

# Electrical Quick Connect Validation Tool

## The Team



**Ngoc Trinh**  
M.E. Team Lead



**Praneel Singla**  
M.E. Software Lead



**Justin Hanson**  
M.E. Hardware Lead



**Leul Bogale**  
M.E. Design Lead



**Gabe Govi**  
M.E. Manufacture Lead

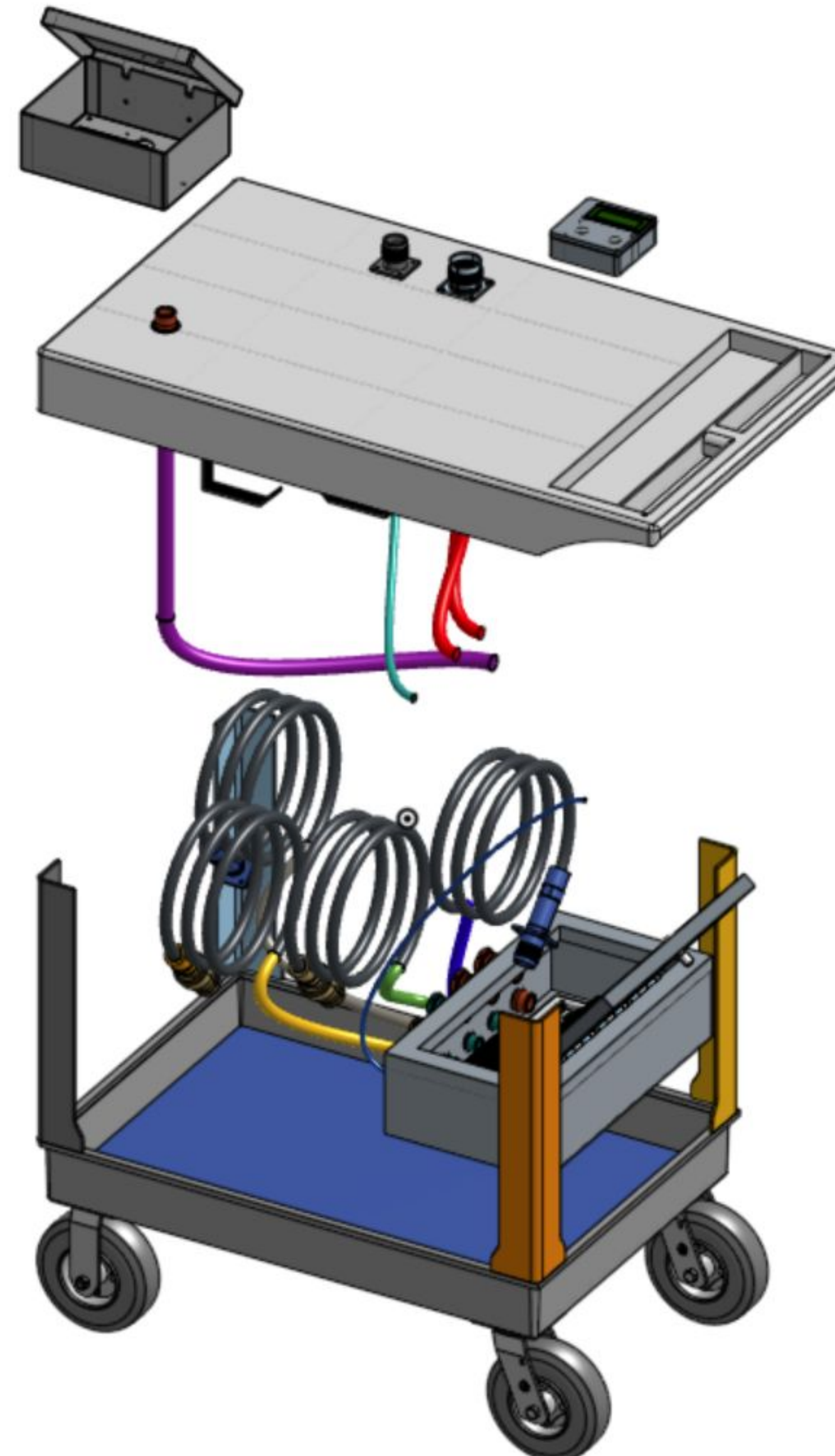
## Meet the Sponsor

Solar Turbines, a subsidiary of Caterpillar company, specializes in manufacturing industrial gas turbines and turbomachinery for power generation, oil and gas, and other industrial applications.

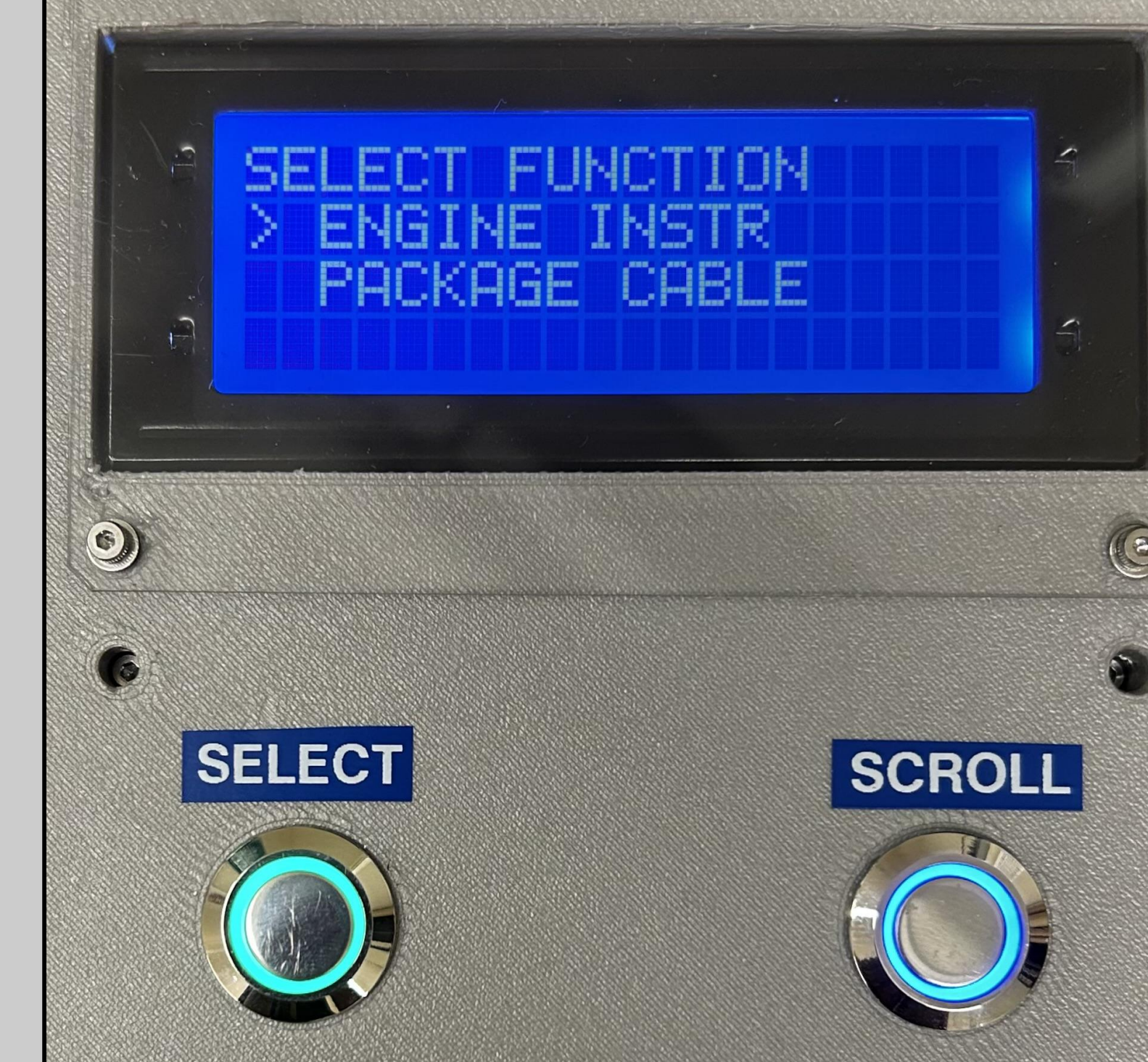
## Project Description

The Electrical Quick Connect Validation Tool project develops a mobile test platform to verify proper assembly of Quick Connects on Solar Turbines' Titan 350 engine package. Designed for rapid engine exchange and serviceability, the Titan 350 uses 3, 7, 17, and 37-pin connectors on engine-mounted devices. This tool ensures connection integrity by testing continuity and resistance in package cables and instrumentation to prevent operational issues or component damage.

## CAD Design



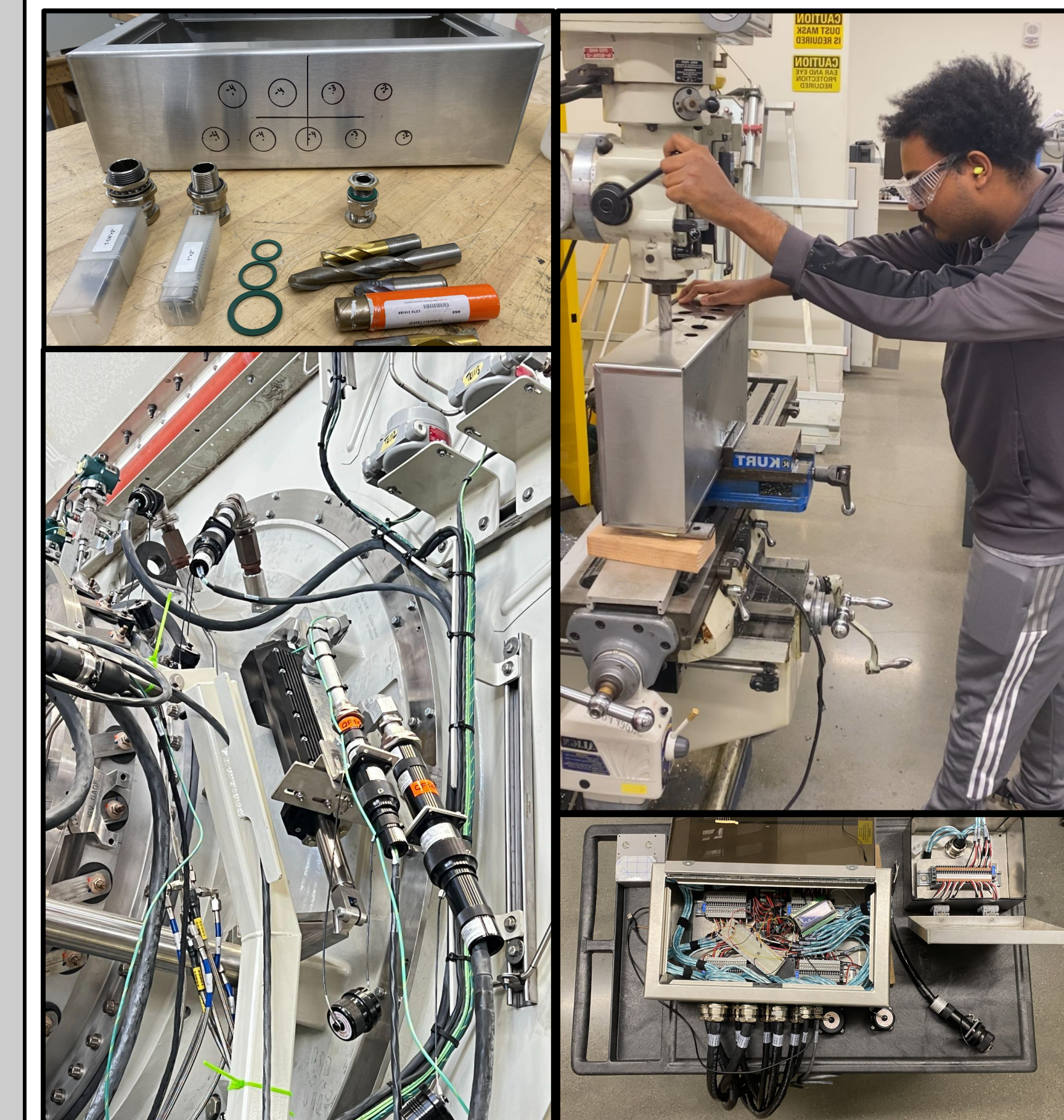
## User Interface



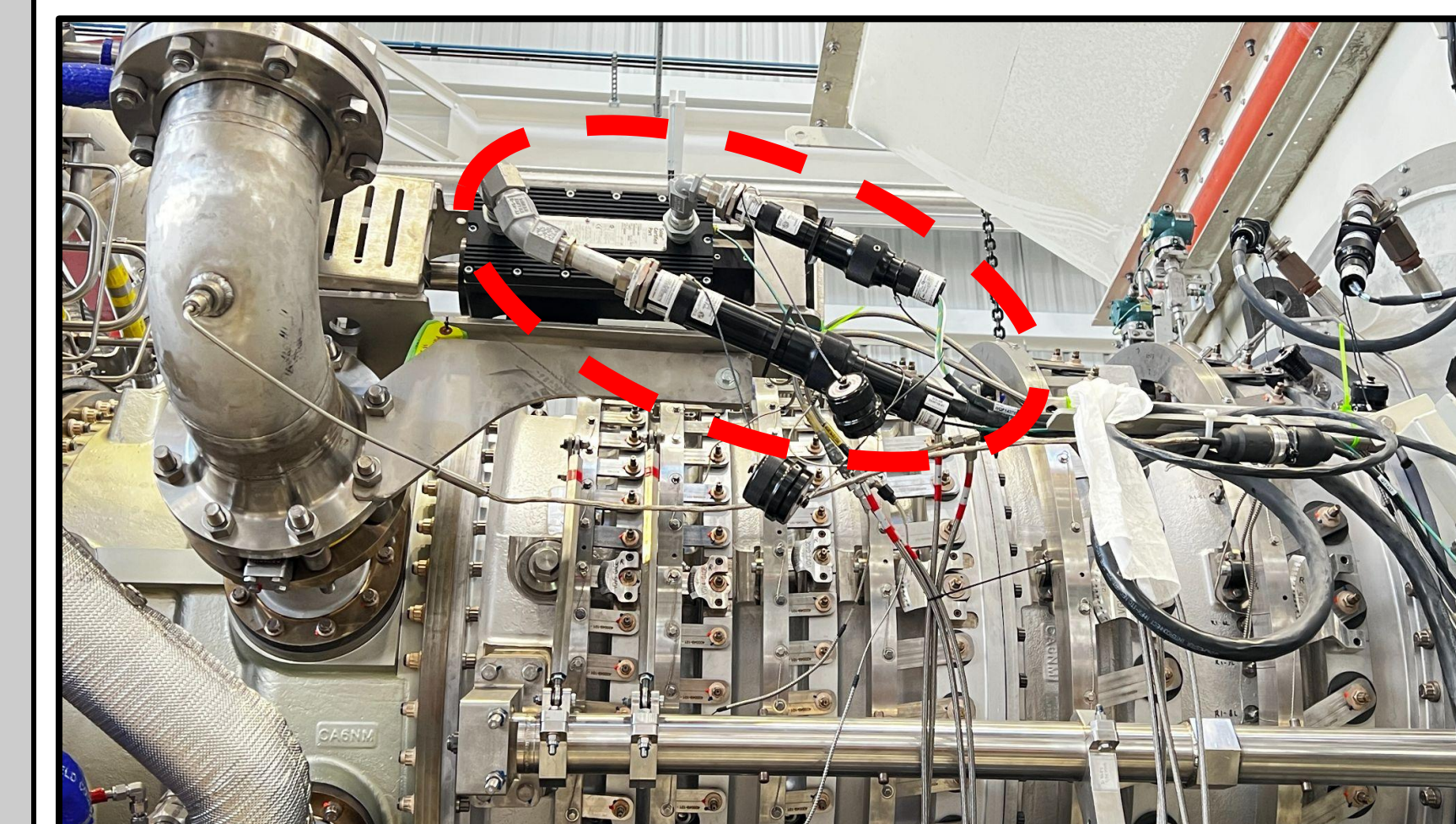
## Instrumentation Testing

PLUG/PIN	RECEPT/PIN	DIN RAIL	
Q	1	34	D34
T	2	66	A12
	3	35	D35
1	4	36	D36
2	5	37	D37
2	6	67	A13
0	7	38	D38
	8	39	D39
4	9	40	D40
R	10	68	A14
	11	41	D41
T	12	42	D42
D	13	43	D43
	14	69	A15
	15	44	D44
	16	45	D45
	17	46	D46

## Assembly & Testing

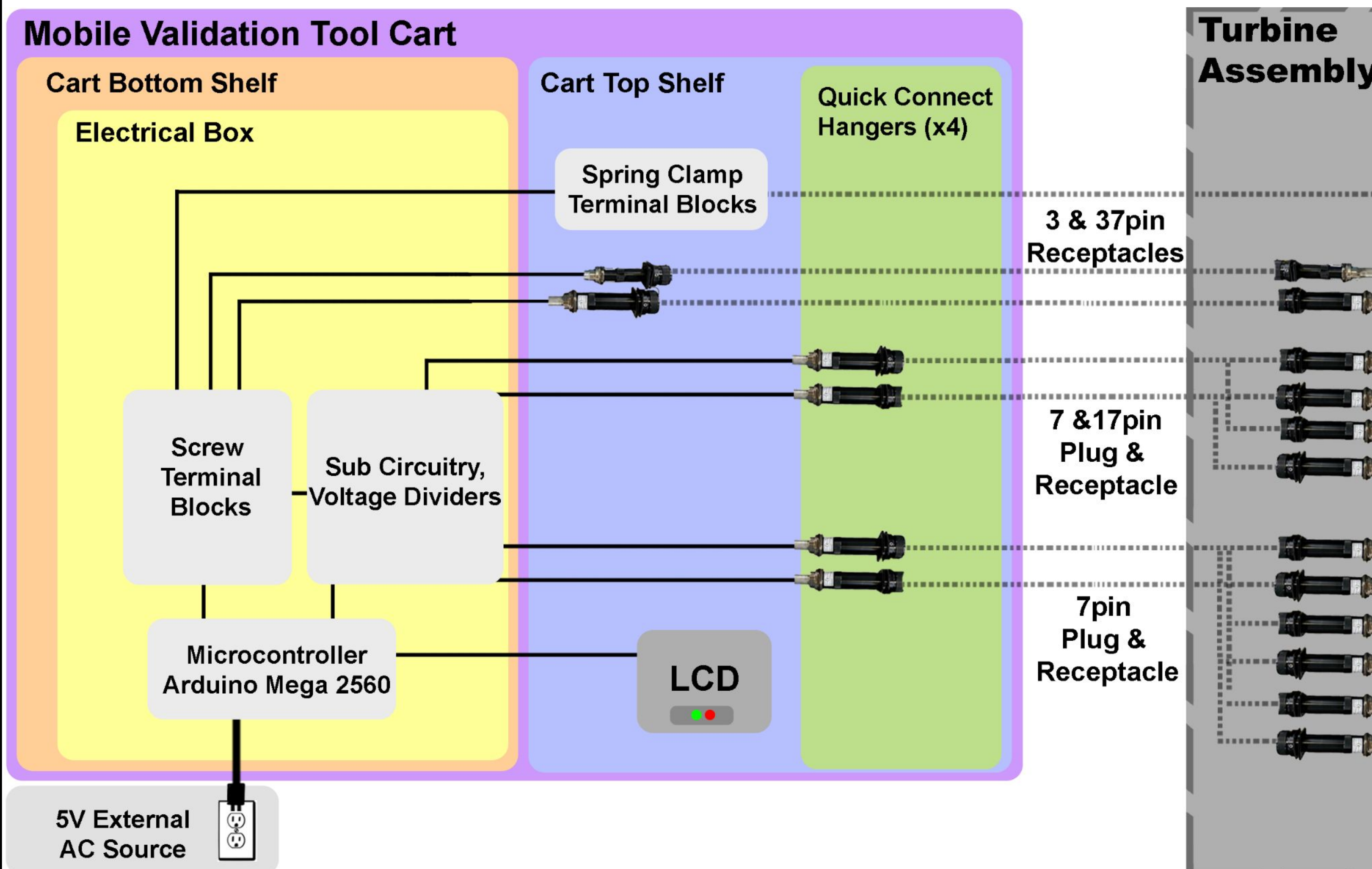


Electrical Box Manufacturing

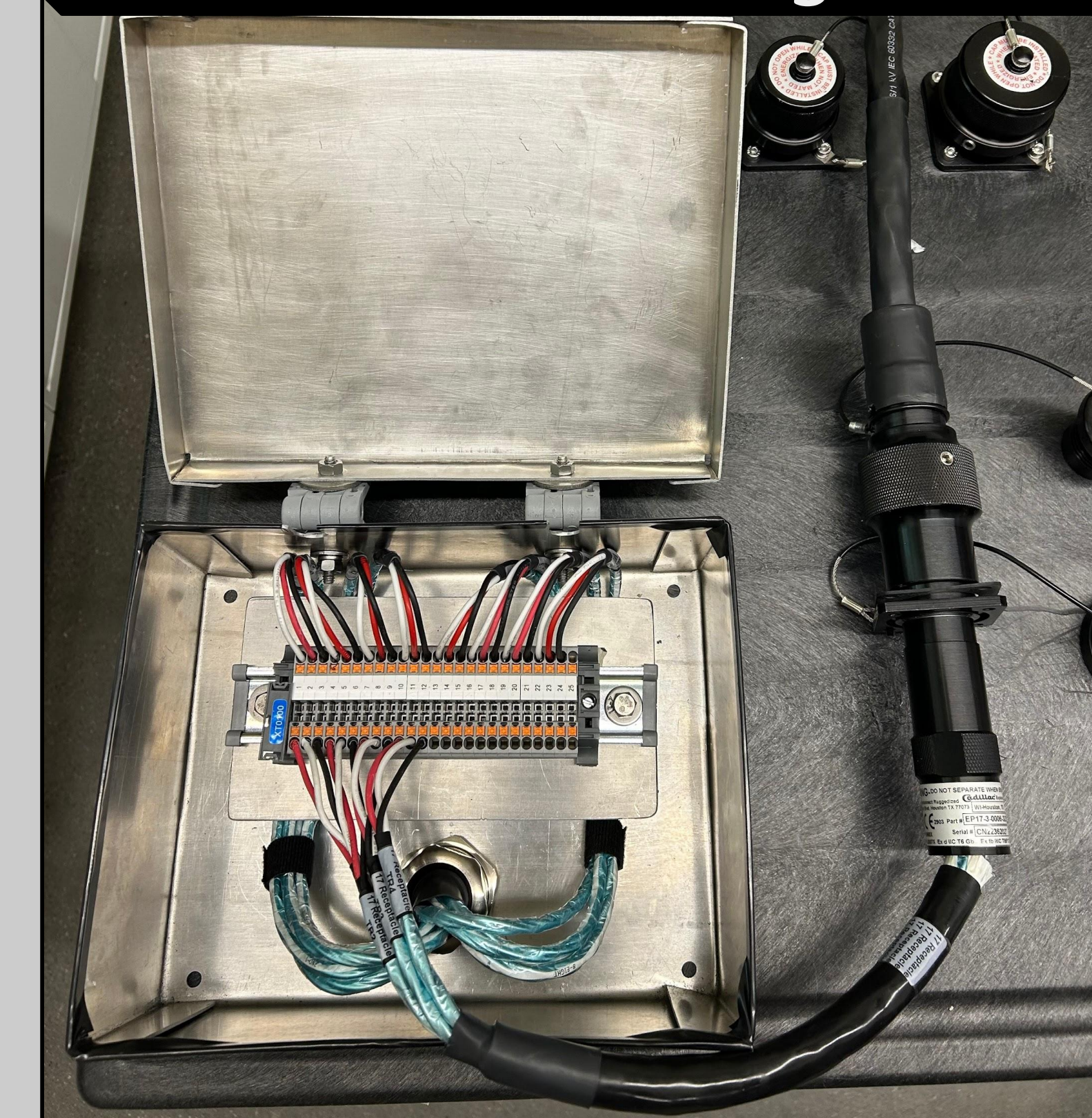


Engine-Mounted Quick Connectors for Titan 350

## System Level Diagram



## Cable Testing



## Acknowledgments

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