



# Great Horned Owl Program (GHO)

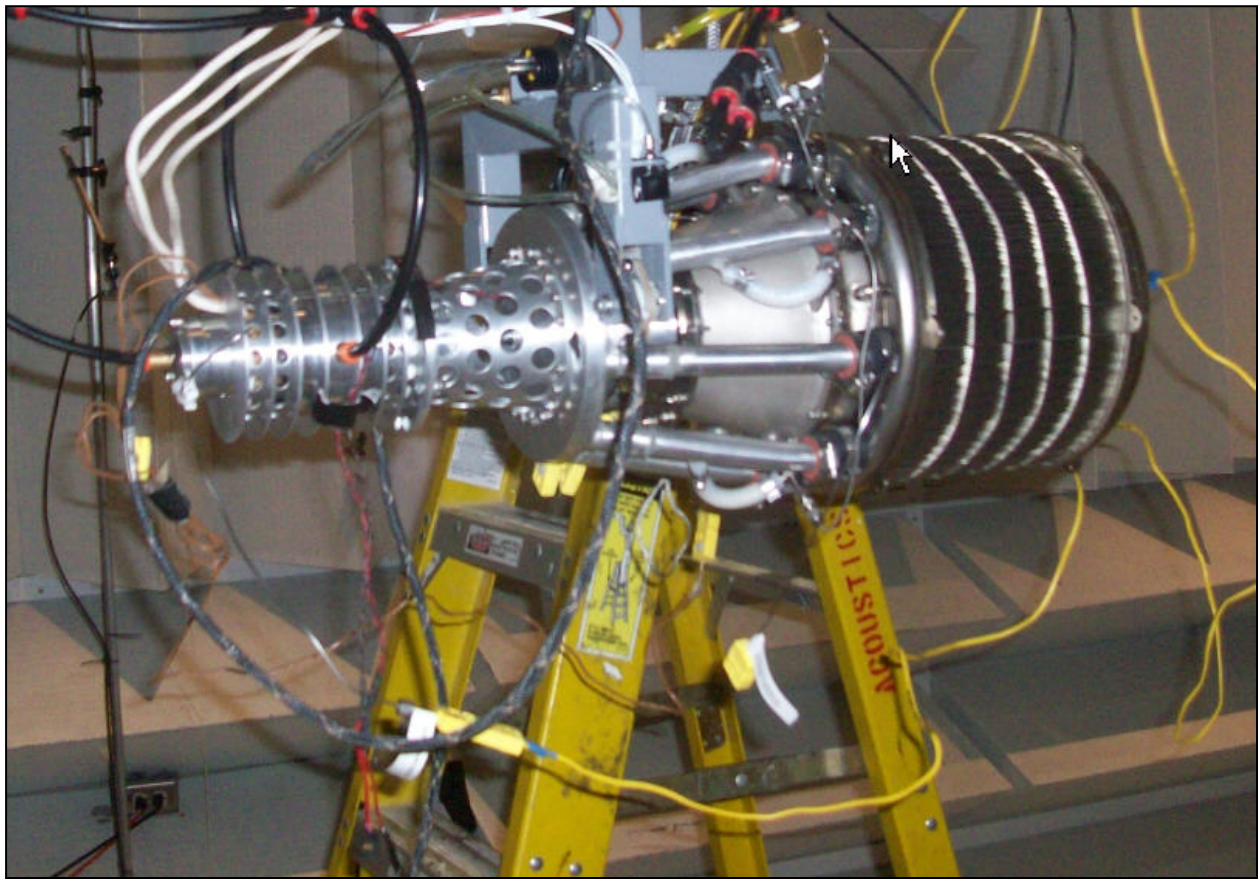
Phase I Contracts: Proof of Concept Demonstrations of *Very Quiet* Hybrid Electric Power Generation Subsystems and Electrically Driven Propulsors for UAV Applications

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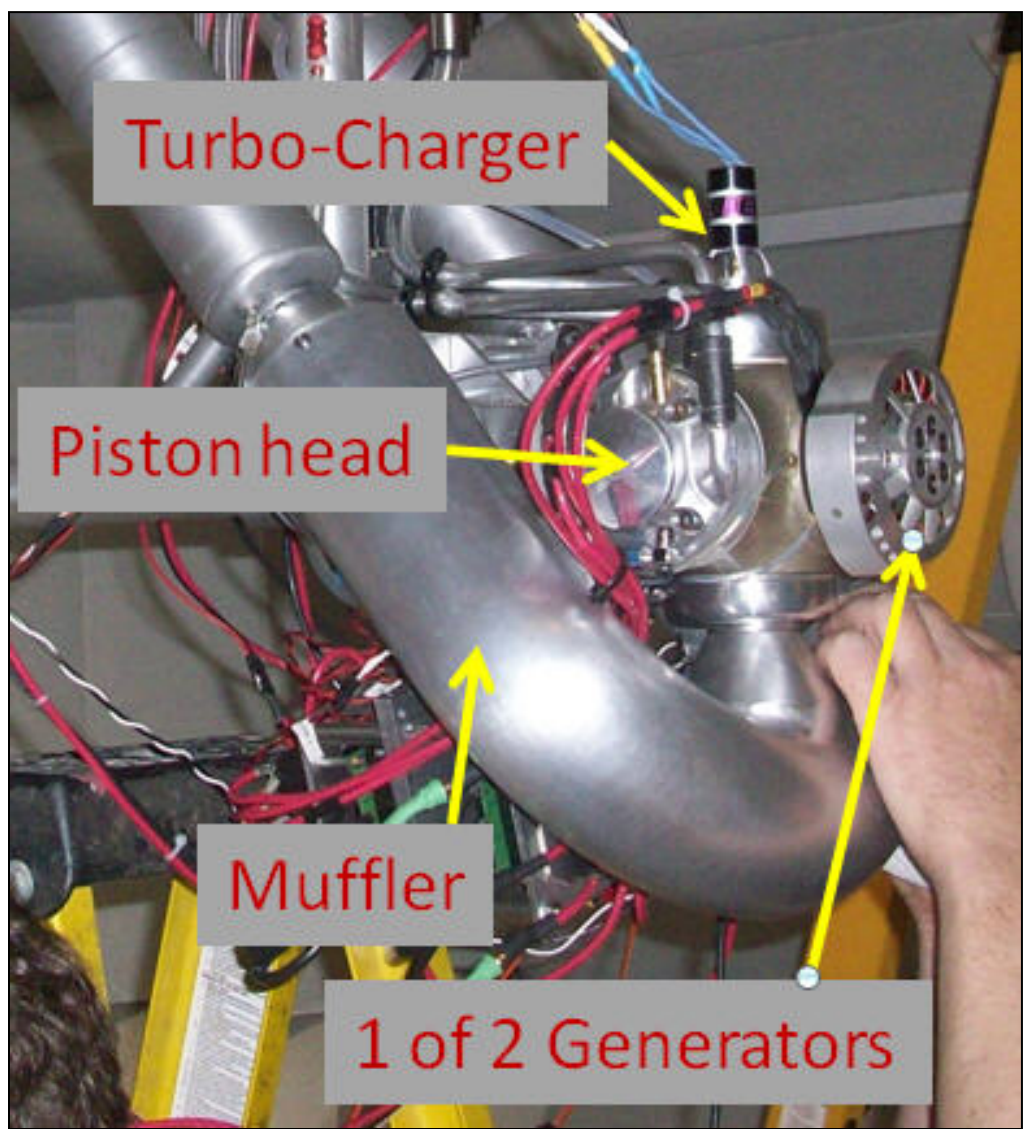


## Enabling Noise & Performance Goals for Electric Power Generation

Generators: Fuel to Electricity	
Metric	Goal
Weight (lbs)	<11
Power Loading (kW/lb)	>0.4
Power Produced (kW)	>4.0
Fuel Consumption (lb/kWh)	<1.0
Sound (Phon)	<60



AZMARK Turbo-Alternator w/Recuperator



GSE Motor Generator

## Enabling Noise & Performance Goals for Propulsors

Propulsors: Electricity to Thrust	
Metric	Goal
Weight (lbs)	<5
Input Power (kW)	<2
Output Thrust (lbf)	>9
Thrust to Weight (lbf/lbm)	>2
Power Consumption (kW/lbf)	<0.3
Sound (db Phon)	<60



CRG Hub-Driven Propulsor

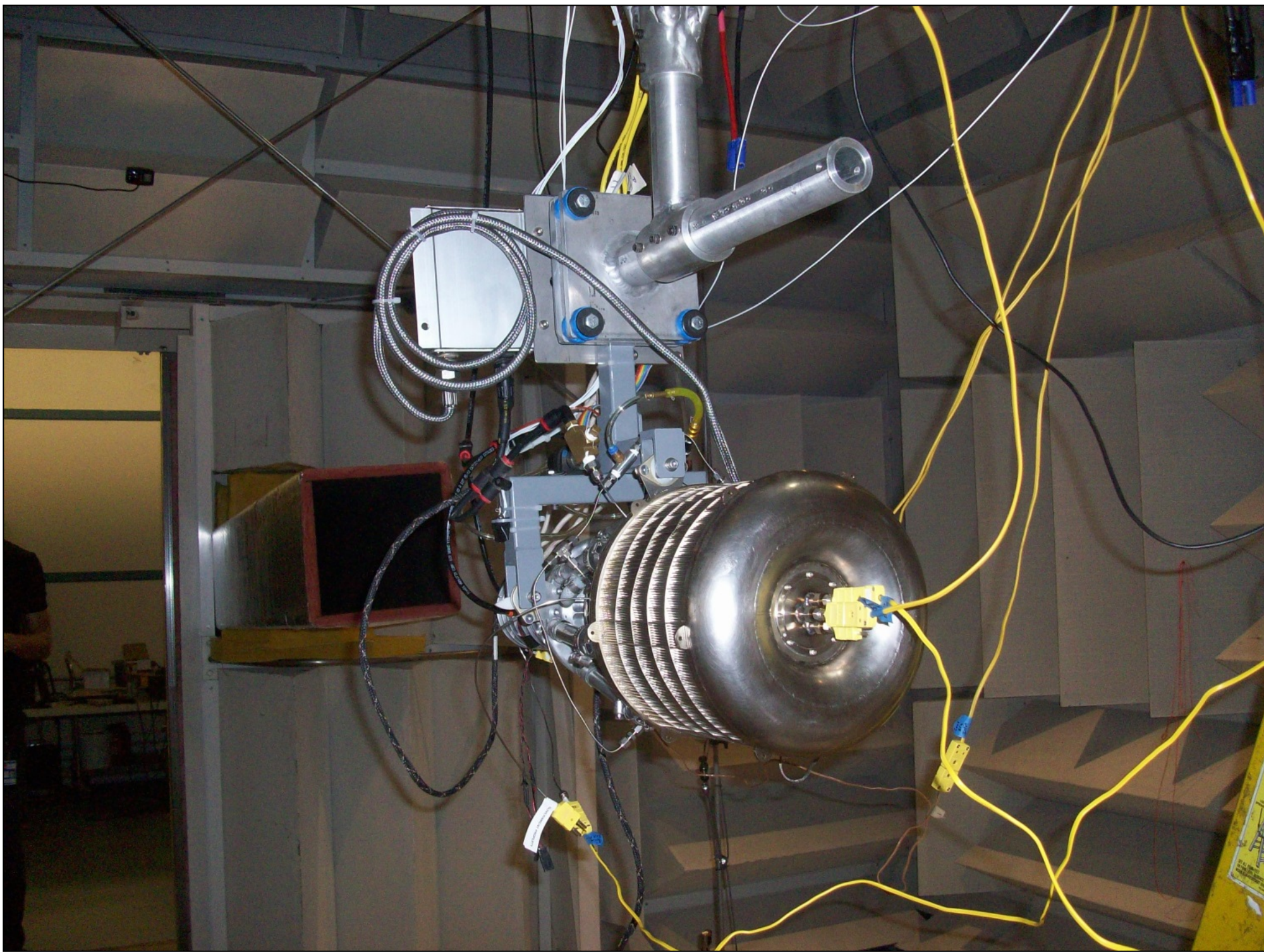


Xcelaero Hub-Driven Propulsor

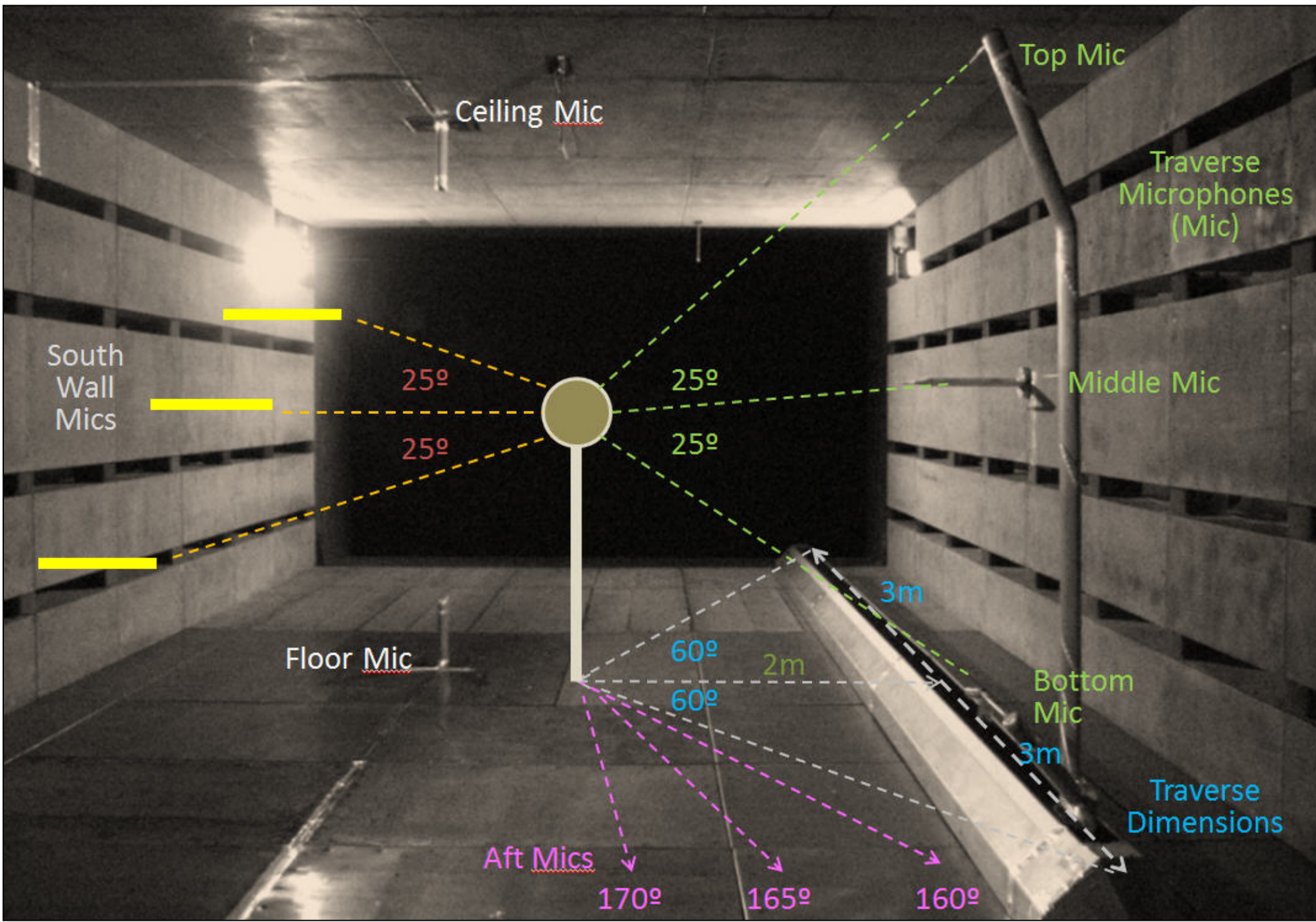


Theta Tech Hubless Propulsor

## Independent 3<sup>rd</sup> Party Acoustic Testing of Phase I Concepts



Static Far Field Acoustic Tests at Owens Corning *Anechoic* Chamber



Dynamic Acoustic Tests in NASA GRC 9X15