EE/CprE/SE 492 STATUS REPORT 03
March 13th 2025
Group number: 25-34
Project title: Laser Scan Readings for Propeller Measurement
Client &/Advisor: Linden Propeller (Gary Linden) / Dr. Mani Mina

Team Members/Role

Name:	Role:
Alan Whitehead	Testing
Elias Colsch	Client interaction
Denny Dang	Individual Component Design

Past Week Accomplishments

Name	Past Contributions
Alan Whitehead	I continued to work on verifying that the protocols would work with the TruProp software.
Elias Colsch	I emailed Kyle and Gary to determine if the system meets all requirements from both sides. I also provided input on the mounting bracket.
Denny Dang	Retrieved CAD files from both Kyle and Gary on the KEYENCE laser and mounting arm setup. Started ideas on the most ideal mounting bracket.

Weekly Summary:

We contacted Mr. Downey to confirm which laser system Mr. Linden decided to purchase. We confirmed that it was the LK-H157, and with this information, we started designing a mounting bracket. We also received a portion of Mr. Linden's setup, shown in Figure 1, and we took some initial measurements, shown in Figure 2, to create a 3D bracket model. We first created a basic sketch of our bracket design, which is shown in Figure 4, and in the coming weeks, we plan to create a SolidWorks model of the bracket with precise measurements.
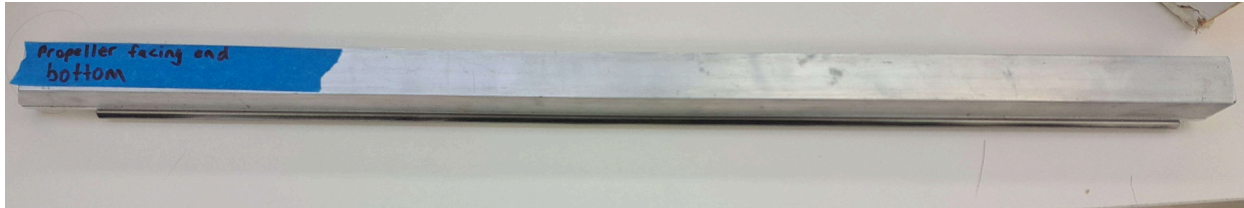
Figure 1: Portion of Mr. Linden's Setup

Interior width: 0.76 in
Interior height: 0.7585 in
Exterior width: 1.006 in
Exterior width w/ mounting rail: 1 and 5/16
Exterior height w/o mounting rail: 1.229 in
Exterior height w/ mounting rail: 1.3875 in
Length at bottom of angle: 24.5 in
Length at top of angle: 25 in

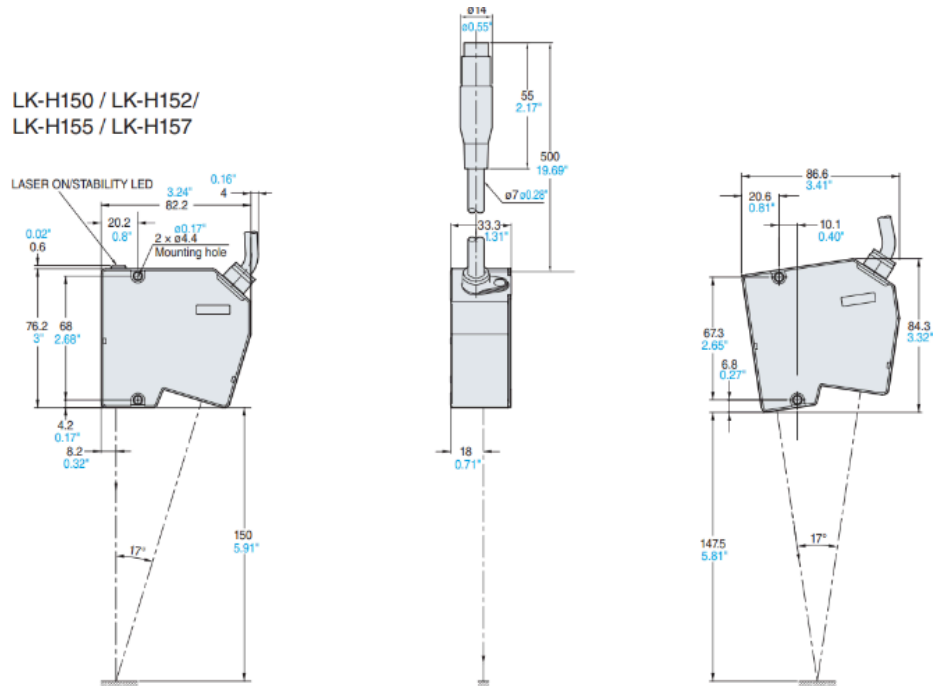Figure 2: Measurements of Mr. Linden's setup

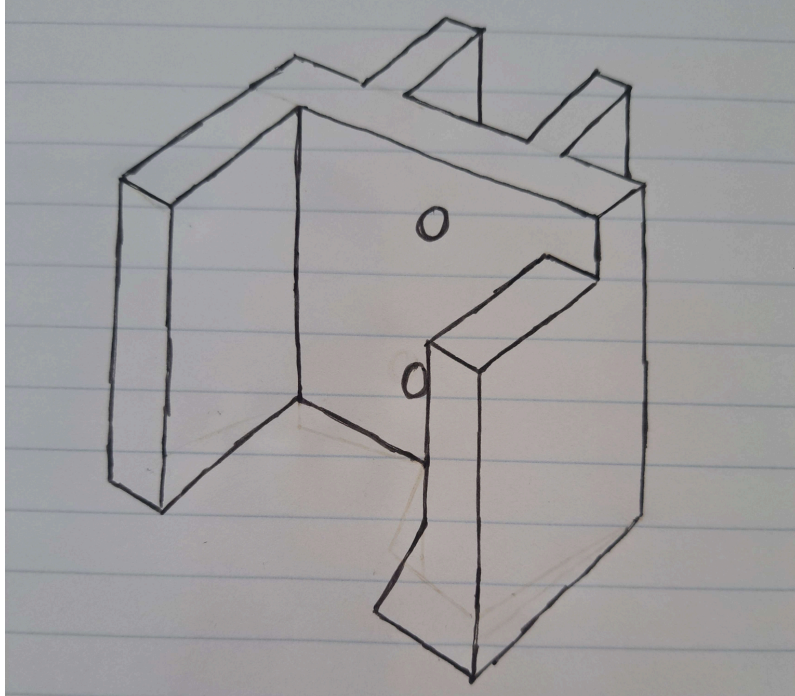Figure 3: Physical dimensions of the laser we are planning to purchase

Figure 4: Initial laser mounting bracket design

Name	Individual Contributions	Hours this week	HOURS Cumulative
Alan Whitehead	I continued working on system integration as we awaited the arrival of our final KEYENCE sensor. In the meantime, I collaborated with Denny Dang, who is leading the CAD portion of our project. I assisted him in designing the supporting bracket for the sensor within the system.	5	20
Elias Colsch	I continued to provide input on the design of the mounting bracket. I used a digital caliper to measure the dimensions of Mr. Linden's setup for Denny to create a precise model of our bracket design.	6	23
Denny Dang	Contacted Gary to get his mounting arm delivered to ETG in Coover. Requested times to use the 3D scanners in SICTR for simple modeling of the	6	23

	mounting arm. I was in contact with Kyle regarding updates and additional questions regarding the project. Started actual designs with the laser we are planning on purchasing.		

Plans for the upcoming week

Name	Future Contributions
Alan Whitehead	I will monitor contractual negotiations between Kyle and Gary. So that we can end up with a sensor and I will help them with any financial contacts that they need to make to Iowa state so that they can get it done smoothly.
Elias Colsch	I will continue to help Denny design and create the mounting bracket. I will also communicate with Mr. Linden to make sure we can secure funds for the purchase of a sensor.
Denny Dang	Will continue working on creating 3D models for the bracket and mounting arm. Will keep Kyle updated with any updates.