



# LOCOMOTIVE ROOF DESIGN

## THE CHALLENGE

Current roof design had open grating material that allowed pressure and heat out but did not protect against the elements, damaging components in the power module. Solid roofing material was substituted to shield the power module from the elements but resulted in de-rating of the engine performance due to excessive heat and pressure inside the module.

## OUR SOLUTION

- The roof is designed to lift the Power Module Enclosure, the roof itself or any section of the roof alone.
- The roof provides access through door panels to lifting points for the Power Module as well as access to fill points over the engine.
- Performed CFD and FEA to determine hole size and locations for proper air flow.
- Worked with suppliers to create tooling.

## BENEFITS DELIVERED

- New roof design that met the customer's requirements
- Received patent number 8,176,854 on behalf of the customer
- Delivered on time

