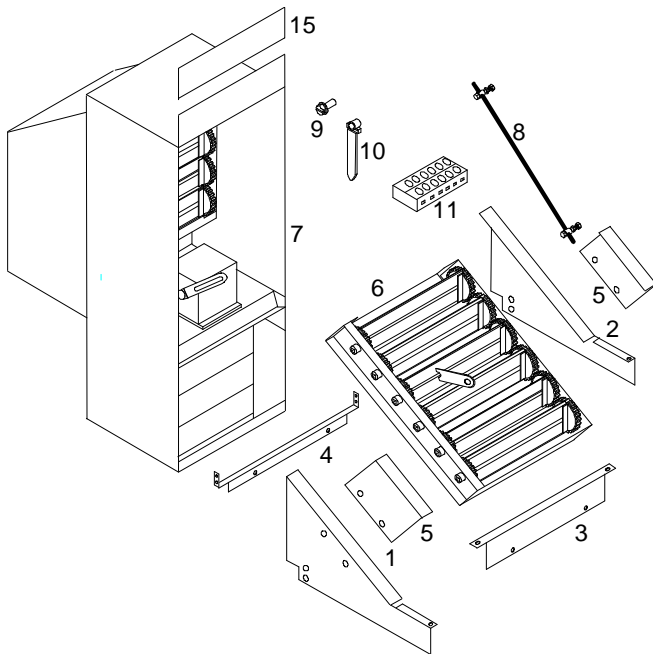


## 2EE04702724 AND 2EE04703024

# Economizer Installation Instructions

### Kit Includes

Item	Description	Qty.
1	Return Air Damper Bracket (right)	1
2	Return Air Damper Bracket (left)	1
3	Return Air Damper Bracket (front)	1
4	Return Air Damper Bracket (rear)	1
5	Side Plate	2
6	Return Air Damper	1
7	Economizer Housing Assembly	1
8	Linkage with Swivel Ball Joints	1
9	No. 10 x 3/4 inch Self-drilling Screws	30
10	Tie Wraps	5
11	Terminal Block with Wire Harness	1
12	Gasket (not shown)	76 inch
13	1/2 inch Strain Relief (not shown)	3
14	Discharge Air Sensor Bracket (not shown)	1
15	8 inch Plate for Use on 4 and 5 Ton Units	1



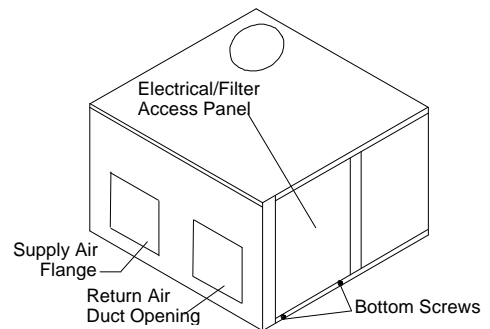
**Figure 1: Kit Components**

### Tools Required

- 5/16 inch hex socket driver
- 7/16 inch open end wrench, quantity 2
- screwdriver, Phillips-head
- screwdriver, small flat-blade

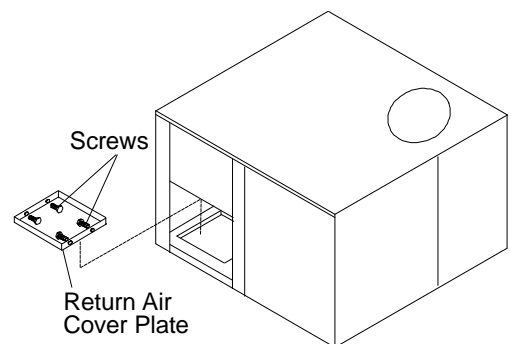
### Installation For Cooling Only And Heat Pump Units.

1. Disconnect the power supply.
2. Use a 5/16 inch nut driver to remove the two bottom screws securing the electrical/filter access panel. See Figure 2.



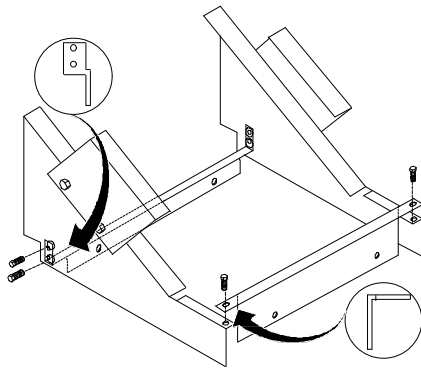
**Figure 2: Fan Access Panel**

3. Use a 5/16 inch nut driver and remove the four screws securing the Return Air (RA) cover plate shown in Figure 3. Remove the RA cover plate and discard. Retain the screws for use in Step 9.



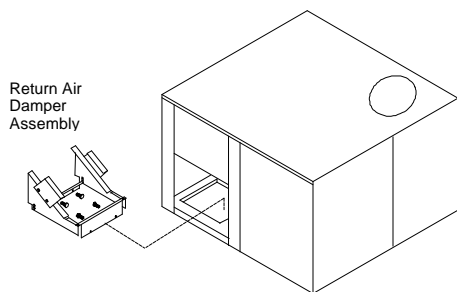
**Figure 3: Removing Cover Plate**

4. Remove the 1/2 inch knockout from the coil support bracket. The discharge air sensor will be routed through this hole.
5. Place the economizer near the unit. Remove the discharge air sensor from the coiled wires and route through the knockout removed in Step 4.
6. Secure the discharge air sensor bracket to the down shot duct flange. To protect the sensor wires from damage, install the 1/2 inch strain relief in the coil support bracket.
7. Assemble the six pieces of the RA damper bracket as shown in Figure 4 and use ten No. 10 x 3/4 inch self-drilling screws to secure. Do not tighten the four screws holding the side plates at this time.



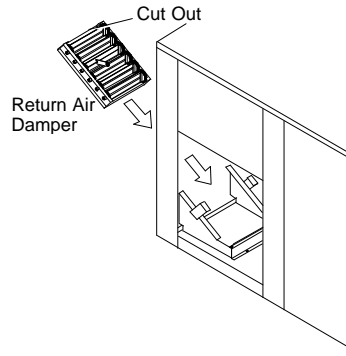
**Figure 4: Assembling RA Damper Bracket**

8. Insert the RA damper bracket through the electrical/filter access area and place over the RA duct opening. See figure 5.



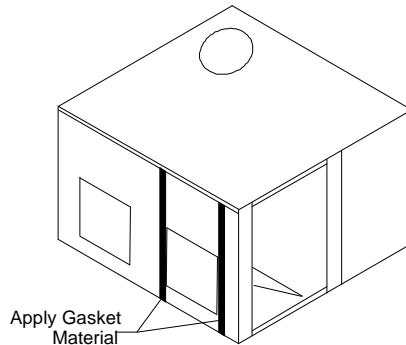
**Figure 5: Installing RA Damper Bracket**

9. Use the four screws removed in Step 2 and secure the RA damper bracket to the front and rear flanges.
10. With the blade arm up and the cutout on top, shown in Figure 6, slide the return air damper in through the return air duct hole and rest it on the bottom of the RA damper bracket.



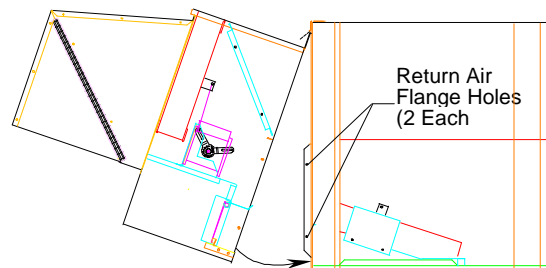
**Figure 6: Installing Return Air Damper**

11. Loosen the two screws securing each side plate and slide the plates against the damper securing the damper to the bracket. Tighten the two screws.
12. Install the gasket material to the duct panel on each side of the return air opening as shown in Figure 7.



**Figure 7: Installing Gasket**

13. Lift the economizer unit assembly and tilt the bottom away from the unit. Slide the top of the economizer assembly in the space between the unit top and side so that the top edge fits under the lip. See Figure 8.

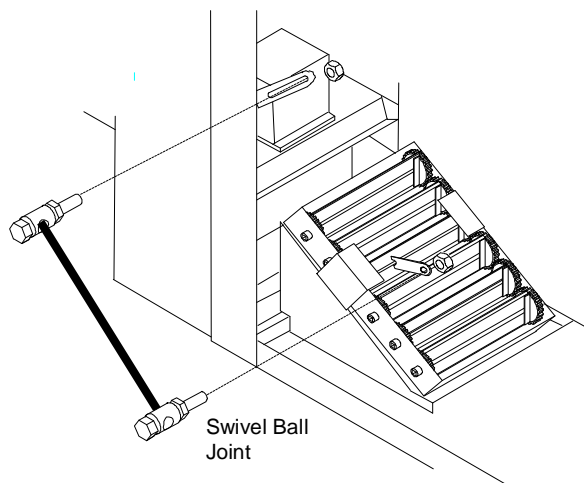


**Figure 8: Installing Economizer Unit Assembly**

- Swing the bottom of the economizer assembly towards the unit and allow the bottom to rest on the lower edge.

Note: The economizer unit will be held in place except on 4 and 5 ton units, which require the 8 inch plate at the top.

- Secure the economizer assembly to the unit using four No. 10 x 3/4 inch screws (two existing holes in the flanges on each side). Use four additional screws through the pilot holes provided in the economizer housing.
- Remove the nut from the stud on one swivel ball joint. Insert the swivel ball joint stud through the crank arm on the actuator. Install the nut onto the stud and slide the swivel ball joint to the outermost position on the crank arm before tightening. Use a 7/16 in. open end wrench to tighten. See Figure 9.



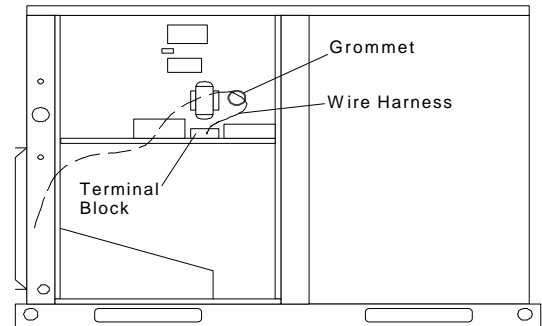
**Figure 9: Connecting Linkage To Actuator**

**IMPORTANT:** The swivel ball joints are factory set on the linkage arm for proper damper rotation. Do not loosen the swivel ball joints from the linkage arm.

- Remove the nut from the stud on the other swivel ball joint. Insert the stud through the hole in the RA damper blade arm. Use a 7/16 inch open end wrench to tighten the nut.

- Uncoil the wiring harness tucked into the economizer unit.

- Place the terminal block in the open area as shown in Figure 10 at the predrilled holes and secure using two screws provided with the terminal block.

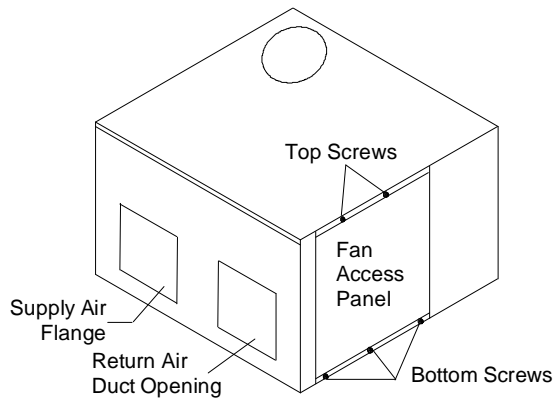


**Figure 10: Installing Terminal Block**

- Route the wire harness from the economizer assembly through the back of the control box.
- Route the wire harness behind the existing controls and bring the wires to the terminal block. Connect the wires according to the diagram provided.
- Connect the wires in the harness provided with the terminal block to TB1 on the control board.
- Apply the wiring diagram to the lower left corner inside of the control box.
- If the unit is 208/230 single phase, the 40 VA transformer must be replaced with a 75 VA transformer No. 025-25973-000 and circuit breaker No. 024-24055-000. (Furnished with kit No. 2EC06700124.) All 3-phase units have the 75 VA transformer standard.
- Apply power to the unit and verify damper operation through at least three cycles.
- Replace the electrical/filter access cover panel.

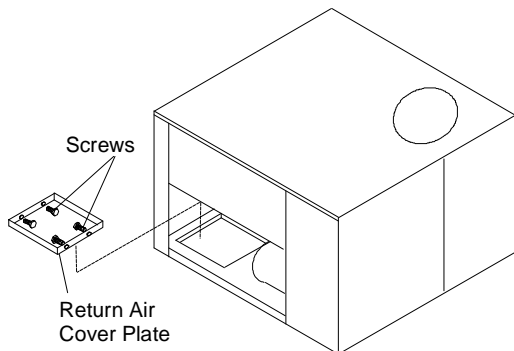
## Installation For Cooling Units With Gas Heat.

1. Disconnect the power supply.
2. Use a 5/16 inch nut driver to remove the two top and three bottom screws securing the fan access panel. See Figure 11.



**Figure 11: Fan Access Panel**

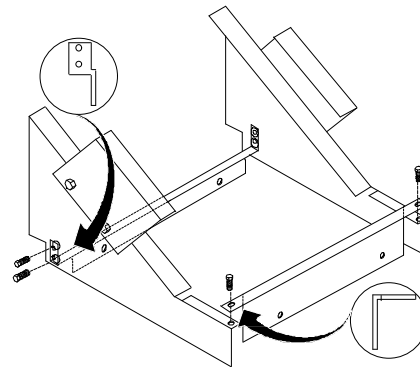
3. Use a 5/16 inch nut driver and remove the four screws securing the Return Air (RA) cover plate shown in Figure 12. Remove the RA cover plate and discard. Retain the screws for use in Step 9.



**Figure 12: Removing Cover Plate**

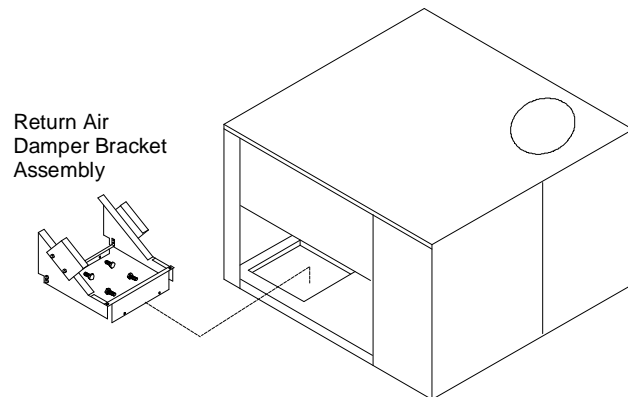
4. Remove the two 1/2 inch knockouts from the evaporator partition and the coil support bracket. The discharge air sensor will be routed through these holes later.
5. Place the economizer near the unit. Remove the discharge air sensor from the coiled wires and route through the two knockouts.
6. Secure the discharge air sensor bracket to the down shot duct flange. To protect the sensor wires from damage, install the two 1/2 inch strain reliefs in the coil support bracket, and the evaporator partition.

7. Assemble the six pieces of the RA damper bracket as shown in Figure 13 and use ten No. 10 x 3/4 inch self-drilling screws to secure. Do not tighten the four screws holding the side plates at this time.



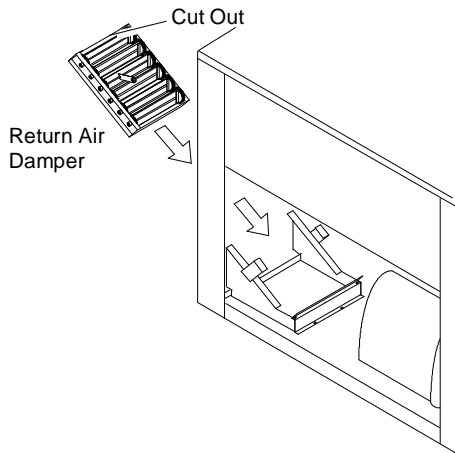
**Figure 13: Assembling RA Damper Bracket**

8. If a filter and filter rack are already installed in the unit, remove the filter and bottom filter rack.
9. Insert the RA damper bracket through the fan access area and place over the RA duct opening. See Figure 14.



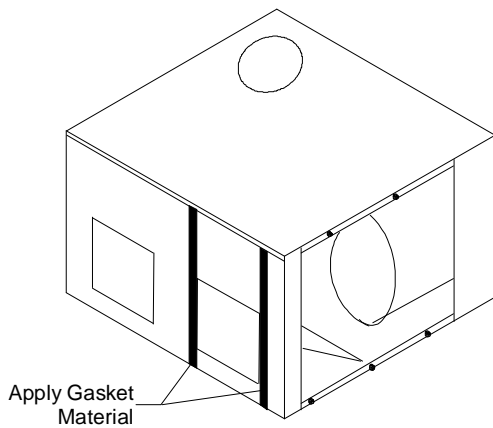
**Figure 14: Installing RA Damper Bracket**

10. Reinstall the bottom filter rack over the RA damper bracket.
11. Use the four screws removed in Step 2 and secure the RA damper bracket to the front and rear flanges.
12. With the blade arm up and the cutout on top shown in Figure 15, slide the return air damper in through the return air duct hole and rest it on the bottom of the RA damper bracket.
13. Loosen the two screws securing each side plate and slide the plates against the damper securing the damper to the bracket. Tighten the two screws.



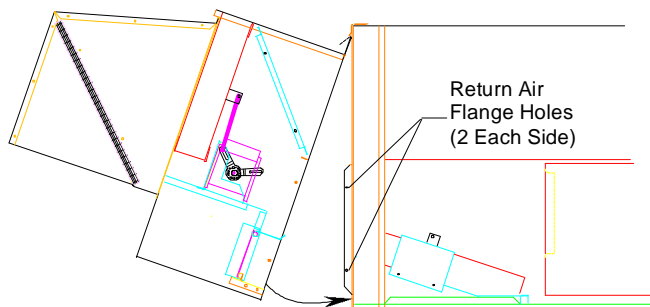
**Figure 15: Installing Return Air Damper**

14. Install the gasket material to the duct panel on each side of the return air opening as shown in Figure 16.



**Figure 16: Installing Gasket**

15. Lift the economizer unit assembly and tilt the bottom away from the unit. Slide the top of the economizer assembly in the space between the unit top and side so that the top edge fits under the lip. See figure 17.

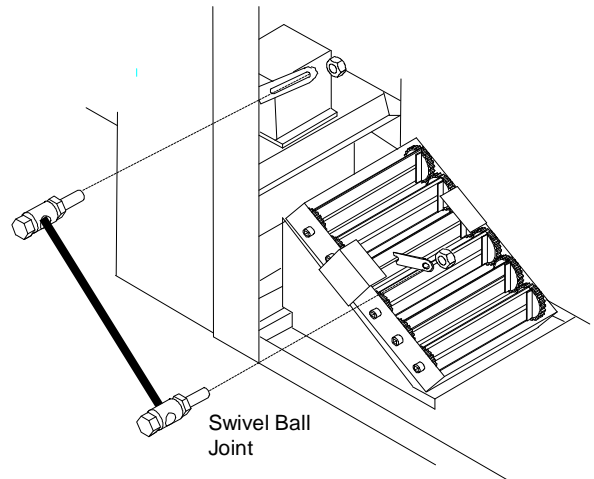


**Figure 17: Installing Economizer Unit Assembly**

16. Swing the bottom of the economizer assembly towards the unit and allow the bottom to rest on the lower edge.

Note: The economizer unit will be held in place except on 4 and 5 ton units, which require the 8 inch plate at the top.

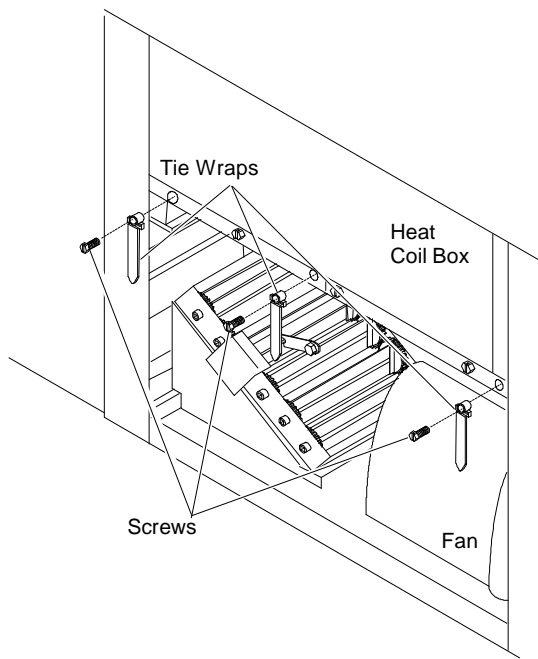
17. Secure the economizer assembly to the unit using four No. 10 x 3/4 inch screws (two existing holes in the flanges on each side). Use four additional screws through the pilot holes provided in the economizer housing.
18. Remove the nut from the stud on one swivel ball joint. Insert the swivel ball joint stud through the crank arm on the actuator. Install the nut onto the stud and slide the swivel ball joint to the outermost position on the crank arm before tightening. Use a 7/16 inch open end wrench to tighten. See Fig. 18.



**Figure 18: Connecting Linkage To Actuator**

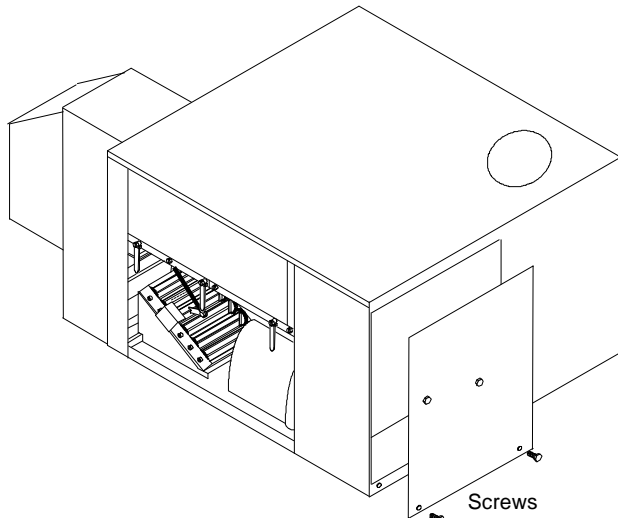
**IMPORTANT:** The swivel ball joints are factory set on the linkage arm for proper damper rotation. Do not loosen the swivel ball joints from the linkage arm.

19. Remove the nut from the stud on the other swivel ball joint. Insert the stud through the hole in the RA damper blade arm. Use a 7/16 inch open end wrench to tighten the nut.
20. Uncoil the wiring harness tucked into the economizer unit.
21. Route the discharge air sensor and bracket into the supply air compartment through the two knockouts removed in Step 3 (evaporator partition and coil support bracket).
22. Install three tie wraps along the bottom of the heat coil box by removing three screws from the heat coil box and using them to secure the tie wraps, as shown in Figure 19. Cut the existing tie wrap securing the capacitor wires.



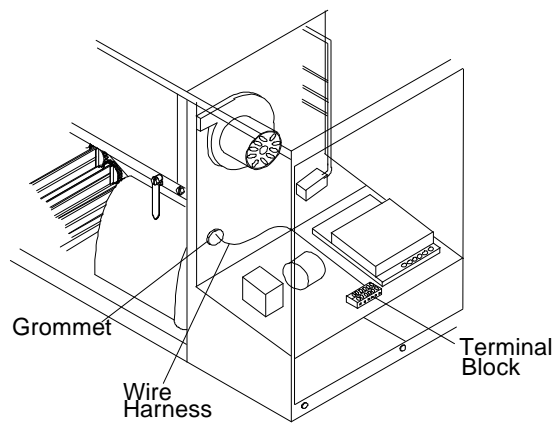
**Figure 19: Installing Tie Wraps**

23. Remove the two bottom screws securing control cover to the unit and remove the control cover from the unit. See Figure 20.



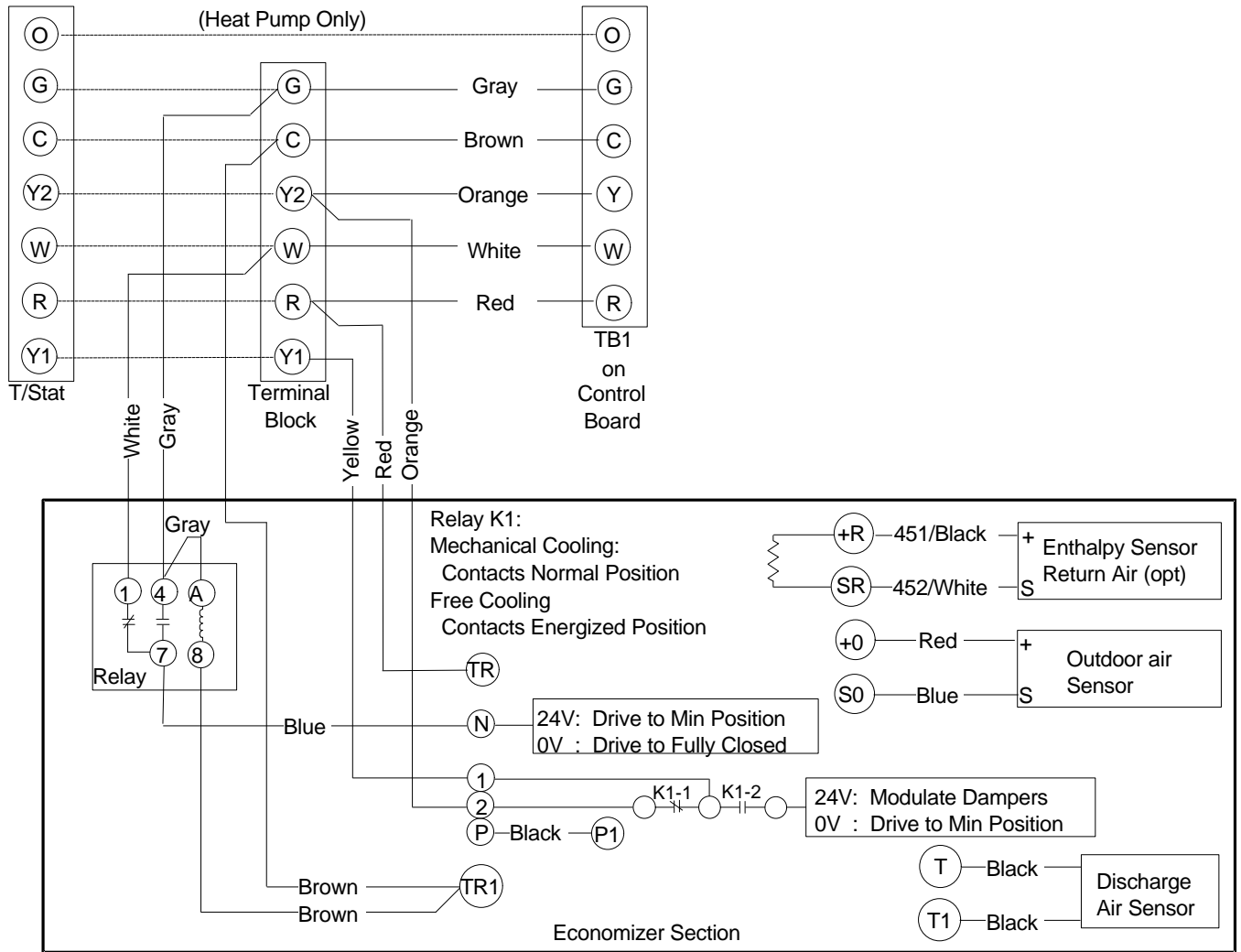
**Figure 20: Removing Control Cover**

24. Place the terminal block in the open area at the predrilled holes as shown in Figure 21 and secure using two screws provided with the terminal block.



**Figure 21: Installing Terminal Block**

25. Remove the grommet holding the fan wires passing through the panel between the fan and control box.
26. Route the wire harness from the economizer assembly through the grommet and reinstall the grommet.
27. Use the tie wraps installed in Step 22 to route the wire harness along the lower edge of the heat coil box.
28. Route the wire harness behind the existing controls and bring the wires to the terminal block. Connect the wires according to the diagram provided.
29. Connect the wires in the harness provided with the terminal block to TB1 on the control board
30. Apply the wiring diagram to the lower left corner inside of the control box cover.
31. transformer must be replaced with a 75 VA transformer No. 025-25973-000 and circuit breaker No. 024-24055-000. (Furnished with kit No. 2EC06700124.) All 3-phase units have the 75 VA transformer standard.
32. Apply power to the unit and verify damper operation through at least three cycles.
33. Install the control box and fan access cover panels.



**Figure 22: Wiring Connections**

Supersedes: 44-364-5 Rev. A (0196)

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44-364-5 Rev. B

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