

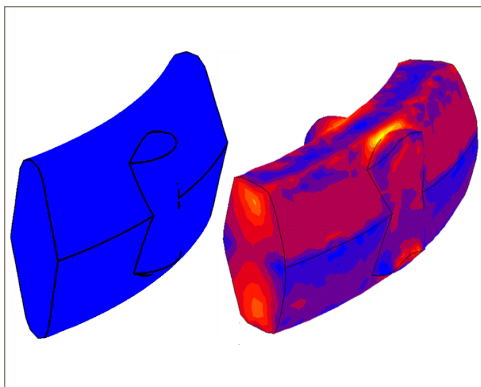
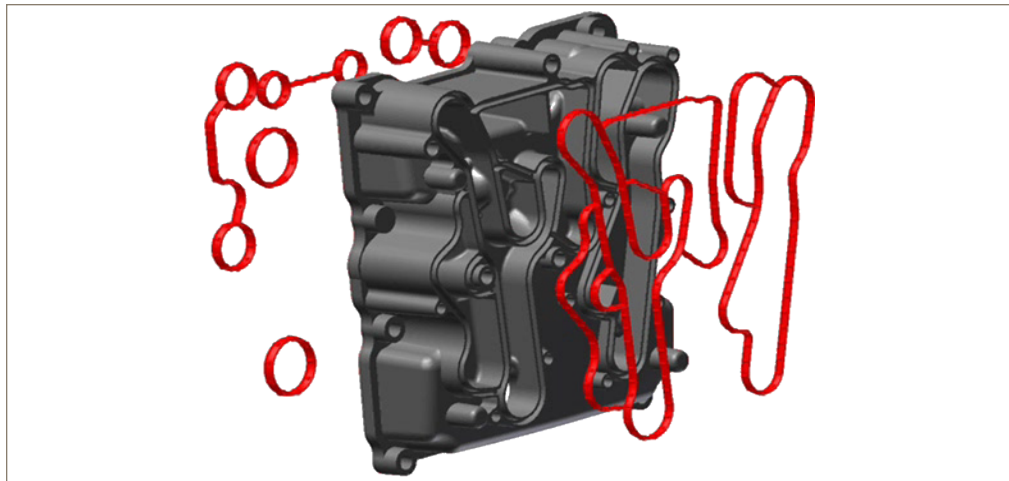
# Diesel Engine Press-In-Place Seal

Engineered Solutions  
Issue 1



## Problem:

As part of the development of a new light truck diesel engine, the oil cooler module was redesigned to capitalize on technology improvements. The customer required sealing solutions for eight separate locations throughout the module which were effective in self-retention and could withstand aggressive extended life coolant. The previous cooler module used silicone O-Ring seals, which have limited durability in extended life coolants and require wide grooves.



## Solution:

Parker Engineered Seals Division suggested Diamond Seals™ for all eight required seals, ranging from simple rings to complex geometries, sealing around multiple ports. The Diamond Seal™ offers excellent sealing characteristics over a wide compression range while minimizing groove size for optimum packaging. EPDM rubber was utilized in coolant passages and fluorocarbon rubber was chosen for oil sealing duties. These Diamond Seals™ survived extreme durability tests including on-engine and 3,000 hour thermal cycle bench tests performed by Parker ESD. Improved chemical resistance, sealing range, and self-retention distinguish the Diamond Seal™ from conventional sealing technology. Additional benefits include reduced elastomer usage, increased design and packaging flexibility, as well as lower load and higher sealing pressure.

**Applications:** Diamond Seals™ are used in a wide range of applications from electronics enclosures to engine seals to consumer products. Parker ESD can offer custom Diamond Seals™ to withstand a wide variety of environments, fluids, pressures, and temperatures.

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Contact Parker Engineered Seals Division and ask for a product engineer to review your application and see what opportunities are waiting to be discovered!



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