



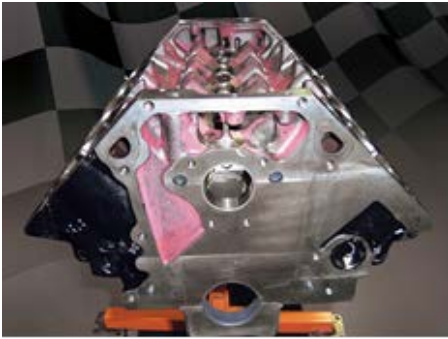
**TOUGHMET APPLICATION:  
STOCK CAR RACING**

**PROFILE: CUSTOM ENGINES, INC.**

Custom Engines, Inc. of Harrells, NC is a builder of stock car engines for competitive race teams.

**CHALLENGE:**

Supporting up to 16 different race teams, Custom Engines faces the potential for multiple engine rebuilds every season. These rebuilds can prove costly, projected at hundreds of thousands of dollars. Prior to contacting Materion Performance Alloys, Custom Engines had already exhausted tri-metal bearing options from several suppliers. These bearing technologies in the camshaft averaged 4-6 races.



According to Custom Engines, “common to many V8 engines, the bearing in the fourth camshaft position is the first to exhibit wear. Once the fourth bearing begins to wear, the whole camshaft typically fails.” They wanted camshaft bearings that could last longer to keep the engine running longer.

**SOLUTION:**

In February, 2008 Custom Engines began testing ToughMet<sup>®</sup> and found the bearing material lasting four to five times longer than other bearings. They elected to build all of their engines with ToughMet<sup>®</sup>.



“The Performance Alloys bearing material used in the camshafts in our engines has already lasted 15 races, versus tri-metal bearings that have failed after five or six races, costing us as much as \$6,500 to \$9,500 to rebuild each engine, each time.” said Owner, Graham Cole. Custom Engines anticipates ToughMet<sup>®</sup> lasting an entire season, or 20 races

ToughMet<sup>®</sup> bearing material is used in camshaft bearings, giving Custom Engines the winning edge.