we're at one of the largest facilities built by NASA as a matter of fact we're in the trenches no no V trench the plain trench
I’m Yves Lamont and we're checked in at the Kennedy Space Center our multi-user spaceport we have our boarding pass to the launch pad and with me today is Regina Spellman hi Regina hey Judas Spellman is the launchpad project manager and she's gonna tell us a little bit more about the launchpad yeah well today you're here at launch complex 39b reason it's B is that we
have two pads actually at Kennedy Space Center we have 39a and 39b these were both built back in the 60s for the Saturn program they're just over 50 years old pate was completed first and that was really the workhorse during the Saturn program and then B was built two years afterwards we did see the launch of Apollo 10 out here a lot of people are familiar with the Apollo 11 from the movies but Apollo 10 was the dry run for Apollo 11 and that launched from right here where we're standing after the Apollo program Saturn program we went
into the space shuttle program and we
modified the pad to support a space
shuttle

this pad Sol 53 space shuttle launches

Wow on the last of them was STS 116 a
beautiful night launch from that was the
last one from here so we're exactly on

the pad our room right now where you're
standing is in the flame trench area on
the apron of the flame trench if you
look back behind us in the flame
deflector flame trench area the brick
walls are the trench the rocket actually
sits above this pad surface on the
mobile launcher so all the exhaust from

00:01:31,290 --> 00:01:34,829
the rocket goes through an opening and

00:01:33,180 --> 00:01:36,299
the mobile launcher down onto the

00:01:34,828 --> 00:01:39,328
deflector what looks like the darker

00:01:36,299 --> 00:01:41,850
wall behind this that's actually a metal

00:01:39,328 --> 00:01:43,679
deflector upside down V shape and all

00:01:41,849 --> 00:01:45,780
that exhaust comes down and impinges on

00:01:43,680 --> 00:01:47,490
that deflector and gets redirected out

00:01:45,780 --> 00:01:49,259
into the ocean basically down this

00:01:47,489 --> 00:01:51,118
pathway that we're standing on and the

00:01:49,259 --> 00:01:53,938
reason we have to do that is because the

00:01:51,118 --> 00:01:56,099
SLS will experience 9 million pounds of

00:01:53,938 --> 00:01:57,658
thrust that exhaust will get it's not

00:01:56,099 --> 00:02:00,569
like your car exhaust that exhaust will

00:01:57,659 --> 00:02:03,090
get up to 2,200 degrees Fahrenheit and
that is hot even for Florida now I see

three tall towers with those long poles

on top of them

exactly are those yeah so Florida is

very active lightning it's known as the

lightning capital of the world so we

have erected these lightning towers

these towers are so tall because any

vehicle that can leave the Vehicle

Assembly Building could be protected by

these lightning protection towers the

towers are 600 feet tall and they

support a catenary system of wires that

actually provide that protection over
the pad surface so is this where the
mobile launcher comes on to the pad it
is the crawler brings the mobile
launcher from the Vehicle Assembly
Building down the crawler way and it
actually arrives at the pad and comes up
the hill to get on top of the pad
surface the crawler brings the mobile
launcher over the flame trench and you
can see there's a crawler track here and
there's one on the other side it
straddles the flame trench when the
crawler sits the mobile launcher down it
gets out of the way and the pad takes it
from there there's a tower behind us

this is 400,000 gallon water tower

that's about the same size as 27 average-sized swimming pools

you can imagine and all that water gets dumped out in less than 25 seconds and

the purpose of that water is to keep all of this structure cool but more importantly it also prevents the sound wave from the vehicle if you think of nine million pounds of thrust how loud that must be and exhausting from the vehicle that sound wave could bounce back off of the structural steel of the
mobile launcher and reflect back onto

00:03:24,219 --> 00:03:28,689
the launch vehicle and cause damage but

00:03:26,560 --> 00:03:31,479
the water that's going into the exhaust

00:03:28,689 --> 00:03:33,819
pole helps to dampen that Wow

00:03:31,479 --> 00:03:37,060
so essentially there really is no safe

00:03:33,819 --> 00:03:38,709
place on the pad right before launch not

00:03:37,060 --> 00:03:41,049
at all you need to be several miles away

00:03:38,709 --> 00:03:42,250
our launch control system is about four

00:03:41,049 --> 00:03:43,599
miles from here and that's about is

00:03:42,250 --> 00:03:46,030
where you want to be on launch day as

00:03:43,599 --> 00:03:48,159
close as you want to get so how do the

00:03:46,030 --> 00:03:50,289
astronauts get up to the rocket when

00:03:48,159 --> 00:03:52,239
they get to the pad so the Astro van

00:03:50,289 --> 00:03:54,578
actually brings the astronauts to the

00:03:52,239 --> 00:03:57,250
pad and they will leave the Astro van
and get on to beat elevators these
elevators take them up to the mobile
launcher and then there's another
elevator that takes them all the way up
to the crew access arm and they cross
the crew access arm and in turn
well thank you Regina for coming out and
sharing all this knowledge with us about
the pad
I'm Yves LaMotte from the Kennedy Space
Center our multi-user spaceport and
we're getting out of the trenches the
flame trash
[Music]