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SP-2000 Printhead Service

This issue shows the procedures for checking the resistance of the printhead and the voltage of the drive transistors on the SP-2000 Ticket Printer. These procedures determine if the connections to the printhead are functioning properly and are important because replacing a printhead when a faulty drive transistor (Q3-Q11) exists on the board results in another damaged printhead in need of replacement. The key to minimal repair is to perform the following tests when you suspect a faulty SP-2000 printhead.

CHECKING PRINTHEAD RESISTANCE

1. Remove printer cover.
2. Locate where printhead ribbon cable plugs into connector on headboard assembly (back of print mechanism between head drive motor and paper clamp solenoid).
3. Unplug ribbon cable from connector and check resistance of printhead. Ribbon cable has 12 connections: three in the middle that are tied together, and five connections on one side and four on the other.
4. Place one lead of resistance meter to middle three connections and test the other connections one at a time with the other lead. A resistance value of 15-18 OHMS is normal and signifies no damage to the printhead. The printhead must be replaced if the reading is open or shorted.

| J6 Pin | Drive Transistor |
|--------|------------------|
| 9 | Q3 |
| 10 | Q4 |
| 11 | Q5 |
| 12 | Q6 |
| 13 | Q7 |
| 14 | Q8 |
| 15 | Q9 |
| 16 | Q10 |
| 1 | Q11 |

CHECKING THE DRIVE TRANSISTORS TO PRINTHEAD

1. Remove printer cover.
2. Remove printhead mechanism assembly and disconnect all cabling.
3. Locate where printhead ribbon cable plugs into J6 connector on main CPU board (see figure below).
4. Apply AC power to printer.
5. Using voltmeter, put positive lead to pin 8 of J6 socket and negative lead to pins 9, 10, 11, 12, 13, 14, 15, 16 and 1.
6. Pins should read between .5 VDC and 3.5 VDC depending on the internal resistance of the voltmeter used. If a pin reads from 5 VDC to 36 VDC, the drive transistor for that pin is damaged and must be replaced.

