

INFRARED HEATERS



SUPERIOR
RADIANT PRODUCTS

Series AUXS & ATXS SRP BIG SHOT®

**RADIANT AGRICULTURAL HEATER
WIDE HEAT DISTRIBUTION**



WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operation and service instructions thoroughly before installing or servicing this equipment.

FOR YOUR SAFETY

Do not store or use flammable vapors and liquids in the vicinity of this or any other appliance.

If you smell gas:

1. Open windows
2. Don't touch electrical switches
3. Extinguish any open flame
4. Immediately call your gas supplier

OWNER

Retain this Manual & ensure available for Service.

Improper installation, adjustment, alteration, service or maintenance can cause injury, death, or property damage. Read the installation, operation and service instructions thoroughly before installing or servicing this equipment.

INSTALLER

Provide Manual to Owner upon completion of installation!

Read and thoroughly understand these Instructions before attempting any installation

Canada: 563 Barton Street, Stoney Creek, Ontario L8E 5S1

USA: 315 N Madison Street, Fortville, IN 46040

www.superiorradiant.com

CAUTION: FIRE OR EXPLOSION HAZARD

Maintain clearance to combustible materials as further specified in this manual. Failure to do so could result in a serious fire hazard. Heaters should not be located in hazardous atmospheres containing flammable vapors or combustible dusts. Signs should be provided in storage areas specifying maximum safe stacking height.

CAUTION: MECHANICAL HAZARD

This equipment expands and contracts with each operating cycle. The gas connection, suspension hardware, and the installation itself must safely allow this movement. Failure to do so could result in serious fire or explosion hazard.

CAUTION: FIRE OR EXPLOSION HAZARD

This heater is equipped with an automatic ignition device. Do not attempt to light the burner by hand. Failure to comply could result in a serious fire and personal injury hazard.

CAUTION: MECHANICAL HAZARD

Do not use high pressure (above ½ psi, 60 mbar) to test the gas supply system with the burners connected. Failure to do so could result in damage to the burner and its control components requiring replacement.

CAUTION: SERVICE LIFE RISK

Do not install equipment in atmosphere containing halogenated hydrocarbons or other corrosive chemicals. Failure to do so may lead to premature equipment failure and invalidation of the warranty. Additionally, it is recommended that the equipment be installed with a downward slope, away from the burner. The rate of declination should be ¼" (6mm) in height per 10' (3m) in length to allow the start-up condensation to drain.

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Introduction

Superior Radiant Products is a company in the infrared heating industry founded on the principles of product quality and customer commitment.

Quality commitments are evidenced by superior design, a regard for design detail and an upgrade of materials wherever justifiable.

Customer commitment is apparent through our ready responses to market demands and a never ending training and service support program for and through our distributor network.

Superior Radiant offers its 25 years of infrared expertise in a cost effective unitary heater design as culmination of that commitment. **Series AUXS & Series ATXS** models are field assembled, low intensity infrared heaters that are easy to install and maintain, and which were engineered with significant input from our customers. They are designed to provide economical operation and trouble-free service for years to come.

Important

These instructions, the layout drawing, local codes and ordinances, and applicable standards such as apply to gas piping and electrical wiring comprise the basic information needed to complete the installation, and must be thoroughly understood along with general building codes before proceeding.

Only personnel who have been trained and understand all applicable codes should undertake the installation. SRP Representatives are Factory Certified in the service and application of this equipment and can be called on for helpful suggestions about installation.

Installation Codes

Installations must comply with local building codes, or in their absence, the latest edition of the national regulations and procedures as listed below.

General Installation and Gas Codes

Heaters must be installed only for use with the type of gas appearing on the rating plate, and the installation must conform to the National Fuel Gas Code, ANSI Z223.1/NFPA 54 in the USA and CSA B149.1 and B149.2

Installation Codes in Canada.

This heater is approved for indoor installation. Not for use in residential dwellings, refer to Rating plate.

Gas Supply Lines

Gas supply pipe sizing must be in accordance with the National Fuel Gas Code, ANSI Z223.1/NFPA 54 in the USA and CSA B149.1 and B149.2 Installation Codes in Canada.

A 1/8" NPT plugged tap must be installed in the gas line connection immediately upstream of the burner farthest from the gas supply meter to allow checking of system gas pressure.

Electrical

All heaters must be electrically grounded in accordance with the National Electric Code, ANSI/NFPA 70 in the USA, and the Canadian Electric Code, CSA C22.1 in Canada, and must comply with all local requirements.

Venting

Refer to the National Fuel Gas Code, ANSI Z223.1/NFPA 54 in the USA and CSA B149.1 and B149.2 Installation Codes in Canada for proper location, sizing and installation of vents as well as information on clearance requirements when penetrating combustible walls for venting purposes.

General Specifications

Gas Supply

Inlet Pressure

	Natural Gas	Propane Gas
Minimum	5.0" W.C.	11.5" W.C.
Maximum	14.0" W.C.	14.0" W.C.

Manifold Pressure

Series AUXS

	Natural Gas	Propane Gas
High Rate	3.5" W.C.	10.5" W.C.

Series ATXS

High Rate	3.5" W.C.	10.5" W.C.
Low Rate	2.4" W.C.	6.2" W.C.

Inlet Connection

Natural Gas	Propane Gas
½" Female NPT	½" Female NPT

Electric Supply

120 VAC, 60 HZ, 1 Amp: 36" cord with grounded 3 prong plug

Flue and Outside Air Connection

4" O.D. male connection for flue adapter and outside air (optional) provided at the heater

High Altitude

When installing this appliance over 4500 ft. above sea level in Canada, the appliance must be properly de-rated and installed according to local codes. In the absence of local codes the appliance must be de-rated in accordance with the most recent CSA - B149 code. In the United States for installations over 2000ft above sea level the appliance must be installed in accordance with the Current National Fuel Gas Code, ANSI Z223.1/NFPA 54. High altitude conversion kits are available, contact manufacturer for more details.

Configurations

<u>Series AUXS</u>	Input Rate (BTU/Hr)	-	Baffle ft. (m)
AUXS-60	60,000	-	6' (1.8m)
AUXS-80	80,000	-	12' (3.6m)

<u>Series ATXS</u>	Input High Rate (BTU/Hr)	Input Low Rate (BTU/Hr)	Baffle ft. (m)
ATXS-60	60,000	46,000	6' (1.8m)
ATXS-80	80,000	60,000	12' (3.6m)

Dimensional Charts

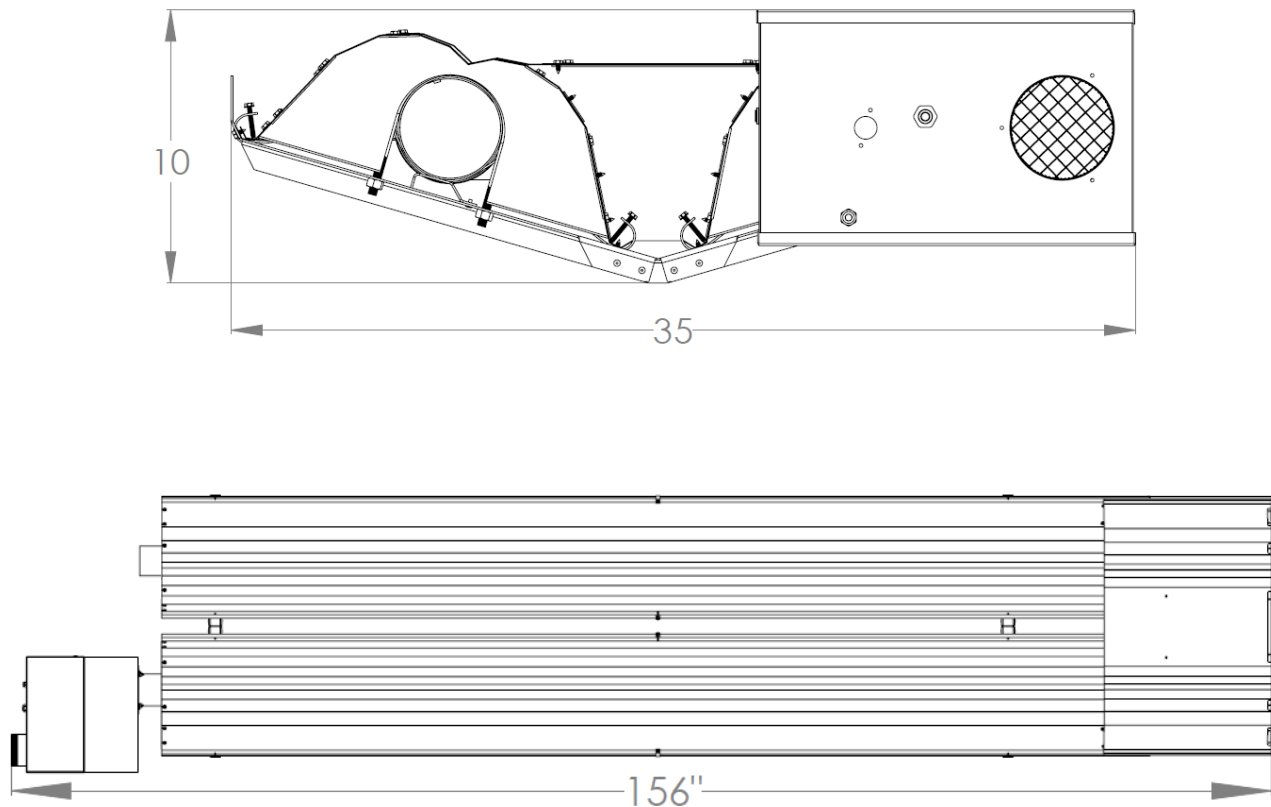


Figure 1: Overall Dimensional Information

Clearance to Combustibles

A general clearance of 18 (0.5 m) in every direction is recommended for servicing only around each Burner and air supply (at the far end of each radiant tube). Also, to ensure adequate air flow in and around the Heating System.

In addition to this it is very important to observe the minimum clearance to combustibles at all times to avoid any possibility of property damage or personal injury.

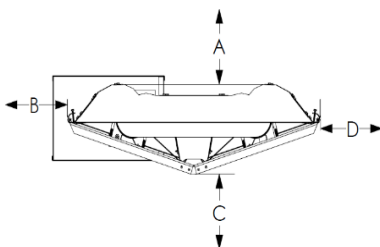
Table 1 lists the minimum clearance to combustible materials for various installation configurations. Note that standard clearances also apply to installation above T-bar ceilings and above decorative grills. Additional clearance may be required for glass, painted surfaces and other materials which maybe damaged by radiant or convective heat.

Combustible materials are considered to be wood, compressed paper, plant fibres, plastics, Plexiglas or other materials capable of being ignited and burned. Such materials shall be considered combustible even though flame-proofed, fire-retardant treated or plastered.

Adequate clearance to sprinkler heads must be maintained.

The stated clearance to combustibles represents a surface temperature of 90°F (50°C) above room temperature. Building materials with low heat tolerance (i.e. **plastics, vinyl siding, canvas, tri-ply, etc.**) may be subject to degradation at lower temperatures. **It is the installer's responsibility to ensure that adjacent materials are protected from deterioration.**

Table 1: Minimum Clearance to Combustibles Inches (cm)

		Model No.: AUXS & ATXS	
Reflector Configurations	Dim In (cm)	60 MBH	80 MBH
	A	7(18)	7(18)
	B	36(91)	36(91)
	C	62(157)	62(157)
	D	36(91)	36(91)
Unvented (with vent terminal)	Above (A)	7(18)	7(18)
	End	26(66)	26(66)
Unvented	Above (A)	18(46)	18(46)
	End	26(66)	26(66)
Vented	End	18(46)	18(46)

Note: All dimensions shown are measured from outside surface of all tubes, reflectors and fittings

Installation

Installation Sequence

Hangers Installation

- Suspension mechanism must allow for lateral tubing expansion. A minimum 12" length welded link chain with a working load limit of at least 200 lbs. is recommended. SRP recommends and make available "quick links" for connecting chain. If any open ended turnbuckles are used, the open ends must be closed to avoid unhooking chain with inadvertent contact.

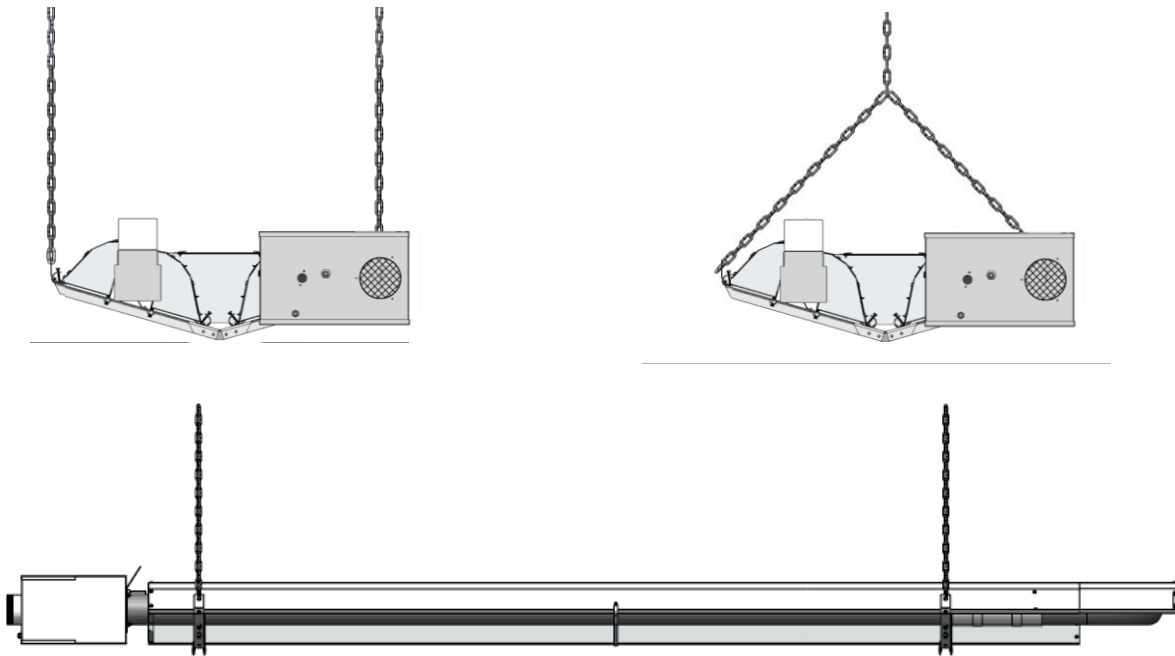
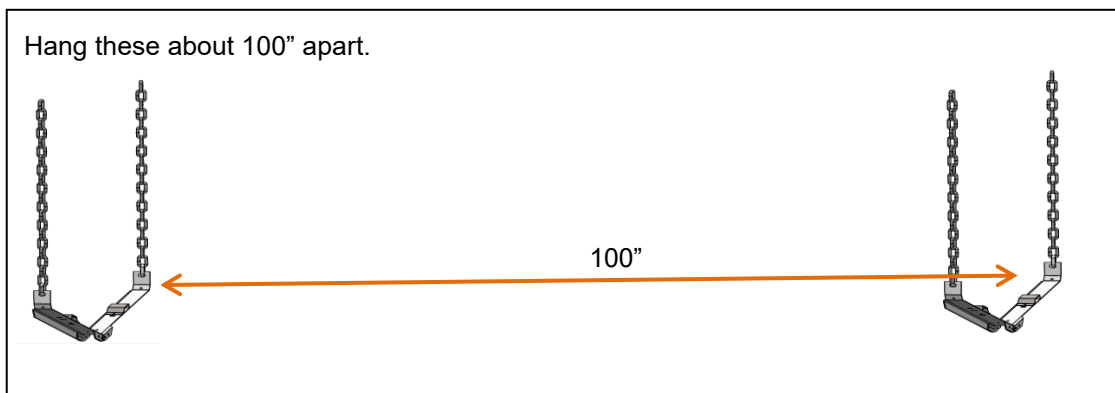


Figure 2: Hanger Installation options

Step 1:



Tube Installation

Step 2-A:

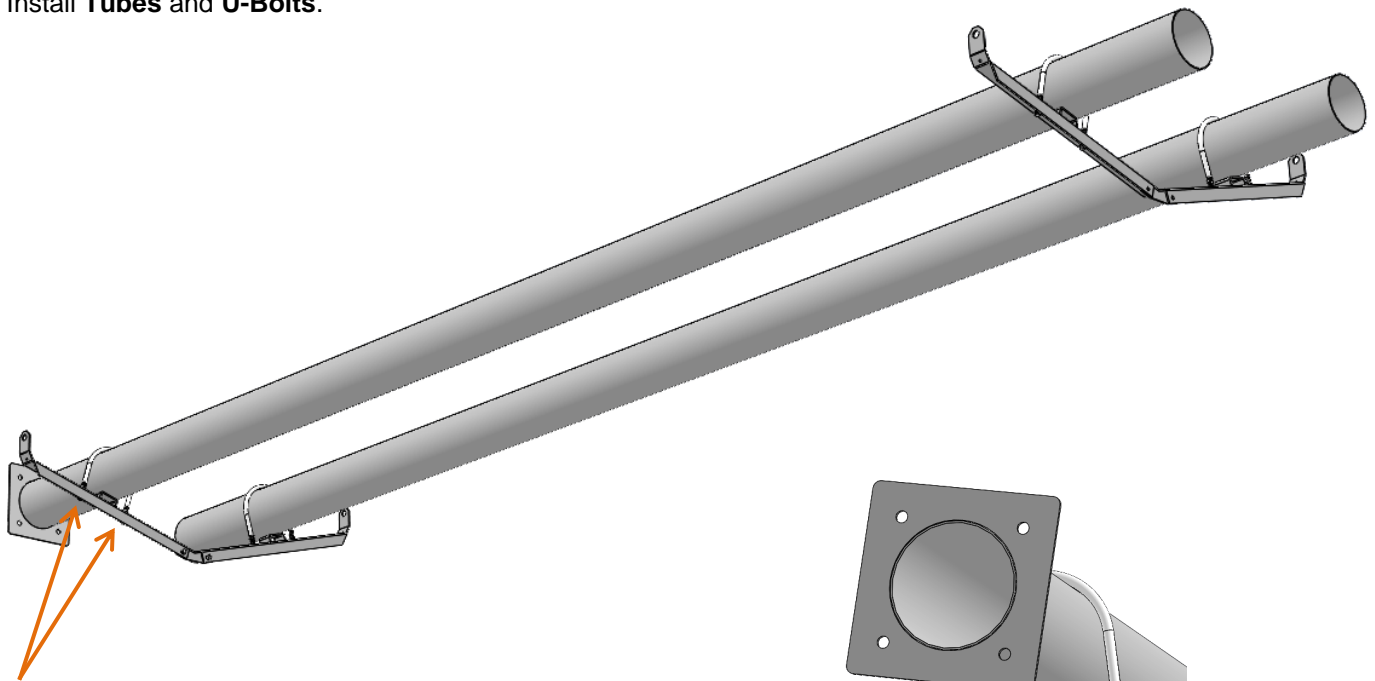
Before installing the four **U-Bolts**, just ONE of the **U-Bolts** gets extra nuts, as shown here:



Thread the extra nuts upwards
(they don't need to be tight for now)

Step 2-B:

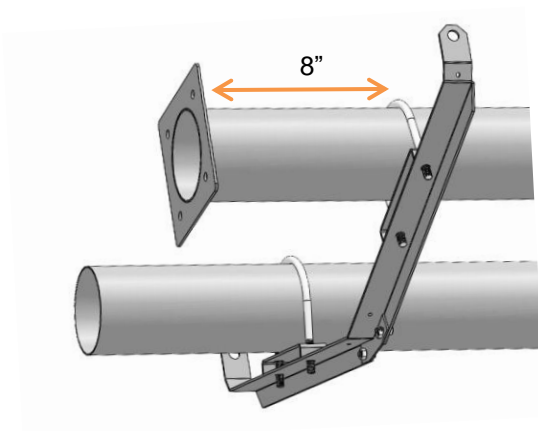
Install **Tubes** and **U-Bolts**.



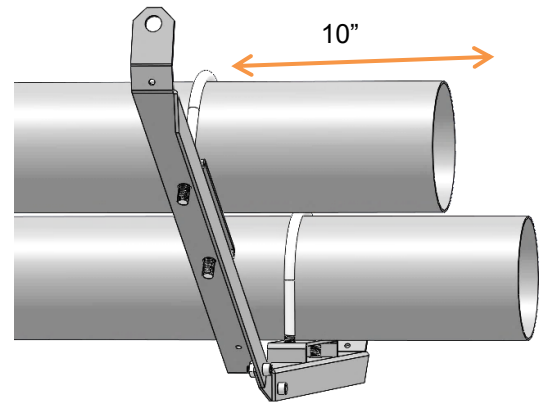
U-Bolt with extra nuts – close to **Flange**.
The nuts sandwich the **Hanger Bracket** as
pictured above.

Step 3:

Orient the **Tubes** within the **U-Bolts**.

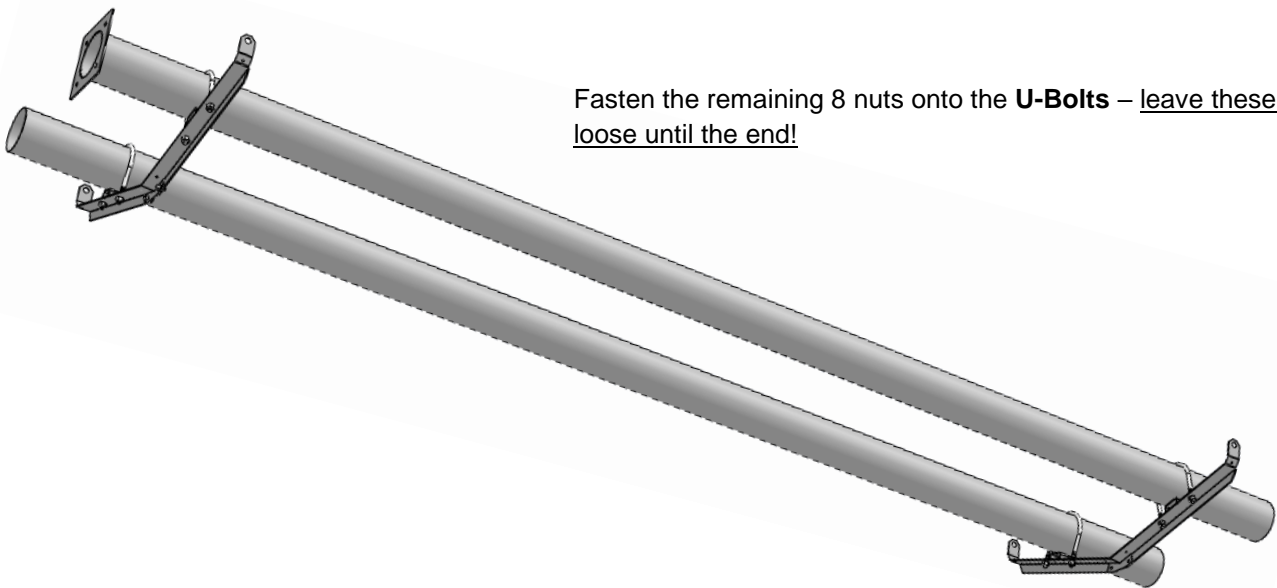


On the burner side, the distance between the **Flange** and **U-Bolt** should be 8"



On the **U-Tube** side, the distance between the **Tube's** end and **U-Bolt** should be 10"

Step 4:



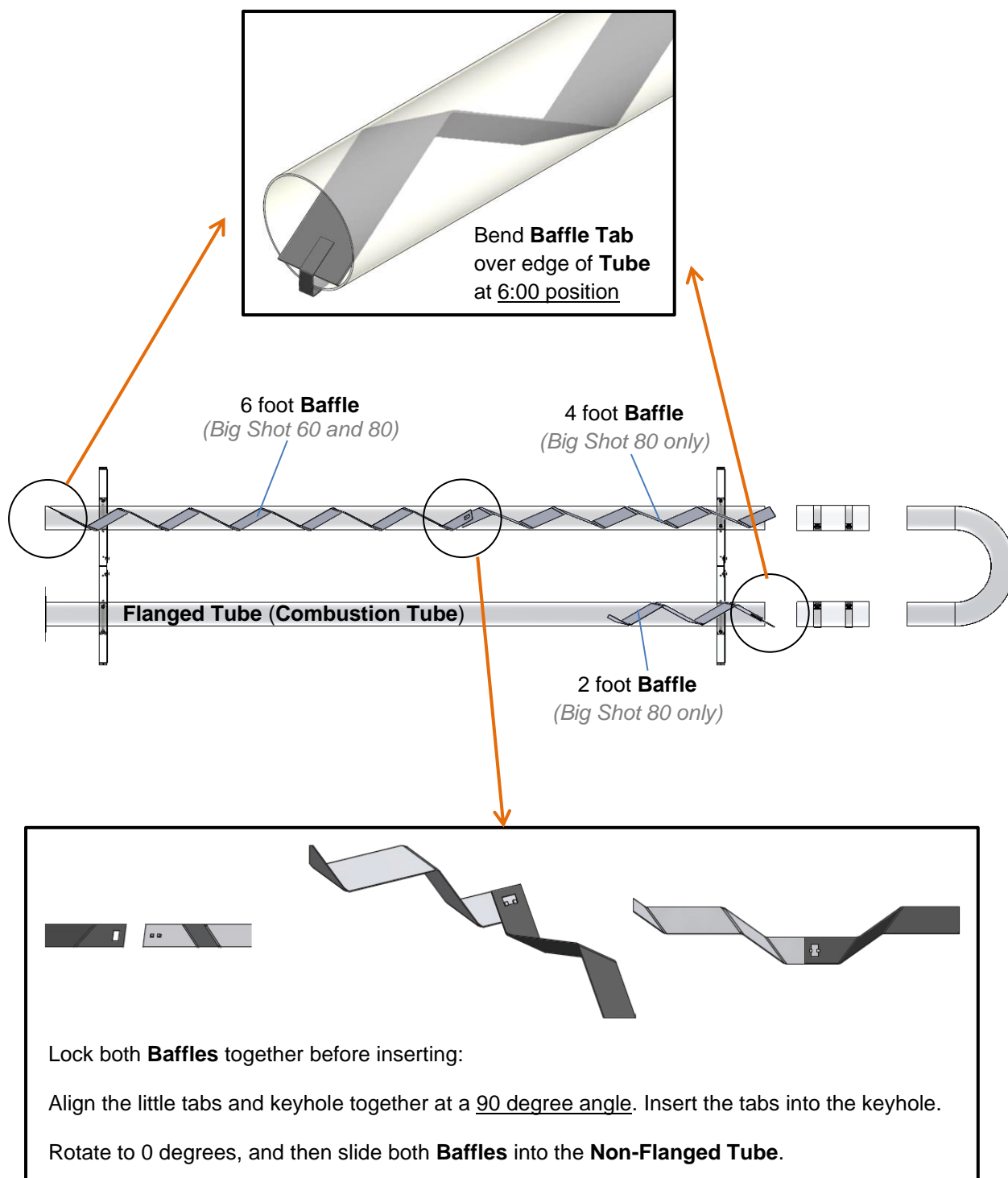
Fasten the remaining 8 nuts onto the **U-Bolts** – leave these loose until the end!

Baffle Installation

Step 5:

Install the Baffles: Pictured below is a bottom view of the heater.

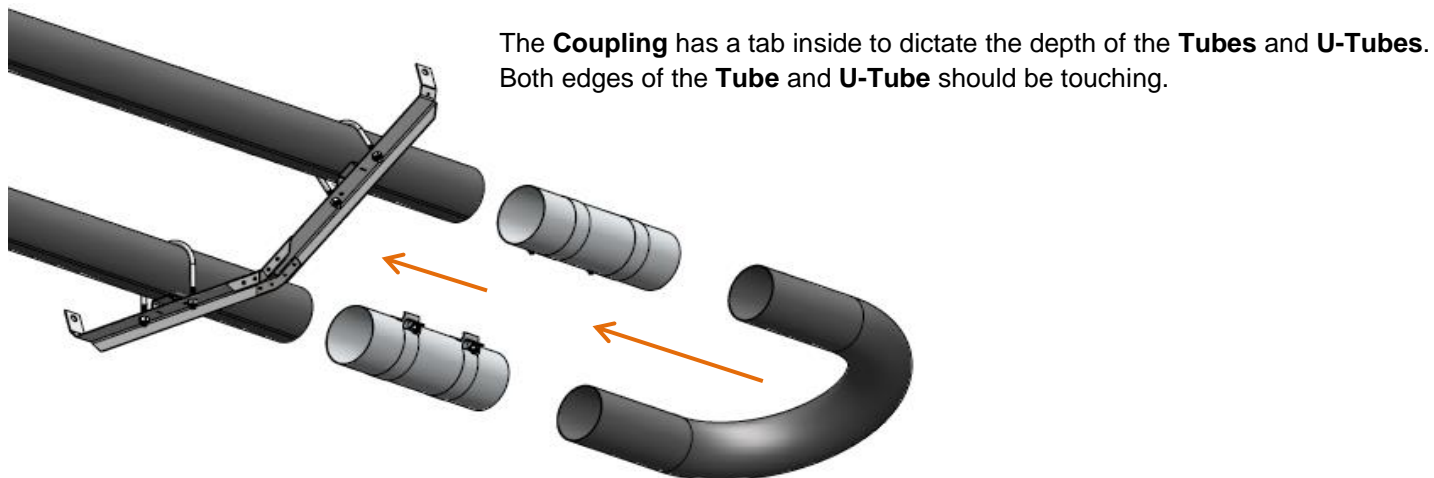
- 2 foot **Baffle** is isolated in the **Flanged Tube (Combustion Tube)**
- 6 foot and 4 foot **Baffle** are linked together in the **Non-Flanged Tube** (Return Tube)



U-Tube Installation

Step 6:

Attach **Couplings** and **U-Tube** together.

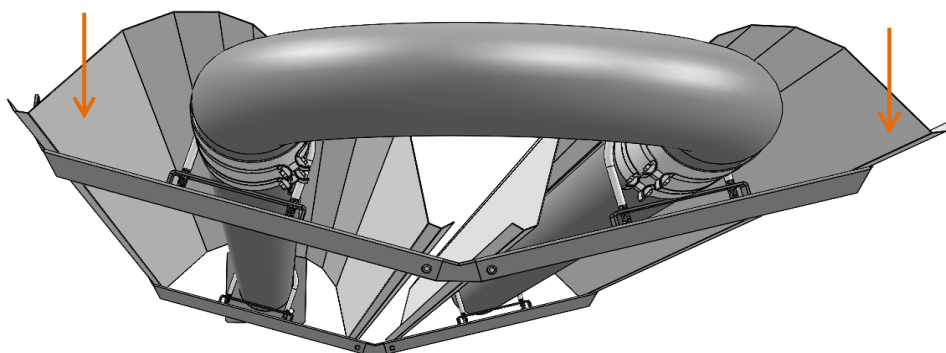


In order to obtain smoothly sealed coupling liners, tighten each of the coupling bands progressively and alternately. Tightening one band completely before the other may result in an undesirable wrinkle in the liner (refer to Figure 8). **Be sure not to over torque the coupling. (Torque coupling to 15-25 lbf-ft).**

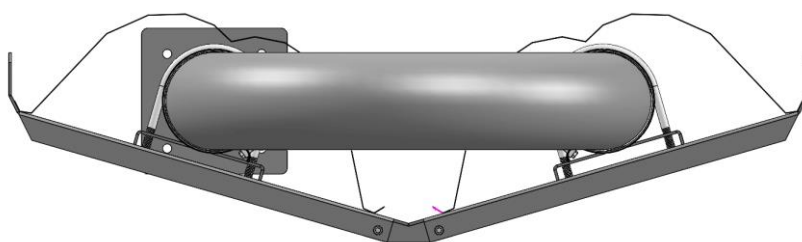
Reflector Installation

Step 7:

Place **Reflectors** onto heater.



They'll be loose for now, but these two pictures depict how the **Reflectors** will be oriented once they are fastened:



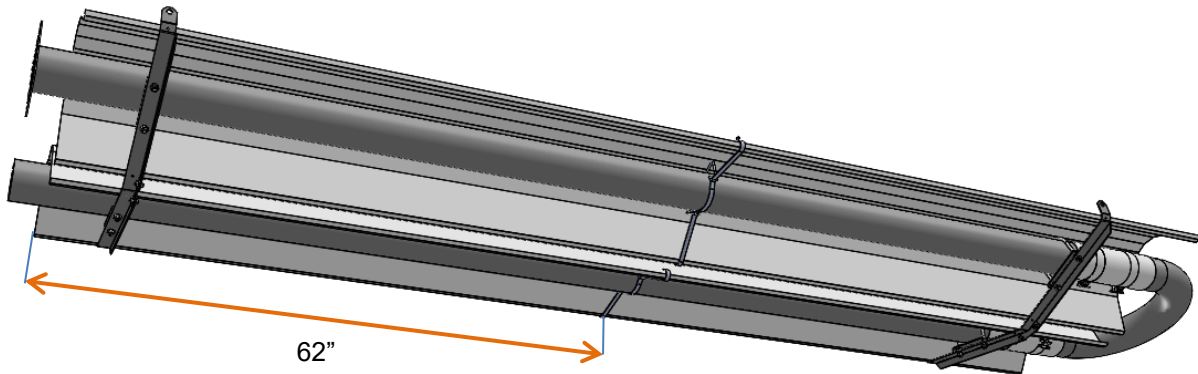
Step 8-A:

Install the following components, 62" (middle) from the edge of the **Reflector**:

Qty 2 - **CR004** Reflector Brackets

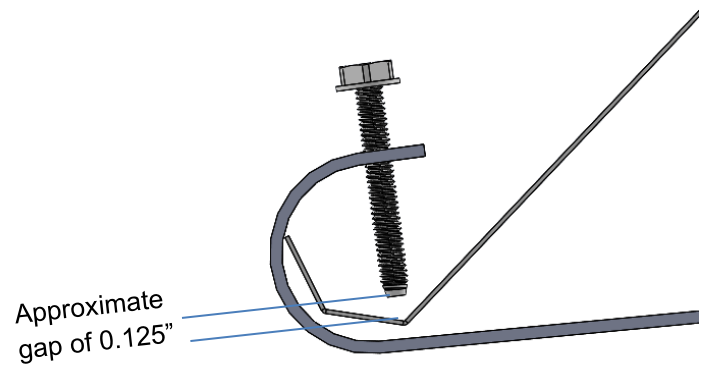
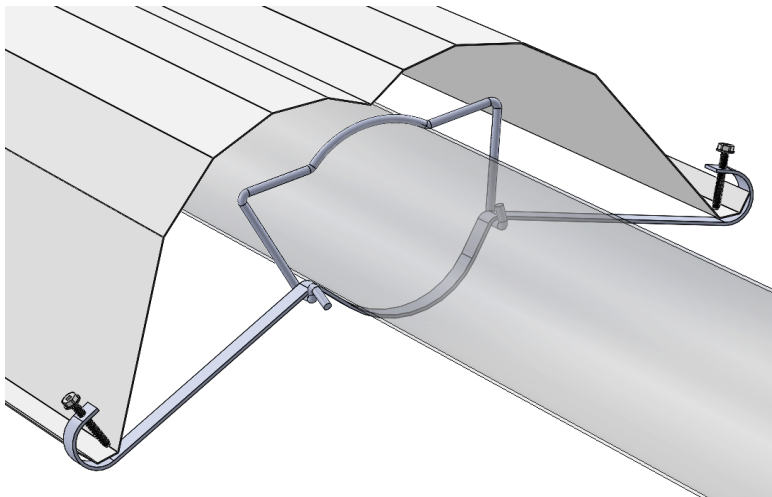
Qty 2 - **CR009** Spring Clip

Qty 4 - **CH044** Screw, 8-32 x 1-1/4
Hex Head, Roberston #2



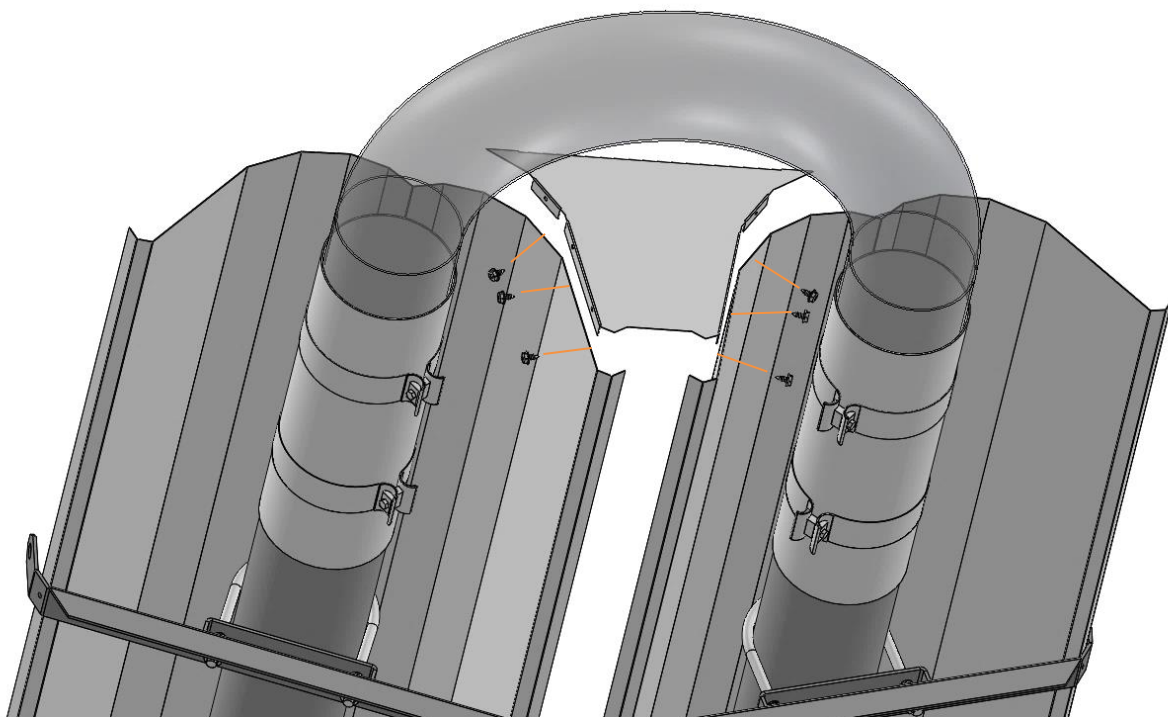
Step 8-B:

Set the screws to leave a gap of no more than 0.125"

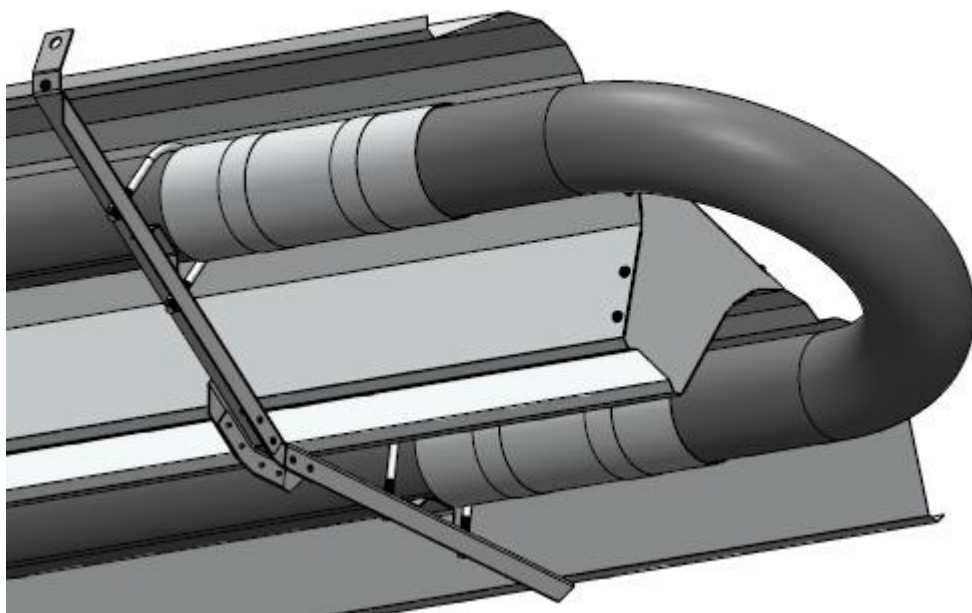


Step 9:

Install the **Inner End Cap** with 6 screws, as pictured here:

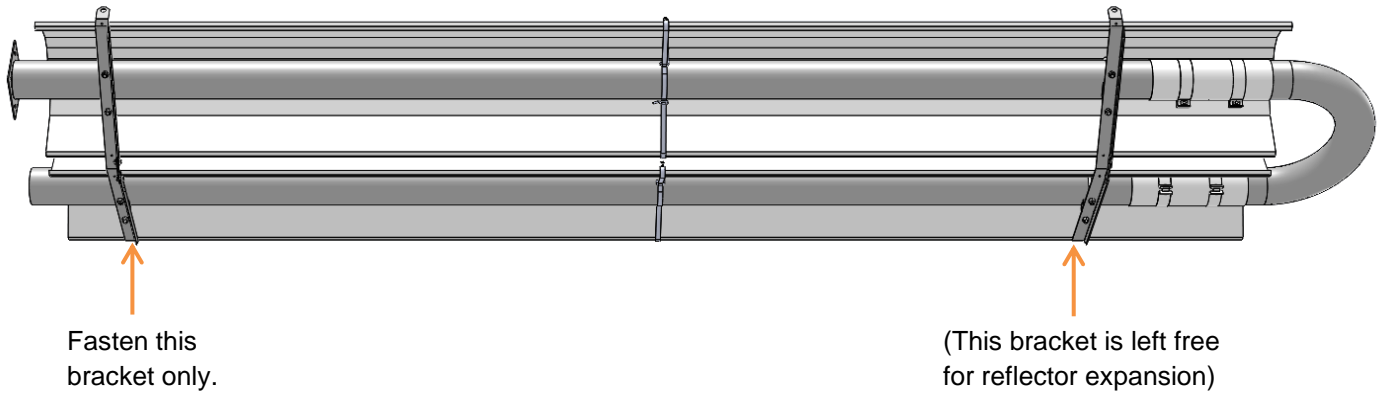


End Cap with flanges on the inside (hidden).



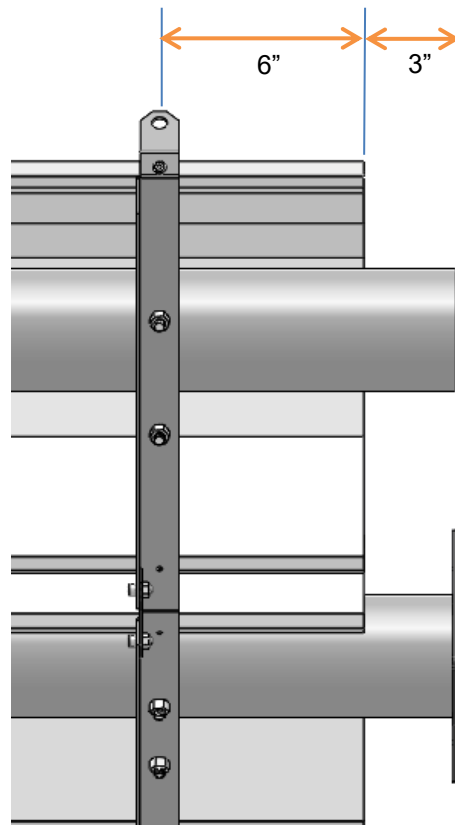
Step 10:

Fasten one **Hanger** to the **Reflector**, using the standard screws.



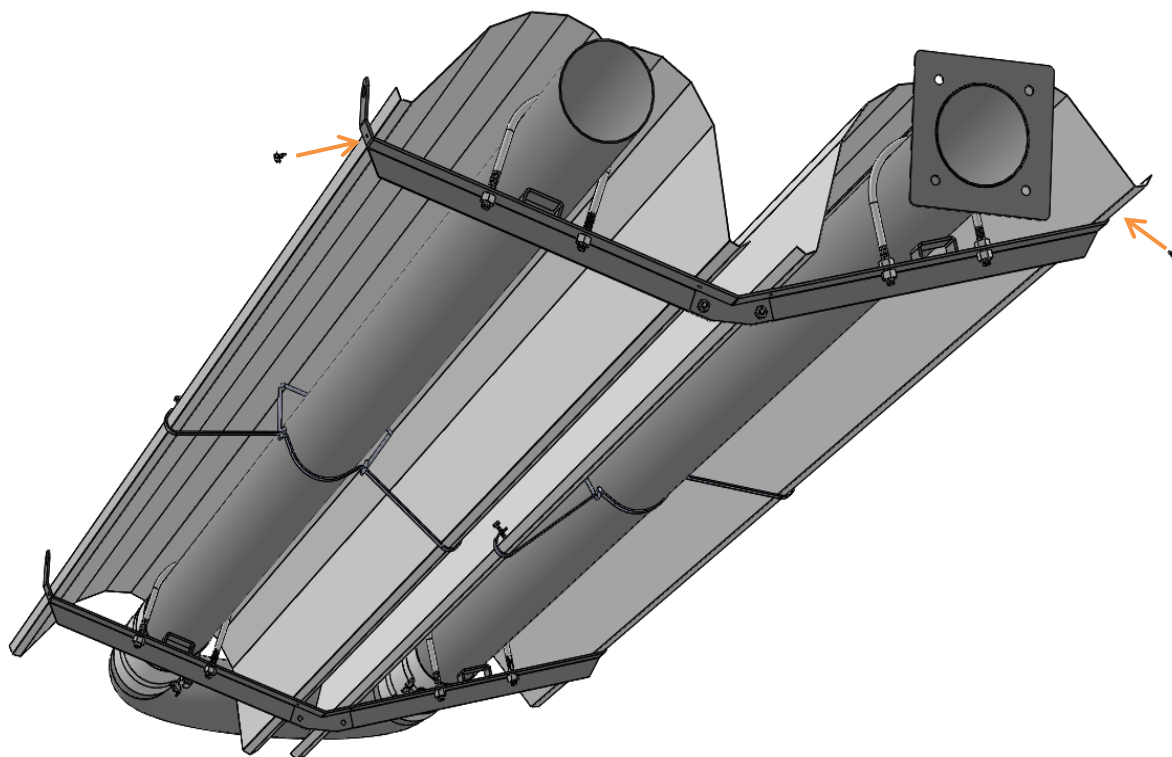
Step 10-A:

Ensure the **Hanger Bracket** is perpendicular to the **Reflector**, and then follow these dimensions:

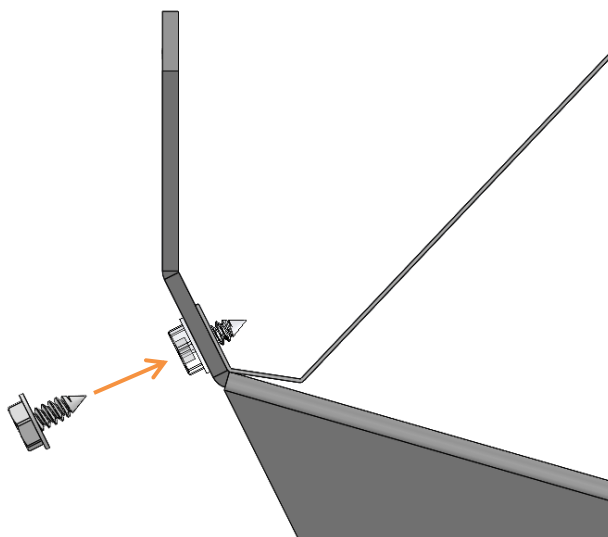


Step 10-B:

Hold the **Reflector** tight to the bracket while fastening. Screw the bracket to the reflector.

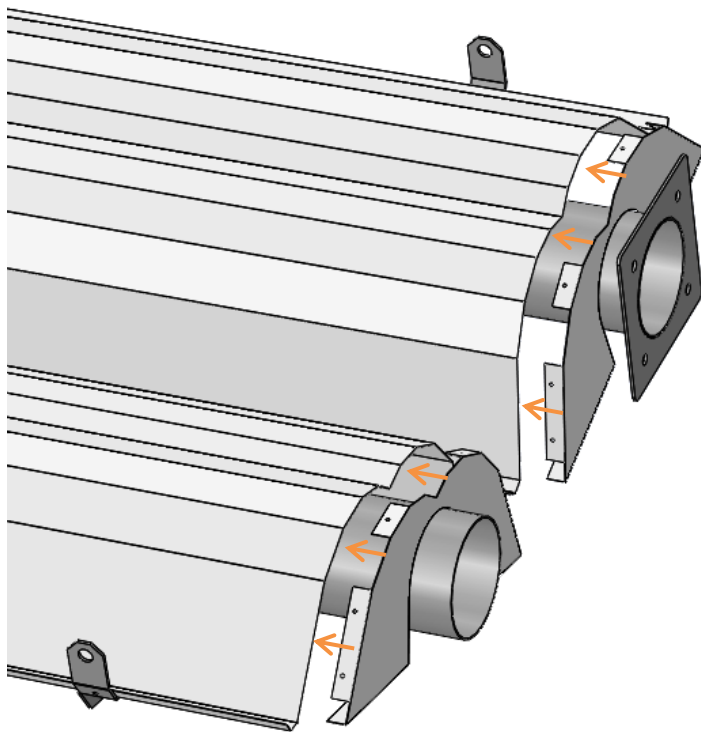


Match the profile of the **Reflector** and **Bracket** as pictured:



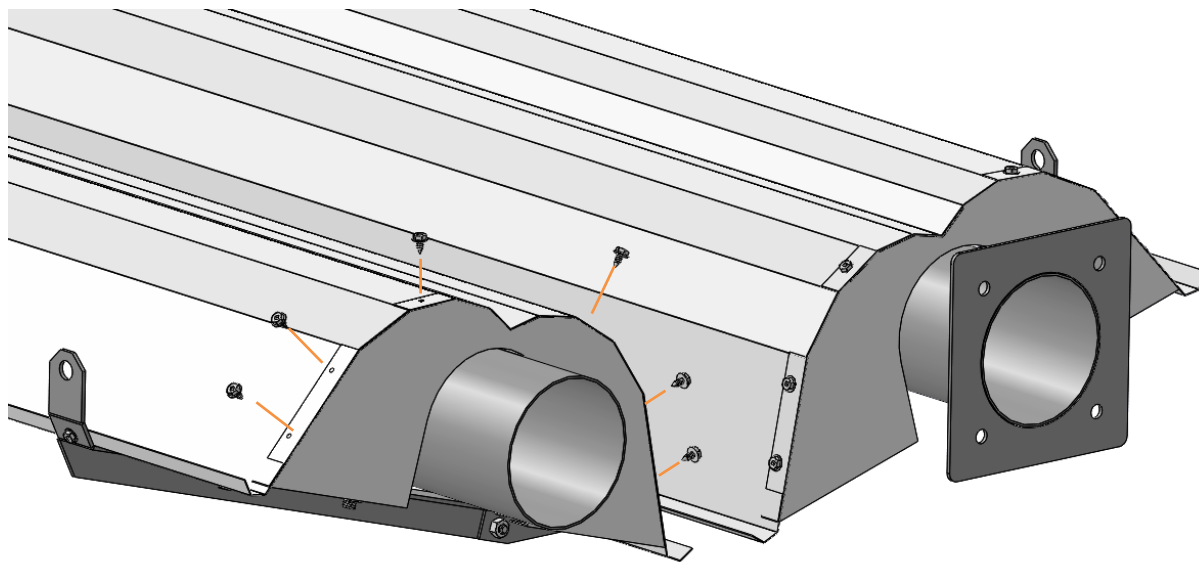
Step 11-A:

Orient the **End Caps** onto the **Reflector**.



Step 11-B:

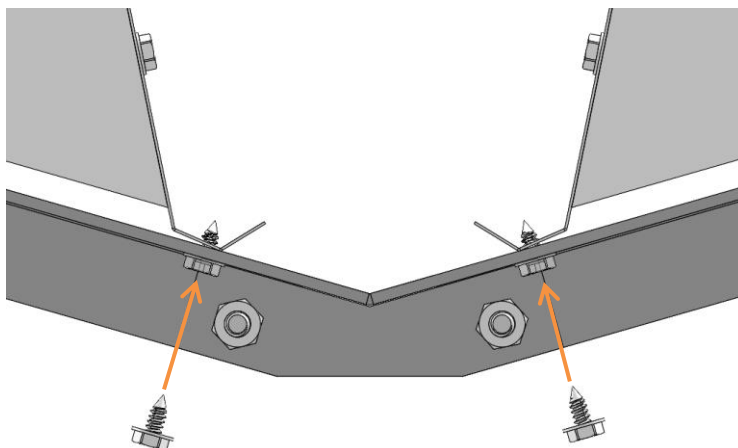
Fasten the **End Caps** with a total of 12 standard screws.



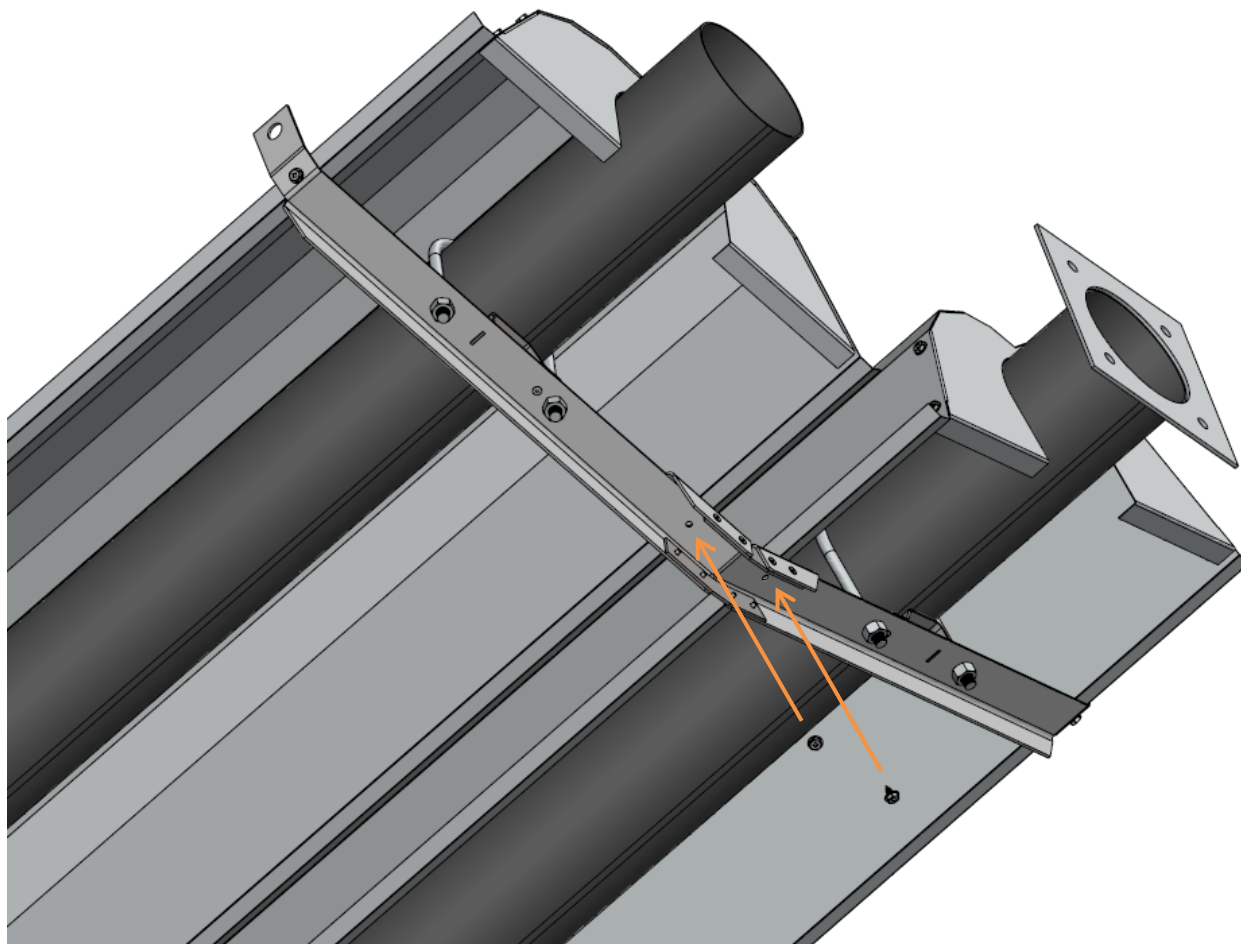
End Cap with flanges on the outside

Step 12:

Fasten the **Hanger** to the **Reflector**, using the standard screws.

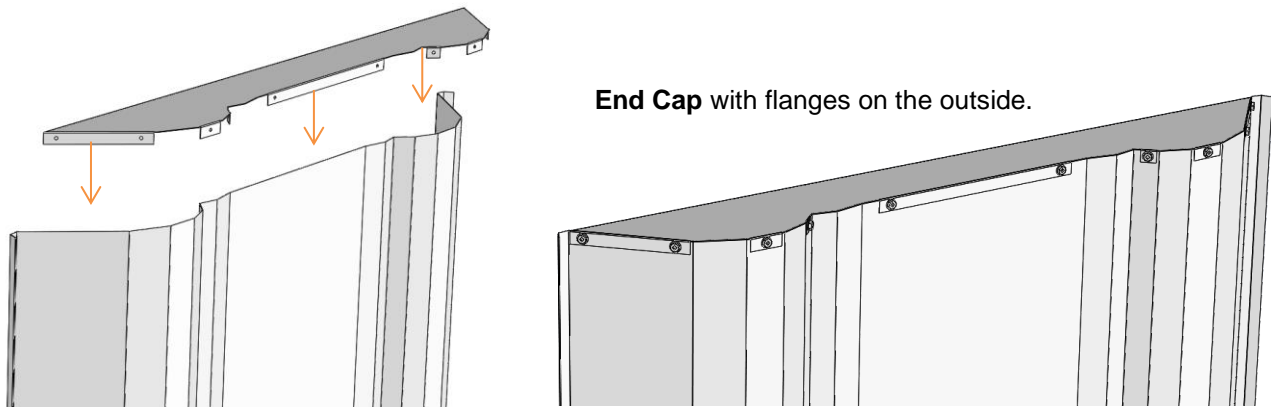


*While fastening, hold the **Reflector** tight to the bracket.



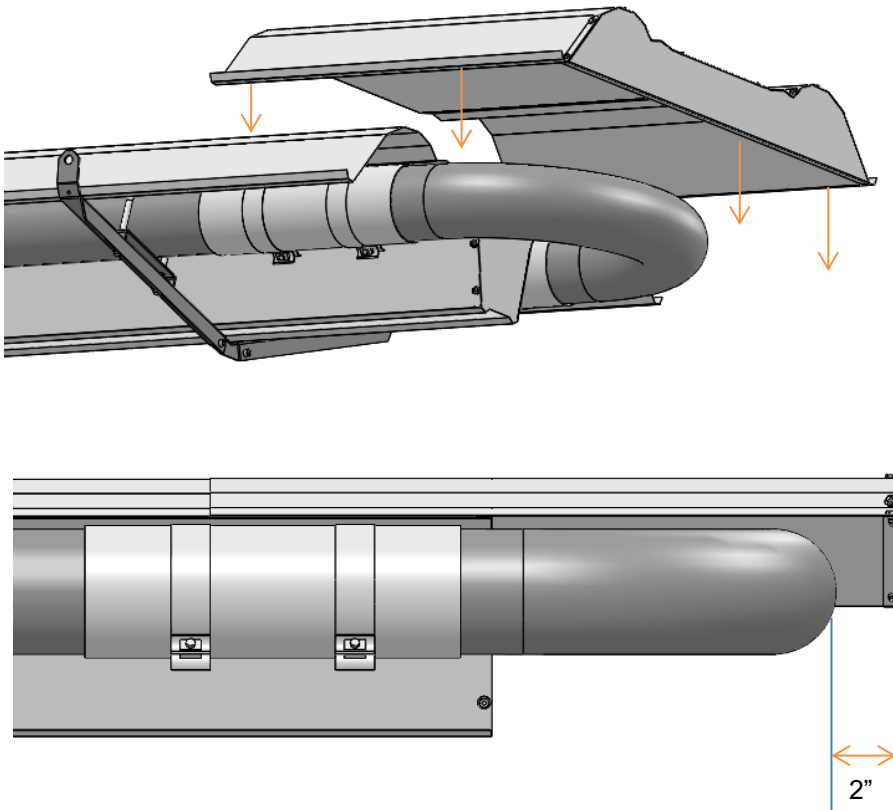
Step 13-A:

Attach the **U-Tube End Cap** to the **U-Tube Reflector** with 10 screws, as pictured here:



Step 13-B:

Install the **Reflector** onto the heater by overlapping the two reflectors.

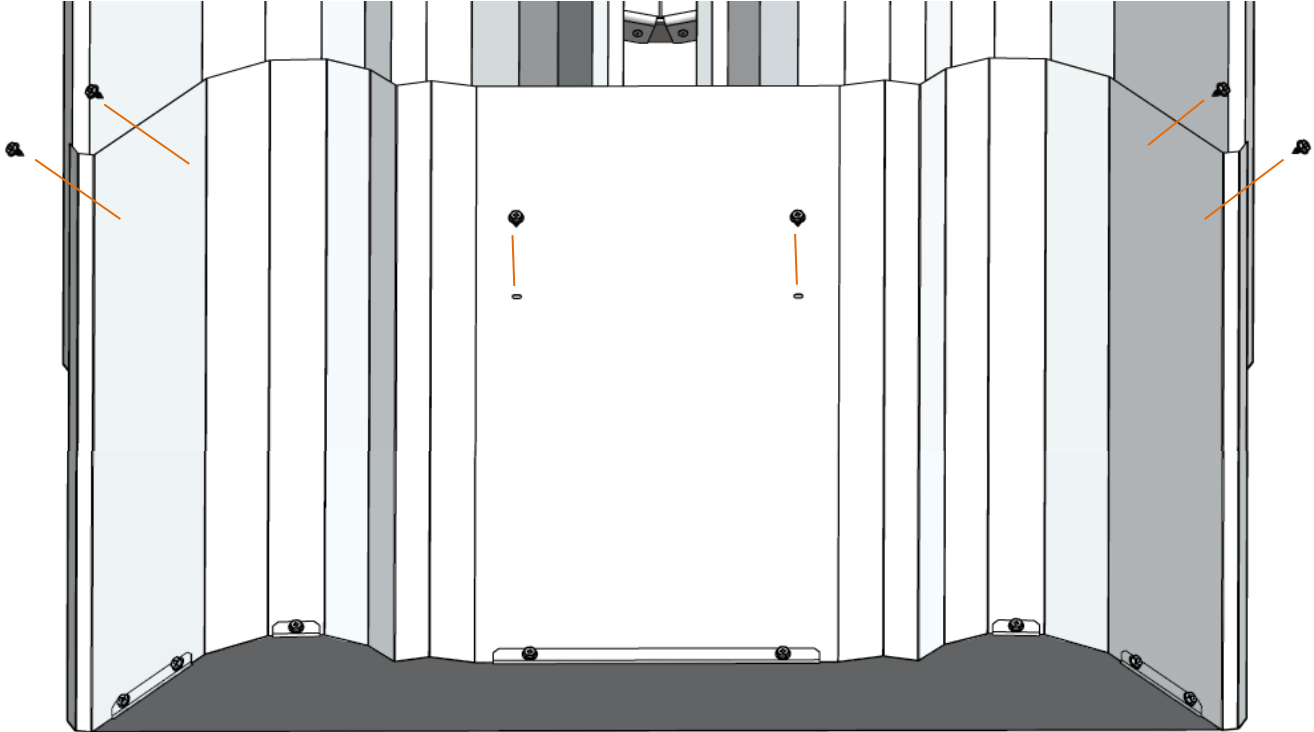


***Critical!**

Before fastening in the next step, ensure that there is a 2" gap between the **U-Tube** and **End Cap**.

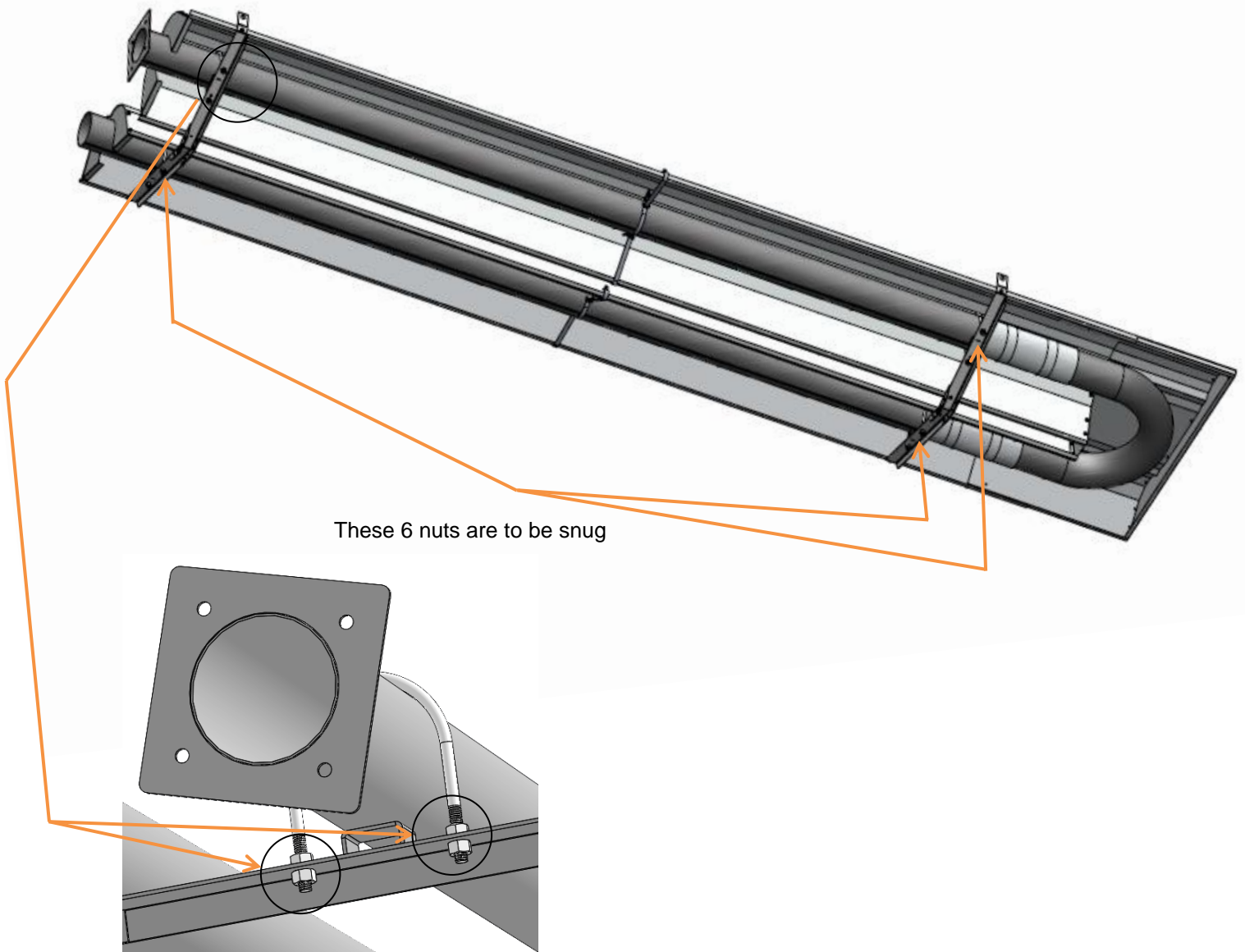
Step 14:

Use standard screws as shown, to fasten the **Reflector**,:



Step 15:

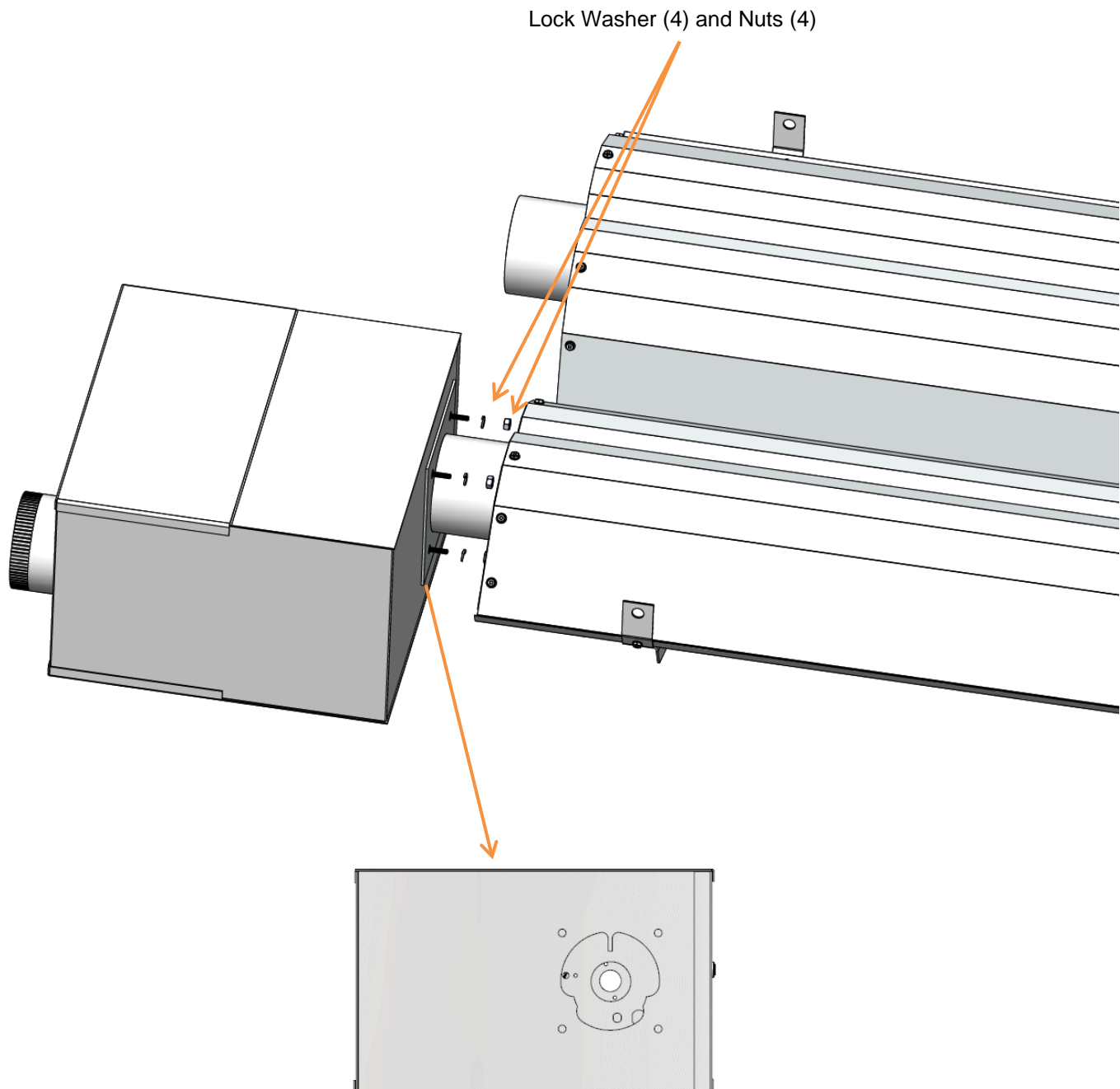
To fasten the Tubes down, tighten all **U-Bolt Nuts** to be snug.
The only unique case pertains to the 4 nuts on the **U-Bolt** close to the **flange**.



Tighten these nuts to lock the **U-Bolt** in place, leaving the **Tube** loose.
Don't secure the **Tube** down, as it needs to move freely during heating and expansion

Step 16:

Finally, attach the **Burner Head** to the **Flange** using the 4 lock washers and nuts provided.



Note: Burner Box Orientation as Shown

Venting / Combustion Air Ducting

General Requirements

- Refer to the National Fuel Gas Code, ANSI Z223.1 (NFPA 54) in the USA and CSA B149.1 Installation Codes in Canada, as well as all local requirements for general venting guidance.
- Series AUXS & Series ATXS Infrared Heaters may be installed vented or unvented.
- Series AUXS & Series ATXS Infrared Heaters may be vented horizontally or vertically. This series of heaters are considered a Category I appliance for vertical venting and a Category III appliance for horizontal venting.
- If heater is to be vented horizontally, the vent from building must:
 - Be not less than seven feet above grade when located adjacent to public walkways.
 - Terminate at least three feet above any forced air inlet located within ten feet.
 - Terminate at least four feet below, four feet horizontally from or one foot above any door, window, or gravity inlet into any building.
 - Be located at least 12" (30cm) from any opening through which vent gases could enter a building.
 - Extend beyond any combustible overhang.
 - Be installed at a height sufficient to prevent blockage by snow.
- Secure all joints with three sheet metal screws.
- Optional outside air supply may be directed to the heater horizontally or vertically.

IMPORTANT

- Maximum total vent length allowed for any model heater is 30' (9m).
- Maximum total fresh air inlet duct length allowed for any model heater is 30' (9m).
- Total of vent length plus outside air supply duct length cannot exceed 50' (15m) for any heater with minimum heat exchanger length.
- If condensation in the vent pipe or outside air supply duct is a problem, shorten or adequately insulate the section.
- Install a minimum 18" (45 cm) straight length of duct for air intake or vent before any Tee or elbow.
- Do not install any elbow or 45 fitting to bring vent lower than the horizontal tube system.

Note: The above stated requirements assume a maximum of 2 elbows in the total combination of vent and air supply duct. Subtract 5' of allowable length for each elbow if 3 or more elbows are used.

Un-Vented Operation

- Requirements for combustion air supply and dilution air vary by jurisdiction, building type and specific installation details. **See local codes for guidance.** In general, fresh air ventilation must be provided to the building space at **3 cfm per 1000 BTU/Hr in Canada and 4 cfm per 1000 BTU/h in USA.** The exhaust fan must be electrically interlocked with the heater.
- Optional outside air supply is not recommended for unvented heaters due to possible pressure imbalances in the building space.

Ensure that minimum combustible clearances are maintained for unvented heaters. Refer to Table 1, for required clearance dimensions.

Vented Operation

Horizontal Venting

- The heater operates at a positive vent pressure.
- Use an approved to S636 or UL1738 Category III venting system, or a single wall vent pipe with all joints and seams sealed with heat-resistant pliable sealant, such as high temperature RTV silicone for temperatures up to 650°F [343°C]. Prior to placing the heater in operation conduct a leak test with heater running using a soap solution.
- When venting through combustible walls, use approved vent terminal Tjernlund VH1-4, or SRP supplied deflector vent terminal with an approved insulating thimble.
- When venting through non-combustible walls, use SRP supplied deflector vent terminal. Recommended extension of the terminal past the outside wall surface is 18" minimum.

Vertical Venting

- The heater operates at a negative vent pressure.
- Refer to the National Fuel Gas Code, ANSI Z223.1 (NFPA 54) in the USA and CSA B149.1 Installation Codes in Canada, to size for Category I (B-vent) fan assisted appliances.
- Minimum vent pipe size is 4"(10cm) for an individual heater
- Use of an approved thimble to pass through combustible roof materials is required.
- Use of an approved vent cap is required.
- Check local codes for vertical vent size.

Note: When venting through a roof, use single-wall vent pipe in the building and an approved clearance roof thimble. A B type vent for the portion of the vent system passing through the roof may be used. Use B type vent materials for stacks above the roof line. If using vent lengths greater than 15' (5m), condensation will form in the vent pipe. Insulation and additional sealing measures (high temperature silicone at all seams) may be required.

Common Vertical Venting

- Common vent sizing information is defined in the appropriate gas installation code (Refer to ANSI Z223.1 and CSA B149.1 for sizes and installation information).
- Connection locations to the common vent should be offset to avoid pressure interferences between heaters, refer to ANSI Z223.1 and CSA B149.1.
- Use of approved thimble to pass through combustible roof material is required. Additionally, B type vent materials are required for stacks above the roof line. Use of approved vent cap is required.
- All heaters to a common vent are recommended to operate at the same time. Connect the electrical circuit to the same thermostat to ensure simultaneous operation.

Note: Horizontally vented heaters must be individually vented and cannot use a common vent.

Note: Do not install any elbow or 45° fitting to bring the vent lower than the horizontal tube system. For special vent configurations: Venting to a maximum of 36" below the level of the heat exchanger tubes is acceptable, provided: (a) the burner's combustion post purge feature is enabled via a 24 VAC thermostat connected to the ignition control module as per the instruction manual, (b) the intake of the combustion air is from outside the heating space, (c) maximum of 2 elbows in the flue vent, and (d) normal operation of the burner is verified by a certified gas technician after the completion of installation.

Combustion Air Supply (Optional)

- An outside combustion air supply is strongly recommended if the building space encloses a negative pressure due to exhaust etc. or if the building contains materials which would expose the heater to halogenated hydrocarbon atmospheres.
- The outside air terminal must be of an approved type, and should be located at an elevation equal to or below the vent terminal elevation to prevent back-venting of flue gases into the burner compartment.
- Install single wall pipe or PVC pipe and fittings with a 12" linear section of flexible duct to allow movement of the heater. *Do not use flexible duct throughout the entire length of fresh air duct. This may cause nuisance air switch tripping.*

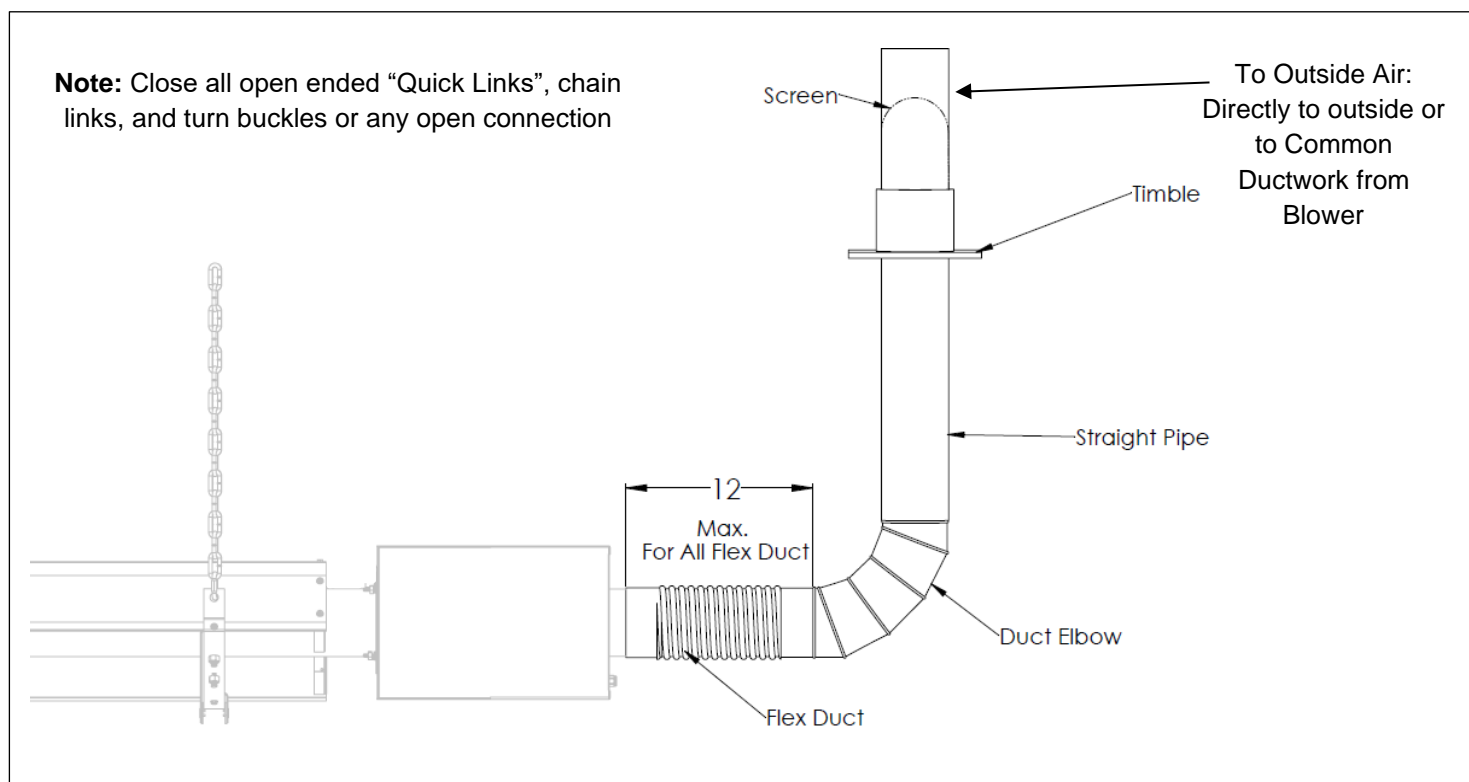


Figure 5: Installation of Outside Air as supply for Combustion

Vent Terminal

Heater can be vented indoor or to the outside, either approach is approved. However, a vent terminal is recommended for these heaters. Approved vents with these heaters are: "Vent Terminal" or "Hinged Vent Terminal" as shown in the figure below:

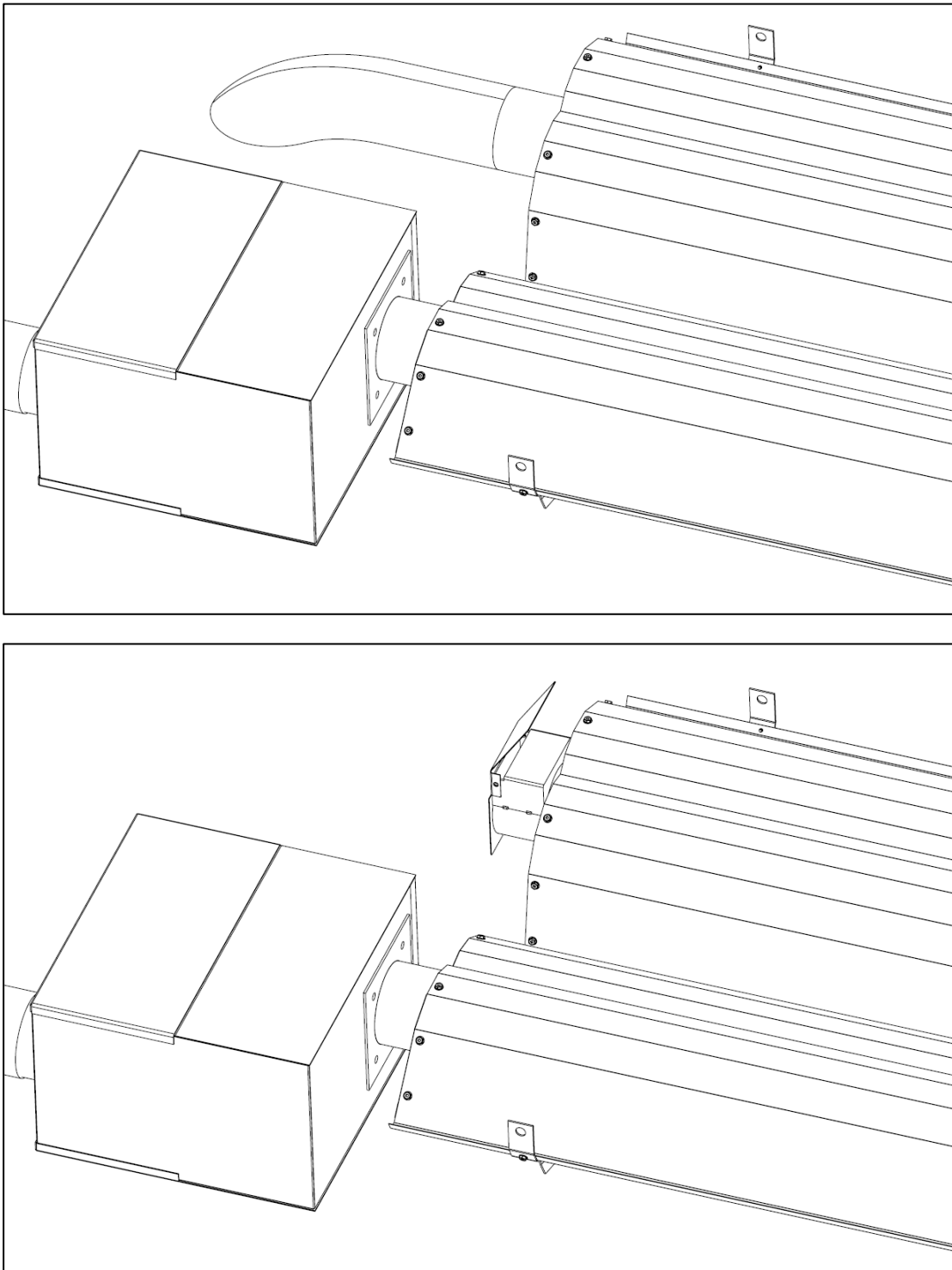


Figure 6: Vent Terminal Options

Gas Piping

General Requirements

- The gas meter and service must be sufficiently large to supply gas to the connected building gas load including the heating equipment and any other gas fired equipment. Additionally, the gas distribution piping must be designed according to local and national ordinances. Generally (low pressure) systems designed with a maximum $\frac{1}{2}$ " W.C. total pressure drop meet this requirement.
- Gas supply pipe sizing must be in accordance with the National Fuel Gas Code, ANSI Z223.1 (NFPA 54) in the USA and CSA B149.1 and B149.2 Installation Codes in Canada.
- Before connecting burners to the gas supply system, verify that high pressure testing of the system has been completed. Failure to do so may expose the burner components to damaging high pressure, requiring replacement of key components. Scale
-

Flexible gas connectors of approved type must be installed as shown in Figure 7, in one plane, and without sharp bends, kinks or twists. A smooth loop of approximately 12" (40cm) in diameter is best. Failure to install the gas connection in the approved manner will result in a hazardous and potentially deadly situation due to the movement of the heat exchanger and burner in the normal course of operation.

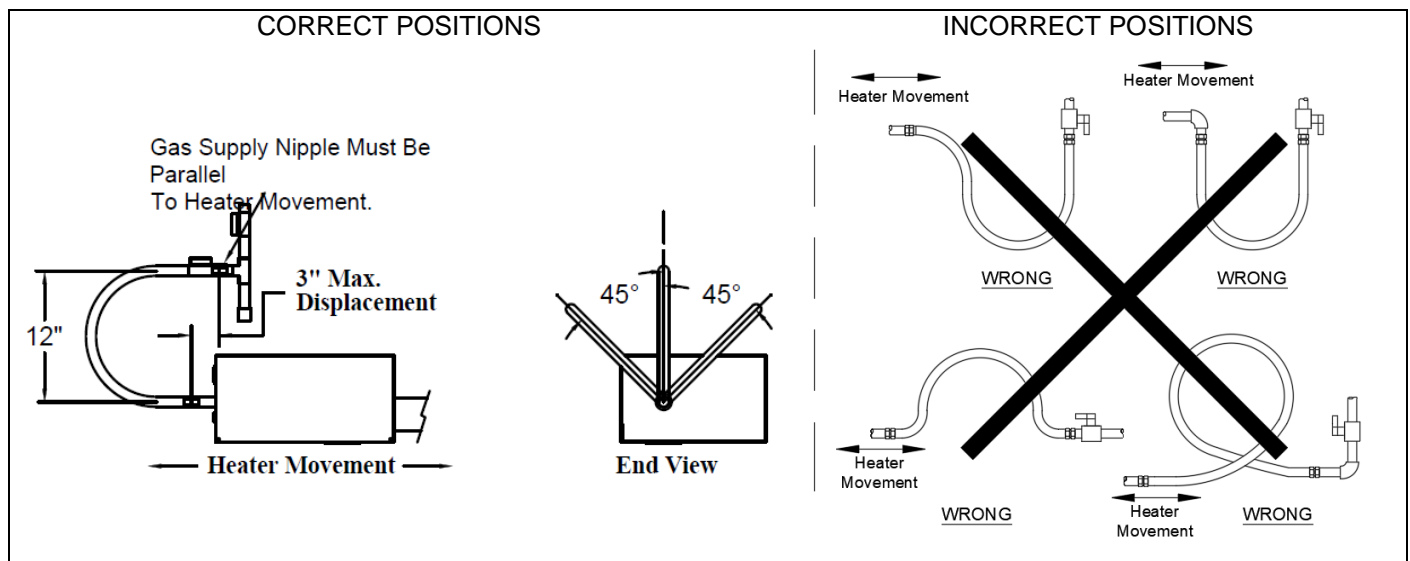


Figure 7: Flexible Gas Connections

Electrical Wiring

Heaters are normally controlled by line voltage (120V) or low voltage (24V) thermostats. They are both wired directly. In all cases, heaters must be grounded in accordance with the National Electric Code, ANSI/NFPA 70 in the USA, and the Canadian Electric Code, CSA C22.1 in Canada, and must comply with all local requirements. Heaters may also be controlled with a manual line switch or timer switch in place of the thermostat. Refer to Figures 8 and 9 for guidance on electrical wiring of heaters.

If any of the original wire as supplied with the heater must be replaced, it must be replaced with wiring having a rating of at least 105°C temperature service and 600 volts capability.

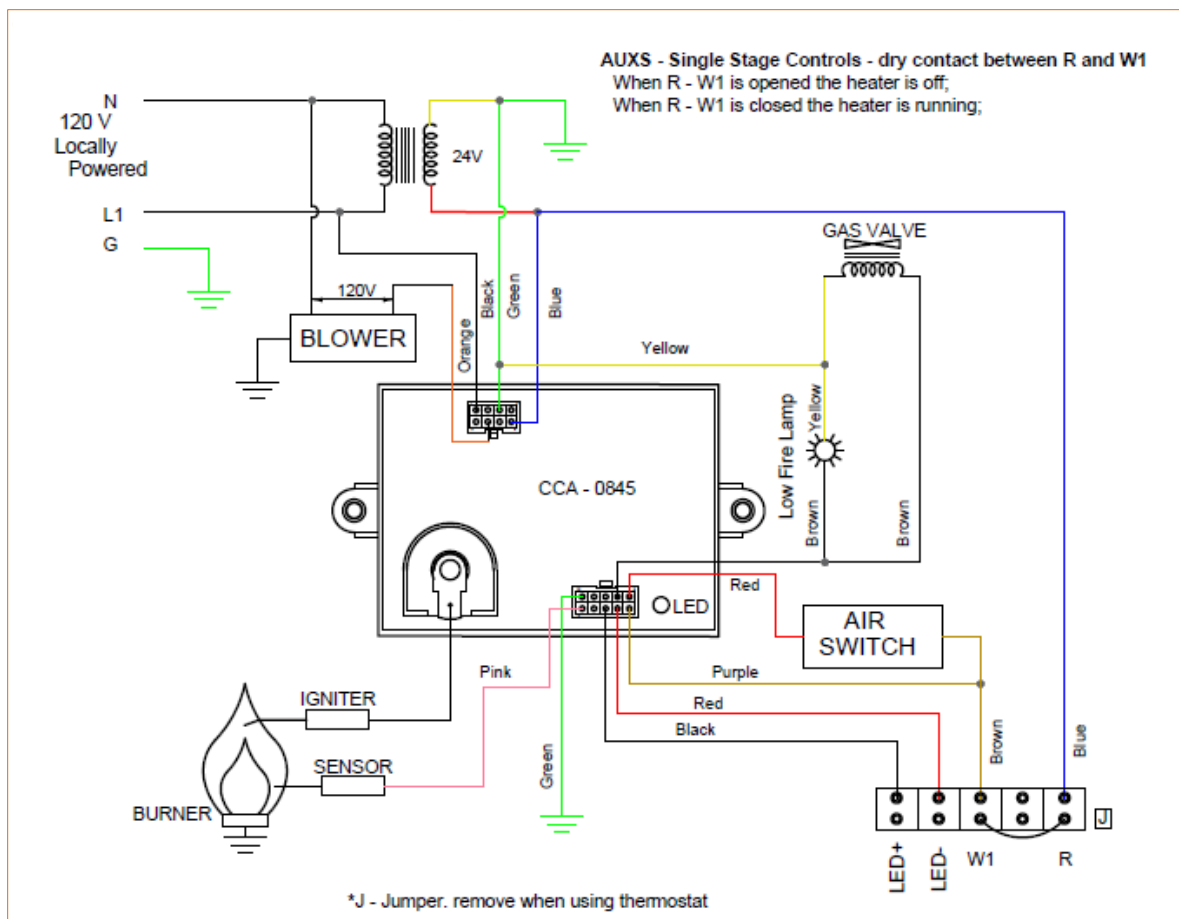


Figure 8: Wiring Diagram AUXS

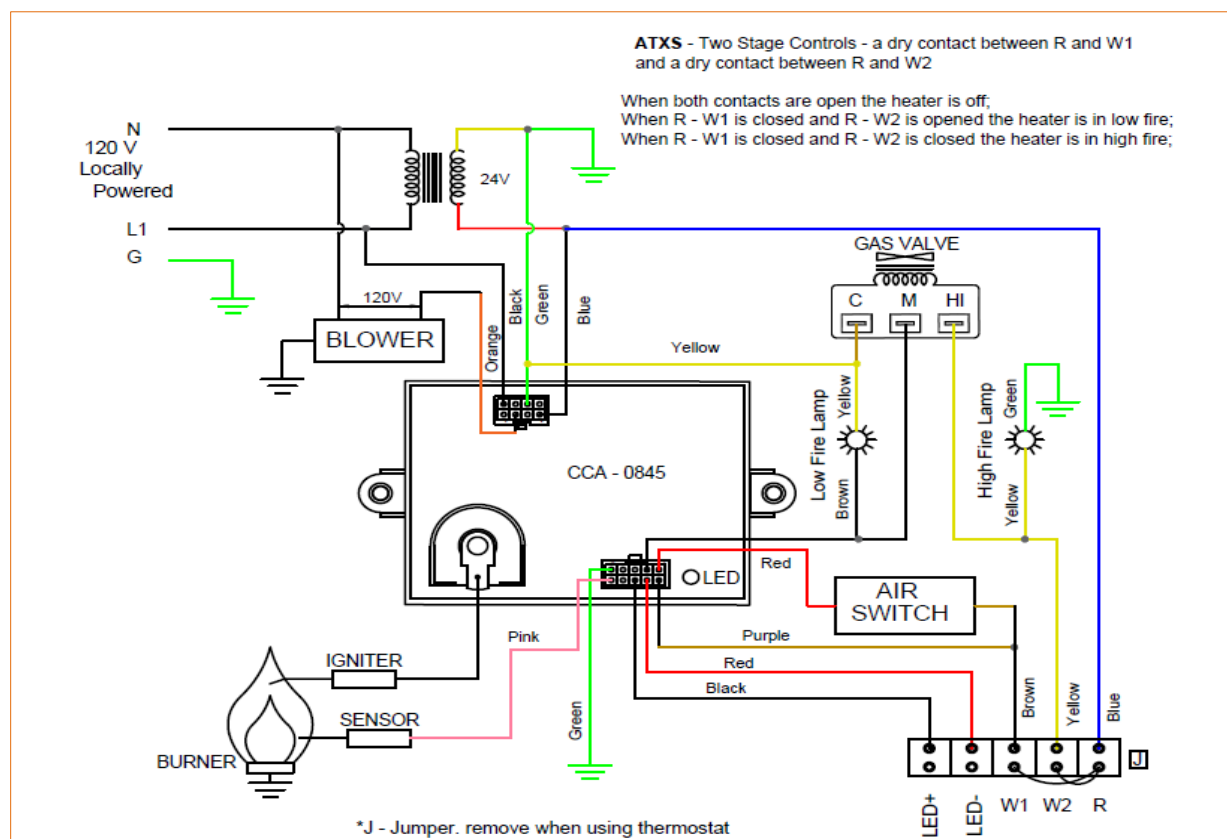


Figure 9: Wiring Diagram ATXS

Burner Operation

Starting Sequence of Operation

- Turn the temperature setting to start the burner. The blower motor will energize.
- When the motor approaches nominal running RPM, the air-proving switch closes and activates the ignition module.
- The ignition module, after a pre-purge period of approximately 30 seconds, energizes the igniter. Additionally, the gas valve is energized for this ignition trial period of 15 seconds.
- If a flame is detected, the ignition sensing rod "reads" a rectification signal and the gas valve remains open. The sparking stops when the flame signal is established.
- If no flame is detected, the gas valve closes and a 30 sec inter-purge period begins. After the inter-purge, the module repeats the trial for ignition period. If flame is still not established, a second and final inter-purge followed by a final ignition trial cycle begins. After three trials, the module will lockout for a period of approximately 1 hour or until reset. (Reset is accomplished by removing power from the module for at least 5 seconds.) After this 1-hour period, the module re-attempts the full ignition sequence.
- When using a 24V control and the heat requirement has been met, the burner shuts off but the fan continues to run for approximately 30 seconds. This is referred to as a post purge. This allows the products of combustion to be removed from the heat exchanger to avoid nuisance condensation and increase heat exchanger life.
- When using a line voltage control and the heat requirement has been met, the burner and fan shut off with no post purge.

Maintenance

For best performance, the certain minimal maintenance procedures should be performed before each heating season:

- Before performing any services or maintenance, shut off gas and electrical supply to heater.
- Check condition of forced air blower scroll and motor. Dirt and dust may be blown or vacuumed from the blower.
- Check condition of burner. Remove any foreign objects or debris from inside the burner box or burner cup.
- Inspect the igniter. Replace igniter if there is excessive wear or erosion, breakage or other defects.
- Be sure the burner observation window is clean and free of cracks or holes. Clean or replace as necessary.
- Check the flue pipe for soot or dirt and reattach to the heater after cleaning as necessary.
- The reflector sections may be cleaned by wiping with a damp cloth.
- A service agency qualified to adjust and repair infrared heaters should be engaged for service other than routine maintenance.
- Be sure vent terminal and fresh air inlet are free from obstructions. If either pipe is restricted, the safety air switch will not operate properly, and the heater could fail to operate.
- Check the inside of the heat exchanger tube visually with a flashlight. If carbon or scale are present, scrape or otherwise remove deposits (a wire brush works well)

Installation Checklist

1. Is the weld seam facing down?
2. Is the tube system levelled?
3. Is the flange side U-bolt is free to allow tube expansion?
4. Did you mount the tube couplings with the band clamp lock bolts oriented at the 10 o'clock or 2 o'clock position?
5. Did you robustly tighten the band clamps on the tube couplings? Recommended method is to alternate back and forth between two band clamps to ensure even torque on tube couplings.
6. Did you close all "S" hooks or Quick links?
7. Did you install all of the reflector support brackets supplied as shown in the manual?
e.g. One at each overlap, and one in the middle of each reflector.
8. Did you place the turbulator/flue baffle in the flue end of the heater as mentioned in the manual? Is the baffle tab located at 6 o'clock and bent as mentioned in the manual?
9. Did you install end caps?
10. Did you observe clearance to combustibles for this model according to the manual? This can also be found on the burner box.
11. Is venting in accordance with the National Fuel Gas Code, ANSI Z223.1 (NFPA 54) in the USA and CSA B149.1 and B149.2 Installation Codes in Canada?
12. Did you install flex duct according to the installation manual if outside combustion air is used?
13. Did you install the gas flex connector as shown in the manual? The legally required method – is to ensure it is arranged as shown to allow for proper expansion and contraction.
14. Did you check gas pressure at inlet of gas valve? Your heater will not perform properly if the pressure is not correct. Please check manual for reference

Attention to detail will result in a professional installation that reflects on all of us.

Please help us keep our customers satisfied which will result in a minimum of nuisance call backs!

Troubleshooting

Blower Motor Fails to Run

- Is the control calling for heat? Is there 115V at the burner receptacle?
- Check blower side door for seal. Repair as necessary.
- Check blower for obstructions. Replace blower if necessary.

No Gas Supply

- Check to see if manual supply valve to heater is open. No manifold pressure indicates valve is closed.
- Gas pressure downstream of gas control can be measured by connecting a manometer to pressure tap on control.
- Supply gas pressure can be checked at 1/8" NPT pressure tap in gas supply system.
- Is combination gas control gas valve or the ignition module is faulty.

Burner Does Not Light

- Is spark visible through site glass during ignition trial? If no, further electrical checks by a qualified service person are required.
- Check to see if gas lines were properly purged of air.
- Check inlet and outlet gas pressure during ignition period.

Burner Does Not Stay Lit

- Check ground wire continuity.
- Check insulation on the igniter leads.
- Measure flame signal current; it should be between 2 to 6 micro amps dc. Minimum 0.8 micro amps.
- Clean flame rod if necessary.
- Replace module if necessary.

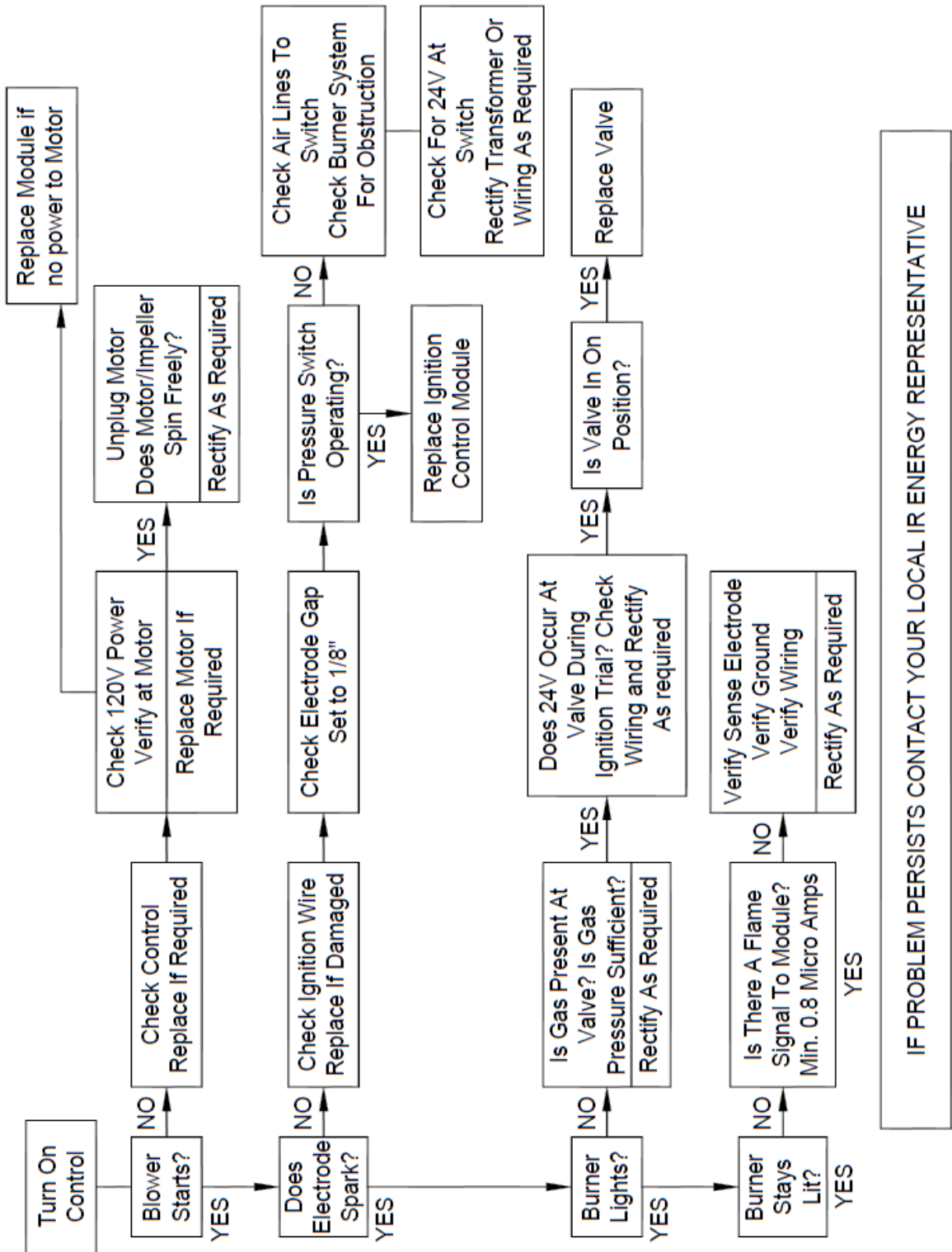
Module Error Codes

MODULE

1. FLASH – Air Flow Fault
2. FLASH – Flame – No call for heat
3. FLASH – Ignition Lockout
4. FLASH – CONTROL FAULT

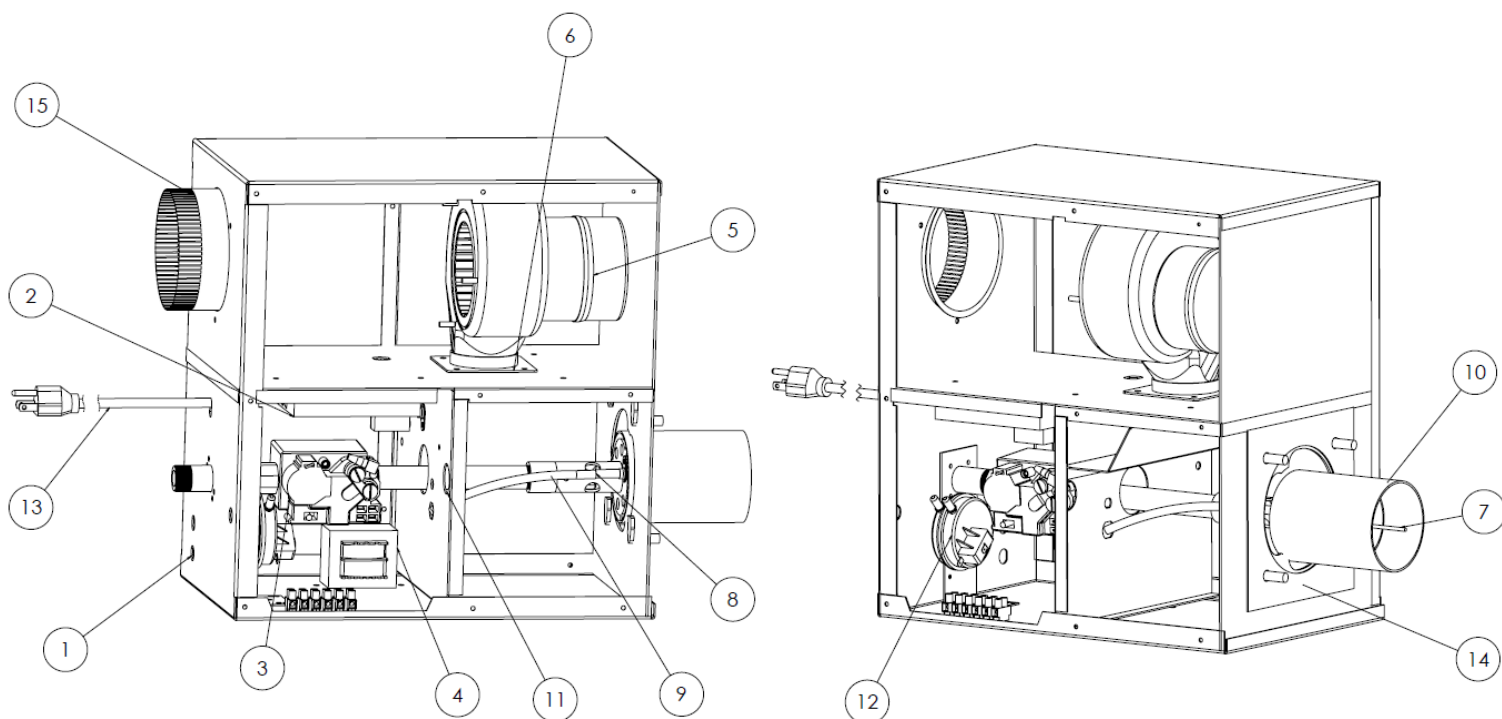
Troubleshooting Chart

TROUBLESHOOTING CHART



Replacement Parts

Item	Part #	Description
1	CE057	Indicator Light
2	CE455	Ignition Module
3	CG142	For AUXS: Honeywell Valve Train – Natural Gas
	CG143	For AUXS: Honeywell Valve Train – Propane
	CG056	For ATXS: White Rogers Valve Train – Natural Gas
	CG070	For ATXS: White Rogers Valve Train – Propane
4	CE058	Transformer
5	CE004	Blower Motor Assembly
6	CH007	Blower Gasket
7	CE003	Flame Sensor Electrode
8	CE002	Spark Electrode
9	CE006	Ignition Wire
10	UG001P	Burner Cup
	UG007	Burner Cup Assembly (C/W Electrodes)
11	CH011	Sight Glass Assembly
12	CE454	AUXS & ATXS 60,000 BTU Air Switch
	CE457	AUXS & ATXS 80,000 BTU Air Switch
13	CE010	Power Cord
14	CH001	Burner Gasket
15	VS022	Air Inlet Collar



SERIES AUXS & SERIES ATXS AGRICULTURAL INFRARED HEATERS

WARRANTY

The manufacturer warrants to the original owner that the product will be free of defects in material and workmanship as described below.

Series	Component	Warranty Period		
		3 Years	7 Years	10 Years
AUXS & ATXS	Burner & Controls	x		
	Aluminized Heat Exchanger w/o Post Purge		X	
	Aluminized Heat Exchanger with Post Purge			X

The Manufacturer's obligation under this warranty is limited to repair or replacement, F.O.B. its facility, of the defective part. In the case of replacement parts, the warranty period shall be the longer of the original warranty or a period of 12 months from the date of purchase. In no event shall the Manufacturer be liable for incidental expense or consequential damages of any kind.

This warranty does not cover any shipping, installation or other costs incurred in the repair or replacement of the product. No materials will be accepted for return without authorization.

This warranty will not apply if in the judgment of the Manufacturer, the equipment has been improperly installed, unreasonably used, damaged or modified.

This warranty will not apply to damage to the product when used in corrosive atmospheres and in particular atmospheres containing halogenated hydrocarbons. No person is authorized to assume for the Manufacturer any other warranty, obligation or liability.

THE REMEDIES PROVIDED FOR IN THE ABOVE EXPRESS WARRANTIES ARE THE SOLE AND EXCLUSIVE REMEDIES. NO OTHER EXPRESS OR IMPLIED WARRANTIES ARE MADE INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE.