



Teeters' Cozy First Flight

Bill Teeters (KY) - My Cozy, N369CZ first flew on Sunday, September 27, 1992. My wife and I started on it in September 1988. The equipment includes IFR panel, O-290 GPU engine, 62 x 74 Prince propeller, electronic ignition / magneto, intercom, KX-155, Transponder, Apollo 618TCA and audio panel. The airplane empty weight is 1047 pounds.

I really could not have built this project without the help of my wife and encouragement of Steve Russell and other friends.

More Ellison Woes

John Nicholson (ONT) - It has been a very frustrating summer, not only because of the weather but because of an Ellison I was trying to get to run on my airplane. I started testing in April and had no success at all. It ran too lean (high EGT). After many calls to Washington I finally got a much richer tube but that didn't work either. They sent me a second unit after many more calls. It ran OK for about a 1/2 hour then the EGT started to climb again.

I returned the thing and Ellison returned my money, but throughout the whole frustrating summer I felt they were very unhelpful. I am glad to be rid of it! I was not surprised to see your caveat in the latest newsletter.

We have since replaced the carburetor and this has cured my EGT problems entirely.

\$15 Over Voltage Protection

Tom McGovern (IA) 319-377-5976 I recently heard of a pilot who had his avionics destroyed by excessive voltage. What a frightening thought! \$\$\$ That event prompted me to design a circuit that would prevent such a catastrophe from happening in my Eze.

Figure 1 shows a full size pattern of the circuit board. Use Radio Shack PC board 276-1499 and cut a piece 2 x 2 inches. Copy the pattern on to the circuit board and then cut the lines out with a sharp knife. Now inspect the board carefully to be sure all of the lines are cut completely through the copper laminate.

Next, install the parts using figure 2 to determine the proper component

position. Bend the leads as shown in figure 3, then solder them in place. Note the pin numbers on IC1. C1 and C2 should be installed with the negative lead connecting to the large pad that connects to battery negative. The LED anode connects to IC1 pin 9, and the cathode connects to R5. You may connect the LED with small insulated stranded wire and mount it on the instrument panel. SCR1 may be any SCR with a 25 amp and at least 50 volt rating. Be alert to which leads are anode, cathode, and gate and connect per figure 2. R2 is selected to make the circuit trip at 16 to 16.5 volts.

Temporarily connect a 12 volt light bulb in place of the 15A circuit breaker in figure 2. Connect a variable power supply to the battery connections on the circuit board. Observe proper polarity! Slowly increase the voltage until the lamp lights up. Using an accurate meter, measure the supply voltage. Vary the R2 value until the light comes on at 16 to 16.5 volts. Increase R2 to increase the voltage and vice versa. Each time the light turns on, it will be necessary to temporarily disconnect the power supply to turn the light off again.

Now remove the lamp and connect the 15A breaker per figure 2. Use enough wire so you can mount the breaker in the panel near the LED. Mount the circuit board anywhere that is convenient. Any time the LED lights it indicates an overvoltage condition, and the circuit breaker should trip.

Another way you can use this circuit is to hook it across the circuit breaker that feeds power to the alternator rotor. That way when the circuit senses an over voltage it will automatically take the alternator off line.

For use in 28 volt circuits, change R1 to a 27K resistor and then pick the value of R2 to make the circuit trip at 29 - 29.5 volts.

I hope you can use this idea and that it saves you from very expensive smoke. Good luck.



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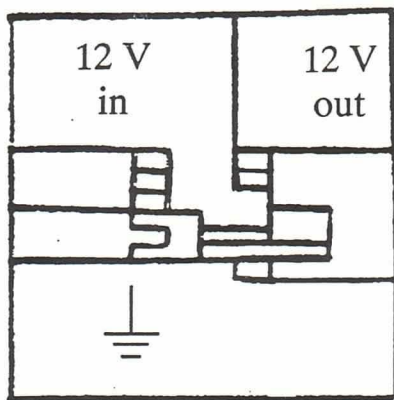


Fig 1

White area is copper. Black lines are where the copper has been scraped away. Circuit board is shown full size.

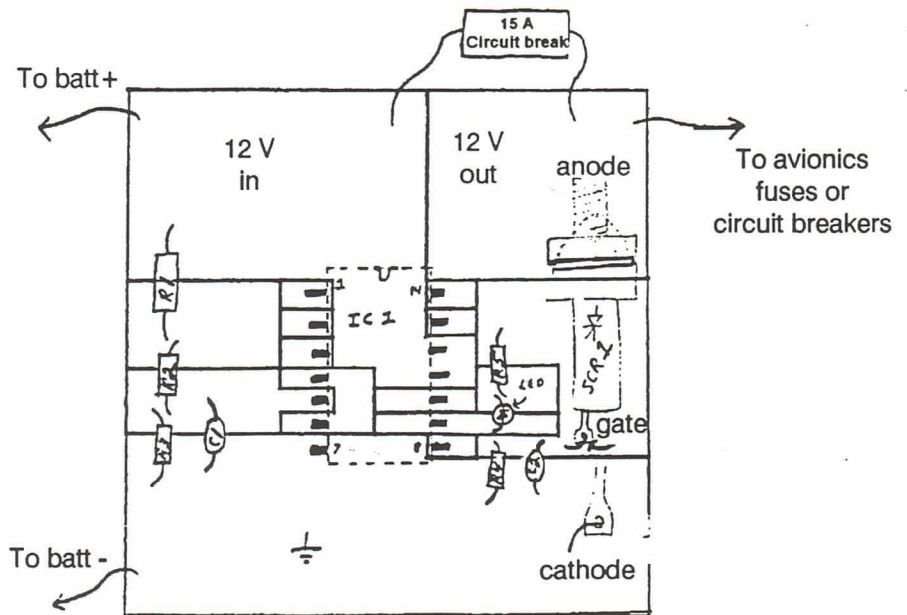


Fig 2

All Resistors



IC1 (end view)



C1, C2, LED



SCR 1

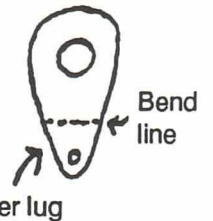
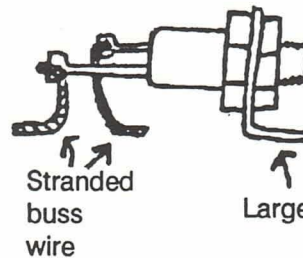


Fig 3

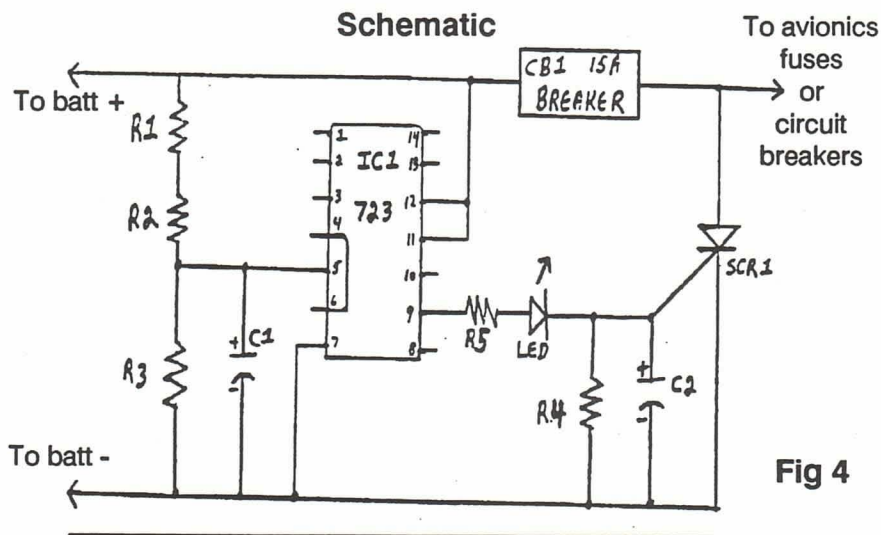


Fig 4

Bahamas Spring Fly-in

FIG 5

R1, R3 - 10K 1/4 watt Radio Shack # 271-1335
 R2 - 2.2K 1/4 watt RS #271-13xx (adjust per text)
 R4, R5 - 1K 1/4 watt RS #271-1321
 C1 - 2.2mf 35v RS #272-1435
 C2 - .47mf 35 v RS # 272-1433
 LED RS #276-041
 IC1 - LM723 voltage regulator RS# 276-1740
 CB1 - 15 amp breaker
 SCR1 - 2N689 (see text)

Sources for CB1 and SCR1:
 All Electronics Corp. 800-826-5432
 Mouser Electronics 800-346-6873

Steve Wright (TN) - I'm organizing a fly out to Great Harbor Cay in the Berry Islands. We'll leave from Sun-N-Fun on April 19 or 20, weather permitting. See the upcoming April newsletter for final details.