

A world class engine: The Optimizer 6500

The Engine

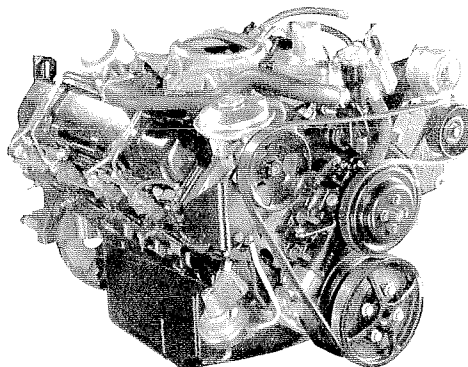
The Optimizer 6500 military-focused engine is so reliable and durable that since mid-year of 2000, AM General Corporation is placing the engine in its HMMWV (the High Mobility Multipurpose Wheeled Vehicle which is pronounced HUMVEE®) and the HUMMER®, a civilian vehicle. General Engine Products, a wholly owned subsidiary of AM General LLC, is under contract to produce over 27,000 Optimizer 6500 engines for the Army through the year 2007. In addition, as engines in the older HUMVEEs are discarded, they will be replaced with the Optimizer 6500. This engine is aptly named: it optimizes the torque to 430 lb-ft. at 1800 rpm, and to 195 horsepower at 3400 rpm in a 756 lb engine, yielding one of the best horsepower to weight ratios on the market.

Contributing to the strength of this exceptionally reliable 6.5 litre diesel engine are two shot peened components: The connecting rods and the main bearing caps. Shot peening connecting rods is not unusual in vehicle engines, but shot peening main bearing caps is more common on large industrial engines. According to Jim Amish, an engineer with General Engine Products, "The most unique feature of our shot peening process is its use on the main bearing caps, which is a little unusual as we know, but it provides the increased strength specified to successfully produce a world class indirect injection diesel engine."

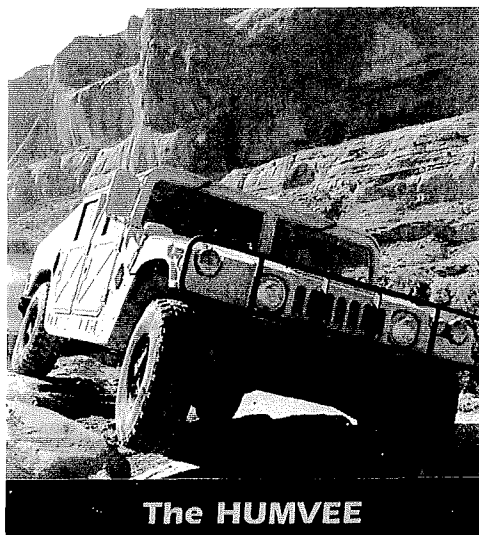
Even now, the General Engine Product's engineering team is quickly moving the Optimizer 6500 to higher

The connecting rods and main bearing caps are shot peened on the 6500 diesel engine. Shot peening main bearing caps is a little unusual, but it provides the increased strength specified to successfully produce a world class indirect injection diesel engine.

**Jim Amish
Engineer
General Engine Products**



The Optimizer 6500



The HUMVEE

horsepower with greater torque. Stronger cast iron "Moly" engine blocks, combined with taller-wider bearing caps and improved head bolt bosses, will provide increased performance to satisfy future demands. Shot peening will continue to be an important part of the manufacturing process.

The Design of the Vehicle

The HUMVEE was designed as the replacement vehicle for the M151 series jeeps. Its purpose is to provide a light tactical vehicle for command and control, special purpose shelter carriers, and special purpose weapons platforms throughout all areas of the modern battlefield.

In addition to being equipped with the Optimizer 6500 engine, the HUMVEE has an automatic transmission and four wheel drive. It is air transportable and droppable from a variety of aircraft. The vehicle can be equipped with a self-recovery winch capable of up to 6000 pound 1:1 ratio line pull capacity and can support payloads from 2,500 - 4,400 lbs. depending on the model. The HUMVEE is designed for use over all types of roads, in all weather conditions and is extremely effective in the most difficult terrain. Its high power-to-weight ratio, four wheel drive and high ground clearance give it outstanding cross-country mobility. The vehicle can climb 60% slopes and traverse a side slope of to 40% fully loaded. The HUMVEE on the front cover has a deep water fording kit that enables it to make a hard water crossing of up to 60 inches.

The HUMVEE is tough—thanks to a world-class engine (with shot peened components) and a superior design.