



## **INSTALLATION INSTRUCTIONS FOR 47103A4051 240 VAC EXPORT MACH 8 SOFT START KIT**

This instruction is to add a soft start assist to a Mach 8 unit which was not factory equipped with a soft start.

### **WARNING – ELECTRIC SHOCK HAZARD:**

**Insure that all roof unit electrical power has been turned OFF prior to beginning installation of the soft start assist.**

**For this installation, it is necessary to access the unit from above. Take the necessary precaution to assess the strength of the roof the unit is mounted on to make sure no damage will occur during installation. It may be necessary to reinforce the roof prior to installation to prevent damage.**

#### **Kit Contents:**

|                           |                        |
|---------------------------|------------------------|
| <b>IR Control Box</b>     | <b>(9570-526)</b>      |
| <b>Soft Start</b>         | <b>(47103A305)</b>     |
| <b>Soft Start Bracket</b> | <b>(47103-106)</b>     |
| <b>Tape</b>               | <b>(435-18-000-06)</b> |
| <b>Spiral Wrap</b>        | <b>(406-20-500-01)</b> |
| <b>Zip Ties x 3</b>       | <b>(1216A281)</b>      |
| <b>Wiring Diagram</b>     | <b>(1976A621)</b>      |

### **Installing replacement IR control box (9570-526)**

1. Remove the 6 shroud bolts on top of the unit holding on the outer unit shroud and remove shroud from unit. (Mach 8 units with model number 47XXXXA6XXX only have 5 shroud bolts.)

#### **(Reference Figure 1 for step 2)**

2. Remove the 4 keps nuts that hold on the evaporator top and remove evaporator top from unit. This will allow access to the IR control box.

#### **(Reference Figure 2 for steps 3-6)**

3. Unplug the two quick connect terminals labeled “Freeze” from the IR box currently in the unit.
4. Unplug the patch cable from the IR box currently in the unit.
5. Unplug the 9 pin connector from the IR box currently in the unit.
6. Loosen the 3 terminal screws in the terminal strip to remove the BLUE, GREEN, and BROWN power wires running from the IR box to the terminal strip.

#### **(Reference Figure 3 for steps 4-7)**

7. Remove the 2 keps nuts holding the IR box to the unit and remove the IR box from the unit.
8. Mount the IR control box (9570-526) from the kit and torque the keps nuts to 1.5 Nm.
9. Plug wires into terminal strip in the same locations as they were prior to uninstallation. Each wire should match the color of the wire across from it. (Ex. BLUE should be in line with BLUE, GREEN in line with GREEN, and BROWN in line with BROWN)
10. Torque the 3 screws on the terminal strip to 8 kg\*cm.
11. Plug the 9 pin connector into new IR Box.

#### **(Reference Figure 2 for steps 13-14)**

12. Plug the patch cable into the receptacle on the new IR box.
13. Plug in the two quick connects from the freeze thermistor into the quick connects labeled “freeze”.
14. Replace evaporator top and secure using the 4 keps nuts removed in step 2. Torque keps nuts to 1.5 Nm.

**Proceed to Installing soft start assist.**

## Installing soft start assist (9570-526)

### (Reference Figure 1 for steps 1-2)

1. Remove the 3 keps nuts that hold the outdoor fan onto the unit. Once the fan is loose, lay it on the evaporator top to get it out of the way.
2. Remove the keps nut holding on the wire box lid and remove the lid from the box.

### (Reference Figure 4 for steps 3-6)

**Refer to Figure 4a for air conditioner model numbers 47XXX\*7XXX and 4b for model numbers 47XXX\*6XXX**

3. Remove the nut, rubber washer, and compressor cap from the compressor using an 8mm drive socket.
4. Disconnect the BLUE wire from the compressor terminal labeled "R".
5. Connect the BLUE wire from the soft start assist to the compressor terminal labeled "R", in place of the blue wire disconnected in step 4.
6. Replace the compressor cap, rubber washer, and nut using an 8mm drive socket. (Take caution to route the wires out of the compressor cap properly to avoid pinching a wire).

### (Reference Figure 5 for steps 7-8)

7. Disconnect the other end of the BLUE wire (Step 4) from the terminal block and pull through the wire through the wire box bushing, removing it completely from the unit.
8. Route the remaining three soft start wires (BLACK, ORANGE, and WHITE) through the wire box bushing, outside to inside.

### (Reference Figure 6 for steps 9-10)

9. Connect the BLACK soft start wire to an available terminal labeled COMPR.
10. Connect the WHITE soft start wire to an available terminal labeled YEL.
11. Connect the ORANGE soft start wire to an available terminal on the run capacitor. (ORANGE WIRE MUST BE PLUGED INTO A TERMINAL CONNECTED TO THE RED COMPRESSOR WIRE AS SHOWN IN WIRING DIAGRAM 1976A621 – Figure 7)
12. Apply wiring diagram supplied in the soft start kit over the existing wiring diagram located on the inside of the wire box lid.
13. Replace the wire box lid, taking care not to pinch any wires, and torque keps nut to 1.5 Nm.
14. Replace outdoor fan assembly and torque the 3 keps nuts to 1.5 Nm.

### (Reference Figure 8 for steps 14-17)

15. Route the soft start wires along the unit umbilical.
16. Zip tie the soft start wires to the unit umbilical in the locations shown in **Figure 8**.
17. Remove the paper backing to reveal the adhesive on the soft start bracket.
18. Place the soft start on the evaporator top as shown in **Figure 8** and firmly apply pressure to adhere the soft start to the evaporator top. (If the unit has a model number 47XXX\*7XXX, make sure to line up the hole in the soft start bracket with the insert in the evaporator top)
19. Replace the unit outer shroud, making sure the side skirts sit below the edge of the base pan and the nose of the shroud sits outside the nose bracket.
20. Replace the shroud bolts and tighten to the proper torque listed below:  
Top mounted bolts – Torque = 1.7 Nm – 2.3 Nm  
Side mounted bolts – Torque = 1.5 Nm

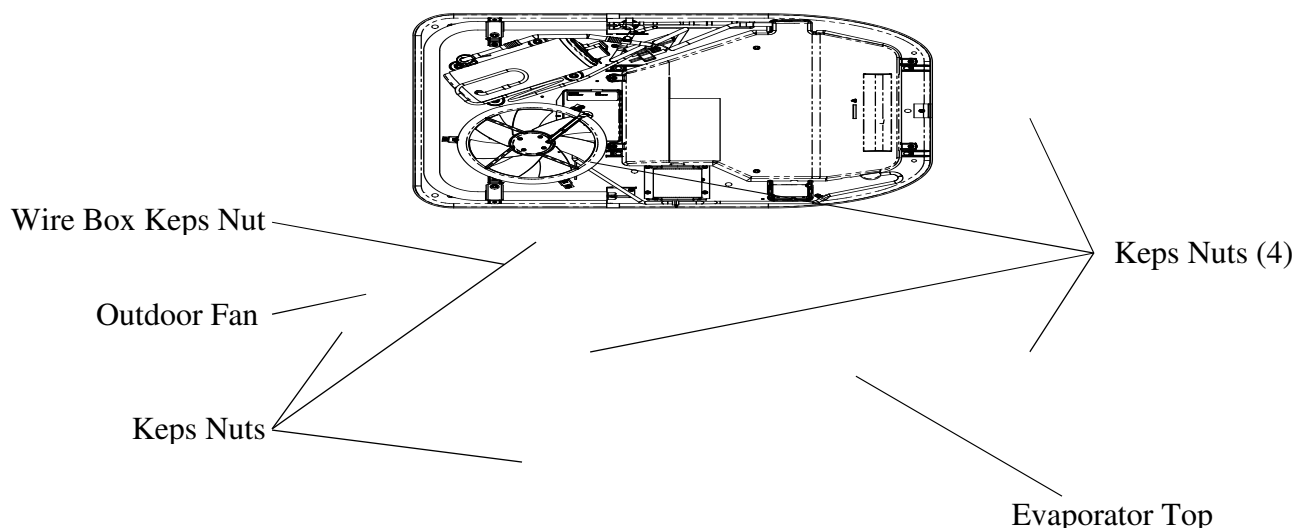


Figure 1

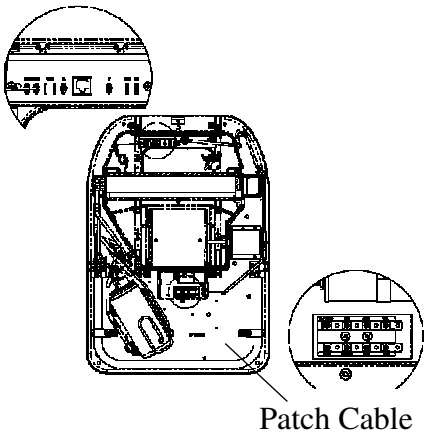


Figure 2

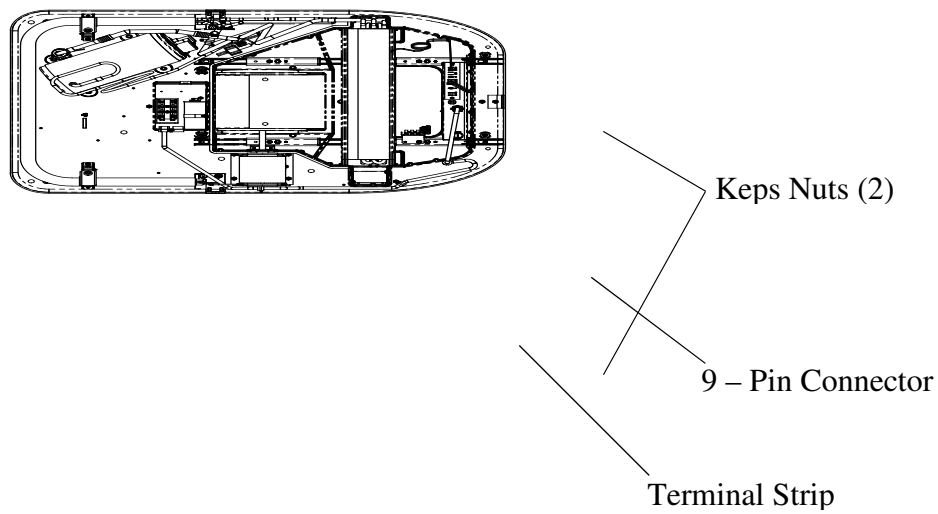
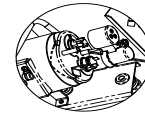
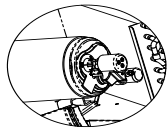


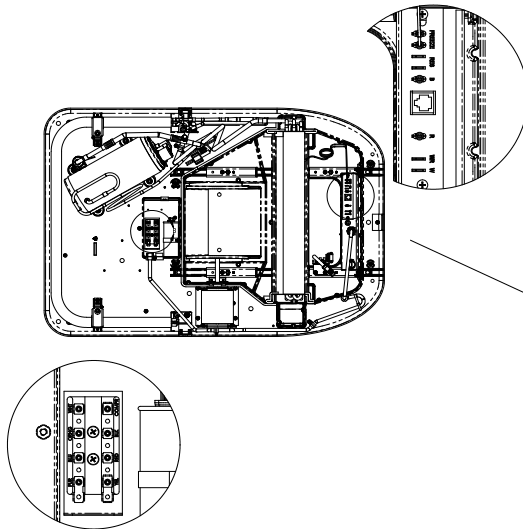
Figure 3



Nut  
Rubber Washer  
Compressor Cap  
"R" Terminal

Figure 4a

Figure 4b



Wire box  
bushing

Figure 5

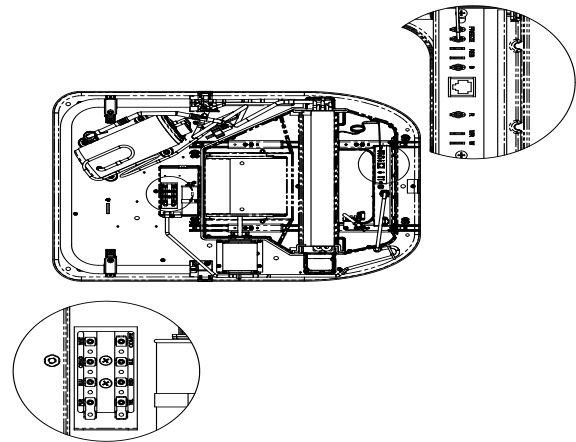


Figure 6

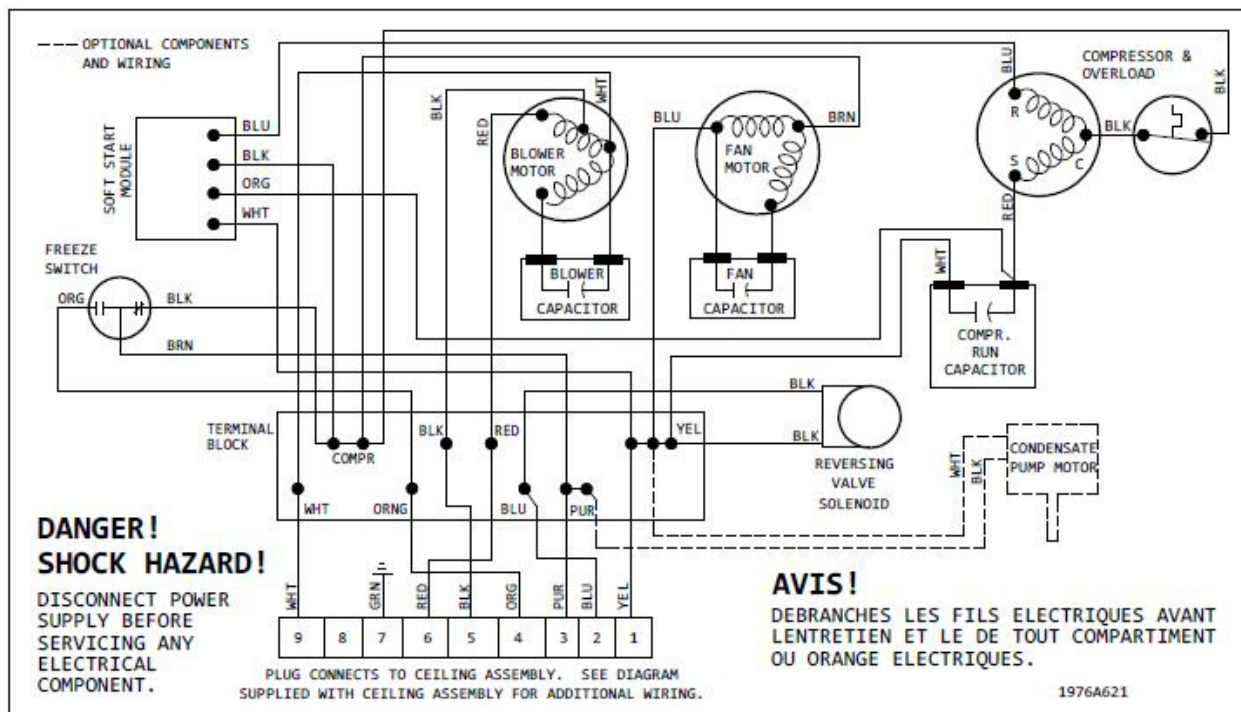
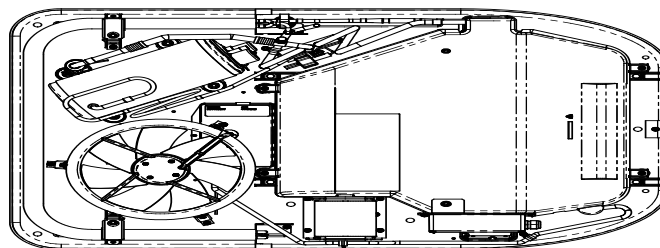


Figure 7



Zip Tie

Soft Start

Figure 8