

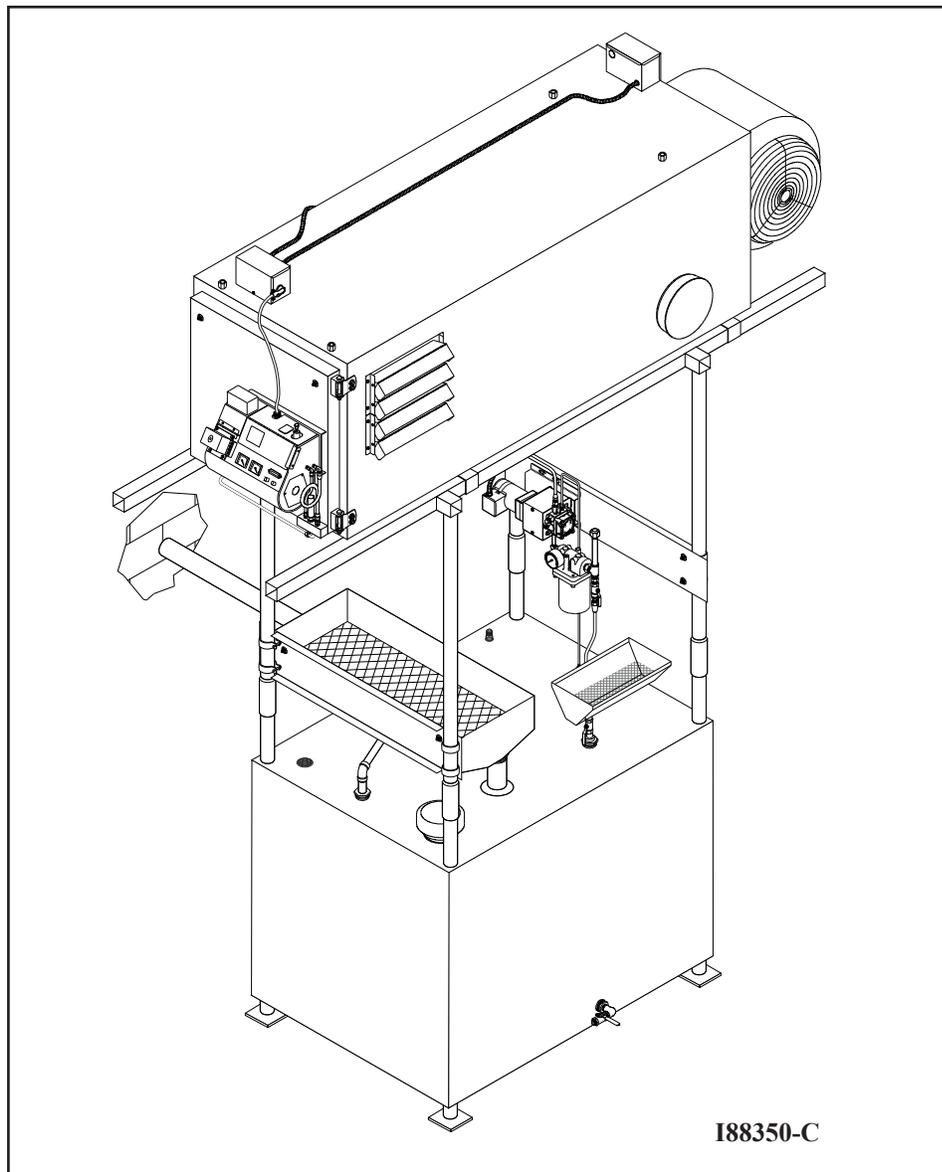


ENERGY SYSTEMS

INSTALLER'S MANUAL

CLEAN BURN RECYCLING CENTER

IMPORTANT! This manual provides all the instructions necessary to install the Clean Burn Recycling Center, including pertinent instructions for furnace installation. Use this manual as the "master guide" for the entire installation project (recycling center and furnace), referring to your Furnace Operator's Manual when directed to do so for more detailed information on the furnace.



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CLEAN BURN PART # 43049

IMPORTANT FOR U.S. INSTALLATIONS: All installations must be made in accordance with state and local codes which may differ from the information provided in this manual. Save these instructions for reference.

IMPORTANT FOR CANADIAN INSTALLATIONS: The installation of this equipment is to be accomplished by qualified personnel and in accordance with the regulation of authorities having jurisdiction and CSA Standard B 139, Installation Code for Oil Burning Equipment.

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SECTION 1: INTRODUCTION

Guide to this Manual

IMPORTANT! *This manual provides all the instructions necessary to install the Clean Burn Recycling Center, including pertinent instructions for furnace installation. Use this manual as the "master guide" for the entire installation project (recycling center and furnace), referring to your Furnace Operator's Manual when directed to do so for more detailed information on the furnace.*

The Clean Burn Recycling Center is available in a range of models to accommodate various installation requirements. The following table summarizes the models and features available for each. When proceeding through the information provided in this manual, be sure to follow the appropriate procedures for your specific recycling center/furnace combination.

Recycling Center Model #	Compatible Furnace Models	FEATURES		
		Metering Pump	With Drain Pan Kit	Without Drain Pan Kit
92500	CB 140/1750/2500/3250	x		x
92501	CB 140/1750/2500/3250	x	x	

Consult the Table of Contents for a detailed list of topics covered in this manual. You'll find the step-by-step procedures easy to follow and understand. Should questions arise, please contact your Clean Burn dealer before starting any of the procedures in this manual.

Following is an outline of the Recycling Center installation process:

- **UNPACKING**
- **INSTALLING THE RECYCLING CENTER**
 - Understanding the Installation Process
 - Preparing the Workbench Tank for Installation
 - Positioning the Recycling Center
 - Installing the Furnace Support System
 - Assembling and Installing the Furnace
 - Securing the Furnace to the Support System
 - Installing the Oil Pump
 - Installing the Suction Oil Line Components
 - Installing the Pressure Oil Line
 - Installing the Drain Pan Kit
 - Installing the Filter Drain Rack Kit
 - Wiring the Furnace and Pump
 - Installing the Compressed Air Line
 - Installing the Stack
 - Installing the Wall Thermostat

Please read all sections in this manual carefully--including the following safety information--before beginning any installation procedures; doing so ensures your safety and the optimal performance of your Clean Burn recycling center and furnace.

For Your Safety...

For your safety, Clean Burn documentation contains the following types of safety statements (listed here in order of increasing intensity):

- **NOTE:** A clarification of previous information or additional pertinent information.
- **ATTENTION:** A safety statement indicating that potential equipment damage may occur if instructions are not followed.



CAUTION: A safety statement that reminds of safety practices or directs attention to unsafe practices which could result in personal injury if proper precautions are not taken.



WARNING: A *strong* safety statement indicating that a hazard exists which can result in injury or death if proper precautions are not taken.



DANGER! *The utmost levels of safety must be observed;* an extreme hazard exists which would result in high probability of death or irreparable serious personal injury if proper precautions are not taken.

IMPORTANT! Review the list of general safety precautions provided in Section 1 of your Furnace Operator's Manual. These precautions *must be heeded* to ensure proper, safe recycling center and furnace operation.

WARNING!



STOP

**YOUR SAFETY IS AT STAKE!
DO NOT INSTALL, OPERATE, OR
MAINTAIN THIS EQUIPMENT
WITHOUT FIRST READING
AND UNDERSTANDING
THIS MANUAL!**

About Your Recycling Center...

Your Clean Burn recycling center has been designed from the ground up as a complete, self-contained heating and recycling system. It offers the following features:

- Accommodates furnaces from 140,000 to 300,000 BTU's
- Simplifies furnace installation by including all necessary components for complete installation -- tubing and wiring components supplied
- Oil is conveniently stored in UL-listed 250-gallon workbench tank
- The CB-140/1750/2500/3250 allow for adjusting heat flow direction by repositioning the louvers.
- Simplifies service by allowing easy access to all components
- Includes drain pan kit and filter drain rack kit (*included with certain models*)
- Accommodates optional air compressor kit

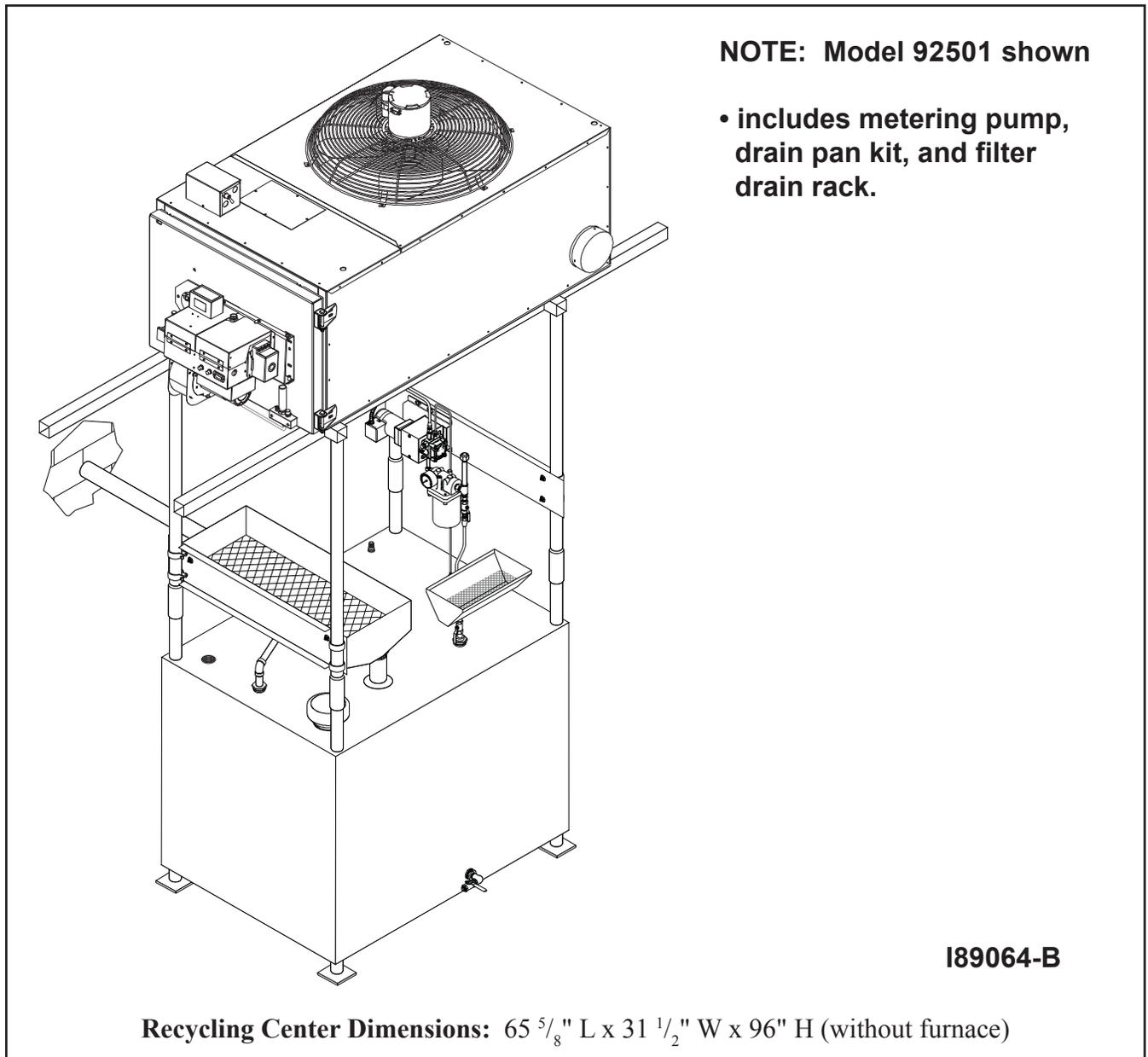


Figure 1A - The Clean Burn Recycling Center

Guidelines for Used Oil Tanks

For the safe storage of used oil and the safety of persons in the vicinity of the used oil supply tank, ensure that your tank installation adheres to the following safety guidelines:

- **The tank installation must meet all national and local codes.** Consult your local municipal authorities for more information as necessary.
- **Review and adhere to the safety guidelines for used oil supply tanks as stated in the WARNING shown.**
- Ensure that the tank for your furnace installation complies with all code and safety requirements as stated here. If the tank does not comply, DO NOT use it.
- If you do not have a copy of the tank safety label pictured at right, please contact your Clean Burn dealer for the label, which is to be affixed directly on your used oil supply tank.

⚠ WARNING	
	
Fire and explosion hazards To prevent serious injury or death:	
<p>ONLY place these listed substances in this used-oil supply tank:</p> <ul style="list-style-type: none"> • Used crankcase oil • Used automatic transmission fluid • Used hydraulic oil • #2 fuel oil <p>Do NOT place flammable or corrosive substances such as gasoline, chlorinated oils, solvents, paint thinners, or any other unsafe substances in this used-oil supply tank.</p>	
<p>Do NOT weld or allow open flame within 35 feet of this used-oil supply tank.</p>	
<p>Tank installation MUST comply with NFPA 30 and 31 Fire Codes, including the following requirements:</p> <ul style="list-style-type: none"> • Tank must be listed to UL 80 or UL 142. • Tank must be vented to outside. • Emergency vent or explosion relief must be installed on tank. • Inside fill allowed only with funnel including 1/4 turn-to-close fall valve, which must be closed after filling. • All other openings must be plugged • All oil lines must be constructed of copper, steel, or brass components. Do NOT use rubber or plastic tubing or piping, or any other inappropriate material. 	
	<p>Follow all instructions for tank installation in Operator's Manual.</p>
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SECTION 2: UNPACKING

Before assembling your recycling center and furnace, you should take some time to carefully unpack your shipment from Clean Burn.

Unpacking and Inspecting All Components

Carefully open all shipping containers and inspect all components. Immediately notify the freight company and your Clean Burn dealer in case of shipping damage or shortage(s). Keep all components together so you will have them as needed for assembly and installation.

For your convenience, recycling center components are listed in Section 3 (in related groupings) throughout the installation process. Detailed illustrations with labelled components should enable easy assembly/installation.

NOTE: At this time, you should also consult the Furnace Operator's Manual for specific instructions on unpacking the furnace.

SECTION 3: INSTALLING THE RECYCLING CENTER

Understanding the Installation Process

Installation of the recycling center involves the assembly and installation of the components which are provided with the recycling center and the components which are provided with your furnace. In addition, you will install the stack components which you will purchase separately. You may also assemble and install optional accessories. To aid your understanding of the process, each specific installation activity is described in a separate "chapter" within this section--use the subheadings as a guide. ***Be sure to follow the appropriate procedures for your recycling center model.***

IMPORTANT! Throughout the recycling center installation process, you will be instructed to refer to the Furnace Operator's Manual for specific assembly or installation information. Read all instructions in both manuals *carefully* to ensure that the installation is performed correctly and safely.

Also ensure that you adhere to the following general precautions regarding recycling center and furnace installation:

 **WARNING:** The installation, operation, and maintenance of this equipment in the U.S. must be accomplished by qualified personnel and in compliance with the specifications in the Clean Burn Operator's Manual and with all national, state, and local codes or authorities having jurisdiction over environmental control, building inspection and fuel, fire and electrical safety and the following standards of the National Fire Protection Association.

NFPA 30	Flammable and Combustible Liquids Code
NFPA 30A	Automotive and Marine Service Station Code
NFPA 31	Standard for the Installation of Oil Burning Equipment
NFPA 211	Chimneys, Fireplaces, Vents and Solid Fuel Burning Appliances
NFPA 88A	Parking Structures
NFPA 88B	Repair Garages
NFPA 70	National Electrical Code

Likewise, the installation, operation, and maintenance of this equipment **in Canada** is to be accomplished by qualified personnel and in compliance with the specifications in the Clean Burn Operator's Manual and in accordance with the regulation of authorities having jurisdiction and the following CSA Standards:

B139	Installation Code for Oil Burning Equipment
B140.0	General Requirements for Oil Burning Equipment
C22.1	Canadian Electrical Code, Part 1.

Failure to comply with these standards and requirements may result in equipment damage, fire, explosion, personal injury and/or death.

 **WARNING:** Improper installation can adversely affect the proper, safe operation of your recycling center and furnace. It is critical that your furnace installer reads and follows the instructions provided in this manual and in the Furnace Operator's Manual.

Positioning the Recycling Center

The location you select for your recycling center and furnace must allow the following:

- Unobstructed, even heat distribution from the furnace.
- Safe, easy access for servicing. *DO NOT restrict service access to your furnace; periodic maintenance is required for proper furnace operation.*
- Unobstructed passage for shop vehicles and equipment.
- Proper clearances from combustibles. *Verify according to your local safety codes.*
- Venting of the tank to the outdoors. *Verify according to your local safety codes.*
- Adequate combustion air per local codes.
- Proper stack installation.



WARNING: Adhere to the following *minimum* clearances from combustible surfaces which will also provide adequate clearance for servicing (**Figure 3A and Figure 3B**); failure to maintain proper clearances may result in fire, explosion, personal injury or death.

TOP	18"
FRONT (burner side).....	24"
REAR (stack side).....	36"
LOUVER SIDE	60"
FAN SIDE.....	24"
BOTTOM.....	96"
CHIMNEY CONNECTOR....	18"



WARNING: National codes require that your furnace is mounted a minimum of eight (8) feet off the ground when installing the furnace in a repair facility. Refer to NFPA-88B, *Standard for Repair Garages*, Chapter 3, *Hazards*, Sec. 3-2.3-1.

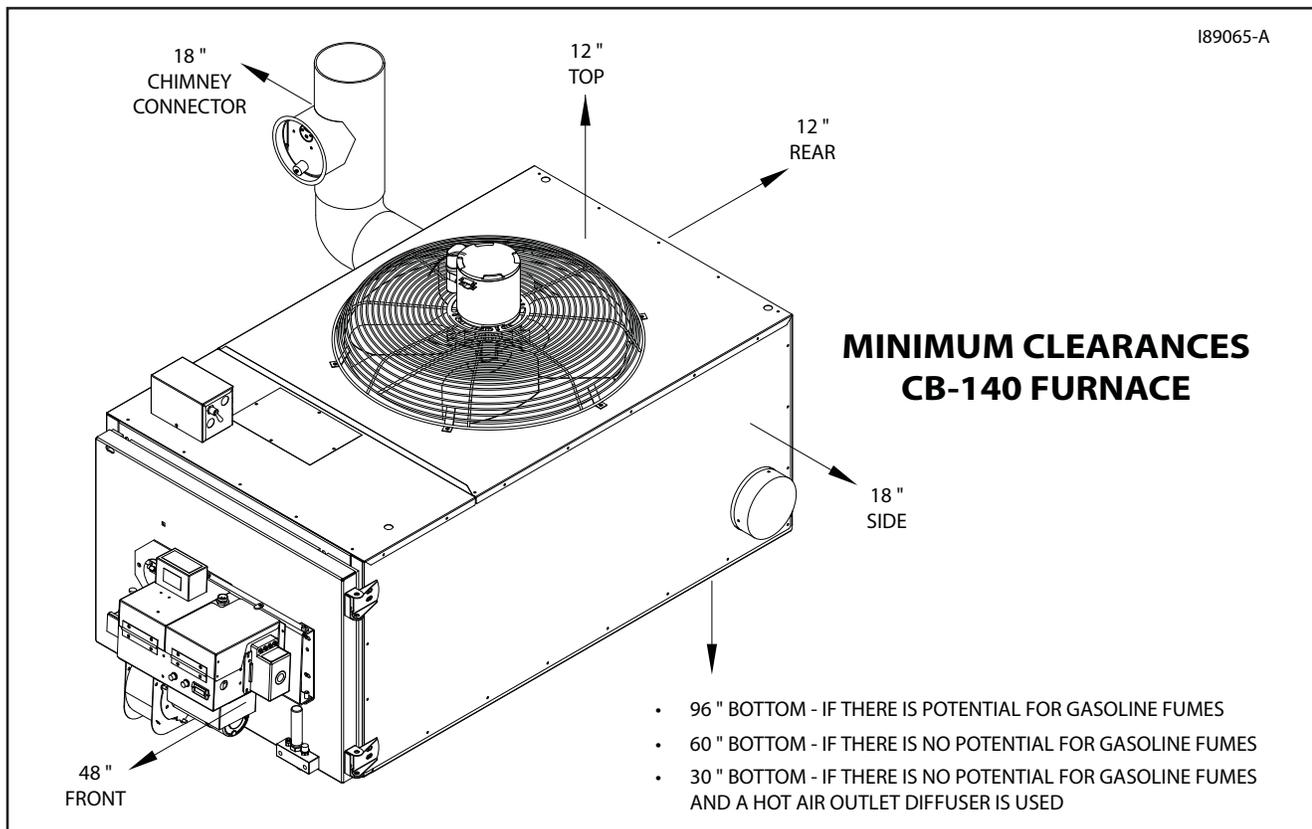


Figure 3A - Clearances from Combustibles
(Refer to equipment Data Label for actual measurements)

**CLEARANCES FOR UNIT HEATER
INSTALLATION WITH SIDE AIR
DISCHARGE**

- TOP (of furnace) 12"
- FRONT (burner)..... 60"
- SIDE with Air Discharge 60"
- OTHER SIDE 18"
- CHIMNEY CONNECTOR 18"
- REAR (from blower)..... 2"
- BOTTOM..... 96"

**CLEARANCES FOR CENTRAL FURNACE
INSTALLATION**

- TOP (of furnace) 12"
- FRONT (burner)..... 60"
- SIDE without stack 18"
- CHIMNEY CONNECTOR 18"
- REAR (from blower)..... 2"
- BOTTOM..... 96"
- WARM AIR DUCTS within 3ft. 6"

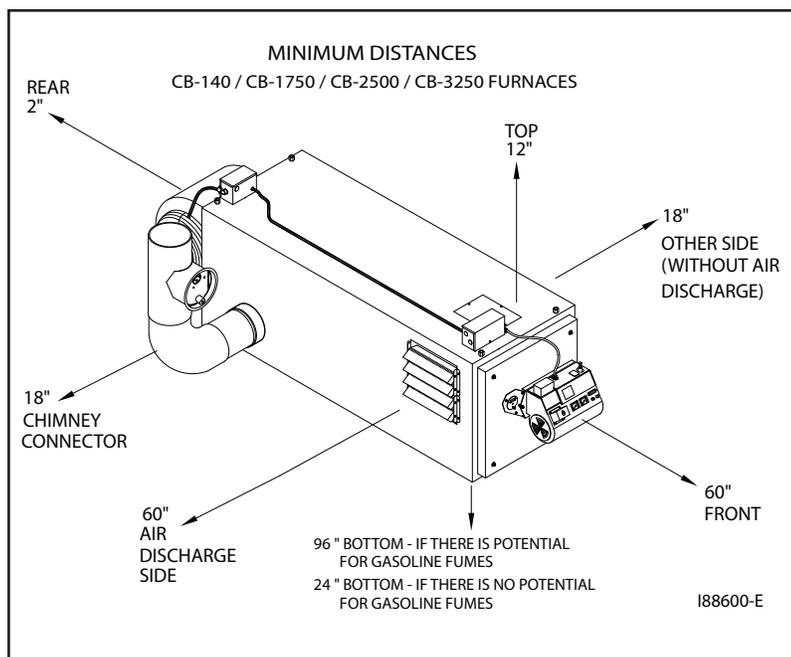


Figure 3B - Clearances from Combustibles
(Refer to equipment Data Label for actual measurements)

Preparing the Storage Tank for Installation

NOTE: The storage tank incorporates holes (bungs) to allow periodic maintenance (i.e. draining of the tank to remove water, sludge, or other debris from the bottom of the tank.) NFPA 31 requires that you install a steel threaded plug in one hole and install a steel ball valve in the other to aid the draining process. Follow instructions below to install the necessary hardware in the tank.

1. Locate the two bungs along the lower edge of the storage tank.
2. Plug one of the bungs with a 1/2" steel plug.
3. Install a 1/2" steel ball valve in the other bung to allow easy draining of sludge, etc. from the bottom of the tank. Refer to the Furnace Operator's Manual for details on periodic maintenance of the tank.
4. Using one of the 2" openings on the top of the tank, install a 2" steel pipe or iron pipe vent line from the tank to the outside of the building according to local codes and NFPA 31.
NOTE: The tank must be properly vented to allow air to either enter the tank as oil is pumped from the tank or exit from the tank while filling and to safely vent all fumes to the outside.
5. Install a 3" Emergency Tank Relief Valve (Clean Burn Part # 32453) into the 3" bung on the top of the tank as required by local codes.
6. All other unused openings in the tank must be plugged with steel pipe plugs.

NOTE: Before filling the tank with oil, ensure that all unused openings in the tank are plugged with steel pipe plugs and that the steel ball valve is closed.

WARNING: The oil tank **MUST** be vented to the outside according to local codes. Proper ventilation of the tank allows for the proper expansion and contraction of the tank. Failure to properly vent the tank will result in damage to the walls of the tank which may lead to rupture, oil leak, fire, and/or explosion hazards.

Installing the Furnace Support System

 **WARNING:** When installing the furnace on the recycling center, you must use the support system provided with the recycling center. This support system is designed to safely bear the weight of the furnace and meet the following requirements:

- Local codes may require that your furnace is mounted a minimum of eight feet off the ground if there is the possibility of gasoline fumes or other combustible/explosive fumes in your shop area. Refer to NFPA-88B.
 - Local codes may require a distance of five feet between the oil tank and the furnace.
1. Refer to Figures 3C/3D/3E.
 2. Insert the small end of the four top posts into the receivers of the four bottom posts.
 3. Install the two top rails by sliding the pins into the receivers of the top posts.



WARNING: Ensure the top posts and the side rails are fully seated in the receivers.

Assembling and Installing the Furnace

 **WARNING:** The furnace support system is designed to safely bear the weight of a furnace up to 700 pounds. DO NOT mount any furnace exceeding this weight limit on the recycling center. Ensure the furnace is mounted so that the entire system is secure and stable. If there is any question of stability, it may be necessary to tie the furnace support system into a supporting wall.

1. Refer to your Furnace Operator's Manual. Follow the instructions for assembling your furnace (on the ground).
2. Refer to Figures 3C/3D/3E for an illustration of how your furnace model and recycling center will look when completely (and properly) assembled.
3. Prepare to lift the furnace up onto the recycling center. Secure the furnace to a forklift using an adjustable safety chain or strap.
4. Raise the furnace on the forklift three to four feet so that you can remove the four knock-outs from the bottom of the furnace.
5. **For Recycling Centers with the CB-140 / CB-1750 / CB-2500 / CB-3250 Furnaces:** Install the two additional support brackets across the top rails of the recycling center. Refer to Figure 3G as needed.
NOTE: If the bottom outlet is being used on the CB-3250, only use one support bracket at the back
6. Ensure that the furnace is safely secured to the forklift. Raise the furnace with the forklift onto the top rails of the recycling center support system. Make sure the bottom of the furnace is directly in contact with the top rails.
7. Proceed to the appropriate procedure for your furnace/recycling center model to properly secure the furnace to the recycling center support system.

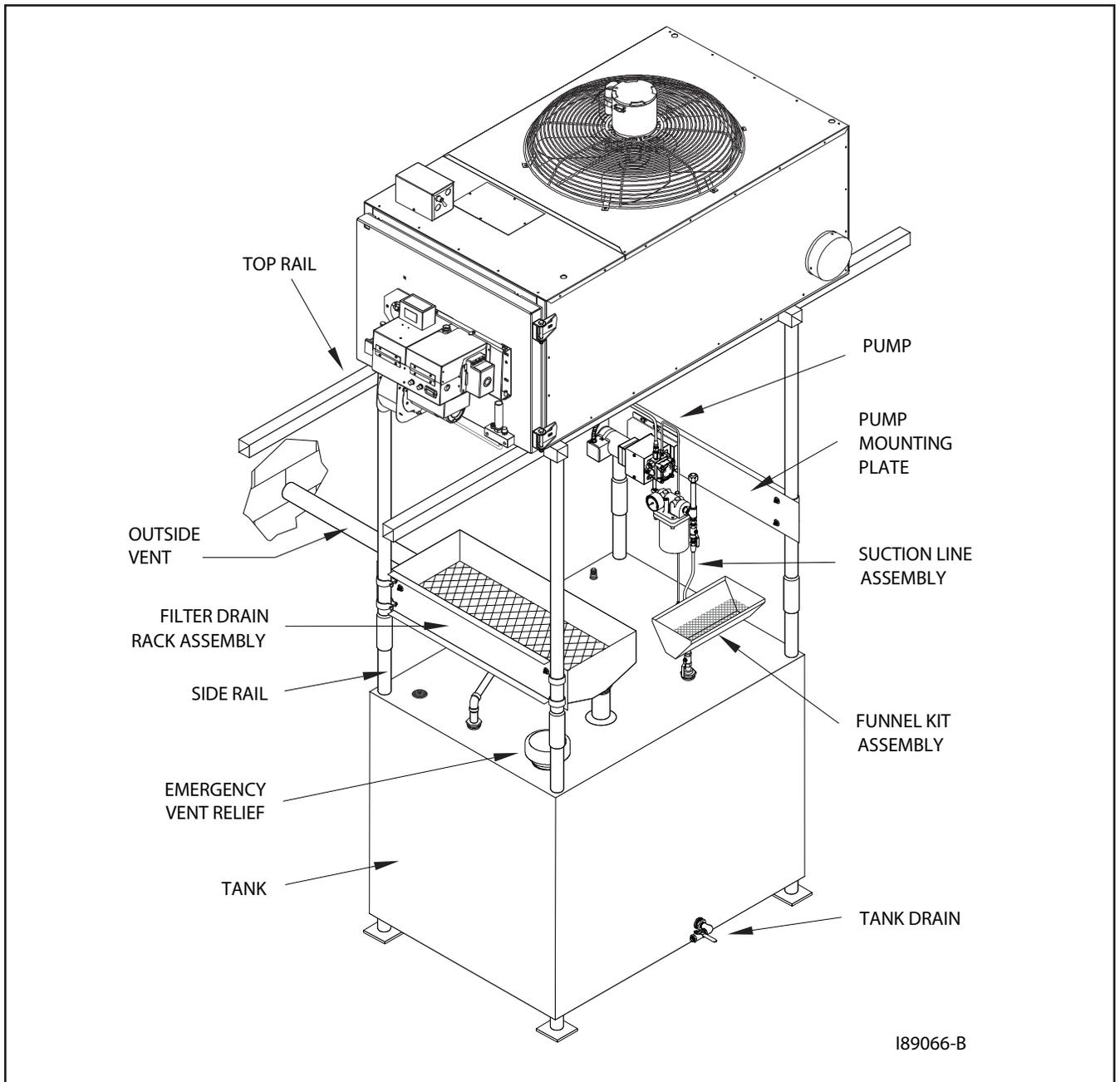
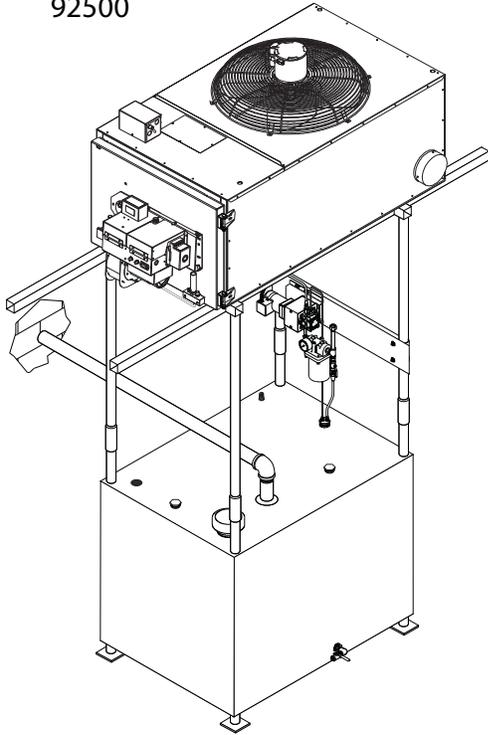


Figure 3C - Assembled/Installed Recycling Center and Furnace (w/ CB-140)

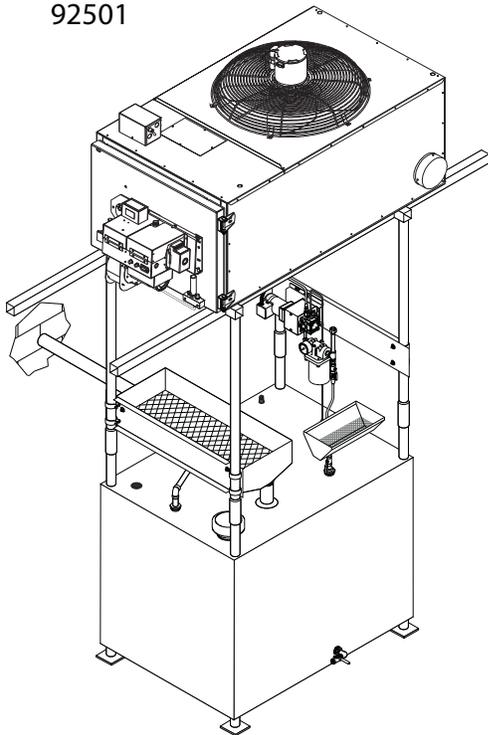
NOTE: Please refer to Figures 3D and 3E for illustrations of each specific Recycling Center Model.

92500



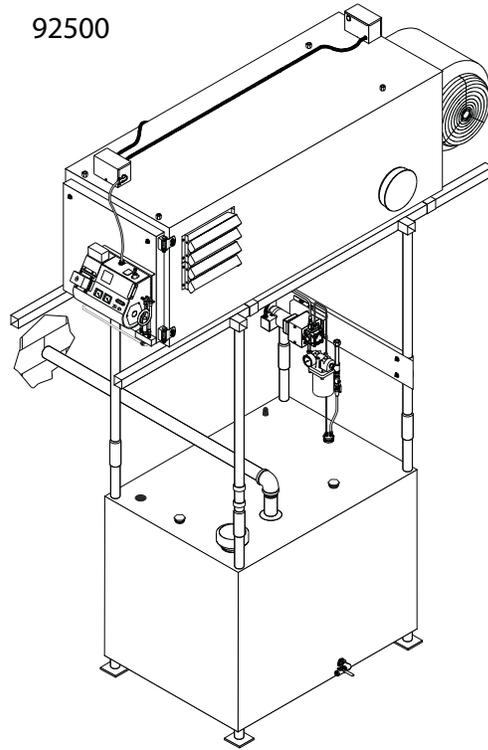
Model 92500 includes the metering pump, without the drain pan kit and filter drain rack.

92501



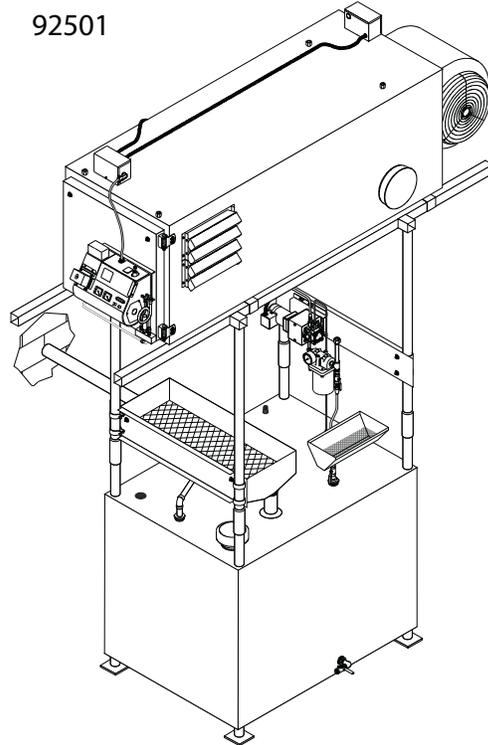
Model 92501 includes the metering pump, with the drain pan kit and filter drain rack.

92500



Model 92500 includes the metering pump, without the drain pan kit and filter drain rack.

92501



Model 92501 includes the metering pump, with the drain pan kit and filter drain rack.

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Figure 3D - Recycling Center Models for the CB-140 Furnaces

Figure 3E - Recycling Center Models for the CB-1750/CB-2500/CB-3250 Furnaces

Securing the Furnace to the Support System

(For RC Models 92500 and 92501 for use with the CB-140 / CB-1750 / CB-2500 / and CB-3250 Furnaces)

WARNING: DO NOT mount the furnace on a shipping pallet or any other combustible material. For safe and proper installation and operation, the furnace must be installed directly on the recycling center support system.

NOTE: If the bottom outlet is being used on the CB-3250, only use one support bracket at the back.

1. Refer to Figure 3G. Ensure that the four keyholes on the bottom of the furnace line up with the four keyholes in the support brackets.
2. Install the carriage bolts through the support brackets and into the bottom of the furnace. Slide each bolt into the keyhole slot.
As shown in Figure 3G, install the smaller locking brackets and nuts onto the carriage bolts. DO NOT tighten. Ensure that the brackets are positioned so that they wrap around the bottom of the support rail.
3. Verify the proper positioning of the furnace, and then firmly tighten the carriage bolts/nuts.

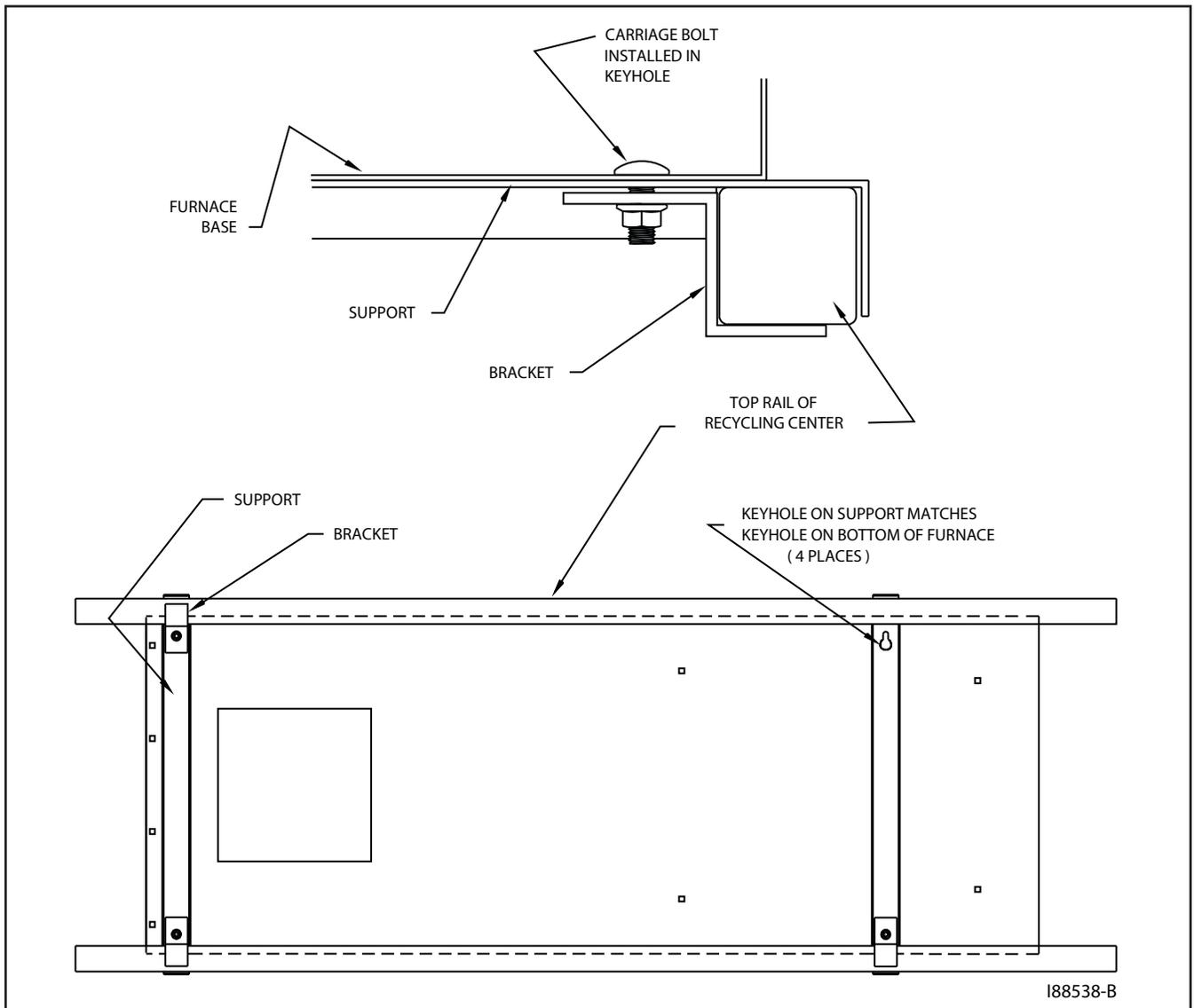


Figure 3G - Securing the CB-140 / CB-1750 / CB-2500 / CB-3250 Furnace w/ Supports

METERING PUMP INSTALLATION

Installing the Metering Pump

NOTE: The metering pump is packaged with the furnace.

1. Refer to Figures 3C/3D/3E for an illustration of where the metering pump is mounted on the recycling center.
2. Install the pump mounting plate on the two side rails using four clamps and bolts.
3. Install the pump on the mounting plate using four bolts and nuts.

Installing the Suction Oil Line Components

The **suction oil line** consists of the oil line and suction line components which are installed from the tank to the pump. Follow the instructions in this section to properly install the suction oil line components on your recycling center.

ATTENTION: Ensure that all fittings on the suction oil line are 100% airtight. Use Permatex #2 non-hardening gasket sealer (or equivalent) on each threaded fitting and properly tighten all fittings.

NOTE: The majority of service problems with the metering pump are caused by leaks at fittings in the suction oil line. These problems are eliminated by ensuring a 100% airtight suction oil line which slants up to the pump and has absolutely no high points in the line to trap air.

Locating the Suction Oil Line Components

1. Refer to Figure 3H for a detailed description/illustration of the suction oil line components.

NOTE: Some components listed are packed with the recycling center; others are packed with the furnace. Be sure to locate the following components packed with the furnace:

- (1) Metering Pump
- (1) Vacuum Gauge
- (1) Check Valve Screen*
- (1) Tube of Permatex Non-hardening Gasket Sealer
- (1) Canister Filter
- (1) Check Valve
- (2) 3/4" x 1/2" Hex Bushings*

**These components are optional for use with the metering pump installation; they may be discarded if not used.*

Assembling the Suction Oil Line Fittings

1. **Assemble the suction oil line fittings (from the metering pump to the canister filter):**

- a. Refer to Figure 3H for a detailed look at the metering pump components and fittings.
- b. Remove the plug from the 1/4" inlet port of the pump.
- c. Install the 1/4" x 3" brass nipple into the 1/4" inlet port on the pump.
- d. Prepare the canister filter for installation:
 - Install the 3/4" x 1/4" brass hex bushing into the outlet port of the canister filter.
Check the direction of the arrow for the proper flow.
 - Install the 1/4" brass street elbow into the bushing in the outlet port of the canister filter.
 - Install the 3/4" x 1/2" brass bushing into the inlet port of the canister filter.
 - Remove the plug from one of the 1/8" gauge ports in the canister filter and install the vacuum gauge. Seal the threads of the gauge with Permatex #2 non-hardening gasket sealer.
 - Install the 1/2" threaded pipe adapter into one side of the 1/2" ball valve.
 - Install the 1/2" MPT x 1/2" flare adapter into the other side of the ball valve.
 - Install this assembly into one side of the 1/2" brass tee.

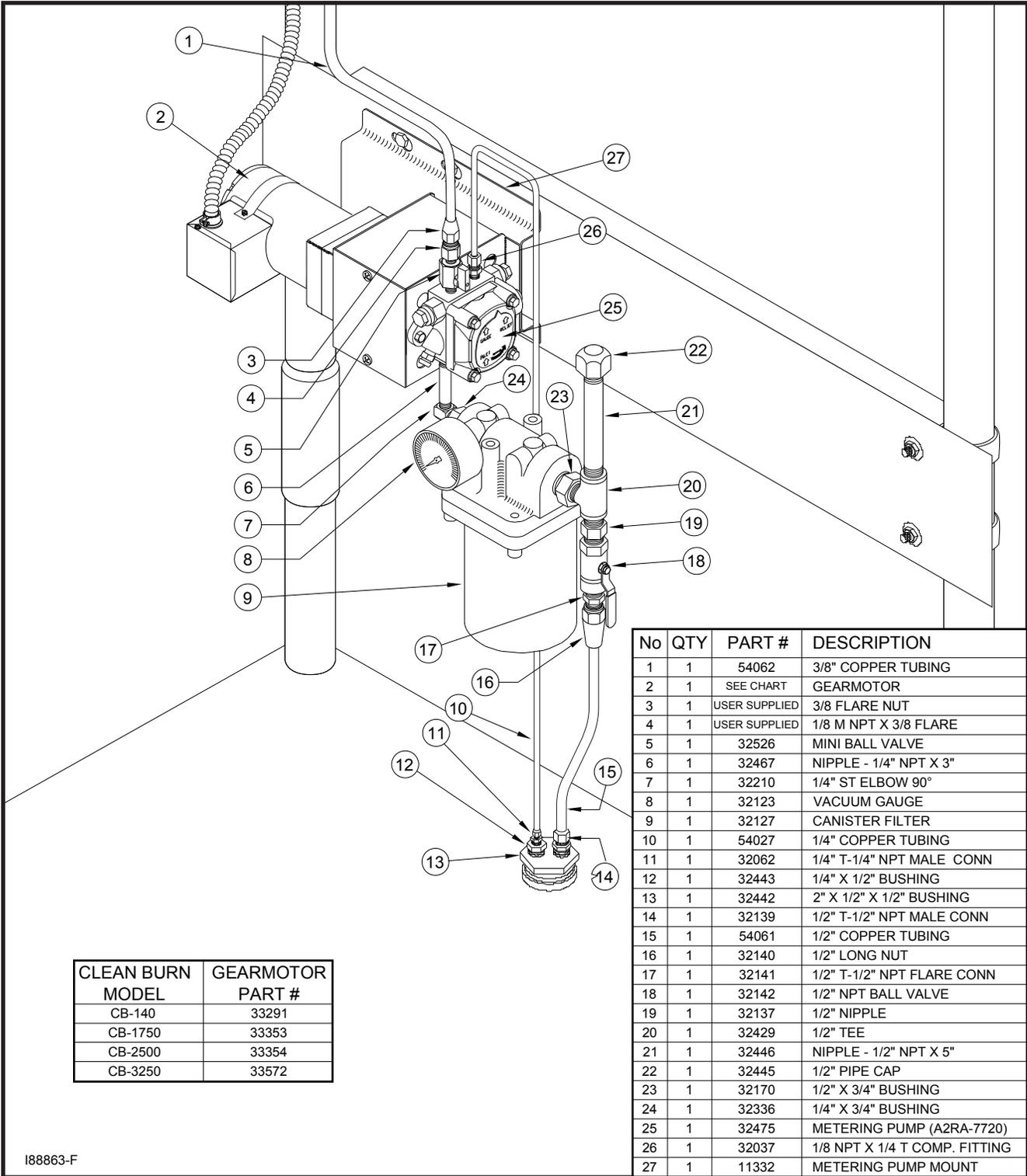
METERING PUMP INSTALLATION

- (1.) (d.) Prepare the canister filter for installation (*continued*):
- Install the assembled 1/2" tee into the 3/4" x 1/2" brass bushing, which is installed in the inlet port of the canister filter. Make sure that the 1/2" flare adapter is pointing down.
 - Install the canister filter assembly onto the 1/4" x 3" brass nipple as shown in Figure 3H. The canister filter must be installed with the arrow pointing towards the pump (direction of oil flow).
 - Install the 1/2" x 5" brass nipple into the top side of the 1/2" brass tee assembly.
 - Loosely install the 1/2" brass cap onto this nipple. DO NOT tighten the cap at this time.
2. **Install the suction oil line (from the the tank to the canister filter):**
- a. Refer to Figures 3H and 3J.
 - b. Prepare a piece of 1/2" O.D. copper tubing (user-supplied) which will function as the pick-up line from the tank to the canister filter. This copper tubing must have the following specifications:
 - The tube must be one continuous piece of 1/2" O.D. copper tubing with no kinks or fittings.
 - The tube is to slant up from the tank to the pump with no loops or high points to trap air.
 - c. Locate the 2" MPT x 1/2" FPT x 1/2" FPT duplex, slip-thru hex bushing (which will eventually be installed into one of the 2" openings on the tank). *Note that the fitting is marked "S" for suction and "R" for return.*
 - d. Install the 1/2" MPT x 1/2" slip fitting into the "S" side of the 2" duplex slip-thru hex bushing.
 - e. Install the 1/4" MPT x 1/4" compression fitting into the 1/2" x 1/4" brass bushing.
 - f. Install the 1/2" x 1/4" brass bushing into the "R" side of the 2" duplex slip-thru hex bushing.
 - g. Measure the height of the oil tank (from the bottom of the tank, NOT the floor) to the 2" opening that you are going to use for the supply oil line. Deduct 12" (305mm) from this measurement and transfer this new measurement onto the 1/2" O.D. copper tubing.
 - h. Remove the locking nut and ferrel sleeve connector from the 1/2" slip fitting, and slide them over the copper tubing.
 - i. Slide the 1/2" O.D. copper tubing through the 1/2" slip fitting, which is installed in the "S" side of the 2" hex bushing.
 - j. Install the screen into one side of the 3/4" check valve (making sure the arrow is pointing away from the screen assembly).
 - k. Install the 3/4" x 1/2" brass bushing into the 3/4" check valve.
 - l. Install the 1/2" MPT x 1/2" flare adapter into the 3/4" x 1/2" brass bushing.
 - m. Slide the 1/2" flare nut over the end of the 1/2" copper tubing, and flare the end of the tubing. **NOTE:** Use a high-quality flaring tool (such as a Ridgid Flaring Tool) to ensure that all flares are made properly (i.e. so they will be 100% airtight).
 - n. Install the flared oil line and nut onto the assembled check valve/screen and tighten.
 - o. Pick up the assembled oil line, and carefully guide the end of the tubing with the check valve through the 2" tank opening.
 - p. Apply Permatex #2 non-hardening gasket sealer (or equivalent) to the threads of the 2" duplex slip-thru tank bushing, and tighten this fitting into the tank.
 - q. Pull the 1/2" copper tubing back up through the slip fitting until you see the mark that you put on the tubing earlier. Holding the tubing with one hand, push the ferrel sleeve connector and locking nut down the tubing, then tighten onto the 1/2" slip fitting. The oil line is now installed in the correct position off of the bottom of the tank.

METERING PUMP INSTALLATION

2. Install the suction oil line (Continued)

- r. Carefully bend the oil line up to the canister filter; use a spring bender over the oil line while bending the tubing to prevent kinks in the oil line. Allowing for the flare nut, cut off the excess tubing
- s. Install the 1/2" flare nut onto the tubing, and flare the end of the tubing.



188863-F

Figure 3H - Suction Oil Line & Pressure Oil Line Components

METERING PUMP INSTALLATION

2. Install the suction oil line (Continued)

- t. Install the end of the tubing with the flare nut onto the 1/2" flare adapter (on the ball valve assembly at the canister filter).
- u. Install a vent from the tank to the outside of the building according to code. The tank must be properly vented to allow air to enter the tank as oil is pumped out and to safely vent fumes to the outside. See Figure 3C.
- v. Install plugs in all other tank openings as required by code.
- w. Inspect the installation. For proper suction oil line operation, make sure all components are installed and positioned as specified in this manual.

Installing the Pressure Relief Oil Line Back to the Tank

ATTENTION: It is critical that you adhere to the following specifications for plumbing the pressure relief back to the tank.

The metering pump requires the installation of a pressure relief oil line back to the tank that you are pulling oil from as shown in Figures 3I and 3J.

- The **pressure relief** will open and relieve pressure if there is a restriction in the pressure oil line, clogged nozzle, etc.

Be sure to use Permatex #2 non-hardening gasket sealer to seal every threaded fitting. **DO NOT** use teflon tape or teflon pipe dope compounds.

1. Refer to Figure 3J.
2. Remove the plug from the relief port on top of the metering pump head.
3. Install the 1/8 NPT x 1/4 tube compression fitting in the relief port on top of the metering pump head.
4. Install 1/4" O.D. copper tubing (user supplied) from the pressure relief port back to the oil tank. Refer to Figure 3I and 3J as needed.

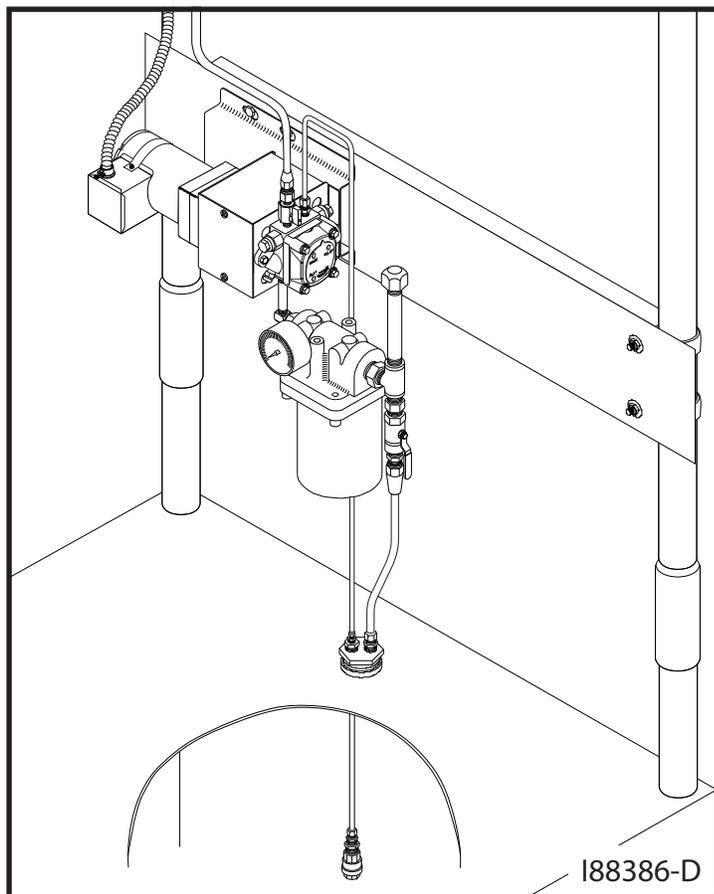


Figure 3I - Assembled Pressure Relief Oil Line

Installing the Pressure Oil Line Components

ATTENTION: It is critical that you adhere to the following specifications for pressure oil line installation (oil line from the pump to the furnace). If these specifications are not met, the metering pump will not function correctly and the burner will shut down on reset.

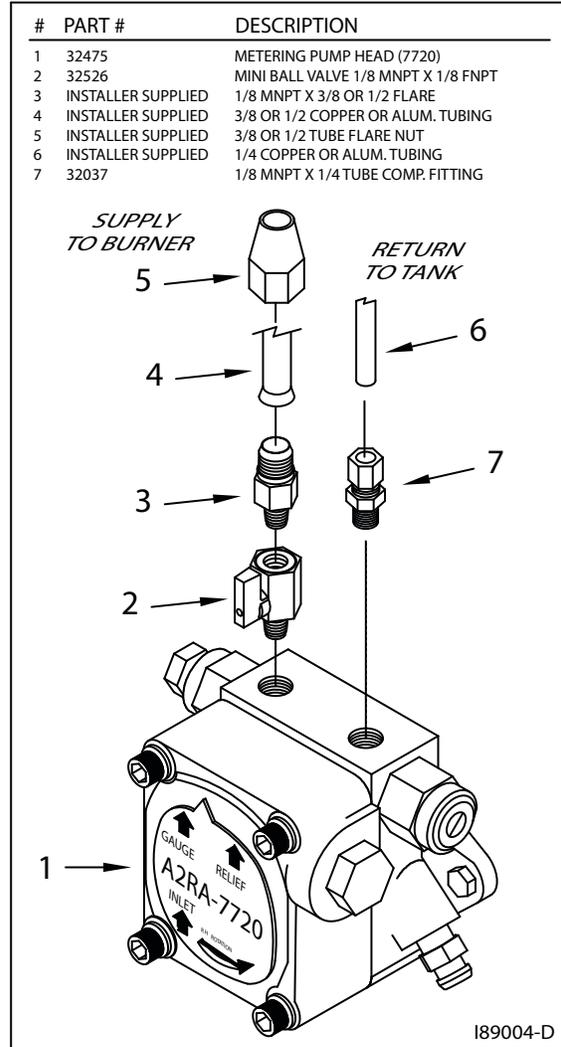


Figure 3J - Assembled Pressure Relief and Check Valves

- Pressure oil line installation parameters:
- **Length of Pressure Line** **Line Size**
- Up to 100 feet 3/8" O.D. copper tubing
(Please note that some installations will allow for a greater pressure line length. Contact your Authorized Clean Burn Distributor for more information.)
- **The pressure oil line must slant up to the burner** with no loops or high points to trap air.
- Local codes may require the installation of an in-line "**Fire-O-Matic**" safety valve.
Be sure to check all appropriate codes to ensure compliance.

1. Refer to Figures 3H, 3J, and 3K.
2. Make sure you have purchased all the necessary fittings to complete the installation correctly.
3. Install the fittings and components as shown in the related illustrations. Be sure to use Permatex #2 non-hardening gasket sealer to seal every threaded fitting. DO NOT use teflon tape or teflon pipe dope compounds.

NOTE: Refer to instructions in the furnace Operator's Manual for priming the metering pump.

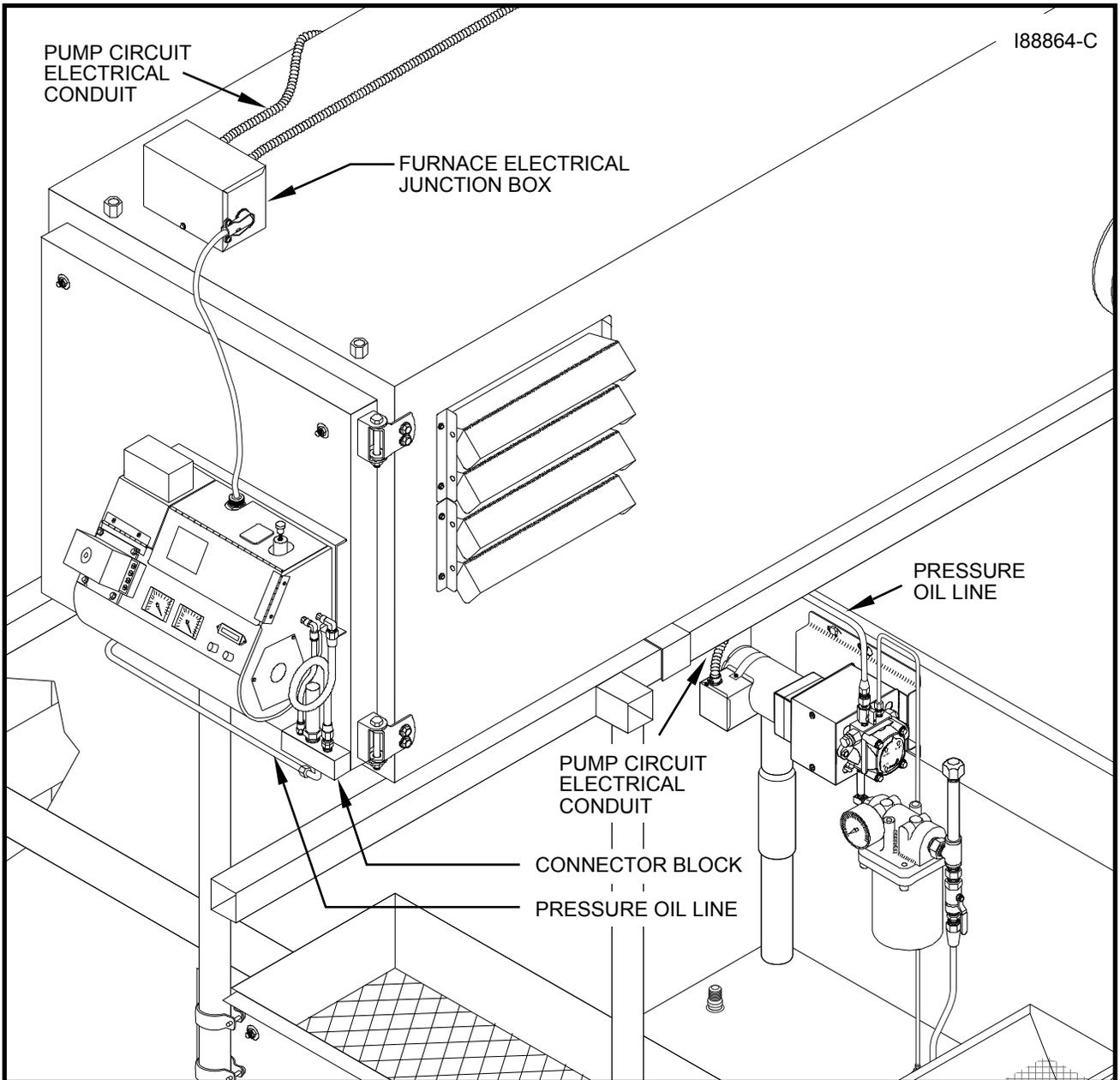


Figure 3K - Installation of the Pressure Oil Line and Electrical Components

Installing the Drain Pan Kit (Not included with all tank models)

NOTE: The Drain Pan Kit is designed to swivel, allowing you to easily pour oil into the drain pan from the front of the tank. You can also swivel the drain pan into position under the canister filter to catch oil when you clean the canister filter.

1. Refer to Figure 3L.
2. Components #3 through #7 are pre-assembled.
3. Install the ball valve and pipe assembly (#3-7) onto the drain pan.
4. Install the reducer bushing into the appropriate tank bung as shown in Figure 3L, and tighten.
5. Check that the drain pan assembly swivels freely.
6. Place the screen inside the drain pan.

CAUTION: The ball valve must be closed when the drain pan is not in use to prevent any combustible fumes from entering your shop. Adhere to local codes in venting the tank to the outdoors.

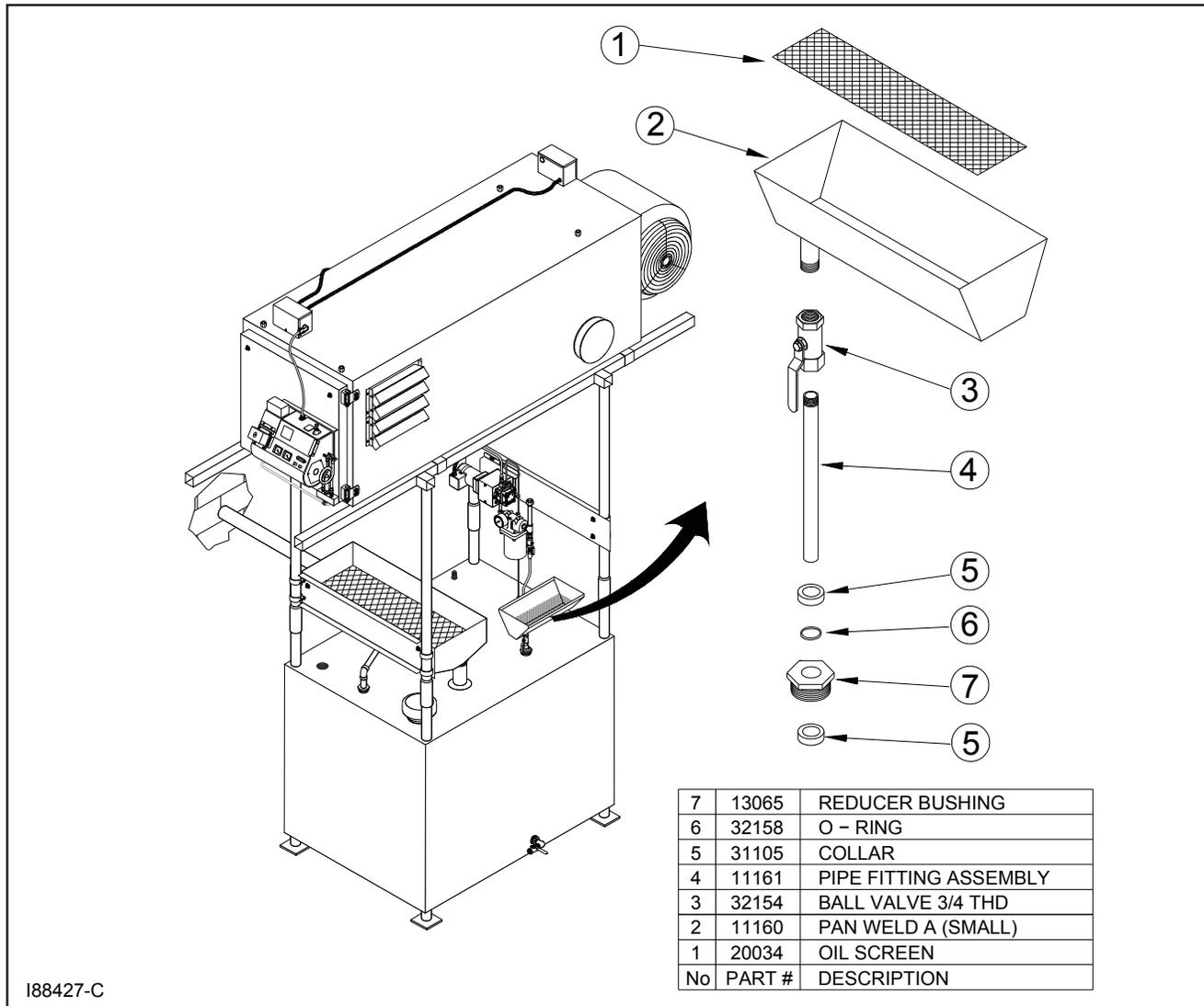


Figure 3L - Installing the Drain Pan Kit (Component Detail)

**Installing the Filter Drain Rack Kit
(Not included with all tank models)**

NOTE: The filter drain rack kit is designed to allow you to drain multiple oil filters. Check your local codes to determine how long you should allow the filters to drain. Also follow local codes regarding the disposal of the oil filters.

1. Refer to Figure 3M.
2. Attach the mounting plate to the side rails using four clamps and four bolts.
NOTE: Leave the clamps loose enough to allow them to slide on the side posts.
3. Put the pipe fitting assembly together
4. Install the O-ring into the reducer bushing
5. Install the bushing into the proper bung
6. Lift complete assembly and slide the 3/4 inch pipe into the reducer bushing.
7. Attached filter drain rack kit to the mounting plate using two bolts and two nuts.
NOTE: You may have to raise or lower the mounting bracket to aign the holes for mounting the filter drain rack.
8. Tighten the screws for the four clamps.
9. Install the screen inside the filter drain rack.

CAUTION: The ball valve must be closed when the filter drain rack kit is not in use to prevent any combustibile fumes from entering your shop. Adhere to local codes in venting the tank to the outdoors.

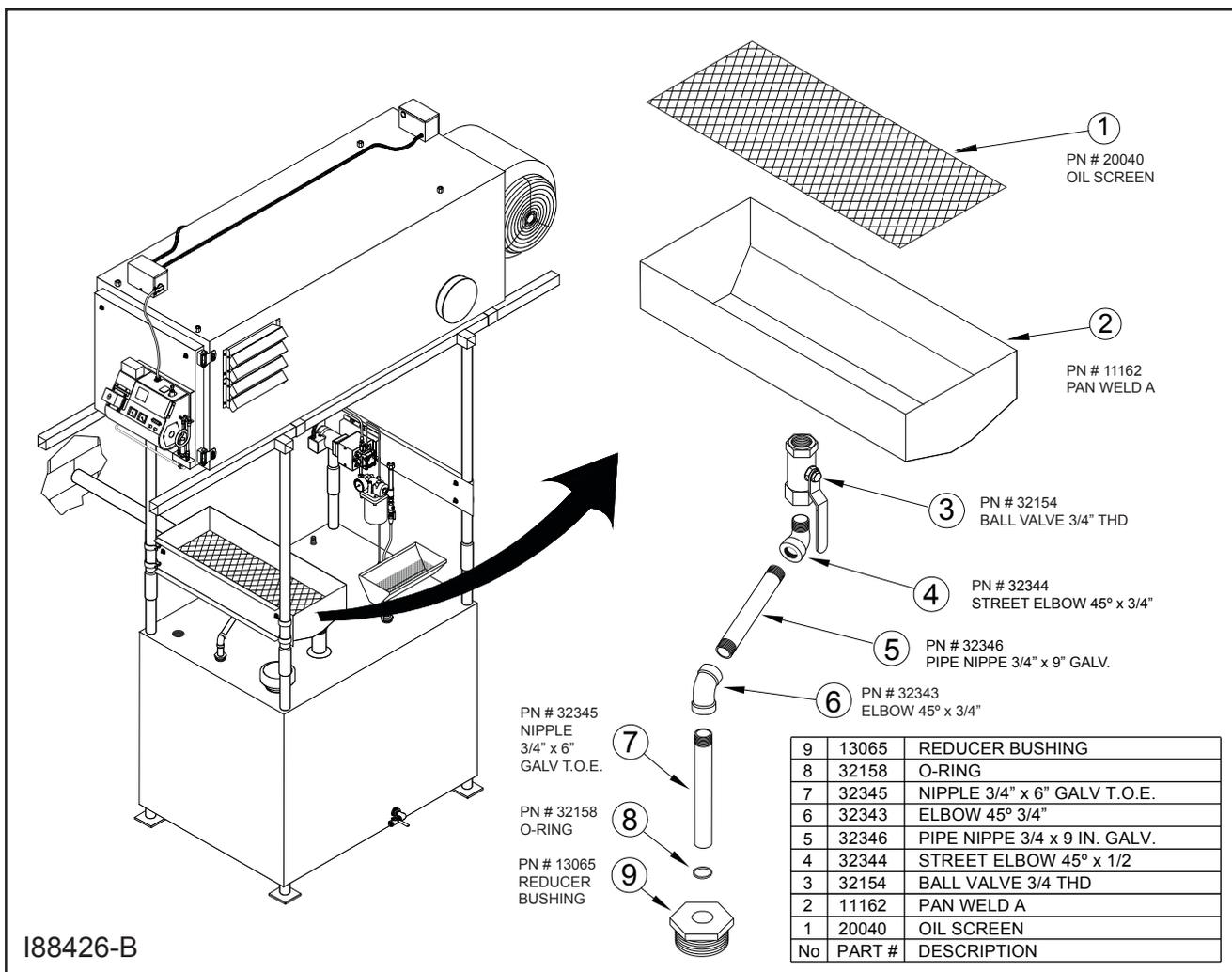


Figure 3M - Installing the Filter Drain Rack Kit

Wiring the Furnace and Pump

Wiring the Furnace



WARNING: To avoid the dangers of electrical shock hazards, ensure that main power to the furnace is turned OFF before making any electrical connections at the furnace, pump, or other furnace components.

1. Refer to instructions and wire diagrams in Appendix B of the furnace Operator's Manual.

Wiring the Pump

1. Refer to Figure 3K.
2. Install the pump motor electrical conduit from the pump motor junction box to the junction box on the front of the furnace.
3. Use wire nuts to connect the wires in the junction box on the pump motor. (A pump motor wire diagram is located in Appendix B of the furnace Operator's Manual and on the pump motor junction box cover.)
4. Connect the wires in the junction box on the furnace according to the furnace wiring schematic

NOTE: Use nylon wire ties to secure the electrical conduit to the side rail of the recycling center.

Installing the Compressed Air Line

1. Follow the instructions in the Furnace Operator's Manual for installing a compressed air line from your existing shop air compressor to the furnace.
 2. If you purchased the optional air compressor with the recycling center, follow the installation instructions packed with the air compressor.
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Installing the Stack

1. Follow the instructions in your Furnace Operator's Manual for installing a proper stack for your furnace.

NOTE: You must purchase the stack components according to the specifications listed in the Furnace Operator's Manual.

Installing the Wall Thermostat

1. Follow the instructions in your Furnace Operator's Manual for installing the wall thermostat.
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After completing all installation activities as described in this manual, refer to your Furnace Operator's Manual for further instructions on how to operate, adjust, and maintain your furnace.

APPENDIX A

Recycling Center Dimensions and Components

