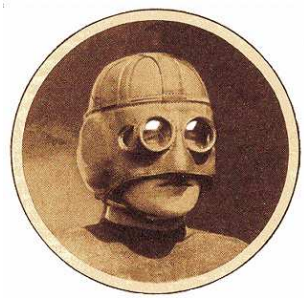

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FOR USE IN EXPERIMENTAL AIRCRAFT ONLY

Bi-Directional ***Snap*Jacks™ Replace Coil Diodes!**

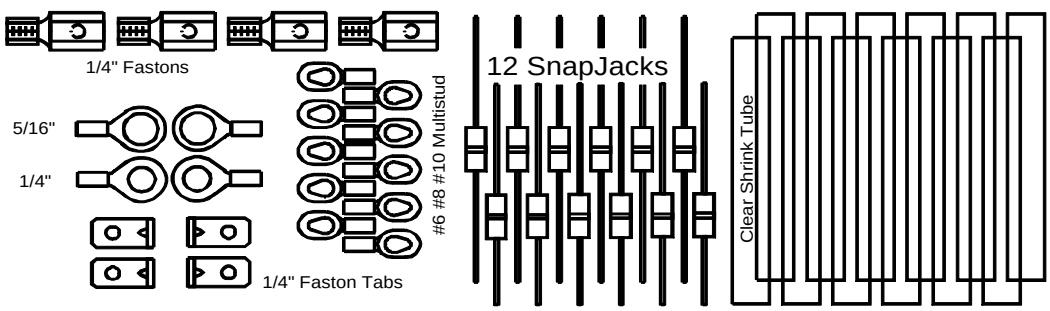
Mechanical relays and contactors depend upon magnetism generated by an electric current running through a wire coil. When the current stops, the magnetic field collapses. But the relay does not know the difference between a wire coil moving in a magnetic field (as in a generator) or a magnetic field moving in a wire coil (as in a collapsing magnetic field). Thus a large voltage—1000V to 1500V typically—is induced in the coil. This current goes the same direction the original current did—so it slows the contact opening—allowing arcing, chatter, bouncing, contact welding and even re-closure! Yikes! This coil-craziness has to be suppressed for things to function at all. Perihelion Design sells 18V 600W Bi-Directional Zener Transient Voltage Suppressors (for 14.5V systems) that provide the most modern technical solution to relay coil suppression. We sell these as a set of twelve with the typical hardware needed to retrofit a small airplane.

Technical Stuff	Schematic	Type	Polarity +/-	Effect on Release Time and Bounce	Relay Life Reduction
Also ran...		Diode	Req'd !	Excessive	Excessive
Fourth Best		Resistor +Cap	None	Considerable	Considerable
Third Best		Varistor	None	Minor	Minor
Second Best		Zener +Diode	Req'd !	Negligible	Negligible
1st	*Snap*Jack™	Bi-Dir. Zener	None	Negligible	Negligible

References: Tyco-Kilovac, Potter and Brumfield

US$29.89/Set

Shipping Free to US-Canada – Foreign UPS or FedEx at cost. Paypal payment preferred.



Installation and Notes:

Every manufacturer of bi-directional Zener transient voltage suppressors seems to have a trademarked name for these: Transils™, Surmetics™, Transorbs™, TranZorbs™, TransGuards™, Mosorbs™; the list is endless. (Over-paid executives dream up these names.) We call them *Snap*Jacks™.

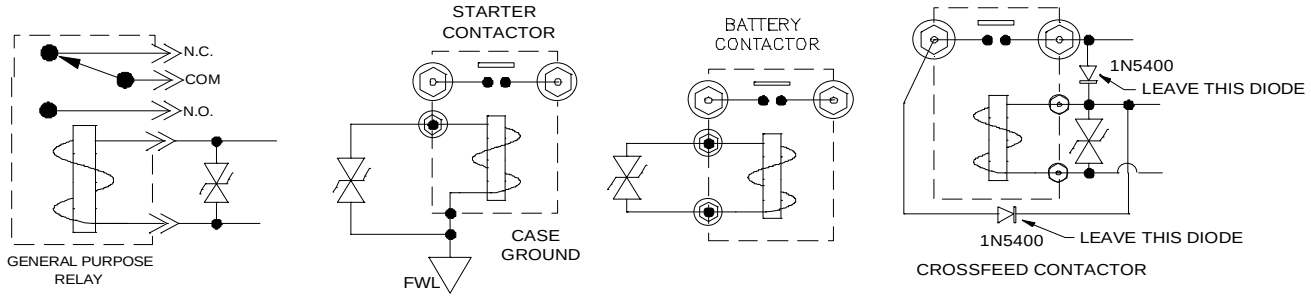
They also are offered in a range of voltages, packages, and wattages. Perihelion Design offers the 18 Volt 600 Watt axial lead version of these guys, commonly known to close friends as P6KE18CA, and includes some of the connectors and shrink tubing you may need to install them.

Basic Plan: SnapJacks are used to replace coil suppression diodes wherever they are now installed. For coils, contactors and relays that are internally equipped with a suppression diode, the best solution may be to buy the equivalent non-diode part. If possible, install the *Snap*Jacks with the shortest leads possible consistent with strain relief and mechanical mounting of the part.

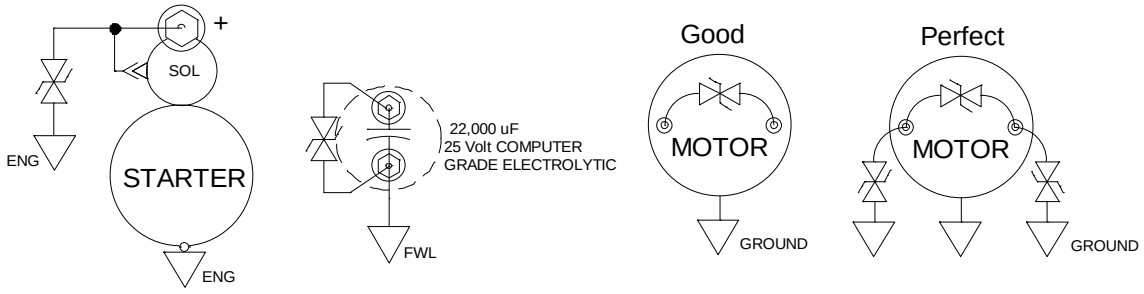
*Snap*Jacks have NO POLARITY, regardless of any marking on the parts. Although the 600 W parts will work fine with the biggest relay, contactor, or motor that your aircraft could lift, you may wish to parallel two *Snap*Jacks on the big loads for redundancy. In some cases diodes associated with contactors are there for purposes of switching logic, not suppression. These should be left alone.

We have included a variety of parts and shrink tubing needed to install the *Snap*Jacks. You must decide what is required for your particular installation.

Where to put them:



And Don't Forget These!



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