1964-67 Pontiac GTO
without Factory Air
Control Panel Conversion Kit
(473166)

18865 Goll St. San Antonio, TX 78266
Phone: 800-862-6658
Sales: sales@vintageair.com
Tech Support: tech@vintageair.com
www.vintageair.com
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## CONTROL PANEL KIT PACKING LIST

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**BEFORE BEGINNING INSTALLATION, OPEN ALL PACKAGES AND CHECK CONTENTS OF SHIPMENT. PLEASE REPORT ANY SHORTAGES DIRECTLY TO VINTAGE AIR WITHIN 15 DAYS. AFTER 15 DAYS, VINTAGE AIR WILL NOT BE RESPONSIBLE FOR MISSING OR DAMAGED ITEMS.**
CONTROL PANEL CONVERSION
INSTRUCTIONS FOR
1964-67 PONTIAC GTO without FACTORY AIR

OEM CONTROL PANEL REMOVAL

☐ REMOVE THE (4) OEM MOUNTING NUTS FROM THE INSTRUMENT PANEL ON THE DASH (SEE FIGURE 1, BELOW).

☐ DISCONNECT THE CABLES AND WIRES FROM THE BACK OF THE CONTROL PANEL.

☐ REMOVE THE CONTROL PANEL FROM THE DASH.

FIGURE 1
OEM CONTROL PANEL PLASTIC BRACKET REMOVAL

- REMOVE THE OEM OFF/NORMAL PLASTIC BRACKET BY DRILLING OUT THE RIVET FROM THE BACK SIDE (SEE FIGURE 2, BELOW).
- REMOVE THE CAM AND ENLARGE THE CAM PIVOT HOLE FROM 5/32” TO 3/16” AS SHOWN IN FIGURE 2a, BELOW.
- DEBURR OR FILE THE PIVOT HOLE.

CABLE CONVERTER BRACKET INSTALLATION

- INSTALL THE MODE CABLE CONVERTER BRACKET AND MOUNTING HARDWARE AS SHOWN IN FIGURE 3, BELOW.
CABLE CONVERTER ASSEMBLY MODIFICATIONS

- Locate the (3) cable converter assemblies, and using a pair of wire cutters, cut the cable converter actuator rods as shown in Figure 4, below.

CABLE CONVERTER ASSEMBLY MOUNTING CLAMP INSTALLATION

- Install the cable converter assembly mounting clamps (see Figure 5, below). Note: orient clamps in relation to the (3) housing snaps on the cable converter assembly as shown in Figure 5, below.
MODE CABLE CONVERTER ASSEMBLY INSTALLATION

- DRILL A 1/8" HOLE INTO THE CONTROL PANEL AS SHOWN IN FIGURE 6a, BELOW.
- INSTALL THE CABLE CONVERTER LEVER PUSH ROD ONTO THE MODE CABLE CONVERTER BRACKET (SEE FIGURE 6, BELOW).
- SECURE THE CABLE CONVERTER ASSEMBLY TO THE CONTROL PANEL USING A #10 x 1/2" SHEET METAL SCREW AS SHOWN IN FIGURE 6, BELOW.

**FIGURE 6a**

**FIGURE 6**

**FIGURE 6b**

NOTE: DO NOT ALLOW ROD TO SEPARATE HOUSING WHEN ROD IS IN INNERMOST POSITION.
MODE CONTROL HARNESS INSTALLATION

☐ Locate the control panel wiring harness, and plug the corresponding connector into the correct cable converter assembly as shown in Figure 7, below.

Once the connector is correctly plugged into the cable converter assembly, secure the wires to the cable converter assembly using one of the supplied tie wraps (see Figure 8, below). The tie wrap must be located between the end of the wire jacket and the step in the cable converter housing, forcing a bend in each wire as it passes over the step in the cable converter housing. The head of the tie wrap must fall on the edge of housing to remain tight. Ensure that the tie wrap is tight enough that the wires cannot move (see Figure 8, below).
TEMPERATURE CABLE CONVERTER ASSEMBLY INSTALLATION

- Install the cable converter lever push rod onto the OEM cable mounting stud on the temperature lever (see Figure 9, below).
- Secure the cable converter assembly to the control panel using a #10 x 1/2" sheet metal screw in the OEM cable clamp mounting location (see Figure 9, below).
- Since the cable converter assembly can slide back and forth in the clamp before the screw is tightened, position the cable converter assembly such that the flat part of the rod is as close to flush as possible with the end of the housing at the lever’s innermost position (see Figure 9, below).

![Figure 9](image)

1964-65 GTO SHOWN

1966-67 GTO SHOWN

TEMPERATURE CONTROL HARNESS INSTALLATION

- Locate the control panel wiring harness, and plug the corresponding connector into the correct cable converter assembly as shown in Figure 10, below.

![Figure 10](image)

TEMPERATURE CABLE CONVERTER ASSEMBLY
TEMPERATURE CONTROL HARNESS INSTALLATION (CONT.)


OEM BLOWER SWITCH REMOVAL

口 REMOVE THE OEM BLOWER SWITCH (DISCARD) BY REMOVING (2) SCREWS (RETAIN) (SEE PHOTO 1, BELOW).
BLOWER SPEED CABLE CONVERTER BRACKET INSTALLATION

- Install the control panel support bracket onto the control panel using (2) OEM screws (see Photo 2, below). Note: The bracket must be level with the back and flush with the edge of the control panel. Adjust as necessary before tightening the screws (see Photo 3, below).

- Install the blower speed lever bracket onto the control panel support bracket using the following hardware in this order: (1) #10-32 x 3/4" screw, (1) 1/16" nylon flat washer, the blower speed lever bracket, (2) 1/8" nylon flat washers, the control panel support bracket and (1) 10-32 locknut (see Photos 4 & 5, below).
**BLOWER SPEED CABLE CONVERTER ASSEMBLY INSTALLATION**

- INSTALL THE CABLE CONVERTER ASSEMBLY ONTO THE BLOWER SPEED LEVER BRACKET HOOK, AND SECURE THE CABLE CONVERTER TO THE CONTROL PANEL SUPPORT BRACKET USING A #10 x 1/2” SHEET METAL SCREW AND A 1/8” NYLON FLAT WASHER (SEE PHOTOS 6 & 7, BELOW).

- INSTALL THE CONTROL KNOB ONTO THE BLOWER SPEED LEVER BRACKET (SEE PHOTOS 8 & 9, BELOW).
BLOWER SPEED CONTROL HARNESS INSTALLATION

1. Locate the control panel wiring harness, and plug the corresponding connector into the correct cable converter assembly as shown in Photo 10 and Figure 12, below.

2. Once the connector is correctly plugged into the cable converter assembly, secure the wires to the cable converter assembly using one of the supplied tie wraps (see Photo 11, below). The tie wrap must be located between the end of the wire jacket and the step in the cable converter housing, forcing a bend in each wire as it passes over the step in the cable converter housing. The head of the tie wrap must fall on the edge of housing to remain tight. Ensure that the tie wrap is tight enough that the wires cannot move (see Figure 13, below).

**Photo 10**

**Figure 12**

**Photo 11**

**Figure 13**
CONTROL HARNESS (FINAL)

- Using the supplied tie wraps, tie the wires to the control panel as shown in Photos 12, 13 and 14, below. Confirm that the wires are secured and do not interfere with lever operation or the cable converter assemblies.

FINAL STEPS

- Reinstall the control panel into the dash.
- Plug the wiring harnesses into the ECU module on the sub case (see Figure 14, below).
- Wire according to the wiring diagram on page 17.
- Control panel calibration procedure and operation instructions:
  - Calibrating the control panel will set the range of travel for the cable converters connected to the OEM control panel levers. Performing this procedure will set the limits of the cable converters at their highest and lowest points.
  - Locate the gray wire with an unused connector in the wiring harness near the cable harness relay. The wire is labeled PROGRAM on the wiring diagram.
  - It will be necessary to ground the gray wire for approximately five seconds while moving the controls. It is sometimes helpful to attach one end of the white jumper wire to the vehicle’s ground (for example, the chassis) and have the other end ready to connect the gray program wire when the procedure requires it.
- To calibrate the control panel, follow the calibration procedures on pages 15 & 16.
On Vintage Air Gen IV systems using factory controls, it is necessary to calibrate the system to your specific control panel. This procedure ensures that the stroke of your control panel levers or knobs is translated into precise control of the fan speed, temperature blend and mode door position. Please carefully read and understand these procedures before beginning. The procedure may be repeated as many times as necessary to get it right.

In preparation for calibration, you will need to attach the supplied white ground jumper wire to a suitable chassis ground. This jumper wire must be easily connected to the gray programming wire located in the main Gen IV wiring harness next to the compressor relay. During the calibration procedure, you will connect the white jumper to the gray program wire, which will "teach" the Gen IV ECU the upper limits of the control levers or knobs. The blower will momentarily change speeds, signaling that the upper limits have been "learned". You will move the levers or knobs to opposite extreme positions of their travel and then disconnect the white jumper. The blower will again change speeds, signaling that the lower limits have been learned and that the calibration procedure is complete.
CONTROL PANEL CALIBRATION PROCEDURE CONT.

☐ TURN ON THE IGNITION SWITCH (DO NOT START THE ENGINE).

☐ MOVE THE CONTROL LEVERS TO THE POSITIONS SHOWN.

☐ CONNECT THE WHITE JUMPER WIRE TO THE GRAY PROGRAM WIRE. WAIT FOR THE BLOWER SPEED TO CHANGE (APPROXIMATELY 5 SECONDS).

☐ MOVE THE CONTROL LEVERS TO THE POSITIONS SHOWN.

☐ DISCONNECT THE WHITE JUMPER WIRE FROM THE GRAY PROGRAM WIRE. THE BLOWER SPEED WILL CHANGE, INDICATING COMPLETION OF THE CALIBRATION PROCEDURE.

☐ CONFIRM PROPER OPERATION OF CONTROLS. REPEAT PROCEDURE IF NECESSARY. WHEN FINISHED, TAPE OVER PROGRAM WIRE CONNECTOR WITH ELECTRICAL TAPE TO PREVENT ACCIDENTAL CONTACT WITH CHASSIS GROUND.
**Dash Lamp Is Used Only With Type 232007-VUR Harness.**

**Warning: Always Mount Circuit Breaker As Close to the Battery As Possible. (NOTE: Wire Between Battery and Circuit Breaker Is Unprotected and Should Be Carefully Routed to Avoid a Short Circuit).**

**Wide Open Throttle Switch Contacts Close Only at Full Throttle, Which Disables A/C Compressor.**
Operation of Controls

On Gen IV systems with three lever/knob controls, the temperature control toggles between heat and A/C operations. To activate A/C, move the temperature lever/knob all the way to cold and then back it off to the desired vent temperature. For heat operation, move the temperature lever/knob all the way to hot and then adjust to the desired vent temperature. The blower will momentarily change speed, each time you toggle between operations, to indicate the change. **NOTE:** For proper control panel function, refer to Pages 15 & 16 for calibration procedure.

**Blower Speed**
This lever/knob controls blower speed, from OFF to HI.

**Mode Control**
This lever/knob controls the mode positions, from DASH to FLOOR to DEFROST, with a blend in between.

**Temperature Control**
This lever/knob controls the temperature, from HOT to COLD.

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**A/C Operation**

**Blower Speed**
Adjust to desired speed.

**Temperature Control**
For A/C operation, adjust to coldest position to engage compressor (Adjust between HOT and COLD to reach desired temperature).

**Mode Control**
Adjust to desired mode position (DASH position recommended).

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**Heat Operation**

**Blower Speed**
Adjust to desired speed.

**Temperature Control**
For maximum heating, adjust to hottest position (Adjust between HOT and COLD to reach desired temperature).

**Mode Control**
Adjust to desired mode position (FLOOR position recommended).

---

**Defrost/De-fog Operation**

**Blower Speed**
Adjust to desired speed.

**Temperature Control**
Adjust to desired temperature.

**Mode Control**
Adjust to DEFROST position for maximum defrost, or between FLOOR and DEFROST positions for a bi-level blend (Compressor is automatically engaged).
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