



Classic Volkswagen: Celebrating the Air Cooled Volkswagen

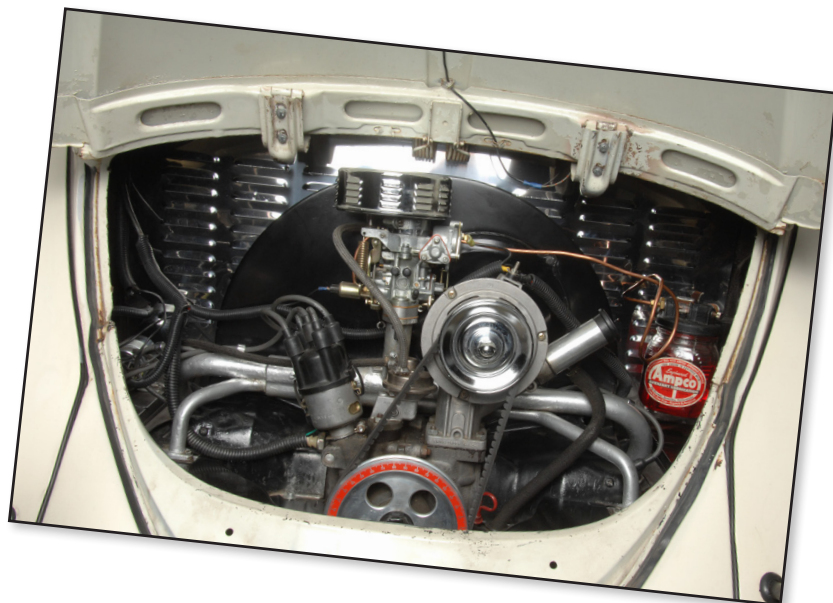
It's a safe statement to say that most Air Cooled VW owners have done some work on their rides. Whether for restoration, regular maintenance or power upgrades, VW enthusiasts are no strangers to garage projects. Most owners also know that without the ability to cool, an engine will eventually become so hot it will seize. Mid America Motorworks takes a look at the mechanics behind the beloved (or sometimes not!) air cooled engine.

How Does It Cool?

An Air Cooled Engine is designed with fins that extend out to draw heat away from the engine. Cool air is forced over the fins, usually by a fan, to cool the engine. Horizontally opposed cylinders are faced away from each other and positioned farther apart than in water cooled engines, allowing the air to flow freely over the fins.

Pros

- **No Water Jacket** – The main advantage to an air-cooled engine is that you don't have a water jacket around the engine that can corrode and crack the unit in very cold temperatures.
- **No Coolant Issues** – Because an air cooled engine doesn't use coolant, there will never be issues with frozen or leaking coolant.
- **Lighter Weight** – An air cooled engine doesn't have water pumps, radiators or hoses. Fewer parts equate to less weight in the engine compartment.



Cons

- **Heat** – Because the air cooled engine heats up more quickly, it is also more likely to overheat than a water cooled engine.
- **Power Drain** – The large fins used to cool the engine can also use a lot of power.
- **Vehicle Size** – Air cooled engines tend to work best on Beetles, but leave Bus drivers feeling a little frosty in the winter. In order to heat the cabin of your VW, the engine must first blow cold air from the fan down over the heat exchangers where the clean air is then blown – still only under the power of the engine fan at the rear – into the vehicle's cabin.

Air Cooled Today

While air cooled engines have become a classic feature of vintage Volkswagens, they are still used in a variety of other applications, most commonly aircraft. In fact, the original four-cylinder VW engine was modified to a two-cylinder “half VW” for use in smaller aircraft. The conversion was even recognized in 1975 with the John Livingston Award for outstanding contribution to low cost flying, as well as the Stan Dzik Memorial Award for outstanding design.

Air Cooled vs. Water Cooled

Still curious about the differences between air cooled and water cooled engines? [Watch this video to learn more.](#)

