

# MaxFan Operation

In normal operation and even in Track Mode, MaxFan is fully automatic. The fan starts running at the Set temperature and increases speed if the coolant temperature continues to rise, reaching maximum speed at around 10 degrees above the Set temperature. When the engine is turned off, the fan will continue to run if the coolant temperature is above the Set point. The maximum run time after Engine Off in normal mode is 10 minutes (for the last 4 minutes the fan speed is forced to a slow speed). In Track Mode the maximum run time is 17 minutes.

The Track Mode Set temperature is fixed at 170 degrees. The "normal" Set temperature can be set in 2 degree increments from 170 to 200 degrees. The Default Set temperature is 192 degrees which is derived from the factory thermostat opening temperature of 187 degrees. The thermostat takes up to 20 degrees to fully open, so there is only a little gained by running the fan when the thermostat is barely open and almost no coolant is flowing thru the radiator. These temperature numbers are only approximate, since any of the coolant temperature sensing devices can easily be off 2 to 3 degrees. Also, the coolant takes a few minutes to flow thru the radiator and engine, and start changing the temperature readings.

The benefit of the variable speed fan is to be able to run it at the minimum speed and minimum energy consumption necessary to maintain the desired coolant temperature. This is probably why the factory barely runs the fan (at high speed or after engine off) - more energy use means reduced fuel economy numbers. The continual changing of the thermostat opening, the variable speed fan, changing engine loads, and air temperature variations, will cause the coolant temperature to likewise continually change, easily 8 degrees.

MaxFan allows you to change the fan start (SET) temperature to select the operating temperature range, versus the amount of fan run-time, that you think is best. The engine operating temperature range can only go slightly below the thermostat initial opening temperature, because when the thermostat is closed, no coolant is flowing through the radiator. You may be thinking "Why is the Track Mode Set temperature 170 degrees then?" The purpose is to keep the fan running at or near maximum speed all the time while racing and during cool-down. The fan will continue to remove heat from the engine oil, transmission fluid, and reserve radiator coolant, even when the thermostat is closed.

If you install a 160 or 180 degree thermostat, you have the benefit of starting coolant flow at a lower temperature, and you can also set the MaxFan normal Set temperature lower. However, if you drive your Corvette in freezing Winter weather, a 160 degree thermostat may keep the engine from reaching a reasonable operating temperature. (Caution: If changing thermostats, be aware that the 2009 and later thermostats are a larger diameter than the earlier C6's.) I am in the process of testing a 180 degree thermostat which is the larger diameter. It is a Stant product, part number 15158.

The LED Indicator light may at times blink slowly, for usually around 10 seconds . This means the ECM has requested more fan speed than MaxFan. This is most common during initial engine warmup. The ECM is requesting fan speed due to increased airconditioner head pressure, while the engine coolant is still cool. This is normal and common.

My last thought, which you won't believe, because I didn't until I saw it. Driving at 75 MPH, on a 90 degree day, in the 2011 Grand Sport, the displayed temperature will creep up until MaxFan starts to run the fan. The coolant temperature then creeps back down and the fan turns off. This of course repeats ever 4 minutes or so. Meaning - 75 MPH air needs the help of the fan to push more cooling air through the radiator!