



electronic rebuilders

a division of National Parts Distributing Ltd

trouble shooting tips

No. 4 The Hot Black Head

Published: July 1989

HEAT BUILD UP IN GILBARCO HIGHLINE BLACK PAINTED HEADS

We have recently come across a failure on W1513-G1 and W1854-G1 Regulator Interface boards which brought to our attention a possible area of concern.

The problem symptom was a reoccurring Pulser Fail signal (Flashing PPU "Price/Blank" or "Price/020") on a Highline with the Black Painted head (mostly Esso Pumps).

Changing the board cured the problem, however when we were running tests on the board, we found that even new boards with new components were marginal at best. Here is what we found.

On the faulty board we found that the Transistors in the Pulser Fail Circuit gave a Pulser fail signal when they were heated to 49.2 deg. C (120.56 deg. F). We then ran tests on new boards and on the faulty board with new transistors and found that they all gave a Pulser fail signal at approximately 54 deg. C (129 deg. F). All of these temperatures including the lower fail temperature are extremely high, and we wondered how they could get that high in the pump.

We realized that when Exxon originally requested the Black painted head, they were warned by Gilbarco that they would experience a 20 to 30 percent higher failure rate because the temperature would increase by that amount in a vented head.

We however have found the heads are not necessarily vented for two reasons, one of which is curable.

The first reason we have discovered is that during painting of the head, Gilbarco have been covering the vents with a small round sticker in order to mask them. These have not necessarily been removed prior to shipment. (We have a brand new Modular pump in our shop that still has these stickers in place.) These can and should be removed in the field. (It should be checked at commissioning, but do not bet on it. Check it yourself.)

The second reason the vents get covered is by the installation of Customer Preset Panel Boxes. we know of no way of curing this without a design change by Gilbarco. (Field modification is possible but you would be changing a CSA approved design.)

If you run into this situation your only **cures are trying** another board which may have a higher temperature tolerance, make sure the vents are not covered (difficult with Customer Preset), and if at all possible shade the head from direct sunlight.

If none of the above help or can be done, powering the head down whenever this occurs and letting it cool off before powering back up may be your only solution.