



Magnum Product Update

Competitor Analysis
Part Number: 2067030
3500 series molded
valve cover seals
#2067030

Compression Set & Material Selection An important consideration in selecting the Right Part that will last in today's engines...

One of the Key objectives of quality based manufacturers is to provide a product that will perform well in the application, over the expected service life of a particular machine or component. Everyone recognizes that having to replace a part that fails prematurely is no bargain.

Newer production engines are designed by manufacturers to produce higher torque, higher horsepower, operate at higher pressures and temperatures, with cleaner, leaner fuel conditions... all in lighter weight packages... Operating conditions for these engines are far more demanding on the sealing components. Manufacturers have selected or developed new elastomeric materials and configurations to provide proper seal life for these tough new working conditions. Magnum Diesel Parts along with other quality minded aftermarket manufacturers go to great lengths to select the right materials that will provide long service life in today's difficult diesel engine environment. However all parts suppliers don't necessarily provide the right product for these applications.

Compression set characteristics of an elastomeric seal, is just one of many factors that a quality based supplier will take into consideration when selecting the proper seal material for any important application. The results of a Compression Set Test can provide an indication of how a particular seal material may perform over a period of time in an engine application.

Recently Magnum's engineering staff had the opportunity to perform Compression Set tests on a competitive product sample and compare them to Magnum Diesel Parts product.

Compression Set:

In essence, the ability of an elastomeric material to maintain its elasticity after exposure to a compressive stress over a specific time and temperature. Measured as the percentage to which the compound does not recover to its original state after the applied stress. Example: 100% compression set would be no recovery and 0% would be full recovery. Typical requirements call for a 25% maximum set. The higher the compression set, the lower the sealing force against the flanges.

Two typical Compression Set tests for HNBR compounds were run to compare the Magnum seal to a competitors seal now in the Aftermarket. The findings are very significant and indicate a profound difference between Magnum's seal and the other Aftermarket product. (In the tests below, the lower the Compression Set % number, the better)

Test #1:

22 hours @ 150°C (302°F)
MDP 2067030 – Average Compression Set = 15%

**Other Aftermarket 2067030 –
Average Compression Set = 57%**

Test #2:

70 hours @ 135°C (275°F)
MDP 2067030 – Average Compression Set = 19%

**Other Aftermarket 2067030 –
Average Compression Set = 51%**

Summary: Magnum Diesel Parts and the OEM have specified and selected a quality HNBR elastomer as the proper material for this application. **Due to the extremely high compression set test results and material variations of the competitive sample, "All preliminary indications are that the competitive seal will not hold up well to the typical, expected engine temperatures and the required seal longevity, leading to premature failure and oil leakage."**

**Don't take chances with sub-standard products, Make sure you specify Magnum Diesel Products.
With Magnum Diesel Parts, There is a difference you can depend on!**

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