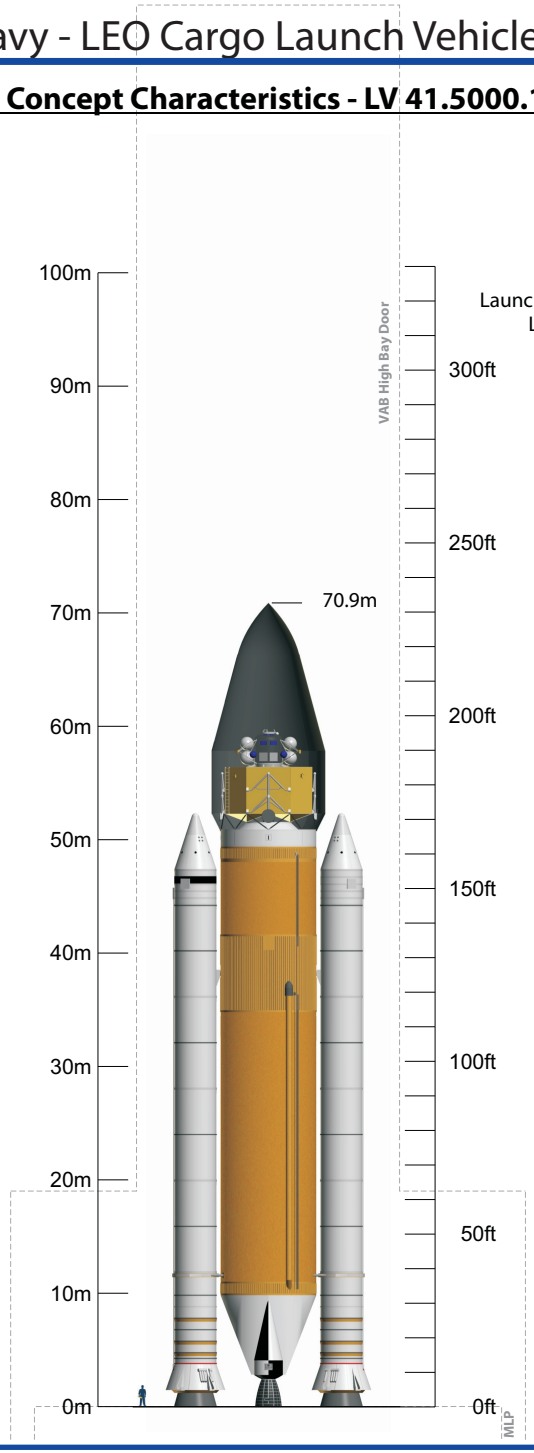
Jupiter-130 Heavy - LEO Cargo Launch Vehicle Configuration

Vehicle Concept Characteristics - LV 41.5000.10051



Launch Site	**KSC LC-39 (Latitude: 28.6084°)**
GLOW	**5,477,850lb (2,484,711kg)**
Payload Fairing	32.8 x 18.4ft (10.0 x 5.6m)
Payload Envelope	30.2 x 18.4ft (9.2 x 5.6m)
Payload Fairing Jettison Mass	15,916lb (7,219kg)
Payload Fairing Jettison	601.7s @ 75.6nmi
Launch Abort System Jettison Mass	-
Launch Abort System Jettison	-

BOOSTERS (each)

Design Heritage	Shuttle-derived 5-segment RSRMV
Propellants	PBAN
Usable Propellant	1,380,873lb (626,353kg)
Stage pmf	0.8656
Dry Mass	228,620lb (103,700kg)
Burnout Mass	232,608lb (105,509kg)
# Boosters / Type	2 / 4-segment Shuttle RSRM
Booster Thrust (@ 0.7s) SL	3,510,791lbf (1,592,468kgf / 15,616,776N)
Vac	3,510,791lbf (1,592,468kgf / 15,616,776N)
Booster Isp (@ 0.7s) SL	237.0s
Vac	267.4s
Booster Burn Time	126.6s

CORE STAGE

Design Heritage	Shuttle Super Light Weight Tank ET
Propellants	LOX / LH2
Gross Propellant	1,621,191lb (735,360kg)
Usable Ascent Propellant	1,604,979lb (728,006kg)
Unusable Residuals	16,047lb (7,279kg)
In-Flight Losses	325lb (147kg)
Propellant Offload	0.00%
Stage pmf	0.9107
Dry Mass	140,489lb (63,725kg)
Burnout Mass	156,536lb (71,004kg)
# Engines / Type	3 / SSME-Block-II
Engine Thrust (@ 104.5%) SL	392,326lbf (177,956kgf / 1,745,155N)
Vac	490,847lbf (222,644kgf / 2,183,396N)
Engine Isp (@ 104.5%) SL	361.4s
Vac	452.2s
Mission Power Level	104.5%
Core Burn Time	512.1s

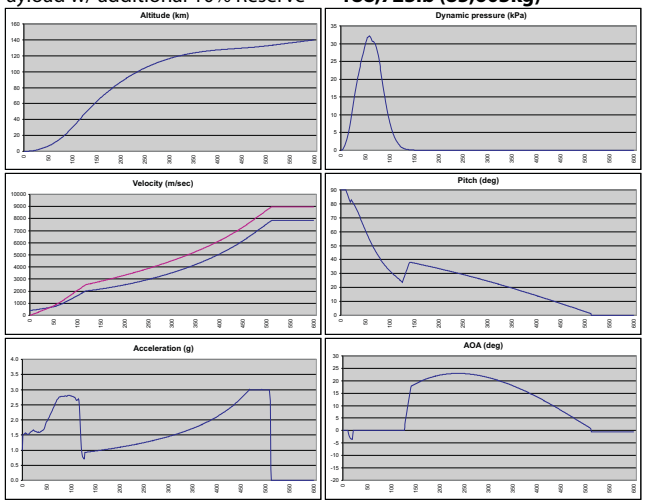
DYNAMICS

Thrust : Weight @ Liftoff	1.516 : 1
Max Dynamic Pressure	671.7psf (32,162Pa)
Max g's During Ascent	3.00g
Insertion Altitude	71.9nmi (133.2km)

BLACK ZONE SAFE

ASCENT PERFORMANCE

Delivery Orbit	51.5 x 130.0nmi, 29.0°
Payload w/ regular NASA GR&A's	209,692lb (95,115kg)
Payload w/ additional 10% Reserve	**188,723lb (85,603kg)**



Work In Progress
8th June 2009

* ASE is part of the Payload, not additional