REACH_MkX_DS.md

R.E.A.C.H. MkX Data Sheet

Key

1. **(?UL) - Indicates that value falls in the higher range of possible values**
2. **(?LL) - Indicates that value falls in the lower range of possible values**

Project Overview

Our aim is to achieve the following with R.E.A.C.H.:

1. Test Expermimental Hybrid Recovery Methods
2. Set Asian Amateur Rocketry Record for Altitude (Apoapsis)
3. Breach the Kármán Line
4. Setup Framework To Test New Concepts

TGT: Cheap Concept Testing

Total Budget (?UL): 400,000 INR

We will require assistance from other organizations for Infrastructral Support.

Infrasturcture Outsourcing List

This is our final vision for the project: To launch hardware upto 10kg-100kg mass into Low Earth Orbit for as low as 400,000 INR/Launch (~6,500 USD).

Rocket Statistics

Attribute	Details	Numbers	Notes
Dimensions	8m Cylinder with 0.25 Nose Cone of 0.11m Radius	8.25 x 0.11	Aluminium
Mass (Dry)	-	221Kg (?LL)	50Kg payloads
Mass (Wet)	-	320Kg (?LL)	-
Range	Multiburn Orbit Insertion	400Km/240Mi	Low Earth Orbit
Communications	Satellite Networks	500+Km Range	Undecided
Fuel (Liquid)	Hybrid Dipropellant: Methane / Hydrogen With Oxygen	140 MJ from 1.11Kg (?UL)	Energy Capacity
Motor Dimensions	5.7m PVC Pipe 50mm with 0.105m Radius with 5-star bore	5.7 x (0.005 + 0.105)	Designed to be detachable with minimal Thrust variance
Recovery	Parachuteless Hybrid Recovery	Internal Sustained G_{max} = 473G	Insanity