



Re: N8051P

From Colton Maughan [REDACTED]**Date** Fri 2/14/2025 3:31 PM**To** John Brannen [REDACTED]

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Good afternoon John,

Here is what we found on the N8051P.

Investigation into the mechanical and electrical condition of the incident aircraft associated with the reported events leading up to the incident are as follows:

1. Upon initial visual inspection of the electrical system of N8051P after gear collapse upon landing at KTYR, I observed several circuit breakers to be open. These circuit breakers are as follows:
On the instrument panel:
Unlabeled 5 Amp CB (later found to supply the Bendix King KLN 89B TSO GPS receiver),
Unlabeled 3 Amp CB (later found to supply the Garmin GMA 340 Audio Panel),
Nav 1, 5 Amp CB found to be the supply to the Bendix/King KMD 150 Multifunction Display,
Nav 2, 2 Amp CB which I was unable to determine which units were supplied by this CB.
DME, 3 Amp CB which I was unable to determine which units were supplied by this CB.
On the Circuit Breaker Panel located horizontally and at a 90° angle below and forward of the instrument panel above the pilot's left knee:
Labeled Master, 5 Amp CB.
Labeled Flap Motor, 50 Amp CB.
Labeled Nav Lights, 5 Amp CB.
2. As there was smoke and sparking reported during the incident flight, I visually inspected the wiring harness and all accessible areas forward of the instrument panel and was unable to determine any source/sources of the smoke and/or sparking.
3. As I was unable to initially determine if the disengaged (open) circuit breakers were pulled manually or automatically tripped, I applied 13.8vdc to each of the load side terminals of the disengaged circuit breakers individually with a regulated power supply with both Voltage and Current output meters to monitor any source of abnormal current draw. As the Power Supply used is capable of supplying up to 10.0 Amps and capable of limiting the current output varying between .1 and 10.0 Amps while monitoring the load draw, there would be a reduced chance of further damage to any systems or components.
The result of testing the individual circuits in this way produced the following results:
The unlabeled 5 Amp CB found to supply the Bendix King KLN 89B TSO GPS receiver had a current draw in excess of 10.0 amps. When the KLN 89B GPS receiver unit was removed, the current draw was 0.0 amps.
The unlabeled 3 Amp CB found to supply the Garmin GMA 340 Audio Panel had a current draw in excess of 10.0 amps. When the GMA 340 unit was removed, the current draw was 0.0 amps.
The labeled Nav 1, 5 Amp CB found to supply the Bendix King KMD 150 Multifunction Display had a current draw in excess of 10.0 amps. When the KMD 150 unit was removed, the current draw

was 0.0 amps.

The labeled Nav 2, 2 Amp CB possibly supplying the Bendix/King KX 165 TSO Nav unit had a current draw in excess of 10.0 amps. When the KN 165 was removed, the current draw in excess of 10.0 amps remained.

The labeled D.M.E, 3 Amp CB, which I was unable to determine any unit this circuit breaker supplied, had a current draw in excess of 10.0 amps with all avionics in the stack removed. With all of the initial disengaged circuit breakers still disengaged, powering of the entire aircraft bus with the Avionics Master switch on resulted in the Bendix/King KN 53 TSO and the Garmin GTX 3XX Transponder powering on and lighting up their respective displays with a combined current draw of 2.25 Amps including the aircraft bus.

4. Any time power was supplied to the Garmin GMA 340 Audio Panel, within a few seconds of application of power, the rear portion of the unit would produce smoke. This smoke continued for several seconds, 10-20, after power was removed.

I was able to determine the Bendix/King KMD 150 Multifunction Display, the Garmin GMA 340 Audio Panel, the Bendix King KLN 89B TSO GPS receiver, the Bendix/King KX 165 TSO Nav/Com unit, and the Bendix/King KY 97A TSO Nav unit have internal damage and will not power on. The excessive current draw of these units automatically tripped five of the disengaged circuit breakers.

Respectfully.

Best regards

Colton Maughan

Wingspan Aviation LLC

