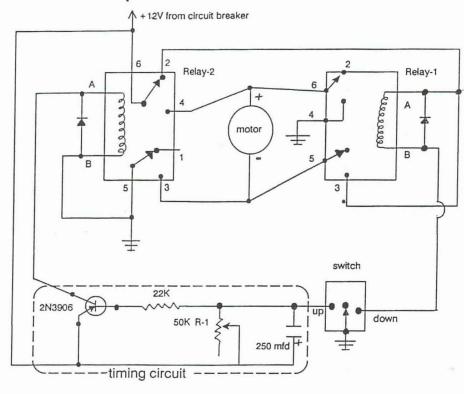
## Speed Brake Actuator Circuit

Ron Verderame (CA) - The following schematic runs the landing brake on Jay Greene's Long-EZ. It uses a small switch that can be mounted on the throttle like in the A-4. The actuator draws 6 amps so a relay had to be included to carry the current. The speed brake can be extended incrementally and retracted with just one touch of the switch.

The throttle mounted switch is a SPDT momentary with center off. The actuator is the Warner Electric Electrak-1. The relays are general purpose ones rated at 10 amps. (Potter and Brumfield K10P11D15 12) When the switch is pressed down relay-1 is activated and the speed brake moves down as long as the switch is held. When the switch is pressed in the opposite direction it triggers the timing circuit activating relay-2. Relay-2 stays on for a time set by the timing circuit. I measured the time to deploy the brake fully and adjusted R-1 to keep the relay on for one second longer. When you move the switch up momentarily the timing circuit is triggered and relay -2 turns on retracting the brake. The speed brake stops automatically because of internal limit switches.

Note the current which activates relay-1 is routed through relay-2. This is done to lock out the down relay when the timing circuit is holding the up relay on. This prevents accidental activation of both relays at once blowing the breaker. The time relay-2 stays on can be adjusted with R-1. You need to play with the adjustment to get the delay you need.

## Speed Brake Control Circuit



Engine n Stuff For Sale

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Ron Verderame 310-568-0800 (9-5 PST) 310-374-2061

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## Wanted

3" or 4" #2 SAE prop extension for O-235, remote oil filter, strobe and position lights, encoder for King transponder, cowling and inlet, seats, carb heat box, spare front tire and tube.

## Lycoming O-235 and Mount

O-235 C2C, Bendix mags, carb, and mount. 1900 hours TT (last 300 not logged) Cylinders Cermichromed at 1700 hours. Asking \$1600 and I pay shipping to the west coast. You pay shipping from there.

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