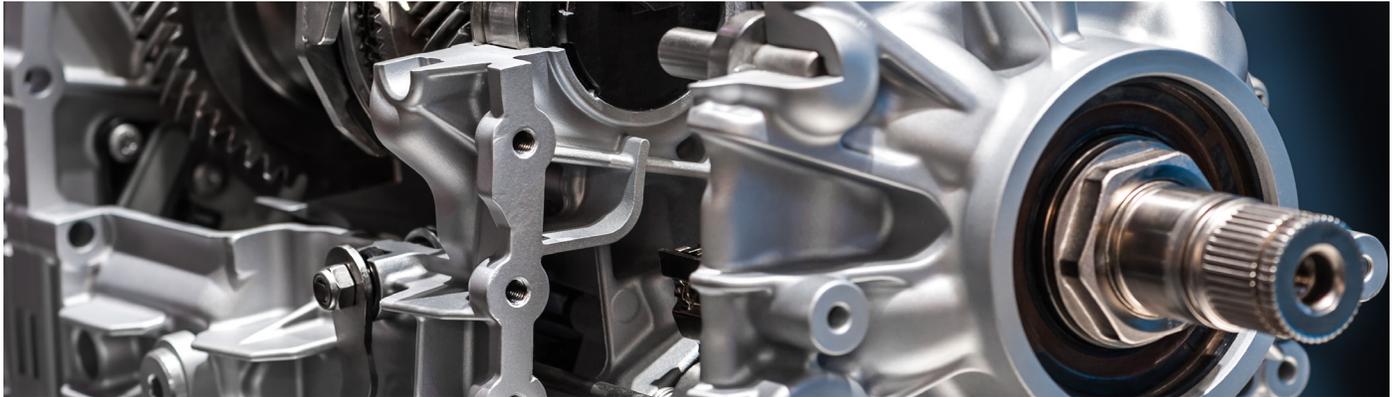


CASE STUDY

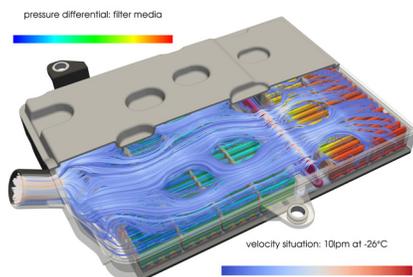
Automotive Filtration

Ford and GM 10-speed RWD transmission



Filtran: Protecting sensitive components inside modern transmissions to increase performance and reliability.

FILTRAN'S INNOVATIVE DESIGN FOR THE ALL-NEW FORD AND GM 10-SPEED TRANSMISSIONS MINIMIZES WEAR, PROTECTS AGAINST CONTAMINANT AND EXTENDS THE LIFE OF TRANSMISSIONS AND CONTROL VALVES.



THE CHALLENGE

Ford and GM needed a filter system on their 10-speed transmissions that had high filtration efficiency, a low pressure differential drop and an extended lifetime. The filter needed to comply with limited installation space and cost requirements.

THE SOLUTION

Rather than using an additional pressure filter to separate small-sized essential particles, we placed the required fine filter media on the suction side of the pump. This integrated system provides high levels of filtration efficiency, dirt hold capacity and pressure differential for the filter's entire lifetime. The filter media is pleated to increase the effective area in relation to pressure drop and particle capture capacity. A medium-efficiency filtration media, with lower pressure differential, is placed parallel to the highly efficient media (with a naturally higher pressure differential), to enable congruent flow. The flow path of the medium-efficiency media is activated by a control valve, which has a flap valve design, based on the pressure.

While the oil is allowed to bypass the fine media over the more coarse media in cold conditions, nearly all the flow has to run through the fine filter media in warmer temperatures. Filtran uses a laser-welding house rather than friction-welding. Laser-welding technology provides high strength and avoids residual contamination during manufacturing and is often a problem with alternative welding procedures. This innovative concept ensures outstanding filter performance, to protect the sensitive parts inside modern transmissions. This is particularly applicable for the directly controlled valves inside the transmission control units and also clutch plates and pumps that must be protected by relevant filtration.

THE RESULTS

This suction side filter module delivers high levels of the filtration performance eliminating the need for a separated pressure filter. To achieve cost savings with pressure filters, extra installation space and additional components such as a pressure filter housing or caps, connecting channels and adapters are required. This also includes processes such as machining, assembly and logistical elements which extend the life of the modern transmission.