

Grounding

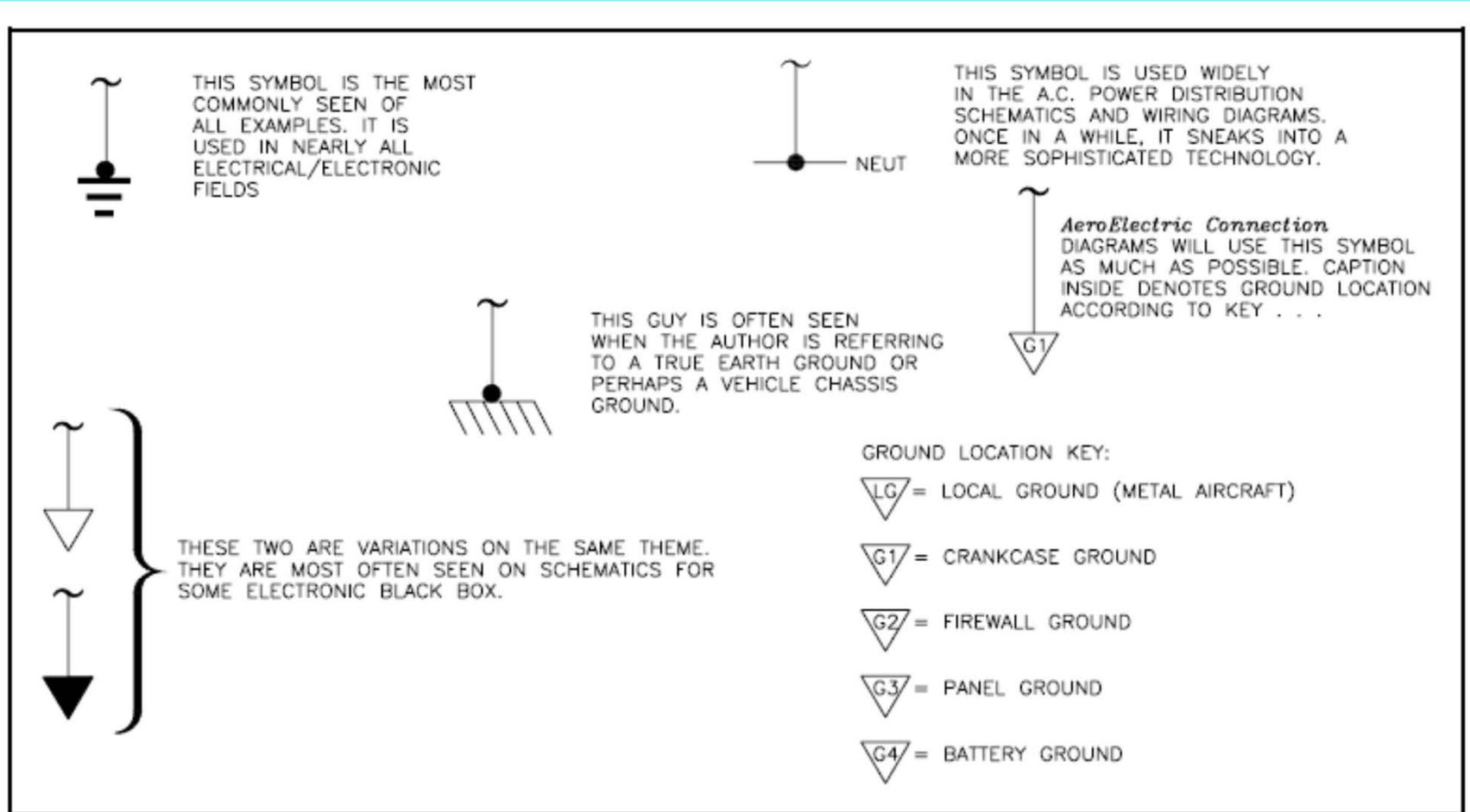
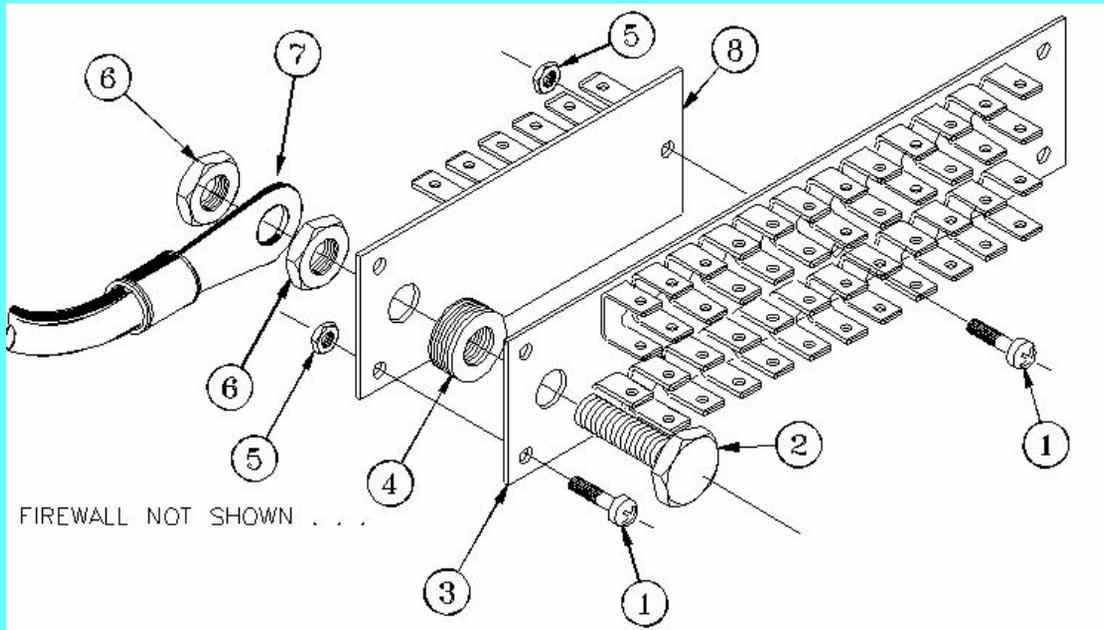


Figure 5-1. The Many Faces of a Ground System

The art of “grounding” goes beyond drilling a hold in local structure and bolting a wire to it . . .

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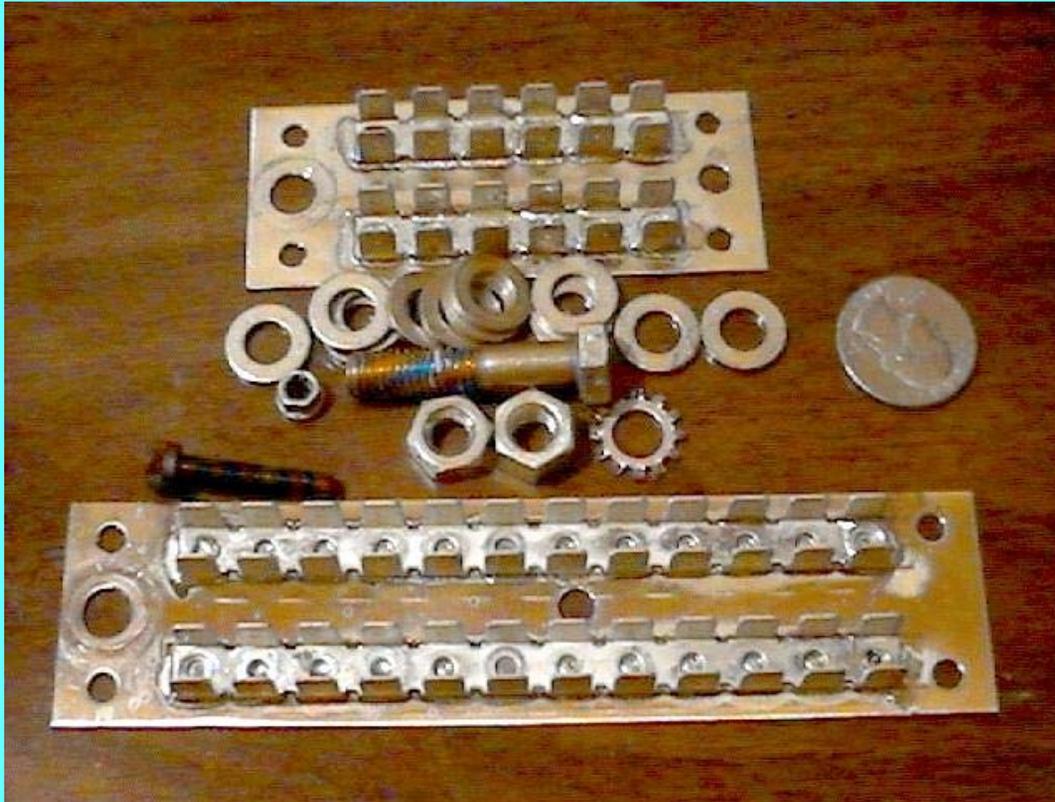
- **The AeroElectric Connection developed this firewall mounted, single point grounding system in cooperation with B&C Specialty Products.**

Implementation of this “forest of tabs” ground system all but eliminates interaction between systems (degrade performance and/or noises).

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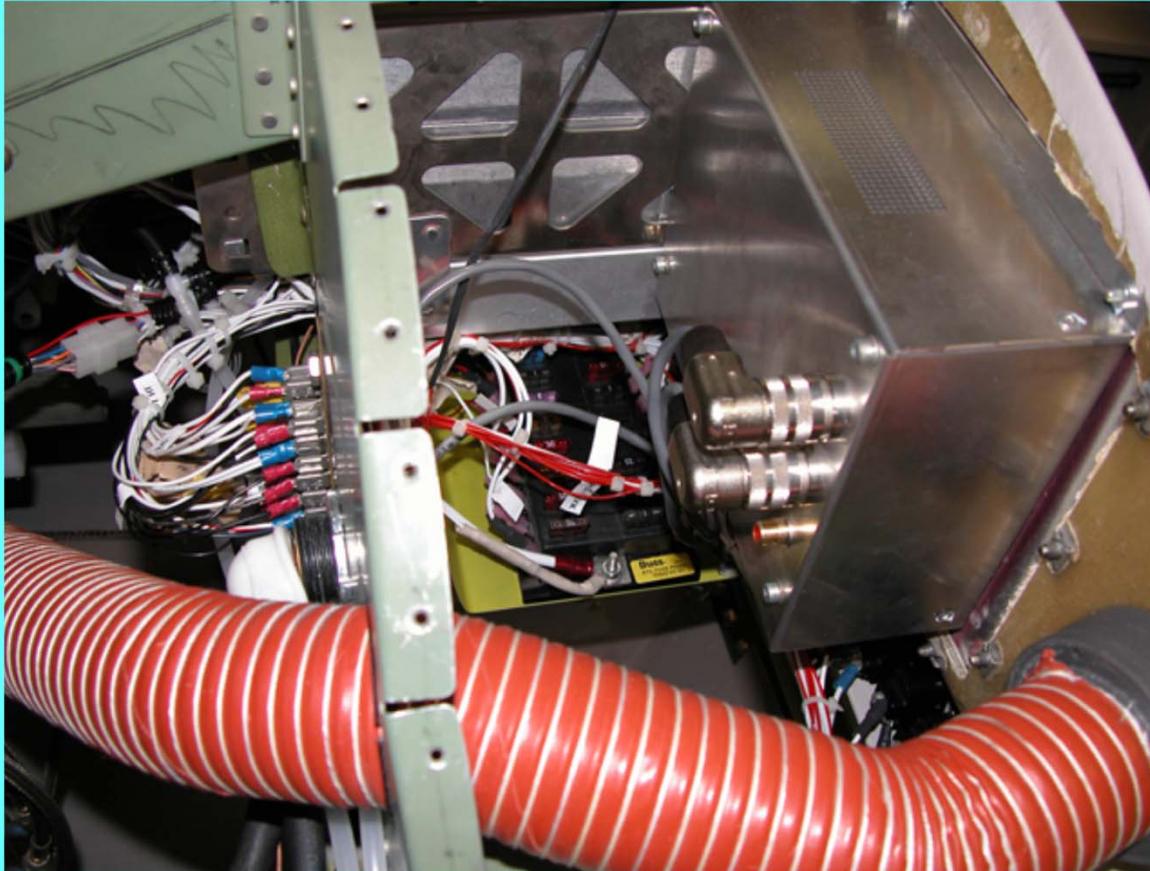
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- B&C offers combinations of 24 and 48 tab blocks along with brass through-bolt hardware for crankcase and possibly battery minus(-) grounding .

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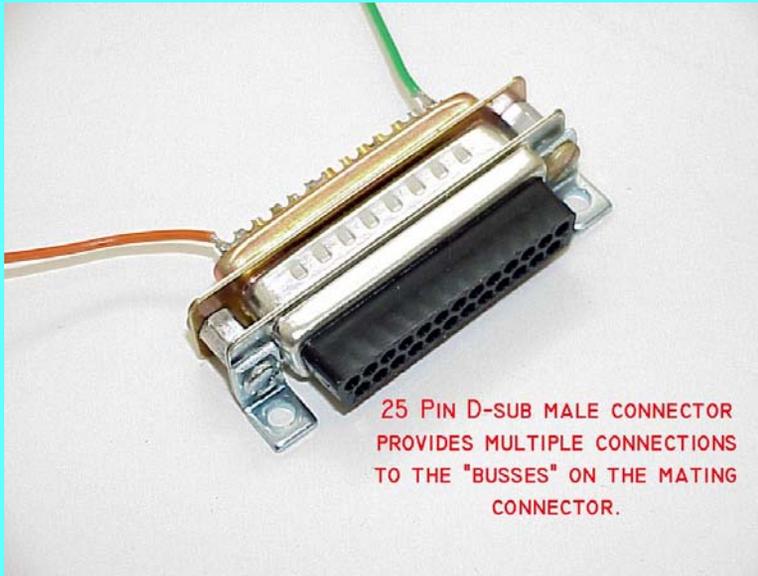
- Here's a view of a single point ground block in an RV



- While single point grounding on large aircraft is impractical, the Big Guys use lots of products specific to the task of achieving high quality grounds.

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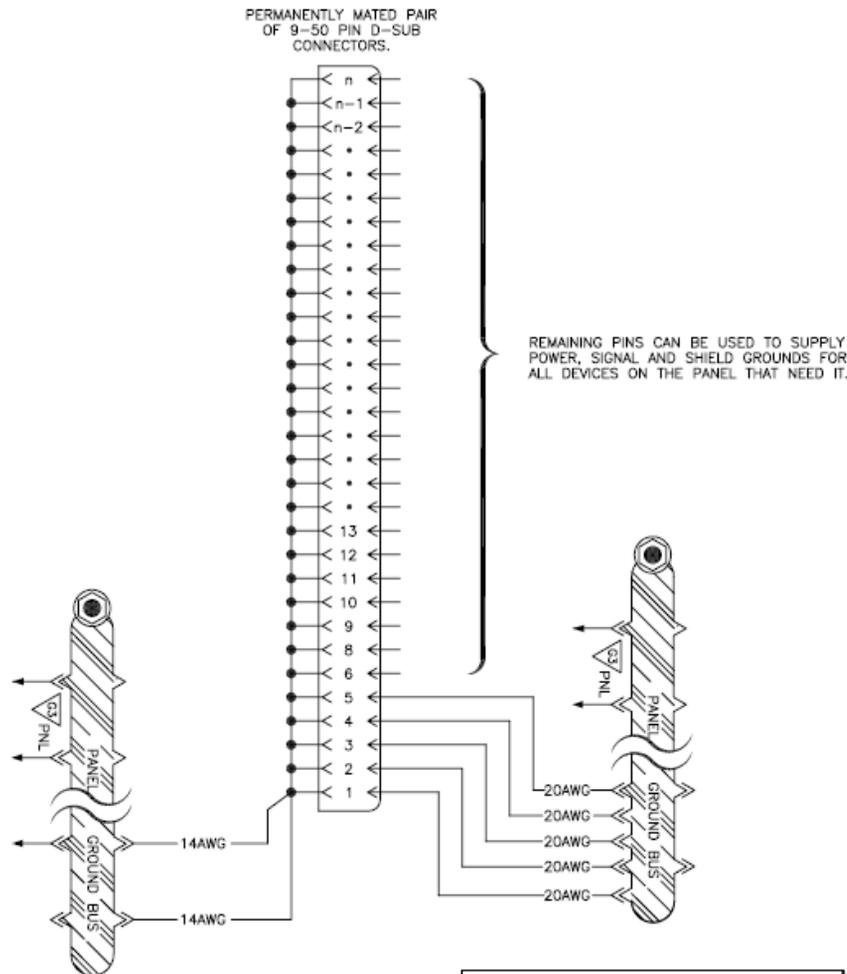
- A cluster of devices (like the instrument panel) can take advantage of an extension of the firewall ground block without violating good practice for “loop free” ground architectures . . .





- Here's an example of a ground block specifically crafted for instrument panels. It's a d-sub connector mounted on a strip of etched circuit card with all pins shorted together.

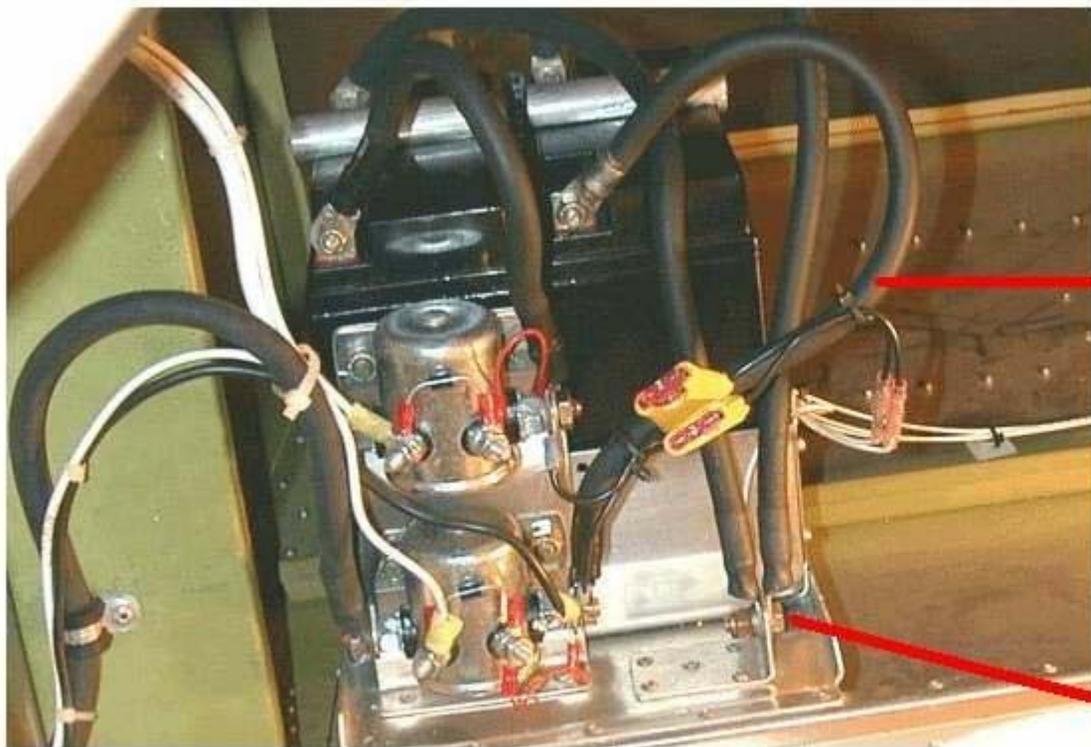
- A remotely mounted panel ground may be extended to the firewall with either a pair of chubby wires (14 AWG) soldered to the commoning block or a small bundle (5 x 20AWG) wires stuck into pins.



IF YOU BUILD A DIY GROUND BUS WITH FEMALE SOLDER CUP CONNECTOR, CONSIDER "BUSSING" ALL PINS TOGETHER WITH A PARALLEL RUN OF 14AWG WIRE. EXTEND THESE WIRES TO THE FIREWALL MOUNTED, PANEL GROUND BUS

IF YOUR FEMALE CONNECTOR IS SOLDERED TO AN ETCHED CIRCUIT BOARD, YOU CAN USE MALE PINS AND 20AWG WIRES TO EXTEND LEADS TO THE FIREWALL MOUNTED PANEL GROUND BUS

LOCAL BATTERY GROUNDING



INSTALLATION AND PHOTO BY LARRY MCFARLAND

USE OF SOFT WELDING CABLE
IS GOOD FOR HEALTH OF
BATTERY TERMINALS.

USE 1/4" OR 5/16" BOLT. CLEAN
SURFACES UNDER TERMINALS AND
BOTH FACES OF TERMINAL TAB
WITH SCOTCHBRIGHT (NO SANDPAPER
OR OTHER ROUGHENING TECHNIQUE).
LIGHTLY GREASE SURFACES THAT
TOUCH BEFORE ASSEMBLY. USE
FLAT WASHER UNDER BOLT HEAD AND
FASTENER NUT. TORQUE FASTENER
TO LIMITS RECOMMENDED BY AC43-13
APPROPRIATE TO BOLT MATERIAL.
FINISHED JOINT WILL BE MAINTENANCE-
FREE FOR LIFETIME OF AIRCRAFT.