

## Laser Sintering Helps Build Hot Electric Motorcycle

Machine Design - June 23, 2011

The lack of suitable off-the-shelf parts forced Mission Motors, San Francisco, to develop its own components for early prototypes of its high-performance electric motorcycle. “We had to move fast to be first in what we thought would soon be a hot field – the intersection of motorsports and green technology,” says Mission Motors cofounder Edward Green. “So we relied on rapid-manufacturing services from Solid Concepts Inc., Valencia, Calif., to build a functional front subframe and dashboard as a single part out of glass-filled nylon using selective laser sintering.”

Mission Motors engineers designed the one-off component in 3D CAD software and ported the CAD data into an .STL file for use with SLS. “The dash had several complex elements which would have been almost impossible to produce any other way, including machining the part out of metal or plastic,” says West. The finished part underwent Solid Concepts’ special coloring process to make it black. The final component also featured threaded brass inserts so it could be attached directly onto the bike frame.

The finished bike, called the Mission One Premier Limited Edition, is one of the highest-performing electric motorcycles on the market, with an AMA record-setting top speed of 150 mph and a range of 150 miles on a single charge.

**MACHINE  
Design**  
BY ENGINEERS FOR ENGINEERS .com



*The Mission One R racing bike has an SLS dash supplied by Solid Concepts Inc.*