

Lockheed Martin Deployable Trainer

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Main Parameters

Metric:	Measure:	Target:
Case and Mechanism	Weight	≤ 88 lbs.
Mounted Simulator	Weight	60 lbs.
Support User	Weight	214 lbs.
Maximum Frame Deflection from Joystick	Length	0.12"
Assemble/Disassemble	Time	≤ 10 mins.

Problem Statement

- Lockheed Martin has the need for a weaponized ground vehicle trainer that can emulate a variety of vehicles and deploy conveniently in the field.

There are 5 modules currently on the market



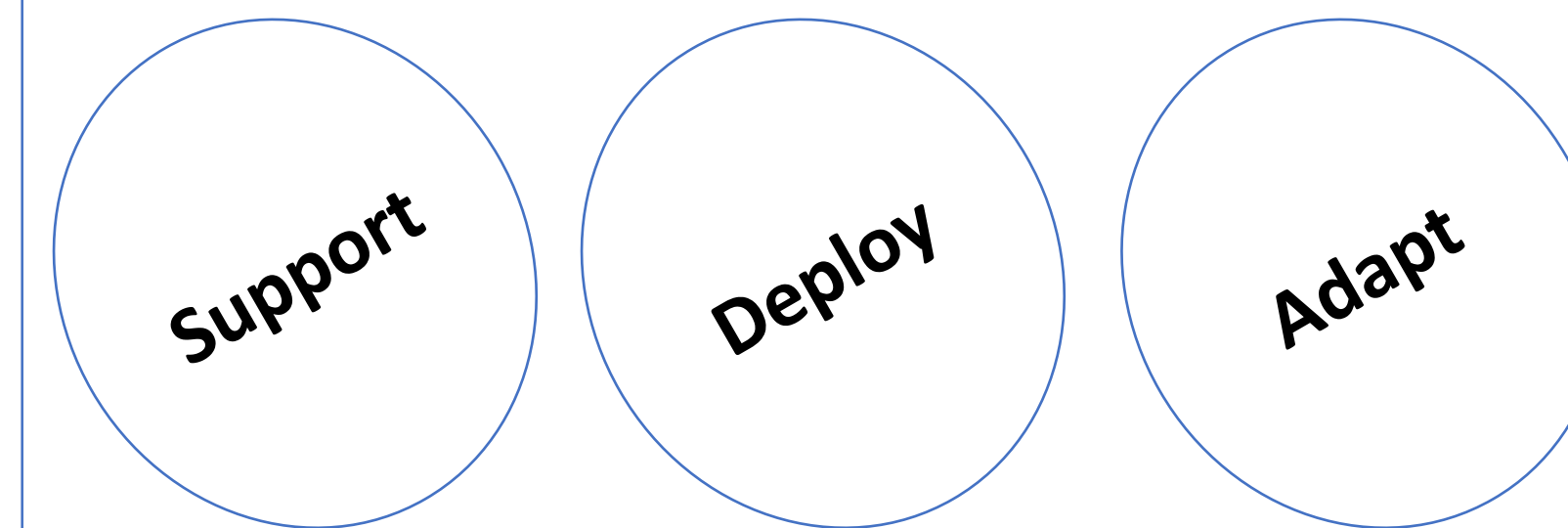
Objective

- The objective of this project is to create a mechanism that supports an adjustable weaponized ground vehicle training simulator that will be set up by two individuals.

Key Requirements

- Eliminate the need to source a chair/table
- Require two people or less to carry
- Assemble/Disassemble in a timely manner
- Adjustable dimensions between seat and mounted simulator
- Meet the required weight specification
- Require a maximum of three cases for storage

Features

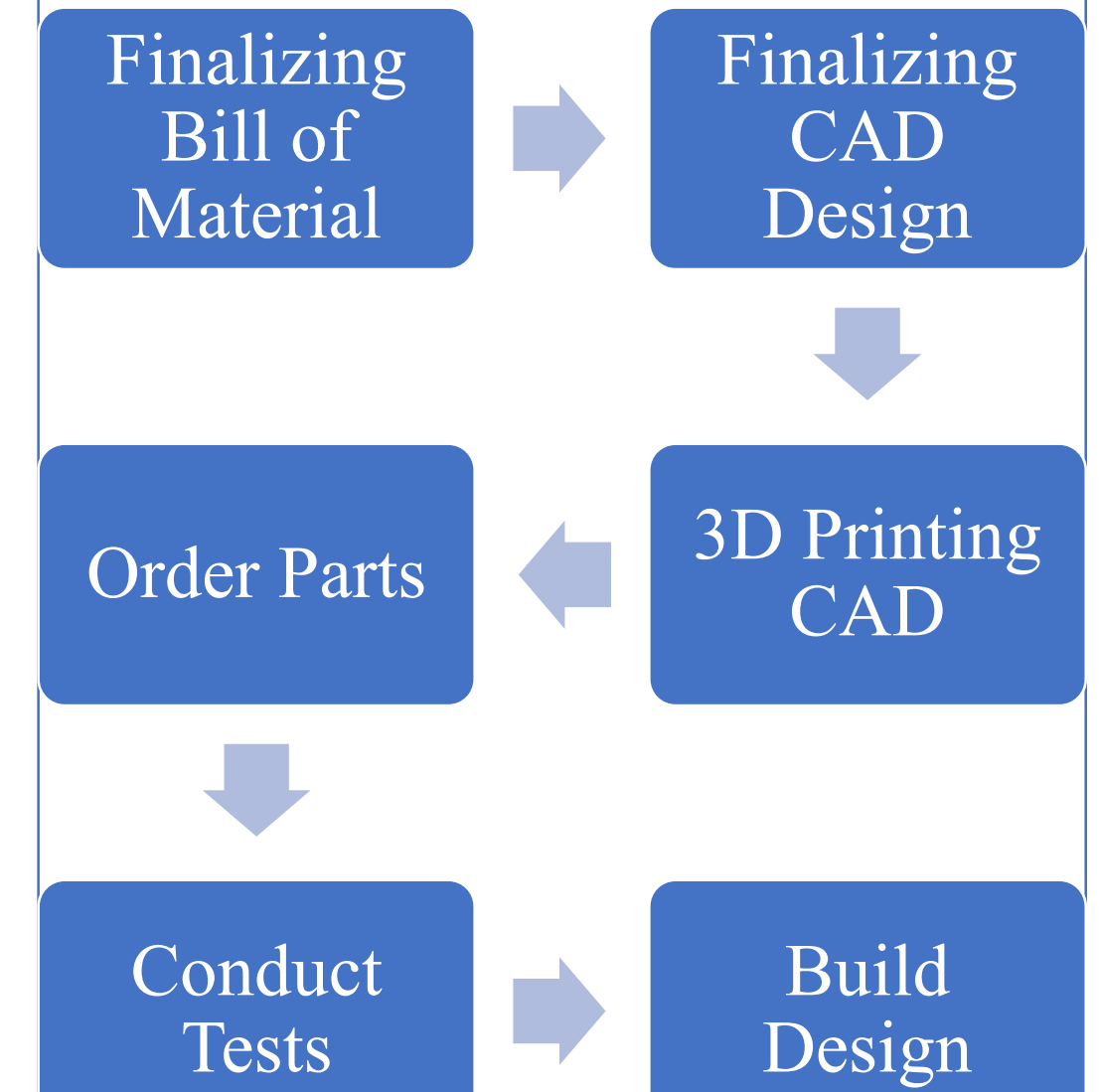


Hold individual and simulator weight

Fit into 3 cases and assemble/disassemble in a timely manner

Adjust to various distances and weight. Emulate different vehicles

Future Work



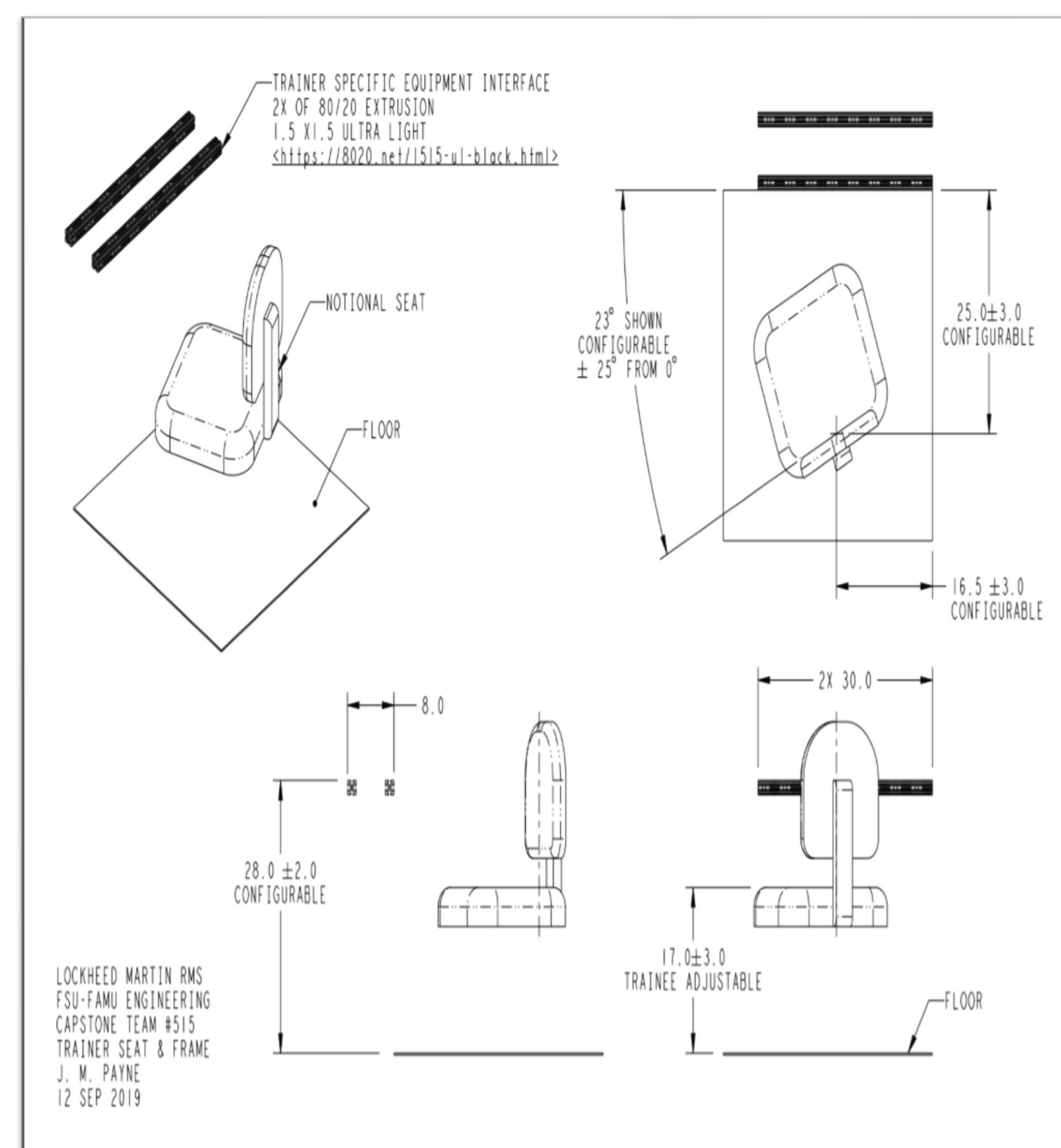
Our Design

1 Seat

2 Adjustable Base

3 Mount

4 Adjustable Frame



NOTES:

- ELIMINATE NEED FOR CUSTOMER TO SECURE TABLE & CHAIRS ON SITE TO PERFORM TRAINING.
- BE CONTAINED IN 2 OR AT MOST 3 CASES.
- TARGET WEIGHT PER CASE IS 88 LB, & SHALL NOT EXCEED 174 LB PER CASE.
- SEAT SHALL SECURELY & SAFELY SUPPORT TRAINEE WEIGHING 214 LB.
- STRUCTURE SHALL SUPPORT DUMMY TSE (TRAINER SPECIFIC EQUIPMENT) POSITIONED & ORIENTED WRT THE SEAT AS SHOWN.
- INTERFACE TO TSE SHALL BE A PAIR OF 80/20 EXTRUSIONS AS SHOWN.
- STIFFNESS: TOTAL DEFLECTION WHEN 2.5 LB HORIZONTAL FORCE IS APPLIED TO TOP EDGE OF TSE SHALL NOT EXCEED .12 IN.
- MINIMIZE OR ELIMINATE LOOSE PARTS & TOOLS.
- "CONFIGURABLE": CAN BE ADJUSTED ONLY DURING STATION SET UP.
- "ADJUSTABLE": CAN BE ADJUSTED BY TRAINEE DURING TRAINING.

