

SUMMIT - multi

HIGH EFFICIENCY OIL-FIRED MULTI-POSITIONAL FURNACE

Installation, Operation and Maintenance Manual

INSTALLATIONS MUST MEET ALL LOCAL AND FEDERAL
CODES THAT MAY DIFFER FROM THIS MANUAL

Please read this complete manual before beginning installation. These instructions must be kept with the furnace for future reference.

CERTIFIED TO: CAN/CSA Std. B140.0 & Std. B140.4
CONFORMS TO: UL 727

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Keep this manual in a safe place for future reference.

Follow manual carefully for the correct way to install and operate this unit.

Do not operate this appliance until operating instructions have been read and fully understood.

DANGER: Do not use this furnace as a construction heater. Use of this furnace as a construction heater exposes it to abnormal conditions, contaminated combustion air and lack of air filtering. Failure to follow this warning can lead to premature furnace failure which could result in a fire hazard and/or bodily harm and/or material damages.

SAVE THESE INSTRUCTIONS

1.0 HOMEOWNER INFORMATION

1.1 INTRODUCTION

Please read and understand this manual before installing, operating or maintaining the furnace. To ensure you have a clear understanding of the operating procedures of this appliance please take the time to read section **1.0 HOMEOWNER INFORMATION**.

1.2 AIR FILTER

To maintain furnace performance and safety, replace dirty filters as required or at least once every heating season. Use new approved disposable filters of the same size or clean permanent filters according to manufacturer's instructions. Replace the filter or clean the filter more often if dusty conditions exist. Dirty, clogged or wrong sized filters will impair the furnace performance and may cause the furnace to shut down or overheat.

1.3 REGULAR MAINTENANCE

Have qualified technician check complete furnace operation **at least once a year**. In Canada see B139, Section 14, Maintenance, for recommended servicing procedure. Heat exchanger ducts are accessed through access panels at front of unit. Replace flue pipes if there is any sign of corrosion or other problems. Cerafelt (1/4") gaskets may have to be replaced.

1.4 WARNINGS

NEVER burn garbage or paper in the unit.

NEVER store combustible material around it.

DO NOT attempt to start burner when excess oil has accumulated, when unit is full of vapour or when heat exchanger is very hot.

DO NOT use gasoline, crankcase drainings or any oil containing gasoline.

1.5 DIRECT VENT

It is the responsibility of the homeowner to ensure that the area around the Direct Vent terminal and air intake is free of snow, ice and debris. The vent terminal should be checked during heavy snowstorms to ensure proper operation.

1.6 SHUTTING FURNACE DOWN

POWER OFF Turn off main power switch.

FUEL OFF Shut off manual fuel supply valve.

Always keep manual fuel supply valve shut off if the burner is shut down for an extended period of time.

1.7 RESTARTING FURNACE

Follow this procedure before restarting a unit that has been shut down for an extended period of time:

INSPECTION Have the furnace/system serviced and inspected by a qualified technician.

FUEL Turn on fuel supply and check that there are no leaks.

POWER Turn on power and check that the furnace starts and operates as usual.

OPERATION If the furnace/system fails to operate or operates in an unusual manner, call your service technician. If the burner fails to operate at any time, call a qualified burner technician.

2.0 INSTALLATION

2.1 IMPORTANT

Read these instructions thoroughly before installing furnace or starting burner. Consult local authorities about your local Fire Safety Regulations. All installations must be in accordance with local state or provincial codes. Improper installation will result in voiding of warranty.

2.2 CAUTION

DO NOT START THE BURNER UNTIL ALL FITTINGS, COVERS AND DOORS ARE IN PLACE. DO NOT TAMPER WITH THE FURNACE OR CONTROLS, CALL A QUALIFIED BURNER TECHNICIAN. FOR YOUR SAFETY: DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPOURS AND LIQUID IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

2.3 INSTALLATION CODES

INSTALLATION MUST COMPLY WITH THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION. All local and national codes governing the installation of oil burning equipment, wiring and venting must be followed. Some of the applicable codes are:

CAN/CSA B139	Installation Code for Oil Burning Equipment
NFPA 31	Installation Code for Oil Burning Equipment
ANSI/NFPA 90B	Warm Air Heating and Air Conditioning Systems
ANSI/NFPA 70	National Electrical Code
CSA C22.1	Canadian Electrical Code
ANSI/NFPA 211	Chimneys, Fireplaces, Vents and Solid Fuel Burning Appliances

The latest versions of the above codes, which have been approved for use in the location of the installation, must be used.

2.4 MULTI – POSITION

The Summit-multi is designed to operate in the conventional upflow mode, in horizontal mode or as a downflow furnace. The breech is convertible from front to rear by switching the breech pipe and cover plates. The burner is always installed in an upright position by four (4) nuts.

2.5 PLACEMENT & VENTING

Furnace installation shall conform to the required installation code for oil-fired equipment (USA: NFPA 31, Canada: CSA B139).

- UPFLOW** If required, support furnace on a Granby Appliance Stand or four (4) concrete blocks. Make sure each corner of furnace base is supported. For a furnace installed on a combustible floor, ensure that the requirements of the authorities having jurisdiction are satisfied. Floor must be strong enough to carry the weight of the furnace. The furnace is shipped in upflow configuration.
- DOWNFLOW** Install the plenum and sub-base as shown in the illustration (included with sub-base kit K6C-KA-0500-00). For furnaces installed on a combustible floor, ensure that the requirements of the authorities having jurisdiction are satisfied. The floor must be strong enough to carry the weight of the furnace. A sub-base is required to support the furnace, maintains the clearances to combustible materials through the floor and provides a convenient attachment to the plenum. Refer to Figure – 5.
- HORIZONTAL** In suspended horizontal positions use the eyebolts provided in kit (K4C-KA-0200-00). For installations where the furnace will be supported from below, use 4" long 3/8" UNC bolts as adjustable legs. Four weld nuts (3/8 - 16 UNC) are concealed behind knockouts on either side of the furnace. Determine the appropriate side and remove the knockouts. Eyebolts complete with locking nuts are available. The locking nuts should be threaded on the eyebolt 3/4" to 1". This provides a stop for the eyebolt.
- CLEARANCES** Before placing unit, review installations clearances as shown on the furnace operating decal or section **7.0 GENERAL SPECIFICATIONS**.
- LOCATION** Install the furnace close to chimney or vent and central to ductwork.
- BREECH** Move the breech pipe to the rear if rear breech is required.
- CHIMNEY/VENT** Connect the furnace to a chimney/vent system of size and condition required by the installation code. Furnace is approved for factory built chimney type "L" vents. See the furnace operating decal for approved vent/flue pipe sizes. Maximum flue gas temperature is 575°F.
- WALL VENTING** Furnace is approved for Granby Direct Vent with Riello burner.

COMBUSTION & VENTILATION AIR	Install openings and ductwork to the furnace room to provide fresh outside combustion and circulation air for cooling the furnace casing, as installation code requires (USA NFPA 31, Canada CSA B139). If installed in a closed room, provide two free air ventilation openings of at least 8" x 12" (96 sq. in.) free flow area near ceiling and floor. Oil burners must have sufficient air to allow vent systems to operate properly. See the furnace operating label. This is not applicable to Direct Vent installations.
ELECTRICAL	Wire according to the National Electrical Code (Canadian Electrical Code in Canada) or local codes. Use a separately fused #12 electrical line directly from the service panel to the furnace junction box. Install a manual shut-off switch at the door or stairway to furnace room so furnace can be shut off remotely.
VENT PIPE	See NFPA 31 (USA) or CSA B139 (Canada) code. Breech is certified for 5" vent pipe. Keep vent/flue pipe as short as possible with min. 1/4" per foot upward slope. Use approved fitting through a wall. Vent/flue pipes MUST NOT pass through a ceiling.
BREECH	The breech is convertible from front to rear by switching the breech pipe and cover panels.
DRAFT CONTROL	Use approved control supplied for 5" pipe. Use two draft controls on strong draft chimneys. Set specified draft pressure to -0.03" wc. Not applicable to Direct Vent installations.
FILTER LOCATION	The filter bracket can be moved from the left side to the right side or the bottom of the furnace. Refer to Figure – 7.
ADD-ON	Any furnace can only have one additional appliance added to the ductwork. Other items which do not drastically reduce the air flow are allowed.

2.6 ASSEMBLE & INSTALL BURNER

ASSEMBLE	Check burner model is correct for furnace rating required. Assemble as per burner manufacturer's instructions.
SET END CONE	Beckett AFG - see manufacturer's instructions. Riello - Set turbulator as per furnace operating decal.
SELECT NOZZLE	Select oil input, nozzle and burner configuration as shown on furnace operating decal.
INSTALL NOZZLE	Install nozzle, check for clean seating and tighten nozzle adaptor.
ELECTRODES	See burner manufacturer's instructions for correct setting.
INSERTION	See Figure – 1 or section 7.0 GENERAL SPECIFICATIONS .
MOUNT BURNER	Tighten top nut first so burner tips down slightly. The burner is always installed in an upright position by four (4) nuts.

- PUMP BY- PASS PLUG** For one pipe system; use a factory setting (no plug).
- WIRING** Refer to Figure – 4, for correct burner connections.
- THERMOSTAT** Connect thermostat terminals.

2.7 CHANGING NOZZLE

- NOZZLE CHANGE** If a new nozzle of a different size is installed, change the heating blower speed according to the operating decal or section **3.0 BURNER SPECIFICATIONS**.

2.8 SET BURNER FOR EFFICIENT OPERATION

- SET END CONE** Beckett MB air tube with L1 head – see burner manual. Riello set turbulator using furnace operating decal.
- PUMP PRESSURE** Refer to section **3.0 BURNER SPECIFICATIONS** or operating decal.
- BURNER AIR** Refer to section **3.0 BURNER SPECIFICATIONS** or operating decal.
- SAMPLING HOLE** On smoke/vent pipe, between appliance breech and draft control, punch or drill a 1/4" round opening. Not applicable to Direct Vent.
- DRAFT PRESSURE** Using an accurate draft meter; adjust the draft control to obtain -0.03" wc draft pressure at the breech-sampling hole. Use two barometrics if necessary. Not applicable to Direct Vent.
- BURNER SETTING** After 15 minutes of normal operation, check SMOKE for zero to trace reading and measure CO₂. Adjust the burner controls as required.
- EFFICIENCY** Always leave burner set with CO₂ reading about 1% lower than the peak CO₂ efficiency achieved with a zero to trace smoke (e.g. a zero to trace reading of 12.5% CO₂ should be set back 1% to 11.5%). This gives better allowance for fuel and draft variations and maintains a better seasonal efficiency. When the burner is set, lock the adjustments with locking nuts. Always set flame with proper draft, smoke and CO₂ measurements.

DO NOT START BURNER UNTIL ALL FITTINGS AND COVERS ARE IN PLACE.

2.9 BLOWER SETTINGS

Ensure power is off when adjusting blower setting. For heating, use the blower speeds shown on the furnace specifications to give a rise of 70 - 85°F. The #4 Lo blower speed can be used for air circulation when either heating or cooling are not required. Set blower speeds to match the installation requirements. On the model number the last 2 digits represent the type of motor: 03 or 05 for a PSC 1/2 or 3/4HP motor and E5 for a 3/4HP ECM high efficiency motor.

2.10 AIR CONDITIONING

An air conditioning coil may be installed on the supply side only. Coils installed on the return side will cause condensation on the heat exchanger that will shorten the heat exchanger life and may cause products of combustion to enter the house. The bottom of the drain pan must be at least 10" above the top of the heat exchanger. The firing rate of 157,000 Btu/h, on the Summit-multi, cannot be used in conjunction with an air conditioning coil. Wire according to Figure – 4. **Height of the coil above the heat exchanger shall be no less than 10" (254 mm).**

***See A/C coil Manufactures Requirements ***

2.11 HUMIDIFIER

If a humidifier is installed ensure that no water can drip or run from it into the furnace. This would cause deterioration and void the furnace warranty.

2.12 THERMOSTAT ANTICIPATOR SETTING

Adjust to thermostat manufacturer's instruction.

2.13 FAN CONTROL

Limit	165°F - Factory set.
Fan On	45 seconds after burner starts
Fan Off	Adjustable on electronic board

2.14 OFF CYCLE AIR CIRCULATION

#4 LO SPEED All models have the #4 Lo speed switch for optional constant off cycle air circulation. Switch is located on furnace wiring box.

"FAN ON" When "FAN ON" is selected on the thermostat, the blower will run constantly at the #1 Hi speed providing heat, cooling or neither as selected.

3.0 BURNER SPECIFICATIONS

Model	Burner	Input			Nozzle	Pump (psi)	Air Setting	Turbulator	Output		Blower (inches)	Motor (hp)	Heating cfm@		Blower Speed	
		USGPH	L/h	Btu/h					Btu/h	Kw			0.2"wc	0.5"wc	0.2"wc	0.5"wc
K6C-G2-K120-03	Beckett AFG F3	0.92	0.00	128,800	0.75 70B	150	6/0	-	109,000	32	G 10-10	1/2	1300	1250	2	1
	Beckett AFG F6	1.00	0.00	140,000	0.85 70B	140	5/1	-	120,000	35	G 10-10	1/2	1300	1250	2	1
K6C-N2-K125-03	Beckett NX-LC	0.92	3.47	128,800	0.75 60A	150	2.2	-	112,000	33	G 10-10	1/2	1300	1250	2	1
		1.03	3.88	144,200	0.85 60A	150	3.0	-	125,000	37			1300	1250	2	1
K6C-E1-K110-03	Riello 40 F3	0.92	3.48	128,800	0.75 60W	150	5.0	3.0	107,000	31	G 10-10	1/2	1300	1250	2	1
K6C-E3-K120-03	Riello 40 F5	0.92	3.48	128,800	0.75 60W	150	3.2	1.0	107,000	31	G 10-10	1/2	1300	1250	2	1
		1.04	3.94	145,600	0.85 60W	150	3.4	2.0	122,000	36			1300	1250	2	1
K6C-G3-K163-05	Beckett AFG F3	0.90	3.40	126,000	0.75 70B	150	0/10	-	109,000	32	GT 12-10	3/4	1550	1475	3	2
	Beckett AFG F6	1.02	3.85	142,800	0.85 70B	150	0.5/5	-	122,000	36	GT 12-10	3/4	1550	1475	3	2
		1.22	4.64	170,800	1.00 70B	150	1/5	-	143,000	42			1550	1475	3	2
		1.35	5.10	189,000	1.20 70B	130	1/7	-	163,000	48			1700	1600	1	1
K6C-N2-K129-05	Beckett NX-LH	0.94	3.55	131,600	0.75 60A	160	2.2	-	115,000	34			GT 12-10	3/4	1550	1475
1.06		4.00	148,400	0.85 60A	155	3.7	-	129,000	38	1550	1475	3			2	
K6C-N3-K164-05	Beckett NX-LB	1.22	4.64	170,800	1.00 60B	150	2.5	-	149,000	44	GT 12-10	3/4	1550	1475	3	2
		1.35	5.10	189,000	1.10 60B	150	4.0	-	164,000	48			1700	1600	1	1
K6C-E3-K160-05	Riello 40 F5	0.92	3.48	128,800	0.75 60W	150	3.2	1.0	107,000	31	GT 12-10	3/4	1550	1475	3	2
		1.04	3.94	145,600	0.85 60W	150	3.3	2.0	122,000	36			1550	1475	3	2
		1.22	4.64	170,800	1.00 60W	150	3.4	2.5	143,000	42			1550	1475	3	2
		1.35	5.10	189,000	1.10 60W	150	4.0	3.5	157,000	46			1700	1600	2	1

Direct Vent

K6C-V3-K120-03	Riello 40 BF5	0.92	3.48	128,800	0.75 70B	150	4.5	1.5	107,000	31	G 10-10	1/2	1300	1250	2	1
		1.04	3.94	145,600	0.85 60W	150	5.0	2.0	122,000	36			1300	1250	2	1
K6C-V3-K145-05	Riello 40 BF5	0.92	3.48	128,800	0.75 70B	150	4.5	1.5	107,000	31	GT 12-10	3/4	1550	1475	2	1
		1.04	3.94	145,600	0.85 60W	150	5.0	2.0	122,000	36			1550	1475	2	1
		1.22	4.64	170,800	1.00 60W	150	6.2	2.5	143,000	42			1550	1475	2	1

Note: The turbulator & air settings found in this section should be used as a guide.

With ECM motors, the last 2 digits of the model number are E5 instead of 05.

4.0 BLOCKED VENT SWITCH

Oil-fired appliances installed in Canada require a blocked vent shut-off system when installed on a chimney. A safety switch is included with the furnace to perform this function. It is the installer's responsibility to install the switch in accordance with the instructions provided. Not applicable for Direct Vent systems.

Field Controls Model: WMO-1 (Manual Reset)

Switch Operation

Blocked vent switches are flue gas safety devices for detecting spillage of flue gases due to a blocked flue or inadequate draft. After detecting a problem, the switch de-energizes the system's burner control.

NEVER reset the switch unless the cause of the blockage has been corrected.

Installation

- 1) Pierce a 5/8" hole in to the flue vent pipe near the appliance breech connection.
- 2) This hole must be at least 10" before the draft regulator, vertically or horizontally.
- 3) Remove one of the securing nuts from the threaded tube of the safety switch.
- 4) Tighten the other securing nut onto the pipe as far as possible.
- 5) Insert the threaded tube end into the pierced hole of the flue vent pipe.
- 6) Install the securing nut on the safety switch tube, which protrudes into the flue vent pipe. Tighten the nut securely.

Wiring Instructions

Caution: Disconnect the electrical power when wiring the unit.

Wire the blocked vent switch in accordance with The National Electrical Code and applicable local codes. Wire the safety switch in series with the burner limit control or aquastat. Route the wiring with an accepted wiring enclosure in accordance with the National Electrical code and applicable local codes. Refer to wiring decal or Figure – 4.

System Test Procedure

- 1) With the power re-established, block the chimney or vent pipe downstream of the switch.
- 2) Adjust the thermostat to call for heat.
- 3) Once the heating system has started the blocked vent switch should shut down the burner within 10 minutes or sooner.
- 4) Once the system has cooled, the blocked vent switch can manually be reset.
- 5) This procedure should be tested a second time.
- 6) After testing the blocked vent switch the chimney should be cleared of obstruction and the heating system tested on a long run cycle.

If the block vent switch shuts down the system, check to ensure there is enough draft in the chimney and venting pipes.

5.0 COMFORT ADJUSTMENTS

- Outlet air consistently too warm or too cold - change the blower motor speed to give the specified air temperature rise (70 - 85°F).
- Outlet air gets too warm and burner shuts down - increase air by changing the blower motor speed to give the specified temperature rise (70 - 85°F).
- Outlet air is too cold or too warm at the end of the heating cycle after the burner has turned off - adjust the fan off dip switch on electronic fan center. See Figure – 8.

6.0 OIL TANK & PIPING

Tank installation should conform to local requirements. Install according to the applicable code. Minimize number of connections in suction line and make all connections as tight as possible. Use a pipe joint compound suitable for oil on all pipe threads. To reduce possibility of air leaks, tighten stem packing gland nut on any valves installed. Check for kinks in the oil lines as well as for possible air pockets and for loose connections. Two filters shown in Figure - 3 are recommended. Optional tank gauge protectors and outlet protectors are available at your local dealer.

ONE PIPE SYSTEM Where the tank is above the burner and when the oil flows by gravity to the oil pump, a single stage fuel unit with a single oil line to the pump may be used.

TWO PIPE SYSTEM When single line is unsuitable, use double line or see your dealer for special oil line fittings.

7.0 BLOWER REMOVAL

Use a reversing drill with 1/4" hex drive for the sheet metal screws. Granby furnaces have a quick release blower suspension system, which is designed to be tight and rattle free.

- 1) Disconnect power.
- 2) Remove front panel to blower compartment.
- 3) Remove the screw(s) from the blower key (Figure – 2A).
- 4) Remove the blower key and slide the blower towards the burner (Figure – 2B).

Replace the blower assembly using the reverse procedure. See Figure – 2. **DO NOT** start the oil burner until installation is complete and all cleanout covers are secured in place.

8.0 GENERAL SPECIFICATIONS

CLEARANCE TO COMBUSTIBLES FOR UPFLOW & DOWNFLOW POSITIONS

Top	1"	(25 mm)
Front	24"	(610 mm)
Rear*	6"	(152 mm)
Side**	6"	(152 mm)
Side Duct	1"	(25 mm)
Flue Pipe	9"	(229 mm)
Floor	Combustible in upflow position only	

* Rear breech requires rear access of 18" (457 mm).

** Rear breech requires side access of 24" (610 mm).

CLEARANCE TO COMBUSTIBLES FOR HORIZONTAL POSITION

Top	6"	(152 mm)
Front	24"	(610 mm)
Rear*	6"	(152 mm)
Side	6"	(152 mm)
Side (access)	24"	(610 mm)
Side Duct	1"	(25 mm)
Flue Pipe	9"	(229 mm)
Floor	Non-Combustible	

* Rear breech requires rear access of 18" (457 mm).

DRAFT PRESSURE

(not applicable to Direct Vent)

Breech draft pressure	-0.03" wc
Over fire draft pressure	-0.01" wc

BURNER INSERTION (overall)

Riello	2 1/2"	(63 mm)
Beckett AFG	2 1/2"	(63 mm)
Beckett NX	1 1/2"	(38 mm)

AIR/BLOWER DATA

External static - Non A/C	0.2" wc
External static - A/C	0.5" wc
Maximum air temperature rise	85°F
High limit, max. design outlet temp.	200°F
Thermostat anticipator	0.2 amps

MOTOR/BLOWER

1/2 hp 4 Speed/G 10-10 / 3/4 hp 4 Speed/GT 12-10 / 3/4 hp ECM/GT 12-10

FAN/HIGH LIMIT CONTROL

Honeywell Fan Center & Thermo-Disk

DIMENSIONS

Depth	26 5/8"	(676 mm)
Height	51 1/4"	(1302 mm)
Width	22 5/16"	(567 mm)

PLENUM DIMENSIONS (W x D)

Warm air supply	21" x 23 1/2"	(533 x 597 mm)
Cold air return	18 5/8" x 23 1/2"	(473 x 597 mm)

A/C COIL LOCATION

Minimum height above the heat exchanger 10" (254 mm)

*See A/C coil Manufacturers Requirements

OPENING HEIGHTS from floor

Burner c/l	27 1/2"	(699 mm)
Smoke pipe c/l	44 1/2"	(1130 mm)

SMOKE/VENT PIPE - 5"

CLEANOUTS

Smoke pipe cover, burner opening and cleanouts (2), replace baffles after cleaning.

AIR FILTER

Pleated 20" x 25" x 2"

FUEL not heavier than No. 2 furnace oil.

ELECTRICAL – 120 Volts, 60 Hz

Canada Less than 14 amps.

USA 13 amp, circuit protection 20 amps.

9.0 TROUBLE SHOOTING GUIDE**Furnace will not start**

Blown fuse Replace with new fuse.
No oil Call oil supplier.

Oil burner keeps turning off

Dirty air filter Change air filter.
Restricted air supply Check all air return/supply registers.
Limit control Check blower motor speed. Speed blower up.
Motor over heating Check motor speed correct for nozzle on furnace label settings.
Dirty nozzle Call technician to replace nozzle.

Sooty flame

Wrong pump pressure Increase pressure to correct setting.
Dirty nozzle Replace nozzle.
Improper burner air setting See section **3.0 BURNER SPECIFICATIONS**.
Barometric draft wrong Adjust barometric regulator for -0.03 " wc draft pressure at breech.
Baffle position Check that the secondary flue gas baffles are positioned properly in the secondary heat exchanger channel. Baffles should not block the primary heat exchanger passage to the secondary heat exchanger channels.

Burner reset cuts out

No oil Call oil supplier.
Frozen oil line Call technician or oil supplier.
Dirty oil filter Replace filter.
Dirty nozzle, smoky fire Replace nozzle, adjust nozzle air.
Faulty oil pump Have pump replaced, adjust burner air.
Faulty or dirty electrodes Have technician clean or replace.
Flame blowing off of burner On the Beckett burner have igniters wired for intermittent ignition (run constantly with the motor).

Noisy operation

Loose blower wheel Tighten wheel set screw or replace.
Damaged motor bearings Replace blower motor.
Faulty oil pump Repair or replace oil pump. Reset to correct pressure.
Air leak in oil line Tighten all connections.

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

FOR MOST RECENT UPDATES PLEASE VISIT www.granbyindustries.com.

The following form **MUST** be completed for the warranty to be valid.

Installed by: _____

Address: _____

Telephone: _____ Date: _____

START UP TEST RESULTS

Nozzle: _____ Pressure: _____

Air: _____ Turbulator: _____

CO₂: _____ Smoke Number: _____

Breech Draft: _____ Stack Temperature: _____

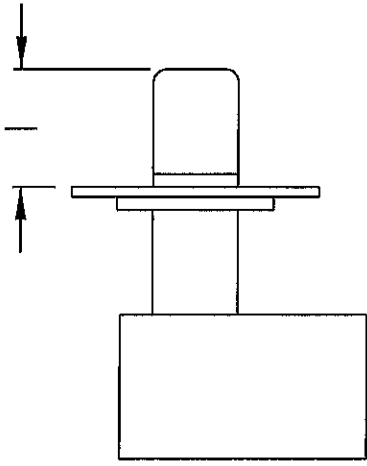
Test Performed By: _____

Staple Printout Here:

Staple Smoke Spot Here:

BURNER INSERTION

FIGURE 182/JAN11



	BURNER INSERTION (I)	
	in	mm
RIELLO	2 1/2	63
BECKETT	2 1/2	63
BECKETT NX	1 1/2	38

FIGURE - 1

BLOWER REMOVAL

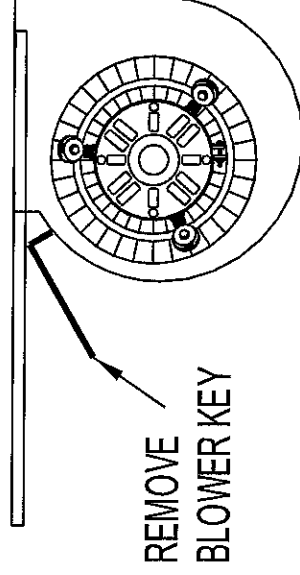
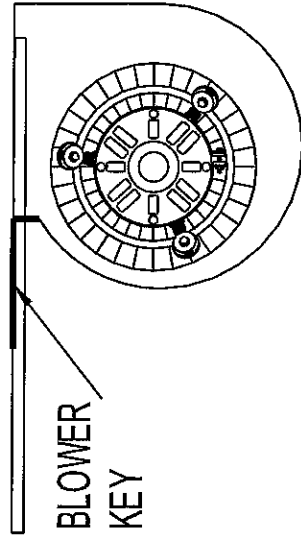
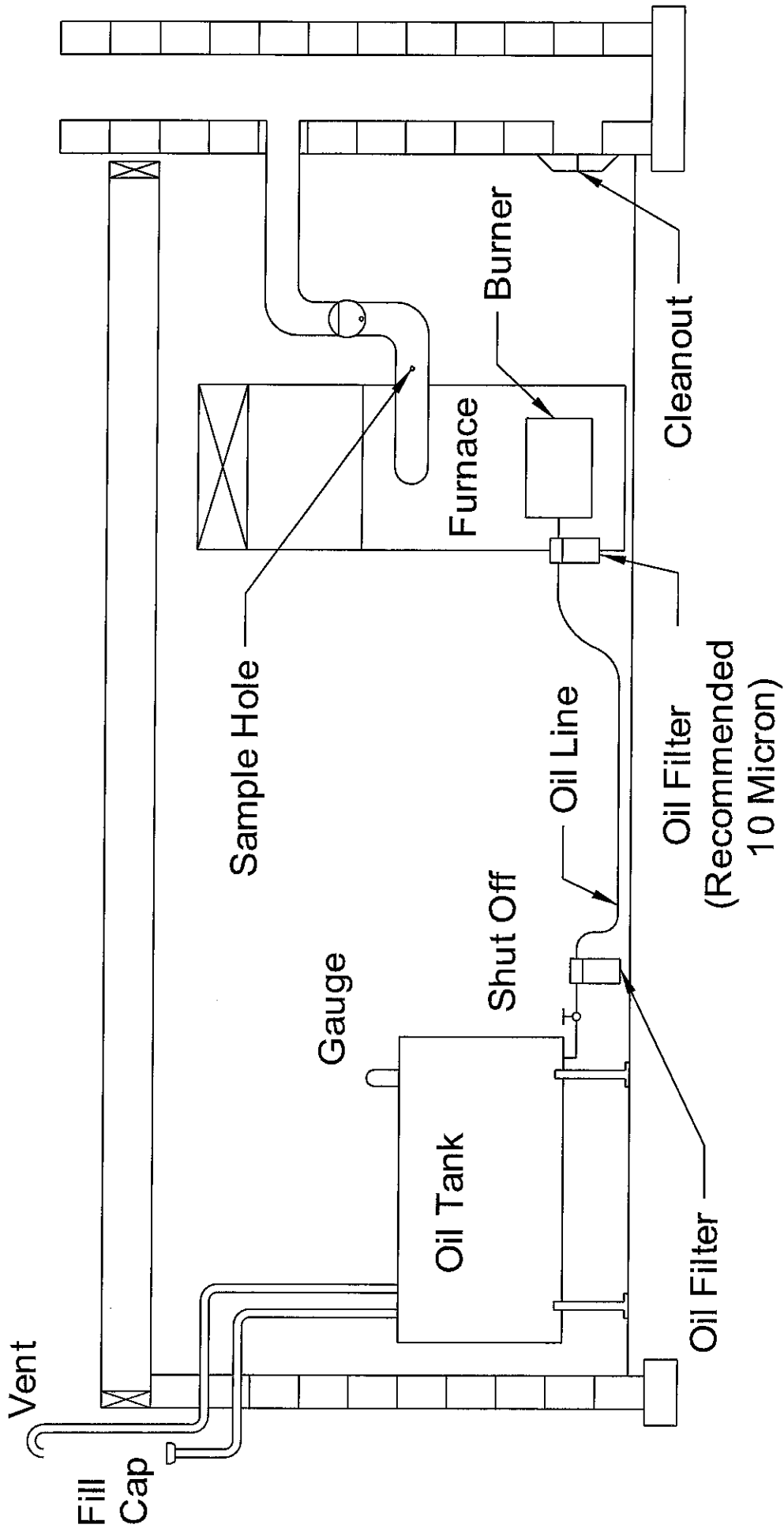


FIGURE - 2A

FIGURE - 2B

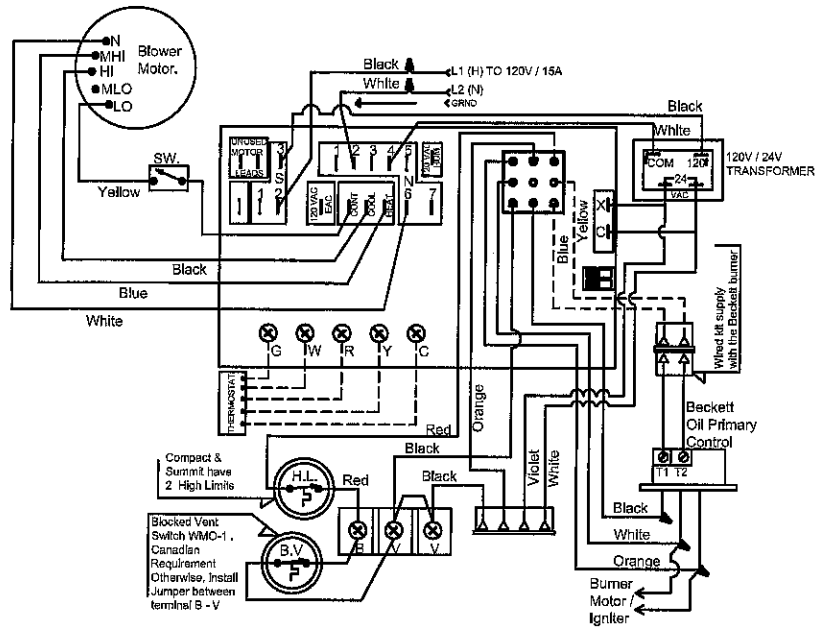


OIL TANK AND PIPING

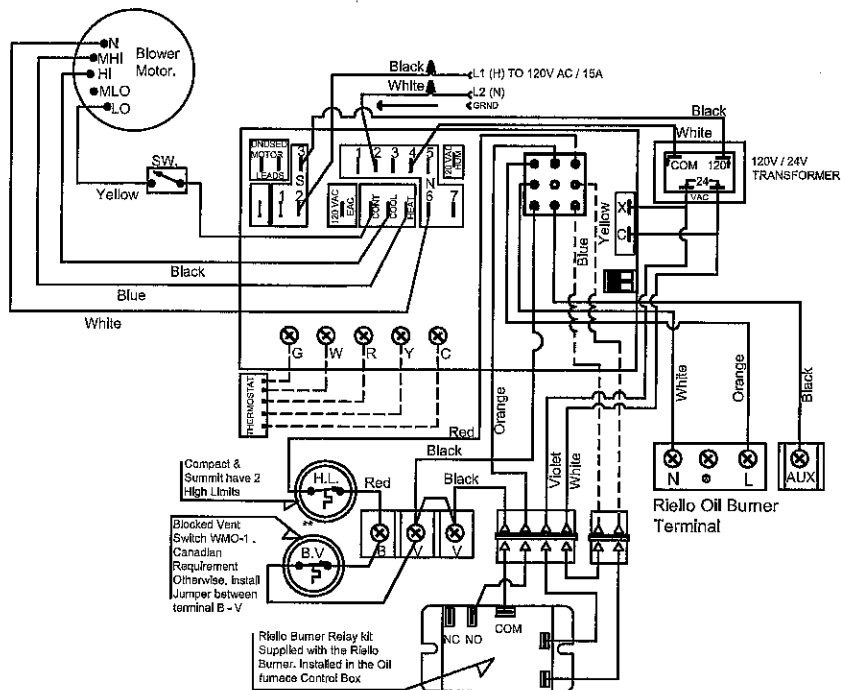
FIGURE - 3

FINSTALLJAN11

BECKETT WIRING DIAGRAM



RIELLO WIRING DIAGRAM



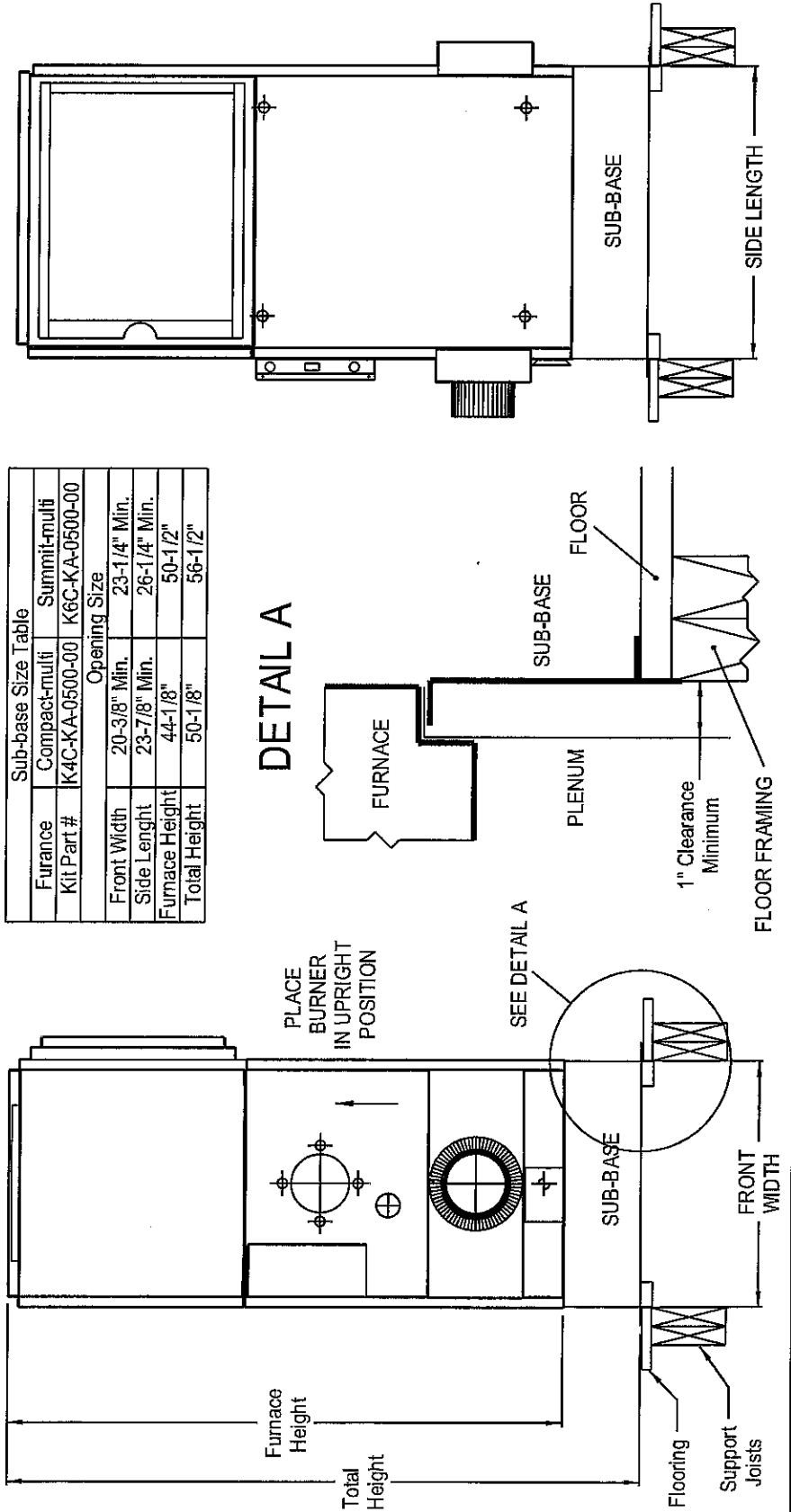
**WIRING DIAGRAM
FIGURE - 4**

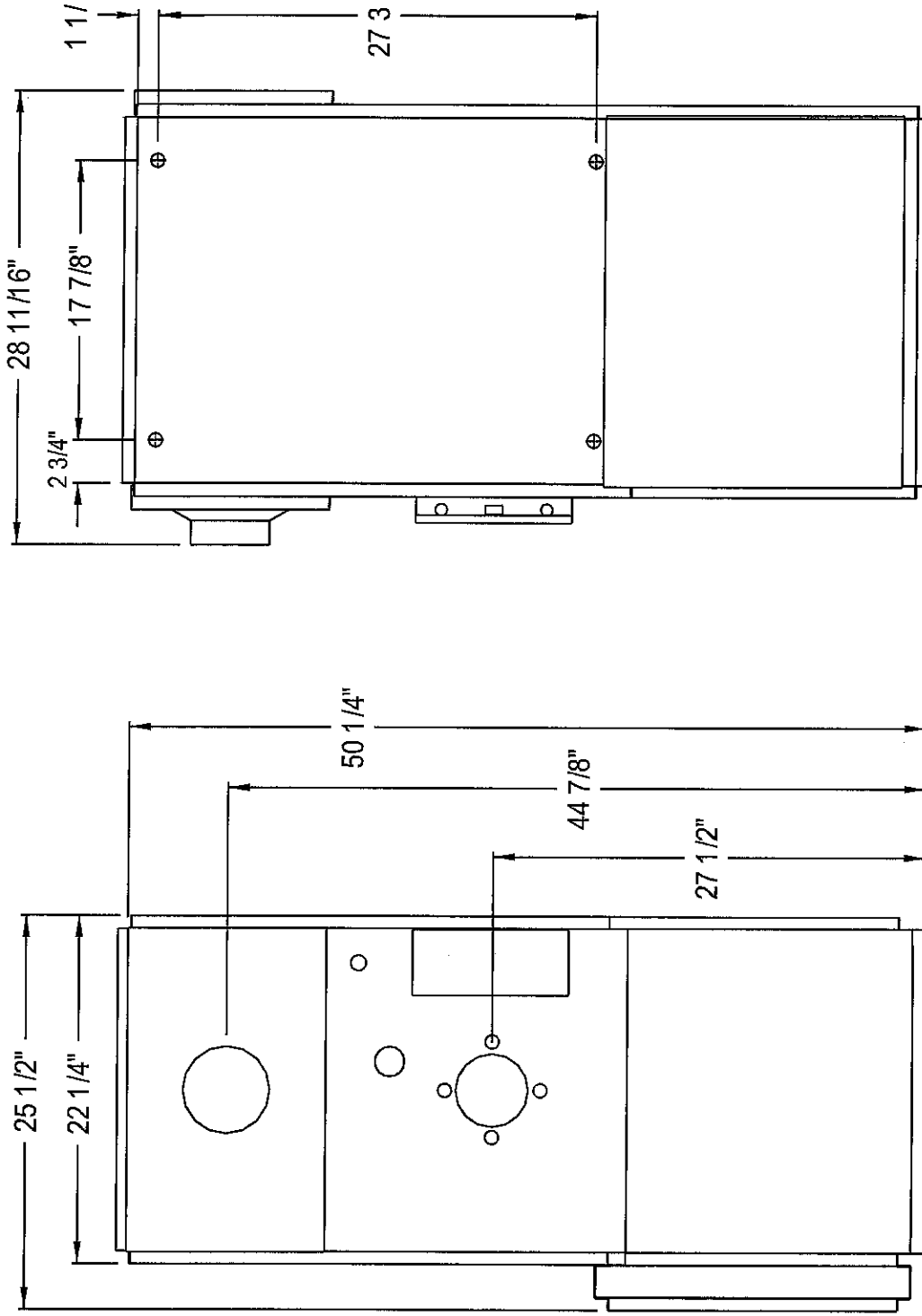
DOWNFLOW SUB-BASE INSTALLATION INSTRUCTIONS

SUB-BASE INSTRUCTIONS (CLASSIC AIR)

FIGURE - 5

- For proper installation of the Compact-multi or Summit-multi sub-base, use these instructions as a guide line. Ensure that the requirements of the local authorities having jurisdiction are satisfied.
- 1.) Select the appropriate location for the furnace in conjunction with a builder to ensure that the structure of the building is not compromised.
 - 2.) Mark the location for the sub-base considering furnace orientation and the required clearances for the furnace.
 - 3.) Reinforce around the location for the opening of the sub-base.
 - 4.) Cut the correct size hole for the given furnace and sub-base kit that you are installing. (See table below).
 - 5.) Make sure that the floor has the appropriate support around the opening.
 - 6.) Place the sub-base in the opening and secure it to the floor.
 - 7.) Assemble the furnace plenum. Create a bend at the edges against which the furnace rests to provide support to the plenum on the sub-base.
 - 8.) Mount the plenum in the sub-base. Check and ensure that there is 1" of clearance to combustibles around all sides of the plenum.
 - 9.) Place the furnace upside down on the sub-base and plenum. See detail "A".
 - 10.) A downflow/horizontal electrical kit (K4C-KA-0200-00) is required for the Classic Air model only. No additional electrical equipment is required for the EVO or MAX units for downflow position.
 - 11.) Finish the furnace assembly and ductwork in the appropriate manner for proper operation.





RIGHT SIDE

FRONT

SUMMIT- multi DIMENSIONS
FIGURE - 6

KGG3002_5
SOL.952 OCT06

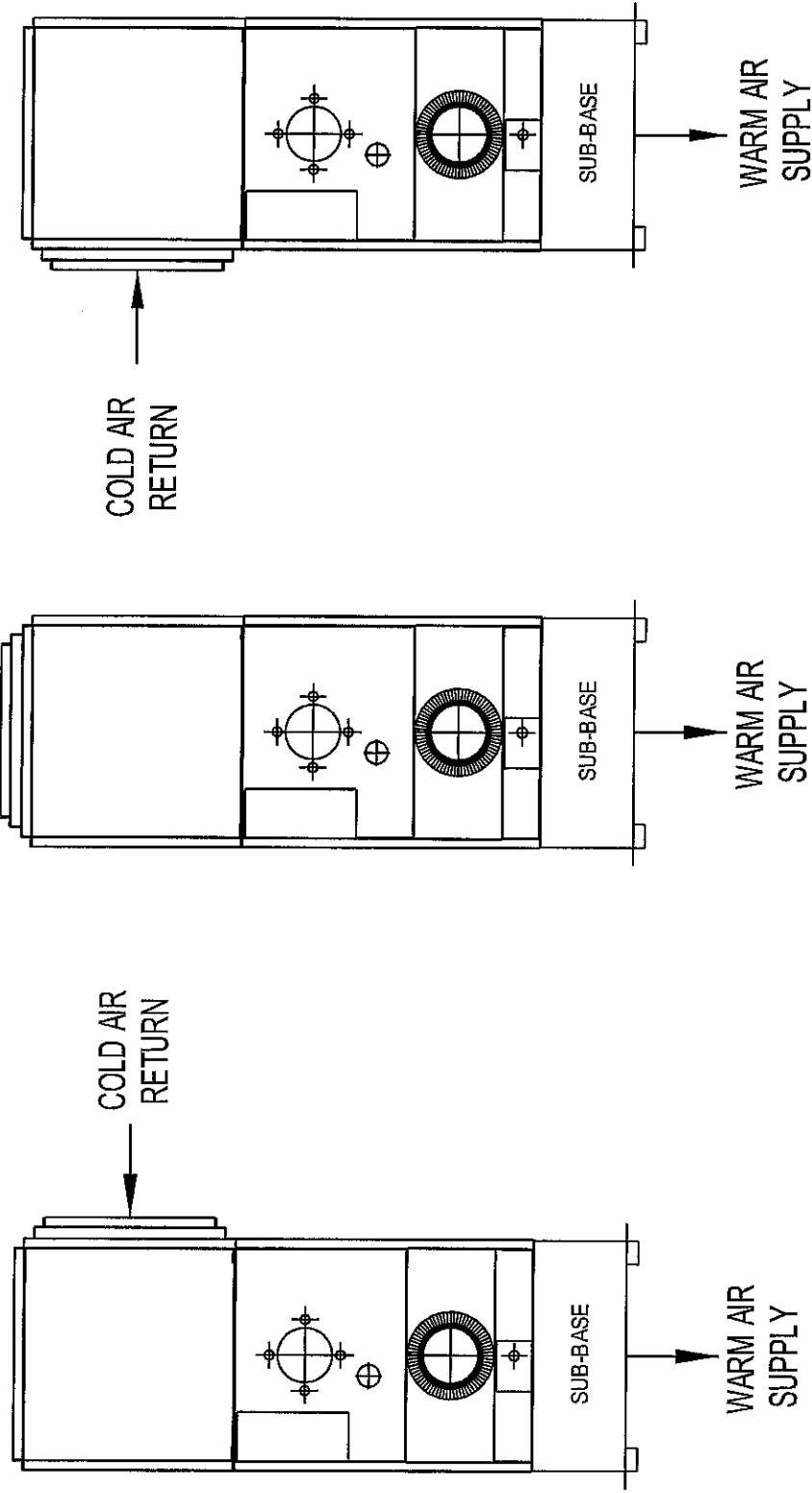
The return air filter, in an upright position can be located on the right or the left hand side of the unit.

The return air filter, in a horizontal or downflow position can be located on the right or left hand side of the unit and also on the base pan location (galvanized panel). An optional pre-painted panel can be ordered to replace galvanized panel.

To relocate the air filter bracket to one of the other optional locations, remove the four tek-screws from the filter bracket panel and from the panel of the desired filter location. Interchange the panels.

Secure each of the panels in the new location using the pre-existing screw holes.

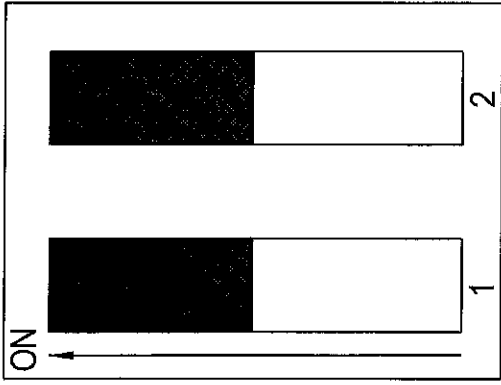
SUB-BASE KIT #S
K4C KIT# K4C-KA-0500-00
K6C KIT# K6C-KA-0500-00



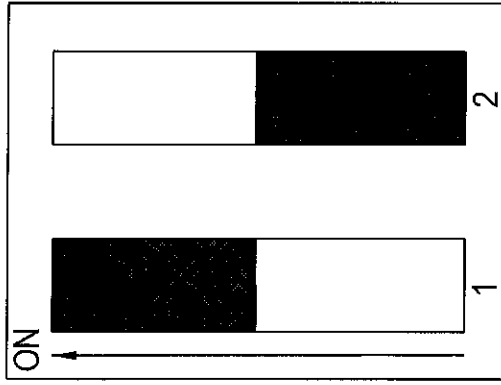
RETURN AIR FILTER LOCATIONS

FIGURE - 7

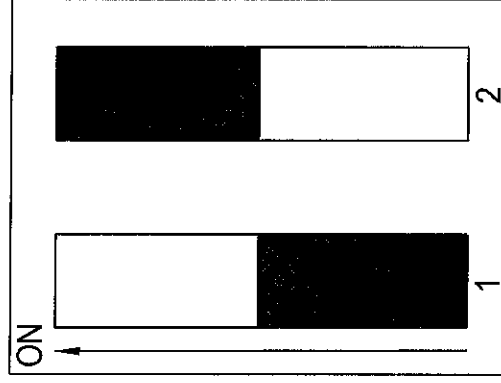
K4CASSY5_2/JAN11



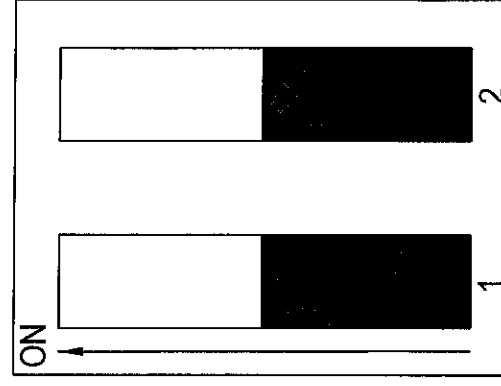
60 SEC



90 SEC



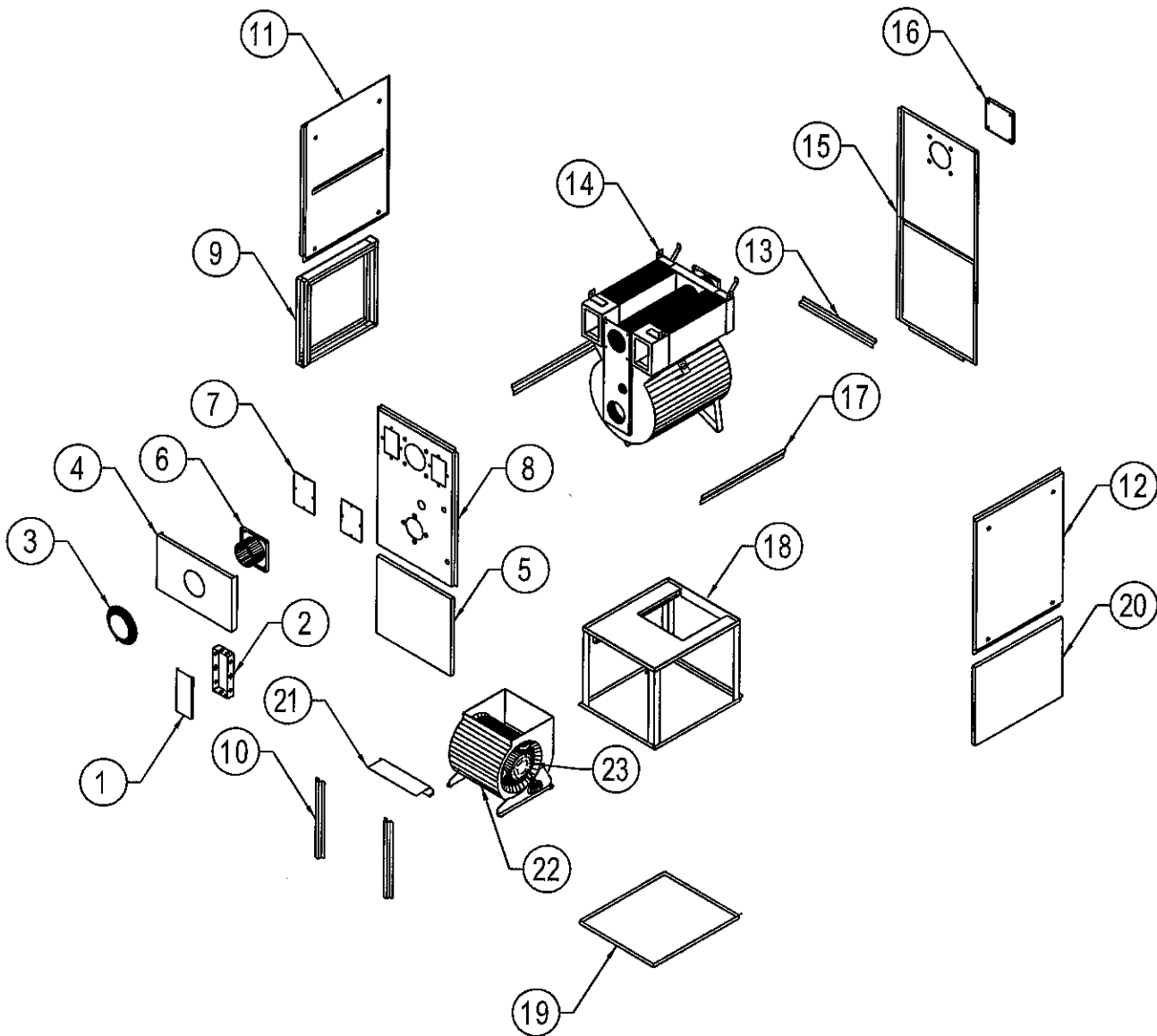
120 SEC



150 SEC

FAN CENTER DIP SWITCH

FIGURE - 8



SUMMIT- multi PARTS LIST

FIGURE - 9

KGSPMANJAN11

Table - 1

Summit-multi Oil-Fired Furnace		
Order No.	Item No.	Part Description
ELB-P0-0008-00	K6C-1	Wiring Box Cover
ELB-P0-0006-00	K6C-2	Wiring Box
K00-CB-0103-00	K6C-3	5" Flue Pipe Collar
K6C-CB-0045-00	K6C-4	Cabinet Cleanout Cover
K6C-CB-0036-00	K6C-5	Cabinet Blower Door
K00-HE-0100-00	K6C-6	Smoke Pipe Flange Assembly
K00-CB-0037-00	K6C-7	Cleanout Cover Plates (Set)
K6C-CB-0100-00	K6C-8	Front Panel Assembly On Or After Jan 24/07
K6C-CB-0200-00	K6C-8A	Front Panel Assembly Prior To Jan 24/07 (Not Shown)
K6C-CB-0300-00	K6C-9	Filter Frame Assembly
K6C-CB-0039-00	K6C-10	Lower Front Corner Assembly (L/R)
K6C-CB-0021-00	K6C-11	Top Side Panel Assembly (Left)
K6C-CB-0020-00	K6C-12	Top Side Panel Assembly (Right)
K6C-CB-0046-00	K6C-13	Rear Gap Filler (Not Shown)
K6C-HE-0015-00	K6C-14	Heat Exchanger Assembly
K6C-CB-0400-00	K6C-15	Rear Panel Assembly
K6C-HE-0155-00	K6C-16	Flange Blank
K6C-CB-0062-00	K6C-17	Side Gap Filler
K6C-HE-0300-00	K6C-18	Divider/Base Assembly
K6C-CB-0038-00	K6C-19	Base Pan
K6C-CB-0010-00	K6C-20	Lower Side Panel
K00-CB-0028-00	K6C-21	Blower Key
3BU-10-00DD-00	K6C-22	Delhi G10 DD Blower 3T A/C, 120 Non A/C
3BU-12-00DD-00	K6C-23	Delhi GT12-10 DD Blower 5T A/C, 160 Non A/C
3BM-50-4SDD-00	K6C-24	Motor 1/2 Direct Drive 4 Speed
3BM-75-4SDD-00	K6C-25	Motor 3/4 Direct Drive 4 Speed
3BM-75-4SDD-02	K6C-26	Motor 3/4 Direct Drive ECM
4CA-00-106M-2B	K6C-27	Motor Run Capacitor (10 micro farad)
4CA-00-206M-2B	K6C-28	Motor Run Capacitor (20 micro farad)
K00-BM-1050-00	K6C-29	Blower/Motor Assembly 1/2
K00-BM-1275-00	K6C-30	Blower/Motor Assembly 3/4
3SG-0P-1030-5A	K6C-31	Sight Glass (Not Shown)
K00-HE-0104-00	K6C-32	Sight Glass Ring (Not Shown)
K00-HE-0020-00	K6C-33	Complete Gasket Set (Not Shown)
3BN-0F-3SBT-00	K6C-34	F3 Riello Burner (Short)
3BN-0F-5SBT-00	K6C-35	F5 Riello Burner (Short)
3BN-BF-3SBT-00	K6C-36	BF3 Riello Burner (Short) Direct Vent
3BN-BF-5SBT-00	K6C-37	BF5 Riello SBT Burner (Direct Vent)
	K6C-38	Beckett Burner AFG Chasis
	K6C-39	Beckett Burner NX Chasis
4CB-00-FAN0-00	K6C-40	ST9103 Classic Air Board
4SD-00-0160-00	K6C-41	165°F Snap Disk
4SW-00-BLVT-01	K6C-42	Blocked Vent Switch (Not Shown)

Please have serial number & date of manufacture ready when ordering parts