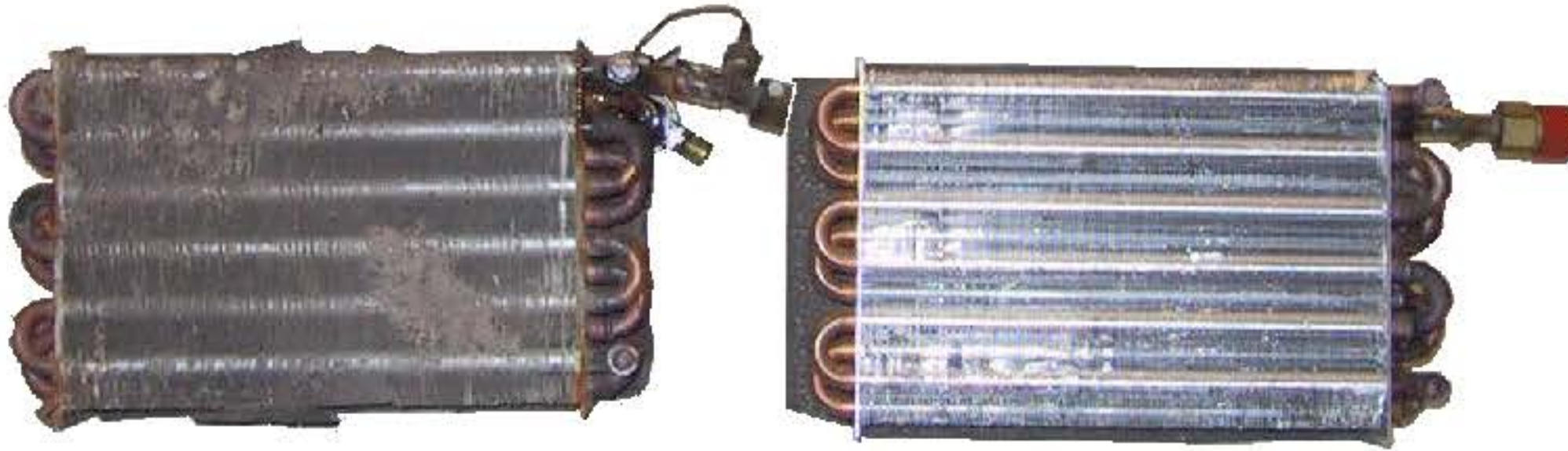


When we opened the evaporator's access cover, aka "Smuggler's Box" (this is the old trap door for access to where they use to have a gasoline fired heater on very early cars; the trap door is located under the carpet in the front trunk) we noted the evaporator's outlet tube had been twisted which prevents the refrigerant gas from easily leaving the evaporator. The twist was caused by failure to use two wrenches when loosening or tightening the hose line connection fitting. So the old evaporator had to come out. In taking it out we found some surprises!



1. The original Porsche evaporator on the left was loaded with dust and dirt on its intake side, so air flow through the evap's core would be restricted: meaning air would try to pass around it rather than through it. The exchange of hot interior car air to the evap's coils would be limited as the dust and lint would form an insulator. So even if the system was able to send colder liquid refrigerant through the expansion valve to the evaporator, providing the needed chill, the exchange of hot air for cold air would be limited. If the outlet tube was not twisted we would have simply tried to clean the cooling fins.
2. The original foam gaskets, that prevent air flow from going around the evaporator, had disintegrated (notice the gray colored foam gasket on the left side of the new evap shown in the right picture). With the dust and dirt blocking the air flow through the evap, air naturally travels around the evaporator and bypasses the cold sections.

With our Kuehl Condenser systems we provide you with instructions (with pictorial views) showing you how to remove the old evaporator, how to clean it and how to seal the box better than the factory dreamed of, and we include our new gasket system. Well worth the investment.

The old style evaporator shown above is a "tube & fin" construction, meaning a few copper tubes bent and brazed in many joints with the thin aluminum cooling fins "mechanically" pressed in between. As an evaporator gets cold and hot, the expansion of the unit will loosen the contact joints between the copper tubes and the aluminum fins, so performance will degrade over time.

After doing our first Mr. Ice Project we developed a more effective evaporator, the Kuehl Evaporator which provides more colder air! The Kuehl Evaporator is a "serpentine" type construction (state of the art).



Serpentine evaporators on the other hand have more benefits in terms of reliability and performance.

1. The Kuehl 911 Serpentine Evaporator, which also fits 930's, design has up to 16 continuous tube channels. The channels are formed by extruding the aluminum channels in one continuous length. The length of material is then bent back and forth. There are no brazed refrigerant joints except for the inlet and outlet, therefore fewer chances to develop leaks.
2. The original evaporators had only 2 to 3 copper tubes branching off from the expansion valve, whereas the Kuehl 911 Serpentine Evaporator has approximately 16 branches. The size and configuration of the Kuehl Evaporator branches offer more immediate surface to provide greater cooling.
3. The entire unit: extruded one piece tube, aluminum cooling fins and refrigerant connections are 100% oven brazed to insure a more efficient exchange of heat between air and refrigerant, and create a more reliable unit.

You can learn more about the Kuehl 911 Serpentine Evaporator in our Porsche 911 AC Product page later.