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Eclipse Head & MPU P/Supply Problem solving

Problem:- Loss of "K" Factor (Lockup - 999.9)

An Eclipse Head can loose "K" Factor for many reasons. The following are the most common. These steps may assist in reducing the failure rate.

1/ **Old or faulty battery** – Depending on a particular sites daily hours an Eclipse battery should have a life span of 3 to 4 years. When a battery can't supply >4.8 volts to a head over night the head will loose "K" Factor. A new battery may be fitted in the field, however after such a long spell in the field it is best that the head is replaced with a reco head & returned for refurbishment.

2/ **Main Eclipse PCB faulty** – The main "Rocket" board contains many components that can start to draw a high level of current without failing completely. This puts undue load on the battery which can flatten the battery over night causing loss of "K" Factor. In the field unfortunately it is very difficult to ascertain if this is the case or if it is just a faulty battery. In any case the head must be replaced to be sure.

3/ **Bad or dirty connection between MPU & Eclipse Head** - If the cable from the MPU P/Supply to the head has bad &/or dirty connections this can spike the head at "power up" or supply a low or noisy DC supply to the head. Any of these can cause a head to loose "K" Factor. Check & clean these connections at both ends with contact cleaner. Keep in mind, these cables often get overlooked as a problem, remember they may have been in the field for over 20 years!!!!

4/ **Low DC output from MPU P/Supply** – Early MPU P/Supplies used a smaller transformer. The output voltage on these was between 15 to 16 volts DC. Later MPU's now use a Hi output transformer. The output voltage on these is between 17 to 18 volts DC. **NOTE:-** This output voltage is measured across the 4700uF electrolytic capacitor (Large blue cylinder at the top of MPU Board) with the power on. It can also be checked with the nozzle lifted & motor running. An Eclipse Head finds it difficult to function correctly on anything under 15 volts DC. Replace MPU if low output voltage is detected.

5/ **Incorrect LCD alignment** – This isn't as common, however the potential is there that an LCD that has been installed across to one side of the LCD frame can draw a high level of current. Always correctly align LCD's in the centre of the frame & check the others while the head is apart.

The list is endless to why Eclipse heads loose "K" Factor. The above is a list of the most common reasons & some practical ways to reduce the failure rate.

Please don't hesitate to ring me at Kentronics on Ph 07 5429 5363 or 0417 377 480 if assistance is required while on site.