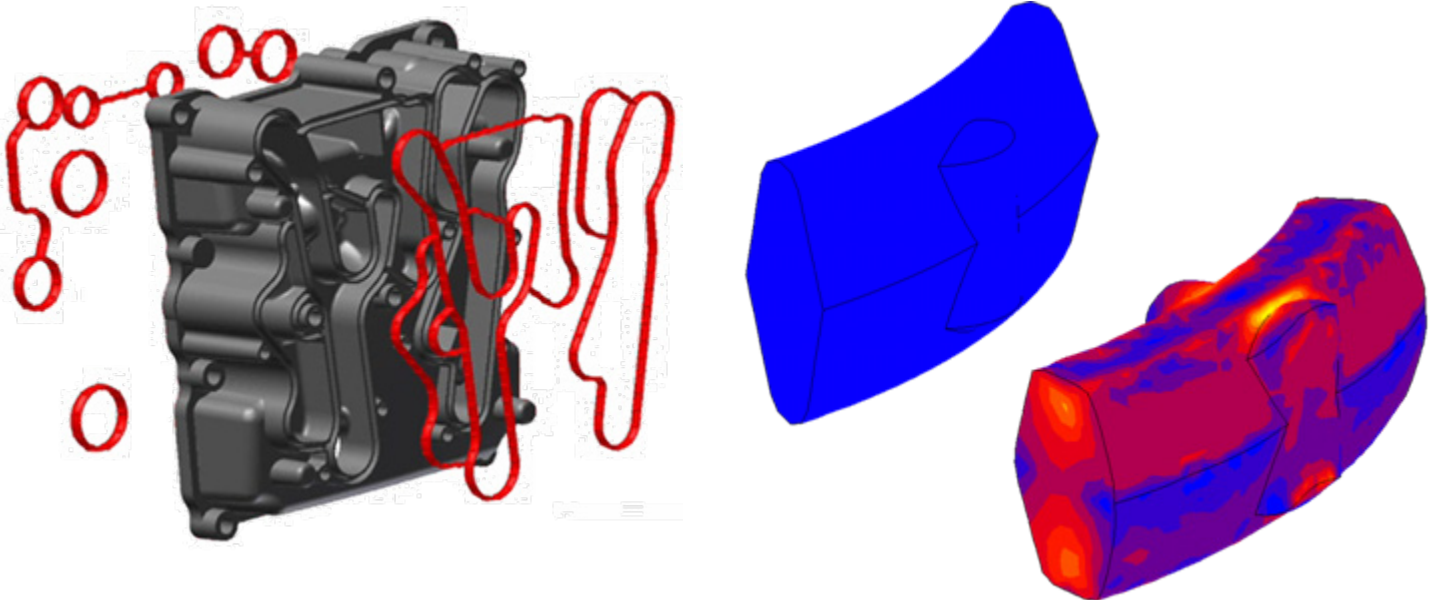


Application:

Diesel Engine Oil Cooler

Problem:

As part of the development of a new light truck diesel engine, the oil cooler module was redesigned to capitalize on technology improvements. Parker Engineered Seals Division was called upon to provide seal recommendations for self-retention and to withstand aggressive extended life coolant. The old cooler module used silicone o-ring seals which have limited durability in extended life coolants and require wide grooves.



Solution:

Parker ESD Diamond Seals™ were selected for all eight seals ranging from simple rings to complex manifolds. The Diamond Seal™ offers excellent sealing characteristics over a wide compression range while minimizing groove size for optimum packaging. EPDM rubber was chosen for coolant passages and fluorocarbon rubber handled oil sealing duties. These Diamond Seals™ survived extreme durability tests including on-engine and 3000 hour thermal cycle bench tests performed by Parker ESD.

Improved chemical resistance, sealing range and self-retention distinguish the Diamond Seal™ from the conventional seal technology. Additional benefits include reduced elastomer usage, increased design and packaging flexibility, lower load and higher sealing pressure.

Similar Applications:

Diamond Seals™ are used in a wide range of applications from electronics enclosures to engine seals to consumer products. Parker Engineered Seals Division can offer custom Diamond Seals™ to handle a wide range of environments, fluids, pressures and temperatures. Refer to ESD Technical Bulletin ESD 5601 for more information on Parker Diamond Seals™.