AIR PURIFIER ADDITION TO CENTRAL HVAC

H Series From 5-0168 to today; X Series From 7-8754 to today

Revision: B  Updated BOM; device position, updated steps.  07-09-2020

MATERIAL

Kit #IS20918 includes the following parts:

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>21930773</td>
<td>AIR PURIFIER MODULE</td>
<td>1</td>
</tr>
<tr>
<td>500286</td>
<td>NUT WELL #6-32 x .437</td>
<td>4</td>
</tr>
<tr>
<td>500591</td>
<td>WSH FL Z050 4.3X9X.8 (M4,#8)</td>
<td>4</td>
</tr>
<tr>
<td>502612</td>
<td>SCREW MA RND PH #6-32x1 Z050</td>
<td>4</td>
</tr>
<tr>
<td>504012</td>
<td>CABLE TIE / 3/16&quot; X 6&quot;1/2</td>
<td>10</td>
</tr>
<tr>
<td>506277</td>
<td>TAPE AD1 PE CC BK 1/2X3/4X15</td>
<td>12 in.</td>
</tr>
<tr>
<td>509815</td>
<td>TIE MOUNT FIR TYPE</td>
<td>2</td>
</tr>
<tr>
<td>560784</td>
<td>SHRINK .250po .125po BLK -55C, +135C D/W</td>
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</tr>
<tr>
<td>561247</td>
<td>CONNECTOR AMP M-N-L UNI 2 SH</td>
<td>2</td>
</tr>
<tr>
<td>561258</td>
<td>WIRE, 18 AWG, GXL, RED, 125 DEG</td>
<td>10ft</td>
</tr>
<tr>
<td>561261</td>
<td>WIRE, 18 AWG, GXL, BLK, 125 DEG</td>
<td>10ft</td>
</tr>
<tr>
<td>561671</td>
<td>TERMINAL AMP M-N-L UNI PIN 24-18AWG</td>
<td>4</td>
</tr>
<tr>
<td>562122</td>
<td>TERM AMP M-N-L UNI PIN 20-14AWG</td>
<td>4</td>
</tr>
<tr>
<td>562228</td>
<td>BUTT-SPLICE,16-14,N-INS</td>
<td>5</td>
</tr>
<tr>
<td>562387</td>
<td>CONVOLUTED TUBING BLACK 0.250&quot;</td>
<td>10ft</td>
</tr>
<tr>
<td>562599</td>
<td>FUSE, BLADE 3A VIOLET</td>
<td>1</td>
</tr>
<tr>
<td>562679</td>
<td>4 WAY ADHESIVE BACKED CABLE TIE MOUNT</td>
<td>2</td>
</tr>
</tbody>
</table>
NOTE

Material can be obtained through regular channels.

PROCEDURE

DANGER

Park vehicle safely, apply parking brake, stop engine. Prior to working on the vehicle, set the ignition switch to the OFF position and trip the main circuit breakers equipped with a trip button. On Commuter type vehicles, set the battery master switch (master cut-out) to the OFF position. Lock out & Tag out (LOTO) must be performed during set-up, maintenance or repair activities. Refer to your local procedure for detailed information regarding the control of hazardous energy.

CONTENTS

1. RECENT H SERIES FROM E-2662 ; RECENT X SERIES FROM F-5760 ................................................. 3
1.1. INSTALLATION ................................................................................................................................. 3
1.46. WIRING HARNESS PREPARATION ............................................................................................ 9
2. FINAL STEPS ..................................................................................................................................... 11
3. OLDER X SERIES INSTRUCTIONS FROM 7-8754 TO B-5001 ................................................................. 12
4. OLDER H SERIES FROM 5-0168 to E-2661 ; X SERIES FROM B-5002 to D-5458 ......................... 13
4.1. INSTALLATION ............................................................................................................................... 13
4.41. WIRING HARNESS PREPARATION .......................................................................................... 20
5. FINAL STEPS ..................................................................................................................................... 21
1. RECENT H SERIES FROM E-2662 ; RECENT X SERIES FROM F-5760

Install the two air purifier modules inside the left and right discharge ducts located in the evaporator compartment. Connect both units with the evaporator relay R12 24V low power signal (coil side).

FIGURE 1: INSTALLATION OVERVIEW

1.1. INSTALLATION

1.2. Remove the left and right duct flexible boot.

1.3. Protect from work debris by placing a clean cloth over the lower opening

FIGURE 2: REMOVING FLEXIBLE BOOTS
1.4. Free the left duct by removing the two clamps fixing the duct to the wall. Keep for reinstallation.

1.5. Use a cardboard sheet to make an outline template of the base of the air purifier module.

1.6. Carefully mark the mounting hole centers, and status led position.

1.7. Mark the outline of the connector and add 1/4" on each side of the connector outline for clearance when plugging in.

1.8. Prepare the modules by slightly enlarging the module mounting holes. Drill 19/64".

1.9. Mount screw 502612 to 500286 well nut and insert in module mounting hole. (Erreur ! Source du renvoi introuvable.)

1.10. Note well nut orientation: flange is on the back of the module.

1.11. Remove screw and reserve for installation.
1.12. Test fit the air purifier module **21930773** inside the taller right duct.

1.13. Place it on the left, inside the front face. (Figure 1, Figure 6)

1.14. If the duct has insulating liners on the left wall, lean the module against it to seal the connector opening.

1.15. Once satisfied with the position, locate the template on the outside of the front face of the duct.

1.16. To locate the connector opening, project two lines perpendicular to the edge of the corner of the duct (1).

1.17. Then from the corner (1) extend the two lines perpendicular to the edge towards (2).

1.18. Measure the thickness of any insulation inside the front face of the duct.

1.19. Mark the front corners (X) of the connector opening offset from the corner by the thickness of the duct wall and insulation.

1.20. Extend both lines about one inch on the left face towards (2) to create the connector opening outline.

1.22. For the connector opening, we will cut with a jigsaw.
1.23. Drill holes of appropriate size for the jigsaw blade. Place the holes inscribed in the rectangle.
1.24. Cut the opening with a jigsaw. Remove any burrs and sharp edges.
1.25. Fit the module inside the duct to confirm we can plug and unplug the connector. Adjust opening if required.

1.26. Moving to the left duct fit the other air purifier inside the shorter left duct.
1.27. Place it on the inside the front face.
1.28. If the duct has insulating liners, lean the module against it to seal the connector opening.
1.29. Once satisfied with the position, locate the template on the outside of the front face of the duct.
1.30. Drill 5/32" mounting holes and status led.

1.31. To locate the connector opening, project two lines perpendicular to the edge of the corner of the duct (1).

1.32. Then from the corner (1) extend the two lines perpendicular to the edge towards (2).
1.33. Measure the thickness of any insulation inside the front face of the duct.

1.34. Mark the front corners (X) of the connector opening, offset from the corner by the thickness of the duct wall and insulation.

1.35. Extend both lines about one inch on the right face towards (2) to create the connector opening outline.

1.36. Use a jigsaw to cut the connector opening.

1.37. Drill holes of appropriate size for the jigsaw blade. Place the holes inscribed in the rectangle.

1.38. Cut the opening with a jigsaw. Remove any burrs and sharp edges.

1.39. Fit the module inside the duct to confirm we can plug and unplug the connector. Adjust opening if required.

1.40. If there is no insulation inside, create a seal around the connector with pieces of closed cell foam 506277.

1.41. Take care to leave the (+) (-) label visible.
1.42. Install modules in ducts with:
   - 502612 #6 screws
   - 500591 washer

1.43. Seal status led hole with transparent tape.
   Thoroughly clean surface before applying tape.

1.44. Install the left duct with the reserved clamps.

1.45. Re-install ducts using reserved clamps and hardware.

1.46. WIRING HARNESS PREPARATION

1.47. Locate the evaporator relay R12 on the vehicle. Refer to vehicle schematic or A/C junction box Decal.
1.48. Construct harness according to Figure 18 using 18-gage wire 561261 and 561258.

1.49. Connect to the low power coil side wires of the relay with butt splices.

1.50. Seal butt splice with 560784 heat shrink tubing.

1.51. Route harness behind right duct, to the first module, then along the A/C panel main harness and to the 2nd module left. (Figure 1, Figure 19)

1.52. Note the downward loop at connector to avoid water intrusion. (Figure 19)
2. **FINAL STEPS**

2.1. Plug white connectors to Purifier.

2.2. Confirm polarity.

2.3. Group wires with black fabric tape at intervals where required.

2.4. Place in convoluted tubing 562387.

2.5. Secure all wires with cable tie 504012.

2.6. Start HVAC, Make sure green LED is illuminated on both units.

2.7. If applicable, reassemble the HVAC panel cover.

2.8. Run HVAC.

2.9. Check fault codes in electrical system.
3. OLDER X SERIES INSTRUCTIONS FROM 7-8754 TO B-5001

3.1. Install purifier in ducts as described in Step 1 and following.

3.2. Construct harness according to Step 4.41, Figure 40 using 18-gage wire 561261 and 561258.

3.3. Connect to the coil side wires of R12 in rear junction box (Figure 22) with butt splices.

3.4. Seal butt splice with 560784 heat shrink tubing.

3.5. Route harness from R12 in Rear junction box (Figure 22) into the evaporator compartment, behind right duct, to the first module, then above motor to the 2nd module left.

3.6. Make a downward loop at connector to avoid water intrusion. (Figure 19)

3.7. Perform final steps as described in Step 2
4. OLDER H SERIES FROM 5-0168 to E-2661 ; X SERIES FROM B-5002 to D-5458

Install the two air purifier modules inside the left and right discharge ducts located in the evaporator compartment. Connect both units with the evaporator relay R12 24V low power signal (coil side).

**FIGURE 24: OVERVIEW OF DEVICE LOCATION: H SERIES 2006 SHOWN**

4.1. INSTALLATION

4.2. Remove the left and right ducts. Keep hardware and clamps for re-use.

**FIGURE 25: REMOVING DUCTS**
4.3. Use a cardboard sheet to make an outline *template* of the base of the air purifier module.

4.4. Carefully mark the *mounting hole centers*, and *status led* position.

4.5. Mark the outline of the connector and add 1/4” on each side of the connector outline for clearance.

4.6. Prepare the modules by slightly enlarging the module mounting holes. Drill 19/64”.

4.7. Mount screw 502612 to 500286 well nut and insert in module mounting hole. (Figure 26)

4.8. Note well nut orientation: *flange is on the back of the module*.

4.9. Remove screw and reserve for installation.
4.10. Fit air purifier module 21930773 inside the taller right duct.

4.11. Place it in the left section, on the inside the front face, as low as possible.

4.12. If the duct has insulating liners, lean the module against it to seal the connector opening. (Figure 28)

4.13. Once satisfied with the position, locate the template on the outside of the front face of the duct.

4.14. To locate the connector opening, project two lines perpendicular to the edge of the corner of the duct (1).

4.15. Then from the corner (1) extend the two lines perpendicular to the edge towards (2).
4.16. Measure the thickness of any insulation inside the front face of the duct.

4.17. Mark the front corners (X) of the connector opening offset from the corner by the thickness of the duct wall and insulation.

4.18. Extend both lines about one inch on the left face towards (2) to create the connector opening outline.


4.20. For the connector opening, we will cut with a jigsaw.

4.21. Drill holes of appropriate size for the jigsaw blade. Place the holes inscribed in the rectangle.

4.22. Cut the opening with a jigsaw. Remove any burrs and sharp edges.

4.23. Fit the module inside the duct and adjust opening if required.
4.24. Moving to the left duct fit the other air purifier inside the shorter left duct.

4.25. Place it on the inside the front face, as low as possible.

4.26. If the duct has insulating liners, lean the module against it to seal the connector opening.

4.27. Once satisfied with the position, locate the template on the outside of the front face of the duct and mark mounting holes and status LED.

4.29. To locate the connector opening, project two lines perpendicular to the edge of the corner of the duct (1).

4.30. Then from the corner (1) extend the two lines perpendicular to the edge towards (2).

4.31. Measure the thickness of any insulation inside the front face of the duct.

4.32. Mark the front corners (X) of the connector opening, offset from the corner by the thickness of the duct wall and insulation.

4.33. Extend both lines about one inch on the left face towards (2) to create the connector opening outline.
4.34. Use a jigsaw to cut the connector opening.
4.35. Drill holes of appropriate size for the jigsaw blade. Place the holes inscribed in the rectangle.
4.36. Cut the opening with a jigsaw. Remove any burrs and sharp edges.
4.37. Fit the module inside the duct to confirm and adjust opening if required.

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4.38. Install modules in ducts with:
   - 502612 #6 screws
   - 500591 washer

4.39. Seal status led hole with transparent tape. Thoroughly clean surface before applying tape.

4.40. Re-install ducts using reserved clamps and hardware.
4.41. WIRING HARNESS PREPARATION

4.42. Locate the evaporator relay R12 on the vehicle. Refer to vehicle schematic or A/C junction box Decal.

4.43. Construct harness according to Figure 40 using 18-gage wire 561261 and 561258.

4.44. Plan routing harness behind right duct, to the first module, then above motor and to the 2nd module. (Figure 23)

4.45. Connect to the low power coil side wires of the relay with butt splices

4.46. Seal butt splice with 560784 heat shrink tubing.
5. FINAL STEPS

5.1. Plug white connectors to Purifier.

5.2. Double-check polarity.
   (+) is red
   (-) is black

5.3. Secure all wires with cable tie 504012.

5.4. Use cable tie mount 562679 for routing as required.

5.5. Start HVAC, Make sure green LED is illuminated on both units.

5.6. Replace cover on the HVAC junction box.

5.7. Run HVAC. Confirm proper operation.

5.8. Check fault codes in electrical system

PARTS / WASTE DISPOSAL

Discard waste according to applicable environmental regulations (Municipal/State[Prov.]/Federal)