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Troubleshooting Tips

#8 – Gilbarco code 34, Battery Failed

We have been getting a lot of calls lately on Gilbarco Modular pumps showing a flashing code 34 and price, which indicates the battery failed a test. Many Contractors have been changing Controller Boards and Regulator Boards to no avail. If the Controller has version 53.4* or higher software it is the least likely cause of the problem and the Regulator is probably the second least likely.

**** Controller Boards with a lower software version than 53.4 should have the software changed as there were problems with the battery test circuit on earlier versions. Contact your Gilbarco Distributor for new software.***

To understand a little better why it does this let us look at how the code 34 occurs.

The pump periodically does a battery test on its own. In particular, it does one 15 minutes after power up if it has been turned off. This one occurring fifteen minutes after power up is usually the one that causes the code 34. When you power the pump down at night, the pump is under battery power for 15 minutes. This is to enable the display of a last transaction. As a result the Battery may drop from its normal charged voltage (new battery 13.2V) by a couple of volts. When the pump is powered up the Battery starts to charge but at 15 minutes, the pump does a battery test by feeding battery power through a large resistor mounted on the power supply for 15 seconds, simulating a display last transaction. This may drop the Battery voltage by more than one volt. At the end of the test the Controller checks the Battery voltage and if less than 11 volts it fails the test.

Now the Batteries used, are just like a car battery. Their efficiency drops with temperature and with lack of use. So if it is cold the Battery may not charge as high or it may drop more voltage during the test. New Batteries may not be good either unless the supplier's recharge them on his shelves every six months (we do). Therefore cold can be a major factor and shelf life can be a major factor.

To check it, perform a Battery test under Command Code 9. If the test fails, check your battery voltage. If it is low, the Battery needs to be replaced. But before replacing it something else that should be checked is that you have very good connections from the Battery to the Regulator Board and from the Regulator Board to the Battery Test resistor.

To check this turn of power to the pump and then turn off the battery by pressing "Clear" and then "Enter" on the keypad of the pump. Then with an ohmmeter check from Pin 5 of

plug J502 (usually an orange plug) on top of the Regulator Board to the + (Positive) terminal of the Battery. You should have less than 1 Ohm resistance. If you do not check Plug J601/P601 at the rear of the Power Supply (make sure pins are not centred in sockets) and then check the top (Battery) fuse on the Power Supply (make sure it is both good, and seated properly).

If this is OK then check from Pin 6 of Plug J502 to the - (Negative) terminal of the Battery. If it is bad, then check plug J601/P601 again.

If these are both OK then check from Pin 6 of plug J502 to the end of the Test Resistor (mounted beside the Battery). Check both ends of the Resistor and one end should be less than 1 Ohm. If bad again check plug J601/P601.

If all are good then try a new Battery, letting it charge to 13 volts before trying a Battery test (the pump will do it automatically 15 minutes after power up). If it still fails then and only then should you try changing the Regulator Board.

The Controller Board should be your last resort!