



**Newsletter of Air 'Vair, the CORSA Chapter for Air Conditioned Corvairs
Summer 2008**

Cool Air for Induction, Too!

Look carefully under the hood of any of today's waterpumpers (start at the *front* of the vehicle—the engines are at the wrong end), and you'll notice a subtle difference from the waterpumpers that were made at the time our Corvairs were made. Back then (if I remember correctly), the engine air intakes were simply under the hood, same as they had been for decades. In today's vehicles, however, the engines all get their air through a duct leading to the front. And most important, that duct leads *around* the radiator and A/C condenser. This keeps the heat thrown off by the radiator and condenser out of the fuel/air flow the engine takes in for combustion.

Perhaps this was done to improve fuel efficiency, which has become a matter of law since the Sixties. Or perhaps the now-ubiquitous A/C condenser, a comparative rarity in the Sixties, simply put too much heat in the air available to the engine (it heats up the radiator, too). Whatever the case, when Corvair engineers moved the condenser up to the firewall for Model Year 1966, they closed off all access by the engine's (carburetor) air intake to unheated air from the air-intake grille behind the backglass. And after 1966, they did nothing that wasn't called for by the ever-growing government rulebook.

As a result, the engine runs leaner, and somewhat hotter, than it did back when the condenser was directly over the engine-cooling fan, as in 1965 and prior. Hotter air is less-capable of carrying fuel vapor than cooler air, a fact very well known to racers among others. Of course, moving the Corvair's condenser to the floor of the luggage compartment or anywhere else also gains this advantage. This leaves air-conditioned Corvairs with the stock condenser setup of 1966 and later especially susceptible to engine knock in hot conditions, a situation I addressed very crudely and perhaps indirectly by removing the lower shrouds from my engine, somewhat improving the engine's cooling. Of course, rejetting to a richer mixture might also help, but in today's fuel-cost environment, let's just call that a non-starter.

Sophisticated and Efficient

Wade Lanning of Prince George, Virginia, would have no truck with such ham-handedness. Stepping in where GM management made the Corvair engineers step out, Wade engineered his *own* cool-air intake duct on his 1966 Monza, enabling him to keep his lower shrouds where they belong and at the same time experience no engine knock whatsoever under the hottest conditions Al Gore could ever imagine.

Air 'Vair Chapter 004 of Corvair Society of America www.corvair.org/chapters/airvairs
President: Mark Corbin, 5474 SR 19, Galion OH 44833 USA airvair@earthlink.net
Editor: N. Joseph Potts, 6619 Roxbury Lane, Miami Beach, FL 33141 pottsf@msn.com
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This modification, according to his reports of road testing over a full year of seasons, is so effective that I am determined myself to carry it out on my car before next winter. After all, who knows? Cold days *are* known here in South Florida—we had one in 2003, if memory serves. On such a day, it's good to have the use of the Corvair's admirable direct-air heater, which I don't, since the absence of the lower shrouds completely disables it.

How to Do It

Telling the story somewhat backwards, you need to replace your generator with a "one-wire" model that has an internal regulator. This is because, in order to get a place where you can duct around that enormous condenser that covers the firewall, you have to move the voltage regulator. Of course, if you can place your beloved regulator elsewhere, you can keep using your existing alternator.



With the regulator out of the way, you've got a nice blank metal panel to cut to get at that cool air in the precipitator chamber for the engine. Wade went with a 3-inch round hole



so that he could attach a(n extra) hose connector from the cool-air intake of the heater found at the front of the engine's top shroud. This connector, which attaches very simply with three screws, calls for 3-inch air hose, which Wade attached with the usual clamp and routed to the air cleaner.

Modifications to the air cleaner might be the hardest part of this job, or at least, they are the slickest

part of the job Wade did. He took the air cleaner from a GM 4-cylinder engine such as may be found in small GM cars of the Seventies and Eighties, including that other (American) Monza and removed its snout. Then he removed the snout from the air cleaner of his 110 engine, sealed the original intake hole, and made a new, larger intake hole for the new snout and welded the snout on. There should be other ways of accomplishing this without welding for those averse to intense heat such as myself.

Water from the precipitator (the shelf) in the intake plenum drains near enough to the new intake hole in the firewall that water injection could result from a rain shower. If you don't want this, Wade says it's a simple matter to plug the drain on the left side with plumber's putty. An occasional left turn during rain showers should suffice to keep the plenum dry enough.

Enjoying It

Wade reports the pinging in the engine disappeared as hoped (the engine is stock in all respects, and he runs only premium fuel). Confirming this observation, he also finds the temperature of engine-intake air as much as ten degrees Fahrenheit lower than that of the air in the rest of the engine compartment. I would guess that he experiences improved fuel economy and/or performance as well.

Cool Air is as good for engines as it is for the driver and passengers!



COOL AIR

Air 'Vair, CORSA Chapter 004

5474 State Route 19

Galion, OH 44833

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