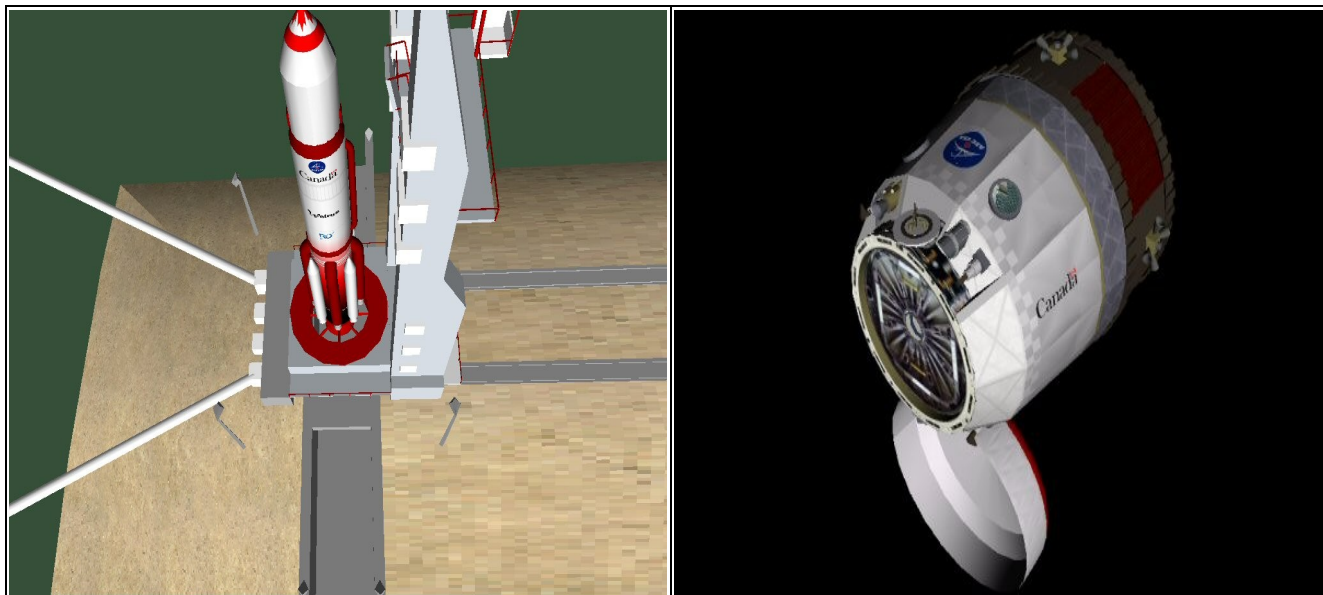


Walrus LV + Mystic

For use with Orbiter Space Simulator-050216



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Introduction

This Add-on has so been more of an experiment(for me anyways) rather than anything else, the Walrus in its original form was a SSTO nanosat launcher(~25kg to LEO) that has evolved into a ~6500kg to LEO, Stage and a half type launch vehicle. The same with Mystic, originally based heavily on the final Lockheed lifting body CEV(although it turned out far too small) but now based on some of the COTS proposals. This project has been quite time consuming with all the redesigns and what not, But I think the final outcome has been worth it. Some technical areas are realistic and others are admittedly fudged, but at this point I'm not going to worry about it. The launch site is in southern Nova Scotia

Requirements/Whats needed

you need spacecraft3.dll and multustage2.dll from Vinkas site

[Vinka 's Orbiter Fan Site](#)

Optional Mustard's Nebulus station module

[Mustards site](#)

poly count has turned out a bit high 20,000+ for the pad + walrus + mystic, but it runs fine on my old

laptop 30+FPS
P4 1.7 ghz
ATI radeon 7000 mobile
512 mb ram

Technical Details

Walrus LV

powered by LOX/LCH₄(methane), Stage and a half type LV(same as the old atlas)

185,000kg of propellant

6400kg dry mass booster engine + associated equipment

7500kg dry mass tank + sustainer engines

1900kg fairing(if equipped)

175000kg booster engine thrust/average ISP=330

4 x 15000kg sustainer engine thrust/average ISP=330/370 (I know too high, but needed it)

SRB = Castor 4a

11578kg gross mass

1457kg empty

48000kg thrust

Mystic

Twin passenger + two International Standard Payload racks, CBM docking port and a PDGF(Canad arm 2 grapple point)

4600kg capsule loaded weight

1900kg service module loaded weight(1000kg propellant)

2000kg of thrust

320 ISP (N₂O₄/UDMH)

Flight Instructions/Commands

Walrus

F	Jettison Fairing
J	Jettison Payload

Altitude (KM)	Pitch	Comments
0	90	Engage full throttle (SRB's ignite at 95% throttle)
20	40	make heading changes as necessary
45	20	~
~	~	Jettison fairing when booster engine separates
~	~	fly to circular orbit

Mystic

Ctrl + H	Turn off HUD or orbiter will crash when turning on virtual cockpit
F8	Virtual cockpit
J	Jettisons capsule / opens chute

Flight comments

re-enter pro-grade, I did not want to mess with spacecraft 3 aerodynamics, so I just flipped the mesh around

open the chute 10km above ground

Credits

Mustard, Well- for the CBM texture

Alex-AKA STS107 – solar texture from Anik Sat

Vinka- for Spacecraft 3 and Multistage 2

Orbiter community-you guys are the greatest

and of course last but certainly not least Dr Martin Schweiger for the wonderful Orbiter space flight simulator

If I have forgotten anything sorry its not intentional

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