



Filter Knowledge, Unfiltered

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Incorrect Flow Direction in Liquid Filters

Normally liquid filters are designed to flow only in one direction. With few exceptions, this is from the outside in.

Incorrect flow direction occurs when the lines to a filter housing or remote mounted adapter base are reversed. This situation may occur during an overhaul and/or when a retrofit filter kit is installed. There may also be cases when the vehicle comes from the factory with an incorrect installation.

Symptoms to look for:

1. In the case of a depth-type element, media migration is possible. Usually, the element body and endcaps will be bulged and distorted, plus the oil flow/pressure may be affected due to a restricted or plugged (with media from the element) oil pump intake screen.
2. If the element contains pleated media, ruptured or distorted pleats are a possibility. In this case, the pleats will be bulged towards the outer body with contaminant buildup on the inside of the pleated media.
3. In the case of a filter with an anti-drain back valve, the oil flow may be restricted or blocked entirely. This could result in low or loss of oil pressure, plus distortion to the filter due to excessive pressure.
4. When a by-pass valve is involved, it will be inoperable. This could result in restricted and perhaps total loss of oil flow.

In all cases of incorrect flow, the element/filter performance (efficiency, capacity and resistance to flow) will be affected, which could result in equipment damage.

For additional information, contact:

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