1
00:00:02,340 --> 00:00:07,490
This is Jay Estes, I am a deputy for flight
test integration in the Orion program.

2
00:00:07,490 --> 00:00:13,390
What you see here is a Delta 4 heavy
booster being launched from the pad.

3
00:00:13,390 --> 00:00:18,410
This is a flight test that Orion
is going to conduct in 2014.

4
00:00:18,410 --> 00:00:25,050
It is a Delta 4 heavy unmanned booster
with two strap-on boosters on the side.

5
00:00:25,050 --> 00:00:29,610
Once we get through first stage, the
strap-on boosters separate themselves

6
00:00:29,610 --> 00:00:33,680
and the central core continues
on as a second stage.

7
00:00:33,680 --> 00:00:37,790
Once we get to low Earth orbit, the second
stage shuts down and separates itself

8
00:00:37,790 --> 00:00:40,580
from the spacecraft and the upper stage.

9
00:00:40,580 --> 00:00:45,530
At that point the upper stage
lights, and takes us on to orbit,

10
00:00:45,530 --> 00:00:51,410
the service module panels separate, and
the launch abort system with its shroud,

11

00:00:51,410 --> 00:00:54,960
which has been covering the capsule, comes off.

12
00:00:54,960 --> 00:01:03,170
In low Earth orbit, which is about 250
miles above the Earth, we make one orbit,

13
00:01:03,170 --> 00:01:06,770
and this orbit lets us check out our systems.

14
00:01:07,900 --> 00:01:14,930
After one orbit, we ignite the upper stage
and we lift the orbit to about 3600 miles.

15
00:01:14,930 --> 00:01:21,800
Now 3600 miles is approximately 10 times
higher than any man-rated spaceship has been

16
00:01:21,800 --> 00:01:24,170
since 1972 when we came back from the moon.

17
00:01:24,170 --> 00:01:29,370
And the reason we are doing this is
to test our heat shield on reentry.

18
00:01:29,370 --> 00:01:33,860
The heat shield will be exposed to heating
much like you would get from the moon,

19
00:01:33,860 --> 00:01:38,130
and we will be able to demonstrate
that our heat shield is sufficient

20
00:01:38,130 --> 00:01:41,870
for recovering people from
missions beyond Earth.

21
00:01:41,870 --> 00:01:49,780
And as we begin to enter, the capsule then
separates from the service module section.

22
00:01:49,780 --> 00:01:53,470
The service module section stays
attached to the upper stage,

23
00:01:53,470 --> 00:01:55,860
and here you see the control
jets that are firing.

24
00:01:55,860 --> 00:01:59,330
The control jets the altitude for entry.

25
00:01:59,330 --> 00:02:06,560
As we enter, we experience maximum
heating lower in the atmosphere.

26
00:02:06,560 --> 00:02:12,630
This is the primary test of Exploration
Flight Test 1, is that heat shield.

27
00:02:12,630 --> 00:02:18,320
As we get low in the atmosphere, the forward
bay cover come off, which covers the parachutes,

28
00:02:18,320 --> 00:02:26,670
and two small chutes come out to slow us down.

29
00:02:26,670 --> 00:02:30,010
After we slow down those separate,
three small pilot chutes come

30
00:02:30,010 --> 00:02:36,610
out to open the main parachutes, which
initially open at about three percent opening.

31
00:02:36,610 --> 00:02:38,850
Then they go to ten percent open.

32
00:02:38,850 --> 00:02:41,130

Then they go to full open.

33
00:02:41,130 --> 00:02:45,980
We use those on staging the keep
the forces on the chutes lower.

34
00:02:45,980 --> 00:02:49,880
It makes for a softer ride
and it keeps our chutes safe.

35
00:02:49,880 --> 00:02:56,810
We enter the water at a slight angle, to
help the crew with the impact of the water.

36
00:02:56,810 --> 00:02:59,580
The parachutes fall in the
water, we hope to recover those.

37
00:02:59,580 --> 00:03:06,940
We are cooperating with the Navy, and using one
of their well deck ships to recover our capsule.