Technical Publications
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PACKAGED UNITS KITS
AND ACCESSORIES

507559-01
7/2015
Supersedes 6/2015

LIQUID CHARGE COMPENSATOR KIT

INSTALLATION INSTRUCTIONS FOR LIQUID CHARGE COMPENSATOR KIT (13U57; 614407-01 USED ON LGH/LCH 036, 048, 060, 072, 074 ROOFTOP UNITS

Shipping and Packing List

Package 1 of 1 contains:

1- Liquid charge compensator

1- Copper tube 1/4"

1- Copper tube 3/8"

1- Template

2- Straps

1- Grommet (used on 036 & 048 units only)

4- Screws

Application

The liquid charge compensator kit is used to maintain system pressures when compressors start after long extended periods without a cooling demand.

⚠CAUTION

Danger of sharp metallic edges. Can cause injury. Take care and wear protective clothing when servicing unit to avoid accidental contact with sharp edges.

Installation

1- Disconnect all power to unit.

2- Use an approved method of recovery to remove refrigerant from the system.

⚠IMPORTANT

The Clean Air Act of 1990 bans the intentional venting of refrigerant (CFC's and HCFC's) as of July 1, 1992. Approved methods of recovery, recycling or reclaiming must be followed. Fines and/or incarceration may be levied for non-compliance.

3- Remove the compressor access panel, corner mullion, fan guard and fan blades.

4- Unbraze and cut the liquid line as shown in figure 1.

⚠WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a licensed professional HVAC installer or equivalent, service agency, or the gas supplier
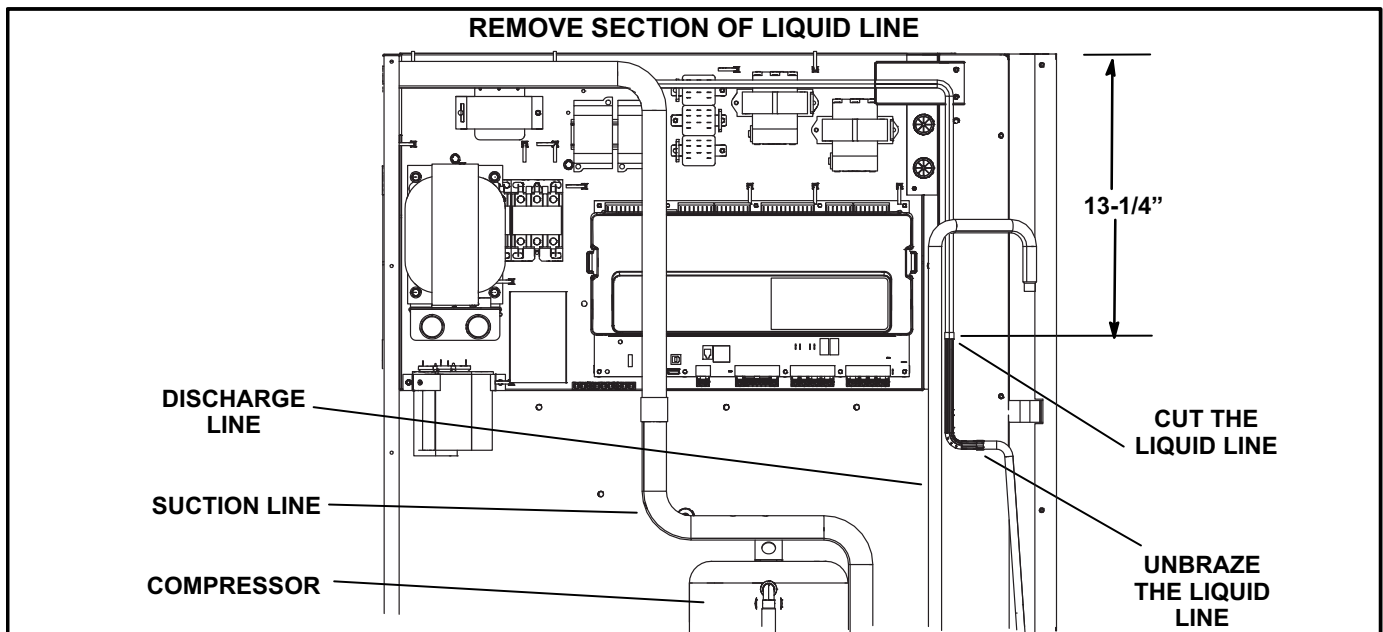
REMOVE SECTION OF LIQUID LINE

DISCHARGE LINE

SUCTION LINE

COMPRESSOR

13-1/4"

CUT THE LIQUID LINE

UNBRAZE THE LIQUID LINE

FIGURE 1

507559-01

5- *036 & 048 Unit Only -*
Cut a ½" hole in the panel as shown in figure 2. Install
the grommet provided.

**CUT HOLE IN PANEL
(036 & 048 UNITS ONLY)**

VIEW A

VIEW B

16-1/2"

**CUT ½"
HOLE**

1-3/4"

**CUT A ½" HOLE
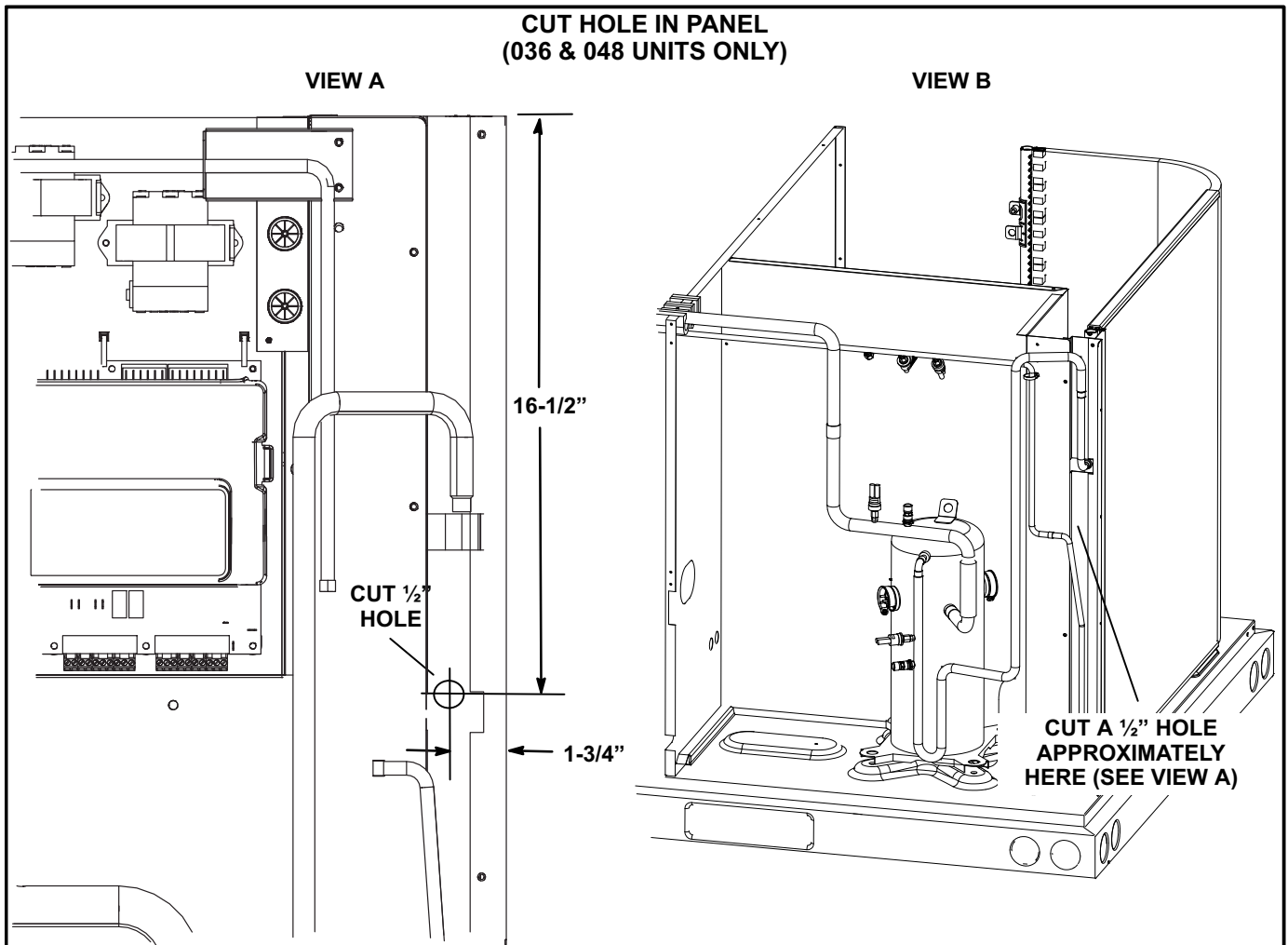APPROXIMATELY
HERE (SEE VIEW A)**

FIGURE 2

6- *Units Built Before January 2015 Only -*
Locate the serial number on the unit nameplate. If the unit was built before January of 2015, remove 4" from the vertical run of the liquid line. See figure 3.

Serial Number Example

Year 2014

Month Dec.
(Jan.=A; Feb.=B; Mar.=C, etc.)

5 6 (1 4)(L) * * * * *

7- Fit the shortened liquid line back in place but do NOT braze into place.
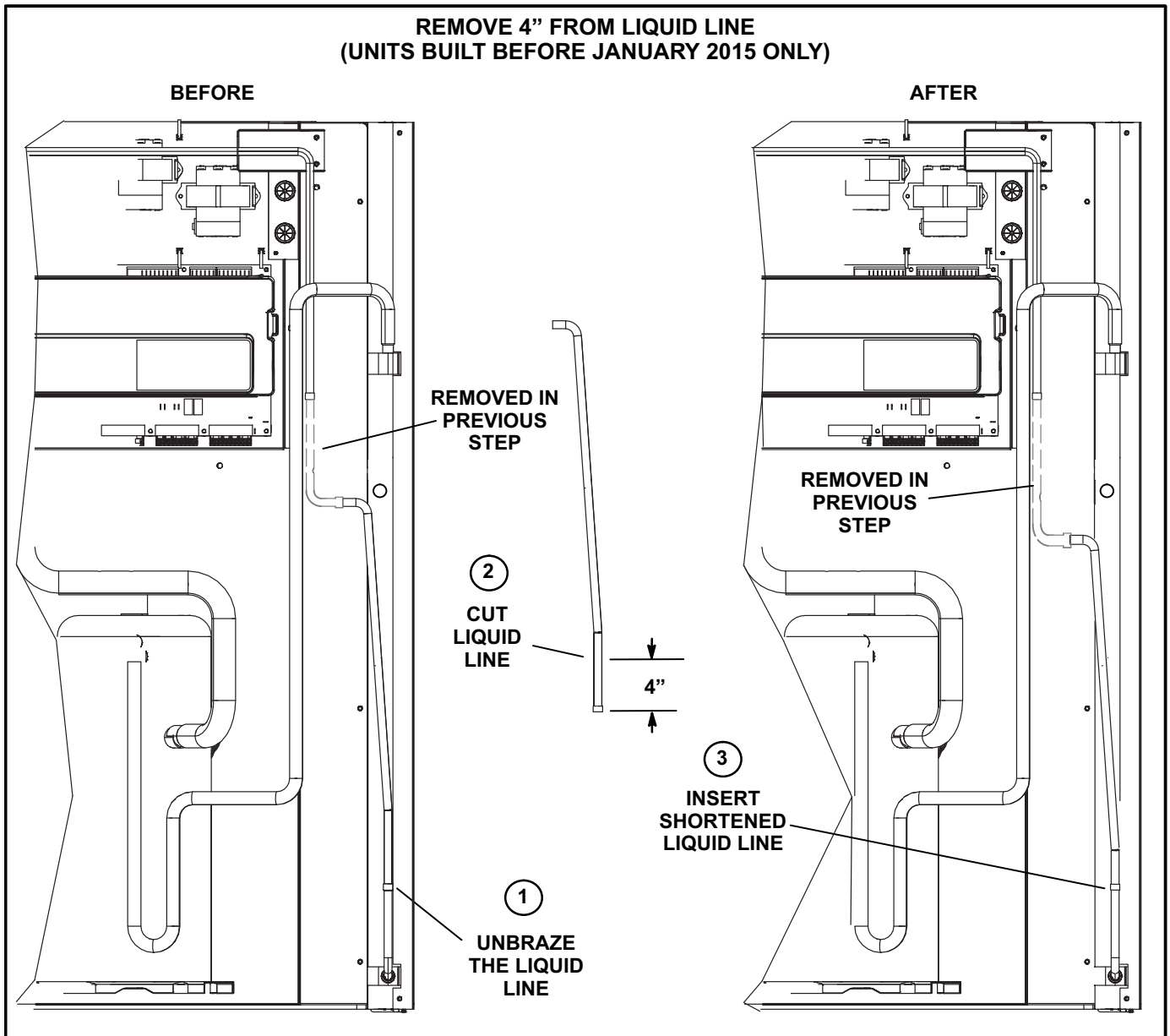
REMOVE 4" FROM LIQUID LINE
(UNITS BUILT BEFORE JANUARY 2015 ONLY)

BEFORE

AFTER

REMOVED IN PREVIOUS STEP

REMOVED IN PREVIOUS STEP

② CUT LIQUID LINE

4"

③ INSERT SHORTENED LIQUID LINE

① UNBRAZE THE LIQUID LINE

FIGURE 3

8- Fit the ⅜" tubing, provided in this kit, into place as shown in figure 4. Make sure the hole in the tubing is oriented to the right. Do NOT braze plumbing into place.

INSTALL KIT LIQUID LINE

ORIENT HOLE IN TUBING TO THE RIGHT

⅜" COPPER TUBE

FIGURE 4

9- Insert the template through the fan orifice and onto the back side of the control area. See figure 5. Mark the four screw holes.

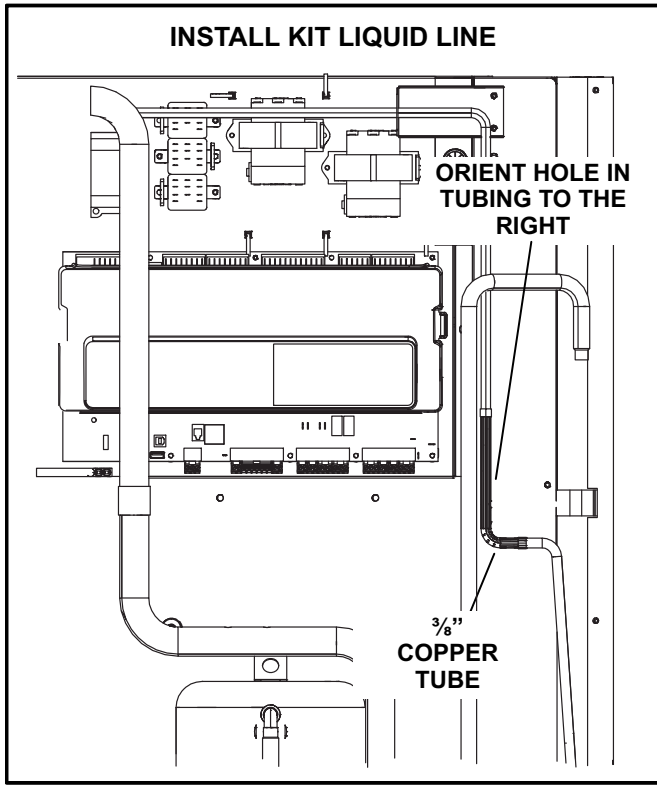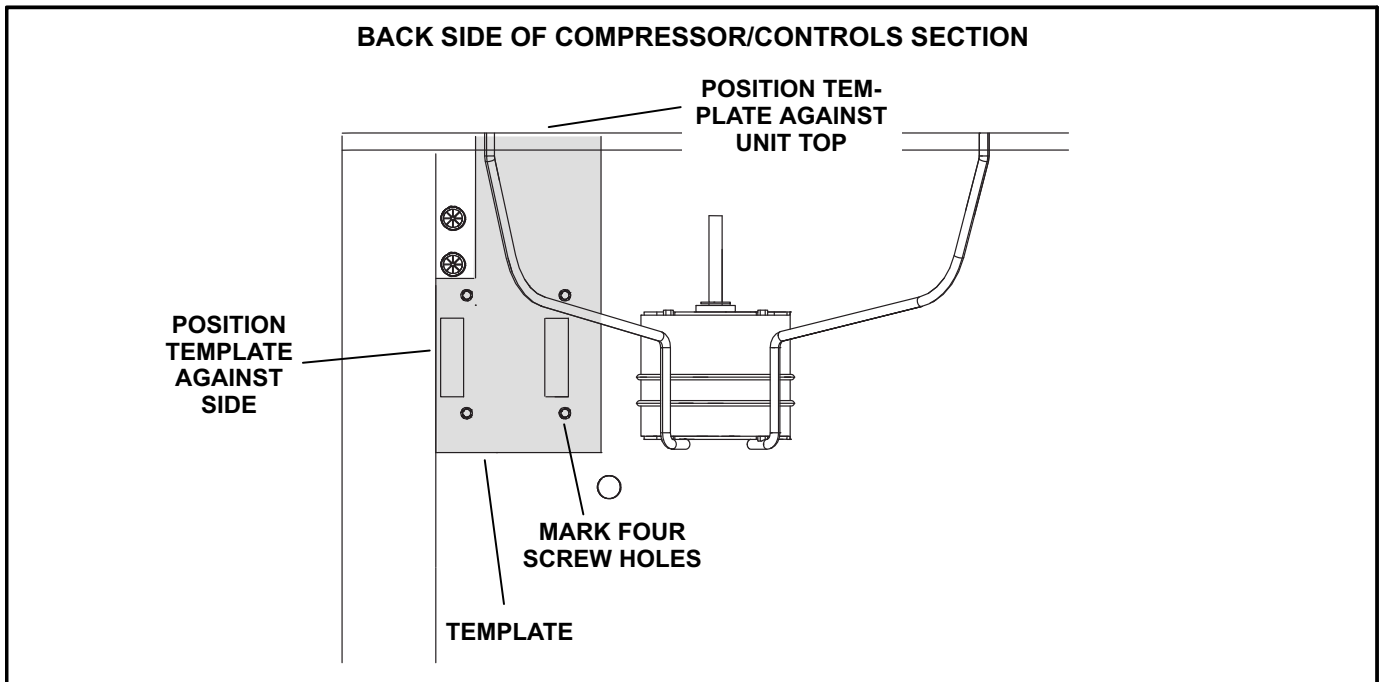10- Use the provided straps to secure the compensator in place. See figure 6.

BACK SIDE OF COMPRESSOR/CONTROLS SECTION

POSITION TEMPLATE AGAINST UNIT TOP

POSITION TEMPLATE AGAINST SIDE

MARK FOUR SCREW HOLES

TEMPLATE

FIGURE 5

INSTALL COMPENSATOR AND ¼" TUBING

SECURE COMPENSATOR TO PANEL WITH STRAPS AND TWO SCREWS ON EACH SIDE

STRAPS

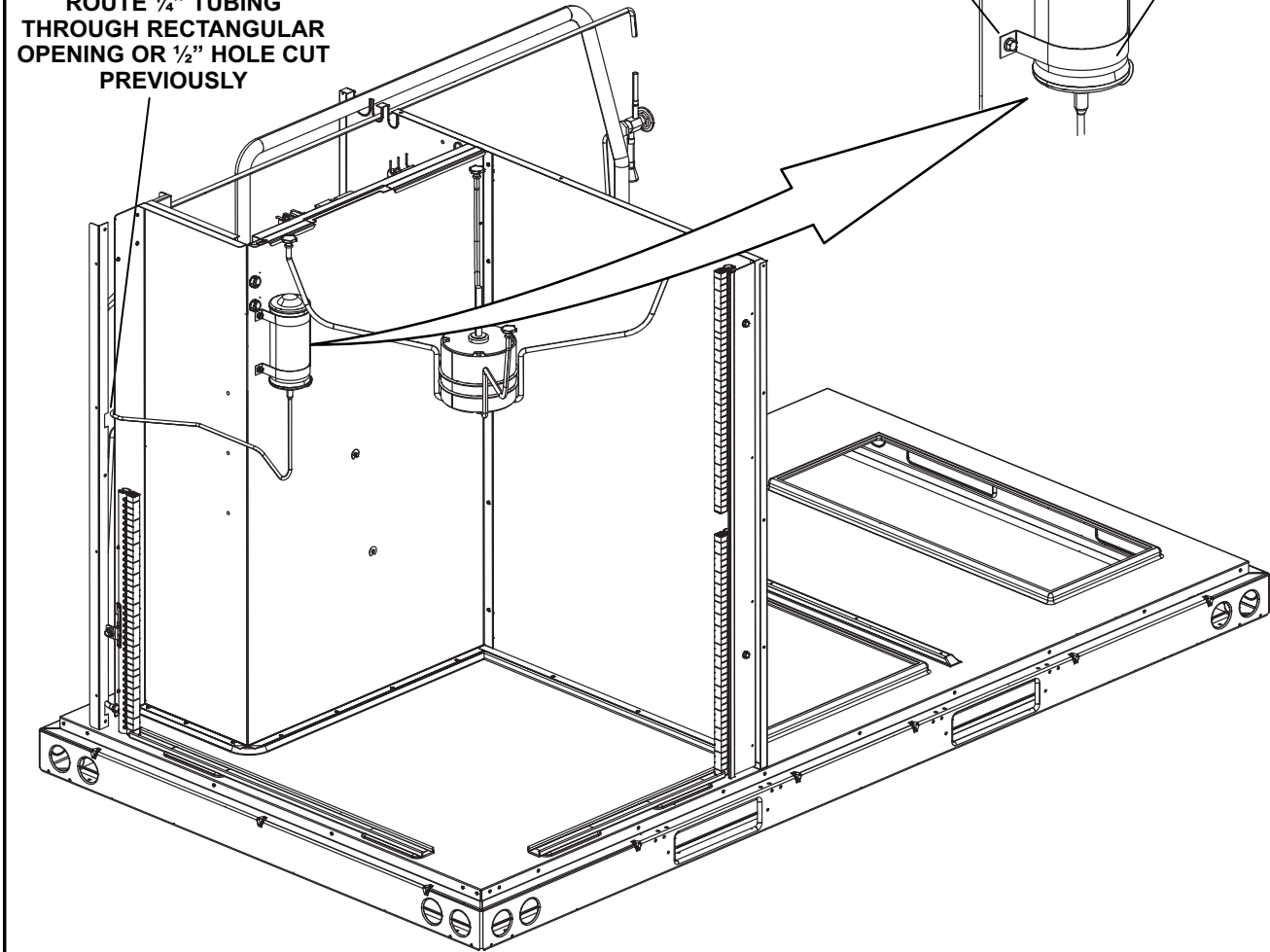**ROUTE ¼" TUBING THROUGH RECTANGULAR OPENING OR ½" HOLE CUT PREVIOUSLY**

FIGURE 6

11- Fit the ¼" tubing between the compensator and the opening in the panel. See figure 7.

12- Insert ¼" tubing into the hole on the ⅜" liquid line. See figure 8.

IMPORTANT - Make sure the ¼" tubing is inserted just inside the ⅜" liquid line; do not block refrigerant flow by inserting the ¼" line too far.

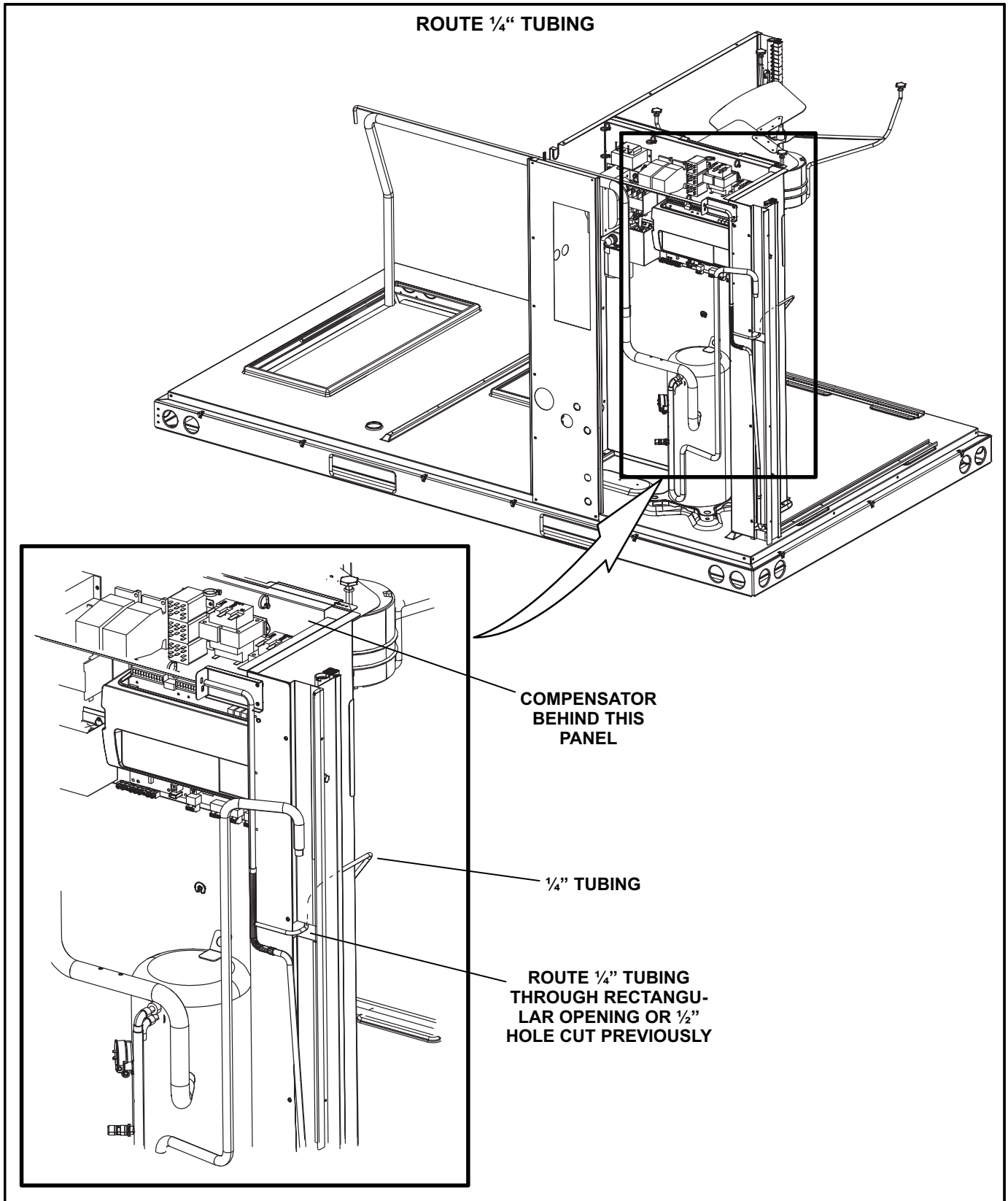**ROUTE ¼" TUBING**

COMPENSATOR BEHIND THIS PANEL

¼" TUBING

ROUTE ¼" TUBING THROUGH RECTANGULAR OPENING OR ½" HOLE CUT PREVIOUSLY

FIGURE 7

**INSERT ¼" TUBING
INTO THE HOLE IN
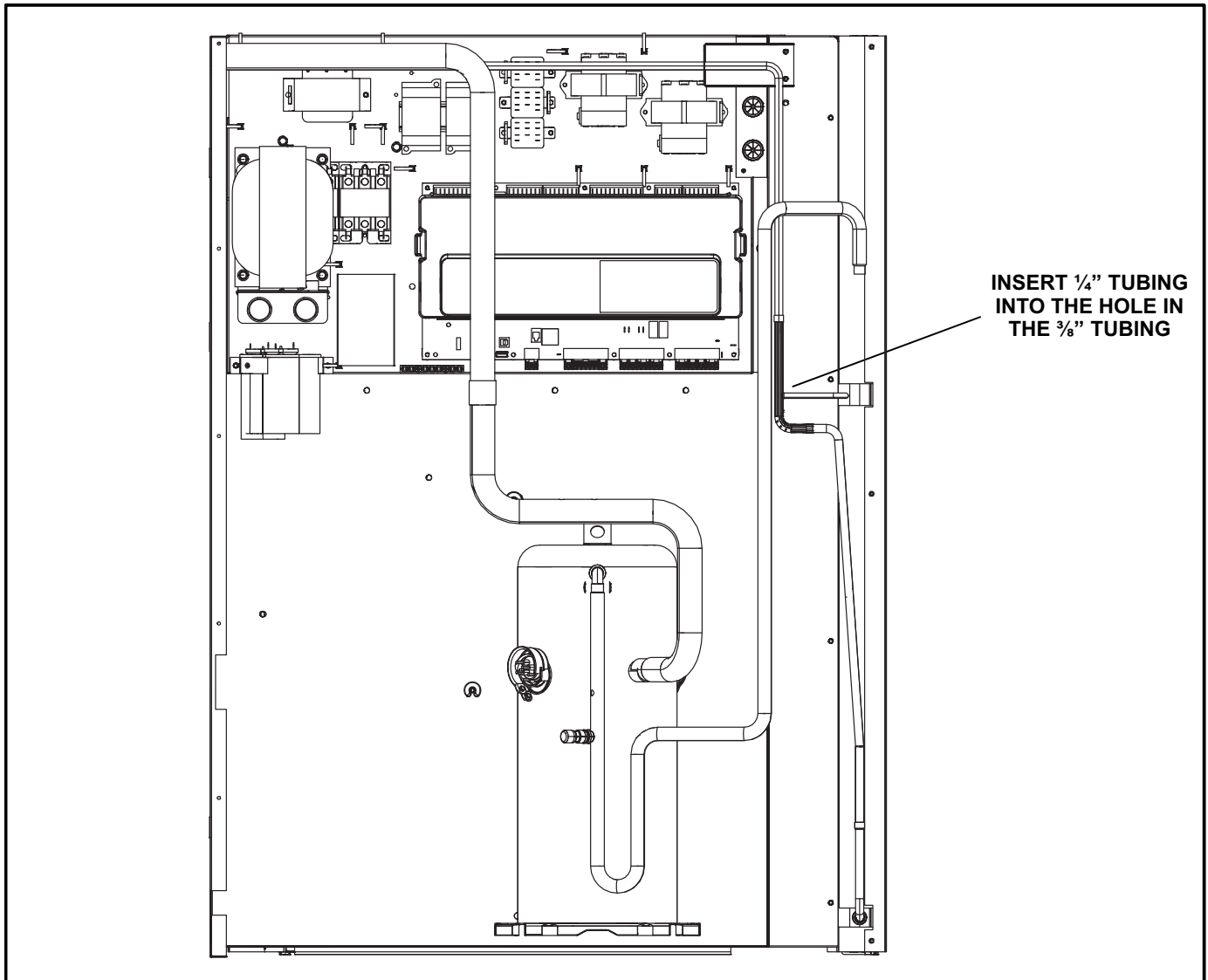THE ⅜" TUBING**

FIGURE 8

13- Braze all copper joints.

14- Use approved methods to leak check and evacuate
the system.

⚠WARNING

**Danger of explosion. Can cause injury,
death or equipment damage.**

**Do not use oxygen to pressurize the
refrigerant system. Oxygen and oil can
combine to cause an explosion.**

⚠CAUTION

Danger of equipment damage.

Avoid deep vacuum operation. Do not use compressors to evacuate a system. Extremely low vacuums can cause internal arcing and compressor failure.

Damage caused by deep vacuum operation will void the warranty.

15- Charge system according to charging procedure
sticker on unit.

16- Reconnect power to unit.

Firmware Update

M3 or 2.0 Unit Controller firmware must be updated to assist in maintaining system pressures. When firmware is updated, compressor operation will be delayed up to 20 seconds after a Y1 cooling demand. The Unit Controller will display "DELAY UP TO 20 SEC".

1- Navigate to the following menu to display the current firmware version.

   DATA > **FACTORY** > **SOFTWARE VERSION**.

2- If the firmware is greater than version v08.02.129, **NO UPDATE IS NEEDED**. If the firmware is version v08.02.129 or less, the firmware must be updated.

3- Download updated files onto a USB flash drive available at the following address. If you do not have access to Davenet call 800-453-6999.

www.davenet.com/PartnerResources/Technical/Pages/
Prodigy-Controller-Firmware-Update-Files

NOTE - Refer to the Unit Controller Installation and Set-Up Guide provided with each unit for more detail.

4- Connect the USB flash drive to the USB port on the lower left side of the Unit Controller.

5- Navigate to the following menu.

   SERVICE > **SOFTWARE UPDATE**

6- Press **SELECT.**

7- Use the **adjust values** (up/down) arrows to select a firmware version.

8- Press **SAVE.**

9- The following update sequence should occur:

   •**SOFTWARE UPDATE STARTING**

   •**SOFTWARE UPDATE ERASING FLASH**

   •**SOFTWARE UPDATE PROGRAMMING FLASH**

   •**SOFTWARE UPDATE PROGRAMMING FLASH PROGRESS xx%** (xx% indicates update percentage completed)

   •**SOFTWARE UPDATE RESETTING CONTROLLER**

10- After the Unit Controller resets, the first screen to appear will display the following (xx.xx.xxxx indicates the software version number):

   PRODIGY 2.0

   M3 CONTROLLER

   xx.xx.xxxx

11- Remove the USB flash drive anytime after the reset is completed.

NOTE - Firmware updates do not alter the Unit Controller configuration settings. All settings will be retained after the firmware has been updated.