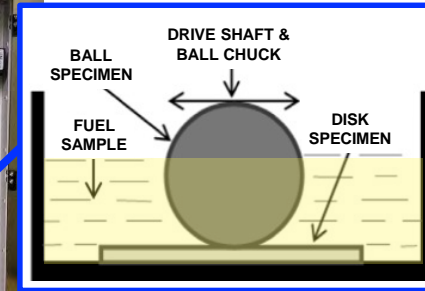


UAS Propulsion

Tribology of low viscosity fuels



HFRR
High-frequency
Reciprocating Rig



Goal: Prevent premature fuel system component failure.

1) Determine a method for a tribological experiment on ultra-hard coatings in extreme low-viscosity fuels:

- a. Mimics fuel pump conditions
- b. Determines functional coating materials
- c. Is repeatable

2) Analyze and evaluate possible wear resistant coatings as candidates for fuel delivery systems

- a. Work for different fuels: F-24, ethanol, dodecane
- b. Work in different operating temperature and load conditions

