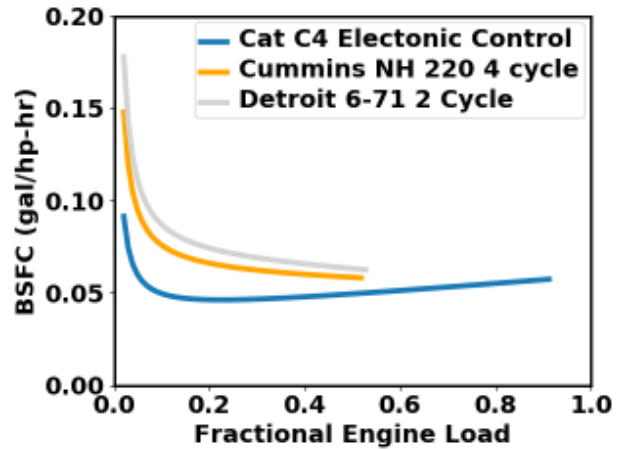


Engine Performance

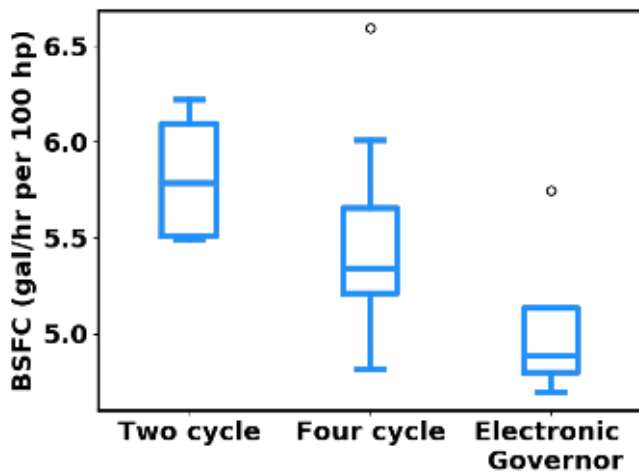
Brake specific fuel consumption (BSFC) is a measure of the efficiency of an engine. It defines the amount of fuel required to produce a specified amount of work. A higher BSFC implies a lower engine efficiency.

The figure to the right shows the BSFC curves measured on three engines. The curves do not extend to

full power because the engines did not achieve their rating during the trial. The engines are fairly typical of two cycle, four cycle, and electronically governed engines surveyed by the Fishing Vessel Energy Efficiency Project (FVEEP). For all classes of engines, the fuel consumption is nearly constant between 50 and 100% of the continuous load rating, but increases rapidly as the load falls below 20%. That increase in BSFC illustrates the inefficiency of running an oversized engine.



The figure below shows results from a survey of 20 marine diesel engines.



The data are manufacturer BSFC ratings at full load under a continuous use rating. The data show that electronically governed engines tend to be more efficient than mechanically governed engines, and that turbo charged engines tend to be more efficient at full load than naturally aspirated engines. However, there is overlap between each group of engines.