4. Turn the main service switch to "OFF" position.
5. Set thermostat substantially above room temperature.
6. Open shut-off valves in oil supply line to burner.

Turn service switch to furnace "ON". If burner starts and runs, but stops again on lockout, it may be necessary to bleed the lines or make burner combustion air adjustments. Contact a qualified service person to adjust and start burner.

E. Filter maintenance procedure:

Shut off the electrical power to the unit. Open the blower access door. Slide the air filters out of the filter rack. Clean the filters by either vacuuming, rinsing with tap water, hosing, or dipping in an ordinary detergent solution. After cleaning and drying the filters, replace the completely dry filters in the rack. If the filter has a supporting mesh, the mesh side of the filter must be placed towards the furnace.

Filter replacement:

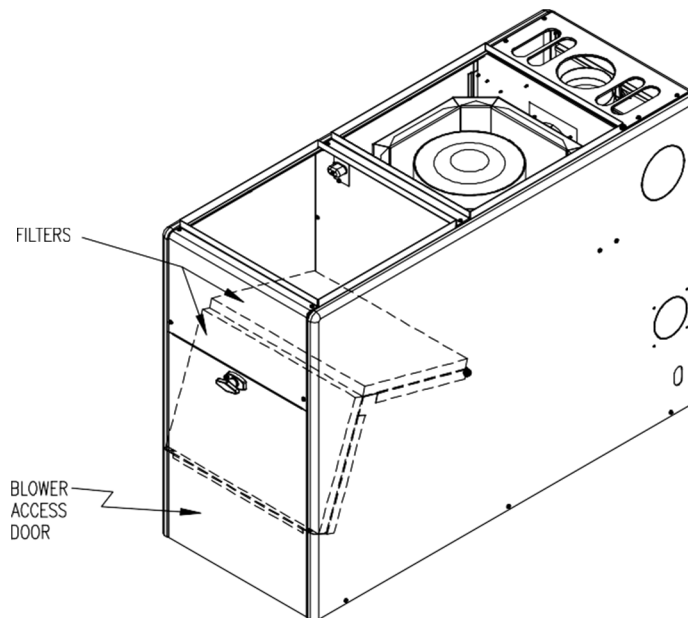


Figure 8: Location of Supply/Return Air Filters

To ensure an adequate replacement filter is selected, should the filter require replacing, refer to Table 3, in Air Filters section of this manual, for the minimum filter areas required for different types of available filters.

All installations and services must be performed by qualified service personnel.

COMBUSTION AND EFFICIENCY TESTING FOR OIL FIRED CENTRAL FURNACES.

COMBUSTION AND EFFICIENCY TESTING FOR THERMO PRIDE OIL FIRED CENTRAL FURNACES.

Complete this form for each Thermo Pride furnace installed. Read instruction manual carefully before making tests. Retain this form with furnace.

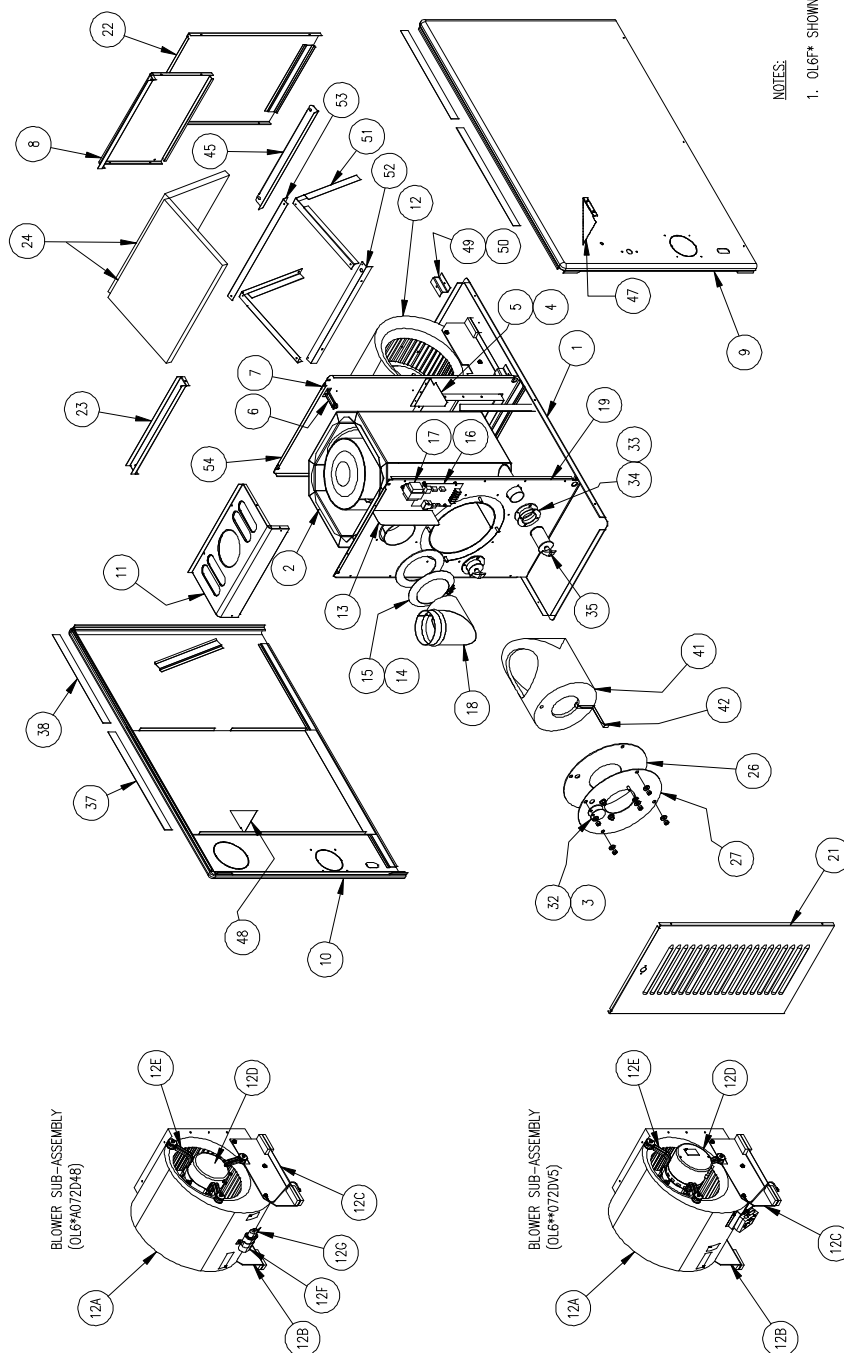
CUSTOMER	NAME				
	ADDRESS				
	CITY, STATE				
HEATING SYSTEM	FURNACE MODEL				
	FURNACE SERIAL				
	BURNER MODEL NO.				
	TYPE OF VENTING & OIL SYSTEM (CHECK ALL THAT APPLY)				
	<input type="checkbox"/> MASONRY CHIMNEY <input type="checkbox"/> METAL CHIMNEY <input type="checkbox"/> DRAFT CONTROL	<input type="checkbox"/> CLAY LINER <input type="checkbox"/> METAL LINER <input type="checkbox"/> SIDEWALL POWER VENTER <input type="checkbox"/> FUEL FILTER	<input type="checkbox"/> MAKE UP AIR TO MECANICAL ROOM <input type="checkbox"/> DIRECT VENT <input type="checkbox"/> COMBUSTION AIR KIT <input type="checkbox"/> 2 PIPE SYTEM		
COMBUSTION TEST Operate burner for at least 10 min. before taking readings.		INITIAL	SERVICE	SERVICE	SERVICE
	CO2 (%)				
	O2 (%)				
	CO (PPM)				
	SMOKE NO.				
	DRAFT -BREECH (IN W.C.)				
	DRAFT - OVERFIRE (IN W.C.)				
	GROSS FLUE TEMP (°F)				
	ROOM TEMP (°F)				
	EFFICIENCY (%)				
	SUPPLY TEMP (°F)				
	RETURN TEMP (°F)				
	TEMP RISE (°F)				
	NOZZLE (GPH/ANGLE/CONE)				
	PUMP PRESS (PSI)				
	SAFTEY CONTROL OPERATION				
	CHECK FOR LEAKS				
	TECHNICIAN				
	DATE				
INSTALLER	NAME	ADDRESS		PHONE	

All installations and services must be performed by qualified service personnel.

Appendix – A Replacement Parts:

Replacement Parts for OL6F*072D*

ITEMS NOT SHOWN:	
25	DRAFT CONTROL
36	DOOR HANDLE PACKAGE
39	OFFSET PLENUM STRIP – QTY 2
40	OFFSET PLENUM STRIP – QTY 2
55*	OIL BURNER
28	BLOWER MOTOR HARNESS
29	MOTOR POWER HARNESS
30	MOTOR CONTROL HARNESS
31	VESTIBULE HARNESS
56	HEAT EXCHANGER GASKET KIT



NOTES:

1. OL6F* SHOWN, OTHER MODELS MAY VARY SLIGHTLY.

All installations and services must be performed by qualified service personnel.

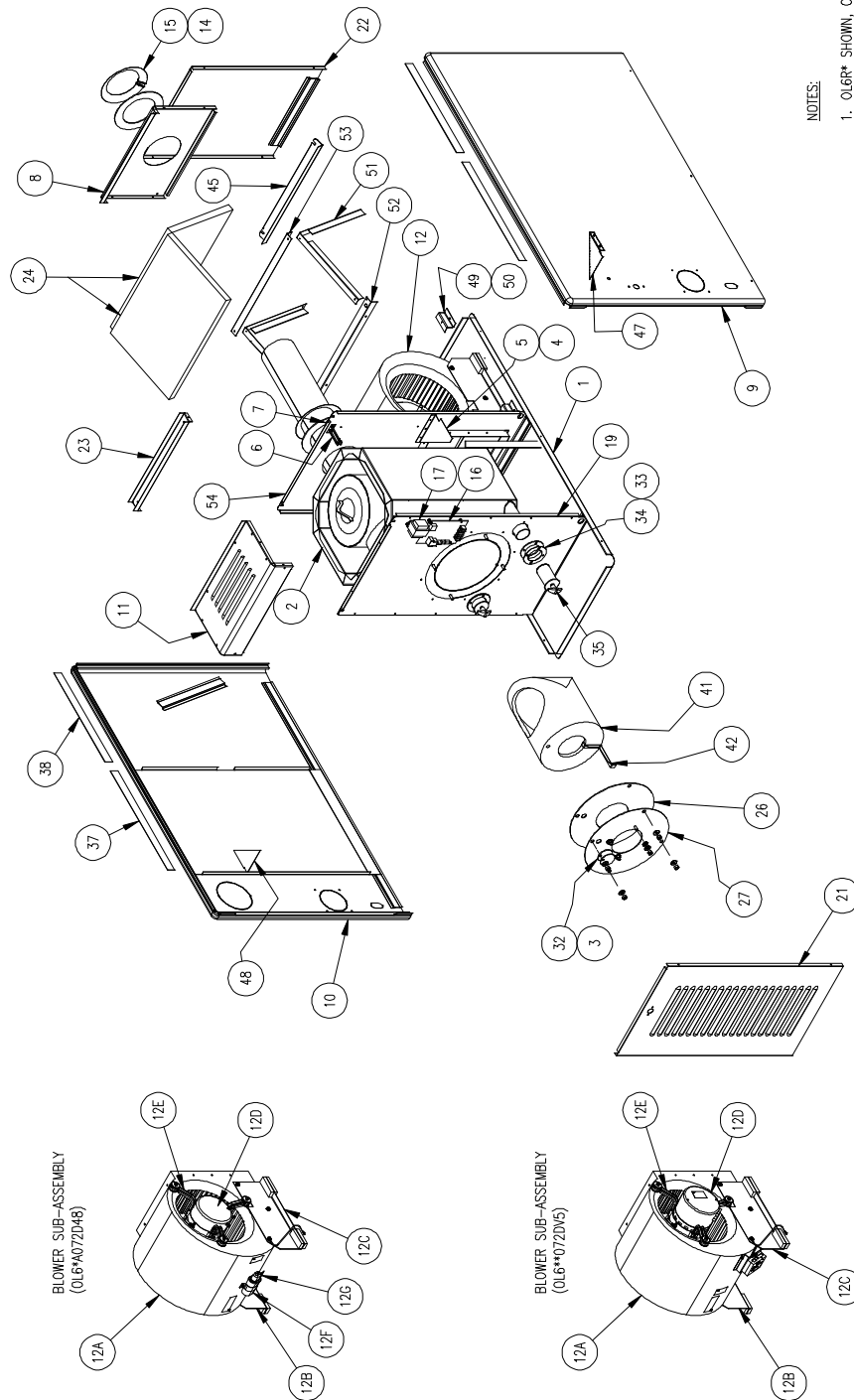
UNIT		OL6FA072D48			OL6FA072DV5		
		PART NO.	QTY.	PART NO.	QTY.	PART NO.	QTY.
ITEM	PARTS DESCRIPTION						
1	BASE	28981	1	28981	1		
2	HEAT EXCHANGER	39018	1	39018	1		
3	GASKET, OVERFIRE DRAFT COVER	330343	1	330343	1		
4	BAFFLE, LEFT SIDE CASING	18461	1	18461	1		
5	BAFFLE, RIGHT SIDE CASING	18460	1	18460	1		
6	LIMIT SWITCH	350817	1	350817	1		
7	INSULATION BOOT	350036	1	350036	1		
8	TOP REAR PANEL	618994	1	618994E	1		
9	CASING, RIGHT SIDE	628983	1	628983E	1		
10	CASING, LEFT SIDE	628982	1	628982E	1		
11	PANEL, TOP FRONT	619013	1	619013	1		
12	BLOWER SUB-ASSEMBLY	50054180	1	50054181	1		
12A	BLOWER HOUSING w\ WHEEL	340042	1	340042	1		
12A1	BLOWER WHEEL	340108	1	340108	1		
12B	BLOWER LEG, LEFT	14828	1	14828	1		
12C	BLOWER LEG, RIGHT	14829	1	14829	1		
12D	MOTOR, REPLACEMENT KIT	AOPS7652	1	AOPS7499	1		
12D1	MOTOR	-	-	350256	1		
12D2	16x4 BOX, PROGRAMMED	-	-	AOPS7508	1		
12D3	HARNESS, 16x4 BOX	-	-	350259	1		
12E	MOTOR BRACKET ASSEMBLY	AOPS7670	1	AOPS7670	1		
12F	CAPACITOR	350073	1	-	-		
12G	INSULATION BOOT	350036	1	-	-		
13	HEAT SHIELD	19017	1	19017	1		
14	GASKET, FLUE COLLAR	330073	1	330073	1		
15	DRAW COLLAR	14121	1	14121	1		
16	CONTROL, OIL FURNACE	50089	1	50089	1		
17	TRANSFORMER	350405	1	350405	1		
18	ELBOW, 5"	36050	1	36050	1		
19	FRONT SEPARATOR PANEL	618984	1	618984	1		
20	-	-	-	-	-		
21	DOOR, FRONT	628996	1	628996	1		
22	DOOR, BLOWER ACCESS	628997	1	628997E	1		
23	TOP CENTER PANEL	618993	1	618993E	1		
24	FILTER, 14 x 20 x 1	370201	2	370201	2		
25	DRAFT CONTROL	370110	1	370110	1		
26	GASKET, BURNER MOUNTING PLATE	330212	1	330212	1		
27	PLATE, BURNER MOUNTING ASSY	AOPS7648	1	AOPS7648	1		
28	HARNESS, BLOWER MOTOR	350249	1	-	-		
29	HARNESS, MOTOR POWER	-	-	350918	1		
30	HARNESS, MOTOR CONTROL	-	-	350252	1		
31	HARNESS, VESTIBULE	350250	1	350250	1		
32	COVER, OVER-FIRE DRAFT OPENING	18556	1	18556	1		
33	GASKET, TRIM PLATE	330215	2	330215	2		
34	TRIM PLATE	18553	2	18553	2		

All installations and services must be performed by qualified service personnel.

Replacement Parts for OL6R*072D**

ITEMS NOT SHOWN:

- | | | | |
|----|-----------------------------|-----|---------------------------|
| 25 | DRAFT CONTROL | 55* | OIL BURNER |
| 36 | DOOR HANDLE PACKAGE | 28 | BLOWER MOTOR HARNESS |
| 39 | OFFSET PLENUM STRIP - QTY 2 | 29 | MOTOR POWER HARNESS |
| 40 | OFFSET PLENUM STRIP - QTY 2 | 30 | MOTOR CONTROL HARNESS |
| | | 31 | VESTIBULE HARNESS |
| | | 56 | HEAT EXCHANGER GASKET KIT |



NOTES:

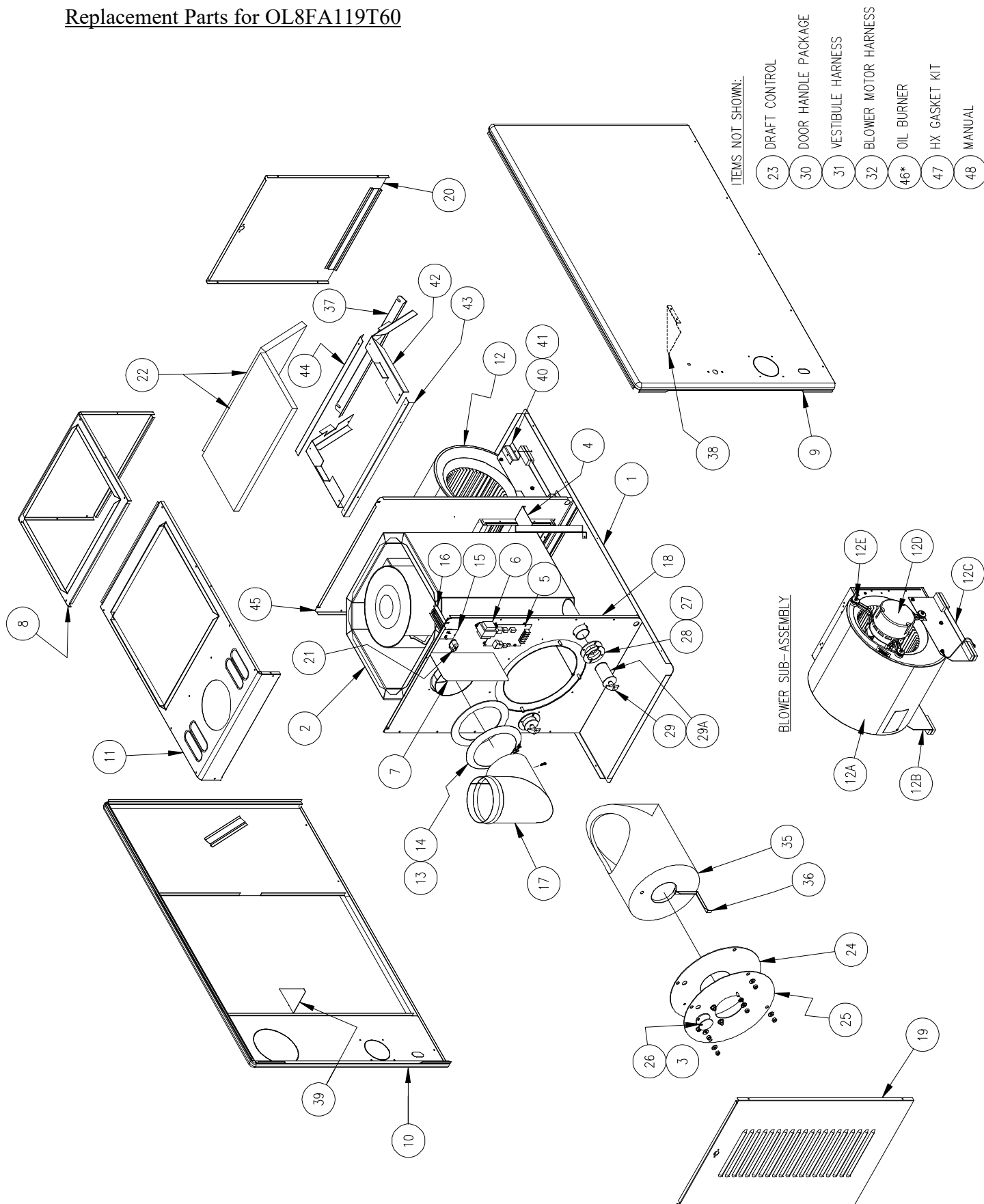
1. OL6R* SHOWN, OTHER MODELS MAY VARY SLIGHTLY.

All installations and services must be performed by qualified service personnel.

ITEM		UNIT PARTS DESCRIPTION		OL6RA072D48		OL6RA072DV5	
				PART NO.	QTY.	PART NO.	QTY.
1	BASE	28981	1	28981	1		
2	HEAT EXCHANGER	38999	1	38999	1		
3	GASKET, OVERFIRE DRAFT COVER	330343	1	330343	1		
4	BAFFLE, LEFT SIDE CASING	18461	1	18461	1		
5	BAFFLE, RIGHT SIDE CASING	18460	1	18460	1		
6	LIMIT SWITCH	350953	1	350953	1		
7	INSULATION BOOT	350036	1	350036	1		
8	TOP REAR PANEL	618995	1	618995E	1		
9	CASING, RIGHT SIDE	628983	1	628983E	1		
10	CASING, LEFT SIDE	628982	1	628982E	1		
11	PANEL, TOP FRONT	618992	1	618992	1		
12	BLOWER SUB-ASSEMBLY	S00S4180	1	S00S4181	1		
12A	BLOWER HOUSING w\ WHEEL	340042	1	340042	1		
12A	BLOWER WHEEL	340108	1	340108	1		
12B	BLOWER LEG, LEFT	14828	1	14828	1		
12C	BLOWER LEG, RIGHT	14829	1	14829	1		
12D	MOTOR	AOPS7652	1	AOPS7499	1		
12D1	MOTOR	-	-	350256	1		
12D2	16x4 BOX, PROGRAMMED	-	-	AOPS7508	1		
12D3	HARNESS, 16x4 BOX	-	-	350259	1		
12E	MOTOR BRACKET ASSEMBLY	AOPS7670	1	AOPS7670	1		
12F	CAPACITOR	350073	1	-	-		
12G	INSULATION BOOT	350036	1	-	-		
14	GASKET, FLUE COLLAR	330073	2	330073	2		
15	DRAW COLLAR	14121	2	14121	2		
16	CONTROL, OIL FURNACE	50089	1	50089	1		
17	TRANSFORMER	350405	1	350405	1		
18	-	-	-	-	-		
19	FRONT SEPARATOR PANEL	618985	1	618985	1		
20	-	-	-	-	-		
21	DOOR, FRONT	628996	1	628996	1		
22	DOOR, BLOWER ACCESS	628997	1	628997E	1		
23	TOP CENTER PANEL	618993	1	618993E	1		
24	FILTER, 14 x 20 x 1	370201	2	370201	2		
25	DRAFT CONTROL	370110	1	370110	1		
26	GASKET, BURNER MOUNTING PLATE	330212	1	330212	1		
27	PLATE, BURNER MOUNTING ASSY	AOPS7648	1	AOPS7648	1		
28	HARNESS, BLOWER MOTOR	350249	1	-	-		
29	HARNESS, MOTOR POWER	-	-	350918	1		
30	HARNESS, MOTOR CONTROL	-	-	350252	1		
31	HARNESS, VESTIBULE	350250	1	350250	1		
32	COVER, OVER-FIRE DRAFT OPENING	18556	1	18556	1		
33	GASKET, TRIM PLATE	330215	2	330215	2		
34	TRIM PLATE	18553	2	18553	2		
35	CLEAN-OUT PLUG ASSEMBLY	S00S4489	2	S00S4489	2		

All installations and services must be performed by qualified service personnel.

Replacement Parts for OL8FA119T60



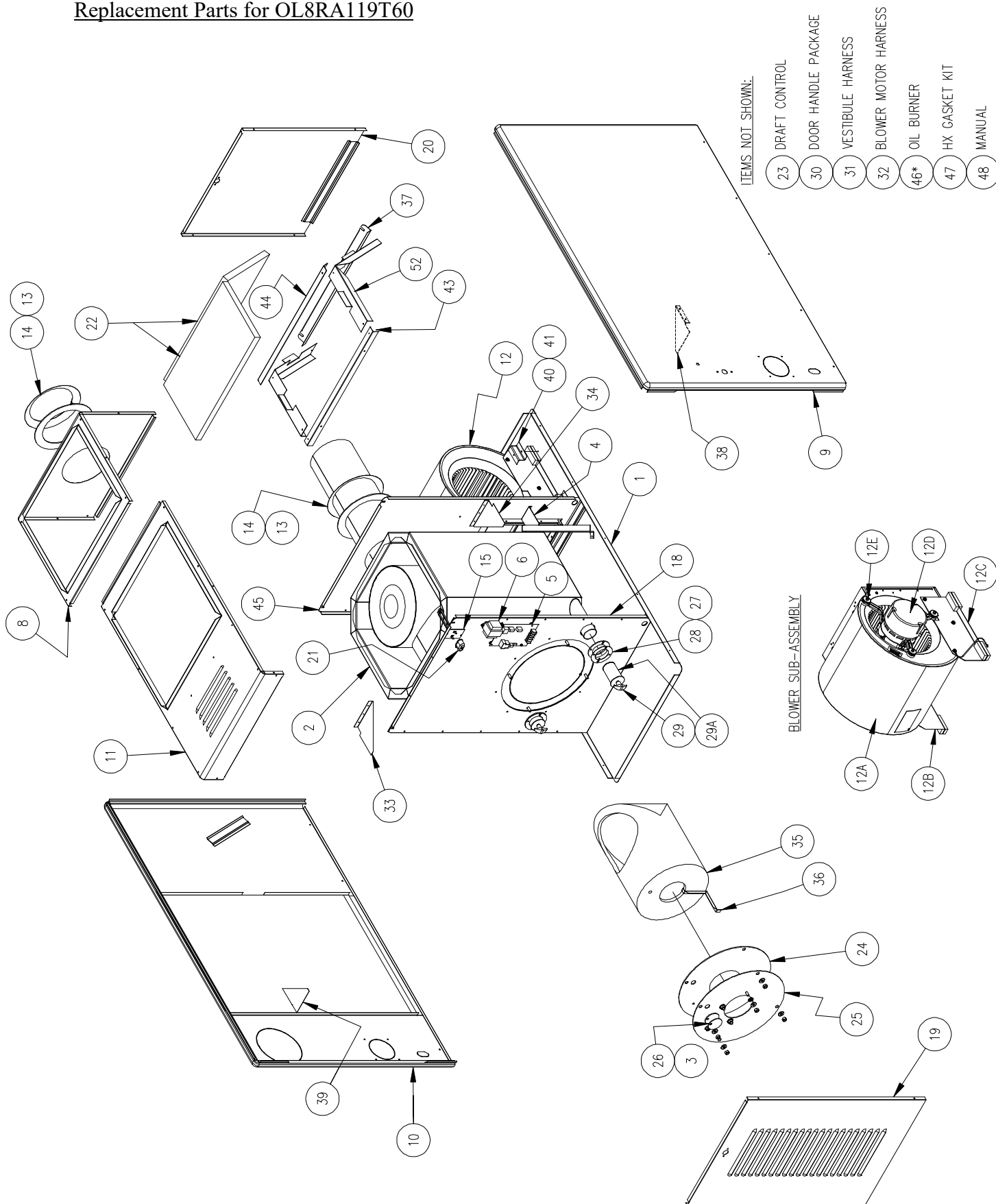
All installations and services must be performed by qualified service personnel.

ITEM	SUB-ASSEMBLY	OL8FA119T60	
	PARTS DESCRIPTION	PART NO.	QTY.
1	BASE	22220	1
2	HEAT EXCHANGER	32202	1
3	GASKET, OVERFIRE DRAFT COVER	330343	1
4	BLOWER BLOCK-OFF	12248	1
5	OIL FURNACE CONTROL	351036	1
6	TRANSFORMER, 24V	350405	1
7	HEAT SHIELD	12247	1
8	TOP REAR PANEL	612234E	1
9	CASING, RIGHT SIDE	50068	1
10	CASING, LEFT SIDE	50067	1
11	PANEL, TOP FRONT	50069	1
12	BLOWER SUB-ASSEMBLY	50074	1
12A	BLOWER HOUSING W\ WHEEL	S00S4519	1
12A1	BLOWER WHEEL	340109	1
12B	BLOWER LEG, LEFT	14828	1
12C	BLOWER LEG, RIGHT	14829	1
12D	MOTOR	351034	1
12E	MOTOR MOUNTING BRACKET ASS'Y	AOPS7670	1
13	GASKET, FLUE COLLAR	330006	1
14	DRAW COLLAR	14132	1
15	LIMIT SWITCH	350811	1
16	LIMIT SHIELD	19228	1
17	ELBOW, 7"	36052	1
18	FRONT SEPARATOR PANEL	612228E	1
19	DOOR, FRONT, LESS HANDLE	50071	1
20	DOOR, BLOWER ACCESS, LESS HDL	50073	1
21	INSULATION BOOT	350036	1
22	FILTER, 12 x 22 x 1	370205	2
23	DRAFT CONTROL	370106	1
24	GASKET, BURNER MOUNTING PLATE	330354	1
25	PLATE, BURNER MTG W/ GASKET	AOPS7648	1
26	COVER, OVER-FIRE DRAFT OPENING	18556	1
27	GASKET, TRIM PLATE	330215	2
28	TRIM PLATE	618553	2
29	CLEAN-OUT PLUG ASSEMBLY	S00S4456	2
29A	HOSE, CLEAN-OUT	19177	2
30	DOOR HANDLE PACKAGE	AOPS7578	2
31	VESTIBULE WIRE HARNESS	350271	1
32	BLOWER MOTOR WIRE HARNESS	350269	1
33	—	—	—
34	—	—	—

ITEM	SUB-ASSEMBLY	OL8FA119T60	
	PARTS DESCRIPTION	PART NO.	QTY.
35	COMBUSTION CHAMBER W/ GASKET	AOPS7756	1
36	CHAMBER RETAINER	18657	1
37	FILTER SUPPORT, REAR	12230	1
38	BAFFLE, FRONT RIGHT	19214	1
39	BAFFLE, FRONT LEFT	19215	1
40	BLOWER HOLD DOWN, LEFT	14113	1
41	BLOWER HOLD DOWN, RIGHT	14114	1
42	FILTER SUPPORT, SIDE	12231	2
43	REAR SEP'R FILTER SUPPORT	12198	1
44	FILTER SUPPORT, CENTER	12200	1
45	REAR SEPARATOR PANEL	22226	1
46A	BURNER, BECKETT AFG	380754	1
46B	BURNER, RIELLO BF5	380756	1
46C	BURNER, CARLIN EZ-1HP	380836	1
47	HX GASKET KIT	AOPS7730	1
48	MANUAL	M0-547	1

All installations and services must be performed by qualified service personnel.

Replacement Parts for OL8RA119T60



All installations and services must be performed by qualified service personnel.

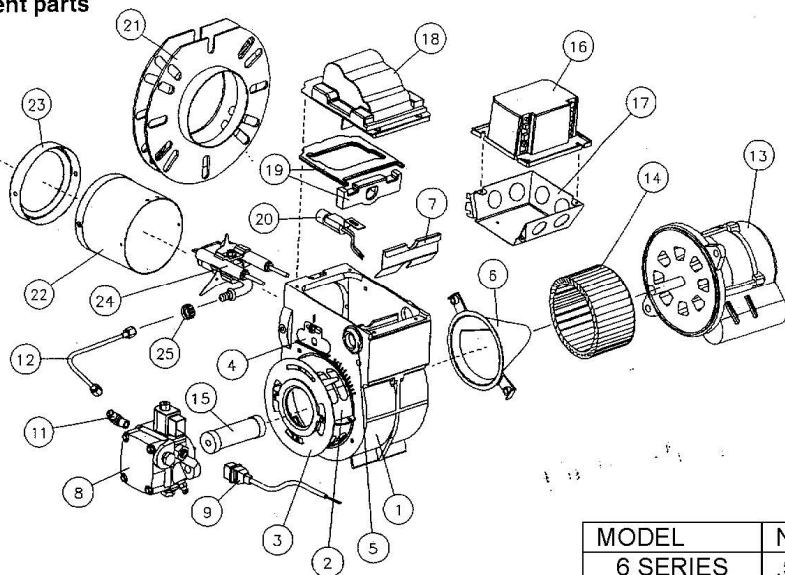
ITEM	SUB-ASSEMBLY	OL8RA119T60	
	PARTS DESCRIPTION	PART NO.	QTY.
1	BASE	22220	1
2	HEAT EXCHANGER	32203	1
3	GASKET, OVERFIRE DRAFT COVER	330343	1
4	BLOWER BLOCK-OFF	12248	1
5	OIL FURNACE CONTROL	351036	1
6	TRANSFORMER, 24V	350405	1
7	—	—	—
8	TOP REAR PANEL	612235E	1
9	CASING, RIGHT SIDE	50068	1
10	CASING, LEFT SIDE	50067	1
11	PANEL, TOP FRONT	50070	1
12	BLOWER SUB-ASSEMBLY	50075	1
12A	BLOWER HOUSING W\ WHEEL	340063	1
12A1	BLOWER WHEEL	340109	1
12B	BLOWER LEG, LEFT	14828	1
12C	BLOWER LEG, RIGHT	14829	1
12D	MOTOR	351035	1
12E	MOTOR MOUNTING BRACKET ASS'Y	AOPS7670	1
13	GASKET, FLUE COLLAR	330006	2
14	DRAW COLLAR	14132	2
15	LIMIT SWITCH	351032	1
16	—	—	—
17	—	—	—
18	FRONT SEPARATOR PANEL	612229E	1
19	DOOR, FRONT, LESS HANDLE	50072	1
20	DOOR, BLOWER ACCESS, LESS HDL	50073	1
21	INSULATION BOOT	350036	1
22	FILTER, 12 x 22 x 1	370205	2
23	DRAFT CONTROL	370106	1
24	GASKET, BURNER MOUNTING PLATE	330354	1
25	PLATE, BURNER MTG W/ GASKET	AOPS7648	1
26	COVER, OVER-FIRE DRAFT OPENING	18556	1
27	GASKET, TRIM PLATE	330215	2
28	TRIM PLATE	618553	2
29	CLEAN-OUT PLUG ASSEMBLY	S00S4456	2
29A	HOSE, CLEAN-OUT	19177	2
30	DOOR HANDLE PACKAGE	AOPS7578	2
31	VESTIBULE WIRE HARNESS	350271	1
32	BLOWER MOTOR WIRE HARNESS	350269	1
33	BAFFLE, REAR LEFT	19217	1
34	BAFFLE, REAR RIGHT	19216	1

ITEM	SUB-ASSEMBLY	OL8RA119T60	
	PARTS DESCRIPTION	PART NO.	QTY.
35	COMBUSTION CHAMBER W/ GASKET	AOPS7756	1
36	CHAMBER RETAINER	18657	1
37	FILTER SUPPORT, REAR	12230	1
38	BAFFLE, FRONT RIGHT	19214	1
39	BAFFLE, FRONT LEFT	19215	1
40	BLOWER HOLD DOWN, LEFT	14113	1
41	BLOWER HOLD DOWN, RIGHT	14114	1
42	FILTER SUPPORT, SIDE	12231	2
43	REAR SEP'R FILTER SUPPORT	12198	1
44	FILTER SUPPORT, CENTER	12200	1
45	REAR SEPARATOR PANEL	22227	1
46A	BURNER, BECKETT AFG	380754	1
46B	BURNER, RIELLO BF5	380756	1
46C	BURNER, CARLIN EZ-1HP	380836	1
47	HX GASKET KIT	AOPS7730	1
48	MANUAL	M0-547	1

All installations and services must be performed by qualified service personnel.

OH6/OD6/OL6 AFG BECKETT BURNER, TP2501 (380692)

Replacement parts



MODEL	NOZZLE SIZE	PART #
6 SERIES	.50 x 70° A	380749
	.60 X 70° B ¹	380869
	.75 X 70° B	380870

ITEM	DESCRIPTION	BECKETT PART #	TP PART #
1	BURNER HOUSING ASSY.	5874GY	
2	AIR BAND ASSY. 8 SLOT SET @ 0	5151502	
3	AIR SHUTTER, 4 SLOT, SET @ 7	3709U	380289
4	ESCUTCHEON PLATE	3493	
	SCREW	4292	
5	HOLE PLUG	2139	
6	AIR GUIDE	31231U	
7	LOW FIRING RATE BAFFLE	5880	
8	*PUMP 120 PSI	PF20322U	380674
	*SOLENOID	21755	380654
9	VALVE CORD SET	21807U	380653
11	PUMP ELBOW	2256	320815
12	CONNECTION TUBE	5394	380107
13	*MOTOR 1/7 HP 3450 RPM	21805E	380644
14	BLOWER WHEEL 4 1/4 X 2 7/16 TAB	2999	380271
15	*COUPLING	2454	380241
16	*PRIMARY CONTROL	7505B1500	350431
17	ELECTRICAL BOX	5770	
18	*IGNITER W/ GASKETS	51771U	380645
19	IGNITER GASKET KIT	51304	
20	*CAD CELL w/ SOCKET	7006U	350104
21	FLANGE WELDED TO TUBE	N/A	N/A
	GASKET	3616	380270
22	AIR TUBE COMBINATION W/FLG, GUN ASSY & HEAD	58020165	380108
	BLAST TUBE ONLY	AF60YHHSSS	
23	HEAD, F3 W/ SHIELD KIT	360063	380320
24	ELECTRODE NOZZLE ASSY	NL60YH	380706
	*ELECTRODES PAIR	5780	380269
	STATIC PLATE, 3 5/8 U	3912	
25	SPLINED NUT	3666	320121
	BULK HEAD FITTING	3488	320120

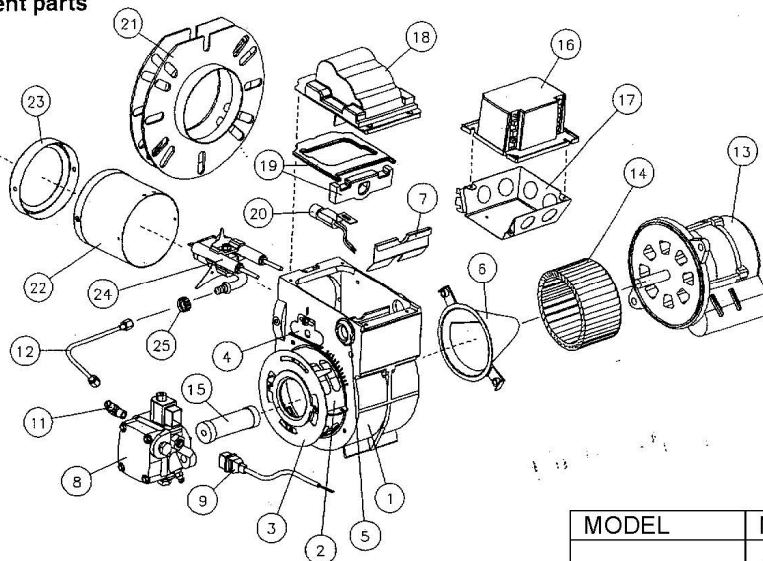
¹ Nozzle installed in burner.

04/07/22

All installations and services must be performed by qualified service personnel.

OH8 AFG BECKETT BURNER, TP2502 (380754)

Replacement parts

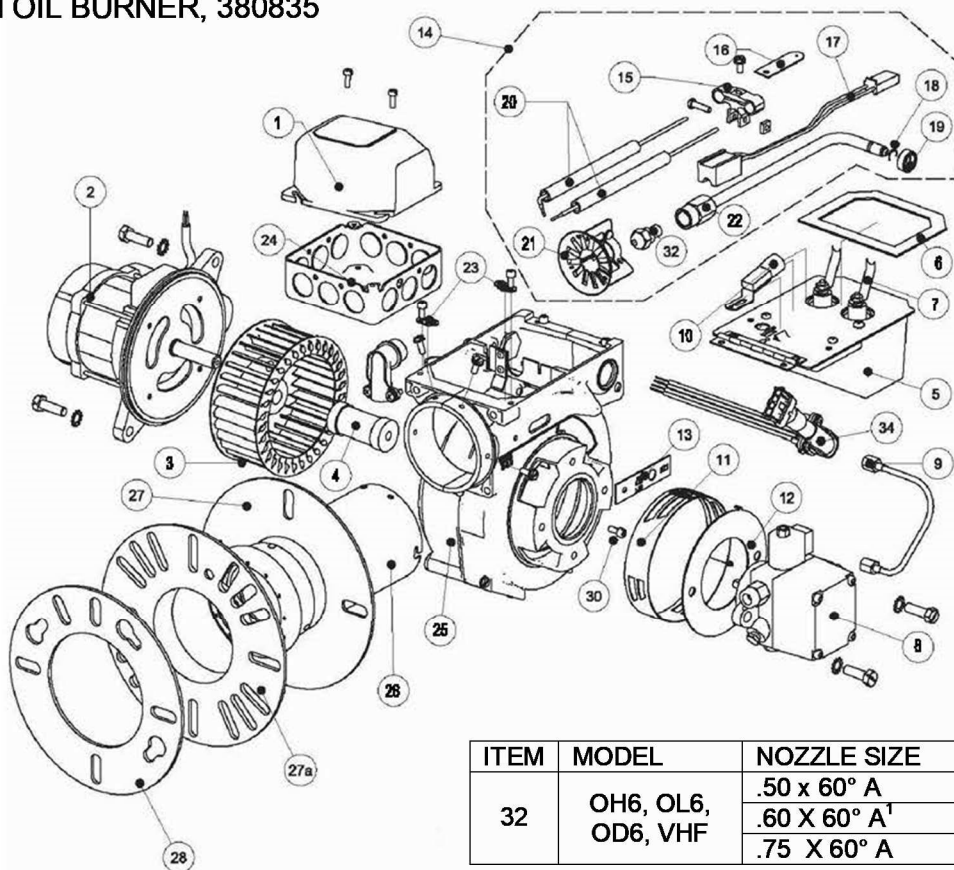


MODEL	NOZZLE SIZE	PART #
OH8, OL8	.85 x 80° A	380381
	1.0 X 80° A	380368
	1.10 X 80° A	380369

ITEM	DESCRIPTION	BECKETT PART #	TP PART #
1	BURNER HOUSING ASSY.	5874GY	
2	AIR BAND ASSY, SET @ 0	3625A	
3	AIR SHUTTER, 4 SLOT, SET @ 5	3709U	380289
4	ESCUTCHEON PLATE	3493	
	SCREW	4292	
5	HOLE PLUG	2139	
6	AIR GUIDE	31231U	
7	LOW FIRING RATE BAFFLE	N/A	N/A
8	PUMP 120 PSI	21844	380674
	SOLENOID	21755	380654
9	VALVE CORD SET	21807U	380653
11	PUMP ELBOW	2256	320815
12	CONNECTION TUBE	5394	380107
13	MOTOR 1/7 HP 3450 RPM	21805E	380644
14	BLOWER WHEEL 4 1/4 X 2 7/16 TAB	2999	380271
15	COUPLING	2454	380241
16	PRIMARY CONTROL GENISYS	7505B1500	350431
17	ELECTRICAL BOX	5770	
18	IGNITER W/ GASKETS	51771U	380645
19	IGNITER GASKET KIT	51304	
20	CAD CELL w/ Socket C554A1919	7006U	350104
21	FLANGE WELDED TO TUBE	N/A	N/A
	GASKET	3616	380270
22	AIR TUBE COMBINATION W/FLG, GUN ASSY & HEAD	58020247	380761
	BLAST TUBE ONLY	AF60YBHS	
23	HEAD W/ SHIELD KIT F6	51361	380762
24	ELECTRODE NOZZLE ASSY	NL60	
	ELECTRODES PAIR	5780	380269
	STATIC PLATE, 2 3/4U	3383	
25	SPLINED NUT	3666	320121

All installations and services must be performed by qualified service personnel.

EZ1 CARLIN OIL BURNER, 380835



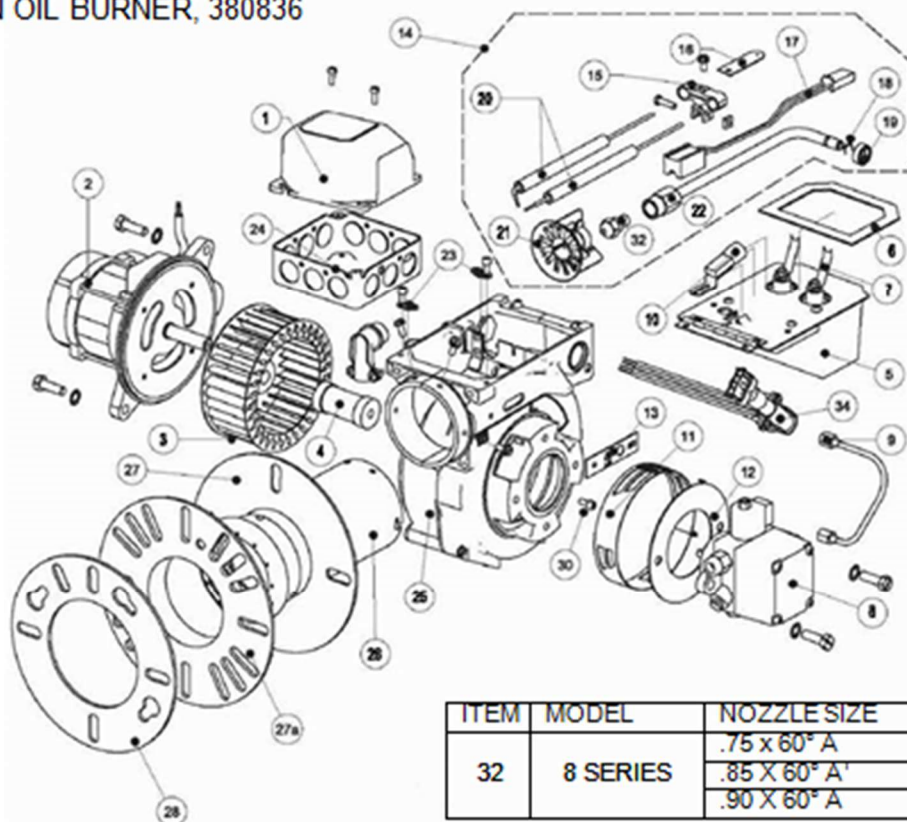
ITEM	MODEL	NOZZLE SIZE	PART #
32	OH6, OL6, OD6, VHF	.50 x 60° A	380393
		.60 X 60° A ¹	380394
		.75 X 60° A	380395

ITEM	DESCRIPTION	CARLIN PART #	TP PART #
1	PRIMARY W/ DISPLAY 70200 10S PRE / 0S POST	70200S	380845
2	1/6HP PSC MOTOR	98022S	380846
3	BLOWER WHEEL / FAN	77933S	380847
4	PUMP COUPLING	75564S	380848
5	IGNITOR	41000S	380849
6	IGNITOR BASEPLATE GASKET	40167S	
7	IGNITOR TERMINAL KIT (2 TERM. & NUTS)	24463	
8	PUMP W/SOLENOID 120 PSI	98750S	380850
	SOLENOID		380851
	PUMP ELBOW 3/16 FLARE X 1/8 NPT	29926	
9	CONNECTION TUBE	34470	380852
10	CAD CELL KIT	14407SES	380053
11 & 12	AIR BAND/AIR SHUTTER KIT @ .5	98055S	
13 & 30	HEADER BAR KIT (7 BARS & SCREW)	98055S	
14	COMBUSTION HEAD ASSY 5"	77958S	380854
15	ELECTRODE BRACKET	23135	
18 & 19	C RING & THUMB NUT KIT	50624S	
20	ELECTRODE WIRE SET	82768S	380855
21	RETENTION RING ASSY	77438S	380856
22	NOZZLE LINE ADAPTER ASSEMBLY	56820	
23	IGNITOR HOLD-DOWN TABS (2 Req.)	44842	
24	ELECTRICAL BOX	44586	
25	HOUSING	50685A	
26	AIR TUBE W/FLANGE	51242	380857
27	FLANGE	N/A	
28	FLANGE GASKET	40212	380858

¹ Nozzle installed in burner.

All installations and services must be performed by qualified service personnel.

EZ1 CARLIN OIL BURNER, 380836



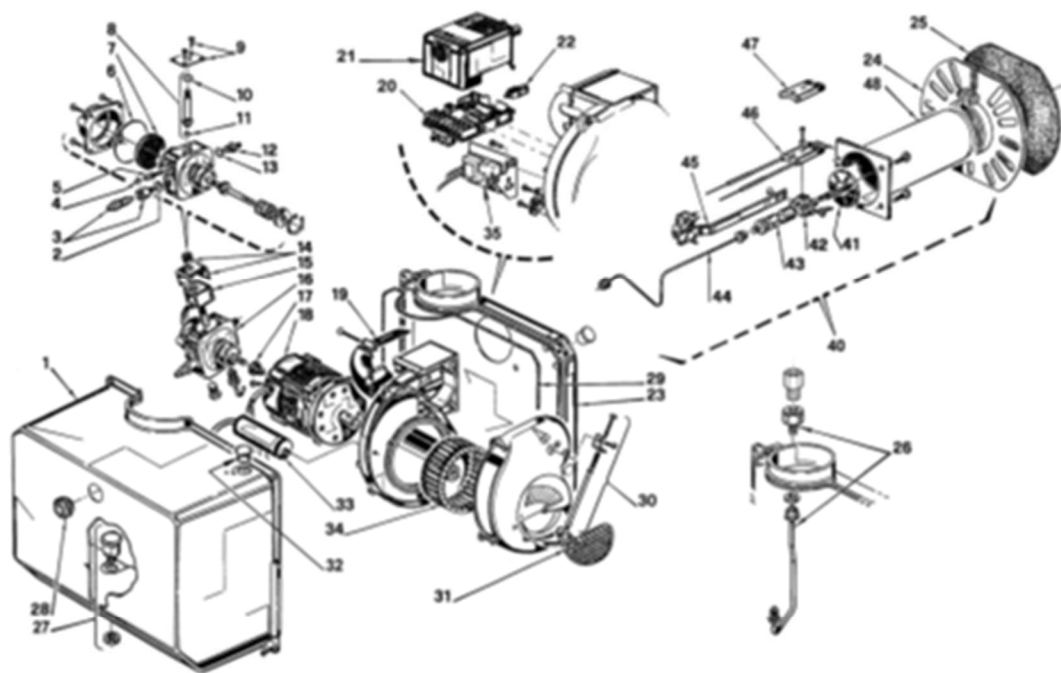
ITEM	MODEL	NOZZLE SIZE	PART #
32	8 SERIES	.75 x 60° A	380395
		.85 X 60° A ¹	380400
		.90 X 60° A	380396

ITEM	DESCRIPTION	CARLIN PART #	TP PART #
1	PRIMARY W/DISPLAY 70200 10S PRE / 0S POST	70200S	380845
2	1/6HP PSC MOTOR	98022S	380846
3	BLOWER WHEEL/FAN	77933S	380847
4	PUMP COUPLING	75564S	380848
5	IGNITOR	41000S	380849
6	IGNITOR BASEPLATE GASKET	40167S	
7	IGNITOR TERMINAL KIT (2 TERM. & NUTS)	24463	
8	PUMP W/SOLENOID 140 PSI	98750S	380850
	SOLENOID		380851
	PUMP ELBOW 3/16 FLARE X 1/8 NPT	29926	
9	CONNECTION TUBE	34470	380852
10	CAD CELL KIT	14407SES	380853
11 & 12	AIR BAND/AIR SHUTTER KIT @ .75	98055S	
13 & 30	HEADER BAR KIT (7 BARS & SCREW) 0.85/1.00 INSTALLED, W/ BURNER 0.75	98055S	
14	COMBUSTION HEAD ASSY 5"	77958S	380854
15	ELECTRODE BRACKET	23135	
18 & 19	C RING & THUMB NUT KIT	50624S	
20	ELECTRODE WIRE SET	82768S	380855
21	RETENTION RING ASSY	77438S	380856
22	NOZZLE LINE ADAPTER ASSEMBLY	56820	
23	IGNITOR HOLD-DOWN TABS (2 Req.)	44842	
24	ELECTRICAL BOX	44586	
25	HOUSING	50685A	
26	AIR TUBE W/FLANGE	51242	380857
27	FLANGE	N/A	
28	FLANGE GASKET	40212	380858

¹ Nozzle installed in burner.

All installations and services must be performed by qualified service personnel.

Riello BF3 C8511325, TP Part# 380693 Parts List



Model	Nozzle Size	Part#
6 Series	.50 X 80°A	380279
	.60 X 80°A	380398
	.70 X 80°A	380258

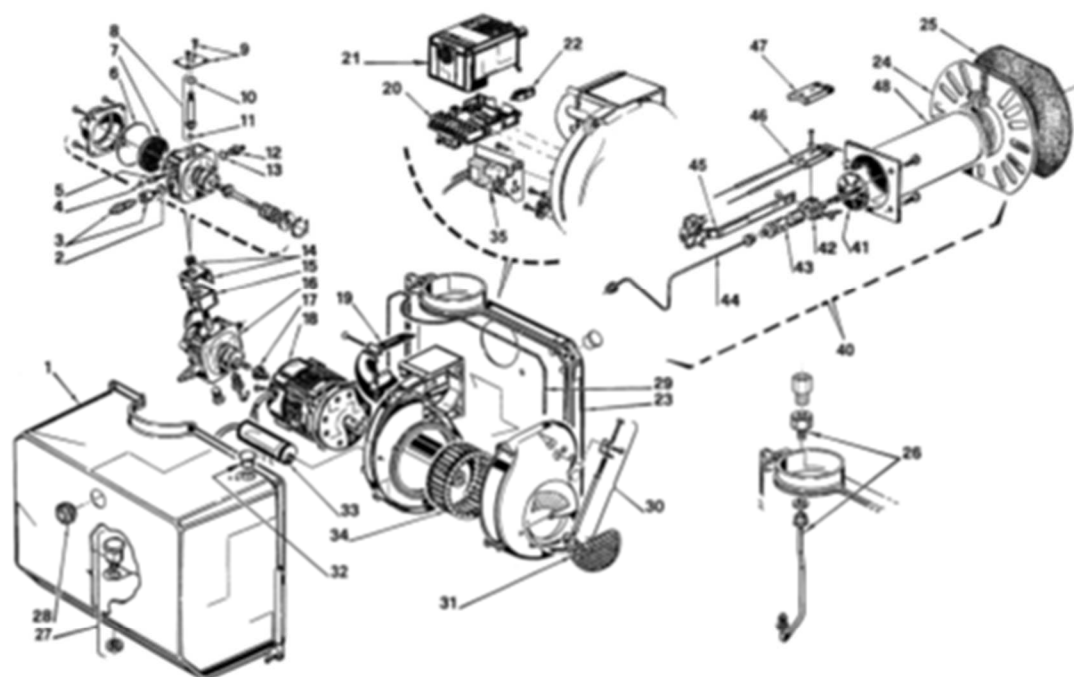
No.	Description	TP Part #	Riello #	No.	Description	TP Part #	Riello #
1	Burner Cover		3020270	25	Flange Gasket	380280	C688009
2	Metal Washer 3/8"		3007077	26	Supply Tube & Fitting		3008020
3	Bleeder		3007568		Two Line Kit	380705	C7001026
4	O-Ring - regulator		3007028	27	Drip		3008825
5	Regulator Screw		3007202	28	Cover Opening - Reset		3007627
6	O-Ring - cover		C7010002	29	Gasket - Burner Cover		3007630
7	Pump screen		3005719	30	Air Damper Regulator		3000681
8	Valve Stem		3006925	31	Air Damper		3008021
9	Plate - Valve Stem		3007203	32	Plug		3007706
10	O-Ring - stem upper		3007029	33	Capacitor		3005844
11	O-Ring - stem lower		3007156	34	Fan	380629	3005708
12	Nozzle Outlet Fitting		3007581	35*	AL1009 Post Purge	350383	C7001084
13	Metal Washer 5/8"		3007087	40	Combustion Head	380760	C7001376
14	Coil Bracket & Nut		3006553	41	Turbulator Disc		3006977
15	Coil	380719	3002279	42	Electrode Support		3006966
16	Pump	380633	3007802	43	Nozzle Adapter		3006965
17	Pump Drive Key		3000443	44	Nozzle Oil Tube		3008627
18	Motor	380630	3005843	45	Regulator Assembly		3008633
19	Air Tube Cover Plate		3007315	46	Electrode Assembly	380712	3008630
20	Primary Sub Base		3002278	47	Electrode Porcelain		3005869
21	Primary Control	380449	20010004	48	Air Tube w/ Flange	380710	C7001325
22	Photocell	380628	3002280	NS	Cerafelt Sleeve	380443	C6782000
23	Front Plate		3008078	NS	Gage adapter kit	380689	C7001071
24	Flange (see #48)	NA	NA				

*Optional

7/15/19

All installations and services must be performed by qualified service personnel.

Riello BF5 C8512317, TP Part# 380756 Parts List



Model	Nozzle Size	Part#
8 Series	.75 X 80°A	380366
	.85 X 80°A	380381
	1.00 X 80°A	380368

No.	Description	TP Part #	Riello #	No.	Description	TP Part #	Riello #
1	Burner Cover		3008023	25	Flange Gasket	380280	C6880000
2	Metal Washer 3/8"		3007077	26	Supply Tube & Fitting		3008024
3	Bleeder		3007568		Two Line Kit	380705	C7001026
4	O-Ring-regulator		3007028	27	Drip		3008825
5	Regulator Screw		3007202	28	Cover Opening - Reset		3007627
6	O-Ring - cover		C7010002	29	Gasket - Burner Cover		3007630
7	Pump screen		3005719	30	Air Damper Regulator		3000681
8	Valve Stem		3006925	31	Air Damper		3008021
9	Plate - Valve Stem		3007203	32	Plug		3007706
10	O-Ring - stem upper		3007029	33	Capacitor		3005844
11	O-Ring - stem lower		3007156	34	Fan	380629	3005708
12	Nozzle Outlet Fitting		3007581	35*	AL1009 Post Purge	350383	C7001084
13	Metal Washer 5/8"		3007087	40	Combustion Head		
14	Coil Bracket & Nut		3006553	41	Turbulator Disc		3006977
15	Coil	380719	3002279	42	Electrode Support		3006966
16	Pump	380633	3007802	43	Nozzle Adapter		3006965
17	Pump Drive Key		3000443	44	Nozzle Oil Tube		3008629
18	Motor	380630	3005843	45	Regulator Assembly		3008634
19	Air Tube Cover Plate		3007315	46	Electrode Assembly		3008631
20	Primary Sub Base		3002278	47	Electrode Porcelain		3005869
21	Primary Control	380449	20010004	48	Air Tube w/ Flange		
22	Photocell	380628	3002280	NS	Cerafelt Sleeve	380443	C6782000
23	Front Plate		3008078	NS	Gage adapter kit	380689	C7001071
24	Flange (see #48)	NA	NA				

*Optional

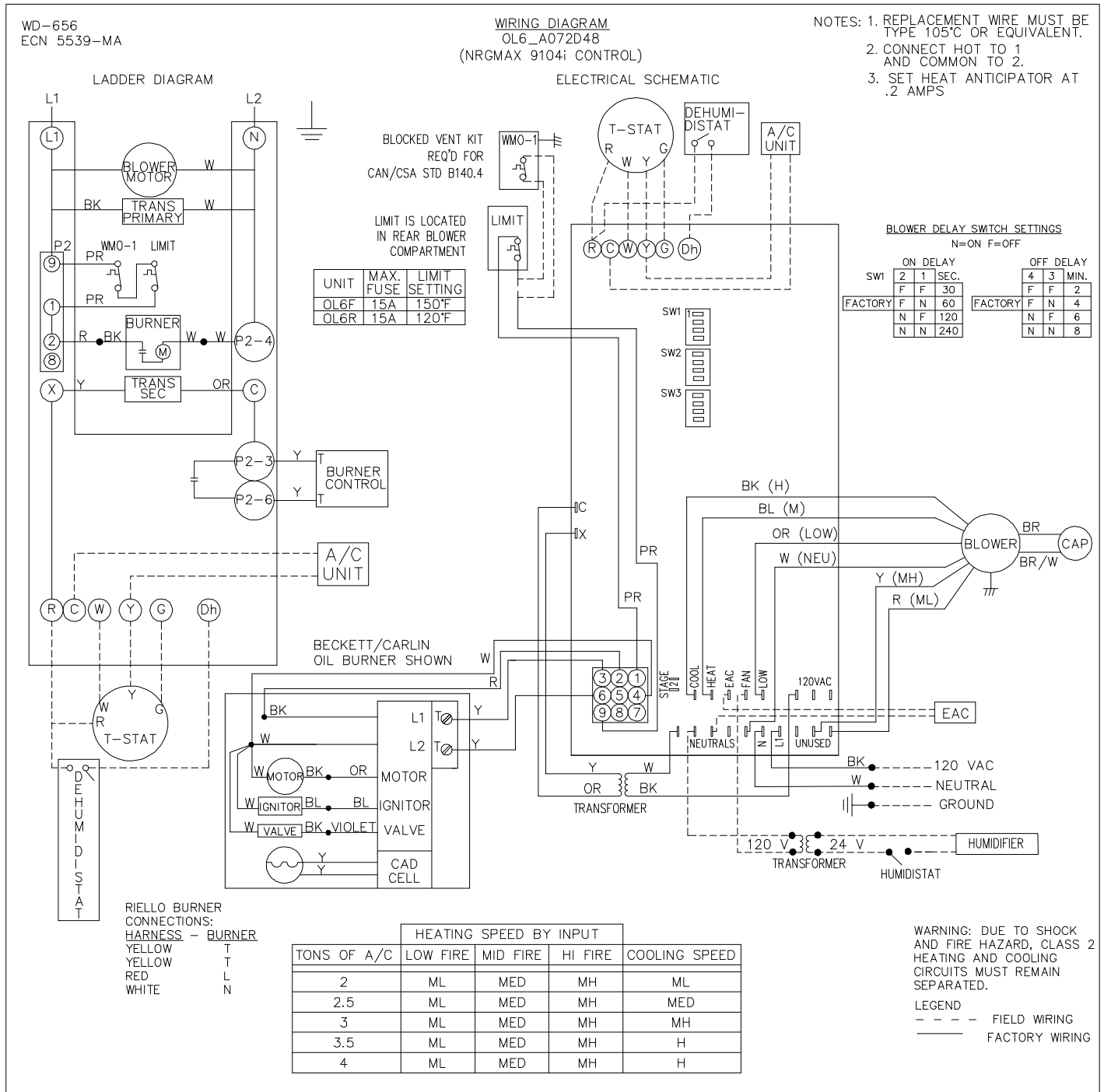
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All installations and services must be performed by qualified service personnel.

All installations and services must be performed by qualified service personnel.

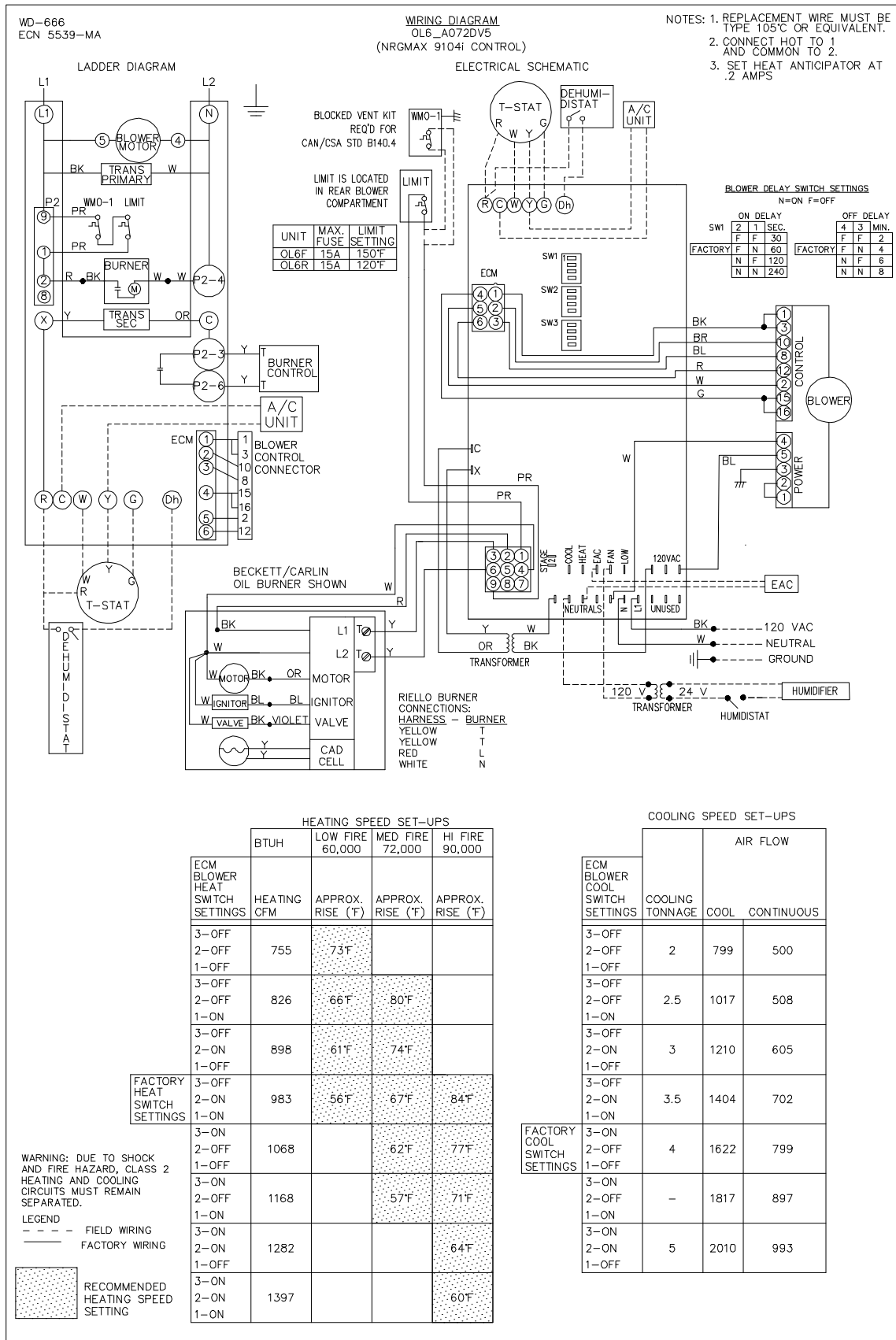
Appendix – B Wiring Diagrams

OL6*A072D48 PSC (NRGMAX Control) Wiring Diagram



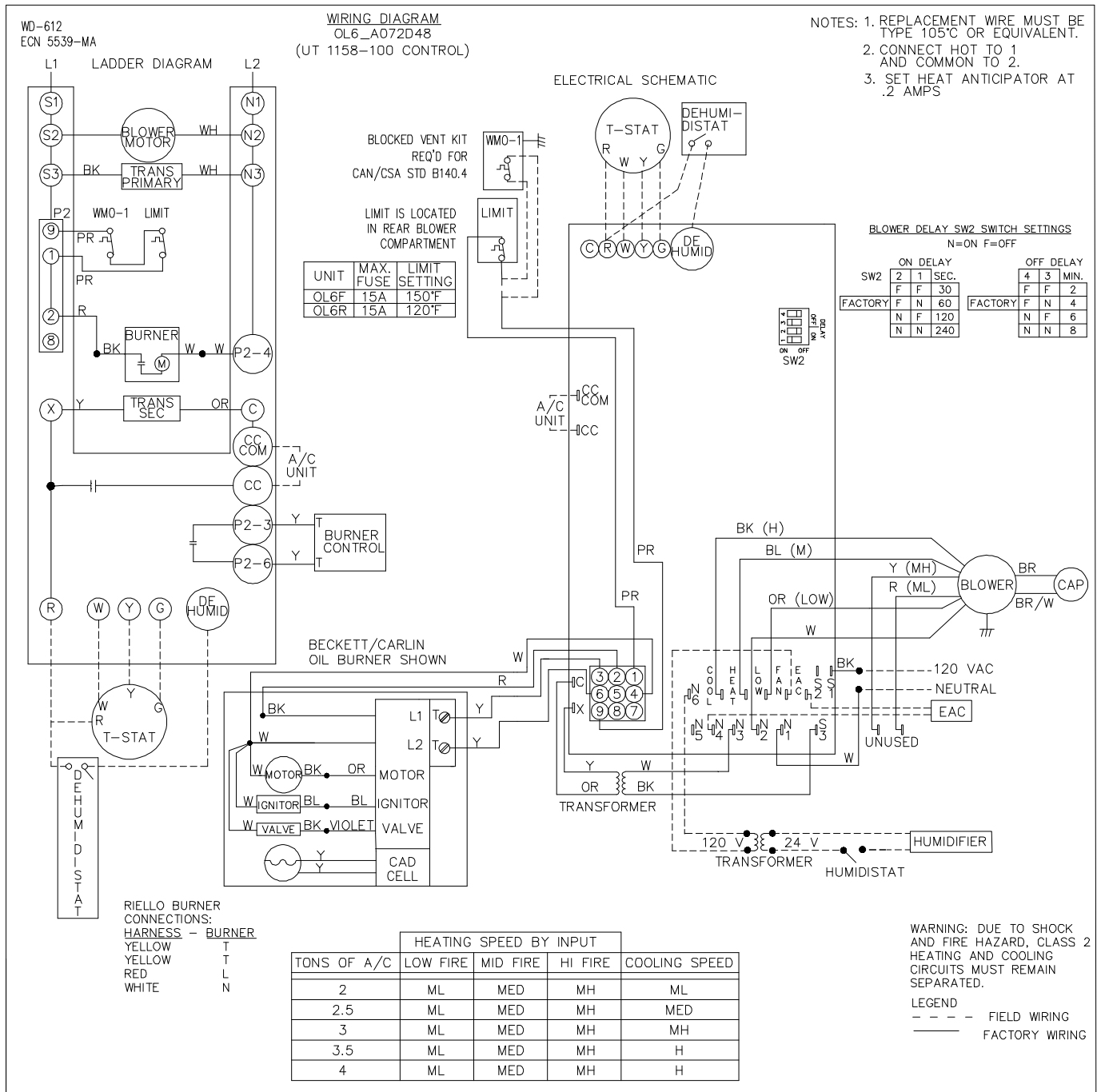
All installations and services must be performed by qualified service personnel.

OL6*A072DV5 ECM (NRGMAX Control) Wiring Diagram



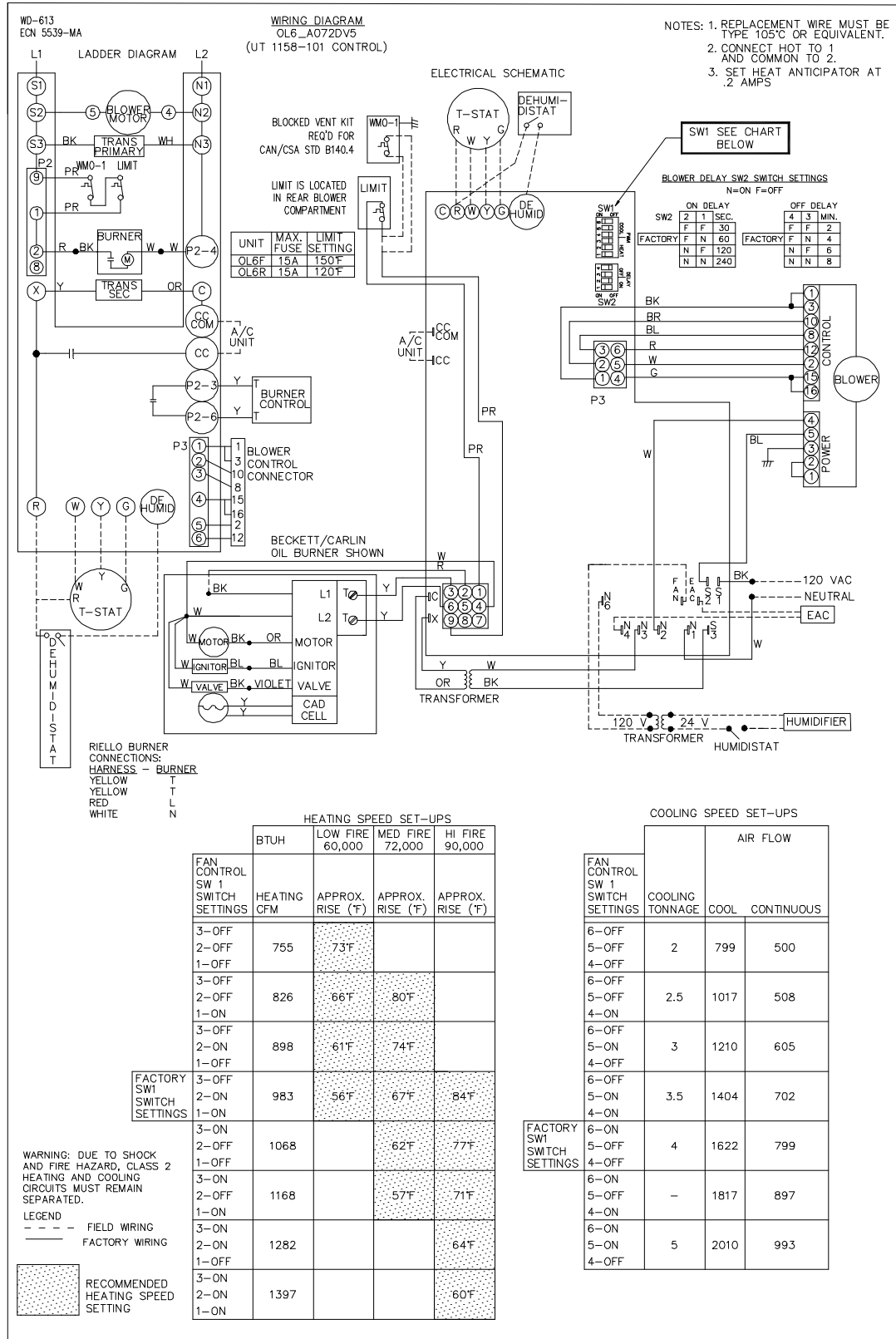
All installations and services must be performed by qualified service personnel.

OL6*A072D48 PSC (UT Control) Wiring Diagram



All installations and services must be performed by qualified service personnel.

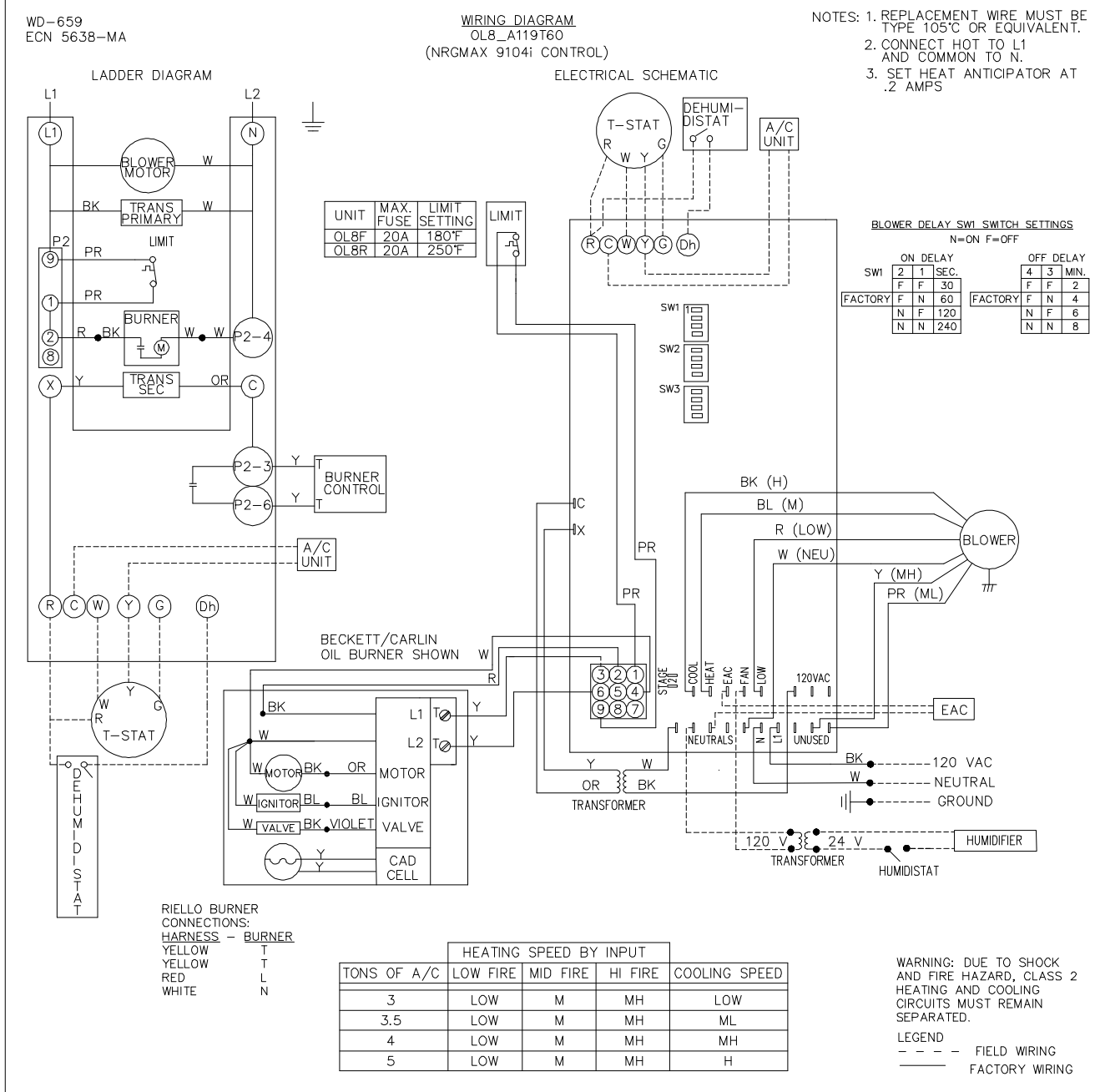
OL6*A072DV5 ECM (UT Control) Wiring Diagram



Note: Refer to ECM Operation Manual supplied with furnace for ECM models

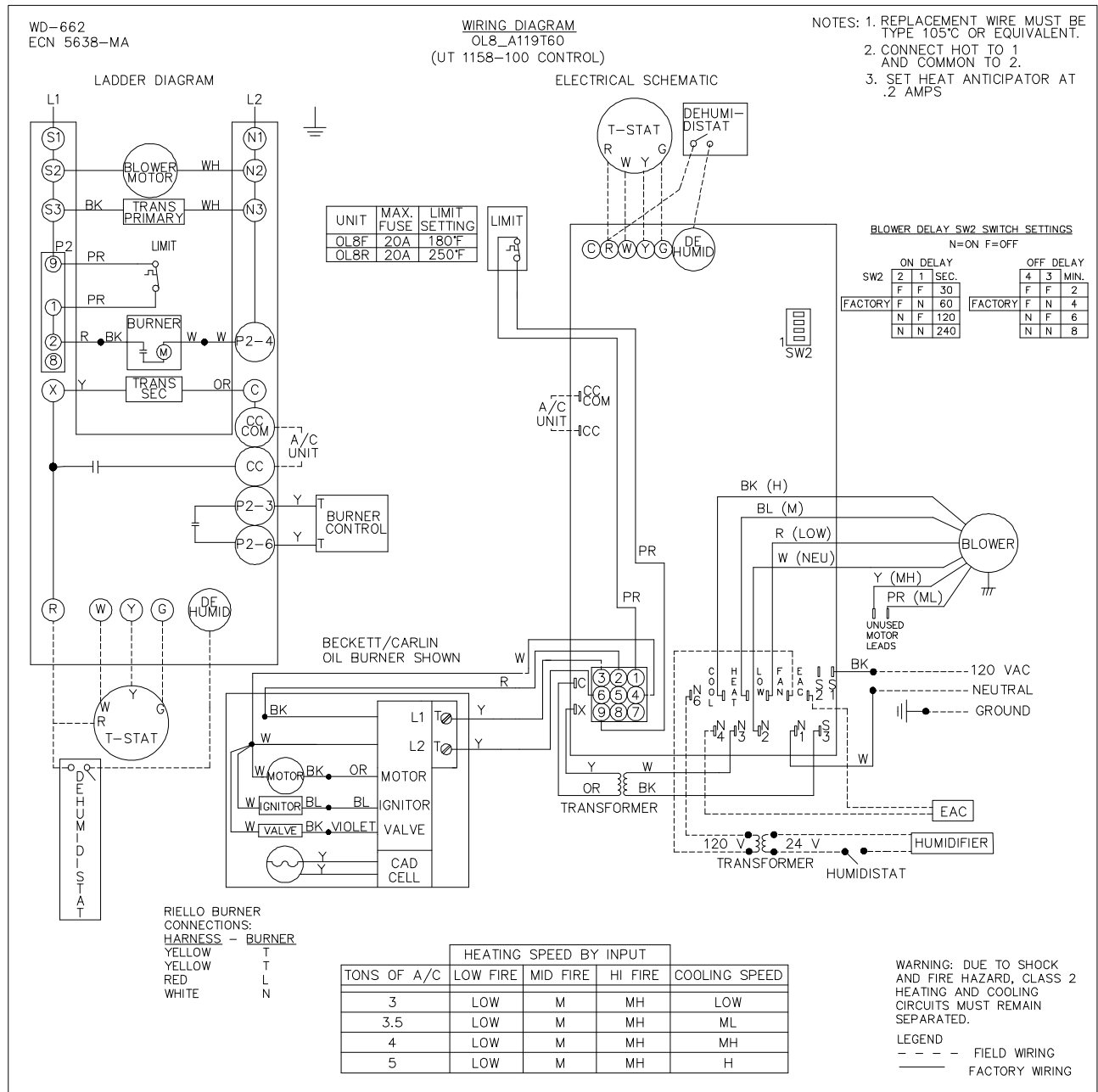
All installations and services must be performed by qualified service personnel.

OL8*A119T60 CTM (NRGMAX Control) Wiring Diagram



All installations and services must be performed by qualified service personnel.

OL8*A119T60 CTM (UT control) Wiring Diagram



All installations and services must be performed by qualified service personnel.

Appendix – C Airflow Charts

OL6*A072D48

ALTERATIONS REQ'D FOR A/C @ DESIGN EXTERNAL STATIC PRESSURE				
COOLING UNIT	HTG Speed by Input			Recommended CLG Speed
	Low fire	Mid Fire	High Fire	
24,000	ML	MED	MH	Med Low
30,000	ML	MED	MH	Med
36,000	ML	MED	MH	Med High
42,000	ML	MED	MH	High
48,000	ML	MED	MH	High

Speed Tap\ Static Pressure	Furnace Airflow (CFM) vs. External Static pressure (in. WC.)				
	0.2	0.3	0.4	0.5	0.6
Low	712	691	682	667	664
ML	902	899	896	883	874
MED	1113	1113	1109	1091	1073
MH	1270	1266	1250	1239	1215
High	1670	1637	1605	1566	1527
Speed Tap\ Static Pressure	Motor Current Draw (Amps/Watts) vs. External Static pressure (in. WC.)				
	0.2	0.3	0.4	0.5	0.6
Low	4.1/408	4.0/398	4.0/395	3.9/385	3.8/378
ML	5.3/540	5.3/535	5.2/527	5.1/512	4.9/500
MED	6.6/665	6.4/644	6.2/634	5.9/609	5.6/584
MH	7.6/772	7.2/739	6.9/713	6.6/682	6.4/663
High	9.6/951	84/830	9.0/887	8.8/869	8.4/835

Speed Tap\ Static Pressure	High Fire Temperature Rise vs. External Static pressure (in. WC.)				
	0.2	0.3	0.4	0.5	0.6
Low	119	122	124	127	127
ML	94	94	94	96	97
MED	76	76	76	77	79
MH	66	67	68	68	70
High	51	52	53	54	55

Speed Tap\ Static Pressure	Mid Fire Temperature Rise vs. External Static pressure (in. WC.)				
	0.2	0.3	0.4	0.5	0.6
Low	96	99	100	102	103
ML	75	76	76	77	78
MED	61	61	61	62	63
MH	54	54	54	55	56
High	41	42	42	43	45

Speed Tap\ Static Pressure	Low Fire Temperature Rise vs. External Static pressure (in. WC.)				
	0.2	0.3	0.4	0.5	0.6
Low	79	81	83	84	85
ML	62	63	63	64	64
MED	51	51	51	52	53
MH	44	44	45	45	46
High	34	34	35	36	37

All installations and services must be performed by qualified service personnel.

OL6*A072DV5

Heating Speed Set-ups

Furnace Motor Current
Draw (Amps/ / Watts) vs.
External Static Pressure (in W.C.)

			Low Fire	Med Fire	High Fire		
		BTUH	60,000	72,000	90,000		
	Fan Control SW 1 Switch Settings	Heating CFM	Aprox. Rise (F ⁰)	Aprox. Rise (F ⁰)	Aprox. Rise (F ⁰)	0.2	0.5
	3-OFF 2-OFF 1-OFF	755	73°			1.1/93	1.7/154
	3-OFF 2-OFF 1-ON	826	66°	80°		1.2/105	1.9/168
	3-OFF 2-ON 1-OFF	898	61°	74°		1.8/180	2.3/219
	Factory SW1 Switch Settings	3-OFF 2-ON 1-ON	983	56°	67°		2.0/199
	3-ON 2-OFF 1-OFF	1068		62°	77°	2.2/224	3.0/297
	3-ON 2-OFF 1-ON	1168		57°	71°	2.5/254	3.4/336
	3-ON 2-ON 1-OFF	1282			64°	3.0/298	3.8/380
	3-ON 2-ON 1-ON	1397			60°	3.5/338	4.4/420

 = Recommended Heating Speed Setting

All installations and services must be performed by qualified service personnel.

OL6*A072DV5

Cooling Speed Set-ups

Furnace Motor Current

Draw (Amps / Watts) vs.

External Static Pressure (in W.C)

		Air Flow			
Fan Control SW 1 Switch Settings	Clg. Tonnage	Cool	Continuous	0.2	0.5
6-OFF 5-OFF 4-OFF	2	799	500	1.2/100	1.9/162
6-OFF 5-OFF 4-ON	2.5	1017	508	1.8/155	2.5/223
6-OFF 5-ON 4-OFF	3	1210	605	2.5/223	3.2/298
6-OFF 5-ON 4-ON	3.5	1404	702	3.4/310	4.2/394
Factory SW1 Switch Settings	6-ON 5-OFF 4-OFF	4	1622	799	4.7/444
	6-ON 5-OFF 4-ON	-	1817	897	6.1/590
	6-ON 5-ON 4-OFF	5	2010	993	7.9/789
				8.8/883	

All installations and services must be performed by qualified service personnel.

OL8FA119T60

ALTERATIONS REQ'D FOR A/C @ DESIGN EXTERNAL STATIC PRESSURE				
COOLING UNIT	HTG Speed by Input			Recommended CLG Speed
	Low Fire	Mid Fire	High Fire	
36,000	LOW	MED	MH	LOW
42,000	LOW	MED	MH	MED LOW
48,000	LOW	MED	MH	MED HIGH
60,000	LOW	MED	MH	HIGH

AS SHIPPED CLG. →

Speed Tap\ Static Pressure	Furnace Airflow (CFM) vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	1454	1392	1321	1255	1158	1074	932
ML	1620	1567	1499	1413	1349	1282	1202
Med	1674	1613	1560	1502	1429	1370	1287
MH	1778	1737	1666	1613	1551	1487	1417
High	2148	2091	2029	1973	1928	1884	1834
Speed Tap\ Static Pressure	Furnace Motor Current Draw (Amps/Watts) vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	3.4 266	3.6 280	3.7 292	3.9 306	4.0 321	4.2 331	4.3 344
ML	4.4 351	4.6 366	4.7 381	4.9 399	5.1 413	5.2 424	5.3 435
Med	4.9 400	5.1 416	5.3 429	5.4 445	5.6 462	5.8 471	5.9 485
MH	5.8 475	5.9 486	6.1 502	6.2 518	6.5 537	6.6 553	6.8 565
High	9.3 806	9.4 815	9.6 837	9.8 855	10.0 874	10.2 891	10.4 912

Speed Tap\ Static Pressure	High Fire Temperature Rise vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	84	88	93	98	106	114	132
ML	76	78	82	87	91	96	102
Med	73	76	79	82	86	90	95
MH	69	71	74	76	79	83	87
High	57	59	61	62	64	65	67

Speed Tap\ Static Pressure	Mid Fire Temperature Rise vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	76	79	83	88	95	103	118
ML	68	70	73	78	82	86	92
Med	66	68	71	73	77	80	86
MH	62	63	66	68	71	74	78
High	51	53	54	56	57	58	60

AS SHIPPED HTG. →

Speed Tap\ Static Pressure	Low Fire Temperature Rise vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	64	67	71	75	81	87	101
ML	58	60	62	66	69	73	78
Med	56	58	60	62	66	68	73
MH	53	54	56	58	60	63	66
High	44	45	46	47	49	50	51

All installations and services must be performed by qualified service personnel.

OL8RA119T60

ALTERATIONS REQ'D FOR A/C @ DESIGN EXTERNAL STATIC PRESSURE				
COOLING UNIT	HTG Speed by Input			Recommended CLG Speed
	Low Fire	Mid Fire	High Fire	
36,000	LOW	MED	MH	LOW
42,000	LOW	MED	MH	MED LOW
48,000	LOW	MED	MH	MED HIGH
60,000	LOW	MED	MH	HIGH

AS SHIPPED CLG. →

Speed Tap\ Static Pressure	Furnace Airflow (CFM) vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	1489	1434	1395	1326	1279	1218	1150
ML	1678	1623	1570	1530	1472	1418	1362
Med	1788	1733	1678	1656	1601	1538	1483
MH	1868	1825	1772	1734	1680	1637	1579
High	2298	2249	2185	2151	2126	2090	2040
Speed Tap\ Static Pressure	Furnace Motor Current Draw (Amps/Watts) vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	3.2 256	3.3 266	3.4 279	3.5 290	3.6 301	3.7 311	3.8 319
ML	4.1 348	4.2 358	4.4 373	4.5 385	4.6 395	4.7 406	4.8 417
Med	4.8 416	4.9 429	5.1 442	5.2 451	5.4 466	5.5 477	5.6 491
MH	5.4 474	5.6 492	5.7 500	5.9 515	6.0 529	6.1 538	6.3 550
High	9.5 867	9.6 890	9.7 899	10.0 928	10.1 933	10.3 945	10.4 959

Speed Tap\ Static Pressure	High Fire Temperature Rise vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	83	86	88	93	96	101	107
ML	73	76	78	80	84	87	90
Med	69	71	73	74	77	80	83
MH	66	67	69	71	73	75	78
High	54	55	56	57	58	59	60

Speed Tap\ Static Pressure	Mid Fire Temperature Rise vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	74	77	79	83	86	90	96
ML	66	68	70	72	75	78	81
Med	62	64	66	67	69	72	74
MH	59	60	62	64	66	67	70
High	48	49	50	51	52	53	54

AS SHIPPED HTG. →

Speed Tap\ Static Pressure	Low Fire Temperature Rise vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	63	65	67	71	73	77	81
ML	56	58	60	61	64	66	69
Med	52	54	56	57	58	61	63
MH	50	51	53	54	56	57	59
High	41	42	43	44	44	47	46



Thermo Products, LLC. "PEACE OF MIND" Warranty (Limited) Thermo Pride Oil Furnaces



Thermo Products, LLC., a Delaware corporation, hereby warrants the Thermo Pride oil fired warm air furnaces manufactured by it to be free from defects in material and workmanship under normal use and maintenance. This warranty is to the original purchaser and subsequent owners.

1ST-5TH YEAR: During the first 60 months after installation, all parts of the furnace are warranted to the current owner with the exception of maintenance items which require periodic replacement (i.e. filters, nozzles, electrodes, etc.). The owner may arrange with the original installing contractor or any other qualified contractor of the owner's choice to replace a defective part. Any labor costs involved in furnace diagnosis, service or the removal and replacement of a defective part are the responsibility of the owner.

5TH-10TH YEAR: An additional 60 months of parts coverage is extended to the verified original homeowner only. For all other owners, parts coverage terminates on the 5 year anniversary of the original installation date.

HEAT EXCHANGER WARRANTY: The heat exchanger carries a Limited Lifetime Warranty to all owners. If at any time during the warranty period the heat exchanger becomes defective, Thermo Products, LLC. will provide at its option either a replacement heat exchanger or the necessary repair parts on a no charge basis. Any labor costs involved in the diagnosis, repair or the removal and replacement of a heat exchanger are the responsibility of the owner. The owner may arrange with any qualified HVAC contractor for the necessary labor. Any transportation costs associated with the replacement of the complete heat exchanger or the repair parts are the responsibility of the owner. If Thermo Products, LLC. requests the return of the defective heat exchanger, it must be returned by prepaid transportation at the expense of the owner.

THE CONDITIONS OF THIS WARRANTY ARE:

- A. **The owner must submit the warranty registration within ninety (90) days of installation to activate the extended warranty coverage. If the original installation date cannot be verified, then the warranty period begins ninety days from the manufacture date as indicated by the model and serial number.**
- B. Defective parts (or unit when applicable) must be returned to a distributor or manufacturer through a servicing contractor for credit.
- C. The furnace must be operated within its rated capacity as indicated on the rating label and fired with the fuel for which it was designed.
- D. The furnace must operate with a duct system designed in accordance with ACCA (Air Conditioning Contractors of America) Manual D (current edition) recommendations and a vent system designed in accordance with current industry venting code(s).
- E. The furnace must be installed, set up and maintained by a qualified technician in accordance with local and state codes and/or Thermo Products, LLC. installation and operation instructions.
- F. The furnace must have been provided reasonable and necessary maintenance.
- G. The furnace must not be installed in any structure with a corrosive atmosphere or have contact with corrosive materials such as but not limited to salt, chlorine, fluorine, sulfur, recycled waste water, urine, fertilizers, rust, or other damaging substances or chemicals.
- H. Failure caused by any third party product, service, or system connected or used in conjunction with the furnace may void warranty.
- I. Limit controls which are supplied with the furnace and having pre-set maximums must not be modified, altered, or by-passed.
- J. The furnace must not be modified and/or operated in any manner other than its design configuration.
- K. No air conditioning or heat pump coil may be installed on the return air side of the furnace.
- L. The furnace must remain at its original installation address.
- M. Thermo Products, LLC. shall not be responsible for any failure due to any acts of God including but not limited to fire, water, storms, lightning, power surges, earthquakes, theft or riots.
- N. This warranty does not apply to any unit sold over the internet or by other electronic means unless the installing contractor is the purchaser of such products.

FAILURE TO COMPLY WITH ANY OF ABOVE CONDITIONS WILL VOID ANY AND ALL WARRANTIES LISTED ABOVE.
THIS WARRANTY EXPRESSLY SUPERSEDES ALL OTHER WARRANTIES AND OBLIGATIONS OF THERMO PRODUCTS, LLC. NO PERSON HAS AUTHORITY TO ALTER OR MODIFY THE TERMS OF THIS WARRANTY IN ANY MANNER. THERMO PRODUCTS, LLC. ASSUMES NO LIABILITY FOR CONSEQUENTIAL DAMAGE OF ANY KIND, AND THE PURCHASER BY ACCEPTANCE OF THIS EQUIPMENT ASSUMES ALL LIABILITY FOR THE CONSEQUENCE OF ITS USE OR MISUSE BY THE PURCHASER, HIS EMPLOYEE, OR OTHERS.

Contractor Name _____	Owner(s) _____	Phone _____
Address _____	Date of Installation _____	
City, State, Zip _____	Installation Address _____	
Model No. _____	Serial No. _____	City, State, Zip _____

Register online at www.thermopride.com, top of the home page Product Warranty Registration or complete this form and mail a copy (retain a copy for your records) to: Thermo Products, LLC, PO Box 237, Denton, NC 27239 PH. 800-348-5130