

**Installation Instructions for PGEH090/102-5 & PGEH120/180-5
HORIZONTAL ECONOMIZERS
FOR GOODMAN PGB(PCB)090-180 PACKAGE UNITS**

Description: The PGEH090/102-5 & PGEH120/180-5 horizontal economizers are designed for the Goodman PGB(PCB) 7-1/2 through 15 ton package units.

These economizers are designed to provide free air conditioning when outside conditions are appropriate. When the outside air is cool and dry enough, the economizer automatically opens to circulate this cool air, thereby eliminating the need to run the air conditioning compressor. This enables the building owner to lower his electrical costs and increase the life of the equipment. If the outside air becomes too warm or humid, the enthalpy control automatically closes the fresh air damper and the compressor begins operation. The economizer is fully modulating and therefore will automatically mix the fresh air and the return air proportionally to get maximum energy savings.

A single or two stage room thermostat can be utilized to control the unit and the economizer. (Recommend GMC part #'s CHT18-60 for single stage thermostat & CHT90-120 for two stage thermostat or equivalents). When a single stage thermostat is used, during a call for cooling the enthalpy control automatically selects "free" cooling or mechanical cooling depending on outdoor air conditions. If a two stage thermostat is used, first stage "free" cooling or mechanical cooling based on outdoor conditions and the enthalpy setting. If the first stage is in the "free" cooling position and does not keep up with the load, the second stage makes (energizes) mechanical cooling. The two stage thermostat optimizes cooling cost and comfort while taking full advantage of the package unit / economizer combination.

Installation:

1. Uncrate economizer. Inspect for damage.
(NOTE: Report any damage immediately to the freight company.)
2. CAUTION: OPEN DISCONNECT SWITCH TO PREVENT INJURY!
3. Install horizontal conversion kit: HDK090/102-5 or HDK120/180-5 for the appropriate size chassis per instruction of the horizontal conversion kit.
4. Remove filter access panel on evaporator drive side of unit..
5. Secure horizontal economizer to the return air opening left after installing the horizontal conversion kit.
 - a. Top flange of economizer should be inserted under top flange of unit.
 - b. Secure only sides at this time, top must be removed in later step.

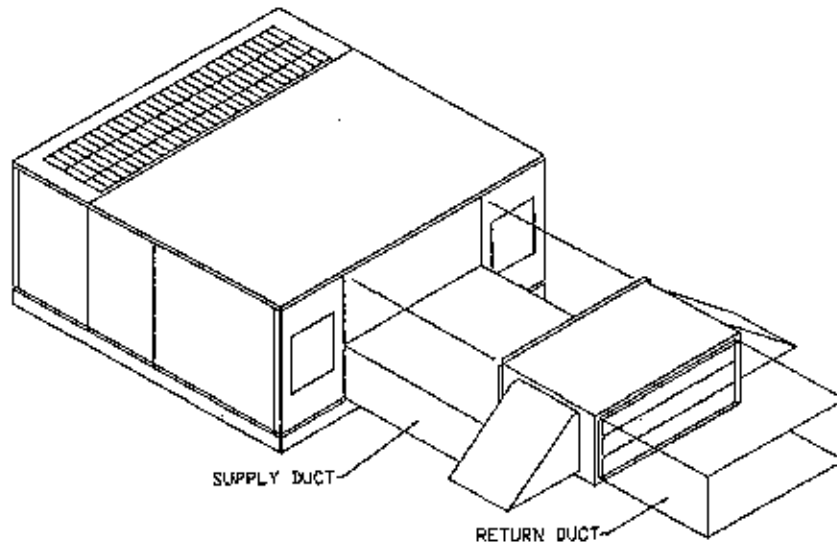


Figure 1

6. Route economizer plug harness to unit plug assembly. (See Figure 2). Remove Plug #3 from Plug #2 in unit. Connect the economizer control plug (9 pin male) to unit Plug #2 (9 pin female).

Note: Ensure the wire harness does not interfere with the movement of the dampers during operation. Tie wire harness securely to the wall of the return air compartment.

7. Install Mixed Air Thermister into round KO in location shown in Figure 3. Route wires included through bushing at drain pan and along evaporator coil assembly using clips provided. Connect two wires to terminal block, TB2, terminals A9 & A10.

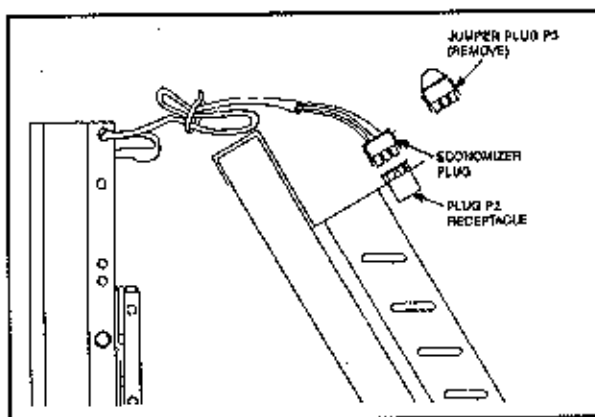


Figure 2

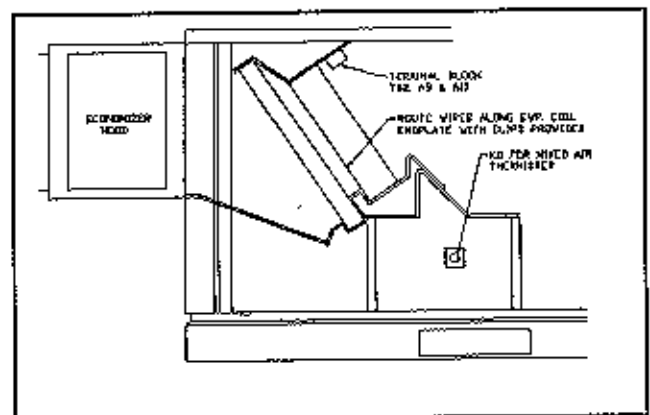
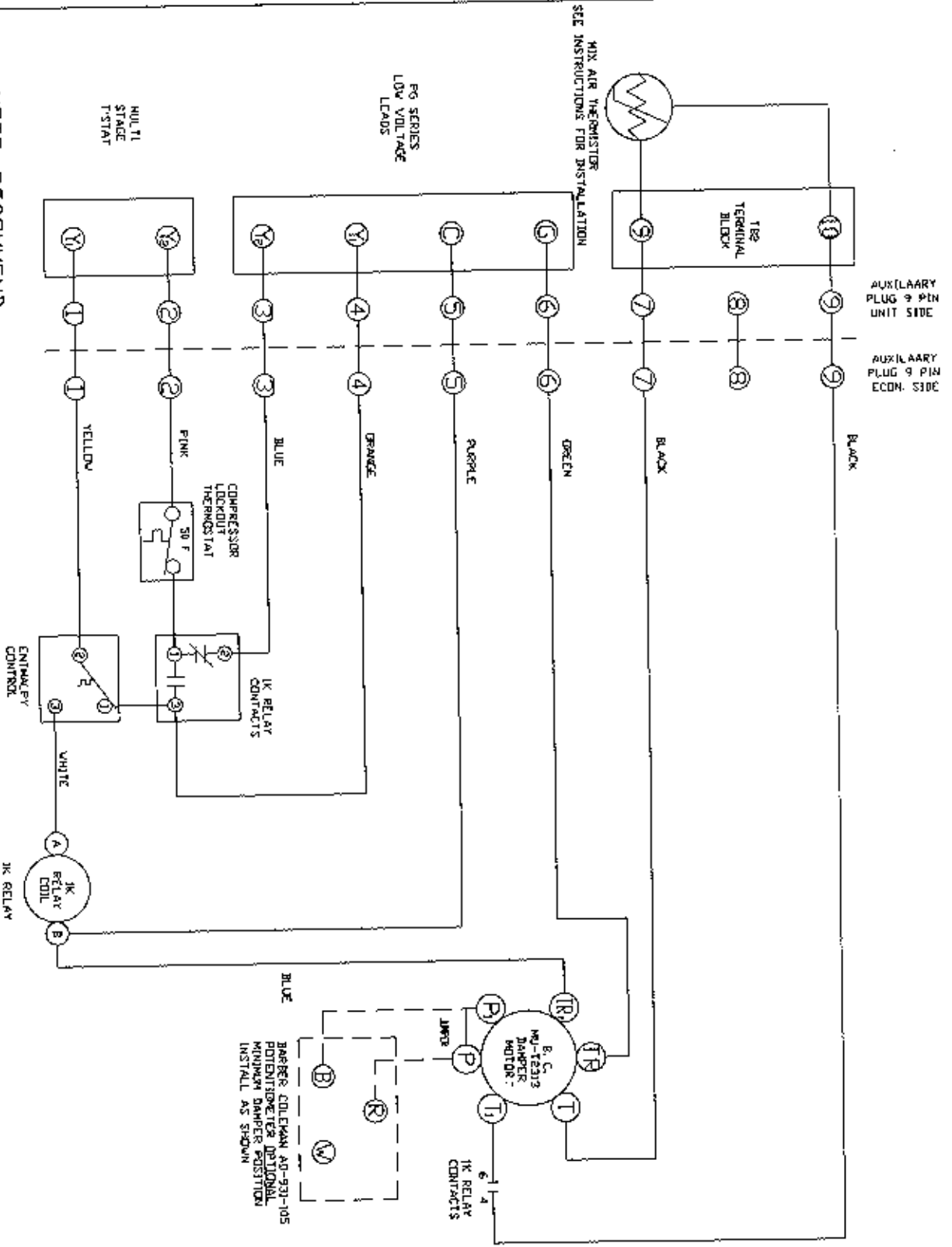


Figure 3

8. Remove top cover of economizer.
9. Install fresh air damper hoods on opposite sides of economizer with sheet metal screws. Top flanges should be flush with top sides of economizer. Take care to center hoods over openings so that blade movement is free and clear of obstruction.
10. Connect 3 wires to enthalpy control (Barber-Colman/Siebe THC-3):
 - (1) White to #3 on Enthalpy control.
 - (2) Yellow to #2 on Enthalpy control.
 - (3) Orange to #1 on Enthalpy control.
11. Connect 2 pink wires to either side of compressor lockout (disc switch).
12. Reset enthalpy and/or minimum position potentiometer to setting other than factory setting is desired. (Access controls through filter door opening.)
13. Reinstall top cover of economizer.
14. Seal-water tight around economizer.
15. Reinstall filter access panel from Step 3. Discard center panel from Step 4.
16. Close disconnect switch.
17. Check out economizer per control manufacturer's literature.



NOTE: RECOMMEND
MULTI-STAGE T-STAT
GMC # CHT90-120
(OR EQUIVALENT)

GOODMAN MANUFACTURING CO.
MODEL PGEDKH) 090/102-5 & 120/180-5
ROOFTOP UNITS
PGB & PCB SERIES WIRING DIAGRAM

FACTORY INSTALLED WIRING
FIELD INSTALLED WIRING
NOTE: ENTHALPY CONTROL & RELAYS SHOWN IN NON-ENERGIZED POSITION

BARBER-COLEMAN A0-931-105
POTENTIOMETER OPTIONAL
MINIMUM DAMPER POSITION
INSTALL AS SHOWN

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