

NOMINEE



Mahindra&Mahindra Engine Crankcase Structure

Crankcase is one of the critical components of an engine. It houses cranktrain, connecting rod and piston. It carries the loads generated by combustion, inertia loads from rotating and reciprocating components of engine. It is a major contributor for weight of the engine. The design considerations for a crankcase are structural durability, thermal management, lubrication and layout, NVH and manufacturability. It was important to consider all these while reducing the weight.



- 2011 Mahindra & Mahindra Bolero (MDI Engine)
- The new crankcase is stiffer and 5 kg lighter than the baseline design with delivering an improved better NVH
- The bearing bore distortions are lower with better bearing lubrication characteristics, reduces frictional losses, that lead to improved fuel economy
- Stress and frequency based topology optimization employed in very early stage of product development



Presented in collaboration with:

