

NesbittAire

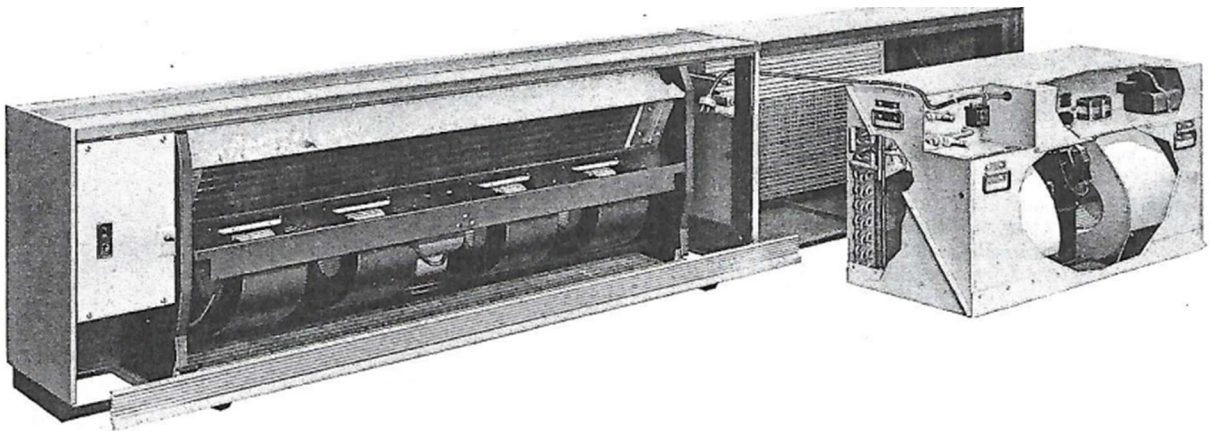
"CONTINUING A TRADITION OF INNOVATION"

EngA®

ENGINEERED AIR®

TP

INSTALLATION MANUAL



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Retain instructions with unit and maintain in a legible condition.

Please give model number and serial number when contacting
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INTRODUCTION

This manual has been prepared for the convenience and guidance of those individuals responsible for the installation of the NesbittAire TP. The TP is a self-contained year-round unit designed for thru-the-wall installation. The unit combines a self-contained cooling system with conventional electric resistance, hot water or steam heating.

Six (6) basic components are incorporated within the TP. Some installation sites may require the use of two (2) optional components (available from Engineered Air).

Basic Components	Optional Components
• Wall Sleeve • Outdoor Air Plenum • Louver • Unit Ventilator • Condensing Section • Condensing Section Cabinet	• Wall Sleeve Extension • Louver Frame (individually packaged for Shipment)

The TP is carefully inspected before shipment and is ready for installation upon unpacking.

UNPACKING

A specially designed packaging method is used to protect the unit in shipment and provide for easy mobility. **Use caution when unloading unit.** Unpack the unit as close to the installation site as possible to minimize any possible damage. When unpacking the unit, remove all securing hardware, straps, wires, blocks, padding and protective tape. The inner cardboard should be used as a protective cover for the unit until the room is occupied. **Note and follow instructions on any special packing or caution notices that may be attached to the unit.**

Note: Do not operate controls or attempt to start the unit until you have become familiar with the controls and serviced the unit for operation.

PREPARE WALL FOR UNIT INSTALLATION

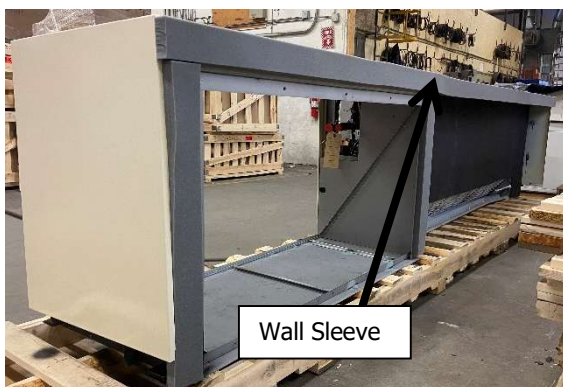
Depending upon building construction, provisions for installing the unit must be made by contractor, according to architect's drawings, plans and specifications.

ATTACH OUTDOOR AIR PLENUM TO WALL SLEEVE

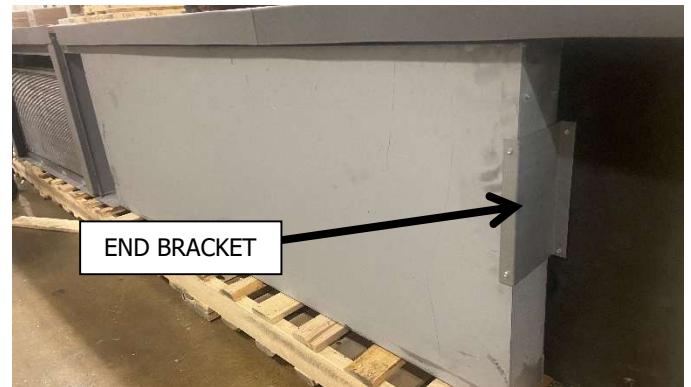
Material Required:

- 1 Wall Sleeve
- 1 Outdoor Air Plenum
- 1 Tube of Silicone Sealant
- 4 #8-18 x 1/2 hex head sheet metal screws

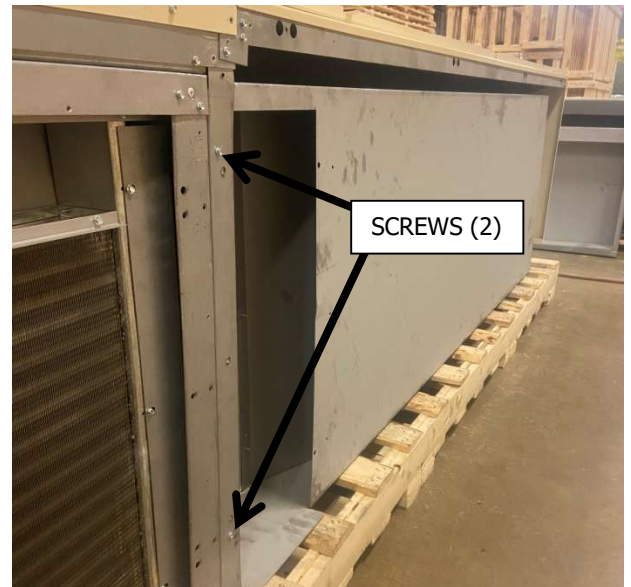
1. Apply two ridges of silicone sealant to the side of the wall sleeve.



2. Place outdoor air plenum in position next to wall sleeve; line up the rear of the outdoor air plenum flush with rear of the wall sleeve. End of air plenum should fit into end bracket.



3. Fasten outdoor air plenum to end bracket; use (2) #8-18 x 1/2" hex head sheet metal screws into bracket. Fasten outdoor air plenum to wall sleeve; use (2) #8-18 x 1/2" hex head sheet metal screws into holding bracket. Make sure screws are tight, providing enough tension to compress the sealant between the wall sleeve and the outdoor air plenum.

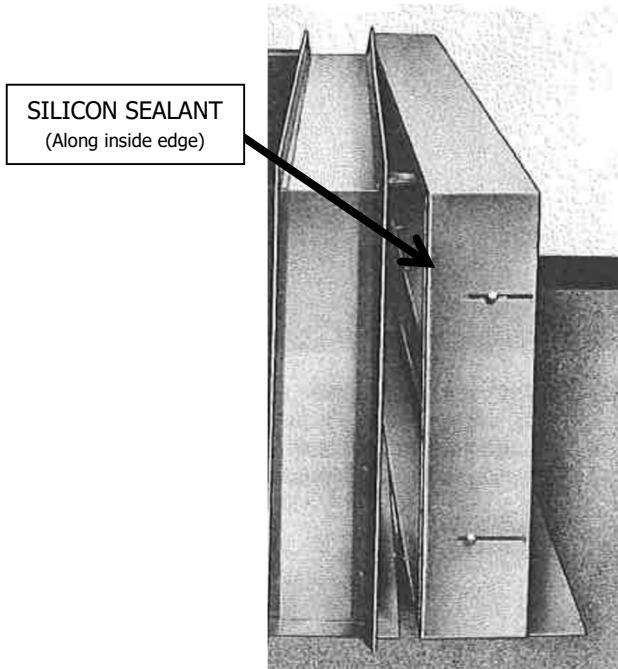


Note: Screws in holding bracket do not go through outdoor air plenum.

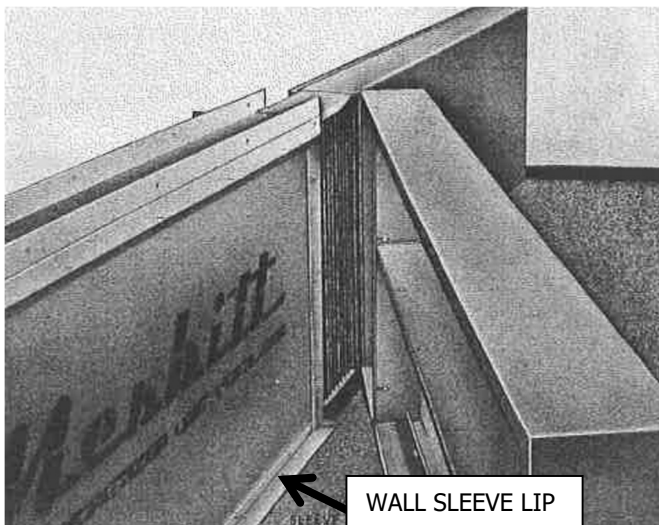
OPTIONAL COMPONENT: ATTACH WALL SLEEVE EXTENSION TO WALL SLEEVE

(Supplied as extra-see submittal drawings)

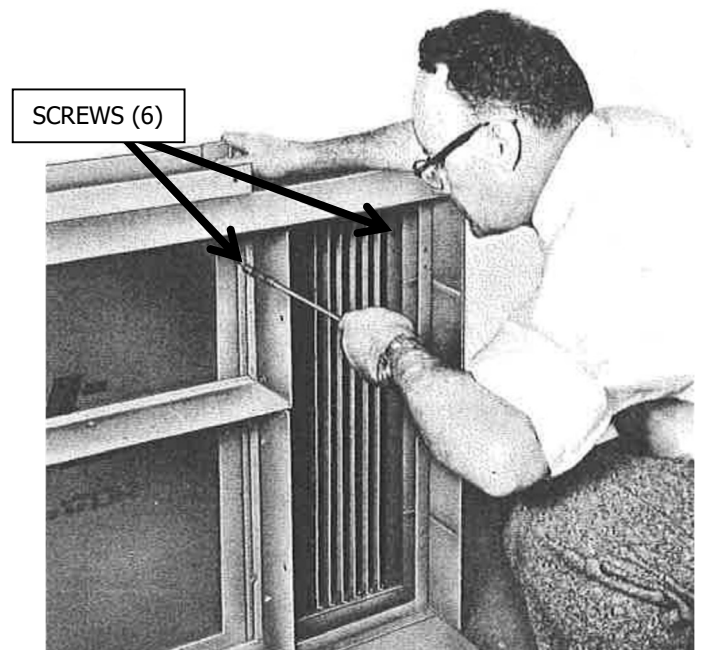
1. Apply silicone sealant to wall sleeve extension.



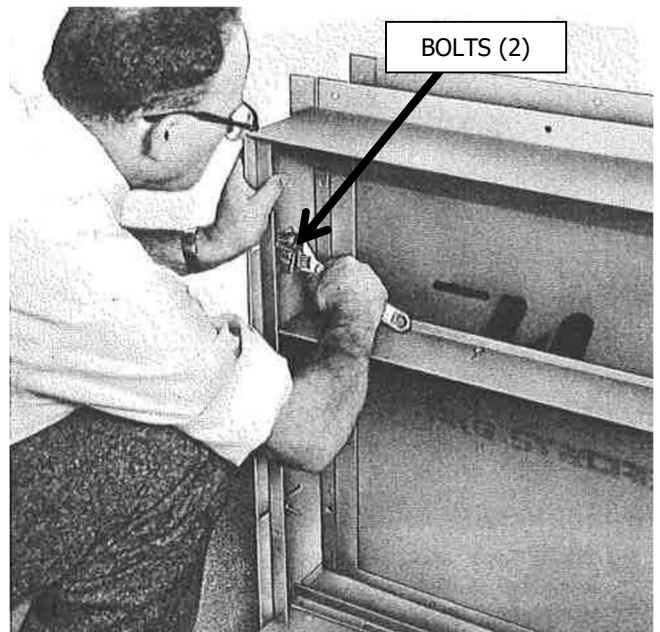
2. Place wall sleeve extension in position, being sure lip of wall sleeve is on top of wall sleeve extension.



3. Fasten wall sleeve extension to wall sleeve; use six (6) #8-18 x 1/2" hex head sheet metal screws. Screws fasten through wall sleeve extension to weld nuts on the wall sleeve.



4. Adjust wall sleeve extension to proper depth. The louver mounts directly to the wall sleeve extension. The proper depth for adjusting the wall sleeve extension is determined by where the louver will set in relation to the outdoor wall (flush, recessed in – maximum 1", or projected out). Loosen four (4) bolts to adjust the two vertical angles. **Note the louver mounts on these two vertical angles.** Loosen sheet metal screws holding vertical baffle; adjust baffle to same depth as the two vertical angles. Tighten all bolts and screws.



INSTALL WALL SLEEVE (WALL SLEEVE EXTENSION) AND OUTDOOR AIR PLENUM

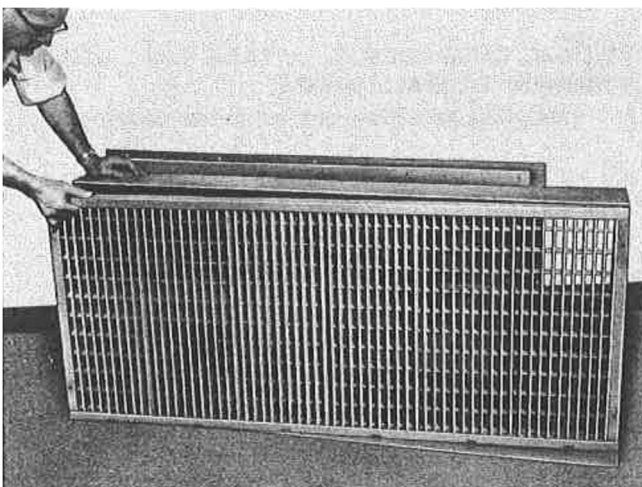
(New Buildings – Masonry Construction)

1. Locate the wall sleeve in accordance with plans and specifications.
2. The bottom of the wall sleeve must be level and even with the finished floor. If the floor is to be tile or carpet, etc., allow for the additional height.
3. Set and level the wall sleeve (and the wall sleeve extension) on soft mortar base. The inside finished wall must be flush with the plaster flange on the wall sleeve. Note that the wall sleeve may project into the room either 16", 19" or 22". If the projection is 22", the outdoor air plenum will be completely inside the room; if the projection is 19", 3" of the outdoor air plenum will project into the wall.
4. Wall sleeve must be secured to wall.
5. Erect wall around the wall sleeve (wall sleeve extension) and outdoor air plenum. (if recessed). Provide lintels as shown in the plans and specifications. The wall sleeve becomes an integral part of the wall.
6. Caulk around the exterior edges of the wall sleeve to provide a water-tight installation.

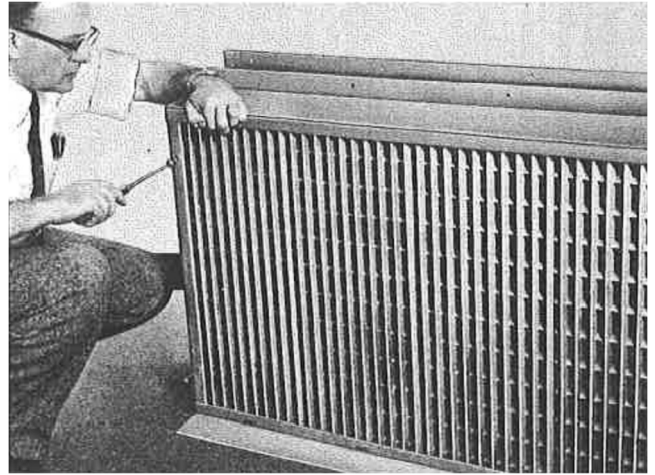
Note: Do not puncture or drill any holes in the bottom of the wall sleeve.

ATTACH LOUVER

1. Louver must be placed into wall opening from the outside of building.



2. Fasten louver to wall sleeve (wall sleeve extension) using four (4) 1/4 x 3 1/2 bolts. Bolts fasten through louver to weld nuts on vertical flanges of wall sleeve (wall sleeve extension).



INSTALL LOUVER FRAME

1. Mount louver frame in wall opening
2. Fasten louver frame to wall by grouting or using appropriate fasteners (fasteners are not furnished by Engineered Air).
3. Louver frame does not fasten to other parts of TP. Its purpose is to provide a finished frame around the edge of the wall opening, especially when the TP is applied to an existing building.

POSITION UNIT VENTILATOR

1. An insulation pad is furnished to provide a seal between the unit ventilator and the floor. The pad is shipped in the unit ventilator between the motor board and the heat transfer element. Remove and position pad on the floor on the left side of the wall sleeve and in front of the outdoor air plenum.
2. Place unit ventilator on top of pad. Slide to the right until the unit is flush up against wall sleeve.



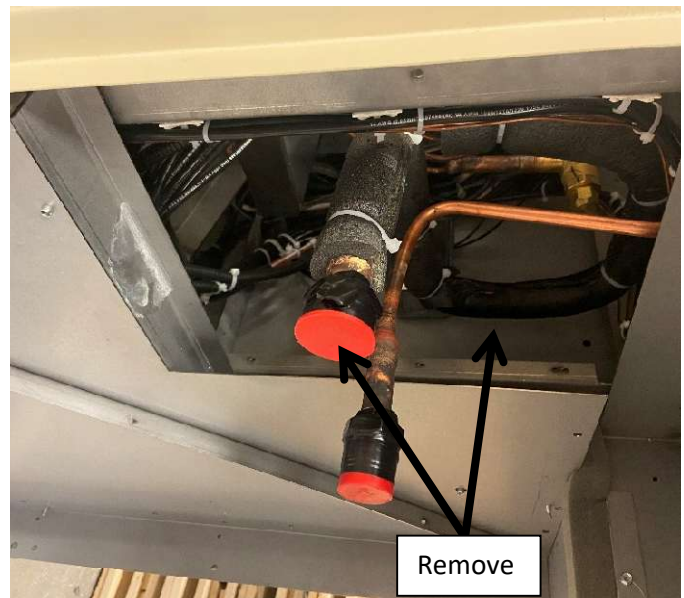
3. Level unit using the provided sliding post bracket.



4. Bolt unit to wall: Using a fastener to suit wall construction, bolt left side of unit to wall; use mounting holes provided on the back wall of the ventilator. Right hand end of the unit ventilator should be pushed as far to the rear as possible and must be tied in on the installation of the condensing cabinet.
5. Attach electrical wiring: Connect power wiring to line side of circuit breaker-disconnect terminal box-in left hand end compartment of unit ventilator. This is the only electrical connection required to the TP.

INSTALL CONDENSING SECTION

1. Uncrate condensing section and remove from its shipping crate. **Do not turn upside down.**
2. Remove the left hand end cover and inspect the unit.
 - a) Inspecting the condenser fans.
 - b) Rotate the condenser fan to insure free rotation and tightness on the shaft. If required, reposition condensing fan motor assembly by adjusting the mounting hardware.
3. Insure that the discharge line and suction line are not hitting each other or the fan scroll. Bend tubing slightly to reposition as required.
3. Mount the left end cover.
4. Remove the right end cover and rotate condenser fan to insure free rotation and tightness on shaft (similar to left hand condenser fan). Mount right hand end cover.
5. The condensing section is equipped with female threaded, break-away, manual three position service valves. The valves are shipped closed, or in the front seated position and must remain in the front seated position until all refrigerant line connections are made.
6. Remove protective seal cap from the valves on the unit ventilator (3/4" cap on the liquid line and 1 1/4" cap on the suction line).



7. Remove protective seal cap from the valves on the condensing unit section (3/4" plug on the liquid line and 1 1/4" plug on the suction line).

Note: Do not remove 1/4" flare cap from service valve gage ports.

8. Wipe all mating surfaces with a clean cloth to prevent inclusion of dirt or any other foreign material in the system.
9. Ensure supplied Teflon seals are properly seated in the groove on the male thread valve.

Note: Teflon seal are located inside fittings and can be accessed after protective caps are removed.

10. Slide the condensing unit into the wall sleeve until it is tight against the wall sleeve stops.



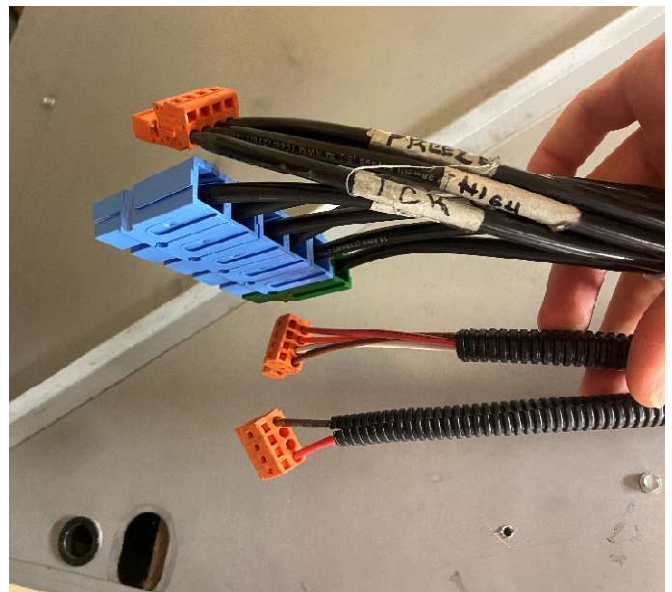
11. Thread the valves together by hand (finger tight) to ensure proper mating.



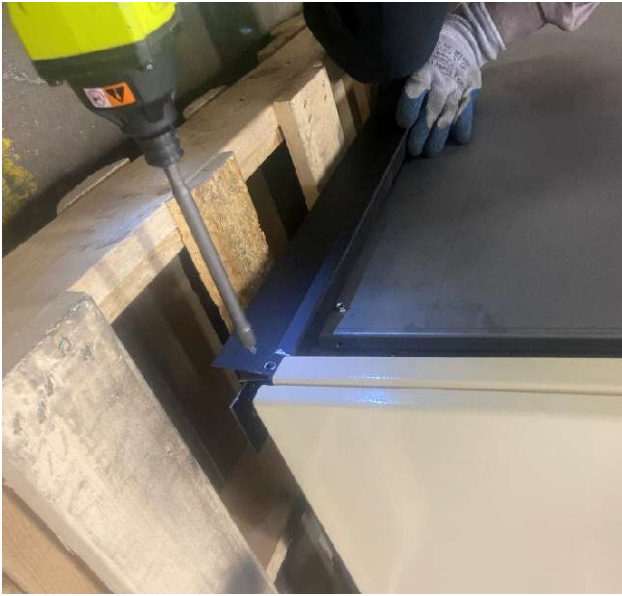
12. Place a wrench on the coupling nut (female thread condensing section valve), and a second wrench on the male thread unit ventilator valve. Tighten coupling nut on 7/8" suction valve; apply 80 to 100 ft. lbs. torque. Tighten coupling nut on 3/8" liquid valve; apply 30 to 40 ft. lbs. torque.



13. Evacuate evaporator section before continuing.
14. Remove valve stem caps from the four valves; turn valve stems counterclockwise until back seated (fully open). Leak test the connections, utilizing a refrigerant leak detector. Repair any leak found. Replace and tighten valve stem caps; apply 30 to 35 ft. lbs. torque.
15. Connect all male wire connections to female ends. Ensure that markings on connected wires match. **Voltage indicated on unit ventilator nameplate must agree with condensing unit nameplate voltage.**



16. Attach kick plate to condensing section cabinet; use three (3) #8-18 x 1/2" hex head sheet metal screws.



2. Secure back of cabinet: Use 2" x 2" plate with two (2) #8-18 x 1/2" hex head sheet metal screws to connect the back of the cabinet sections. Use an additional three (3) #8-18 x 1/2" hex head sheet metal screws to connect the overlapping lip between the condensing cabinet and wall sleeve.

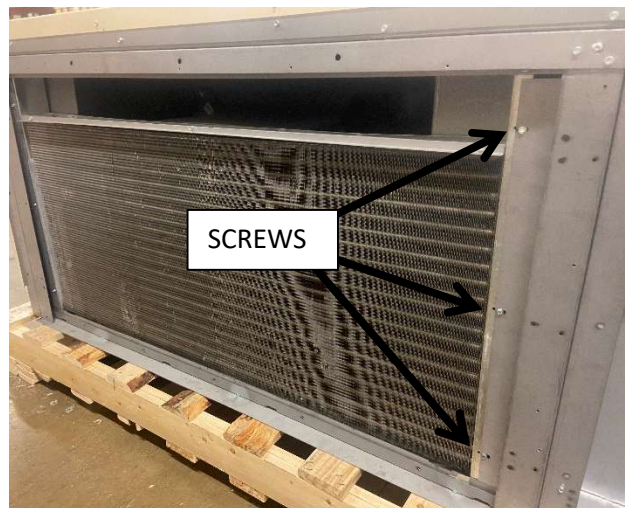


SECURE CONDENSING SECTION CABINET

1. Secure front of cabinet: Position the left and right-hand cabinet posts. Attach the wall sleeve loosely with two (2) #8-18 x 1/2" hex head sheet metal screws per cabinet posts.



3. Tighten all screws fully.



4. Fasten the joining plate to the top of the unit ventilator and condenser section using four black security screws.



4. Mount unit ventilator cabinet door on mounting tabs and lock in position using key provided.
5. Adjust room thermostat to call for cooling (set at temperature lower than room temperature).
6. The condensing unit should start. If it does not start, set room thermostat temperature above room temperature. Wait at least thirty minutes before attempting to restart.

STARTUP

1. Position main circuit breaker to "ON".
2. Check to be sure unit ventilator fans turn freely.



3. Mount condensing unit cabinet door on mounting tabs and lock into position using key provided.