Cooling System Tests/Fixes for Fiat Spyders that have an External Thermostat
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So why doesn't the darn fan come on, causing my car to overheat? Several things can cause the fan not to come on;

First step would be to honk the horn, does it work? If so, you can usually be assured you haven't blown the fuse (why they put them on the same circuit only Fiat knows, but it is a handy way to tell if the fuse is blown!).

If that is OK, pull the two wires off of the radiator fan switch and jumper the wires (with the key on). If the fan comes on, you know the wiring is good up to that point. (If you have the late model Spyder, unplug the connector going to the switch to check).

Now you have two choices, go ahead and replace the switch or purge (burp) the cooling system first to make sure you do not have an airlock in the system.

Since it requires draining the radiator to change the switch (and most of us don't keep an extra one handy), the best choice would be to check for the airlock (which is usually the problem).

As to why your car airlocks, it is because the radiator sits lower than the top of the head. So, it tends to trap air at that highest point keeping the coolant from circulating properly.

An airlock can be caused by any type of coolant leak (loose hose clamp, hole in a hose or "using" water due to a leaking head gasket). Once it gets below a certain point, you must purge the air out to keep the coolant circulating properly. Obviously finding the leak would be a good thing to do or you will get to do this exercise over and over again.

Purging is done with the car turned off and the coolant cold.

Check the radiator cap for cracking to make sure that is not the problem. It is a two stage cap that is supposed to allow the coolant to go into the expansion tank when it is hot, but then suck it back out into the radiator as it cools. If the cap is bad, it will just keep putting it into the expansion tank thereby creating that airlock you are trying to prevent! We recommend a 13 pound lever style cap you can pick up at any parts store.

Over the years we have heard and seen a myriad of ways to purge the system. Park on a hill, jack up the car, install a Prestone bleeder kit, use the nut on the metal T at the head (don't do this one as it is easy to strip the threads!), etc. Some work, some ARE work.

On a fuel injected car it is VERY easy to purge the system, simply take off the top hose that goes to the "pre-heater" for the fuel injection (small fuel line sized hose at the very tip top of the engine). Once the hose is removed, pour water/coolant into the radiator until you get a nice stream coming out of the hose. Reinstall hose, put the cap on, heat up the car and check for the fan to come on.

It is a little trickier on the carbureted cars. Again, with the engine off and the coolant cold, take off the radiator cap; loosen up one of the two hoses coming out of the T from the head. You will only loosen the hose clamp and insert a flat blade screwdriver (thereby creating a leak at a higher point than the radiator). Pour water/coolant into the radiator until you get a nice stream of coolant from where you created the leak. Quickly remove the screwdriver and tighten the hose clamp.

MOST of the time this works just fine and gets all the air out of the system. Occasionally, you may have to re-purge the system if the fan does not come on (and you know the switch is good).

As an added measure to ensure we get all of the air out of the system (including the heater core), we will do one additional step that requires a "tool" of our own devising.

First, we use the described method above for the initial purging (depending on model) then we use a specially made tube that fits into the top of the radiator. It is chamfered to fit tightly to block off the coolant recovery line and tall enough to be above the head.

Once the initial purging is done, we start the car with this tube in the radiator, add water/coolant and as the car warms up then add more until we feel it has gotten all of the air out of the system (it does not hurt to turn on, then off the heater control valve). Pull out the tube and install the cap. It is also a handy way to check for a bad head gasket, if it keeps bubbling, it is not a good thing!

This leaves us with the last option; that of replacing the fan switch. They DO go bad, especially if they have been overheated or they are "aged" like a fine wine. Drain the radiator, install switch – and then PURGE the cooling system. We recommend you use the late model "pigtail" style switch as they are a heavier duty switch.

Of course, there are several other things that can cause you grief and make the fan not work properly: a stuck thermostat, a radiator that is plugged up or is damaged and will not flow water properly (ditto for the heater core), a heater control valve, head gasket or porosity in the head. Small leaks in the heater control valve will eventually turn into gushers and spoil your passenger's shoes and good will towards your Fiat…….check for antifreeze on the passenger floor (you can usually smell it inside the car).

If your radiator has leaking seams and you can't afford a new one right now, please! Do not use stop leak! It makes a big mess for someone to clean up in the engine. Instead replace the radiator cap with a 7 pound cap, keep the water level up and purge regularly. It might squeak by for a while. (Can you guess how we know that?)