

# Flyin' Miata

tech line: 970 464 5600

## Wiring instructions for Flyin' Miata fans

9/14/10

The Flyin' Miata fan shroud replaces both of the fans on the engine. While the wiring for the primary (driver's side) fan is sufficient on all years, the wiring for the secondary / AC fan on the '90 – '93 cars is not. Following are directions to rewire the car for the proper wiring. These are only directions for the wiring, refer to the installation hints for the installation of the fans themselves. The big fan is typically on the driver's side, but that's not a requirement. Feel free to change that if your situation dictates it; the wiring will remain the same.

Installation of these fans will use the following tools:

metric socket set    wire stripping tool    heat gun

metric wrenches    wire crimping tool

All of the connectors supplied with this kit are heat shrinkable. The butt connectors must be crimped then shrunk, but the ring terminals are only shrunk.

Once the butt connector is crimped to the wire, use a heat gun and shrink the connections closed. This will provide a watertight seal for the connection. For the ring terminals, use a heat gun, do NOT crimp them. There's a sleeve of solder in there which will melt and complete the connection once it gets hot enough. Direct the heat towards the heat shrink to melt that, but direct it towards the metal ring to melt the solder.

1. Disconnect the negative terminal on the battery. If you skip this step, you will immediately regret it when you grab the wire on the alternator.

2. Mount the circuit breaker to the bracket on the right (passenger) side fender. The igniter and solenoid for the charcoal canister are located here.

Mount the breaker under one of the nuts for the igniter.



Un-melted



Sleeve melted, solder not



Complete





#85 and the other lead to terminal #86. It doesn't matter which wire goes where. Terminal 87a will not be used.

8. Mount the relay to the relay bracket using a 6mm x 10mm bolt, nut and washer. The relay bracket was mounted in step 5.

9. Run one side of the dual lead wire to the nut that mounts the fender support rod to the body. Cut the one side to length, melt on the red eyelet, but don't tighten it down. The same location will be used for another ground in step 13.



9. Run the other side of the dual lead wire over to the yellow wire going into the primary fan. Use the blue butt connector to tap the new wire into the yellow factory wire on the plug. You'll need to cut the original wire, twist the new wire around one of the cut and stripped ends, crimp it into the butt connector, then crimp the other end into the butt connector. If the fit isn't snug enough (pre-crimping), strip more and double the wire over. Once connected, give a slight tug to ensure that the wires are firmly held in the butt connector. **CONFIRM YOUR CONNECTIONS WITH A MULTIMETER!** No connection needs to be made with the other factory fan wire. Zip tie the wire to the upper fan mounts for a neat appearance.

10. Cut the white connector off the secondary (typically the passenger's side) fan. It will not be used.

11. Connect the red wire from the secondary fan to the red wire hanging from terminal #87 on the relay using the yellow butt connector. Connect the black wire from the secondary fan to the black 10 gauge wire using a yellow butt connector. If you'd like to be able to unplug the fan, you can reuse the factory AC fan connector instead.

12. Run the black 10 gauge wire from the fan over to the nut that mounts the fender support rod to the body. Melt on a yellow eyelet and secure this wire under the nut.

13. Double check all of the electrical connections and reconnect the battery.

14. To test the fans turn the car on but do not start it. Remove the wire from the temperature switch on the top of the thermostat housing and ground the wire to the engine. Both fans should energize, blowing air toward the engine. Be absolutely certain that the air is blowing towards the engine, not towards the radiator. If it's blowing in the wrong direction, you need to swap the wires at the fan itself.