



Service Bulletin #25

To: Service Manager
 From: Data East Pinball Service Department
 Date: May 8, 1990
 Subject: Phantom of the Opera Flippers

During the production of Phantom of the Opera we have encountered and corrected some very intermittent problems with the flippers. The symptoms and their solutions follow.

Symptom 1) The flipper goes up with full strength but falls immediately back down without the player ever releasing the button on the side of the cabinet.

Symptom 2) The flipper gives a weak flip. (If the game did not have Solid State Flippers, you would think the EOS switch was dirty.)

Problem 1) The hold up circuit is not being turned on because not enough current is being applied to the SCR's that are responsible for holding up the flipper coil.

Problem 2) There is not enough current going through the flipper button micro switch contacts and therefore there is not enough current to turn on the 50 volt circuit.

Solution 1) For the flipper that goes up and falls back down, on the Solid State Flipper Power Supply Board, change resistors R16 & R32 to 100 ohm 1/4 watt resistors.

Solution 2) For the weak flipper, on the Solid State Flipper Power Supply Board, change resistors R7 & R23 to 1,000 ohm 1/4 watt resistors.

We have made these changes to the Solid State Flipper Power Supply Boards starting with Phantom of the Opera Serial #27,607.

*****Note 1*****

On Phantom of the Opera Serial #27,607 we also started using a new flipper button micro switch. The snap action force has been increased with this new micro switch resulting in a more positive switch closure. We are enclosing 10 of these new micro switches (Data East Pinball Part Number 180-5067-00). These should only be given to your customers if the resistor changes do not correct their flipper problems. We are also soldering the wires directly to the switches to eliminate any possible bad connection through the wire spade clips.

*****Note 2*****

These changes can also be done to the RoboCop games that have had their Flipper Power Supply Boards updated as instructed by Service Bulletin #23.

If further assistance is required please contact Pete or Arnie at 1-800-542-5377. (In Illinois call 1-708-345-7700.)

Pete & Arnie
Field Service Department
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