

Electrical Supply System

When operating an aircraft that relies upon the continued operation of critical engine electronics such as the EFII system, we strongly recommend using a redundant essential bus power system to guarantee that a good source of +12v is available at all times to power the engine electronics. The simplest way to implement a protected essential bus is to use the EFII Bus Manager product which provides a triple redundant essential bus using two batteries. The Bus Manager also incorporates automatic backup fuel pump monitoring and activation as well as a number of other useful functions. Please read more about the Bus Manager at:

www.flyefii.com

Grounding the vehicle systems (Refer to DRAWING 1)

Proper operation of modern vehicle systems demands a good electrical grounding system. The airframe should never be considered an electrical path.

The airframe should be grounded at **ONLY** one point to the vehicle ground system, typically at the firewall. All other vehicle systems should **not** rely on a connection to the airframe as a method of completing the ground circuit. All vehicle systems should have ground returns to a ground bus which is in turn connected to the battery ground with an appropriate gauge return wire. The engine needs to have a large gauge ground wire connected to a secure bolt on the engine case or block. Never use a motor mount bolt as a ground cable connection point to the engine. Motor mount bolts experience a great deal of stress and movement and can be the source of a grounding problem if the engine ground is connected to them. The engine ground cable should be the same gauge wire that connects the main +12V power feed to the starter motor.

If a ground bolt is used as a main ground pass through on the firewall, this is also a convenient place to tie in the ground bus which all vehicle systems will be grounded to. The ground bus can be electrically connected to the firewall ground bolt with a number 8GA wire.

The single ECU EFII systems require three +12V circuits and associated circuit breakers. The dual ECU systems require an extra breaker for the second ECU. If you plan on using an EFII Bus Manager, you may also need panel space for a Fuel Pump Mode Switch, and Start Battery Select Switch. The circuit breaker requirements for the different versions of the EFII system are listed below:

<u>System</u>	<u>ECU breaker(s)</u>	<u>Ignition breaker</u>	<u>Fuel Pump breaker</u>
EFII-4	5A	10A	10A
EFII-4R	5A (x2)	10A	10A
EFII-6	5A	15A	10A
EFII-6R	5A (x2)	15A	10A