# Late Model Condensers Cannot be Flushed… Only Replaced

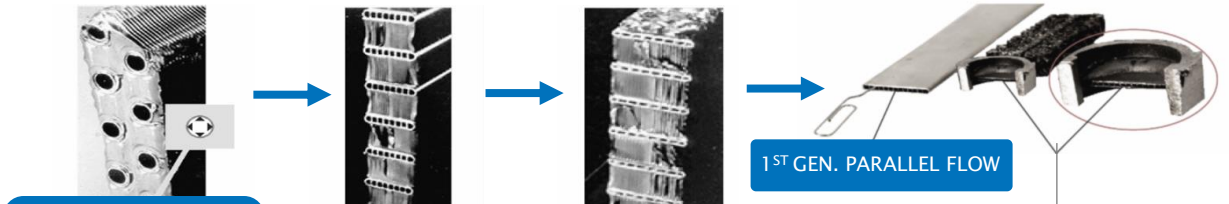
Global Parts Distributors, LLC

TECH TIP

#1

gpdtechtips.com

Most late model vehicles on the road today feature a parallel flow style condenser. Leading aftermarket suppliers have also adapted original serpentine and piccolo condenser styles to offer a more efficient parallel flow style replacement. It is important to note the refrigerant charge will vary based on condenser design and may need to be modified if replacing a factory condenser with an aftermarket parallel flow style condenser. Temperature testing is the best method to verify proper condenser charge. (For more information on verifying the right refrigerant charge, refer to gpd Tech Tip #169, "Check the Charge Before You Install")



1ST OE & AFTERMARKET DESIGN
- 3/8" Tube & fin
- R-12 only

1ST GEN. SERPENTINE
- First high efficiency design
- Late R-12 and early R-134a

2ND GEN. SERPENTINE
- More passages closer together
- Cannot be flushed completely!

1ST GEN. PARALLEL FLOW

2ND GEN. PARALLEL FLOW

**What Makes Parallel Flow Style Condenser More Efficient?**

Parallel flow style condensers feature a multi-channel construction with 400-600 small tubes that average led than 1mm in diameter. This design maximizes heat transfer because refrigerant cycling through the A/C system is dispersed across a greater surface area.

**Why is it Impossible to Flush Parallel Flow Style Condensers?**

Although efficient for cooling, the small tubes mentioned above are so small (less than 1mm in diameter) that they trap any contamination in the system. Even small amounts of excess debris can restrict refrigerant flow, causing high head pressure and damage to the compressor. These restrictions are impossible to clear with flush, thus requiring a replacement condenser.

The average diameter of internal tubing is smaller than the size of a standard ballpoint pen head, making flushing inefficient for this design.
*(Tube diameter may vary by design)*

gpd highly recommends flushing the system and replacing the condenser alongside the compressor because excess contaminant/debris left in the system from a failed compressor will cause a repeat failure.