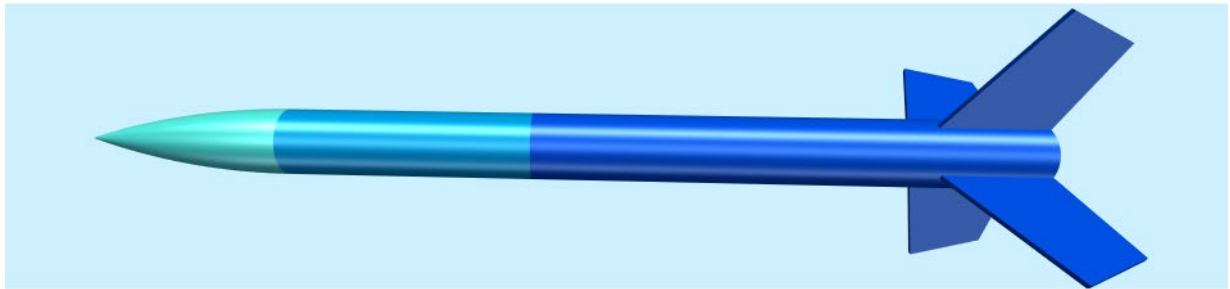


*SOUNDING ROCKET
MBSE MODEL OVERVIEW
DOCUMENT*



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Table 1: Document Change History

Date	Rev	Description	Status
11/06/21	MBSE-00	Initial Draft	Released
03/15/22	MBSE-01	Activity Diagram Update	Open for Review

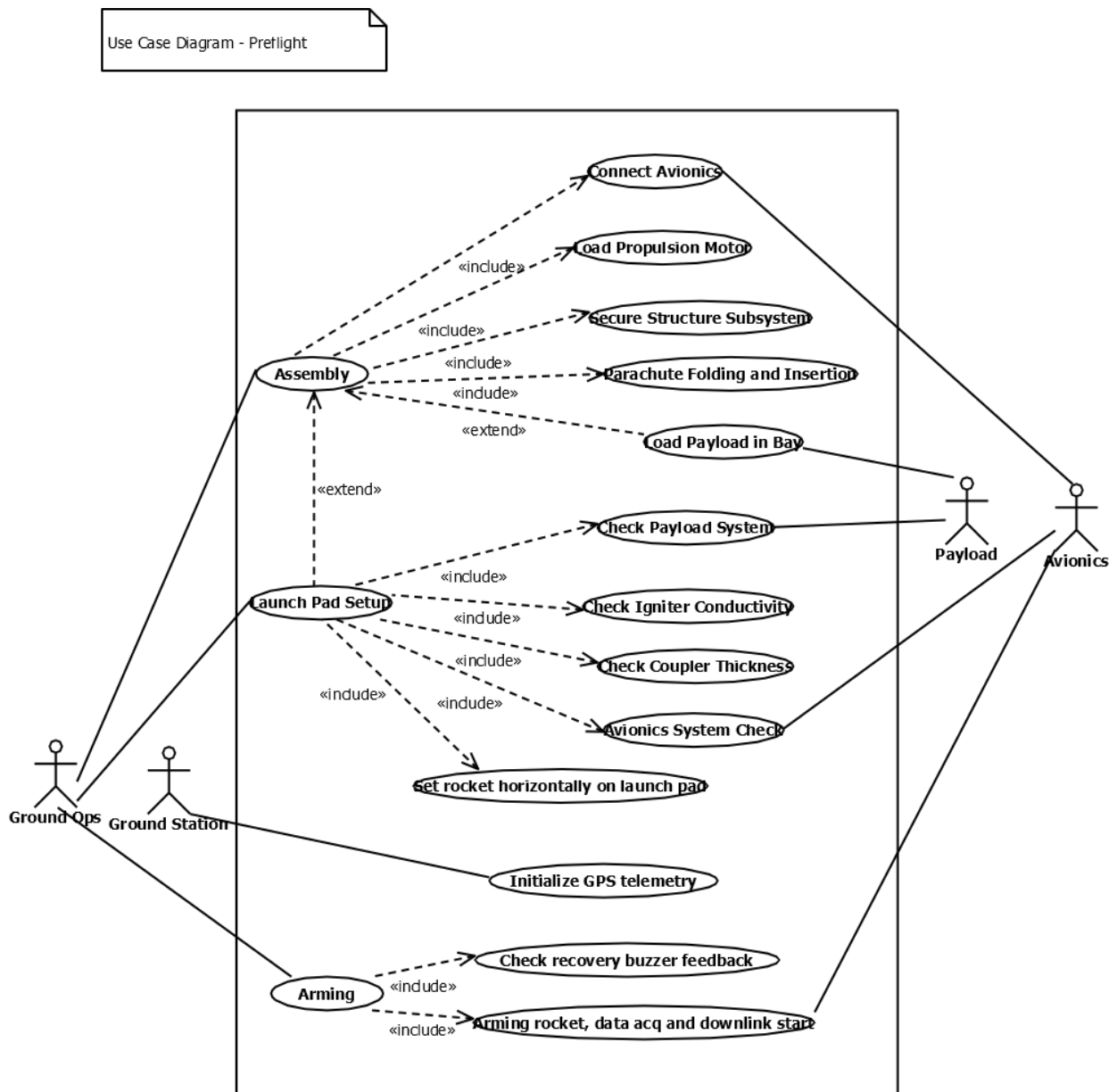
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1 Use Case Diagrams

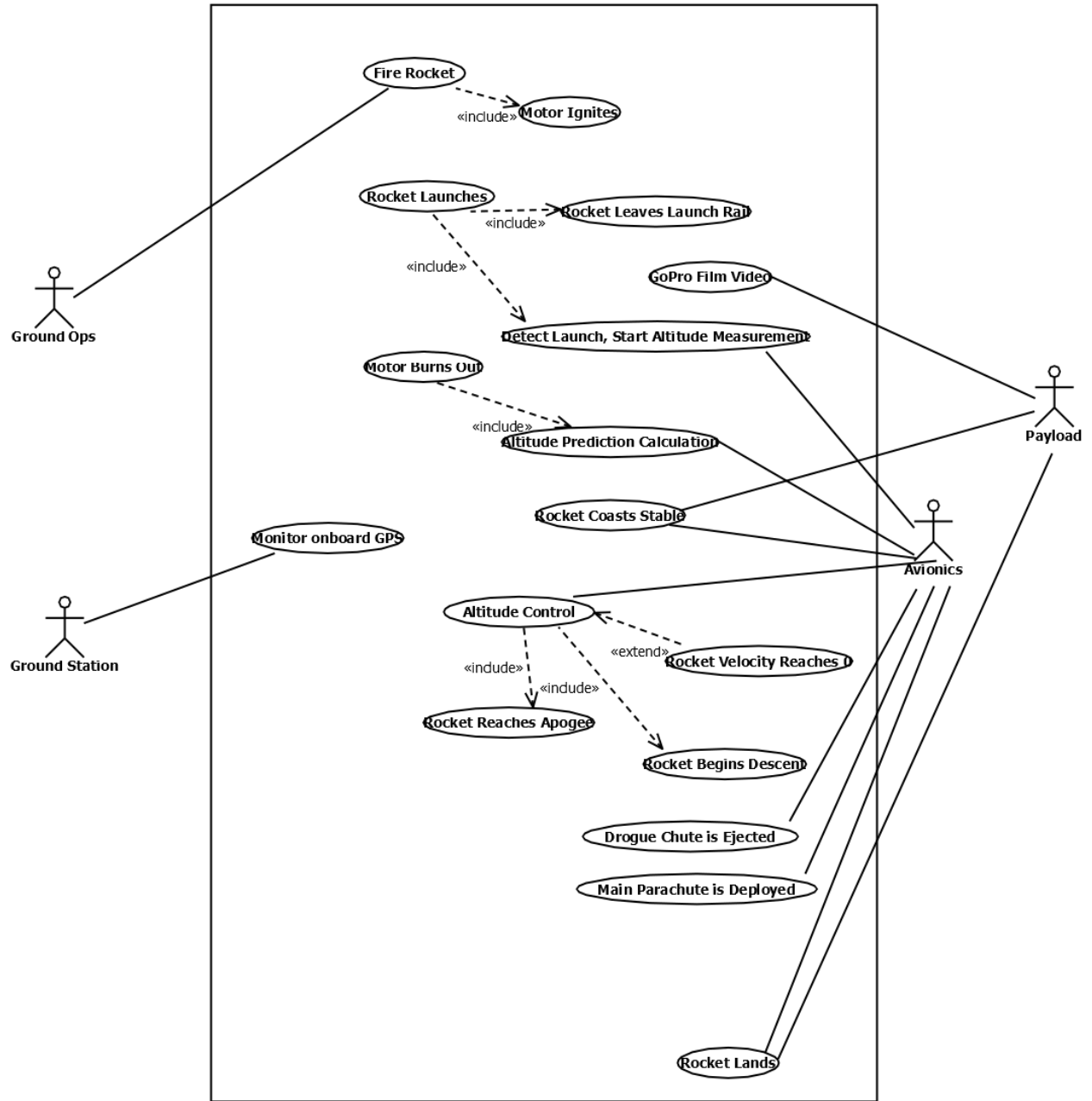
The following is a presentation of the Sounding Rocket's use case diagrams. They cover three general areas covered by the CONOPS, namely preflight, flight, and post flight.

1.1 Preflight Use Case

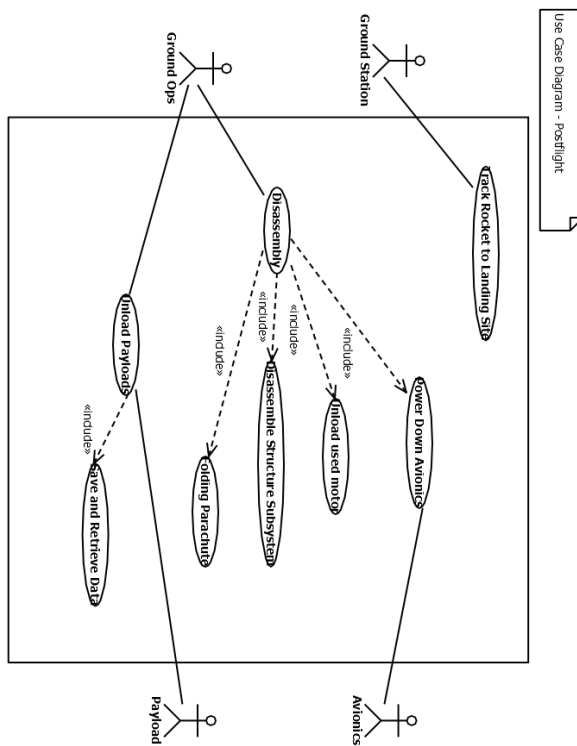
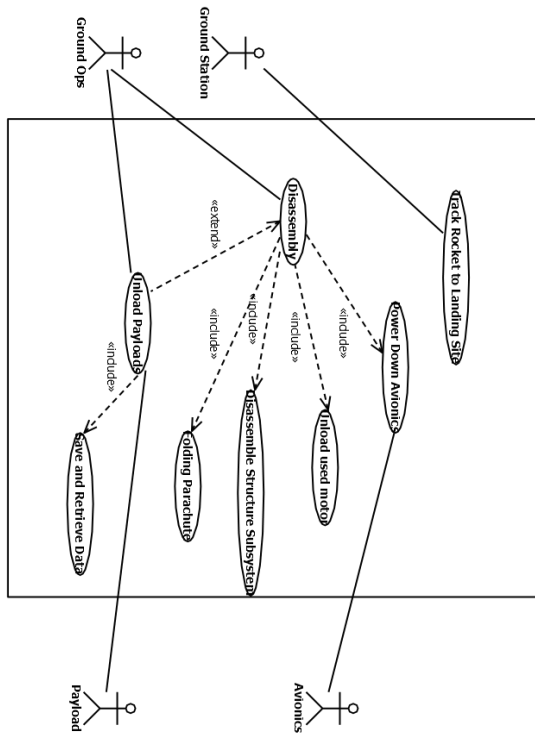


1.2 Flight Use Case

Use Case Diagram - Flight



1.3 Post Flight Use Case

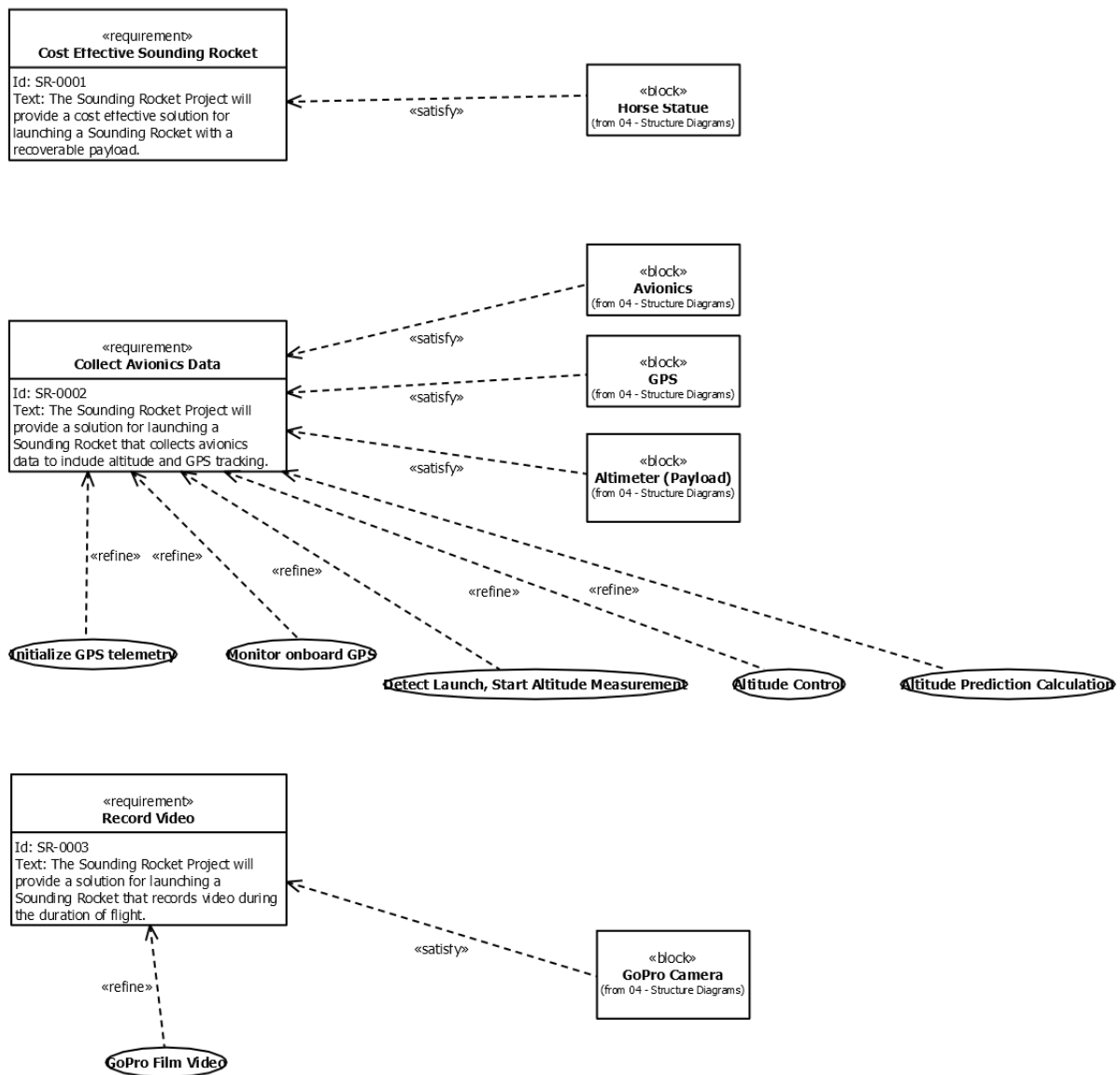


2 Requirements

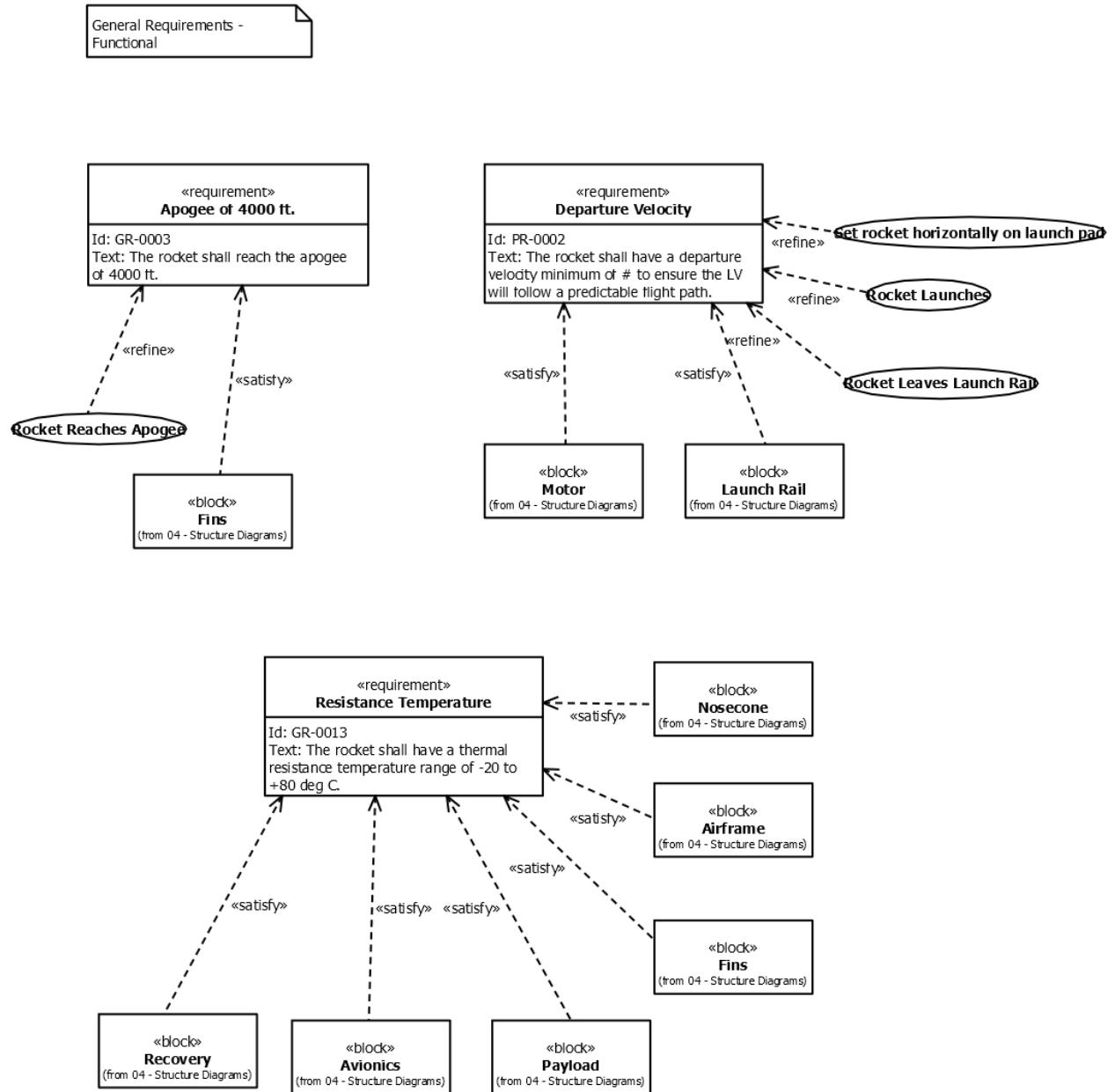
The following are MBSE diagrams of the Sounding Rocket's requirements, and these show traceability to both Use Cases and the Block Definition Diagram that are also part of the model.

2.1 System Requirements

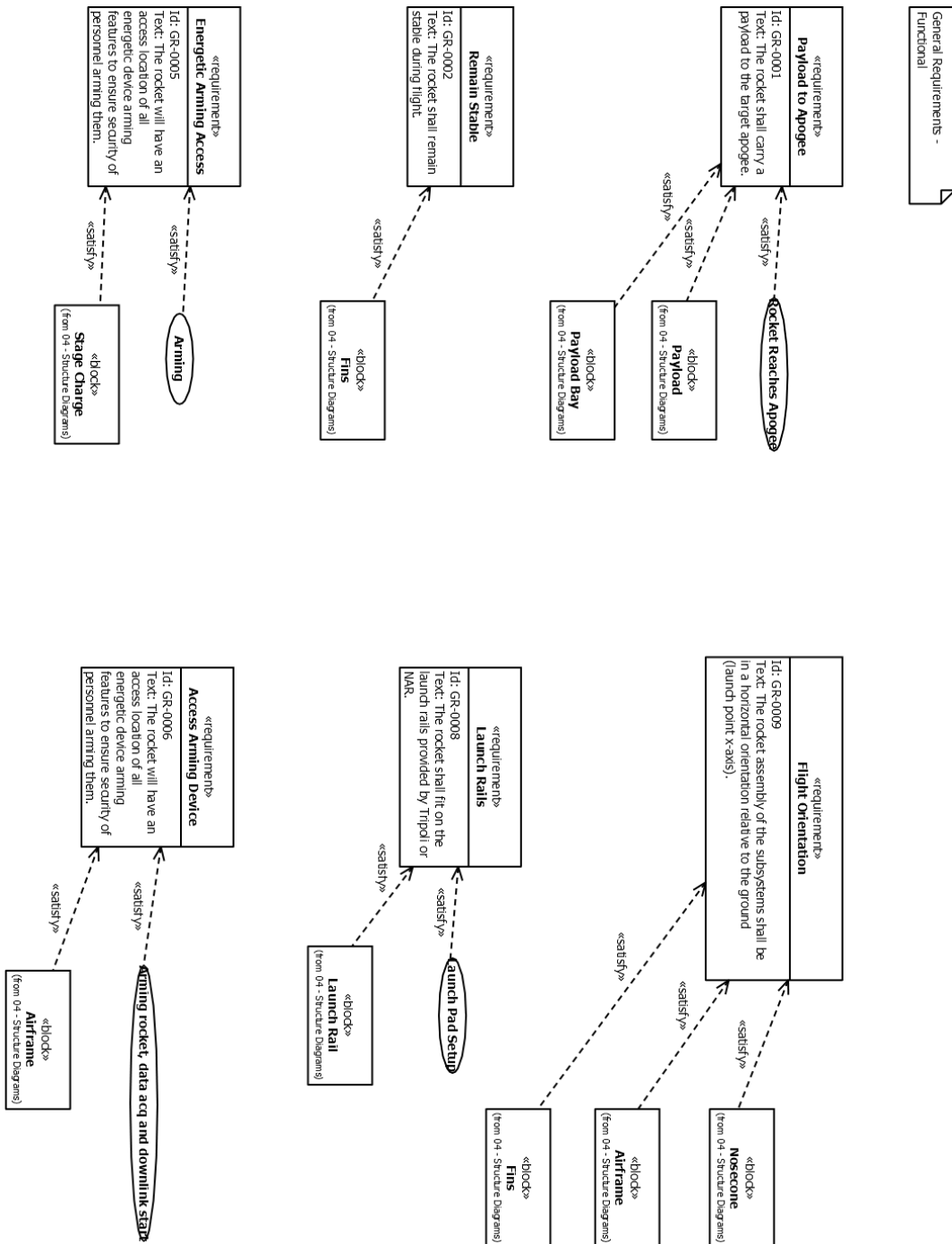
System Requirements Diagram



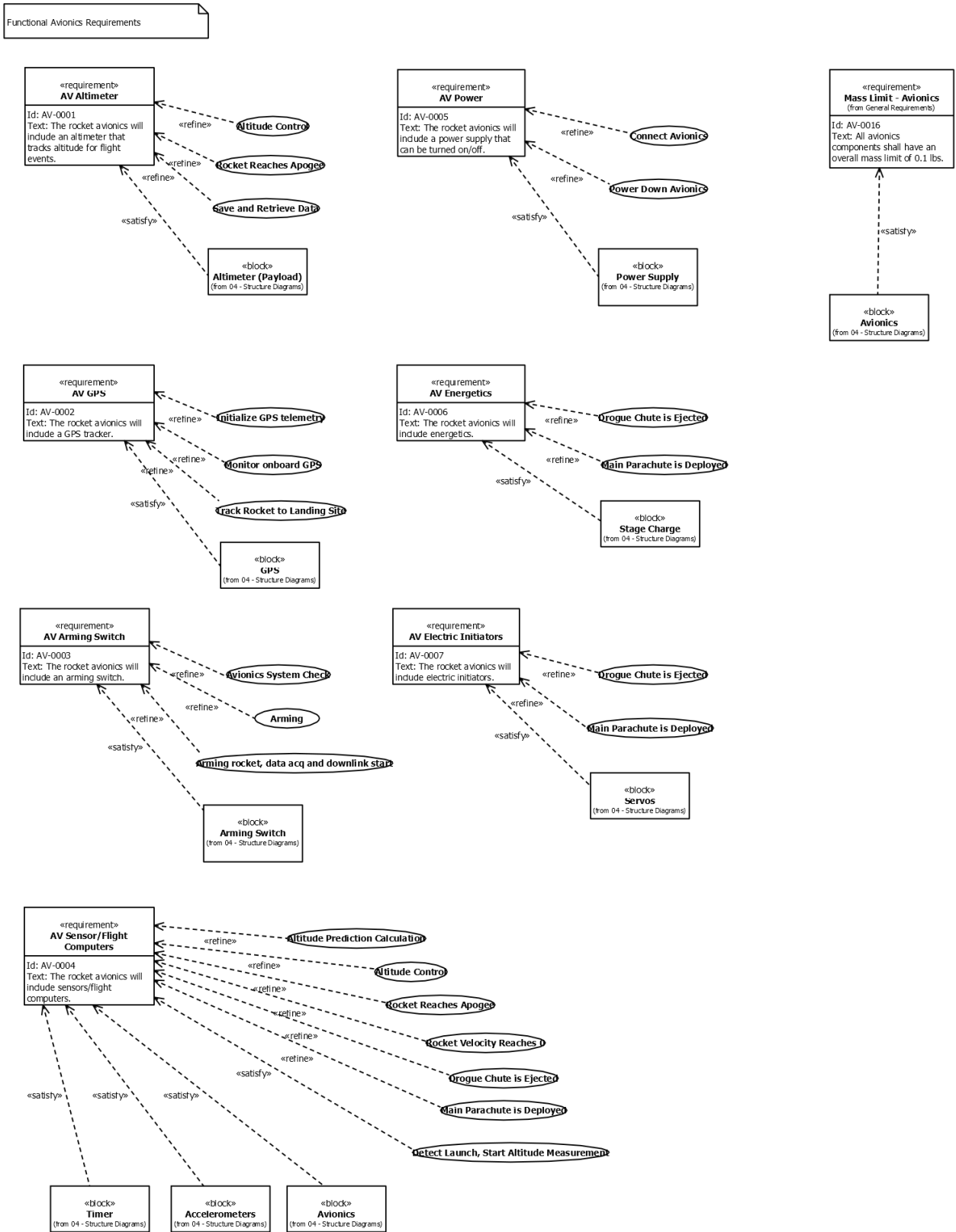
2.2 General Requirements - Performance



2.3 General Requirements - Functional

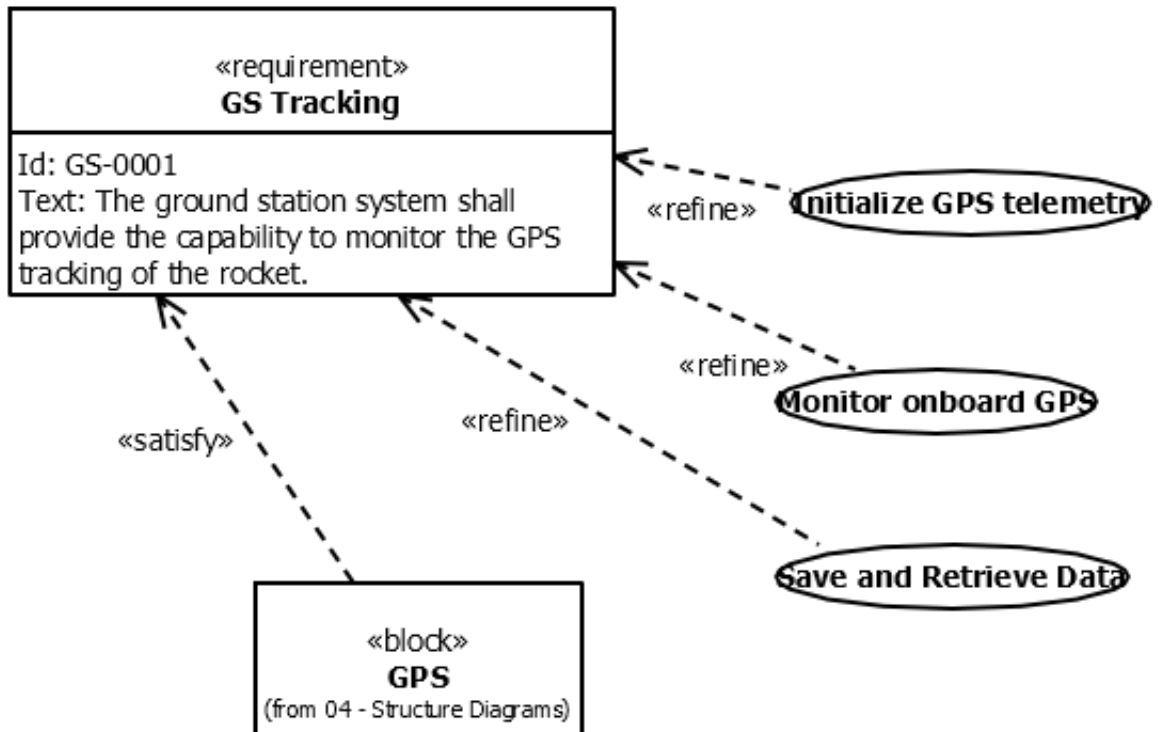


2.4 Avionics Functional Requirements

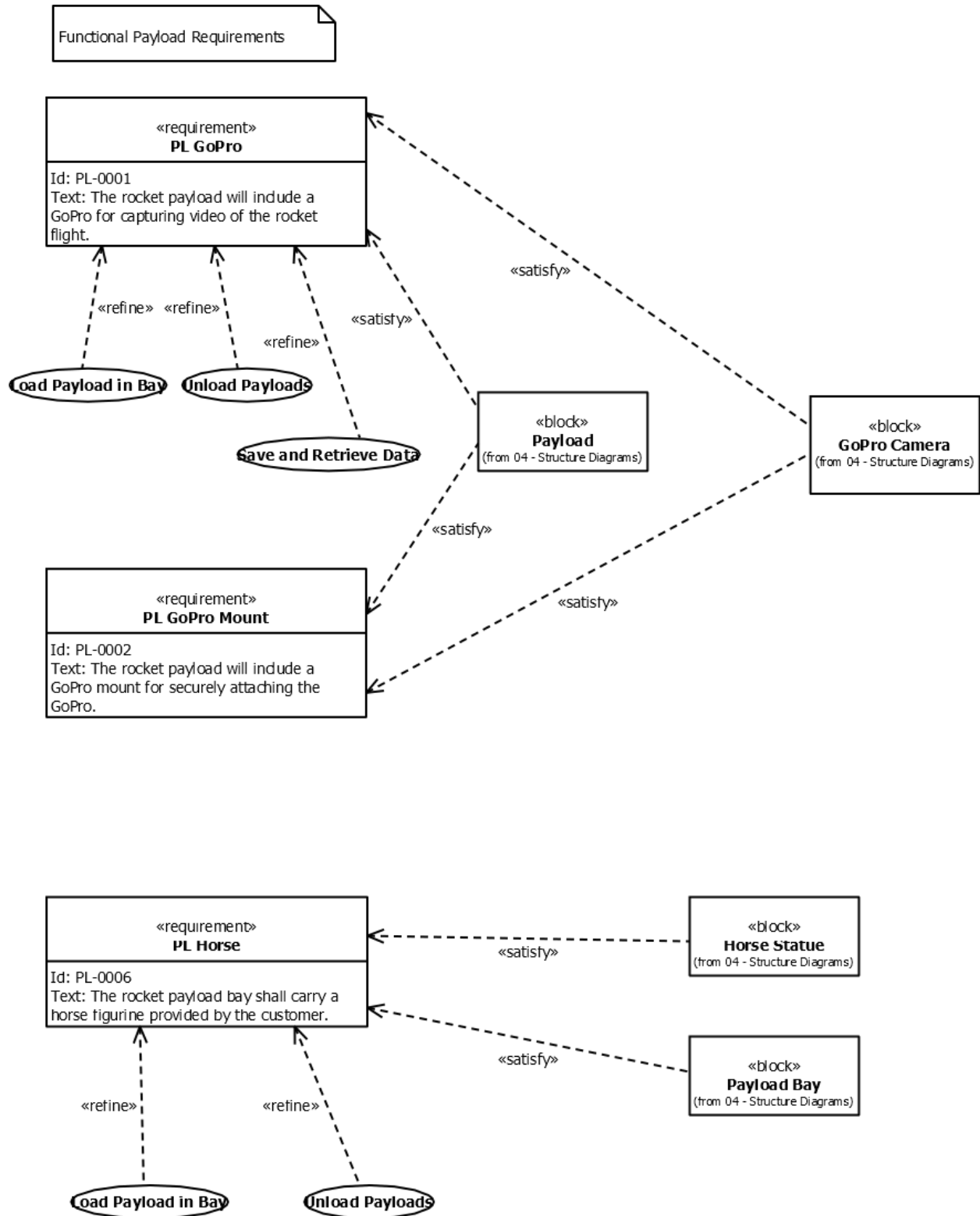


2.5 Ground Station Functional Requirements

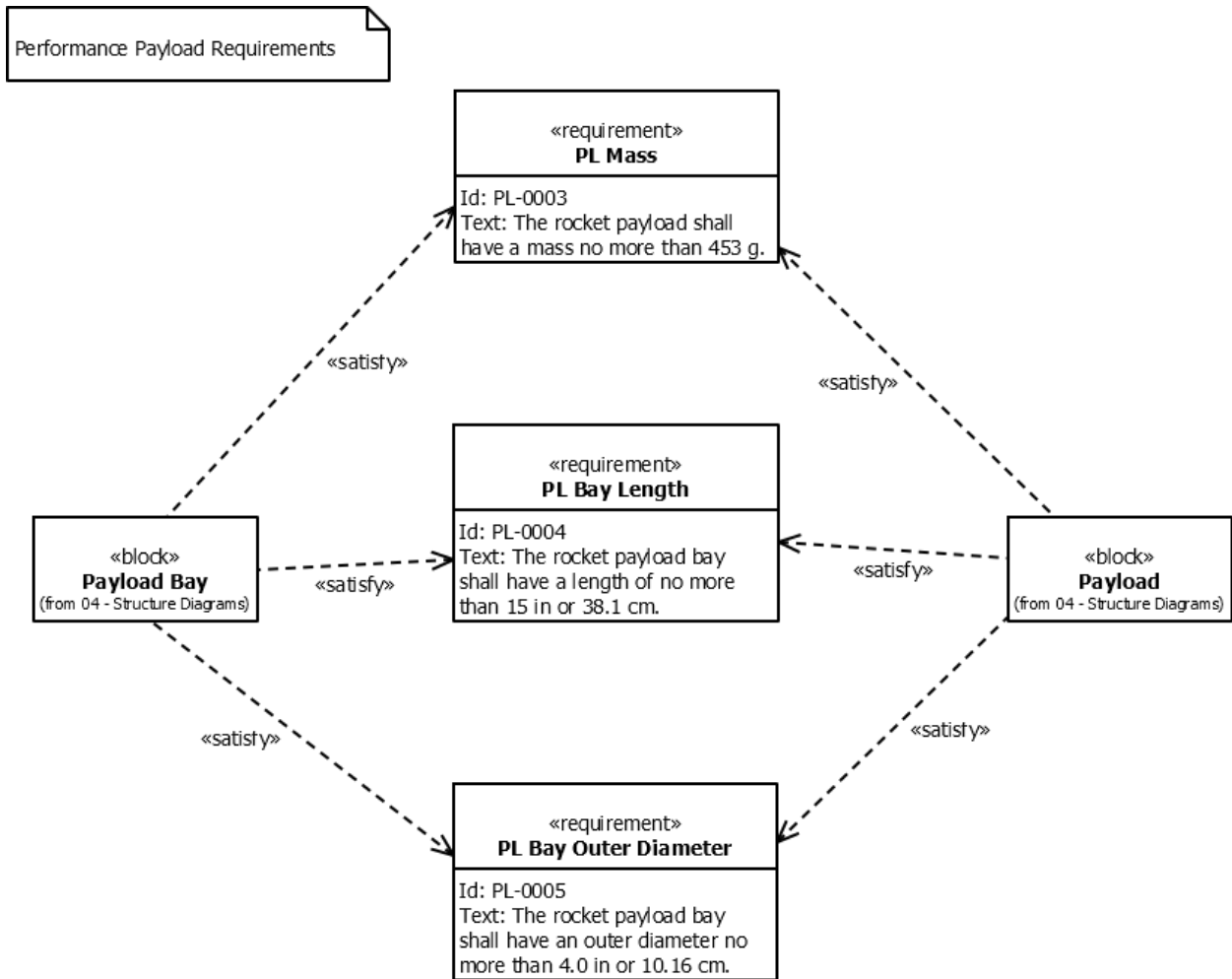
Ground Station Requirements



2.6 Payload Functional Requirements

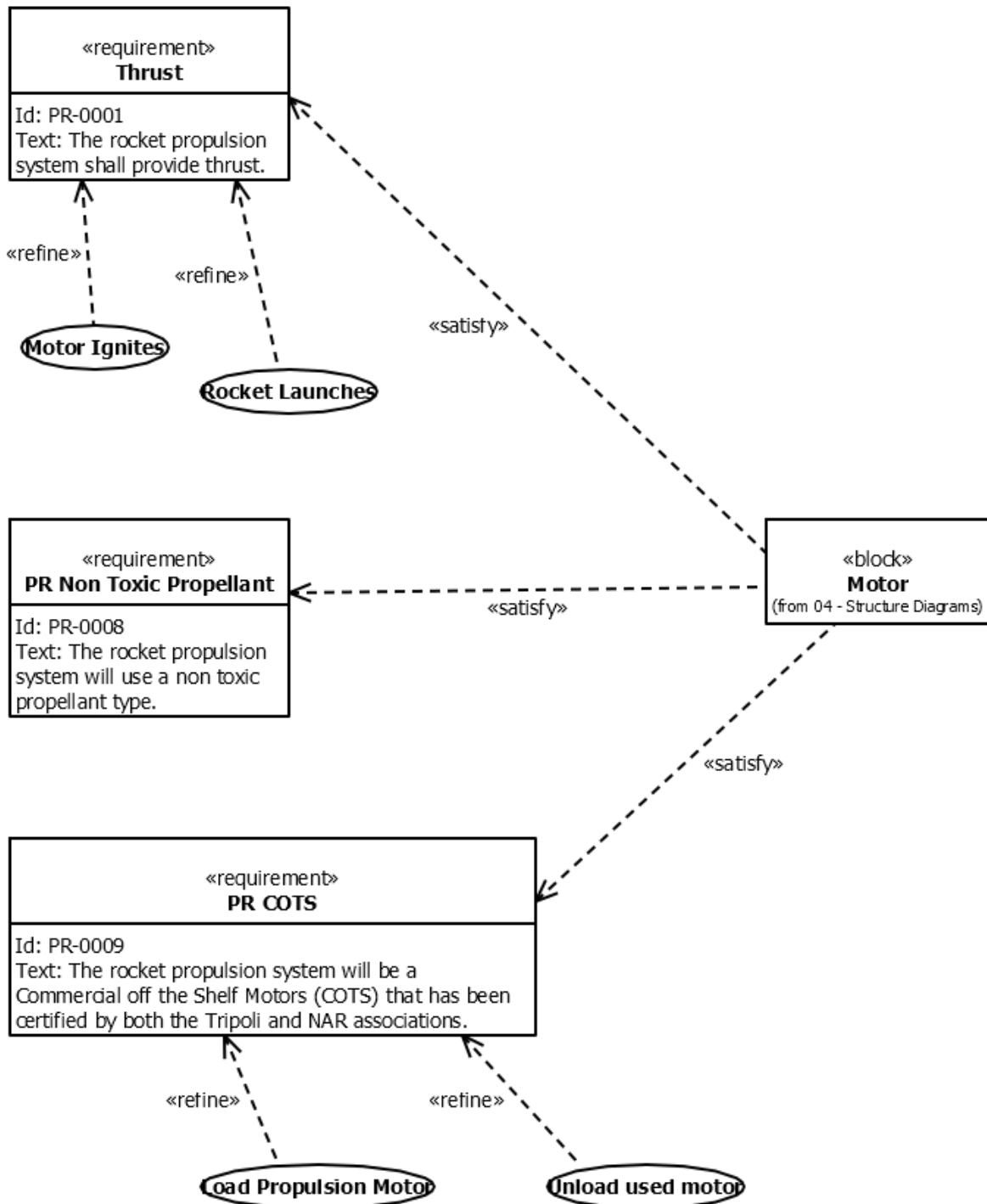


2.7 Payload Performance Requirements



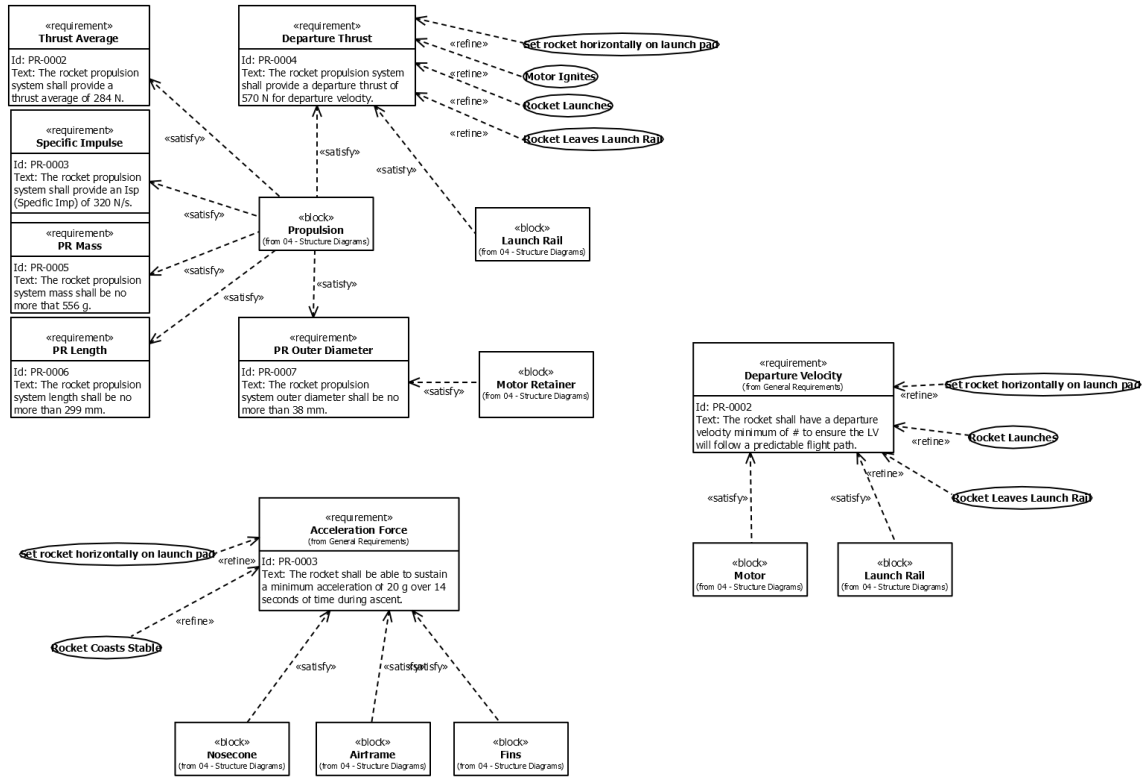
2.8 Propulsion Functional Requirements

Functional Propulsion Requirements



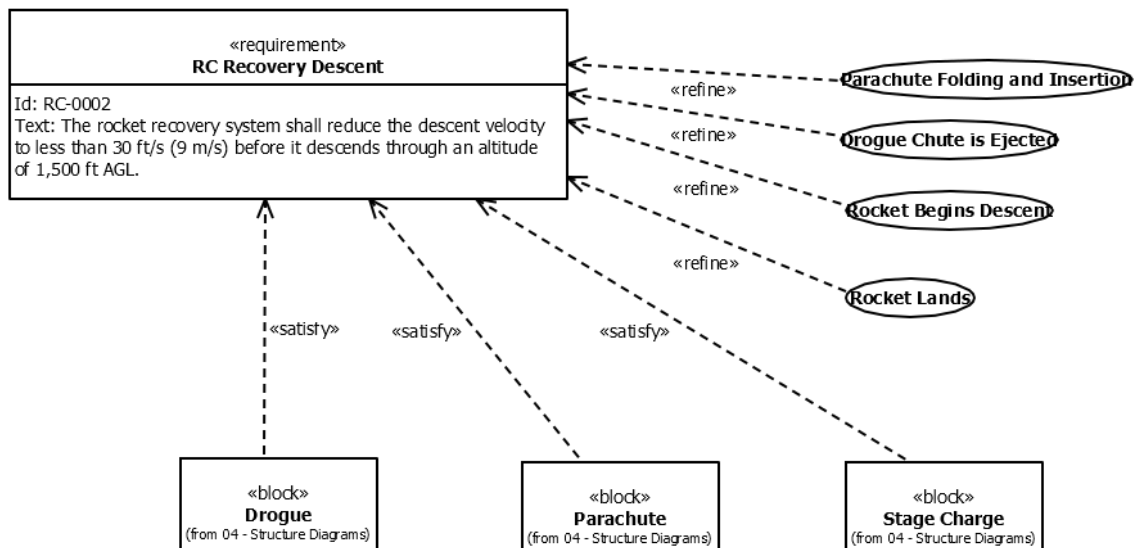
2.9 Propulsion Performance Requirements

Performance Propulsion Requirements

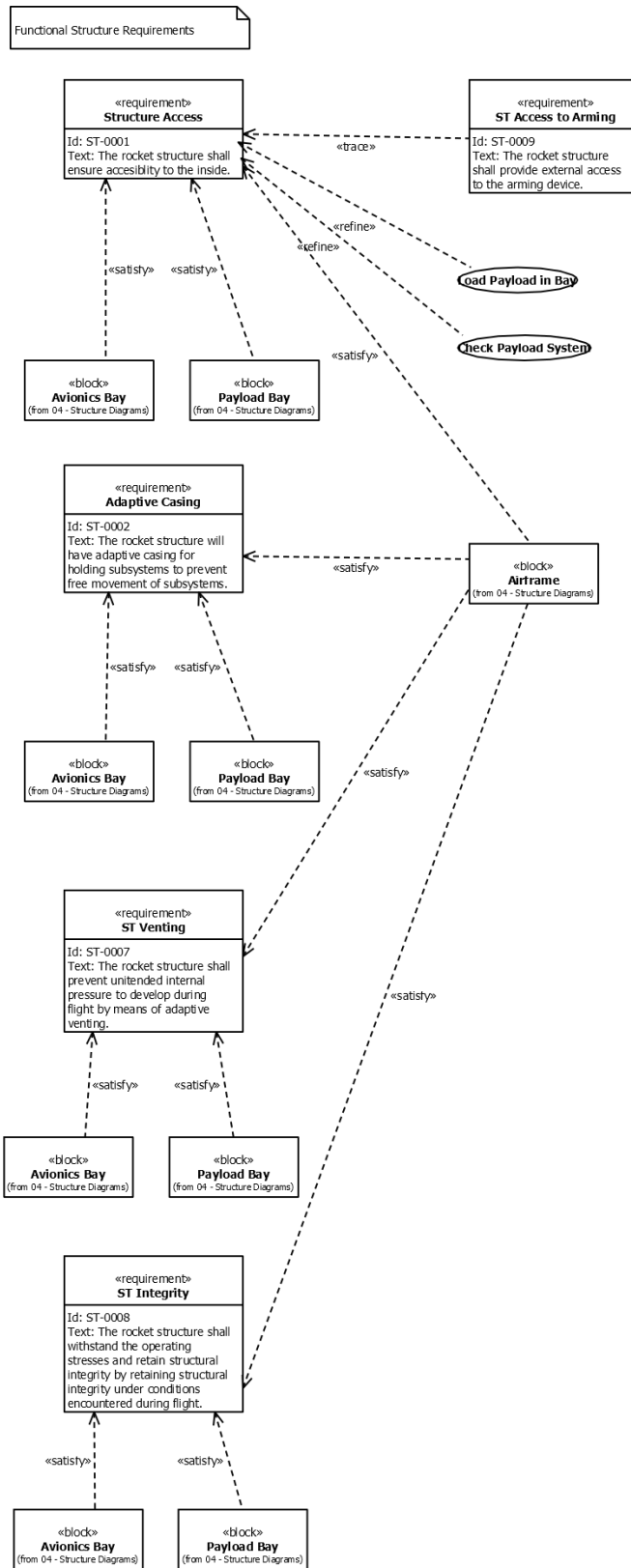


2.10 Recovery Performance Requirements

Performance Recovery Requirements

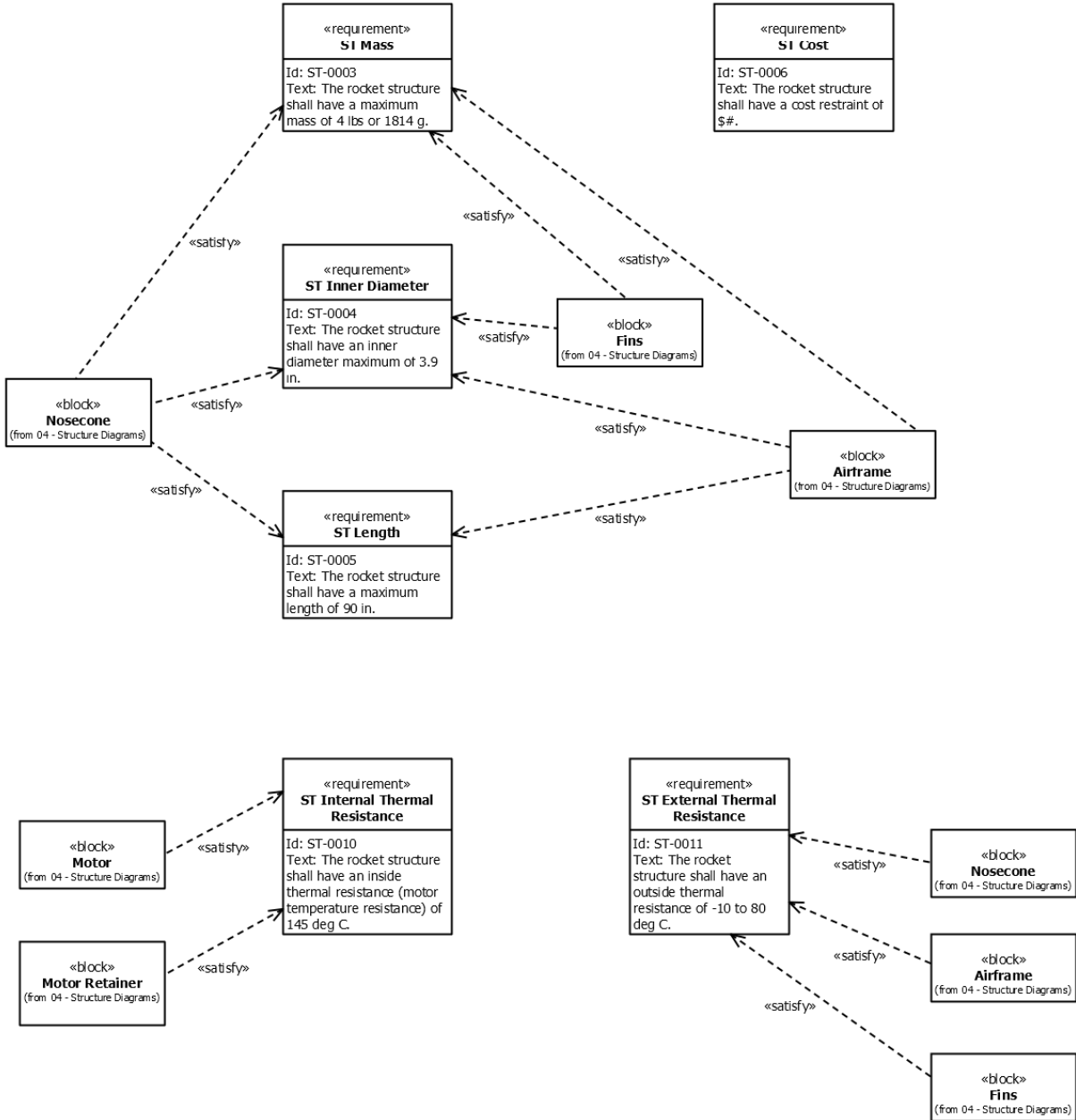


2.11 Structure Functional Requirements



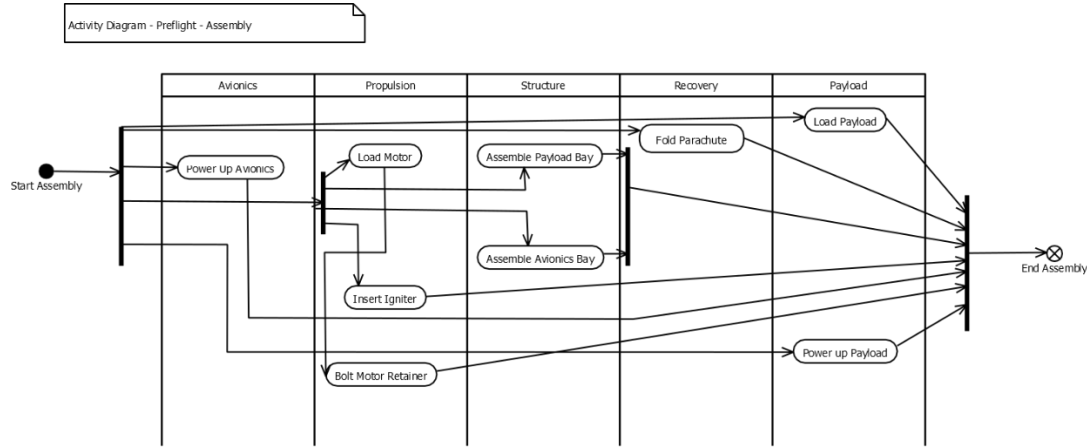
2.12 Structure Performance Requirements

Performance Structure Requirements

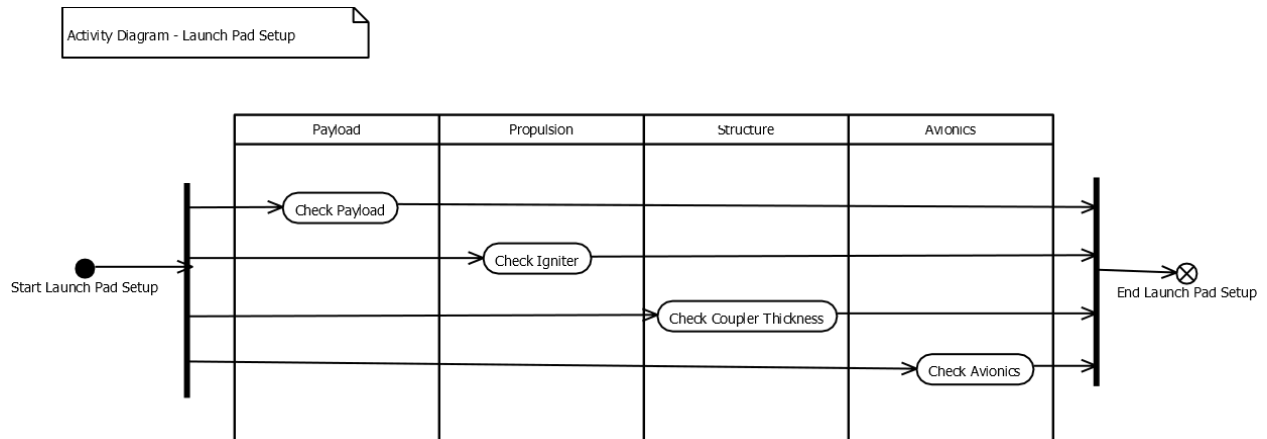


3 Behavior Diagrams

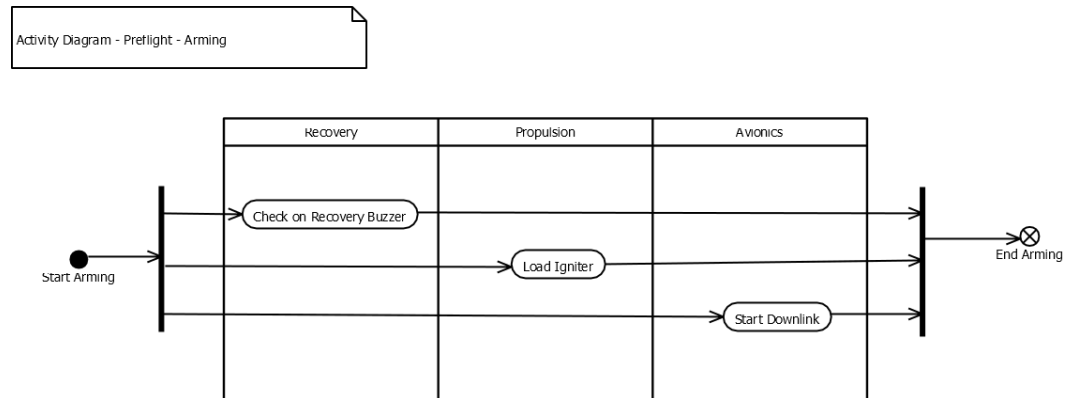
3.1 Activity – Preflight Assembly



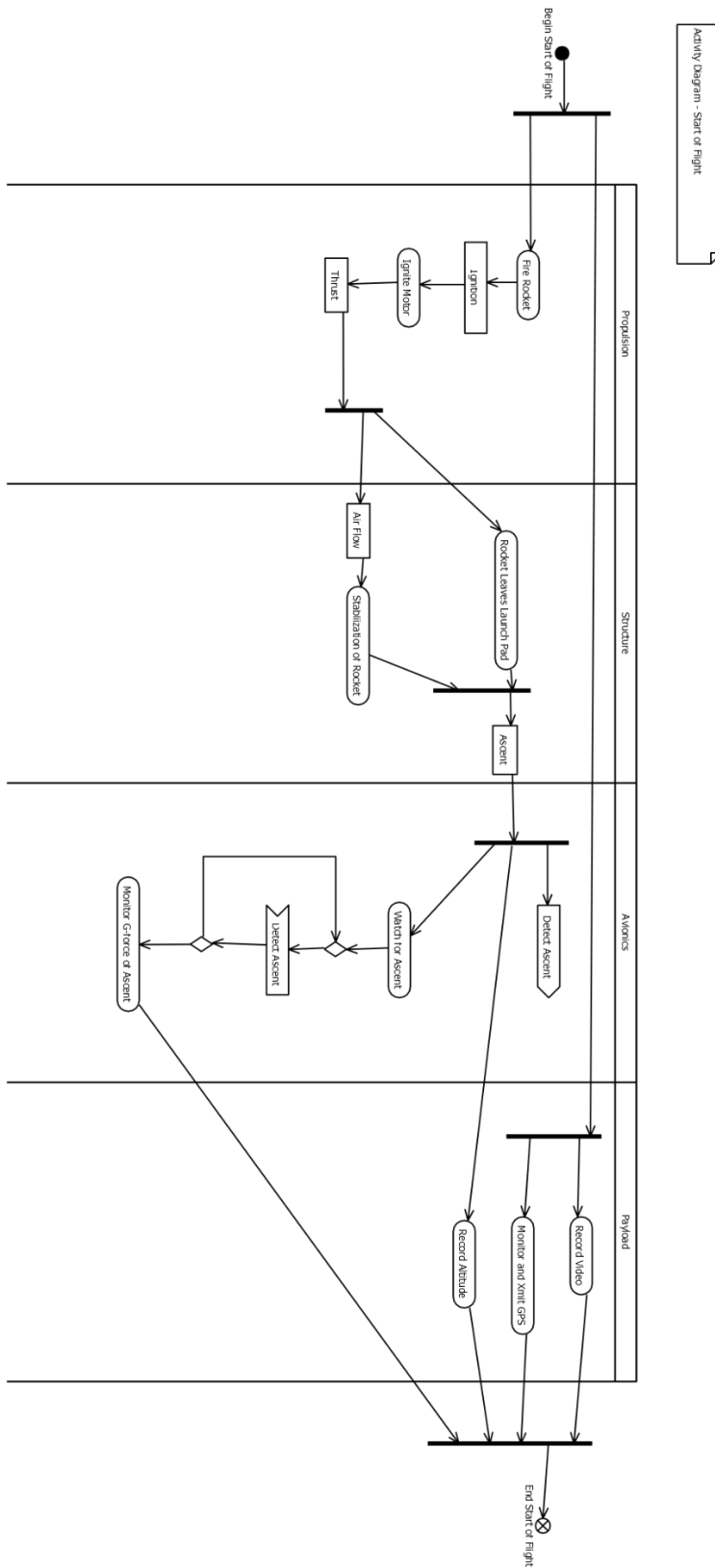
3.2 Activity – Preflight Launch Pad Preparation



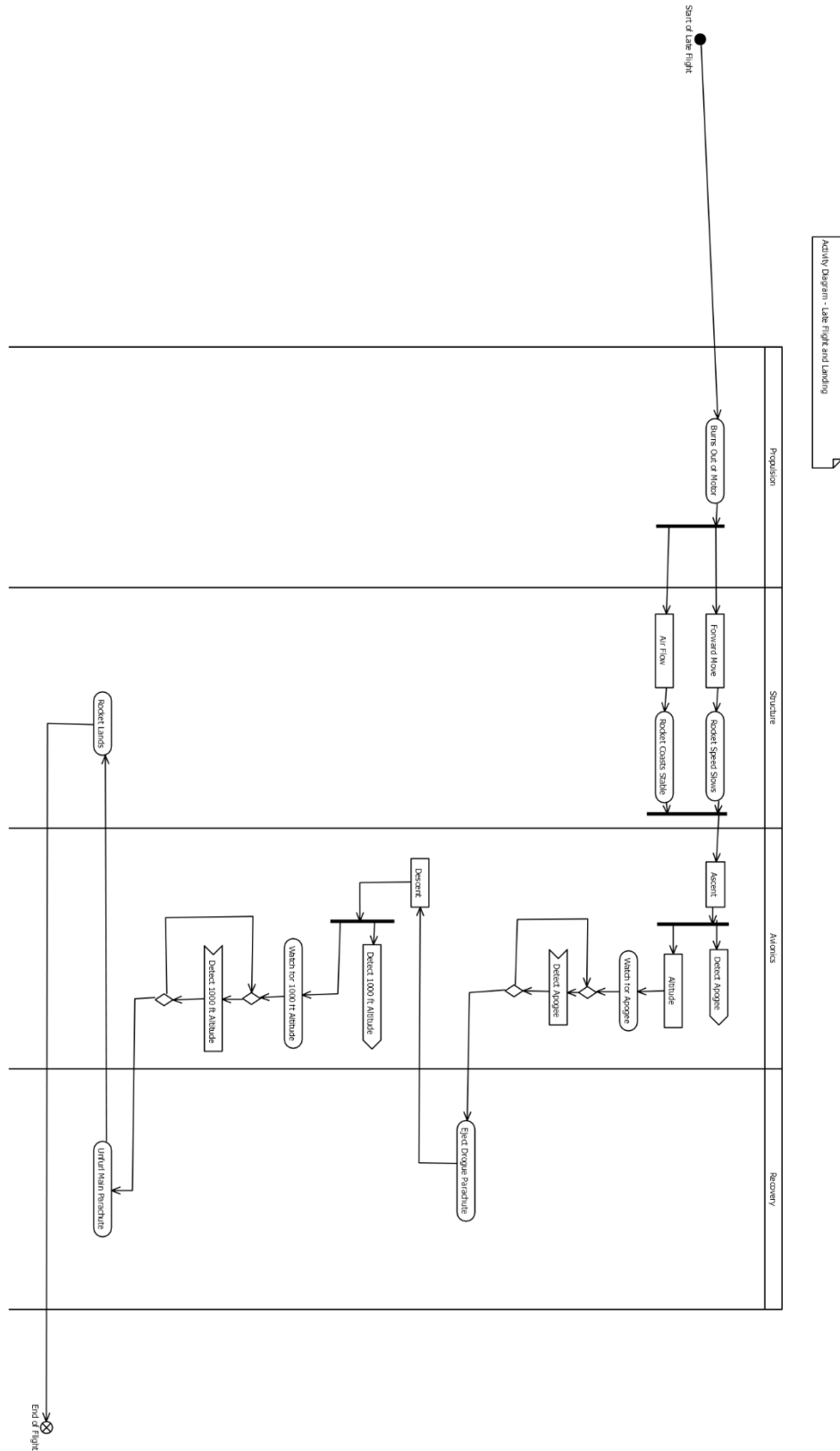
3.3 Activity – Preflight Arming



3.4 Activity – Start of Flight

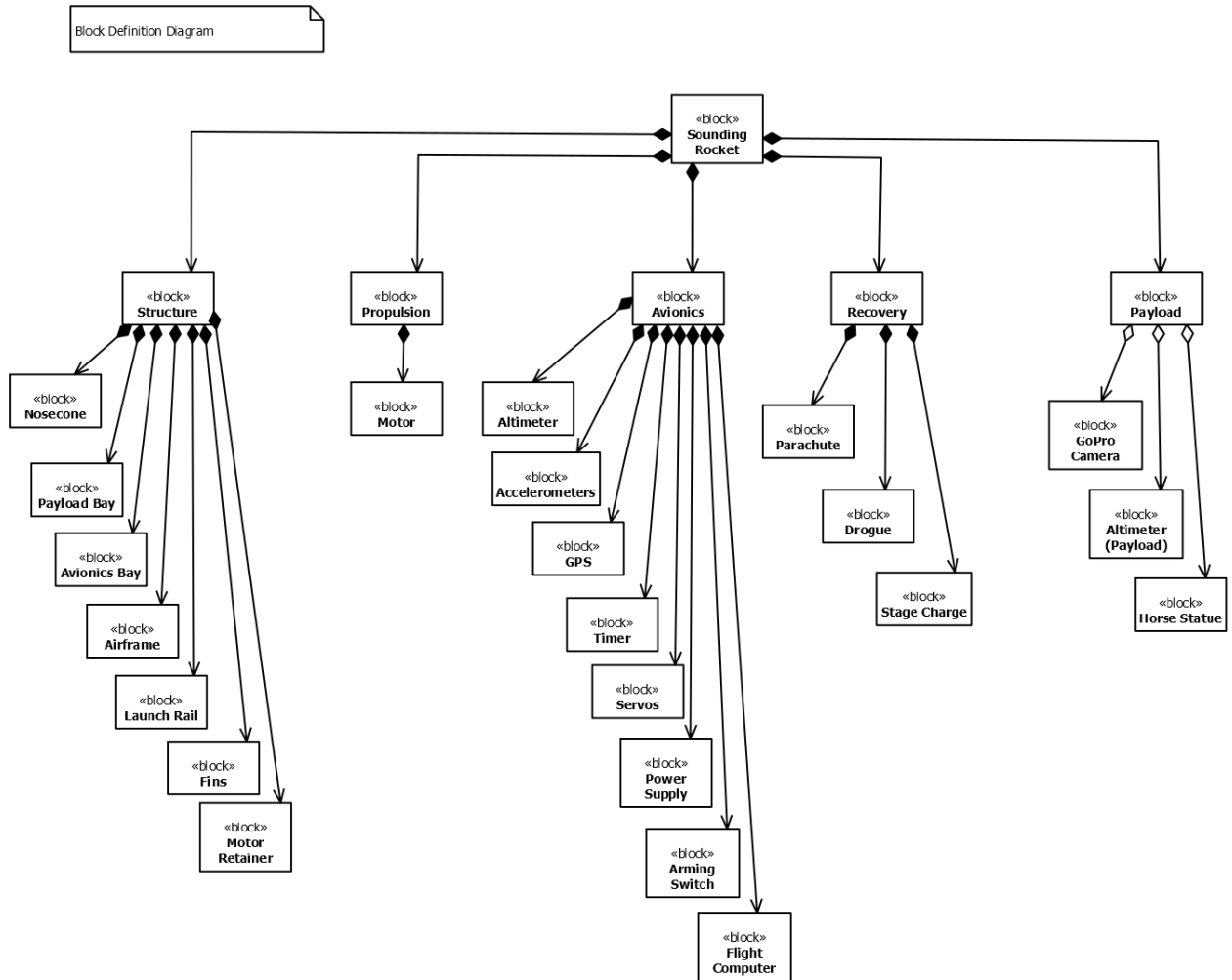


3.5 Activity – Late Flight



4 Structure Diagrams

4.1 Block Definition Diagram



4.2 Internal Block Diagrams

