

COMPACT- multi

HIGH EFFICIENCY OIL-FIRED MULTI-POSITIONAL FURNACE

Installation, Operation & 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 the appliance please take the time to read section **1.0 HOMEOWNER INFORMATION** of this manual.

1.2 AIR FILTERS

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 and type, or clean permanent filters according to manufacturer's instructions. Replace the filters or clean the filters 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. The filter bracket can be moved from the left side to the right side or the bottom of the furnace. See Figure - 7.

1.3 REGULAR MAINTENANCE

Check complete operation **at least once a year**. In Canada see B139, Section 14, Maintenance, for recommended servicing procedure. Heat exchanger ducts are accessed through breach access panels at front of unit. Replace stainless steel gas baffles after cleaning. 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. Ensure furnace/system has not been tampered with.
- 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 the 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 LIQUIDS 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 Compact-multi is designed to operate in either upflow, downflow or horizontal mode. 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 nuts.

2.5 PLACEMENT & VENTING

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

- UPFLOW** Install the furnace close to chimney or vent and central to ductwork. The furnace may be placed on a combustible floor or, if required, on a Granby Appliance Stand or four (4) rigid blocks. The 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 Figure - 5 or the illustration included with sub-base kit (K4C-KA-0500-00). A sub-base is required to support the furnace. This sub-base maintains the clearances to combustible materials through the floor and provides a convenient attachment to the plenum. For furnaces installed on a combustible floor, ensure that the requirements of the authorities having jurisdiction are satisfied.
- HORIZONTAL** In suspended horizontal positions four 3/8"-16 x 4" eyebolts and 3/8" nuts are use to suspend the furnace. Determine the appropriate side and remove the knockouts. Four weld nuts (3/8 - 16 UNC) are concealed behind knockouts on either side of the furnace. For installations where the furnace will be supported from below, use 4" long 3/8" UNC bolts as adjustable legs. 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.
- CHIMNEY/VENT** Connect the furnace to a chimney/vent system of size and condition required by the NFPA 31 (USA) or CSA B139 (Canada) code. Furnace is approved for factory built chimney type "L" vent. 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. Maximum flue gas temperature is 575°F.
- THROUGH-THE-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 codes require (USA: NFPA 31, Canada: 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 furnace operating label. Not applicable to Direct Vent.

- BREECH** The breech is convertible from front to rear by switching the breech pipe with the cover plate and cabinet cover panels.
- DRAFT** Use approved draft 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.
- AIR FILTER** The filter bracket can be moved from the left side to the right side or the bottom of the furnace. See Figure - 7.
- 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.
- COMBINATION** The Compact-multi can be used with the Scotty SS providing the 0.60 US gph nozzle is used. This will ensure that adequate air circulates through the Scotty SS. Set blower speed to high. If the Compact-multi is used in a down flow position with the Scotty SS, a diverter base is available for easier duct connections.
- SUB-BASE** The sub-base kit is used to provide the proper support and clearances for a furnace that is used in the downflow position and is mounted on a floor with the supply ducting running beneath the floor (K4C-KA-0500-00).
- DIVERTER BASE** The diverter base is used to provide proper support when the Compact-multi furnace is used in the downflow position and the supply ducting is above the floor, or for the add-on to a wood furnace. This base is a furnace supporting 90 degree elbow (K4C-KA-0400-00).
- SPACE HEATER** The space heater kit is used when the furnace is heating the only room in which it is located. The kit consists of two louvered blower side panels and a louvered air diffuser top, which mounts on the top of the furnace in place of ductwork (K4C-KA-0100-00).
- VESTIBULE** The vestibule is used to cover the burner and provide a burner compartment. It is sometimes used in conjunction with the space heater kit (K4C-KA-0600-00).
- 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	Riello - Set turbulator as per furnace operating decal or section 3.0 BURNER SPECIFICATIONS . Beckett – See burner manufacturer's instructions.
SELECT NOZZLE	Select oil input, nozzle required and burner configuration as shown on furnace operating decal or section 3.0 BURNER SPECIFICATIONS .
INSTALL NOZZLE	Install nozzle, check for clean seating and tighten nozzle adaptor.
ELECTRODES	See burner manufacturer's instructions for correct setting.
INSERTION LENGTH	See section 6.0 GENERAL SPECIFICATIONS or Figure - 1.
MOUNT BURNER	Tighten top nut first so burner tips down slightly. The burner is always installed in an upright position by four nuts.
PUMP BY-PASS PLUG	For one pipe system factory setting (no plug).
WIRING	Refer to wiring label and 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 .
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2.8 SET BURNER FOR EFFICIENT OPERATION

SET END CONE	Use turbulator settings in section 3.0 BURNER SPECIFICATIONS or operating decal as a guide to set turbulator, particularly for nozzle changes.
PUMP PRESSURE	Refer to section 3.0 BURNER SPECIFICATIONS or operating decal.
AIR SETTING	Use air settings in section 3.0 BURNER SPECIFICATIONS or operating decal as a guide to set air damper.
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. Not applicable to Direct Vent.

BURNER SETTING After 5 minutes of normal operation, check smoke for zero to trace reading and measure CO₂. Readjust the burner controls as required.

EFFICIENCY Always leave burner set with CO₂ reading about 1% of CO₂ lower than the peak 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 the locking nuts.

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

2.9 BLOWER SETTING

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 neither heating nor cooling are required. Set blower speeds to match the installation requirements. On the model number the last 2 digits represent the type of motor: 03 for a PSC 1/3HP motor and E3 for a 1/2HP 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. 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 air circulation during the furnace off cycle.

“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		Heating CFM@		Blower Speed	
		USGPH	L/h	Btu/h					Btu/h	kW	0.2"wc	0.5"wc	0.2"wc	0.5"wc
K4C-E1-0090-03	Riello 40 F3	0.61	2.31	85,400	0.50 80B	150	2.8	0.5	74,000	22	990	990	4	3
		0.73	2.76	102,200	0.60 60W		3.5	1.0	88,000	26	1180	1090	3	2
K4C-G3-K098-03	Beckett AFG-F0	0.61	2.31	85,400	0.50 70W	150	6/0	-	73,000	21	1050	1050	3	2
	Beckett AFG-F3	0.73	2.76	102,200	0.60 70W		7/0	-	88,000	26	1150	1100	2	1
		0.79	2.99	110,600	0.65 70W		9/0	-	93,000	27	1150	1100	2	1
K4C-N1-K098-03	Beckett NX-LH	0.61	2.31	85,400	0.50 60A	150	2.3	-	75,000	22	1050	1050	3	2
		0.73	2.76	102,200	0.60 60A		3.5	-	88,000	26	1150	1100	2	1
		0.81	3.07	113,400	0.65 60A		4.0	-	98,000	29	1150	1100	2	1

Direct Vent

K4C-V1-0090-03	Riello BF3	0.61	2.31	85,400	0.50 80W	150	5.0	0.5	74,000	22	990	990	4	3
		0.73	2.76	102,200	0.60 60W		6.0	1.5	88,000	26	1180	1090	3	2

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 E3 instead of 03.

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 OIL TANK & PIPING

Tank installation must 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 in the suction line. Also, be sure the oil filter is tight, as filter gaskets often shrink. Check for kinks in the oil lines as well as for possible air pockets and for loose connections. Two filters as 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.

6.0 BLOWER REMOVAL

Use a reversing drill with 1/4" hex drive for the sheet metal screws.

The Compact-multi has a quick release blower suspension system that is designed to be tight and rattle free. To remove blower:

- a) Remove front panel to blower compartment.
- b) Remove the screw(s) from the blower key (Figure - 2A).
- c) Remove the blower key and slide the blower towards the burner. (Figure - 2B).

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

7.0 GENERAL SPECIFICATIONS

CLEARANCE TO COMBUSTIBLES

UPFLOW/DOWNFLOW POSITION

Top	1"	(25 mm)
Front	24"	(610 mm)
Rear - Front Breech	2"	(51 mm)
Rear - Rear Breech	24"	(610 mm)
Side - Non-Access	2"	(51 mm)
Side - Access	24"	(610 mm)
Return Air Side - Ductwork	1"	(25 mm)
Flue Pipe	9"	(229 mm)
Floor	Combustible (Upflow only)	
Downflow must have sub-base (K4C-KA-0500-00)		

Horizontal Position

Top	6"	(152 mm)
Front	24"	(610 mm)
Rear - Front Breech	6"	(152 mm)
Rear - Rear Breech	24"	(610 mm)
Side - Non-Access	6"	(152 mm)
Side - Access	24"	(610 mm)
Return Air Side - Ductwork	1"	(25 mm)
Flue Pipe	9"	(229 mm)
Floor	6"	(152 mm)

DRAFT PRESSURE

Breech draft pressure	-0.03" wc
Over fire draft pressure	-0.01" wc
(Not Applicable to Direct Vent Units)	

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
Cooling	2.5 tons
Maximum air temperature rise	85°F
High Limit, max. design outlet temp.	200°F
Thermostat anticipator	0.2 amps

MOTOR/BLOWER

1/3 hp 4 Speed/G10 DD / 1/2 hp ECM/G10 DD

FAN/HIGH LIMIT CONTROL

Honeywell Fan Center & Thermo-Disk

DIMENSIONS (Figure – 6)

Depth	22 7/8"	(581 mm)
Height	44 1/4"	(1124 mm)
Width	19 1/2"	(495 mm)
Width w/Filter Bracket	21 1/2"	(546 mm)

PLENUM DIMENSIONS

Cold air return	20" x 16"	(508 x 406 mm)
Hot air supply	18 1/4" x 21 5/8"	(464 x 549 mm)
Height to plenum	44"	(1118 mm)

A/C COIL LOCATION

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

OPENING HEIGHTS (from floor)

Burner c/l	24"	(610 mm)
Smoke pipe c/l	37"	(940 mm)

SMOKE/VENT PIPE

5" Chimney
4" Direct Vent

CLEANOUTS

Front covers, Burner opening, Front/Rear cover plate

AIR FILTERS

Pleated 18" x 24" x 2"

THERMOSTAT

Any thermostat

FUEL

Not heavier than No. 2 furnace oil.

ELECTRICAL - 120 Volts, 60 Hz

Canada Less than 12 amps.
US 13.3 amp, circuit protection 20 amps.

8.0 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 warm or too cold at the end of the heating cycle after the burner has turned off - adjust the “FAN OFF” dip switch on electronic board fan center. See Figure – 9.

9.0 TROUBLE SHOOTING GUIDE

Furnace will not start

Tripped blocked vent switch	Clear vent, reset switch.
Tripped breaker	Determine cause, reset breaker.
Blown fuse	Replace fuse.
No oil	Check tank for leaks and call oil supplier.

Sooty flame

Wrong pump pressure	Increase or decrease pressure to correct setting.
Dirty nozzle	Replace nozzle.
Improper burner setting	See section 3.0 BURNER SPECIFICATIONS .
Barometric draft wrong	Adjust barometric regulator for -0.03” wc draft pressure at breech.

Oil burner keeps turning off

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

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 burner 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.
Blower wheel hitting housing	Center wheel in housing.
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.
Vacuum too high on pump	Check pump vacuum. Check filters and pump screen.

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: _____

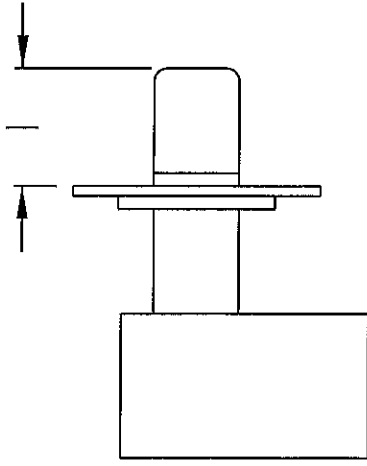
Test Performed By: _____

Staple Printout Here:

Staple Smoke Spot Here:

BURNER INSERTION

FIGURE 82/JUNIT



	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

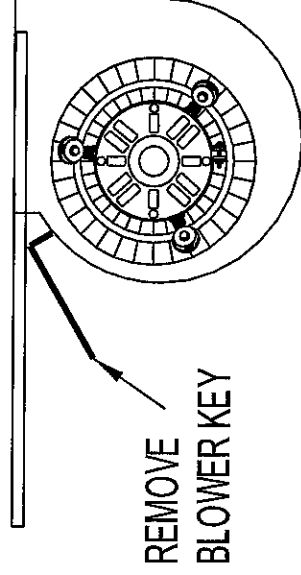
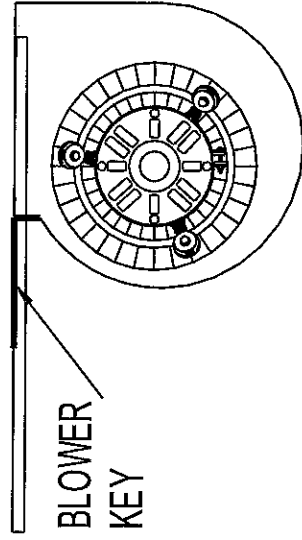
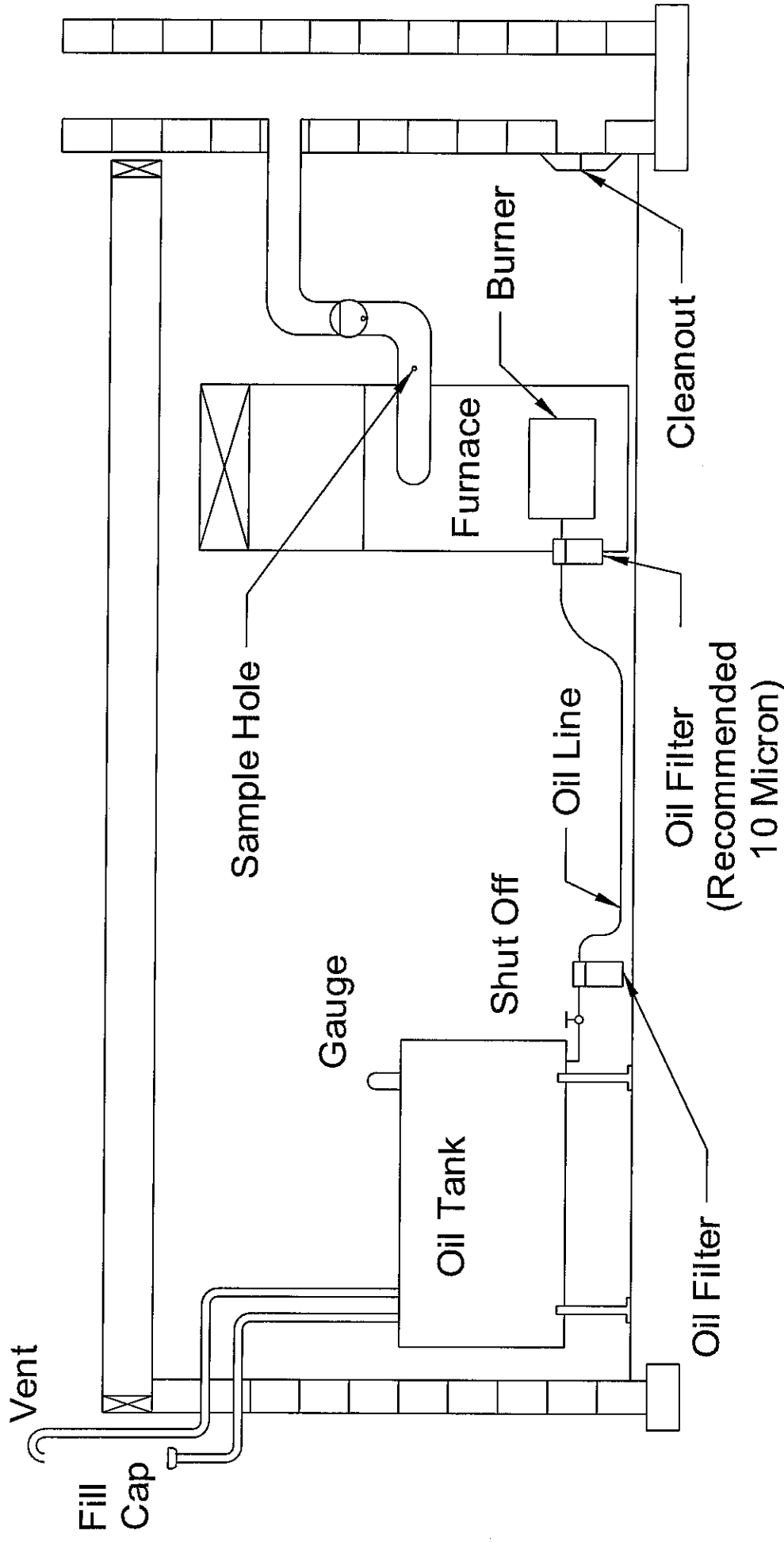


FIGURE - 2A

FIGURE - 2B

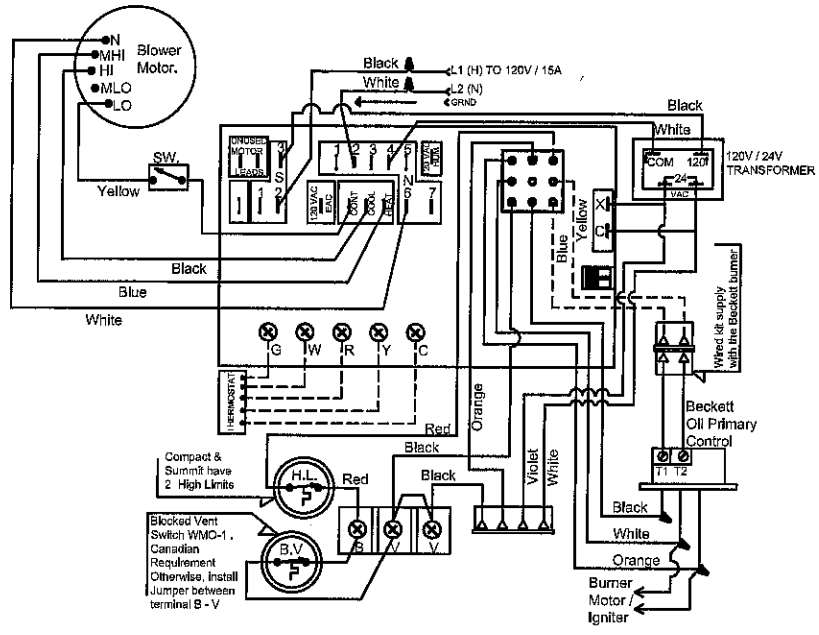


OIL TANK AND PIPING

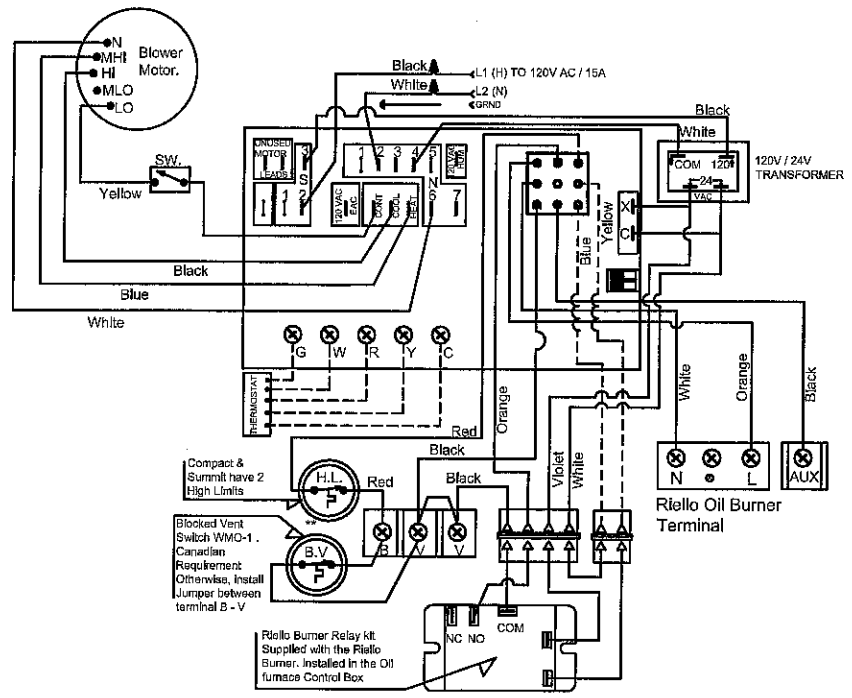
FIGURE - 3

FINSTALLJAN11

BECKETT WIRING DIAGRAM



RIELLO WIRING DIAGRAM



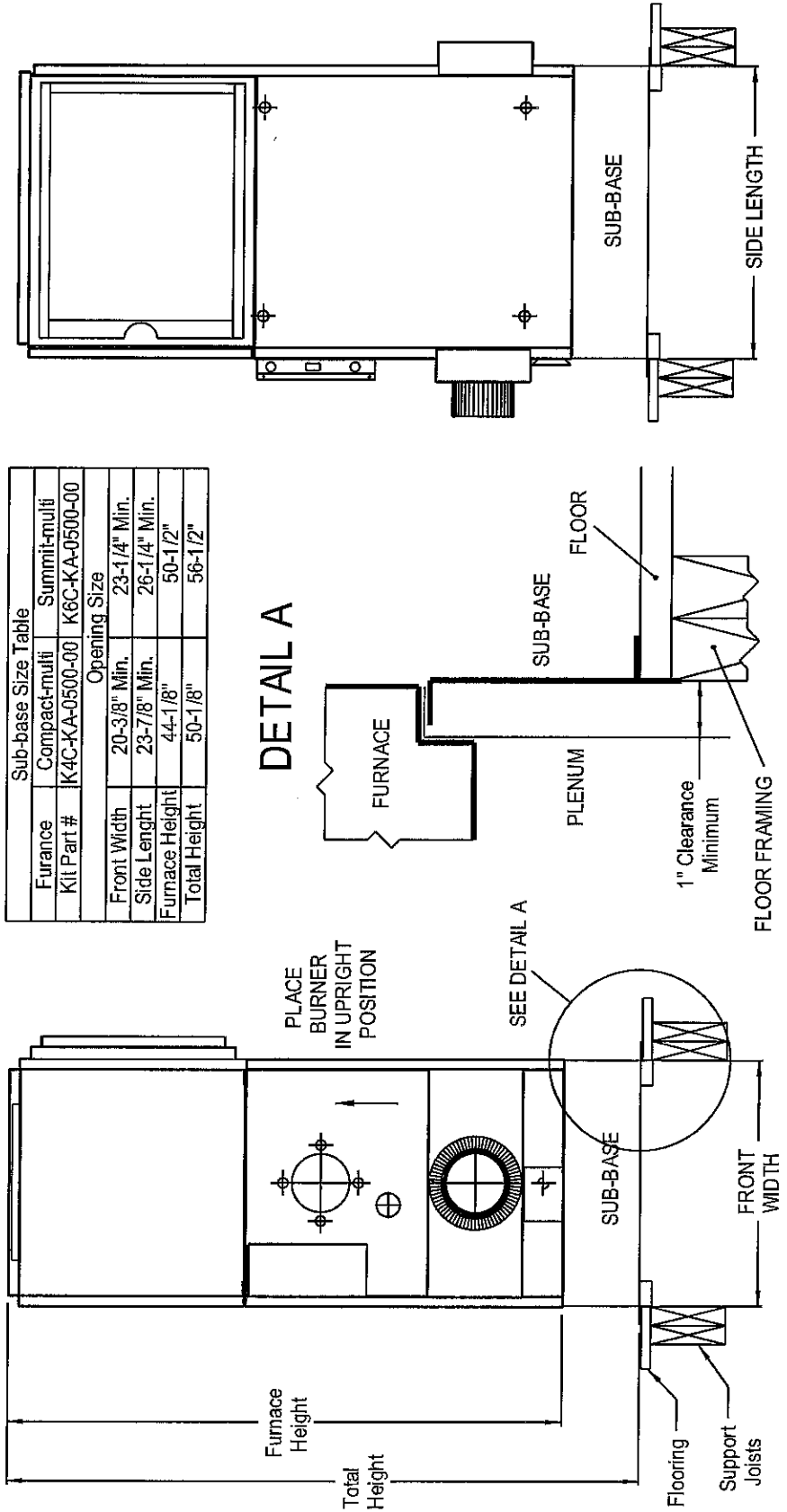
**WIRING DIAGRAM
FIGURE - 4**

DOWNFLOW SUB-BASE INSTALLATION INSTRUCTIONS

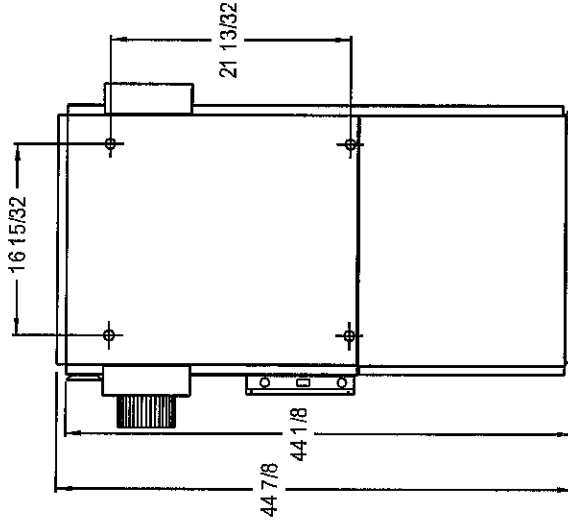
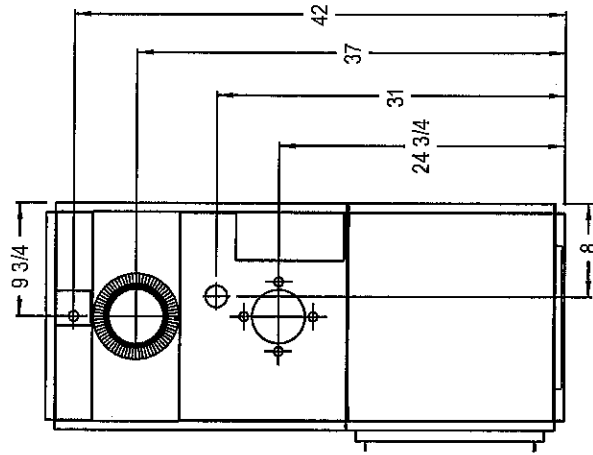
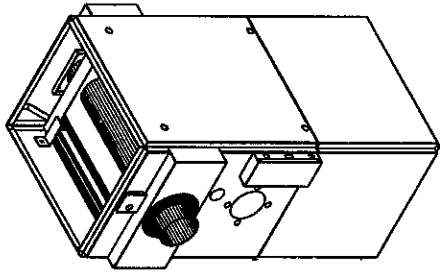
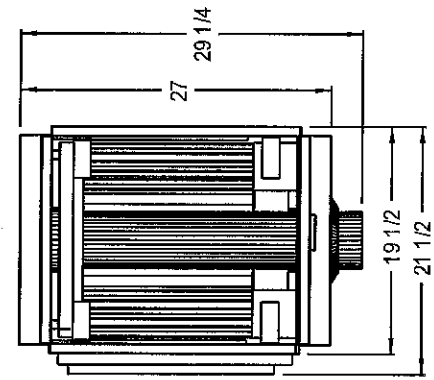
FIGURE - 5

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 to combustibles 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.



Sub-base Size Table	
Furnace	Compact-multi
Kit Part #	K4C-KA-0500-00
	Summit-multi
	K6C-KA-0500-00
Opening Size	
Front Width	20-3/8" Min.
Side Length	23-1/4" Min.
Furnace Height	26-1/4" Min.
Total Height	44-1/8"
	50-1/2"
	56-1/2"



COMPACT- multi DIMENSIONS

FIGURE - 6

K4CASSY3_1JAN11

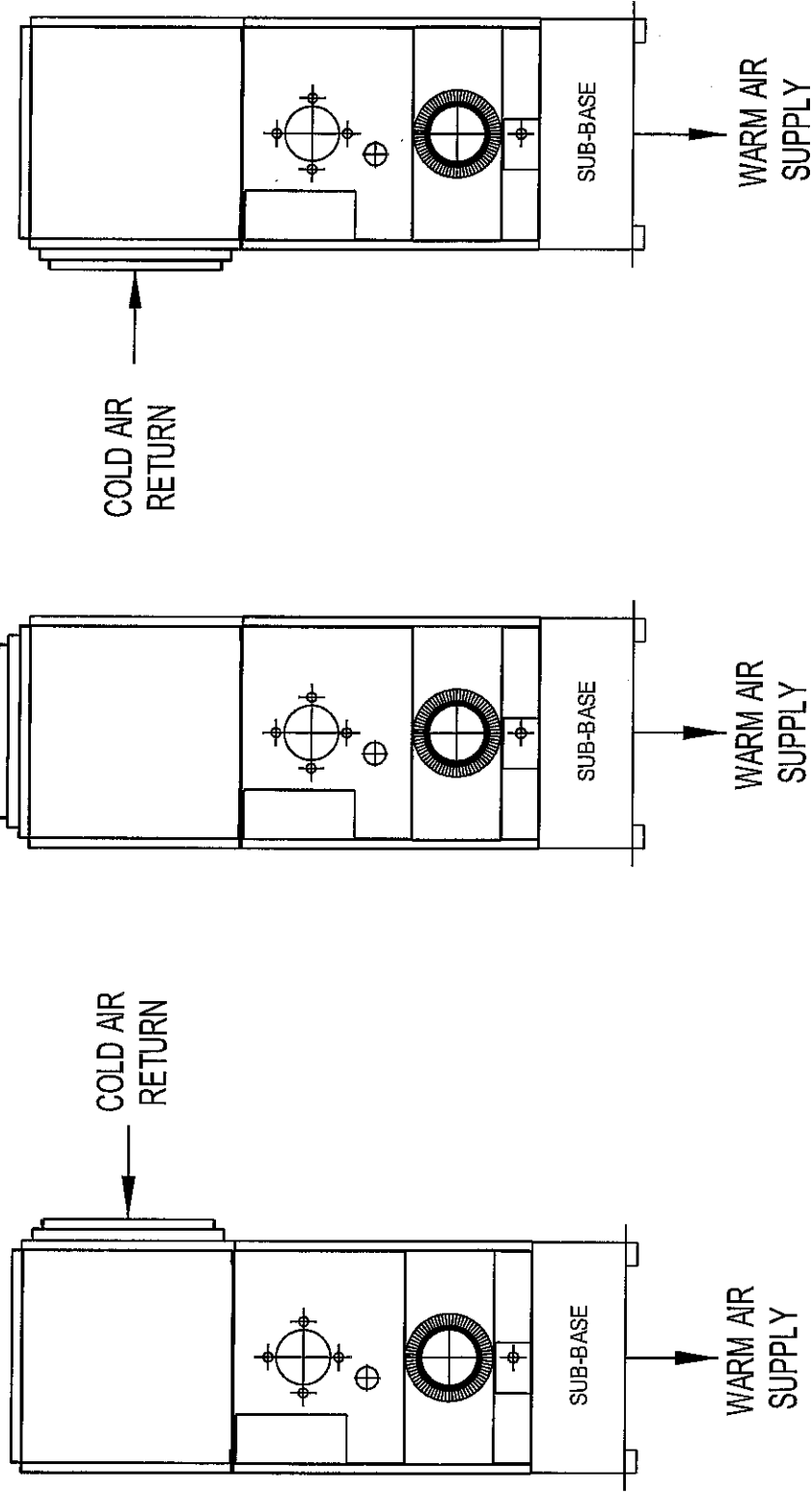
The return air filter, in an upright position can be located on the right or the left hand side of the unit.

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.

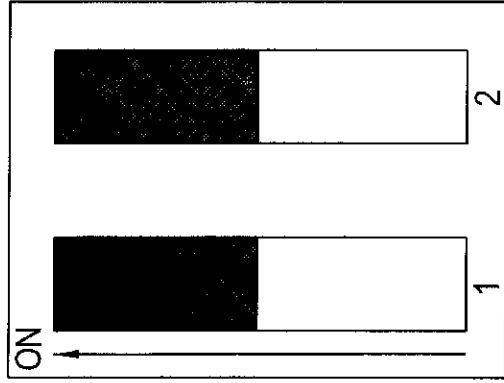
Secure each of the panels in the new location using the pre-existing screw holes.

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

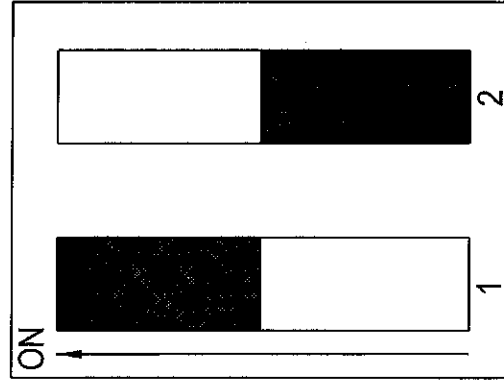


RETURN AIR FILTER LOCATIONS

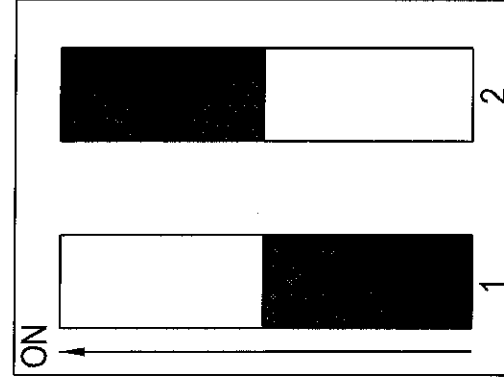
FIGURE - 7



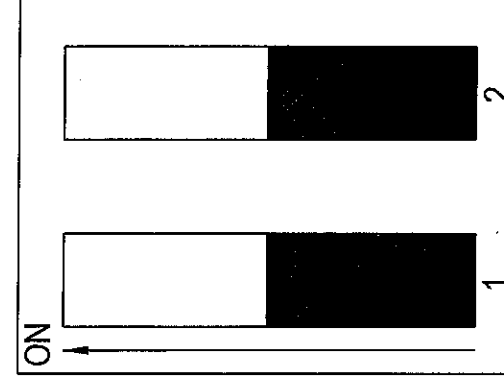
60 SEC



90 SEC



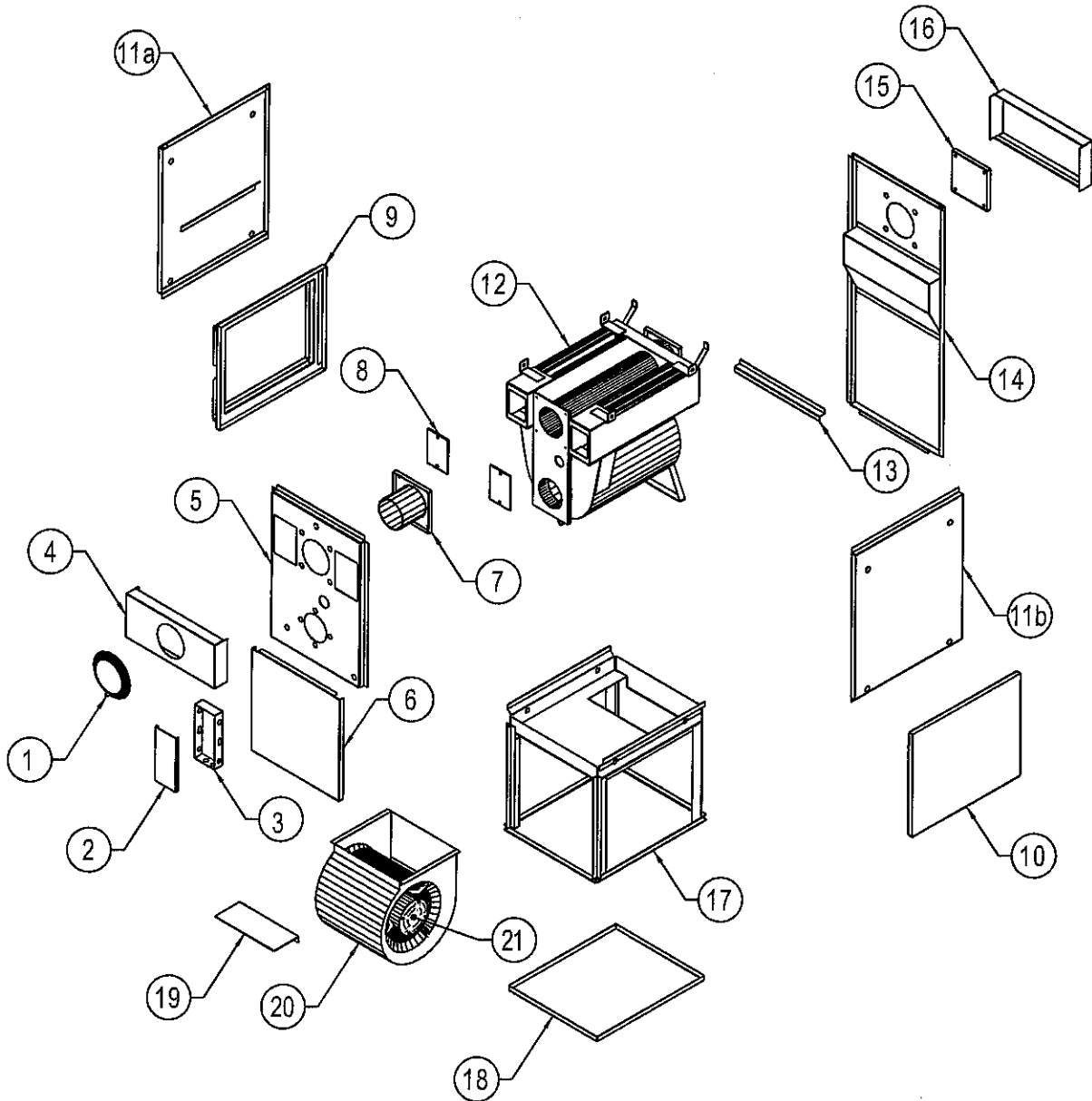
120 SEC



150 SEC

FAN CENTER DIP SWITCH

FIGURE - 8



COMPACT- multi EXPLODED PARTS

FIGURE - 9

K4C EXPLODED PARTS FEB12

Table - 1

Compact-multi Oil-Fired Furnace		
Order No.	Item No.	Part Description
K00-CB-0103-0	K4C-1	Smoke Pipe Collar
ELB-P0-0003-00	K4C-2	Wiring Box Cover
ELB-P0-0001-00	K4C-3	Wiring Box
K4C-CB-0100-00	K4C-4	Front Cabinet Cleanout Cover
K4C-CB-0020-00	K4C-5	Top Front Panel Assembly
K40-CB-0030-00	K4C-6	Lower Front Panel Assembly
K00-HE-0100-00	K4C-7	Smoke Pipe Flange Assembly
K00-HE-0025-00	K4C-8	Cleanout Cover Plates (Set)
K40-CB-0300-00	K4C-9	Filter Frame Assembly
K4C-CB-0055-00	K4C-10	Lower Side Panel
K40-CB-0040-00	K4C-11a	Top Side Panel Assembly Left
K40-CB-0041-00	K4C-11b	Top Side Panel Assembly Right
K4C-HE-0000-00	K4C-12	Heat Exchanger Assembly
K40-CB-0046-00	K4C-13	Rear Gap Filler
K40-CB-0400-00	K4C-14	Rear Panel Assembly
K00-HE-0155-00	K4C-15	Flange Blank
K40-CB-0105-00	K4C-16	Rear Cabinet Cleanout Cover
K40-CB-0150-00	K4C-17	Divider Assembly
K4C-CB-0050-00	K4C-18	Base Pan
K00-CB-0028-00	K4C-19	Blower Key
3BU-10-00DD-00	K4C-20	G10 DD Blower
3BM-33-4SDD-00	K4C-21	Motor 1/3 hp Direct Drive 4 Speed
3BM-50-ECM0-02	K4C-22	Motor 1/2 hp Direct Drive ECM
4CA-00-505M-23	K4C-23	Motor Run Capacitor (5 micro farad)(Not Shown)
K00-BM-1033-00	K4C-24	Blower/Motor Assembly
3SG-0P-1030-5A	K4C-25	Sight Glass (Not Shown)
K00-HE-0104-00	K4C-26	Sight Glass Ring (Not Shown)
K00-HE-0020-00	K4C-27	Complete Gasket Set (Not Shown)
K00-HE-0179-00	K4C-28	Secondary Heat Exchanger Baffle - each (Not Shown)
3BN-0F-3SBT-00	K4C-29	F3 Riello SBT Burner
3BN-BF-3SBT-00	K4C-30	BF3 Riello SBT Burner (Direct Vent)
	K4C-31	Beckett Burner AFG Chasis
	K4C-32	Beckett Burner NX Chasis
4CB-00-FAN0-00	K4C-33	ST9103 Board
4SD-00-0160-00	K4C-34	165°F Snap Disk
4SW-00-BLVT-01	K4C-35	Blocked Vent Switch (Not Shown)

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