

# Diesel Cooling System Modeling for Electrification Potential

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Electrification of automotive systems presents significant opportunities for improvements in cooling system efficiency and performance. This paper describes an effort to develop an analytic platform for Hanon Systems to evaluate the electrification potential for powertrain cooling systems. The paper describes the development of a baseline diesel cooling system model based on the Ford 6.7L Power Stroke diesel. A variant of the system with electric pumps is also modeled. Performance of the baseline conventional and electric pump system are compared on a typical automotive drive cycle to quantify potential benefits of the electric pump system and advanced controls.

