Ground Processing and Launch Facilities

- Historical examples
  - Early Launch Facilities
  - Saturn I
  - Saturn V
  - Russian

- Modern examples
  - Shuttle
  - Delta IV Heavy
  - DC-XA
  - Falcon 9
Cape Canaveral circa 1950
Map of Cape Canaveral
“ICBM Row”
LC-5 – Mercury-Redstone
LC-5 Emergency Crew Escape System
Atlas Support Gantry
LC-14 – Mercury-Atlas
Titan II Access Tower Operation
LC-34 Schematic
Saturn I Launch Pedestal
LC-34 Launch Pedestal Under Construction
LC-34 Flame Deflector
LC-34 Blockhouse
LC-34 Service Structure
Saturn I Erection Process
Aerial View of LC-34
Aerial View of LC-34
Aerial View of LC-34
S-I Stage Rotation
Assembly of Saturn I
LC-37 Concept
LC-37 Construction Photo
Barge Transport of Launch Vehicle Stages
Aerial Transport of Stages
Saturn V Launch Facility
Cape Canaveral Siting Map
Launch Sites Considered for Apollo

- Cape Canaveral
- Offshore from Cape Canaveral
- Mayaguana Island in the Bahamas
- Cumberland Island, Georgia
- A mainland site near Brownsville, Texas
- White Sands Missile Range in New Mexico
- Christmas Island in the mid-Pacific south of Hawaii
- South Point on the island of Hawaii
Early Mobile Launch Complex Concept

Diagram showing the layout of a launch complex with various facilities and areas labeled, such as Vertical Assembly Building Area, 1st Stage Vertical Assembly Bldg., 3D Stages, 2D Stages, Engineering Section, Warehouse, Launch Control Center, Spacecraft Area, Intermediate Area, Ordnance Storage Area, HP Gas Conversion Facility, LOX Facility, RP-1 Facility, LH₂ Facility, Support Bldg., Launch Pad Area, Pad “B”, Pad “A”, TO INTRACOASTAL WATERWAY.
Concept of an Off-Shore Launch Facility
Merritt Island Launch Area (MILA)
Competition for MILA Launch Sites
Rail-Based Nova Launch Concept
Barge-Based Saturn V Launch Concept
Barge-Based Vertical Assembly Building
Barge-Based VAB (Enclosed)
Interior Concept of VAB
Early Construction of VAB
VAB and LCC Under Construction
VAB from Turning Basin
Interior of Launch Control Center
Interior of Launch Control Center
Early Concept of Mobile Launch Platform
West Virginia Strip-Mine Coal Shovel
Crawler-Transporter
Cutaway of Crawler-Transporter
Complex 39 Crawlerway
Saturn V Mobile Launch Platforms
Interior of VAB
S-IC Stage in VAB Transfer Aisle
S-IC – S-II Stacking
S-II – S-IVB Stacking
S-IVB – Instrument Unit Stacking
IU – Apollo Spacecraft Stacking
Apollo–Saturn V Completed Stack in VAB
Saturn V Hold-Down Restraints

Diagram showing the components of the Saturn V hold-down restraints.
S-1C T-0 Disconnects
Building the LC-39 Launch Pads
LC-39 Crawlerway and Stacks
SA-501 at LC-39A
LC-39 Mobile Service Structure
Mobile Service Structure with Saturn V
STS Fixed and Rotating Service Structure
Complex 39 Launch Mounts
KSC LC-39 (Modern Era)
Details of LC-39 Pads
Expenditures for LC-39
Saturn V Vehicle Checkout Flow

SATURN V CHECKOUT SCHEDULE MILESTONES

- S-IC ERECTION
- S-II & S-IVB LOW BAY CHECKS
- VEHICLE MATING
- VEHICLE POWER ON
- LAUNCH VEHICLE SYSTEMS TEST #1
- LAUNCH VEHICLE SYSTEMS TEST #2 (SWING ARMS)
- SPACECRAFT MATE
- LAUNCH VEHICLE SYSTEMS TEST #3
- SPACE VEHICLE SYSTEMS TEST #1
- SPACE VEHICLE SYSTEMS TEST #2
- SIMULATED FLIGHT TEST
- TRANSFER TO PAD
- RF COMPATIBILITY TEST
- PROPellant TANKING TEST
- SIMULATED FLIGHT TEST
- COUNCETDOWN
Soyuz Launch Vehicle Moving to Pad
Soyuz Launch Site
Energia in Horizontal Integration
Energia Transported to Pad
Energia at Pad
Energia Erection
Energia on Pad
Shuttle Landing Facility
Transport to Orbiter Processing Facility
Payload Bay Inspection in OPF
SSME Removal/Installation
Transfer to Vehicle Assembly Building
Attaching Hoisting Fixtures
Attaching Orbiter to Shuttle Stack
Delta IV Heavy Horizontal Integration
Delta IVH Horizontal Integration Facility
Delta IV Heavy Transporter
Delta IV Heavy at LC34 Blockhouse
Delta IV Heavy Arrives at LC-34
Delta IV Heavy Module Interconnects
Delta IV Heavy at Pad
Delta IV Heavy Rotation
Delta IV Heavy at Pad
DC-XA on Launch Pad
LC40 at KSC - SpaceX Falcon 9
Falcon 9 v1.1 – SpaceX
KSC Landing Complex 1