Contamination & Flushing Best Practices

Protecting compressor reliability during A/C service by controlling contamination across A/C systems.

Contamination remains one of the leading causes of A/C system failure. Metal debris, moisture, burned oil, and improper flushing can sharply reduce compressor life and system performance. System cleanliness is not optional; it is fundamental to long-term durability.

COMMON SOURCES OF CONTAMINATION

Contamination enters the refrigerant circuit from internal compressor wear, metal debris, moisture ingress, burned refrigerant oil, seal deterioration, and improper service procedures. Once circulating, these contaminants can damage compressors, expansion valves, condensers, and receiver-driers alike.

WHEN FLUSHING IS RECOMMENDED

System flushing is appropriate when a compressor has failed, when metal debris or oil contamination is present, or when burned-oil residue is detected. Flushing clears the circuit so a replacement compressor does not inherit the conditions that destroyed the original.

WHEN FLUSHING IS NOT ENOUGH

Not every component can be effectively flushed. Some condenser designs trap debris internally that cannot be fully removed — in those cases, replacement is the correct action. Always follow OEM and refrigerant-system recommendations when choosing between flushing and replacement.

Technical Reference
Product sales sheet and exploded-view service drawings are available from your TCCI representative.

SERVICE BEST PRACTICES

- **Recover refrigerant** properly before opening the system.
- **Evacuate the system** properly before recharging.
- **Use approved flushing** agents only.
- **Replace components** that cannot be effectively cleaned.
- **Fully recharge system oil** after flushing. (Flushing removes essentially all oil, so this is a full oil change, not a partial balance.)
- **Perform vacuum leak testing** to confirm system integrity.
- **Charge refrigerant** to the correct specification.

KEY TAKEAWAY

A clean refrigerant system is essential to protecting compressor performance and preventing repeat failures.

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