ISRO's Polar Satellite Launch Vehicle (PSLV)

About the PSLV Launch Vehicle

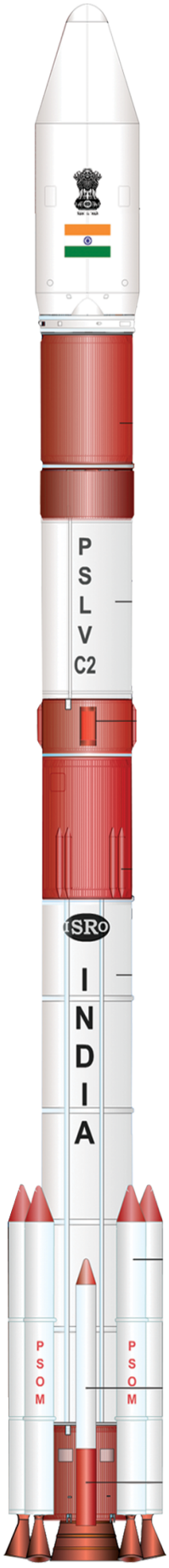
The Polar Satellite Launch Vehicle (PSLV) is an expandable launch system developed and operated by ISRO. The PSLV is one of world's most reliable launch vehicles and has been in service for over twenty years and has launched various satellites for historic missions like Chandrayaan-1, Mars Orbiter Mission, Space Capsule Recovery Experiment and Indian Regional Navigation Satellite System (IRNSS) etc. PSLV remains a favorite among various organizations as a launch service provider and has launched over 40 satellites for 19 countries. In 2008 it created a record for most number of satellites placed in orbit in one launch by launching 10 satellites into various Low Earth Orbits.

In 2015 India successfully launched 17 satellites for Canada, Indonesia, Singapore, the United Kingdom and the USA. Some notable payloads launched by PSLV include India's first lunar probe Chandrayaan-1, India's first interplanetary mission, Mangalyaan (Mars orbiter) and India's first space observatory, Astrosat.
On 15 February 2017, India successfully launched a payload of 104 foreign satellites in polar orbit around the Earth using PSLV tripling the previous record held by Russia for most number of satellites sent to space in a single launch.

Vehicle Specifications

Height	: 44 m
Diameter	: 2.8 m
Number of Stages	: 4
Lift Off Mass	: 320 tonnes (XL)
Variants	: 3 (PSLV-G, PSLV - CA, PSLV - XL)
First Flight	: September 20th, 1993

source: www.isro.gov.in www.wikipedia.org



TECHNICAL SPECIFICATIONS PSLV

Payload to SSPO: 1,750 kg
PSLV earned its title 'the Workhorse of ISRO' through consistently delivering various satellites to Low Earth Orbits, particularly the IRS series of satellites. It can take up to 1,750 kg of payload to Sun-Synchronous Polar Orbits of 600 km altitude.

Payload to Sub GTO: 1,425 kg
Due to its unmatched reliability, PSLV has also been used to launch various satellites into Geosynchronous and Geostationary orbits, like satellites from the IRNSS constellation.

Fourth Stage: PS4
The PS4 is the uppermost stage of PSLV, comprising of two Earth storable liquid engines.

Engine	: 2 x PS-4
Fuel	: MMH + MON
Max. Thrust	: 7.6 x 2 kN

Third Stage: PS3
The third stage of PSLV is a solid rocket motor that provides the upper stages high thrust after the atmospheric phase of the launch.

Fuel	: HTPB
Max. Thrust	: 240 kN

Second Stage: PS2
PSLV uses an Earth storable liquid rocket engine for its second stage, know as the Vikas engine, developed by Liquid Propulsion Systems Centre.

Engine	: Vikas
Fuel	: UDMH + N2O4
Max. Thrust	: 799 kN

First Stage: PS1
PSLV uses the S139 solid rocket motor that is augmented by 6 solid strap-on boosters.

Engine	: S139
Fuel	: HTPB
Max. Thrust	: 4800 kN

Strap-on Motors
PSLV uses 6 solid rocket strap-on motors to augment the thrust provided by the first stage in its PSLV-G and PSLV-XL variants. However, strap-on's are not used in the core alone version (PSLV-CA).

Fuel	: HTPB
Max. Thrust	: 719 kN