ACC-SVN57B-EN

Installers Guide

Power Exhaust Kit

Models:	Used With:
BAYPWRX026A	T*/Y*/WSC072A3-120A3, WSC060E3,T/YHC048-060E3
BAYPWRX027A	T*/Y*/WSC072A4-120A4, WSC060E4, T/YHC048-060E4
BAYPWRX028A	T*/Y*/WSC072AW-120AW, WSC060EW, T/YHC048-060EW

October 2006

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NOTICE:

Warnings and Cautions appear at appropriate sections throughout this manual. Read these carefully.

⚠ WARNING– Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION – Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

CAUTION – Indicates a situation that may result in equipment or property-damage-only accidents.

General

- Power Exhaust was designed for downflow applications. If the installation is for horizontal duct connections, the Power Exhaust may possibly be mounted on the horizontial return duct. However, the installer must be responible for determining how to make the installation complete.

- An economizer or motorized damper must be installed and functional before attempting to install the Power Exhaust.

- The power exhaust can be turned "ON" at infinite fresh air damper settings depending on how the unit is configured. Depending on whether it is ReliaTel , with or without the RTOM, or electromechanical configuration will determine what flexibility you have.

Parts List

Qty.	Part Description
1	Power Exhaust Assembly
1	Power Exhaust Hood (2 pieces)
1	Template Drawing
1	Gasket
1	Sealant; Silicone Rubber
7	Screw; 10-16 X .50
12	Screw; 10-16 X .56 (Self Tapping)
2	Bushing
1	Edge Protector
1	Label
5	Quick Splice; 18 ga. (Red)
3	Quick Splice; 14 ga. (Blue)
7	Wire Tie ; Pop-In
2	Wire Tie
6	Nuts ; 8-32
6	Flat washers ; #8
1	Honeywell 4074EKV Aux. Switch Kit (used on electromechanical units only)
1	Replacement Angle Bracket for Damper Motor (used on electromechanical units only)
1	Enhanced Econ Logic Module
1	Econ Logic Mounting Screw, # 6-19 x .625

Inspection

1. Unpack all components of the Power Exhaust kit.

2. Remove hardware package from Power Exhaust Assembly.

2. Check carefully for any shipping damage. If any damage is found it must be reported immediately and a claim made against the transportation company.

Installation

⚠ WARNING

Hazardous Voltage w/Capacitors!

Disconnect all electric power, including remote disconnects and discharge all motor start/run capacitors before servicing. Follow proper lockout/tagout procedures to ensure the power cannot be inadvertently energized. Verify with an appropriate voltmeter that all capacitors have discharged. Failure to disconnect power and discharge capacitors before servicing could result in death or serious injury.

1. Open and lock unit disconnect before attempting to install this accessory.

2. Remove the Filter access panel from front side of the unit.

3. Remove the Supply fan access panel from front side of the unit.

4. Remove the Return Air panel from back side of the unit.

5. Use the template provided in the hardware kit to locate positions to drill holes and cut required new opening.

   Recommended procedure - Place the template into position for drilling and cutting, and secure it with pieces of duct tape (field supplied).

Note: Alignment of the template is critical. Instructions for alignment and cutting are printed on the template.

6. Drill three 1/8" holes in the template and panel for engagement holes. Refer to template.

7. Drill four holes through the template and panel for saw cutting starter holes. Likewise, cut through the template and panel at the same time to create the new opening; discard the scrap metal.

8. Install edge protector (supplied) along the down-facing top edge of the new cutout. See Figure 1

9. Assemble hood with two screws.

10. Mount hood to duct cover with four screws. See Figure 1

Installation

11. Insert one inch bushing into hood. See Figure 1.

12. Partially insert screws into the three engagement holes drilled in the duct cover. Leave approximately 1/8" gap between the screw head and duct cover. These will act as alignment hangers. See Figure 1.

Note: Remove the return duct blockoff. Refer to Figure 2.

13. Install duct cover back on unit.

14. Apply gasket to face of power exhaust assembly. See Figure 3.

15. Pull wiring harness out from power exhaust assembly and insert through bushing in the hood.

16. Lift power exhaust assembly up and align slots in the top flange with screws in duct cover.

17. Secure the three screws.

18. Use the 12 clearance holes on the perimeter flange and secure to the duct panel with 12 self tapping screws.

19. Route the wire harness along the top edge of the economizer and secure with pop-in wire ties. See Figure 4.

Figure 1

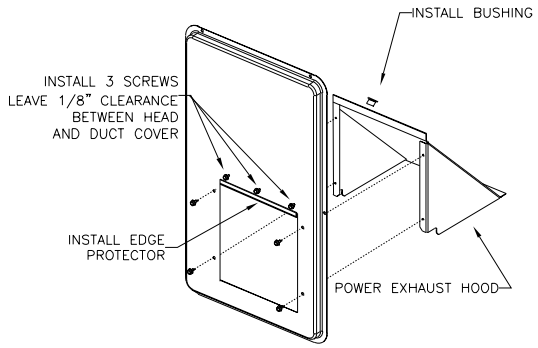


Figure 2

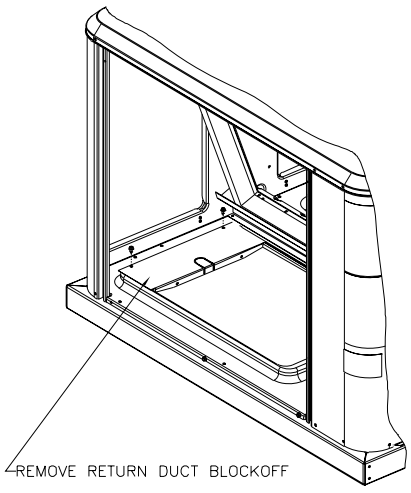


Figure 3

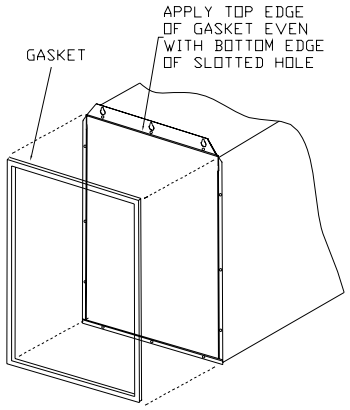
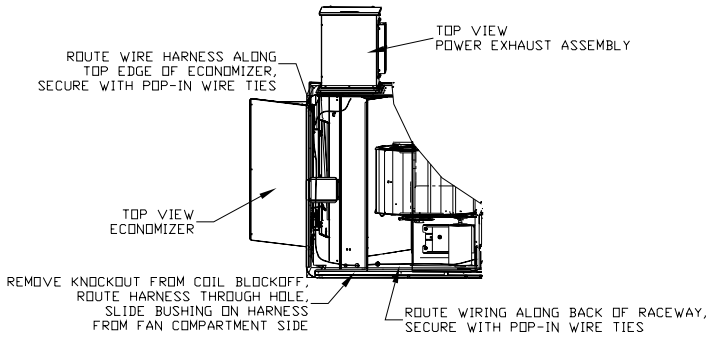


Figure 4



Installation

Wiring Installation

Note: Use provided wire ties to make sure wire are secured and protected from sharp edges and hot surfaces.

Control Wiring

NOTE: Inspect existing economizer actuator for necessory logic module connections. If connections are not present, remove one mounting screw from the top of the existing logic module. Remove existing logic module. Install the new logic module included in the kit. Secure the new logic module with the existing mounting screw or mounting screw provided in the kit (See Logic Module).

ReliaTel controls

Refer to ReliaTel controls wiring diagram for connections. See Figure 5.

Step 1. Remove 6P7 plug from actuator module.

Step 2. Using 18 ga. red quick splice connectors provided, splice unit P7 plug, wires #135A (BLU) and 136A (RED) removed from actuator in step 1, to power exhaust wires #W41 (BLU) and 136B (RED) respectively.

Step 3. Reconnect 6P7 plug to actuator module.

Step 4. Connect power exhaust P14 plug, wires #187A and 136B, to EXF on actuator module.

Logic Module

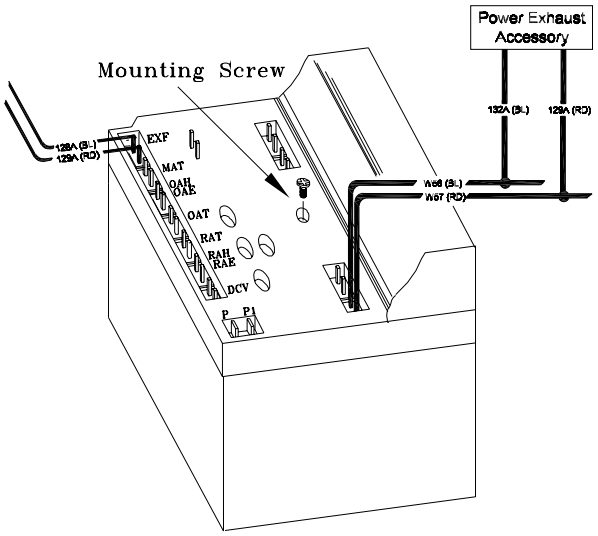
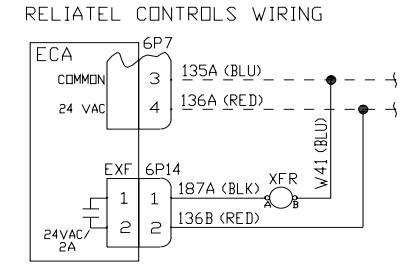
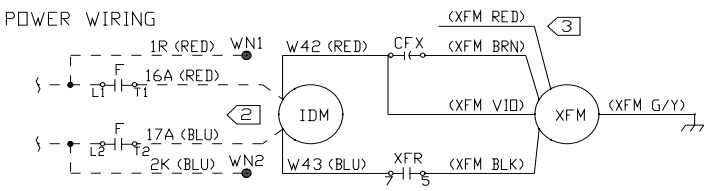


Figure 5





REF	DESCRIPTION
CFX	XFM CAPACITOR
DLS	DAMPER LIMIT SWITCH
ECA	ECONOMIZER ACTUATOR
F	FAN CONTACTOR
IDM	ID FAN MOTOR
WN1	WIRE NUT
WN2	WIRE NUT
XFM	EXHAUST FAN MOTOR
XFR	EXHAUST FAN RELAY

NOTES:

1. DASHED LINES REPRESENT EXISTING UNIT WIRING.

2. IF VENTILATION OVERRIDE HARNESS IS INSTALLED (RELIATEL ONLY), CONNECT WIRE W42 TO WIRE NUT WN1 AND CONNECT WIRE W43 TO WIRE NUT WN2. OTHERWISE CONNECT TO IDM TERMINALS AS SHOWN.

3. WIRES XFM-RED, DLS-YEL (EM ONLY), AND 136B (EM ONLY) ARE UNUSED AND ISOLATED.

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Installation

Switch Kit Installation

Electromechanical controls

Step 1.

Install the provided Honeywell 4074EKV Auxiliary Switch Kit on the damper actuator motor according to the switch kit instructions **except for the following**:

a. The damper actuator motor does not use the crank arm pictured in the auxiliary switch kit instructions. Instead, an angle bracket is used on the unit. See Figure 6. The unit angle bracket must be replaced with the modified angle bracket, provided with this power exhaust accessory in order for the circular switch cam to operate properly.

b. Switch cam orientation and final switch mounting plate adjustments enable the "snap" type limit switch to be set to trip at any damper position between about 20% and 80% open. The 0 - 100% damper actuator motor range of motion is 90 angular degrees. The angle bracket shown in Figure 6 rotates approximately from a 30 degree angle to a 120 degree angle as the damper opens.

c. Remove the mist eliminator screen for screw access. Observe and record or mark positions and orientations of damper actuator, angle bracket and screws with the damper in the closed position. Then remove the damper actuator from the economizer assembly and remove the existing angle bracket from the actuator.

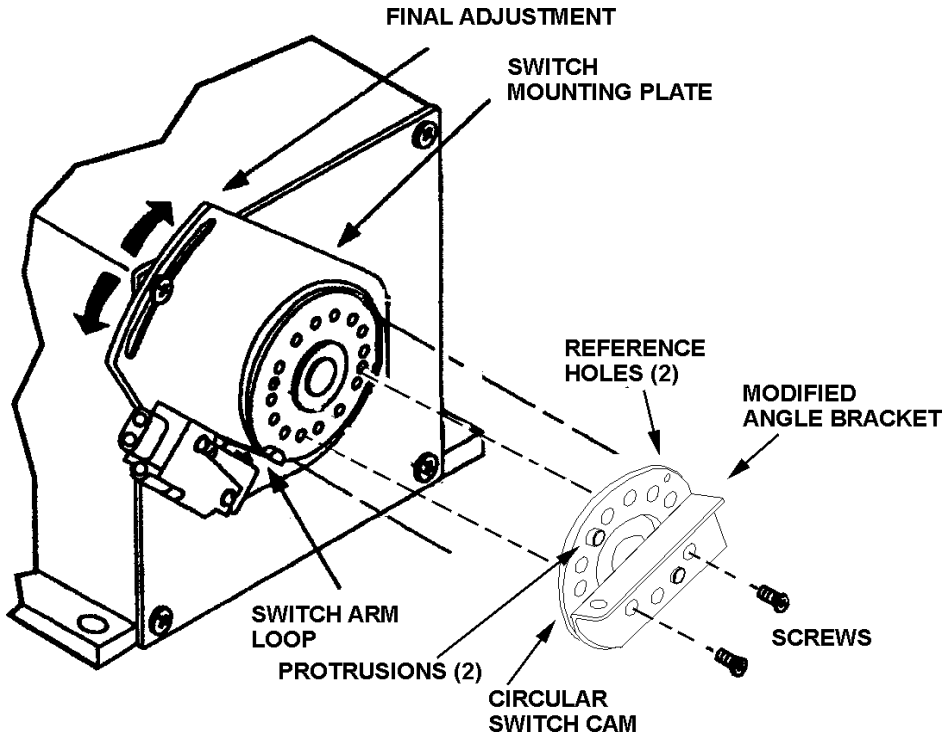
d. After installing the snap switch and the switch mounting plate according to the kit instructions, install the circular switch cam *between* the damper actuator motor and the modified angle bracket provided with this power exhaust accessory. The two protrusions on the circular switch cam should be oriented away from the actuator so that one of them engages in one of the two extra holes in the modified angle bracket provided. See Figure 6. This holds the circular switch cam in one of two possible positions.

e. With the circular switch cam in the desired location, attach the provided modified angle bracket to the actuator per above, using an orientation and screw location identical to the original angle bracket removed from the actuator.

f. Set the final adjustment of the switch mounting plate as shown in the kit and adjust the snap switch according to the kit instructions and the above, so that it trips and releases at the desired percentage of damper opening. This will be the point at which the power exhaust motor is turned on and off.

g. Replace the damper actuator motor and mist eliminator on the unit per original installation.

Figure 6



Installation

Control Wiring

Electromechanical controls

Refer to Electromechanical controls wiring diagram for connections.

Step 2. Using a provided 18 gauge red quick splice connector, splice power exhaust wire W41 to economizer wire 101P.

Using a provided 18 gauge red quick splice connector, splice auxiliary switch (COM) red wire to economizer wire 175C.

Using a provided 18 gauge red quick splice connector, splice power exhaust wire 187A near Plug6P14 to the DLS auxiliary switch (N.O.) blue wire.

Step 3. Power exhaust plug 6P14, wire 136B and DLS auxiliary switch (N.C.) yellow wire are not used. Insulate and/or secure them to prevent accidental contact with conductive surfaces.

Step 4. Replace access panel.

Power Wiring

20. Remove knockout from the indoor coil blockoff. See Figure 4.

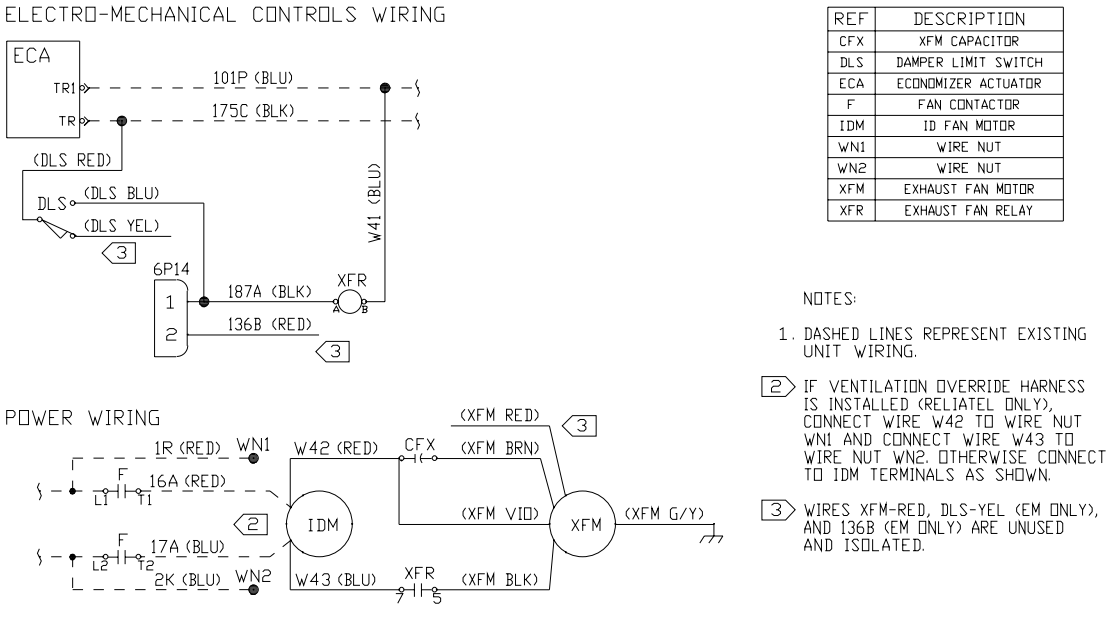
21. Route the high voltage wiring over to the indoor coil blockoff and route through the knockout into the supply fan compartment. See Figure 4.

22. Slide the 1" bushing onto the end of the wire assembly that's in the supply fan compartment and install bushing in knockout in coil blockoff. See Figure 4.

23. Route the wiring along the bottom of the raceway then down at the partition panel using provided wire ties. See Figure 4.

NOTE FOR RELIATEL UNITS: If Ventilation Override or CO2 Sensor Accessory has been installed, power wires 1R (RED) and 2K (BLU) have already been routed from the control box to the ID fan compartment. In this case, connect wire 16C and 17C from the power exhaust to existing wires 1R and 2K respectively. Then skip steps 24 - 28 below.

Figure 7



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3 WIRES XFM-RED, DLS-YEL (EM ONLY), AND 136B (EM ONLY) ARE UNUSED AND ISOLATED.

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Installation

Perform steps 24 - 28 below if the unit has electromechanical controls or if Ventilation Override or CO2 Sensor Accessory has not been installed.

24. Remove cover plate from supply fan motor and loosen strain refief.

25. Insert the two wires through the strain relief.

26. Put one nut on each of the two terminal studs on which unit wires 16A and 17A are connected and snug down the nuts.

27. Connect wires 16C and 17C from power exhaust to above terminal studs on which unit wires 16A and 17A are connected, respectively. Place fork terminal of wires on stud and secure with second nut.

28. Replace cover plate and retighten strain refief.

29. Secure wire harness to existing harness with wire ties.

30. Replace supply fan access panel.

NOTE: Power must be temporarily restored to the unit, but observe the following caution:

⚠ WARNING
Rotating Components!

During installation, testing, servicing and troubleshooting of this product it may be necessary to measure the speed of rotating components. Have a qualified or licensed service individual who has been properly trained in handling exposed rotating components, perform these tasks. Failure to follow all safety precautions when exposed to rotating components could result in death or serious injury.

Electromechanical Unit Power Exhaust Operation and Settings:

The power exhaust operates whenever the indoor blower is running and the economizer damper is open sufficiently to trip the snap switch (adjustable from 20 - 80%). Power exhaust will operate based on auxilliary switch settings on the economizer actuator.

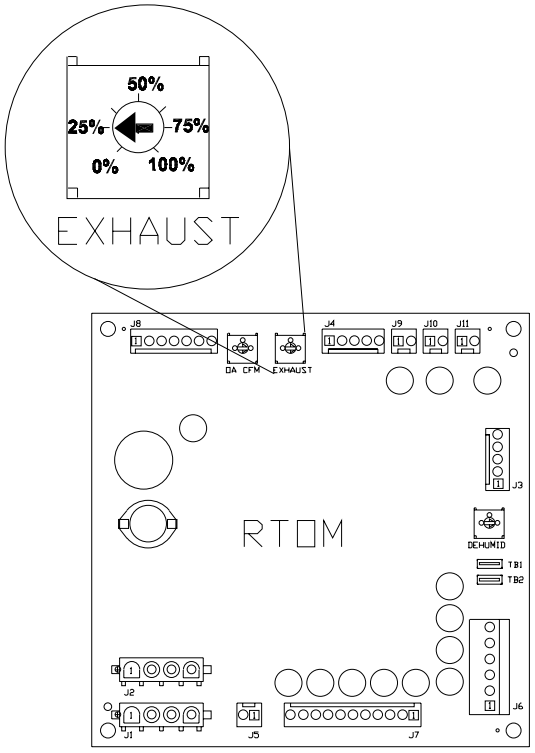
ReliaTel Unit Power Exhaust Operation and Settings:

Units *without* a ReliaTel Options Module (RTOM):
The power exhaust is turned on whenever the indoor blower is running and the economizer damper is at 25% outside air or greater. This is not adjustable.

ReliaTel Units *with* an RTOM and *without* Ventilation Override Accessory:
The power exhaust set point (point at which the power exhaust is turned on) is adjustable from 0% to 100% economizer damper outside air setting, corresponding to the setting of the “exhaust setpoint” potentiometer on the RTOM. the power exhaust is turned on when the indoor blower is running and the damper position is greater than the power exhaust set point.

ReliaTel Units *with* an RTOM and *with* an Optional Ventilation Override Accessory:
Same as above except Ventilation Override "Exhaust function causes power exhaust to run with damper closed and indoor blower off.

Figure 8



31. Close unit disconnect, then place the zone sensor fan selector in the Fan “**ON**” position, and the Heat/Cool selector in the “**OFF**” position. This places the damper in the minimum ventilation position.

32. On ReliaTel units, to verify power exhaust operation, put unit in test mode and step through to economizer step. Adjust power exhaust initiate point as desired.

Note:
ReliaTel units <u>without</u> RTOM option, power ehaust will not come on until economizer damper reaches approximately 25% open.

ReliaTel units <u>with</u> RTOM option, power exhaust will operate based on exhaust setpoint on RTOM module.

Close Out Installation

1. Open and lock unit disconnect, but observe the following caution:

⚠ WARNING
Rotating Components!

During installation, testing, servicing and troubleshooting of this product it may be necessary to measure the speed of rotating components. Have a qualified or licensed service individual who has been properly trained in handling exposed rotating components, perform these tasks. Failure to follow all safety precautions when exposed to rotating components could result in death or serious injury.

2. Replace the filter access panel at this time.

3. Place the 1" x 3" label (power exhaust installed) next to the main unit wiring diagram inside the compressor access panel.

4. Before leaving the installation, check all seams on the power exhaust and ensure they are all sealed watertight with caulk provided.

Literature Order Number	ACC-SVN57B-EN
File Number	SV-UN-ACC-ACC-SVN57B-EN
Supersedes	ACC-SVN57A-EN
Stocking Location	Webb Mason

The manufacturer has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.