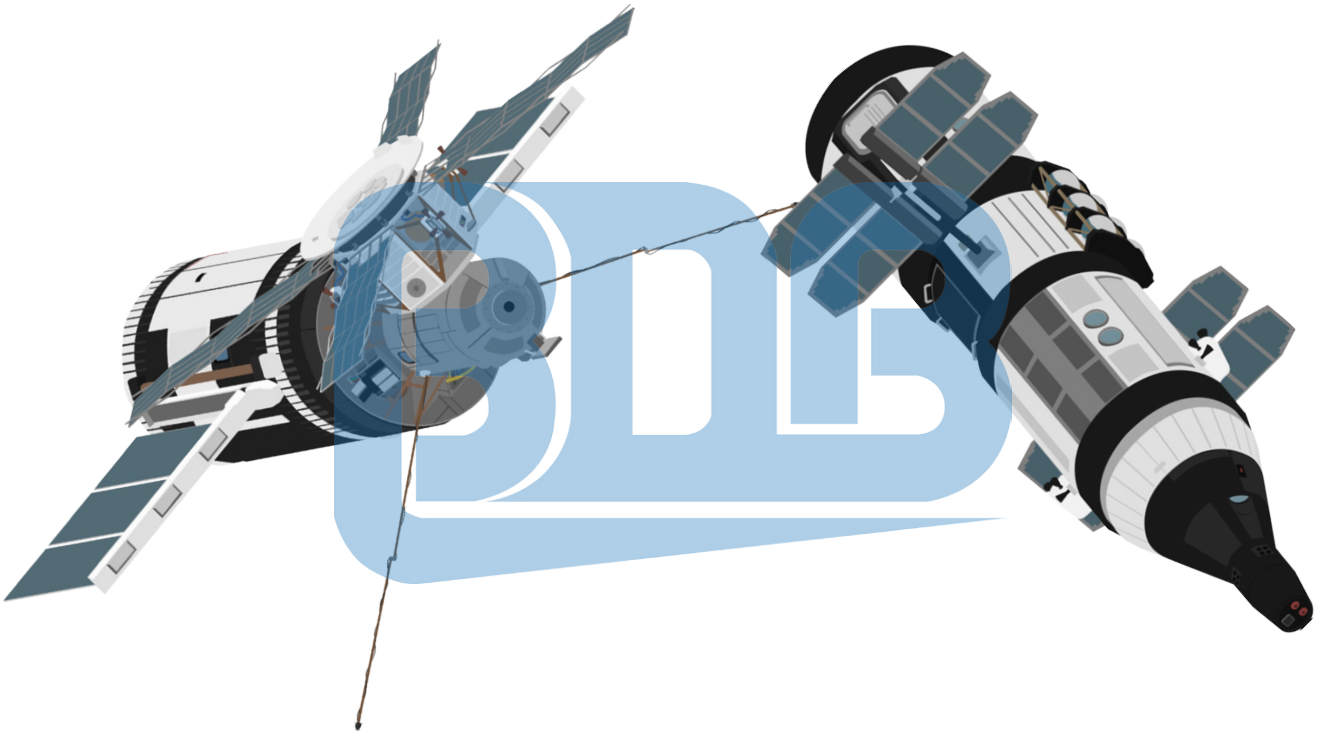
BLUEDOG.DESIGN.BUREAU
BDB

ORBITAL STATIONS MANUAL



CIRCA 2017. made by DiscoSlelge

Foreword

This manual is an annex to the official «Manuel» proposed by Blue dog design bureau, his main purpose is to understand the basics constructions of stations parts provided by BDB. The manual is not a control document but is intended primarily as an aid to kerbonauts who are training for space stations missions. In order to provide a comprehensive reference for that purpose, the manual also contains descriptions, diamgrams and illustrations provided by Discoslelge's bureau.

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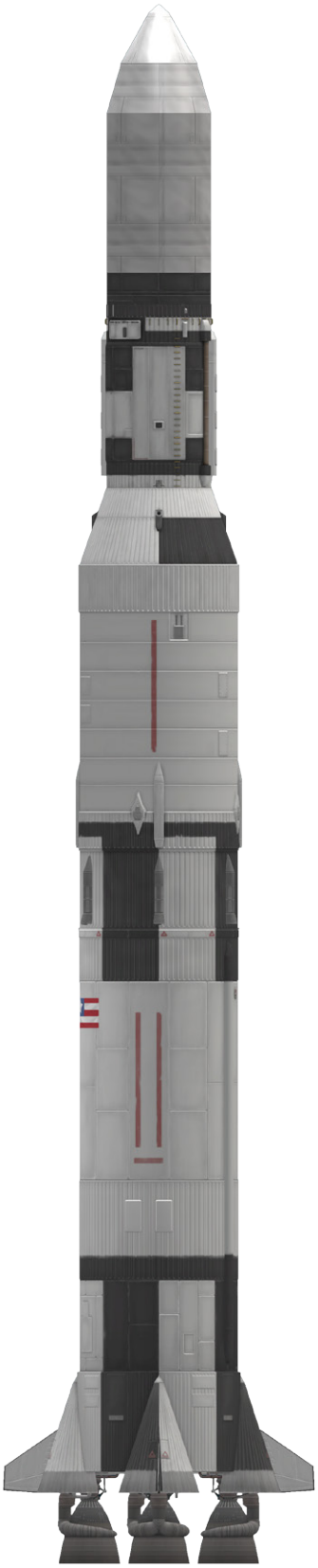
SECTION I

Hokulani general description

HOKULANI PROGRAM

Objectives of the Hokulani are multiple, the main objectiv is to establish an experimental scientific laboratory in kerbin orbit to conduct scientific experiments, medical experiments and kerbol observations. The laboratory is a modified Sarnus SIVB stage which can welcome a crew of six to ten kerbals, the laboratory is also provided with an airlock for EVA and repair missions.
The Hokulani lab is devoted to welcome our Kane spacecraft in our new project of Kane continuation after our sucess on Mün.

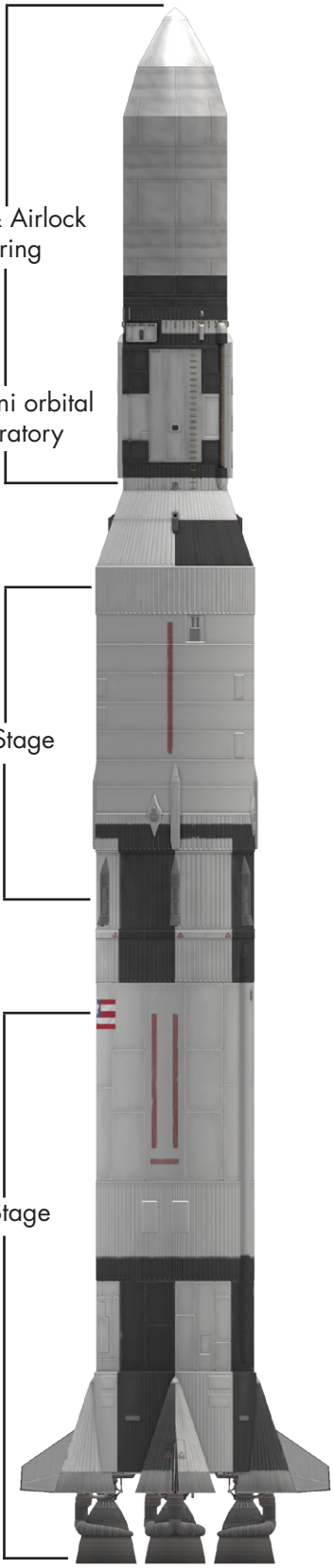
Hokulani will be launched from the KSC with a two stages Sarnus V, some hours later a crewed mission will be boosted in a rendez-vous with the station thanks to Sarnus IB. After the rendez-vous the main and first task of the crew will be to active the station and inhabit it for over a month. After this duration the crew will leave the station and return to Kerbin while the station will waited for a new visit.



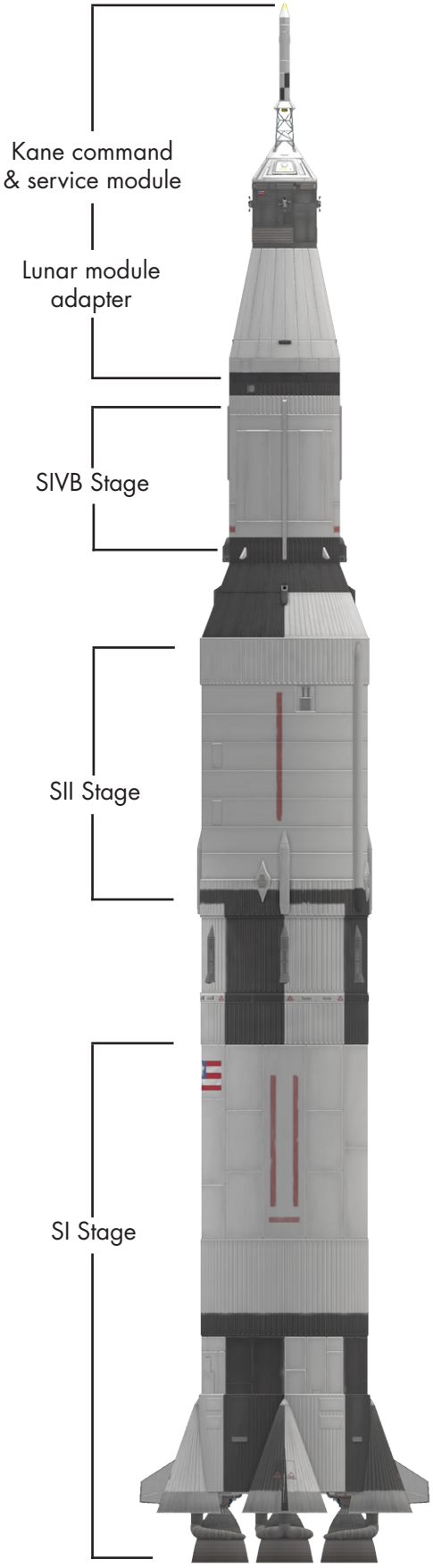
SARNUS CONFIGURATION

Sarnus SIB -
2 stage

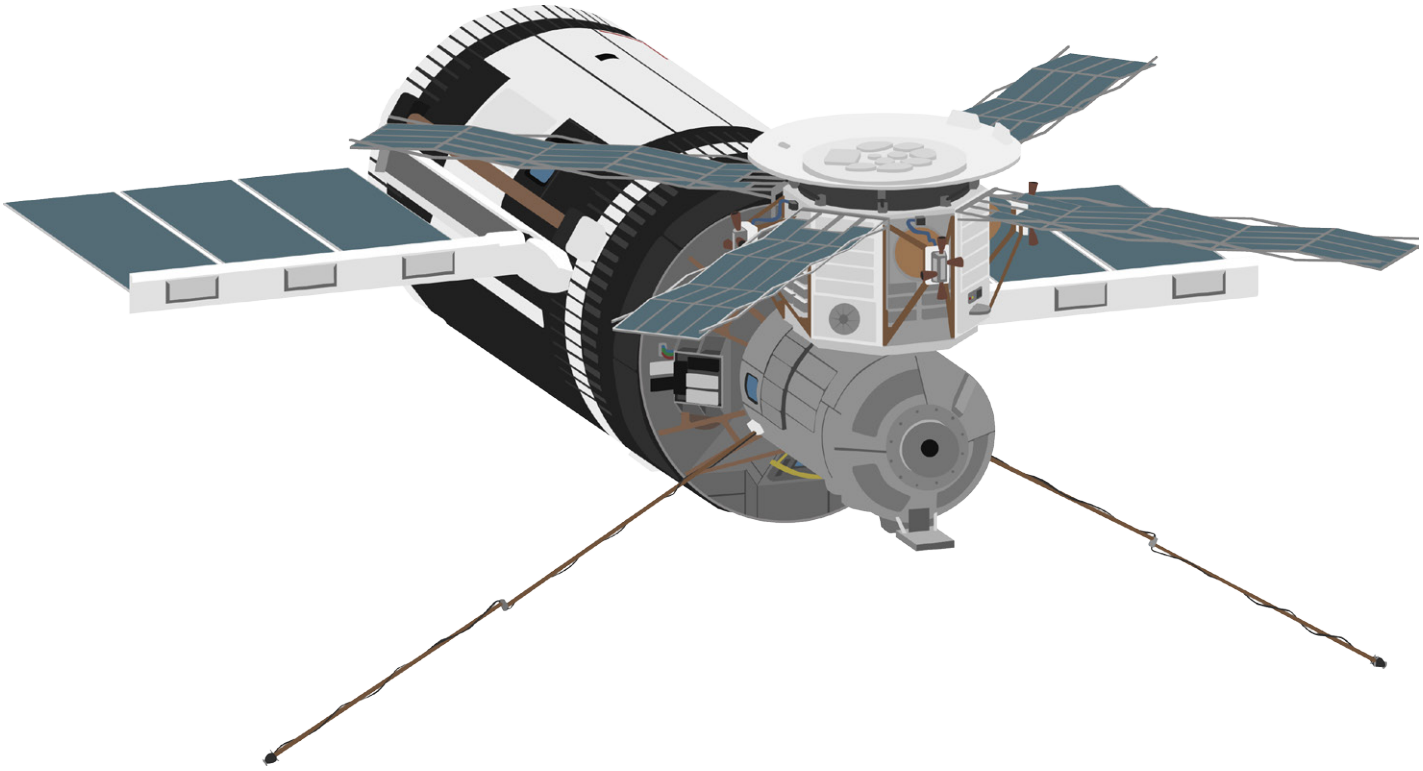
Sarnus SV Hokulani -
2 stage



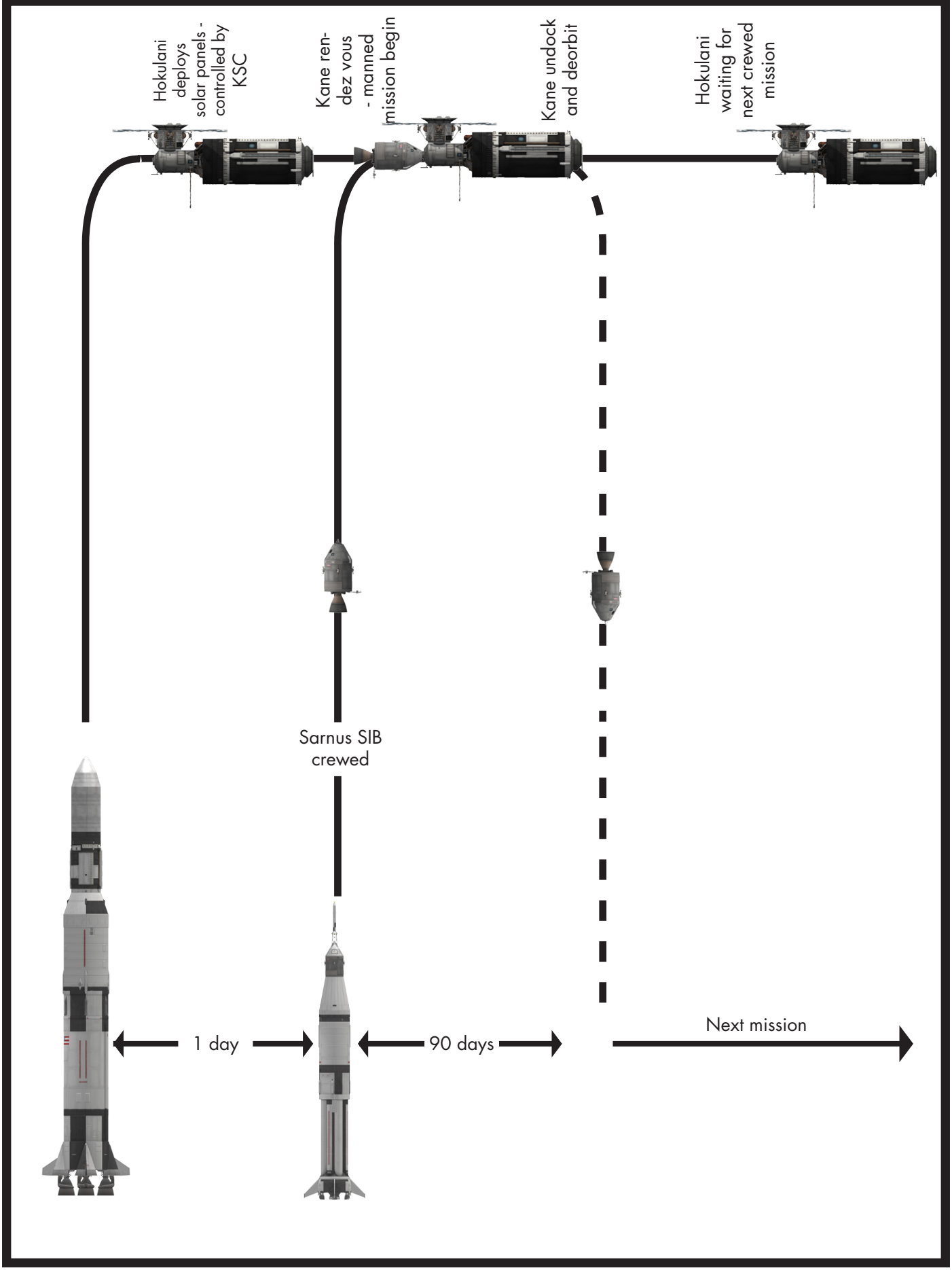
Sarnus SV Kane -
3 stage



HOKULANI LAB



HOKULANI MISSION PROFILE



HOKULANI OVERVIEW

HOKULANI

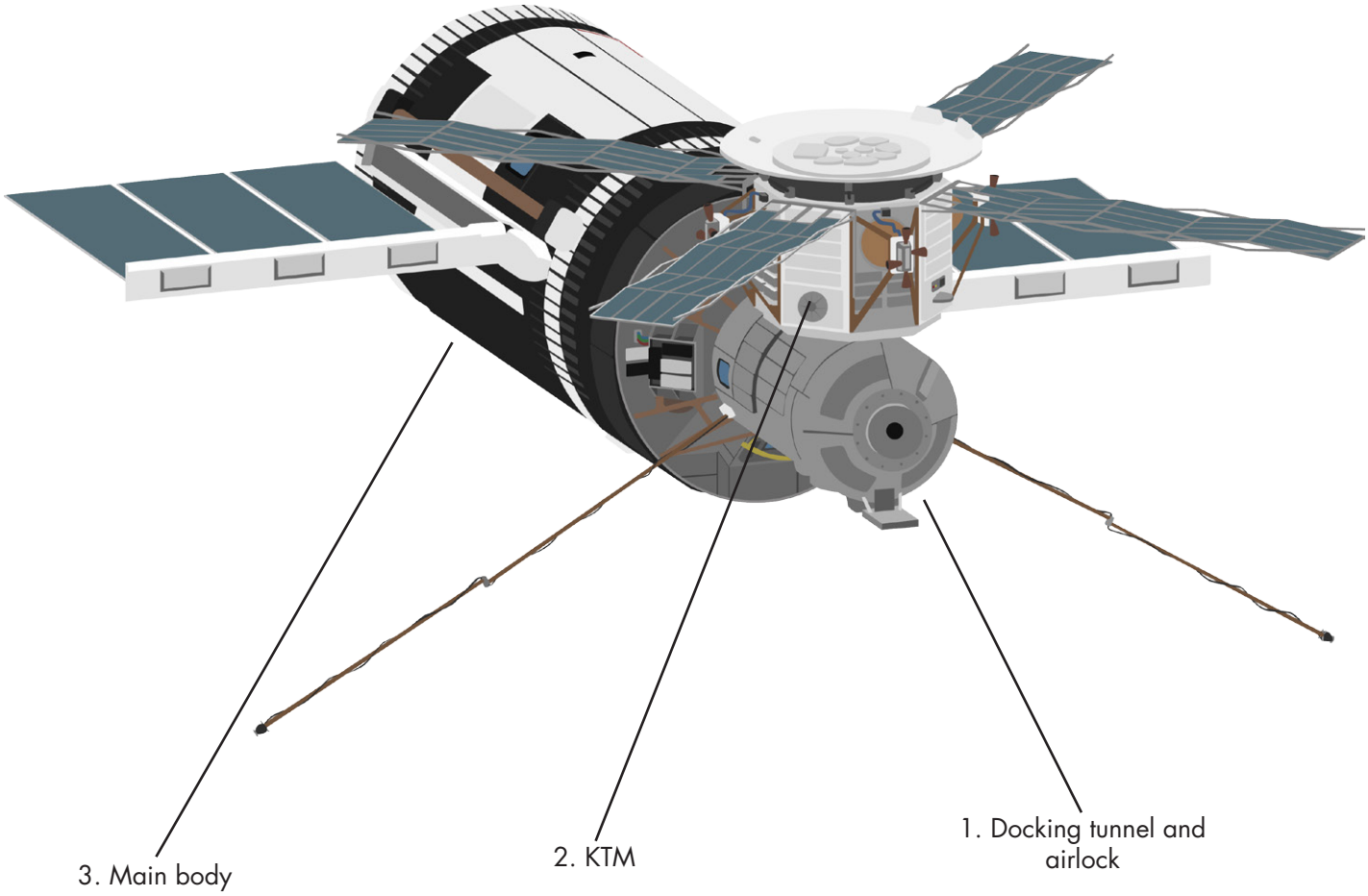
The Hokulani space laboratory consists in three main parts, 1. the airlock, 2. the KTM, 3. the station body itself.

Airlock

1. The airlock consists in a simple tunnel heading into the station or the Kane spacecraft docked and finally to the EVA door on the bottom of the tunnel. The airlock can welcome one Kerbal and another one in the tunnel.

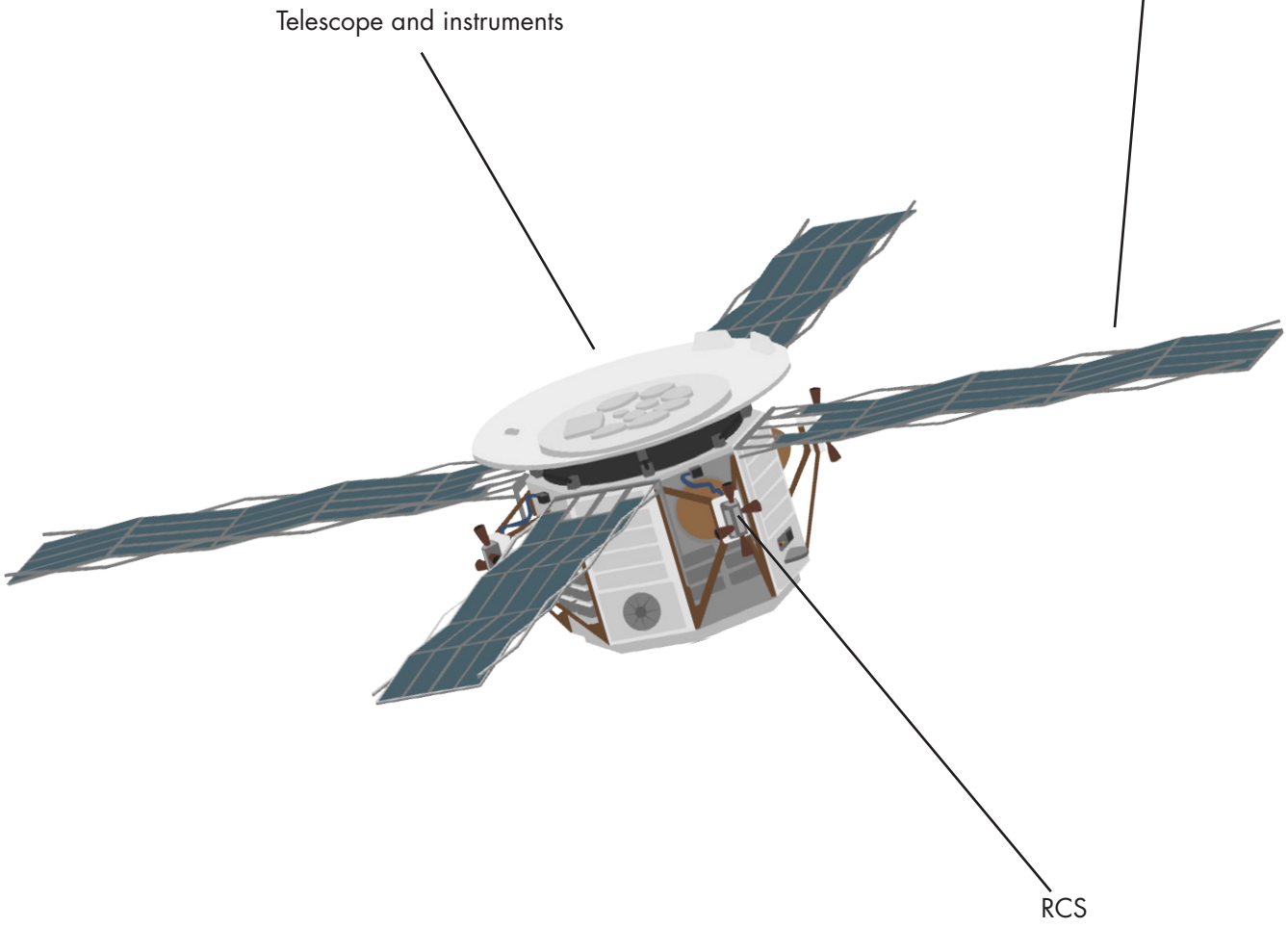
KTM

2. The KTM for Kane Telescope Mont was originally made for Kane in application of our program -Kane continuation- but the telescope find a way and implemented on the station. Manually armed and controlled the KTM offers a variety of scientifics experiments and Kerbol oversight. Because of technical difficulties, the KTM has to be mount first on top of the station and docked to another docking port of the station. Thanks to RCS support this maneuver is easy to perform.

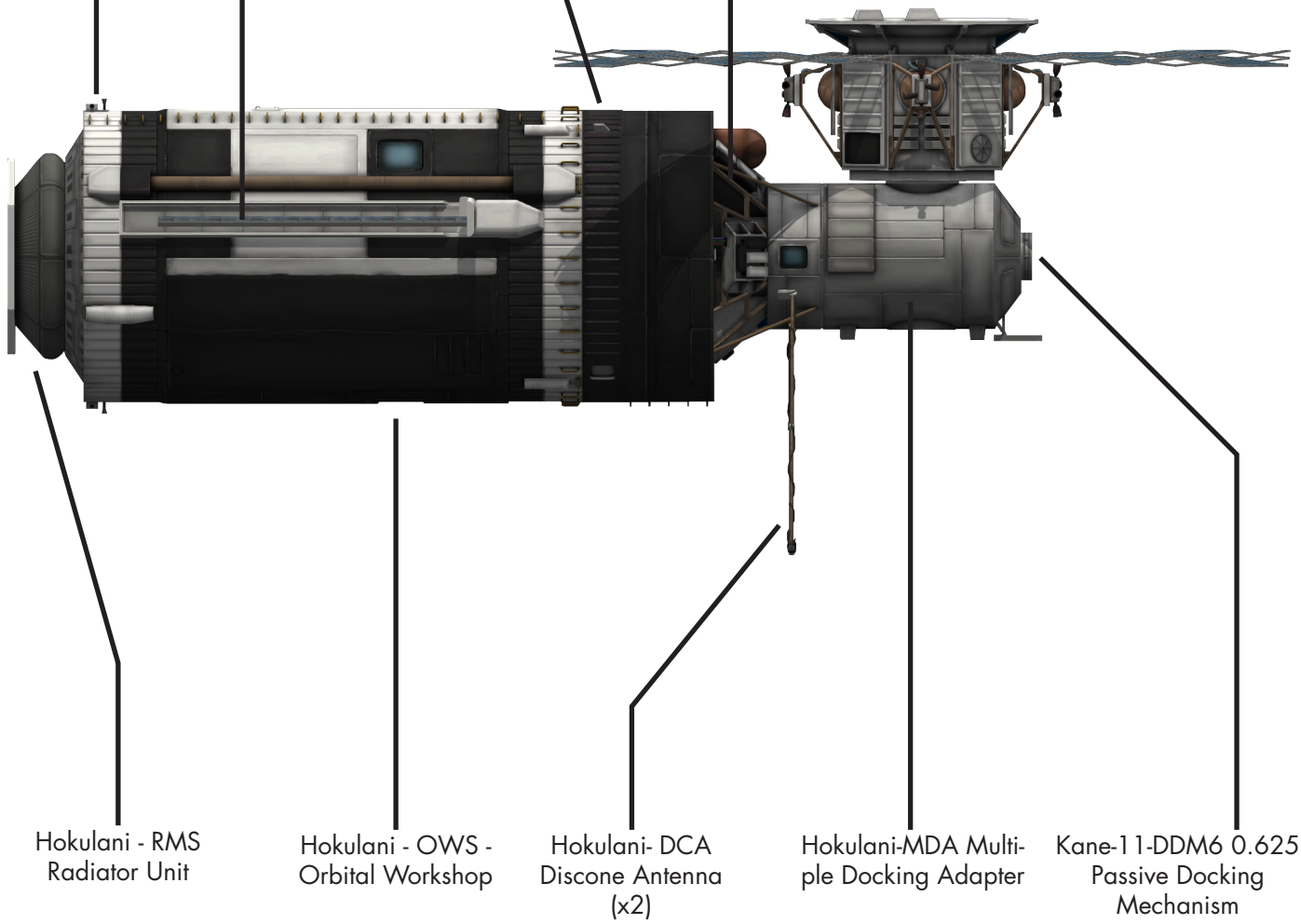


Main body

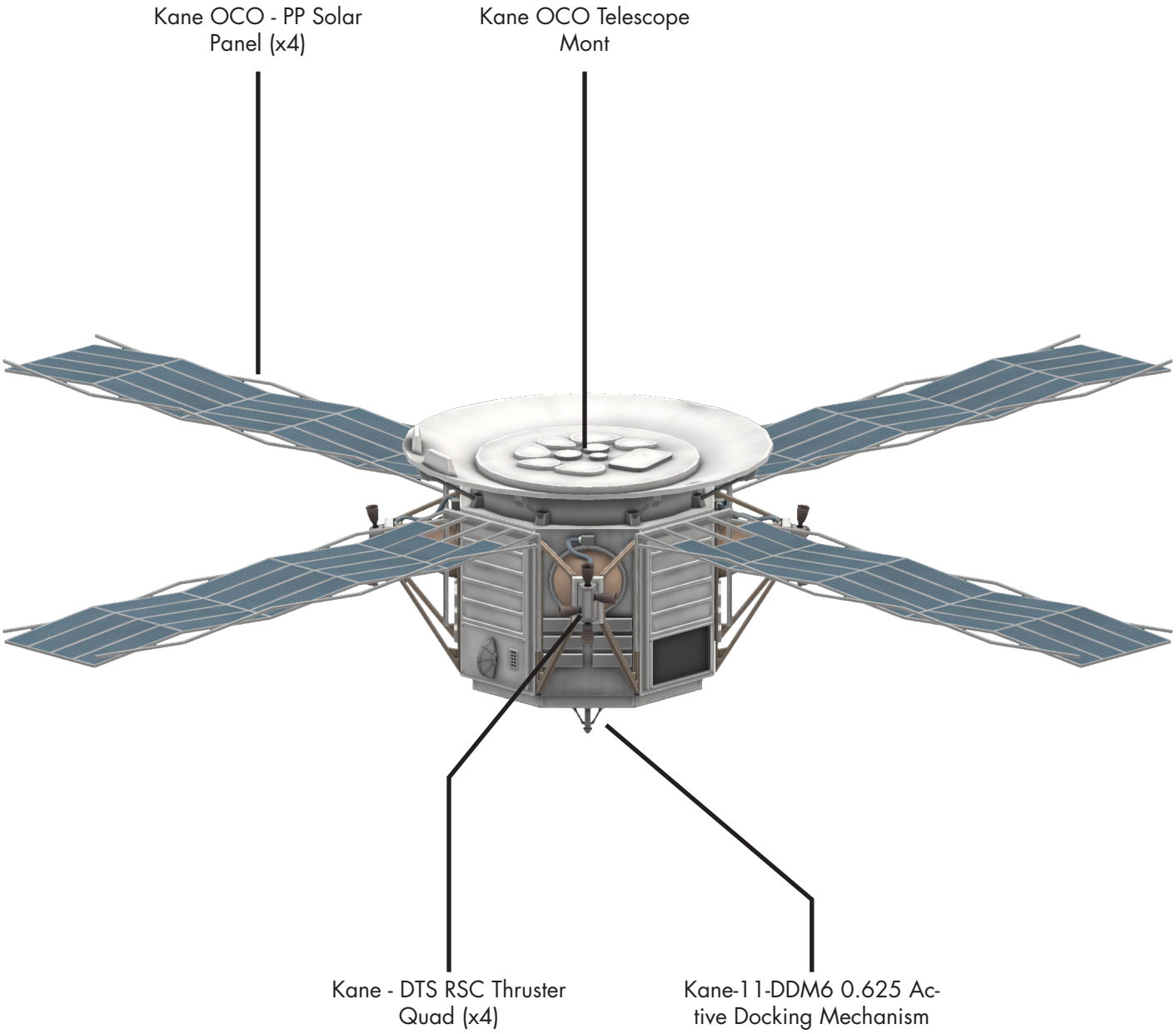
3. The main body of the station consists in a revert sarnus SIVB stage, this transformation offers large benefits to the crew, larger life spaces and many places for science stuff. This core can contain an extended crew of 6 kerbals. The body also has two versions itself available in the VAB, with windows and without (windowed version on the illustration). The body core is largely occupied by two solar panels structures, those pannels are deployed during the unmanned phase of the mission (see on the diagram page 7). The bottom of the main body is fill with a RCS/radiator container.



HOKULANI DESCRIPTION



KTM DESCRIPTION

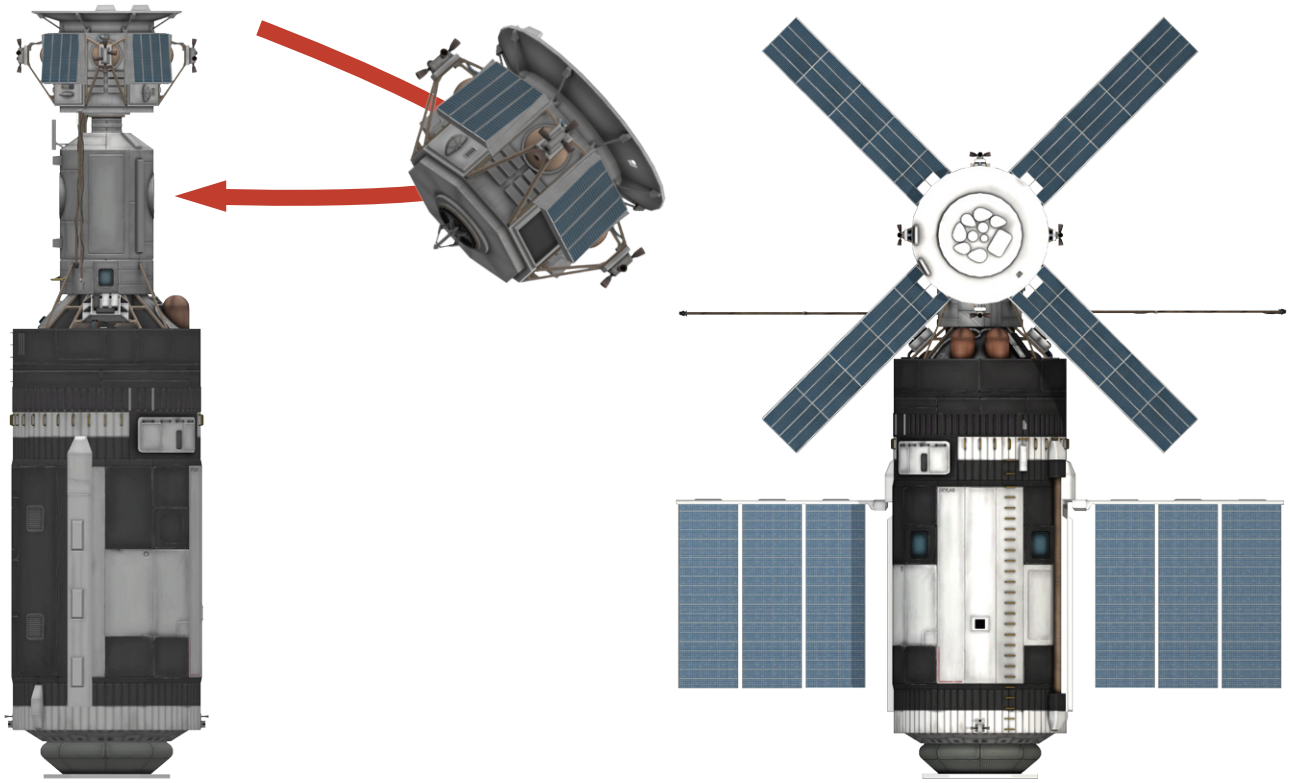


KTM POSITION PROCEDURE

Phase I : Launch - before activation

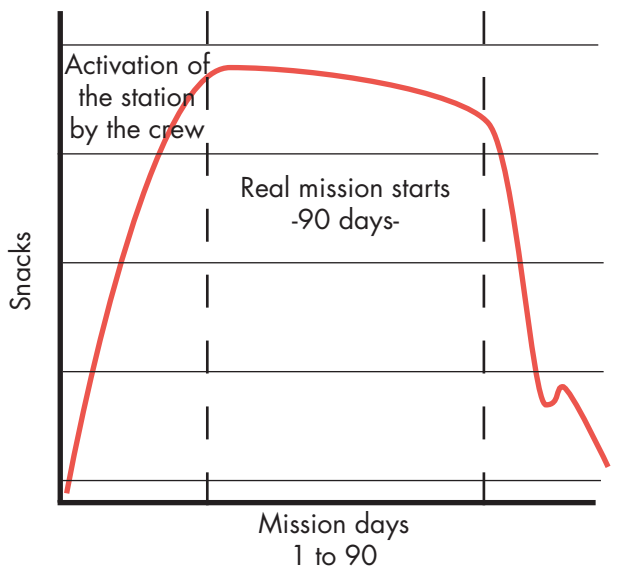
Phase II : undock - RCS maneuver - dock

Phase III : dock and ready to work

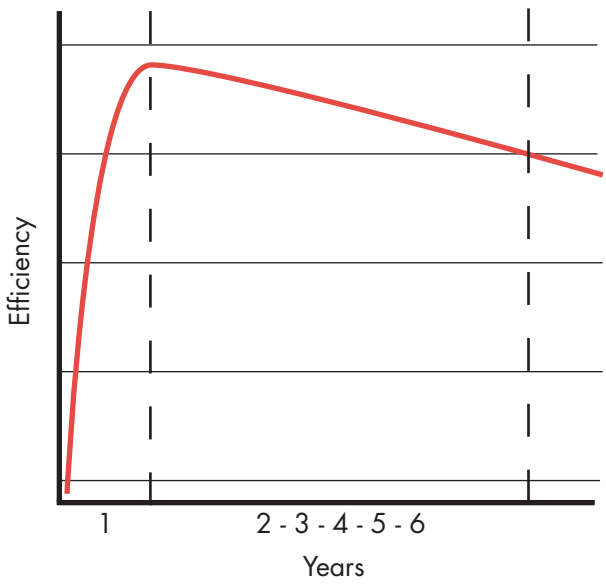


HOKULANI PERFORMANCE

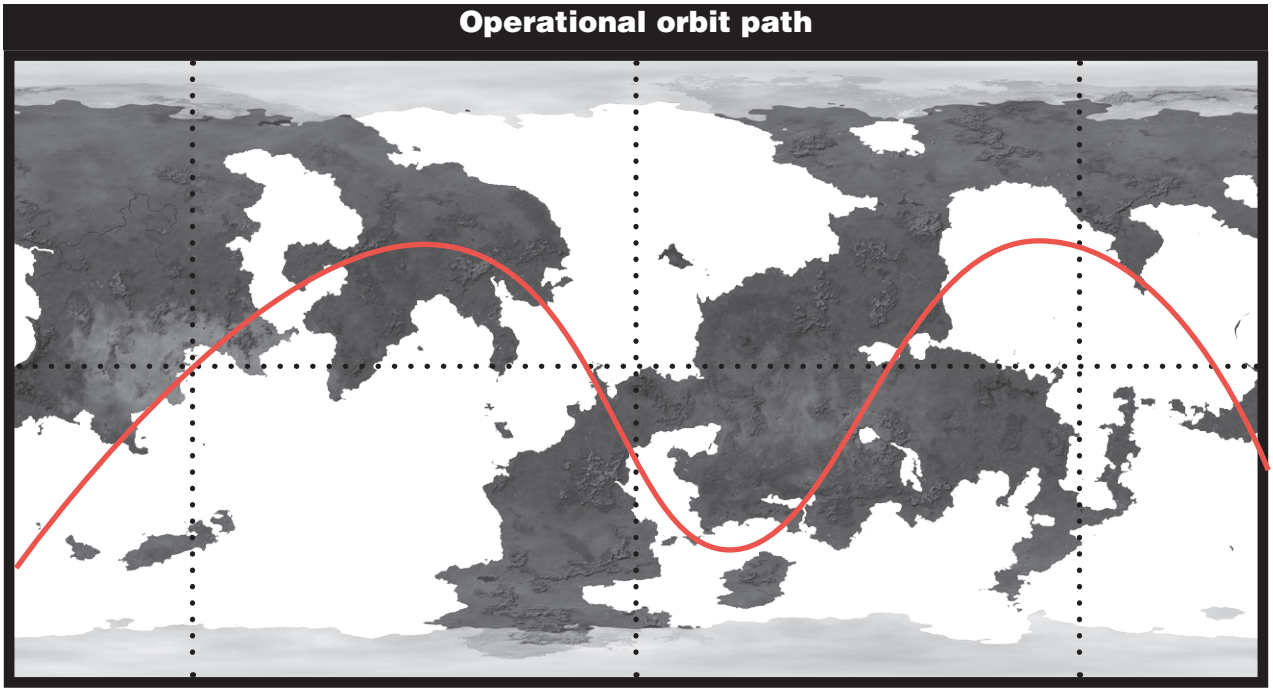
Crew efficiency



Hokulani station life duration



Operational orbit path



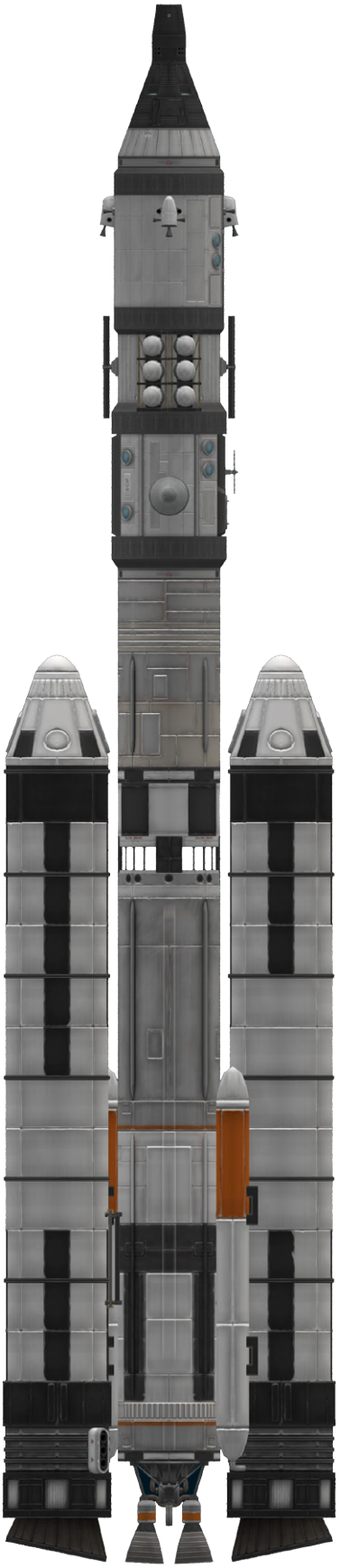
SECTION II

MOS general description

MOS PROGRAM

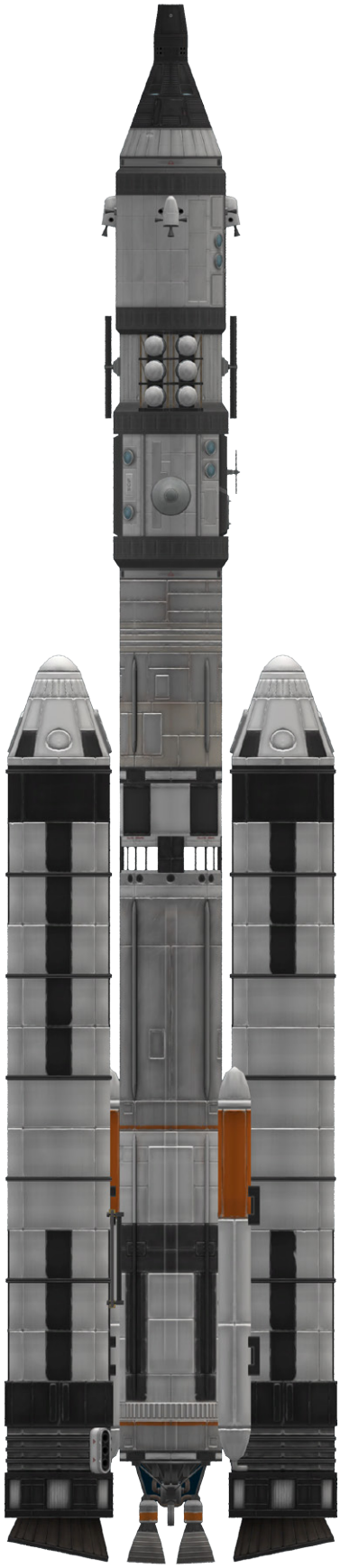
The «Manned Orbital Station» program is the ancestor or Hokulani program. MOS program main goal is to achieve recognition mission and global weather surveillance around kerbin foreing contries. The MOS program offers two new crew modules, a laboratory and a crew cabine, placed on top of a Prometheus III-C the main asset of this station is the Vinci pod directly attached to the MOS. The station is in one launch fully operationnal with a crew of two kerbonauts ready to conduct their mission. After mission over the Vinci pod detach itself from the station and leave the orbit to return safetly on Kerbin while MOS is deorbited with RCS thrusters or with «Metis» transtage on alternative Titan III-C version.

MOS program leads the path for future kerbals permanant presence in space and global observation of Kerbin.

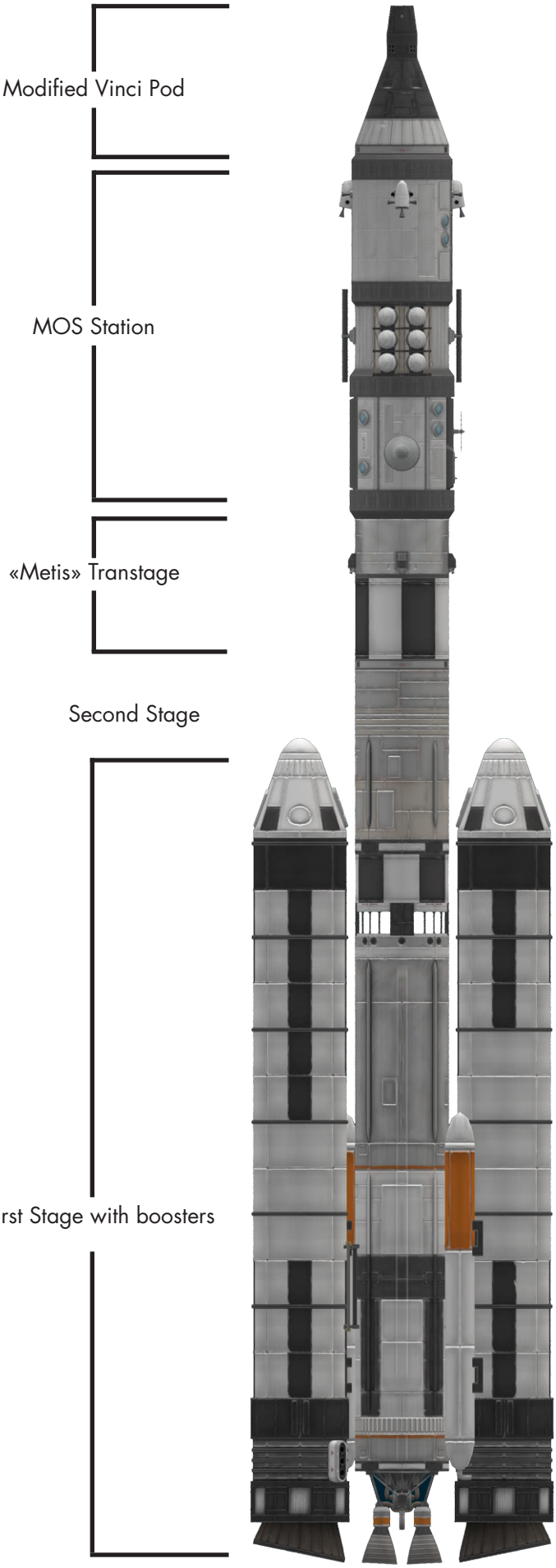


PROMETHEUS III CONFIGURATION

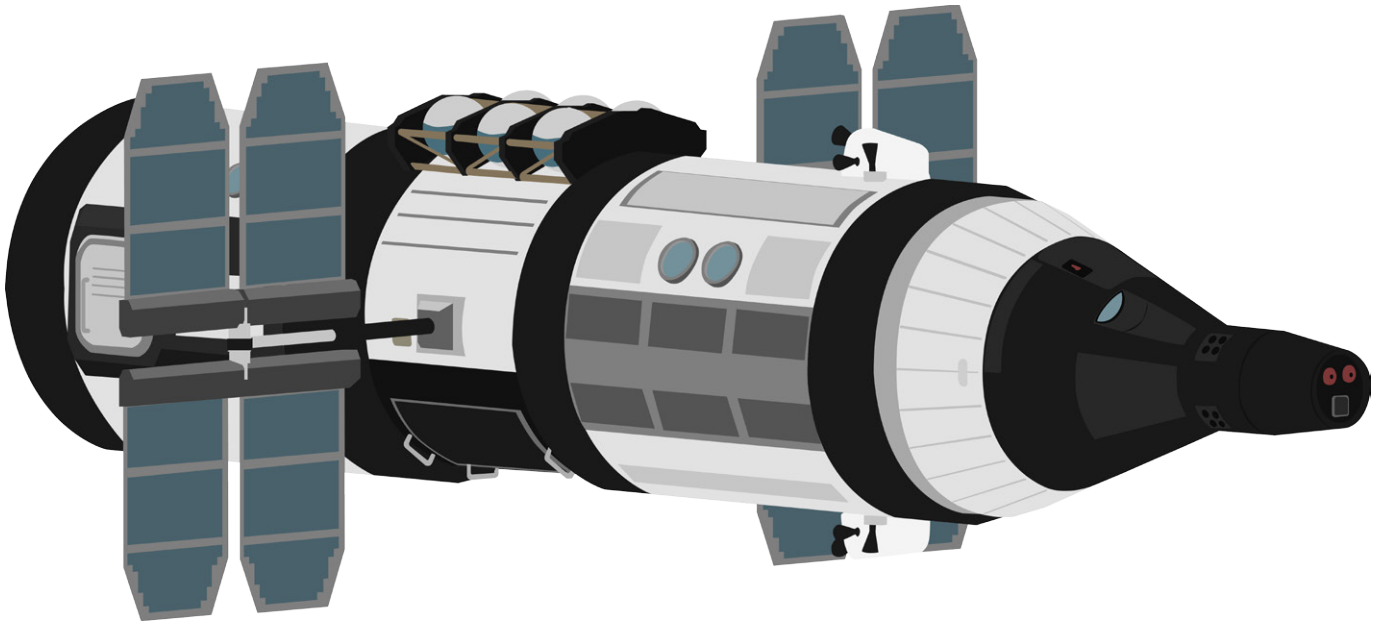
Prometheus IIIC -
2 stage



Prometheus IIIC -
3 stage [alternative]



MOS



MOS OVERVIEW

MOS

The MOS space obersvatory and laboratory consists in four main parts, 1. the «Mossy», 2. the [CLASSIFIED], 3. «Dorian» 4. the Vinci pod.

MOSSY

1. The true heart of the station consists in a complete and full observatory hardbacked to the [CLASSIFIED]. All experiments are conducted in this laboratory. The core possess an airlock for EVA and external work mission on the [CLASSIFIED].

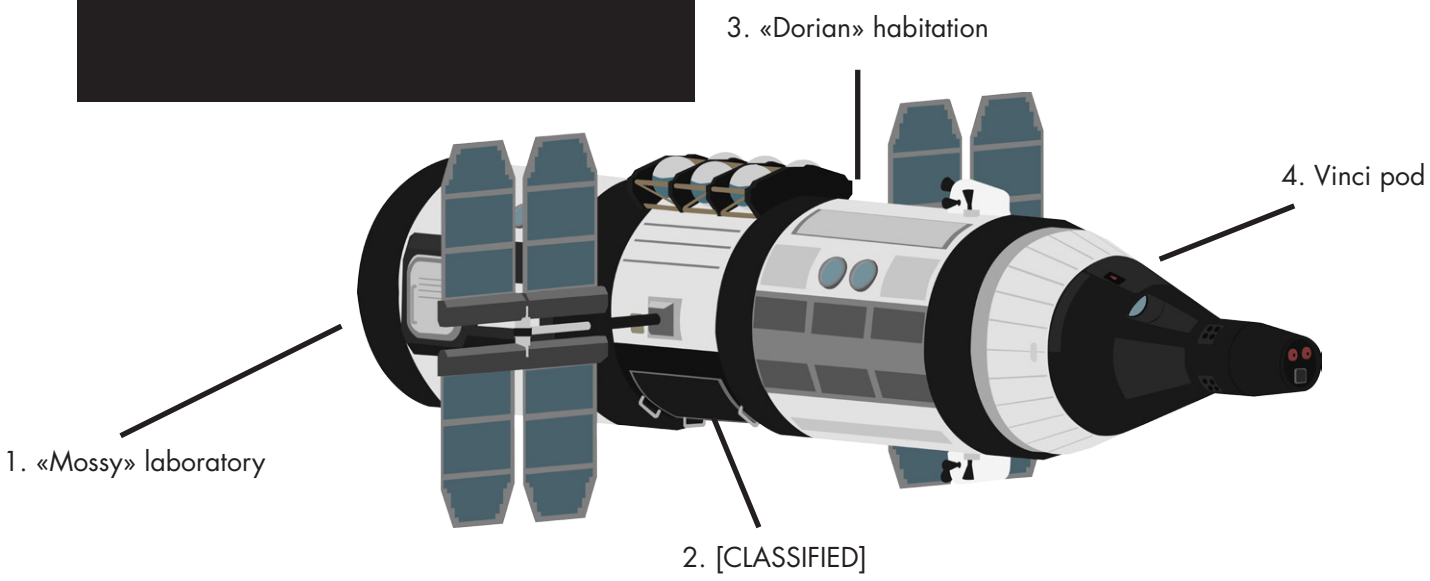
DORIAN

3. The crew core of MOS offers large space for the two permanent kerbals in MOS. Fill with living space and enough snacks for long mission duration [CLASSIFIED]. The back of crew core is filled with communication antennas and long range communication dish.

VINCI MODIFIED POD

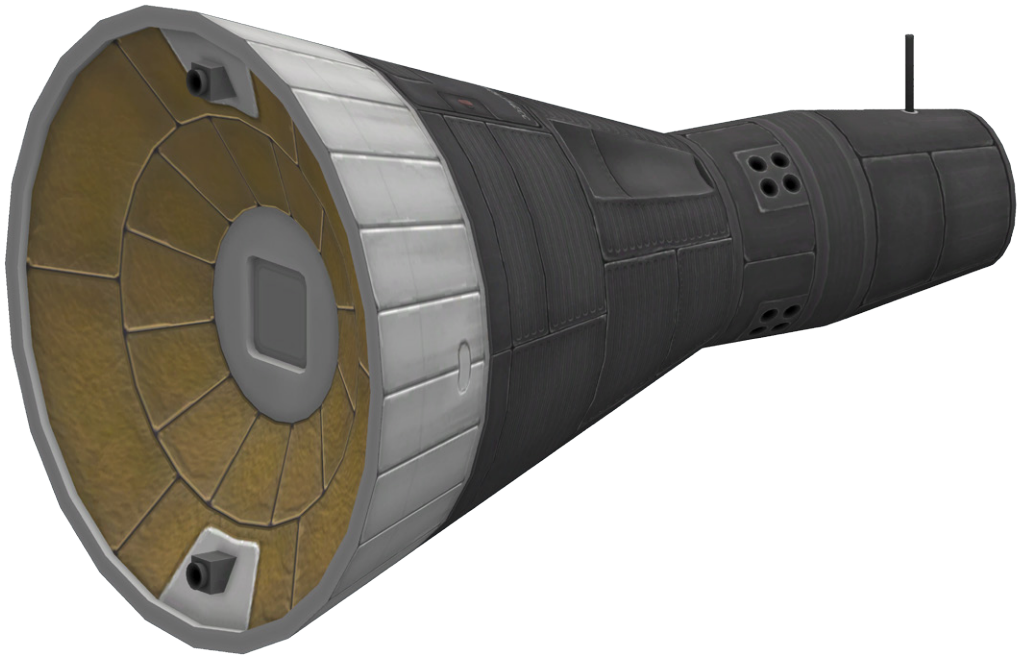
4. The major novelty of MOS program is the modified Vinci pod. Orginilany taken for civilian program Vinci service module has been drasticly reduced for weight reason. In emergency, Vinci door can be used as an EVA exit if the crew one became inoperable.

CLASSIFIED

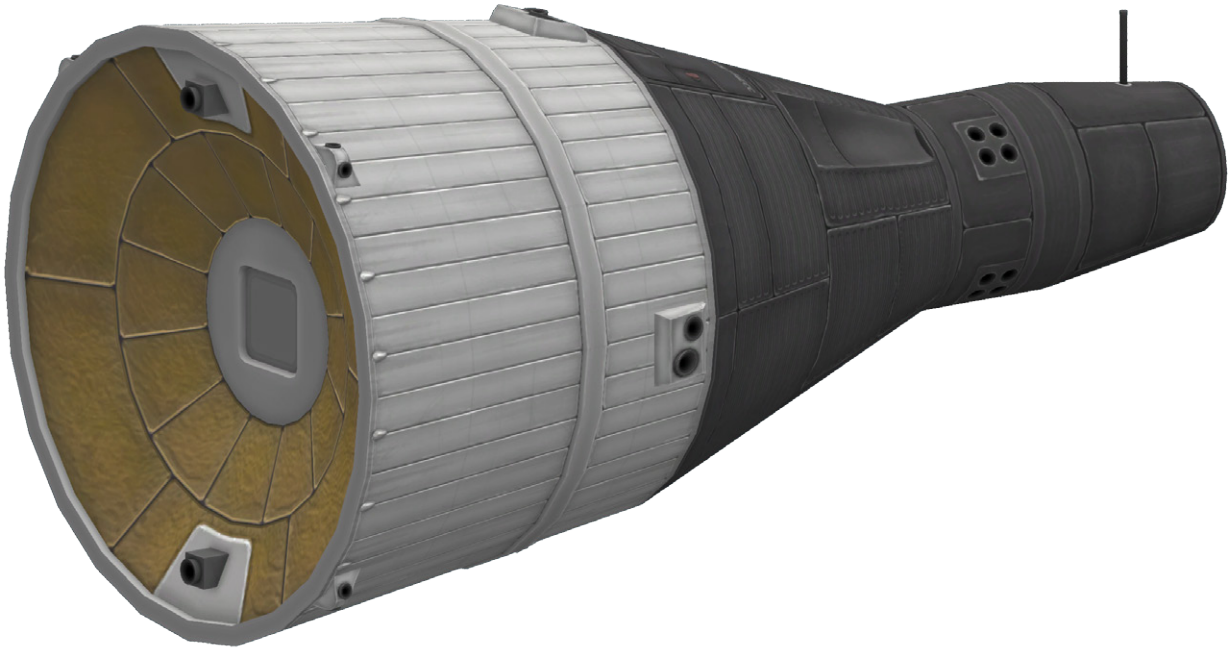


MODFIED VINCI DESCRIPTION

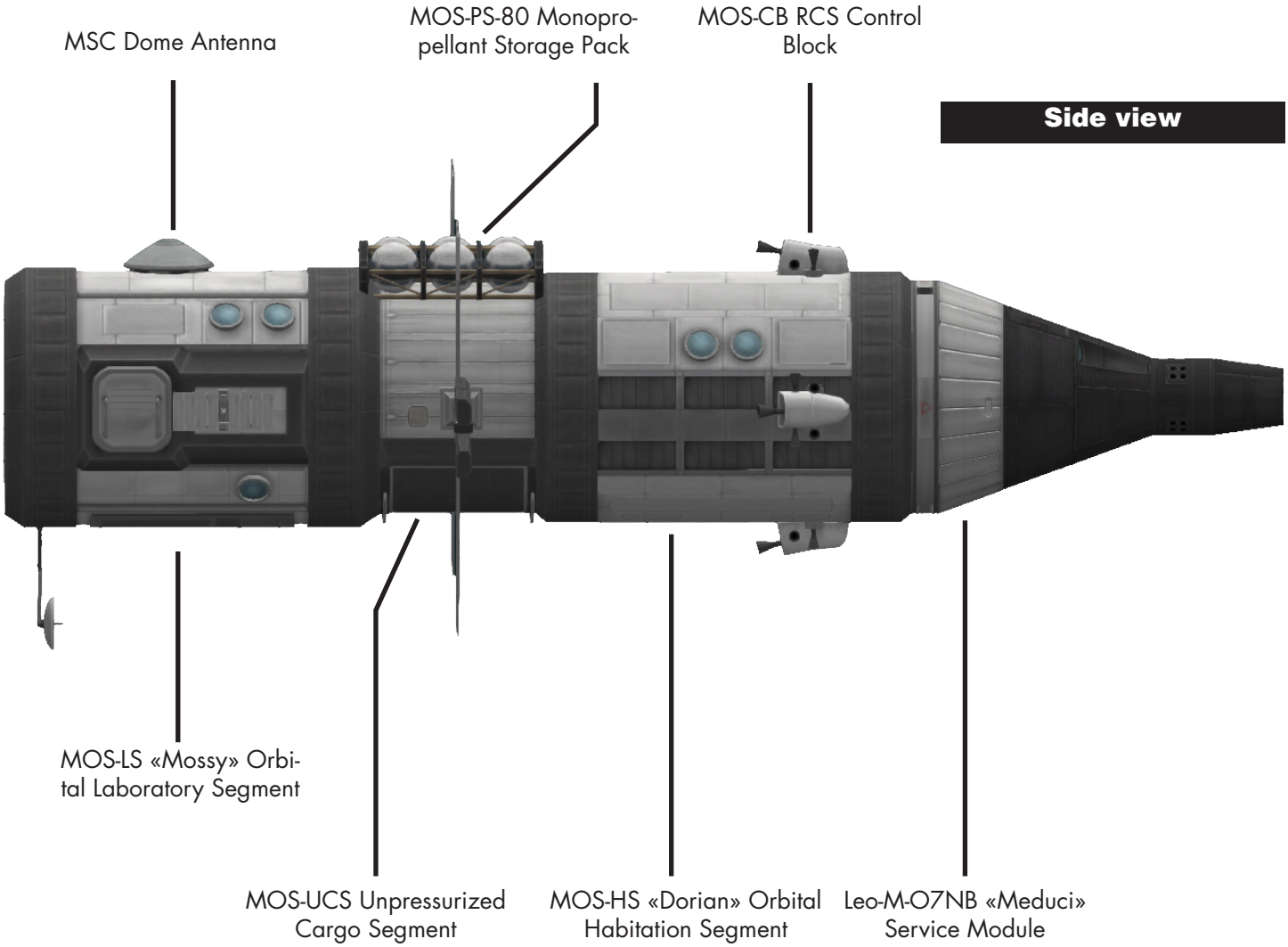
Modified Vinci Service Module

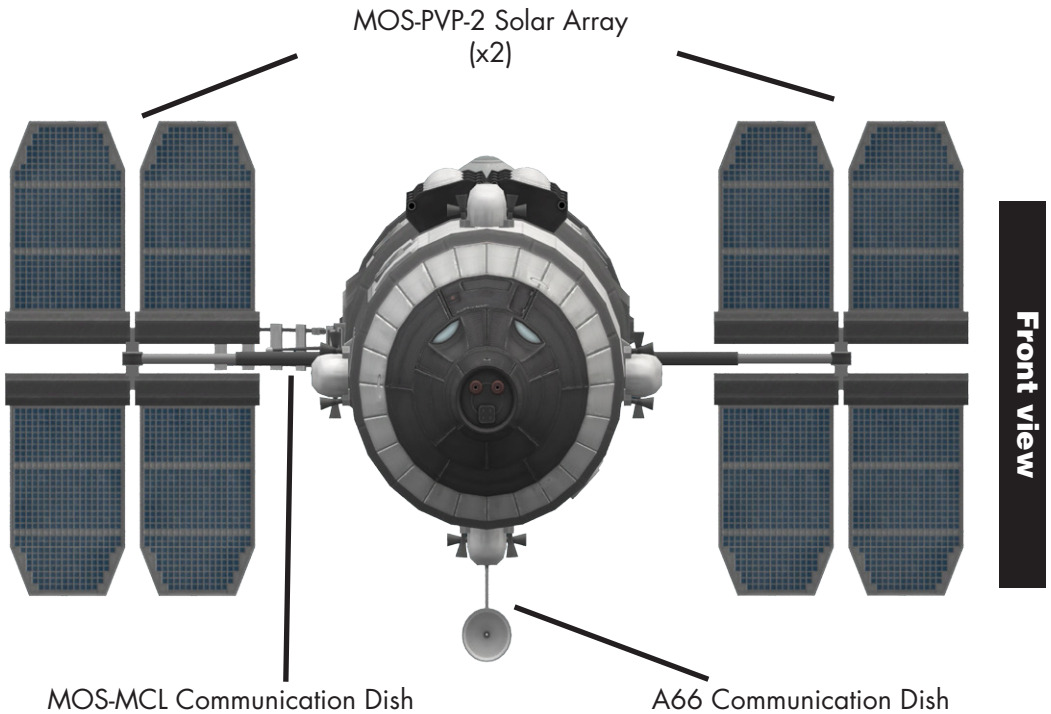


«Classic» Vinci Service Module

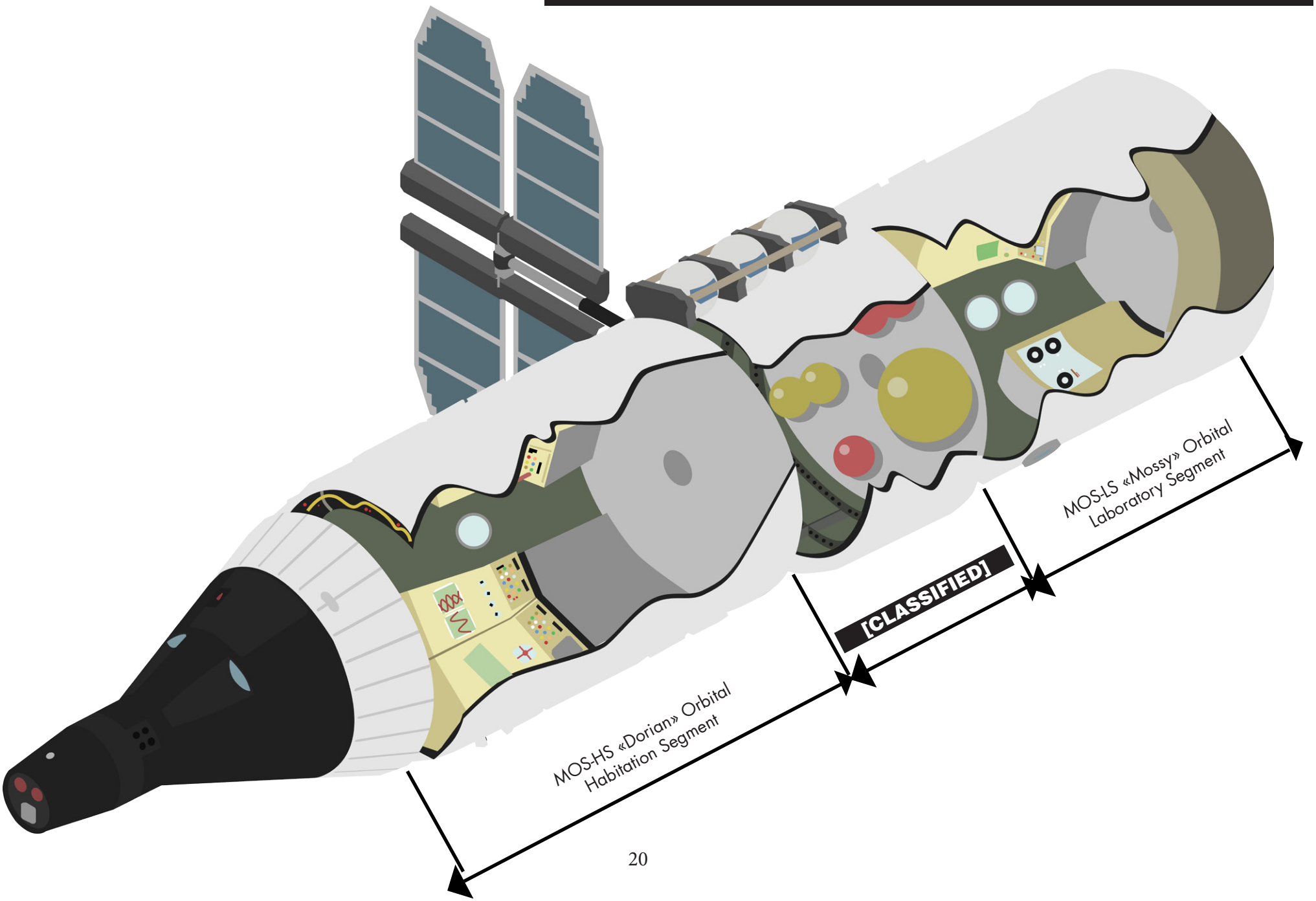


MOS DESCRIPTION





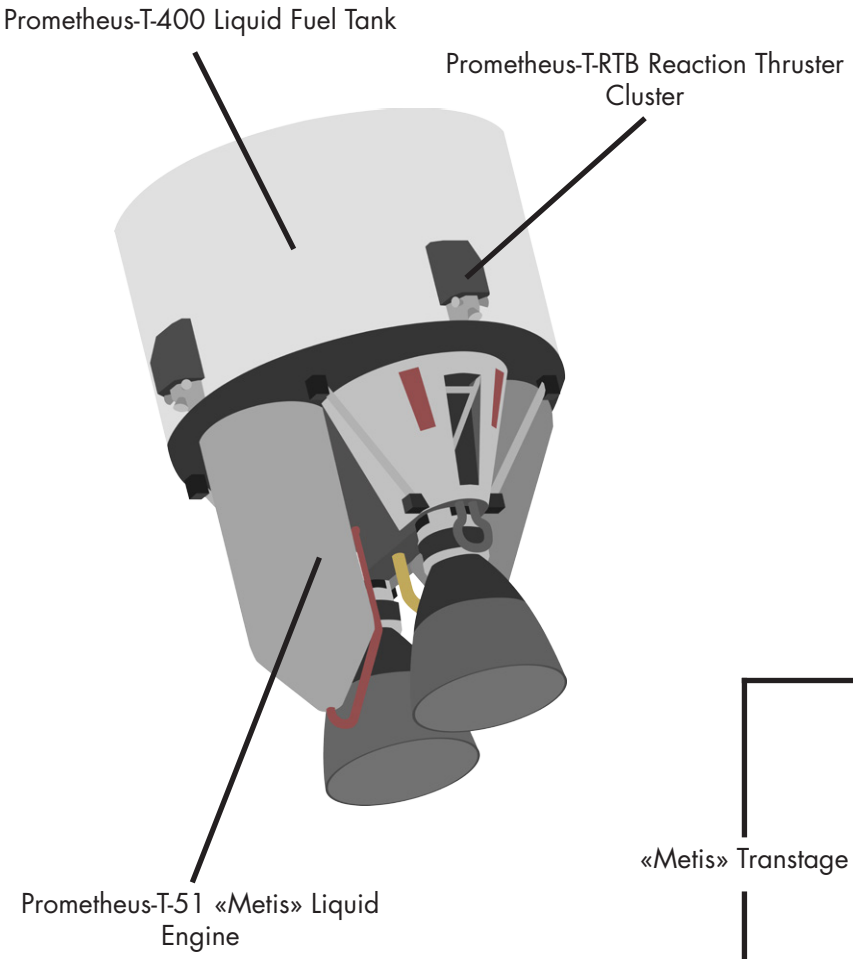
MOS CUTAWAY


MOS-HS «Dorian» Orbital
Habitation Segment
[CLASSIFIED]
MOS-LS «Mossy» Orbital
Laboratory Segment

MOS «METIS» TRANSTAGE

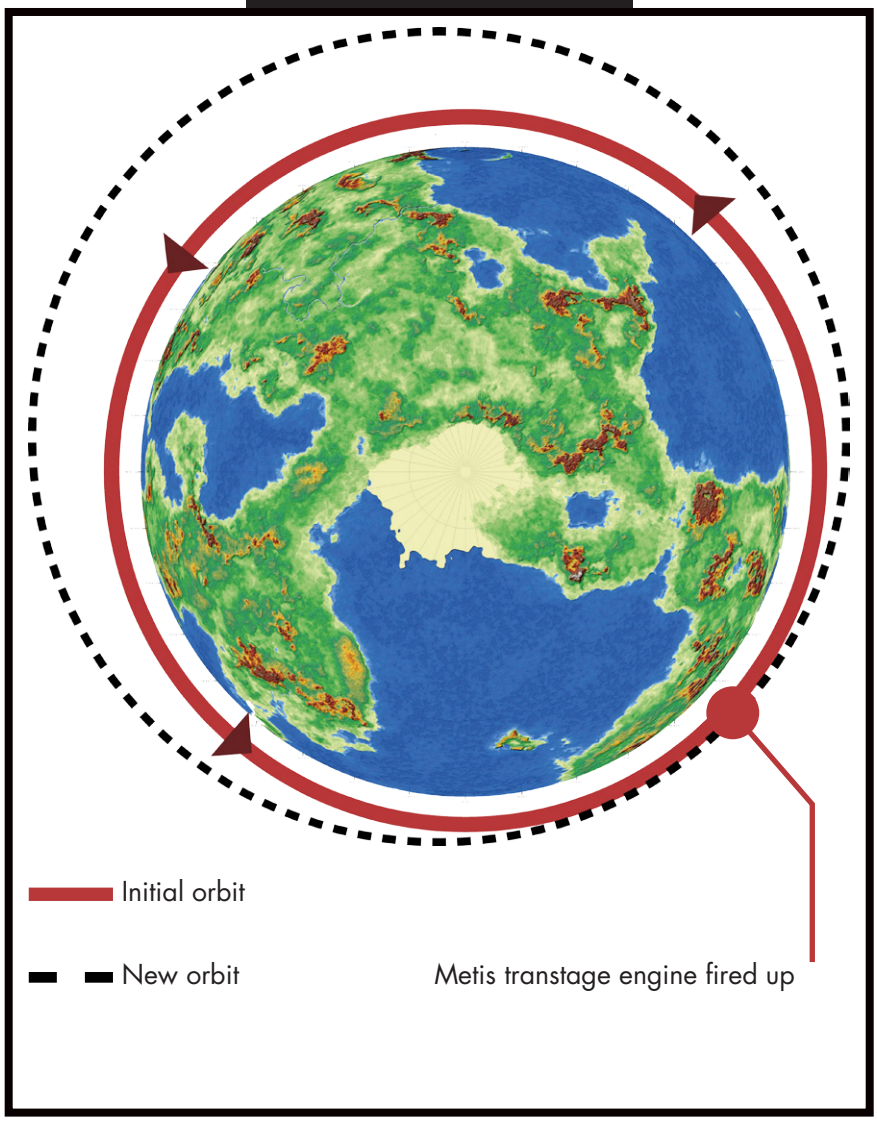
METIS

Instead of a final and fix orbit, an alternativ version exists for MOS Station : Metis transtage. This transtage offers against some more tons at the launch the possibility for MOS station to change his altitude and became quickly operationnal in another sector. This engine can be fired up multiple times and allow another way to deorbit the station. The Metis transtage is also provided with RSC thrusters. For further more information about Metis transtage refer to «Manuel».



MOS «METIS» APPLICATION

Orbit modification



[CLASSIFIED] Core

CLASSIFIED