

Coolant Preheat Heat Exchanger

Status: Available

Group Members: TBD

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Project Description

Overview/Background:

Diesel vehicles today have an increasing amount of heat exchanges in an effort to reject the large amount of energy (heat) that the engine, turbocharger and emissions systems produce. The heat exchangers have increased the reliability of temperature sensitive parts, but as a result the transient temperature rise of coolant temperature and conversely cabin heat are negatively affected. On cold winter mornings, a vehicle will have to operate (idle) for more than 20 minutes before enough heat (energy) is generated to fully defrost the windshield.

Challenge:

To develop an electronic based preheater that will preheat the coolant traveling into the cabin heater core. This device will easily connect to the IN/OUT rubber hoses that are typically found leaving the engine coolant system and travelling into the passenger cabin heater core.

x 50% improvement over baseline at 0°C.