

TECH TIPS

ANATOMY OF A COOLANT FILTER

Understand How Coolant Filters Are Constructed.

The objectives of diesel engine coolant filters, also known as water filters, are to:

- Remove contaminants from the engine cooling system.
- Add chemicals to the coolant itself to replenish important protectants that may be lost over time.

Coolant filters can be of cartridge or spin-on design, however, spin-on designs are most common on today's diesel engine cooling systems. Some coolant filters contain Supplemental Coolant Additives (SCAs) and are commonly called "SCA Charged" filters, while some coolant filters contain no SCAs and are commonly called "Blank" coolant filters.

Filters containing SCAs should be used when additional SCAs are needed to keep a cooling system charged. "Blank" coolant filters should be used when a system is already overcharged and no additional SCAs are needed. The status of a cooling system can be determined using Baldwin's FleetStrip™ Coolant Test Kits.

The illustration shows the components of a typical spin-on style coolant filter.

- **Filter Media** – removes harmful contaminants from the coolant.
- **Centertube** – is placed inside the filter media pack to support it.
- **End Caps** – are bonded to each end of the media pack to keep contaminants from bypassing the media. One of the end caps will contain a flow control orifice.
- **Baseplate/Seaming Lid Assembly** – is threaded to attach the filter to the filter mounting base. This component also serves as the mechanism to allow coolant to enter and leave the filter, as well as to hold the filter sealing gasket in place.
- **Compression Spring** – keeps continuous pressure on the filter media pack to seal the backside of the baseplate. This keeps contaminants from bypassing the media.
- **Canister** – retains all of the filter components in one unit for ease of filter installation and removal. Baldwin coolant filter canisters are coated on the inside for maximum protection in extended use.
- **SCA Pellets** (SCA charged filters only) – add chemicals to the coolant itself to replenish important protectants that may be lost over time.
- **Plastic Insulator** (not shown) – placed between the compression spring and canister, protects the spring from coming in direct contact with the canister. All Baldwin spin-on coolant filters have this feature.

