

APOLLO 1550/1650 Troubleshooting

The Apollo 835/836 board is the standard board in all ETL compliant Apollo Gate Operators. Single gate systems use the 835 board (distinguished by MASTER and EMERGENCY BYPASS modular receptacles) and DUAL gate systems use the 836 board (distinguished by MASTER, SLAVE and EMERGENCY BYPASS receptacles). The 836 board may be used in single gate applications by simply turning PROGRAM SWITCH #3 to the OFF position and only using the MASTER receptacle of the board.

Apollo 1550 ETL and 1650 ETL systems incorporate the 816E (8' cord) and 816EX (38' cord) linear actuators. These linear actuators have a SMART SENSOR inside them that sends information back to the 835/836 board so that the slow start / slow stop feature may be used when Program switch #10 is ON. The 416E / 416EX actuators (which do not have the smart sensor) can also be used with the 835/836 boards - however program switch #10 must be in the OFF position and the slow start / slow stop feature will no longer be available.

Trouble Shooting the Apollo 1550 ETL and 1650 ETL systems:

1. Check your battery! The battery in your gate operator is the power source for the entire system. If it is not adequately charged, the system will not operator properly. Test the battery by checking the voltage with a volt-meter while the battery is under load (gate operating). For AC charged systems – unplug the battery charger before load testing battery. Battery voltage should be 11.5 volt DC or higher while the operator is running (battery under load).
2. Program Switch Settings: At the upper center of the board there are 10 program switches. These switches enable and disable certain features of the Apollo system. DEFAULT setting of these switches is as follows: SINGLE GATE – 1,2,3,5,10 ON (all others OFF) DUAL GATE – 1,2,5,10 ON (all others OFF)
3. LED ENABLE BUTTON: On the right side of the board – half way down is the LED ENABLE button. Pressing this button once and releasing it “enables” the LEDs on the board for approximately 15 minutes. When the LEDs are enabled – the “STOP” light should always be lit on the left side of the board. Other LEDs may be lit as well – depending on the status of the operator. If the gate(s) are in the OPEN position, the OPEN limit indicator(s) should be lit. If the gate(s) are CLOSED, the CLOSED limit indicator(s) should be lit. (The OPEN and CLOSED LEDs should never be on at the same time) Any LEDs that are lit on the left side of the board or at the lower right corner of the board (except the STOP LED) indicate a TRIGGER from an accessory device connected at that location. Devices connected where an LED is lit should be removed before further testing is done. After the system is made operational – these devices may be reconnected one at a time. Check for proper system operation after each connection.
4. Current Sensitivity: At the top center of the board is the “Current Sensitivity” adjustment. It adjusts the amount of force the operator will exert before it senses an obstruction. As the wheel is turned counter clockwise, the operator will reverse more easily. As the wheel is turned clockwise, the operator will push harder. Any time the system “CURRENT SENSES” it will stop and reverse for two (2) seconds. If the system “CURRENT SENSES” a second time before fully opening or closing – it will again reverse for two (2) seconds and then go into a HARD SHUTDOWN (see below). Sensitivity should be set to a level that is sufficiently strong to open and close the gate in all conditions – yet still sensitive enough to be safe. A good starting point is the one o'clock position.

5. **Activating the system:** A momentary connection between activation inputs and ground (GND) is how the system is activated. At the upper left and bottom right of the board are terminals marked INP or INPUT. These terminals - when momentarily shorted to ground (GND) - will open, stop and close the gate with each activation. The button on the side of the box (swing gates ONLY) is connected to these terminals and may be used to activate the gate when the key is in the horizontal position. On our newest boards there is an "OPERATE" button at the upper left area of the board that may be used in the same manner.
6. **HARD SHUTDOWN:** If the system has encountered an obstruction two times before fully opening or closing – the HARD SHUTDOWN LED (upper right of board) will begin flashing – indicating a Hard Shutdown situation. Check to see that any obstructions are removed from the gates path and then press the "HARD SHUTDOWN RESET" button to restart the system.
7. **MOTION indicator:** On the right side of the board where the open/close limit indicators are located you will find the MOTION LED(s). These LED(s) show the feed-back from the SMART SENSOR in the 816E/816EX actuators. (LEDs must be enabled) A flickering light as the operator is running indicates that the sensor in the actuator is working. If there is no feedback (light not flickering) - the system will only run a short distance and stop. Turn PROGRAM SWITCH #10 to the OFF position and re-test. **IMPORTANT!** If switch #10 is ON in a dual gate system – both actuators must be connected (and sensors working) or system will not function properly.
8. **Dual Gate Systems:** Test dual gate systems individually. Turn program switch #3 ON (disables SLAVE side of board) and test actuators one at a time using MASTER side of board only. Confirm proper operation of each actuator. If both test 100% - then test together by connecting both actuators and turning program switch #3 to the OFF position.
9. **EMERGENCY BYPASS:** At the bottom left of the board is the EMERGENCY BYPASS receptacle. Plugging the operator harness into this receptacle will OPEN the gate ONLY! It is intended to open the gate(s) should other methods fail. Note that if the motor draws more than 15 amps of current the fuse above the receptacle will blow. Also, the gate operator will not stop by its self at the open position. The plug must be removed to stop the gate. (This is also a handy way to test that the current consumption of the motor is within the normal limits)
10. **FIRMWARE:** In the upper right area of the board there is a micro-processor that has a white label on it. This is the "FIRMWARE" of the system. Currently (May 2005) we are using firmware version V31.00.02. For troubleshooting versions of the firmware earlier than V31.00.00 consult your original instructions that were included with your system. Systems that are out of warranty may be upgraded to newer version firmware for a nominal fee.