1
00:00:11,840 --> 00:00:13,970
Welcome to NASA’s Kennedy Space Center.

2
00:00:13,970 --> 00:00:18,330
We’re here on top of the mobile launcher
tower, more than 400 feet off the ground.

3
00:00:18,330 --> 00:00:22,580
The beach is right there, it’s super windy,
you can hear construction noise because this

4
00:00:22,580 --> 00:00:23,790
is a construction zone.

5
00:00:23,790 --> 00:00:28,530
I’m Joshua Santora, and today I’m going
to give you a behind the scenes look at some

6
00:00:28,530 --> 00:00:31,610
of the work being done to prepare for the
Artemis program.

7
00:00:31,610 --> 00:00:37,260
At the heart of that program are the Space
Launch System, SLS, or heavy-lift rocket;

8
00:00:37,260 --> 00:00:42,761
the Orion crew capsule; and Exploration Ground
Systems - they’re responsible for all of

9
00:00:42,761 --> 00:00:44,710
the infrastructure to actually launch.

10
00:00:44,710 --> 00:00:49,140
Today’s tour will take a closer look at
infrastructure like this tower and the pad

11
00:00:49,140 --> 00:00:50,230
that it’s sitting on.

12
00:00:50,230 --> 00:00:53,430
Be sure to enjoy the view and look around
wherever we go.

13
00:00:53,430 --> 00:00:55,910
All right, let’s hit it.

14
00:00:55,910 --> 00:01:00,300
You’re now looking at the world’s largest
single-story building and through the open

15
00:01:00,300 --> 00:01:03,770
high bay doors, you can see the mobile launcher
we were just standing on.

16
00:01:03,770 --> 00:01:07,250
I don’t want you to take for granted the
size of this building.

17
00:01:07,250 --> 00:01:10,830
The Statue of Liberty on her pedestal are
shorter than that tower.

18
00:01:10,830 --> 00:01:12,560
And we don’t call it mobile for nothing.

19
00:01:12,560 --> 00:01:16,580
We’re going to fast forward a bit to after
that mobile launcher has been carried out

20
00:01:16,580 --> 00:01:17,580
to the launch pad.

21
00:01:17,580 --> 00:01:19,140
Here we go.

22
00:01:19,140 --> 00:01:23,220
After the 11-million-pound mobile launcher

completes the journey out here to the pad,

23
00:01:23,220 --> 00:01:24,840
which takes about 8 hours.

24
00:01:24,840 --> 00:01:28,980
This is the view from the deck where the Space Launch System, or SLS, will be stacked.

25
00:01:28,980 --> 00:01:32,770
If the rocket were here, you'd be looking straight ahead at the main engines.

26
00:01:32,770 --> 00:01:37,300
The hole below those for the exhaust is just in front of you and towering overhead is the

27
00:01:37,300 --> 00:01:42,429
actual tower that will provide fuel, power, communication and crew access from the ground

28
00:01:42,429 --> 00:01:44,640
to the vehicle through what we call umbilicals.

29
00:01:44,640 --> 00:01:50,610
Remember, you don't just need to provide necessary assets to one rocket; each stage

30
00:01:50,610 --> 00:01:52,340
is essentially its own rocket.

31
00:01:52,340 --> 00:01:55,350
You have to provide fuel to each stage.

32
00:01:55,350 --> 00:01:57,080
Each stage needs power.

33
00:01:57,080 --> 00:02:00,130
Each stage has sensor data that has to be

shared.

34
00:02:00,130 --> 00:02:05,200
And then you have to account for the fact
that a 322-foot-tall rocket is going to sway

35
00:02:05,200 --> 00:02:06,510
a little.

36
00:02:06,510 --> 00:02:10,940
You need an arm to help hold it in place but
still allow it to shift some.

37
00:02:10,940 --> 00:02:15,030
That movement is all understood and expected
based on the detailed engineering analysis

38
00:02:15,030 --> 00:02:16,030
done by the NASA team.

39
00:02:16,030 --> 00:02:20,890
Once the rocket rolls out here, there should
only be about a week of work before we're

40
00:02:20,890 --> 00:02:22,530
ready to launch.

41
00:02:22,530 --> 00:02:26,701
When we get to launch day, there's a ton
of work being done both here and in the Launch

42
00:02:26,701 --> 00:02:29,430
Control Center to actually fly this thing
into space.

43
00:02:29,430 --> 00:02:32,310
Let's head up and have a closer look at
the tower.

44

00:02:32,310 --> 00:02:35,969
If you’re afraid of heights, don’t look
down.

45
00:02:35,969 --> 00:02:40,840
The umbilicals I mentioned a minute ago are
actually giant steel structures like the one

46
00:02:40,840 --> 00:02:44,680
we’re hanging off the side of now, the crew
access arm.

47
00:02:44,680 --> 00:02:49,209
Another major umbilical is for the Interim
Cryogenic Propulsion Stage that you can see

48
00:02:49,209 --> 00:02:50,830
below us on the tower.

49
00:02:50,830 --> 00:02:55,510
It’s like a two story tall steel structure
that has to disconnect all of its connection

50
00:02:55,510 --> 00:03:01,640
points safely without breaking them so they
can reused, and then swing that 70,000-pound

51
00:03:01,640 --> 00:03:08,209
arm more than 90 degrees to be clear of the
rocket, and do it all in under 4 seconds.

52
00:03:08,209 --> 00:03:10,410
That is some impressive engineering.

53
00:03:10,410 --> 00:03:15,140
In addition to the beautiful landscape, you
probably noticed those two giant towers.

54
00:03:15,140 --> 00:03:19,120
Those are two of the three towers that make

up the lightning protection system for the

55
00:03:19,120 --> 00:03:20,120
launch pad area.

56
00:03:20,120 --> 00:03:21,780
They’re each 600 feet tall.

57
00:03:21,780 --> 00:03:26,019
One of the most important reasons we’re
talking about this rocket at all, is the ability

58
00:03:26,019 --> 00:03:29,359
to transport humans deeper into space than
ever before.

59
00:03:29,359 --> 00:03:34,620
Let’s get a close look at where our astronauts
will be boarding the Orion spacecraft.

60
00:03:34,620 --> 00:03:40,360
When NASA astronauts enter this White Room
to climb aboard Orion, they do so knowing

61
00:03:40,360 --> 00:03:44,840
that there are thousands and thousands of
men and women who have worked for years to

62
00:03:44,840 --> 00:03:50,139
prepare, build, test and have confidence in
the world’s most powerful rocket.

63
00:03:50,139 --> 00:03:54,760
On launch day, that yellow cargo net and covering
behind it won’t be there, and instead they’ll

64
00:03:54,760 --> 00:03:57,719
be looking down into the crew capsule.

65

00:03:57,719 --> 00:04:01,530
As the astronauts take their last steps on
Earth right here before blasting off into

66
00:04:01,530 --> 00:04:06,269
space, they know they're taking another
giant leap for all mankind.

67
00:04:06,269 --> 00:04:11,060
And this giant leap brings us all one step
closer to pioneering other worlds.

68
00:04:11,060 --> 00:04:14,799
We hope you'll continue to track our progress
as we work towards the first woman and next

69
00:04:14,799 --> 00:04:17,390
man to walk on the moon.

70
00:04:17,390 --> 00:04:21,870
From KSC and for Exploration Ground Systems,
that's all for today.

71
00:04:21,870 --> 00:04:26,380
Remember, we build, launch and recover for
the next evolution in humanity's deep-space