Decision Matrices

Using a 0-to-100-point scale, each team member individually weighted the importance of the requirements then took the average to come up with a final weight. Following this, we graded the design ideas being “-1” = Not Ideal, “0” = Neutral and “1” = Ideal.

Table

Description automatically generated

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Engineering Analysis

*Deflection on linear shaft rods*

A picture containing text, antenna, clock

Description automatically generated Shape

Description automatically generated with medium confidence

F = 5 lbs.

L = 48 in.

E = 29000 ksi

D = 0.375 in.

I = 9.707x10-4 in.4

Theoretical Deflection = -0.102 in.

Actual Deflection =  ~ -0.120 to -0.125 in.