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APS Control Board Manual

Revised: 04/11/2018
PN: 00900302

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Overview

Each lane of BavisAIR Advanced Pneumatic System, (APS), will have two control boards. One will be at the Teller/Building end behind the cover panel that the control buttons are mounted to. The other board will be in the Customer end, under the lower skin lid, with a plastic cover over the board.

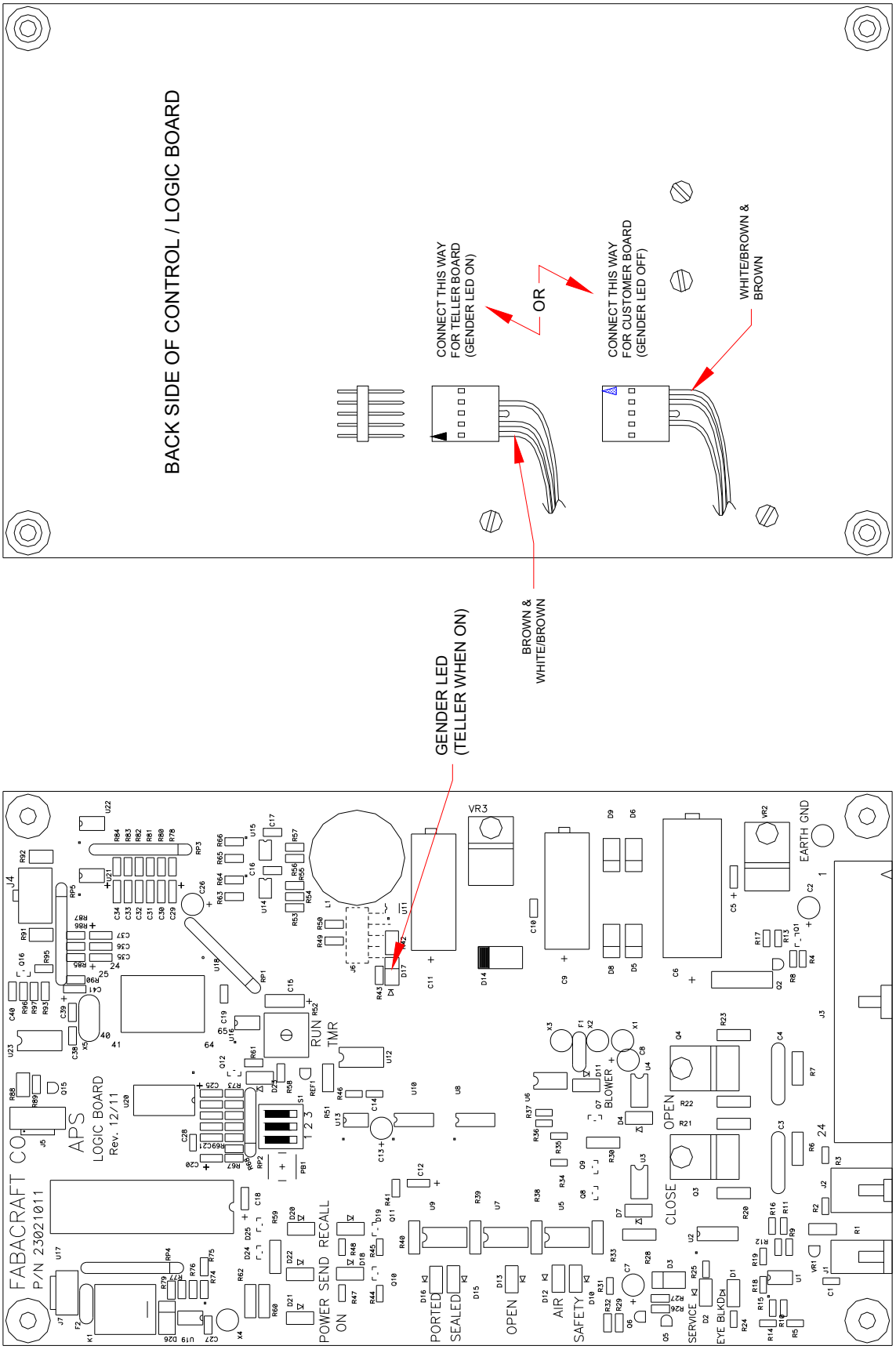
The APS Control Board Kit will contain (2) APS Control Boards, (1) APS Communication Pigtail (6" long, for the Teller/Building end), and (1) APS Customer Communication Pigtail (27-1/2" long, for the Customer end). The APS Communication Pigtails are sent because the early production units used a "Dip" switch to select which end the board was to be used in, and the new board requires the specially configured connector built into the Pigtail. One end of the Pigtail will connect to the board, and the other will connect directly to the Cat5 communication cable that is installed in the unit. If the old boards each had a short connecting harness with either Red or Blue heat-shrink on it, remove and discard that harness.

After the new board is secured onto its mount and wiring is connected, adjust the "Pots", and switches, of the new board to the approximate position of those on the old board. Run the unit, and then adjust as necessary.

Board Gender

The **BavisAIR System** uses the same board on each end of the machine. The way the 10 position connector of the board harness is attached to the terminals on the back of each board determines which end is the teller or customer. Note that for a machine to operate, the connectors must be attached as shown in the following illustration. Cycle the "Power" button off, and then back on so the board will register this mode.

Board Gender Connections



Startup:

Press the **POWER BUTTON** once. The **Green LED in** the button should come on, indicating that the unit has power. Both the teller and customer doors should open. Pressing the **POWER BUTTON** again should toggle the power off. Both the teller and customer doors should close.

With the power on and both doors open insert a **CARRIER** into the system. The door on the opposite end should close. Press the **SEND BUTTON.** The door should close to the ported position. The blower turns on. The carrier moves to the opposite end. When the carrier passes the blower the positive pressure will turn the blower off. The carrier will coast to the door plug. A photo eye system senses the presence of the carrier. The door will open. After the door is open the door on the opposite end will close to the sealed position. Note that if the pressure switch does not work the photo eye will open the door. If the photo eye does not work a timer will open the door. In the event a sensor fails the power LED will flash until the next move is made.

Resetting the Control Board Logic:

In the event that the machine becomes unresponsive to the pushbuttons it is possible to reset the machine by simultaneously depressing the **SEND & RECALL BUTTONS.** This resets the processors on both the teller and customer units. The **Green LED** will turn off and both doors will run to the closed position if they are not already there. The machine will then be ready for operation.

Setting the Maximum Run Timer:

The **BavisAIR System** is equipped with a maximum run timer. This will stop the blowers in the event that a carrier gets stuck or both the pressure switch and photo eye stop working.

The procedure for doing this is as follows: Note the length of time required for a normal transaction. Remove the teller lid (be careful to not strain the switch wires). Locate adjustment pot R46 MAXIMUM RUN TIMER. Remove the carrier. Press the send button. Note how long the blower runs. Adjust the pot until the blower runs for approximately 10 seconds longer than the length of time required for a normal transaction. Adjusting the pot clockwise increases the time and counter clockwise decreases the time. The maximum time available is 45 seconds. The customer blower maximum run timer will also need to be set on the customer control board using the same procedure.

Error Reporting:

There is an error reporting system built into the system. Errors such as a timeout, safety mechanism operation, etc. are recorded in addition to number of cycles and blower run time. It requires optional equipment from E.F. Bavis to view or download the error log.

Switch Settings

Door Test

The **BavisAIR System** is equipped with a door test feature that can be activated to cycle the door between the open, ported and closed positions. This is useful to check the unit for proper operation after service.

The procedure for doing this is as follows. Remove the teller lid or remove the customer lid and weatherproof cover. Slide the DIP switch 1 up. Press the test button. Each time the button is pressed the door moves to the next position repeating as pressed.

To turn off the door test feature, slide the DIP switch 1 down. Replace the teller lid or customer weatherproof cover and lid. . Cycle the "Power" button off, and then back on to reset the board back into "run" mode.

Autocycle

The **BavisAIR System** is equipped with an autocycle feature that can be activated to run the carrier in and out. This is useful to check the unit for proper operation after installation or service.

The procedure for doing this is as follows. Recall the carrier to the inside. Remove the teller lid. Slide DIP switch #2 up. Press the test button. The system will send the carrier to the customer unit, pause for 10 seconds then return the carrier to the teller unit repeating.

To turn off the autocycle feature, press the power button on the teller control panel and turn off the unit. To resume normal operating procedure, press the power button and turn the unit on. To disable the autocycle feature slide DIP switch #2 down. Replace the teller lid. . Cycle the "Power" button off, and then back on to reset the board back into "run" mode.

Deactivate Pressure Switch

The up position of DIP switch 3 deactivates the pressure switch. This may be needed if there are multiple vertical sections of tube in a single system. In this configuration positive pressure is developed in the first vertical, which turns the blower off early. Cycle the "Power" button off, and then back on so the board will register this mode.

Troubleshooting the BavisAIR Pneumatic System

This section assumes that the machine in question has been inspected for loose, damaged or missing parts, wiring, etc.

LED Diagnostics:

Power ON	Illuminates when the power button is depressed
Send (D28)	Illuminates when the send button is depressed
Recall (D31)	Illuminates when the recall button is depressed
CPU Active	Flashes indicating communication with the opposite board.
Send (D10)	Illuminates when a send move is in process.
Recall (D6)	Illuminates when a recall move is in process
Ported	Illuminates when the door is in the closed and ported position.
Sealed	Illuminates when the door is in the closed and sealed position.
Open	Illuminates when the door is in the open position.
Air	Illuminates when the pressure switch is activated by a carrier.
Safety	Illuminates when the door motor is running closed and the safety bar is activated. Note the LED will not illuminate if the motor is not running.
Blower	The blower motor is running.
Close	The door motor is running in the closed direction.
Open	The door motor is running in the open direction.
Service	The photo eye system is dirty or partially obscured.
Eye Blocked	The LED is normally on when both photo eye parts are connected, and goes off when the eye is blocked (carrier present), or the Service LED is on.
D17 (Gender)	The LED is on when the Communications Pigtail is connected to the pins on the back of the board in the orientation that will select this board as the "Teller" control/logic board.

NOTHING WORKS:

Is the power LED illuminated on the control boards? (Note that there are separate control boards and power on each end of the lane). Check both circuit breakers on the blower assembly. If the circuit breakers have white showing they are tripped. Reset the breaker and check again. If the power is not on check the 115vac power coming into the machine. Check the circuit breaker in the bank or have an electrician restore power to the unit.

Is the green COM LED flashing? If the COM LED is not flashing, you can reset both processors by simultaneously pressing the SEND and RECALL buttons at the teller end. This will reset the processors on both the teller and customer units. The COM LED should then start flashing.