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) : INR 4,00,000

We expect some Assistance from Dominant Research Organizations for Infrastructral Support.

Infrasturcture Outsourcing List

This is our final vision for the project. To launch hardware into Low Earth Orbit for as low as 40,000 Rs/Launch.

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	Tentatively Powered By ISRO
Fuel (Liquid)	Dipropellant (Hybrid): 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)	Tentative & Detachable with Minimal Thrust Variance
Recovery	Parachuteless Hybrid Recovery	Internal Sustained G_{max} = 473G	Insanity