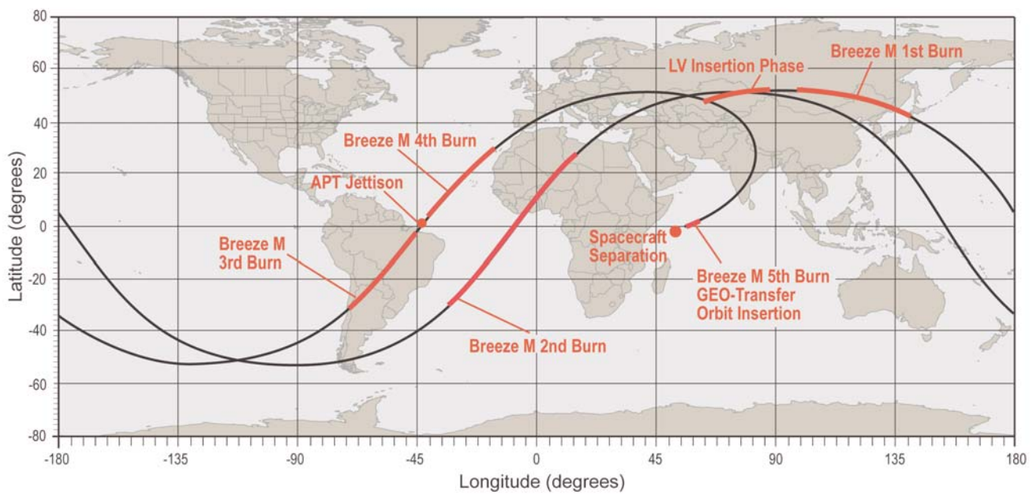
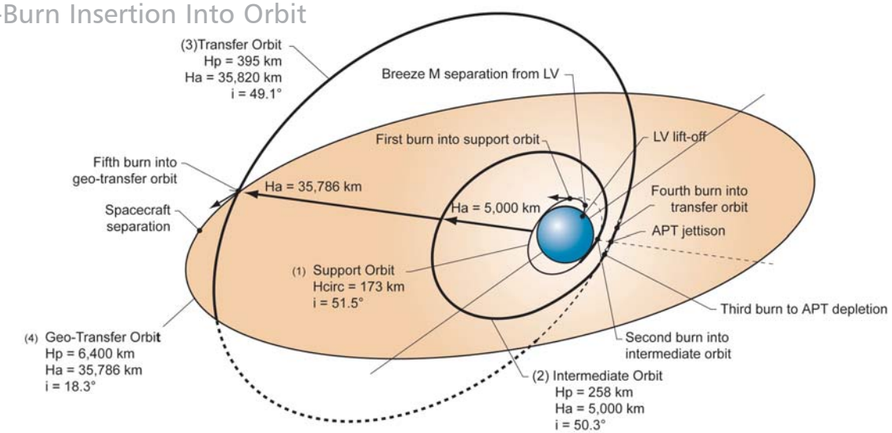
MISSION PROFILE

The Proton Breeze M launch vehicle, utilizing a 5-burn Breeze M mission design, will lift off from Pad 24 at the Baikonur Cosmodrome, Kazakhstan, with the AMC-12 satellite on board. The first three stages of the Proton will use a standard ascent trajectory to place the Breeze M fourth stage and AMC-12 satellite into a sub-orbital trajectory, from which the Breeze M will place itself and the spacecraft into a circular reference orbit. Once AMC-12 is in the reference orbit, it will be propelled into its transfer orbit by a series of additional burns of the Breeze M. Separation occurs approximately nine hours and 20 minutes after liftoff.

Typical 5-Burn Proton Ascent Ground Track



Typical 5-Burn Insertion Into Orbit



THE SATELLITE

Satellite Operator:
SES AMERICOM
www.ses-americom.com

Satellite Manufacturer:
Alcatel Space
www.alcatelspace.com

Platform:
Spacebus-4000C3

Separated Mass:
4,974 Kg

Design Life:
16 years

Mission:
AMERICOM-12 (AMC-12, formally known as Worldsat-2) is a high-powered C-band satellite that will operate from 37.5 degrees West. The large, state of the art spacecraft has 72 transponders organized into three regional beams: North America, South America and Europe/Africa. The satellite's advanced design and high power levels will support a wide range of applications ... from TV broadcasting to high-speed internet connections ... facilitating reception and higher data throughput to smaller C-band antennas. AMC-12's extensive coverage reaches from the U.S. to the eastern edge of the Mediterranean ... and from Cape Town, South Africa to Lima, Peru. For additional flexibility, the three beams may be inter-connected through on-board switching on an individual transponder basis.

ILS
International Launch Services

February 2005

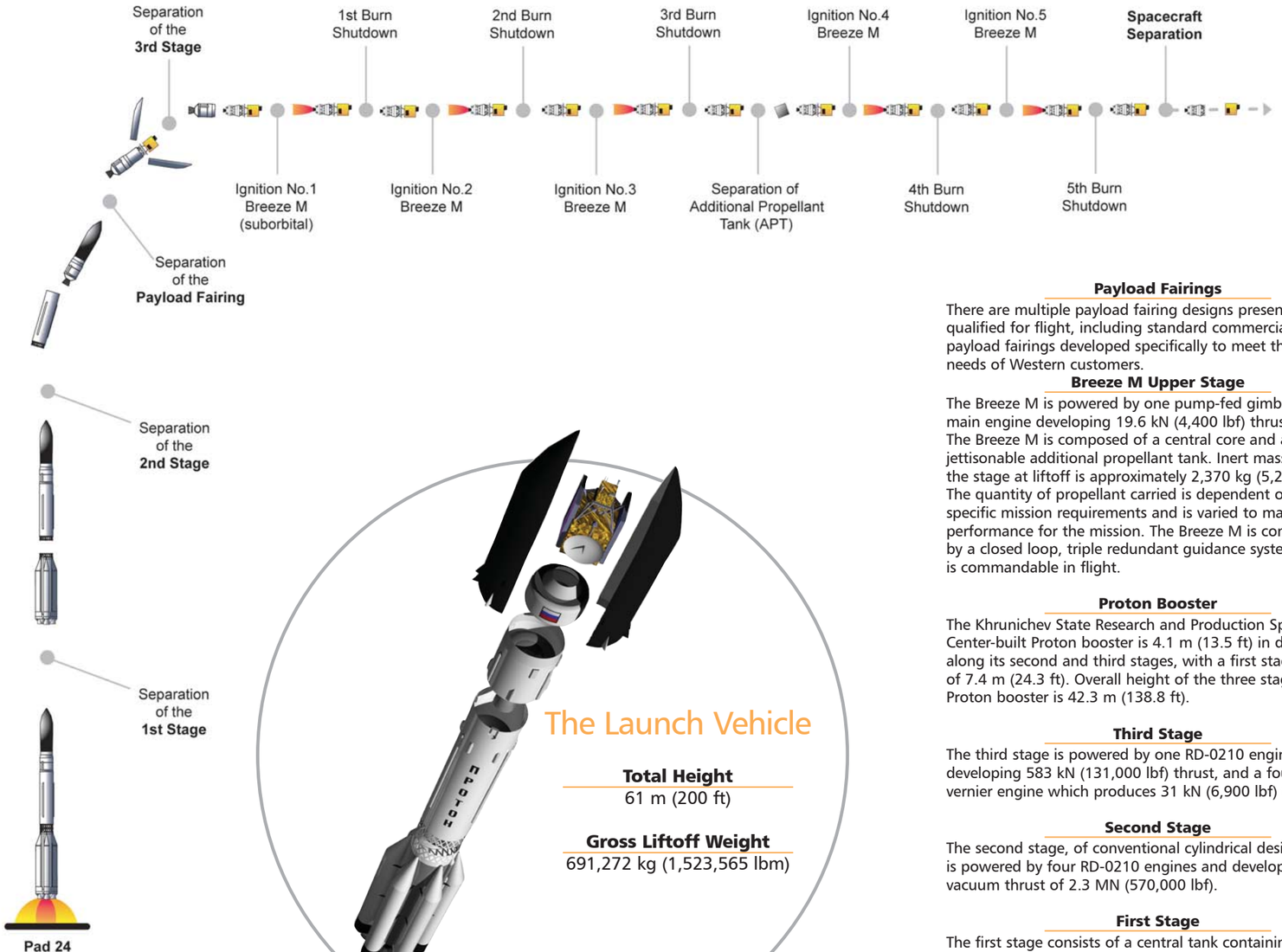
AMC-12

Mission Overview

- 10th ILS launch for SES AMERICOM Fleet
- 1st Proton launch of 2005
- 312th Proton launch

www.ilslaunch.com

MISSION ASCENT PROFILE



The Launch Vehicle

Total Height
61 m (200 ft)

Gross Liftoff Weight
691,272 kg (1,523,565 lbm)

Payload Fairings

There are multiple payload fairing designs presently qualified for flight, including standard commercial payload fairings developed specifically to meet the needs of Western customers.

Breeze M Upper Stage

The Breeze M is powered by one pump-fed gimbaled main engine developing 19.6 kN (4,400 lbf) thrust. The Breeze M is composed of a central core and a jettisonable additional propellant tank. Inert mass of the stage at liftoff is approximately 2,370 kg (5,225 lbm). The quantity of propellant carried is dependent on the specific mission requirements and is varied to maximize performance for the mission. The Breeze M is controlled by a closed loop, triple redundant guidance system that is commandable in flight.

Proton Booster

The Khrunichev State Research and Production Space Center-built Proton booster is 4.1 m (13.5 ft) in diameter along its second and third stages, with a first stage diameter of 7.4 m (24.3 ft). Overall height of the three stages of the Proton booster is 42.3 m (138.8 ft).

Third Stage

The third stage is powered by one RD-0210 engine, developing 583 kN (131,000 lbf) thrust, and a four-nozzle vernier engine which produces 31 kN (6,900 lbf) thrust.

Second Stage

The second stage, of conventional cylindrical design, is powered by four RD-0210 engines and develops a vacuum thrust of 2.3 MN (570,000 lbf).

First Stage

The first stage consists of a central tank containing the oxidizer surrounded by six outboard fuel tanks. Each fuel tank also carries one of the six RD-275 engines that provide first-stage power. Total first stage sea-level thrust is approximately 9.5 MN (2,140,000 lbf) with a vacuum-rated level thrust of 10.5 MN (2,360,000 lbf). The first stage engines are flown at a 107% thrust level.

Countdown and Flight Events Summary

EVENT	HR:MIN:SEC
Ignition sequence start	-00:00:02.5
Stage one ignition, 40% thrust	-00:00:01.6
Command stage one thrust to 100%	-00:00:00.9
Liftoff	00:00:00.0
Maximum dynamic pressure	00:01:06.0
Stage one/two separation	00:02:04.0
Stage two/three separation	00:05:31.0
Payload fairing jettison	00:05:44.0
Stage three upper stage separation from Breeze M	00:09:40.0
Breeze M first burn ignition	00:11:15.0
Breeze M first burn shutdown	00:19:07.0
Breeze M second burn ignition	01:08:22.0
Breeze M second burn shutdown	01:25:00.0
Breeze M third burn ignition	03:29:02.0
Breeze M third burn shutdown	03:40:22.0
Breeze M fourth burn ignition	03:42:08.0
Breeze M fourth burn shutdown	03:47:24.0
Breeze M fifth burn ignition	08:48:50.0
Breeze M fifth burn shutdown	08:56:07.0
Breeze M/spacecraft separation	09:19:20.0