

From: "Peter Stolcs" <PeterS@data-tech.co.za>
Subject: **RE: Powervalue controller (fwd)**
Date: April 7, 2003 4:29:22 AM CDT
To: "Cyber" <cyber@WetLeather.Com>
Cc: "Gamma List (E-mail)" <gammalist@edj.net>
Reply-To: <PeterS@data-tech.co.za>

Hi Matt,

Re: I can hand rotate it to the HI position, and when I turn the key on it rotates back to LOW, but it's refusing to rotate to HIGH over 7800RPM or any RPM for that matter. The front cylinder cables were too tight it seems from when I adjusted them last I guess, and the motor wouldn't turn at all, but now it's rotating, but not to HI.

I had a similar problem except my AEC controller would not rotate the valves to the "open" (Lo RPM) position. I inspected the cables and found that the previous owner had installed 2 cables incorrectly which resulted in one cable binding / not leading onto the cable drum correctly.

The result was blown power transistors in the AEC controller.

The transistors are a bastard to replace because they have OEM markings, I had to find out the characteristics of the good set (PNP's for Hi RPM position) and then get a matching set of NPN's to replace the damaged set (I replaced all 4 with higher value units). 4 power transistors (2 NPN and 2 PNP) are used to swing / reverse the polarity of the supply voltage on the AEC Servo motor, if there is any hint of overload on the motor (stuck valve / binding cable) the respective transistor pair overload and self-destruct.

You could dissolve the potting compound in thinners and replace the damaged transistors but this is not an easy task. It's a shitty job that will take about a week for the thinners to dissolve the potting compound, even then, there are enough plates and insulators between the pc board and the metal case that make it's extraction a pain in the ass. There is an aluminium strip which acts as a heat sink for the power transistors, it's pressed against the inside of the metal case and is a bastard to get loose. Potting compound gets between a plastic insulator, the pc board and the metal case, thinners can't get to the compound and this makes extraction tricky. Thinners will (may) attack the rubber stoppers on 2 of the electrolytic capacitors used in the circuit. This is no big deal because they are easy / cheap to replace and even if they are not damaged, it would still be best to replace them. (my opinion)

Cheers
Pete

The South African RG500 Web Site
<http://www.data-tech.co.za/rg500>

-----Original Message-----

From: Cyber [mailto:cyber@WetLeather.Com]
Sent: 07 April 2003 00:46:
To: Peter Stolcs
Subject: Powervalve controller (fwd)

Seems mail to the gamma list isn't working for me.... anyway, you got any suggestions? Is your controller ready for prime time yet?

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- Matt Schreiner A.K.A. Cyber =>
mailto:Cyber@WetLeather.Com ...O=>O... OMRRA: 245
<http://www.midnightfantasy.com/cyber/> MSN: cyber@wetleather.com
"When the last moment comes, and my life flashes before my eyes,
it's gonna be one hell of a show!"

----- Forwarded message -----

Date: Sun, 6 Apr 2003 13:09:38 -0700 (PDT)
From: Cyber <cyber@WetLeather.Com>
To: Gamma list <gammalist@edj.net>
Subject: Powervalve controller

Well, I think my powervalve controller is kaput. I can hand rotate it to the HI position, and when I turn the key on it rotates back to LOW, but it's refusing to rotate to HIGH over 7800RPM or any RPM for that matter. The front cylinder cables were too tight it seems from when I adjusted them last I guess, and the motor wouldn't turn at all, but now it's rotating, but not to HI. Other problem or is this a typical PV motor burnout situation. I guess if it was blown I would have expected it to not rotate at all.

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o
- Matt Schreiner A.K.A. Cyber =>
mailto:Cyber@WetLeather.Com ...O=>O... OMRRA: 245
<http://www.midnightfantasy.com/cyber/> MSN: cyber@wetleather.com
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