

A little experiment in cooling

By David Suesz

Much has been said about cooling early Mustangs. Here is some detailed information on one car. While one cannot make generalizations, we can at least provide accurate data for this one car.

The car- 1966 Mustang, equipped with a 289 High Performance engine, bored 0.030" oversize, with stock C3OZ-6250-C "solid" camshaft, 3-row brass aftermarket radiator, C6OE-G 7-blade factory air conditioning fan, aftermarket replacement thermal fan clutch, and factory fan shroud.

The conditions- Outside air temperature, 94°F, air conditioning off, heater off, engine fully warmed up (30+ minutes), 700 rpm idle.

The results- Using a laser heat sensor, the following temperatures were observed:

Radiator inlet hose, at the radiator- 193°F

Radiator outlet hose, at the radiator- 155°F

Just for fun, we also checked the heater hoses, since this model was not equipped with a heater shutoff valve:

Heater inlet hose, at the intake manifold outlet- 193°F

Heater outlet hose, at the water pump inlet- 185°F

Frankly, we were surprised to see an 8°F drop at the heater. The 38°F drop between the radiator inlet and outlet is fairly typical.

Without the heater shutoff valve, coolant ran from the intake manifold at its hottest point, the thermostat, and flowed with only an 8°F drop right back into the engine block. Immediately we realized that this same coolant, blocked by a valve, would have experienced the 38°F drop if it were instead routed through the radiator.

Since the car was not overheating, there was no way to determine what, if any, improvement would be made by a valve, but having a valve forcing the coolant to the radiator, subject to the suction of the engine driven fan, and the flow of the moving car, has to be more effective than the 'turn the heater on and bake the passengers' trick.