
ULA
United Launch Alliance

1
00:00:05,240 --> 00:00:10,340
Preparing the Orion crew module for its first
flight test in December actually began a few

2
00:00:10,340 --> 00:00:16,250
years ago. The crew module for Orion's flight
test arrived at Kennedy Space Center in Florida

3
00:00:16,250 --> 00:00:22,000
in June 2012 and was transported to the Neil
Armstrong Operations and Checkout Building

4
00:00:22,000 --> 00:00:26,520
high bay for manufacturing, processing and
preflight testing.

5
00:00:26,520 --> 00:00:32,960
During the next two years, Orion prime contractor
Lockheed Martin and NASA engineers and technicians

6
00:00:32,970 --> 00:00:38,650
built-up the crew module from a green shell
to a fully functional spacecraft. Many tests

7
00:00:38,650 --> 00:00:42,470
were performed to prepare Orion for its flight
test.

8
00:00:42,470 --> 00:00:47,360
Orion's service module arrived at Kennedy
Space Center and also was transported to the

9
00:00:47,360 --> 00:00:53,070
Operations and Checkout Building for build-up
and processing. The module was completed with

10
00:00:53,070 --> 00:00:58,030
the installation of the fairings that protect
it in the early stages of launch ascent.

11
00:00:58,030 --> 00:01:03,320
Orion's heat shield, containing more than
200 instrumentation sensors, was installed.

12
00:01:03,320 --> 00:01:08,470
The heat shield will protect Orion during
its re-entry into Earth's atmosphere and splashdown

13
00:01:08,470 --> 00:01:10,920
in the Pacific Ocean.

14
00:01:10,920 --> 00:01:15,200
Moving one step closer to the flight test,
the Orion Crew Module was stacked atop the

15
00:01:15,200 --> 00:01:20,770
Service Module in June. Tile panels were installed
around the spacecraft and then

16
00:01:20,770 --> 00:01:24,780
both modules were put through their final
system tests.

17
00:01:24,780 --> 00:01:30,229
On Sept. 11, the Orion stack was transported
from the Operations and Checkout Building

18
00:01:30,229 --> 00:01:35,729
to the Payload Hazardous Servicing Facility.
Inside this facility, the spacecraft was fueled

19
00:01:35,729 --> 00:01:41,130
with ammonia, hydrazine and high-pressure
helium ahead of its December flight test.

20
00:01:41,130 --> 00:01:46,640
The four major components for Orion's Launch
Abort System, including the launch abort motor

21

00:01:46,640 --> 00:01:51,389
and the attitude control motor, arrived at
Kennedy last year and were transported to

22
00:01:51,389 --> 00:01:57,159
the Launch Abort System Facility for processing,
testing and integration.

23
00:01:57,159 --> 00:02:02,350
In late September, Orion was moved from the
Payload Hazardous Servicing Facility to the

24
00:02:02,350 --> 00:02:04,880
Launch Abort System Facility.

25
00:02:04,880 --> 00:02:09,890
Inside the high bay, the Launch Abort System
was lowered and attached to Orion. The system

26
00:02:09,890 --> 00:02:15,360
is designed to protect astronauts if a problem
arises during launch by pulling the spacecraft

27
00:02:15,360 --> 00:02:21,180
away from the falling rocket. Orion waited
inside the Launch Abort System Facility until

28
00:02:21,180 --> 00:02:27,560
the United Launch Alliance Delta IV Heavy
rocket was ready for integration with the spacecraft.

29
00:02:27,560 --> 00:02:33,920
Earlier this year, the Delta IV core and starboard
boosters arrived by barge in March, and were

30
00:02:33,920 --> 00:02:39,230
offloaded and transported to the Horizontal
Integration Facility near Space Launch Complex

31
00:02:39,230 --> 00:02:45,220

37 at Cape Canaveral Air Force Station in
Florida. The port booster and second stage

32
00:02:45,220 --> 00:02:47,500
followed in early May.

33
00:02:47,500 --> 00:02:52,450
The Delta IV central core booster was mated
to the port and starboard boosters. Then the

34
00:02:52,450 --> 00:02:57,140
Delta IV second stage was mated to the rocket's
central core booster.

35
00:02:57,140 --> 00:03:01,900
The Delta IV rocket for Orion's flight test
rolled out of the Horizontal Integration Facility

36
00:03:01,900 --> 00:03:05,560
on Sept. 30 and made the trek to the launch
pad.

37
00:03:05,560 --> 00:03:12,450
In the early morning on Oct. 1, the nearly
180-foot-tall launch vehicle was carefully

38
00:03:12,450 --> 00:03:18,380
lifted into the vertical position and then
raised into the Mobile Service Tower on the pad.

39
00:03:18,380 --> 00:03:24,870
In early November, the Orion stack was transported
to the launch pad and integrated to the rocket.

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00:03:24,870 --> 00:03:31,470
Tests were performed to verify readiness for
launch. After more than two years of work,