



## **Should you flush or replace the condenser?**

Unfortunately, there is no simple answer to this repair dilemma because the answer depends on the style of the condenser.

When a compressor goes bad, the debris will first accumulate in the condenser (one of the low spots in the system). But not all the debris will stay put. Refrigerant flowing through the condenser can move some of this debris and carry it to the orifice tube, receiver-drier, expansion valve or back to the compressor. Debris can plug up the orifice tube or expansion valve, causing a blockage and loss of cooling. Such blockages can also prevent the circulation of oil in the system, starving the compressor of lubrication. Starving the compressor of oil quickly leads to premature failures. Compressors that are improperly lubricated, either having too much or not enough oil, could fail in as little as a few days or weeks depending on the severity.

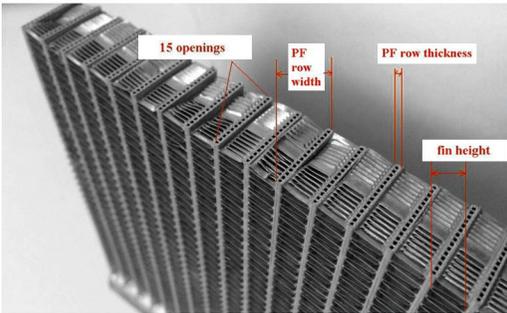
## **If the condenser is dirty, why not just replace it?**

Flushing can save money, but it also increases the risk of a repeat system failure if the flush fails to remove all the old compressor material and oil from the old condenser.

Something else to keep in mind about flushing is that it follows the path of least resistance, just like electricity. In a tube and fin or a serpentine-style condenser, there is only one path the refrigerant can follow, so the flush will follow the same path from the entrance to the exit. In a parallel flow condenser, the flush may not flow through all the tubes if some are partially or completely blocked. Attempting to flush a dirty parallel flow condenser is a waste of time.

## **Condenser Sludge & Black Death**

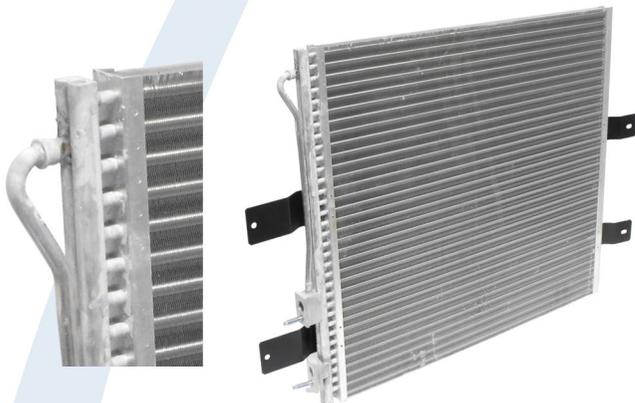
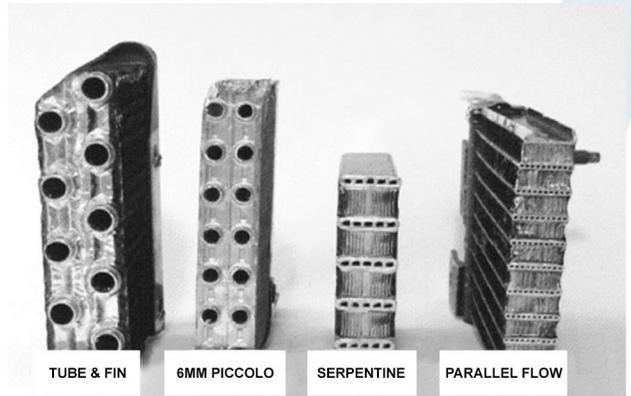
Sludge is what you get when moisture gets inside an A/C system. Moisture reacts with the compressor lubricant and refrigerant and forms corrosive acids. The acids eat away at the metal parts and create sludge that can damage the compressor and plug the orifice tube or expansion valve. These corrosive acids can also eat pinholes through the evaporator and condenser from the inside out, creating refrigerant leaks. Flushing a leaky evaporator or condenser is a waste of time because the parts need to be replaced. There are sealants that can be used to temporarily plug a leaky evaporator or condenser, but again most manufactures do not recommend using sealants in A/C systems because the sealer can gum up the system itself. Do not flush a compressor, accumulator, orifice tube or expansion valve. Replace the accumulator, orifice tube or expansion valve. Also, do not flush hoses that contain in-line filters or mufflers. Replace these hoses with new ones.



**For A/C systems that have parallel flow condensers, you NEED to change the condenser to do the job right and prevent further complications since microtubes clog easily and cannot be flushed. Add the condenser to the A/C kit!**

There are 3 Types of Condensers:

1. Tube & Fin (Includes Piccolo)
2. Serpentine
3. Parallel flow



**Tube & Fin** - These are also known as 6MM Piccolo and have one tube 3/8 or 6MM in diameter. This design only has a single passage way for the refrigerant to flow through, which is why they are called "Single Pass". These types of condensers can be flushed.

**Serpentine** - These are comprised of one long tube that is folded back and forth and has multiple passages for refrigerant to flow through. These were typically used on older model front wheel drive cars. Due to their large passages, these can be flushed just like the tube/fin condensers.



**Multi pass** - These are also known as Parallel Flow or, flat tube and fin, have even smaller passages that are stacked horizontally and are connected to a vertical tube at each end, allowing the refrigerant to flow through many paths. Because of the small passages which can be as small as the little ball of your fountain pen, these condensers cannot be flushed and should be replaced.