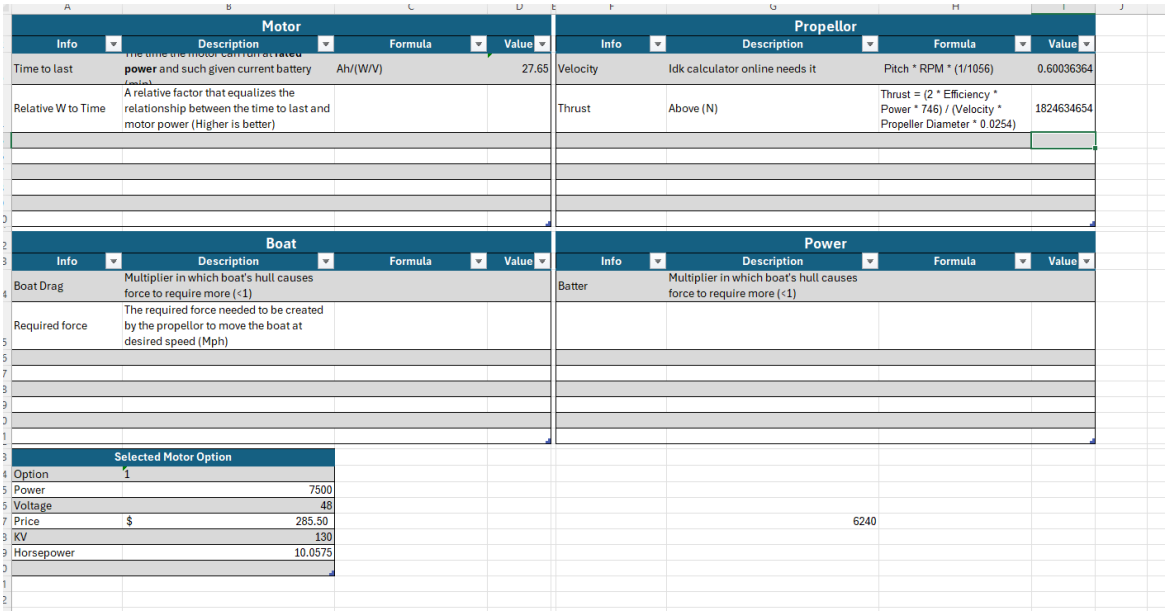
Motor

9/10/2024

By looking at the possible motors that we have chosen and comparing them with power and price we have decided to go with:

[APISQUEEN 70167]

Also worked on calculation in the spread sheet, Current spread sheet to calculate values(PDF):



Motor

Info	Description	Formula	Value
Time to last	The time the motor can run at **rated power** and such given current battery levels	Ah/(W/V)	27.65
Relative W to Time	A relative factor that equalizes the relationship between the time to last and motor power (Higher is better)		

Propellor

Info	Description	Formula	Value
Velocity	Idk calculator online needs it	Pitch * RPM * (1/1056)	0.60036364
Thrust	Above (N)	Thrust = (2 * Efficiency * Power * 746) / (Velocity * Propeller Diameter * 0.0254)	1824634654

Boat

Info	Description	Formula	Value
Boat Drag	Multiplier in which boat's hull causes force to require more (<1)		
Required force	The required force needed to be created by the propellor to move the boat at desired speed (Mph)		

Power

Info	Description	Formula	Value
Batter	Multiplier in which boat's hull causes force to require more (<1)		

Selected Motor Option

Option	1	
Power		7500
Voltage		48
Price	$	285.50
KV		130
Horsepower		10.0575

6240

Coming up
will need to pick out a ESC before friday.

Revision #1
Created 6 May 2026 00:26:33 by Caicheng Li
Updated 6 May 2026 00:26:46 by Caicheng Li