

MEETING MINUTES

Topic: Analytical Report

Tuesday, October 24, 2017

6:00 pm – 6:30 pm

Minutes recorded by: Adam Wedell

Meeting called by: David Trevas

Attendees: Andrew Robinson, Isaac Keene

Table 1. Record of meeting.

6:00 pm – 6:07 pm	Thrust Equations <ul style="list-style-type: none">• Willy said the thrust equations will be a combination of equations from the thermodynamics book, fluid mechanics book, and the machine design book• Max thrust of 10 lbs• Factoring in heat exchangers	duBois Room 11
6:07 pm – 6:15 pm	Analytical Tasks Results: Isaac <ul style="list-style-type: none">• Solved for the strain on casing mount/beam• Using a wheatsone bridge with four strain gauges• Don't know how much thrust we could expect• Beam should have dimensions closer to 1/2 in by 1/2 in• Beam is rectangular	duBois Room 11
6:15 pm – 6:22 pm	Analytical Tasks Results: Andrew <ul style="list-style-type: none">• Need an input pressure of 100 psi• Found a plastic tubing to buy• Flow rate going into at 0.0213 kg/s• Willy is helping with the calculations for thrust	duBois Room 11
6:22 pm – 6:30 pm	Shaft Design <ul style="list-style-type: none">• Found shaft (1/2 in diameter), collars for set screws, and bearings on McMaster.com• Look at a taper roller bearing for one of the bearings• Should a press fit bearings be used for the bearings• Can a shoulder be applied to the bearing	duBois Room 11

Table 2. Tasks Assigned.

Task	Person Assigned	Due Date	Date Complete
Strain Gauges and beam design	Isaac		
Continue looking at thrust, and look at materials and parts for the plastic tubing	Andrew		

Look into shoulder and taper for bearings and also roller bearings. Look into axial thrust on bearings.	Adam		
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Next formal meeting: 10/31/2017, Room 11, duBois Center, at 5:30 pm.