



## High Performance Fans

### Fan Relay Harness (FRH)

185 Degree Thermostat Controlled Relay (185FH)

195 Degree Thermostat Controlled Relay (195FH)

### Parts Included:

Fan wiring harness with relay and fuse holder

Fan thermostat, 185 degrees / 195 degrees

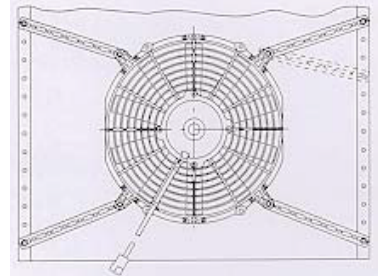
### Overview:

We designed the SPAL fan wiring harness to enable the simplest installation of our performance fans. It is compatible with all types of vehicles and can be installed on positive or negative ground vehicles with no modifications.

### Installing the fan:

When installing electric cooling fans, it is important to cover as much surface area as possible. Mount the fan as high up on the core as possible. Attach the fan to the small area around the core of the radiator where there is a metal lip that is approximately 1/4" to 3/8". This will allow mounting of the fan(s) without compromising the core of the radiator.

(Please call for fan shroud suggestions).



### Wiring:

Mount the relay in a secure place in the engine compartment away from heat sources. Once this is completed, connect the wires per the diagram and notes below.

Red: Connect to the red wire of fan pigtail with pre-terminated yellow crimp.

Gray: Connect to thermostat socket (sending unit) with blue ring crimp connector.

Yellow: Connect to positive battery terminal using the fuse holder and yellow crimp connectors per diagram (see back).

Orange: Connect to ignition switch +12 vdc when engine is in run position. (Hook to constant +12 vdc for the fan to run continuously when the engine is hot even when the ignition switch is off).

Black: Connect ring terminal to chassis ground.

Fuse Holder: Connect fuse holder inline per diagram within 12" of the battery using ring terminal or equivalent.

\* Note: On medium profile fans use a 20 amp fuse, on low profile fans use a 15 amp fuse

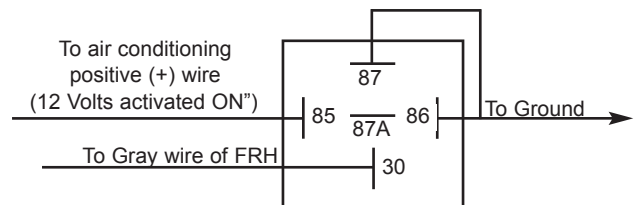
### Installing the Thermostat Switch:

The sensor has 3/8" pipe thread. The thermostat supplied with the kit is an OE type that is designed to mount in the cylinder head of the engine. However, any mounting in water jacket is suitable. The 195FH sending unit comes on at 195 degrees and off at 175 degrees. The 185FH module turns on at 185 degrees and off at 165 degrees. The modules will work on the majority of applications. If a different size adapter is needed, the correct size thread adapter can be found at most automotive parts or hardware stores (1/2" adapter included in the kit). Do not use Teflon tape on the sensor it can cause poor electrical contact and incorrect temperature readings.

**High Current Applications:** See multiple fan wiring diagram on reverse page

### Air Conditioning Relay:

Additional FRH required. From the (second) A/C relay, connect Yellow and Orange wires to ground. Connect the Red wire to the sending unit wire of the original fan relay harness. The Gray wire from the A/C relay goes to the +12 volt of the A/C compressor clutch wire. The fan will turn on when the A/C compressor activates.

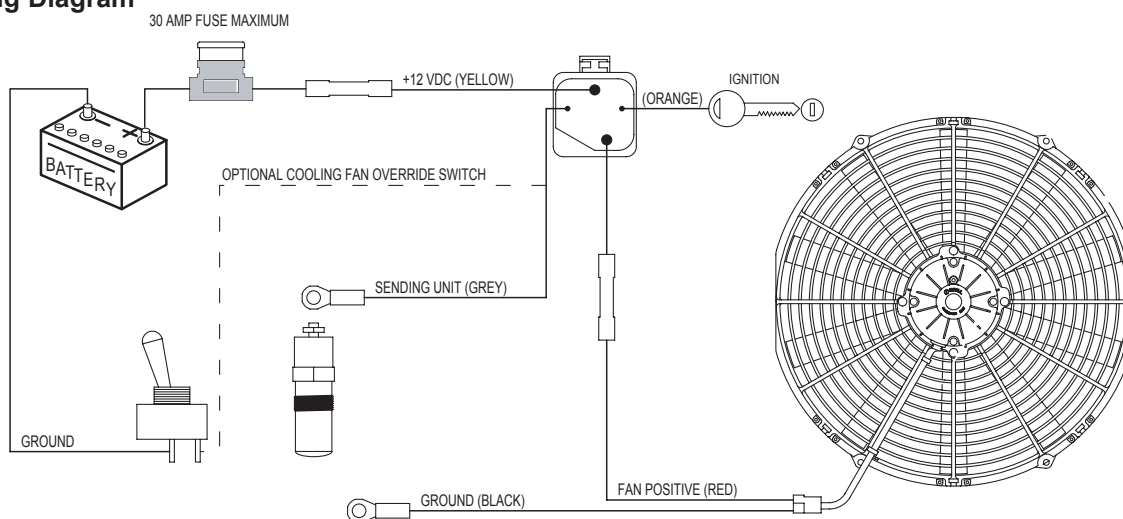


### General Information:

If the vehicle has overheating problems, there can be many causes. Step one is to determine what is causing the vehicle to overheat. The chart below provides several problem, cause and solutions to overheating.

Problem	Cause(s)	Solution(s)
Engine overheats at idle and low speeds	Poor air flow through radiator	Install electric fan or duct air into engine compartment.
	Poor engine ventilation	Install SPAL fan and make sure engine compartment can vent hot air.
	Insufficient radiator	Have the core cleaned or replaced with an appropriate size.
	Engine idle circuit too lean	Enrich idle circuit.
	Engine timing too advanced	Retard timing.
Engine overheats continuously	Poor radiator / engine combination	Install sufficient radiator.
	Defective or stuck thermostat	Install new thermostat.

### Single Fan Wiring Diagram



### Multiple Fan Wiring Diagram

