



1
00:00:01,159 --> 00:00:09,870
Is that a great looking group or what,
how about it? So welcome to the Kennedy

2
00:00:09,870 --> 00:00:14,790
Space Center what a great day, I can't
wait till this evening when that Falcon 9

3
00:00:14,790 --> 00:00:19,980
and Crew Dragon take off and once again
we're gonna be launching a crew vehicle

4
00:00:19,980 --> 00:00:24,840
from Launchpad 39a after an eight-year hiatus
here at the Kennedy Space Center.

5
00:00:24,840 --> 00:00:28,640
It's just one step forward to getting crews
to the International Space Station

6
00:00:28,640 --> 00:00:34,460
before the end of the year on a U.S.
rocket with a U.S. crew from U.S. soil and

7
00:00:34,460 --> 00:00:38,700
we're gonna make that happen and these
are the guys they're gonna be a part of it.

8
00:00:38,700 --> 00:00:41,550
Now I think y'all know but I'll just
run down the line before I turn it over

9
00:00:41,550 --> 00:00:46,260
the Administrator. Doug Hurley, Bob
Behnken our Administrator Jim

10
00:00:46,260 --> 00:00:51,210
Bridenstine, Mike Hopkins and Victor
Glover and these guys you know you saw

11
00:00:51,210 --> 00:00:54,629
them get assigned to fly except for the
one in the middle he wishes he were

12
00:00:54,629 --> 00:00:59,160
assigned to fly and but Doug and Bob
they've been tracking this vehicle for a

13
00:00:59,160 --> 00:01:04,019
long time as we developed it they were
assigned to watch The Commercial Crew

14
00:01:04,019 --> 00:01:07,710
program to be involved and I'm gonna
leave the questions to them but before

15
00:01:07,710 --> 00:01:11,070
we open it up for questions I want to
give the mic to our administrator Jim

16
00:01:11,070 --> 00:01:15,330
Bridenstine, he's doing an outstanding
job leading us and I can't wait to get

17
00:01:15,330 --> 00:01:20,909
this successful crew launch under his
belt. Thank you, thank you Bob for that

18
00:01:20,909 --> 00:01:25,710
intro and I just want to share with you
how important this is it's a critically

19
00:01:25,710 --> 00:01:30,030
important event in American history.
We're, we're on the precipice of

20
00:01:30,030 --> 00:01:33,740
launching American astronauts on
American Rockets from American soil

21
00:01:33,740 --> 00:01:38,040
again for the first time since the
retirement of the space shuttles in 2011.

22
00:01:38,040 --> 00:01:41,670
And this time when we do it we're doing
it differently than we've ever done it

23
00:01:41,670 --> 00:01:46,140
before, NASA is not going to purchase own
and operate the hardware in fact we're

24
00:01:46,140 --> 00:01:50,970
going to be a customer we're gonna buy a
service and our goal here is to be one

25
00:01:50,970 --> 00:01:56,820
customer of many customers driving down
the cost and increasing the access to

26
00:01:56,820 --> 00:02:02,220
space in a very robust commercial
marketplace for human spaceflight in

27
00:02:02,220 --> 00:02:06,299
low-earth orbit, but we don't just want
to be one customer of many customers we

28
00:02:06,299 --> 00:02:12,450
also want ultimately to have numerous
providers that are competing on cost and

29
00:02:12,450 --> 00:02:15,290
innovation
and because we have that capability

30
00:02:15,290 --> 00:02:21,630
developing right now of which Demo-1 is a
critical I don't want to say first step

31
00:02:21,630 --> 00:02:25,350
but it's a critical step in the
eventuality of launching Americans

32
00:02:25,350 --> 00:02:29,070
again from our own soil because we have
that capability we're going to have more

33
00:02:29,070 --> 00:02:33,740
access to space at a better cost than at
any point in human history, and we want

34
00:02:33,740 --> 00:02:38,420
to continue this progress. I want to say
thank you to Bob Cabana, a lot of you

35
00:02:38,420 --> 00:02:42,480
here might be local media and it is
absolutely true that with the retirement

36
00:02:42,480 --> 00:02:45,780
of the space shuttles and the
cancellation of Constellation, this

37
00:02:45,780 --> 00:02:50,070
Center was devastated, but because of the
activities that have been going on here

38
00:02:50,070 --> 00:02:54,780
under Bob's leadership and previous NASA
administrators, this center, the Kennedy

39
00:02:54,780 --> 00:02:59,070
Space Center is thriving and in fact
it's growing and we've got commercial

40
00:02:59,070 --> 00:03:03,570
launches not just Boeing and SpaceX but
in the not-too-distant future we're

41
00:03:03,570 --> 00:03:08,160
going to be launching the SLS with the
Orion crew capsule on a deep-space

42
00:03:08,160 --> 00:03:11,459
mission all the way to the moon. So we
have a lot under development right now,

43
00:03:11,459 --> 00:03:14,970
in fact, you could argue we've got more
under development right now than at any

44
00:03:14,970 --> 00:03:20,850
time even during the Apollo era, so this
is a great time for American space

45
00:03:20,850 --> 00:03:25,350
flight. I also want to say this and it's
an important point, we have had amazing

46
00:03:25,350 --> 00:03:31,680
support from the administration with the
budget requests for NASA, in fact, the

47
00:03:31,680 --> 00:03:35,790
president's first budget request took
NASA's budget up 1 billion dollars which

48
00:03:35,790 --> 00:03:39,690
was over a five percent increase and by
the time I got sworn in as the NASA

49
00:03:39,690 --> 00:03:44,459
Administrator bipartisan support in the
House of Representatives and in the

50
00:03:44,459 --> 00:03:48,720
Senate gave us an increase of one point
seven billion dollars an eight percent

51
00:03:48,720 --> 00:03:53,700
increase in NASA's budget. We haven't
seen this level of strong bipartisan

52
00:03:53,700 --> 00:03:58,380
support and administration support in a
long time. So with all of this support

53
00:03:58,380 --> 00:04:02,730
and with these commercial capabilities
that have been developing here on the

54
00:04:02,730 --> 00:04:06,959
Space Coast, we are in a great position
right now and tonight is going to be a

55
00:04:06,959 --> 00:04:12,989
great moment a great achievement in this
future of space exploration and the

56
00:04:12,989 --> 00:04:17,700
future of space development that
includes launching commercial where NASA

57
00:04:17,700 --> 00:04:21,180
is a customer and we have numerous
providers competing on cost and

58
00:04:21,180 --> 00:04:25,140
innovation. So with that, I think we'll
just open it up for questions and we

59
00:04:25,140 --> 00:04:28,920
have some very special guests here that
can maybe even entertain a few of those

60
00:04:28,920 --> 00:04:39,100
questions themselves. Hello I think we're
asking from over here. Oh, we've got a line.

61
00:04:39,200 --> 00:04:43,820
Marsha Dunne AP for Doug and Bob, please
what's it like to be next in line for

62
00:04:43,830 --> 00:04:49,950
flying a Dragon? And capsule splashdowns
it's all so retro, it's back to the

63
00:04:49,950 --> 00:04:54,360
future, could you sort of talk about that
too? Alright I'll take the first part and

64
00:04:54,360 --> 00:05:00,090
maybe Bob will take the second. Next
in line is pretty exciting obviously as

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00:05:00,090 --> 00:05:04,350
the administrator said this is kind of
the next critical step in putting people

66
00:05:04,350 --> 00:05:08,370
on Dragon so we've got this flight and
then we've got the in-flight abort and

67
00:05:08,370 --> 00:05:14,310
then and then ideally our flight soon to
follow, so I can't begin to explain to

68
00:05:14,310 --> 00:05:19,590
you how exciting it is for a test pilot
to be on a first flight of a vehicle and

69
00:05:19,590 --> 00:05:25,770
you know we'll be ready when SpaceX and
NASA is ready for us to fly it.

70
00:05:25,770 --> 00:05:29,160
I think for both of us as Doug mentioned there's something really exciting about being

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00:05:29,160 --> 00:05:33,480
first, getting to fly a crewed mission
kind of coming out of this and we're

72
00:05:33,480 --> 00:05:36,960
gonna do it like you said, the the old
school way. We both landed on shuttles

73
00:05:36,960 --> 00:05:40,890
smoothly at the the runway here, I think
for both of us on both of our shuttle

74
00:05:40,890 --> 00:05:45,780
flights and so really excited to be
on this flight and to to take the

75
00:05:45,780 --> 00:05:48,810
splashdown at the end. I think Suni
Williams described it the best, it was

76
00:05:48,810 --> 00:05:52,620
the one experience that none of the
original group of us as Commercial Crew

77
00:05:52,620 --> 00:05:57,360
cadre had under our belts was landing in
a capsule, and so we're looking looking

78
00:05:57,360 --> 00:06:04,050
forward to that. Hi I'm Stephen Clark
from Space Flight Now for Doug and Bob

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00:06:04,050 --> 00:06:09,210
as well, if you could speak a little bit
about what you're gonna be doing during

80
00:06:09,210 --> 00:06:12,780
the countdown tonight and we're gonna
watch the launch from are you gonna be

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00:06:12,780 --> 00:06:17,090
doing any practicing like it's gonna be
the real launch day for you guys or just

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00:06:17,090 --> 00:06:21,810
spectators? And also have you had a
chance to strap into this particular

83

00:06:21,810 --> 00:06:25,919
Crew Dragon to go inside and look around
and giving your impressions of what

84

00:06:25,919 --> 00:06:30,270
Ripley will experience during the launch?
Yeah, we we have not been in this

85

00:06:30,270 --> 00:06:35,310
particular vehicle although prior to the
hot fire we were out at the pad on the

86

00:06:35,310 --> 00:06:39,450
swingarm and at least got near it,
but we haven't actually haven't been in

87

00:06:39,450 --> 00:06:42,790
the vehicle although Bob was here
for the CEIT so he might be able to tell

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00:06:42,790 --> 00:06:47,139
you a little bit more. We're gonna be in
Firing Room 4 for the launch itself

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00:06:47,139 --> 00:06:50,820
listening along with the team and kind
of keying on the things that would be

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00:06:50,820 --> 00:06:55,930
relatively important to us, you know the
timing for the fuelling and the

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00:06:55,930 --> 00:06:59,410

different things when we strap in all those different events, so just kind of

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00:06:59,410 --> 00:07:02,889

keying in to what the team's doing at those times. We've been here before for

93

00:07:02,889 --> 00:07:06,729

hot fires and for launches, so we've kind of gotten used to the cadence of their

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00:07:06,729 --> 00:07:11,350

team as they launch their Falcon 9 so this will be just one more step in kind

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00:07:11,350 --> 00:07:16,240

of familiarizing ourselves with that that event. I think we're taking the

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00:07:16,240 --> 00:07:20,229

opportunity with this this demo flight to learn all that we can in preparation

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00:07:20,229 --> 00:07:24,190

for our upcoming crewed flight so one of the things that we'll have to do is

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00:07:24,190 --> 00:07:27,970

understand our role as a part of the team that pulls off this, this

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00:07:27,970 --> 00:07:32,080

spaceflight endeavor and so part of that is understanding what happens inside the

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00:07:32,080 --> 00:07:36,940

firing room, what happens out at Hawthorne for the spacecraft control so

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00:07:36,940 --> 00:07:40,990

we'll be chasing the spacecraft down in
some sense we'll be racing from here

102

00:07:40,990 --> 00:07:44,289

cross-country to get out to Hawthorne
for the docking, and then we'll both be

103

00:07:44,289 --> 00:07:47,710

in place in Hawthorne to follow along
with entry for this vehicle and it

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00:07:47,710 --> 00:07:51,910

really is our chance to not be on board
but be with the rest of the team that'll

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00:07:51,910 --> 00:07:56,590

support us when we actually fly this
vehicle when Demo-2 comes around. I was

106

00:07:56,590 --> 00:08:00,729

able to be inside of the Demo-1
capsule a few months back as a part of

107

00:08:00,729 --> 00:08:04,690

the kind of a crew exercise to check the
interfaces out that the crew on orbit

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00:08:04,690 --> 00:08:08,530

will have to operate to make this
mission successful when it gets to the

109

00:08:08,530 --> 00:08:12,340

International Space Station. It was a
really neat experience not everything

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00:08:12,340 --> 00:08:16,840

was exactly as it is right now, it's
continued to get polished in some sense

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00:08:16,840 --> 00:08:20,470

to make it as successful as it can be
when it gets to the Space Station so

112

00:08:20,470 --> 00:08:24,400

definitely excited to have been in a
space ship that's headed towards the

113

00:08:24,400 --> 00:08:29,770

International Space Station later
tonight. Hi, Jeff Foust Space News, this

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00:08:29,770 --> 00:08:33,880

question for the Administrator, what's
your level of confidence that either

115

00:08:33,880 --> 00:08:37,690

Crew Dragon and/or Boeing Starliner is
going to be ready to start flying people

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00:08:37,690 --> 00:08:43,479

by the end of the year safely and then
also what's the status of the review of

117

00:08:43,479 --> 00:08:46,600

the safety culture of the Commercial
Crew program that you plan, you

118

00:08:46,600 --> 00:08:51,010

announced a few months back would be
undertaken? So number one, I would say I'm

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00:08:51,010 --> 00:08:53,620

very confident in fact you can write in
your article I'm a hundred percent

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00:08:53,620 --> 00:08:56,540

confident, because
as far as I'm concerned, you're either for it

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00:08:56,540 --> 00:09:02,460

or you're not and I think we're going to get it done. As far as the, you know the the

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00:09:02,470 --> 00:09:06,519

safety review that's underway this is for both contractors, NASA has a long

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00:09:06,519 --> 00:09:10,540

history, we've been through accidents, we've seen them before, and we want to

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00:09:10,540 --> 00:09:15,399

make sure that that culture that we have developed over the years as a result of

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00:09:15,399 --> 00:09:20,680

those incidents, not just applies to our agency but also applies to our

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00:09:20,680 --> 00:09:27,730

contractors. I'm certainly not going to prejudge any any of the results of that.

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00:09:27,730 --> 00:09:31,660

I will tell you that I'm highly confident that our contractors are

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00:09:31,660 --> 00:09:35,529

complying with the terms of their contract and I expect that we will find

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00:09:35,529 --> 00:09:39,339

that their culture is very safe and we look forward to revealing that when the

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00:09:39,339 --> 00:09:47,829

time is right. Hi, Marina Corn from the Atlantic, this is a question for the crew.

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00:09:47,829 --> 00:09:53,920

I want to ask about your training inside Crew Dragon versus Shuttle or Soyuz

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00:09:53,920 --> 00:09:57,430

because the inside of Dragon looks really sleek and like something out of a

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00:09:57,430 --> 00:10:00,640

movie, but some of your previous experiences you've just been faced with

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00:10:00,640 --> 00:10:03,700

wall to wall switches and buttons. I'm wondering if you can compare

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00:10:03,700 --> 00:10:13,209

your experiences between the two. Yeah, as Colonel Cabana can testify, 2,000

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00:10:13,209 --> 00:10:17,100

switches and circuit breakers inside the space shuttle, this vehicle has on the

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00:10:17,100 --> 00:10:21,620

order of about 30 buttons that are hard, hardware buttons and everything else is

138

00:10:21,630 --> 00:10:26,260

interacted with the vehicle via the touchscreen. So it's, it's an incredibly

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00:10:26,260 --> 00:10:32,230

sleek looking vehicle from the inside and it's very easy to operate from the

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00:10:32,230 --> 00:10:35,709

crew interface perspective relative to what we were used to with shuttle so

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00:10:35,709 --> 00:10:41,560

much easier, a lot less errors that the crew can make. The shuttle was very easy

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00:10:41,560 --> 00:10:44,949

you had switches literally right next to each other and if you threw the wrong

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00:10:44,949 --> 00:10:48,670

one you could make your day a lot worse rather than a lot better and it's just

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00:10:48,670 --> 00:10:51,760

so much more intuitive in this vehicle. So they did a really nice job of kind of

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00:10:51,760 --> 00:10:59,980

setting it up for the crew to be successful. If it's alright I'd like to

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00:10:59,980 --> 00:11:03,640

to address that as well and this is an important point remember the goal here

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00:11:03,640 --> 00:11:08,050

for NASA is to be one customer of many customers

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00:11:08,050 --> 00:11:13,750

in a robust commercial marketplace and because of that objective we we we have

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00:11:13,750 --> 00:11:17,850

numerous providers that are competing on cost and innovation and they are

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00:11:17,850 --> 00:11:24,160

preparing for a future where customers are not NASA. Those customers could be, it

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00:11:24,160 --> 00:11:28,959

could be foreign sovereign countries, it could be individuals that want to go to

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00:11:28,959 --> 00:11:33,010

space and so what has happened here is we have one of our providers that has

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00:11:33,010 --> 00:11:38,350

developed a crew capsule that looks as much as possible like the inside of the

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00:11:38,350 --> 00:11:44,260

cabin of a commercial airliner, which is a development that took place not

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00:11:44,260 --> 00:11:49,209

because NASA had a requirement but because NASA is a customer and in a in a

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00:11:49,209 --> 00:11:52,769

robust commercial marketplace of the future where there will be other

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00:11:52,769 --> 00:11:57,670

commercial customers for this kind of activity. So that's why I think that the

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00:11:57,670 --> 00:12:04,450

capsule has this very different look than those of the past. Hello, Tim Fernholz

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00:12:04,450 --> 00:12:08,589

from Quartz another question for the Administrator, in your previous job

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00:12:08,589 --> 00:12:12,279

in Congress you were a big advocate for the public/private partnerships and the

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00:12:12,279 --> 00:12:16,000

kind of commercial activity you're talking about right now. I'm curious if

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00:12:16,000 --> 00:12:20,170

you wanted to reflect now that we're just at the moment before the launch, how

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00:12:20,170 --> 00:12:23,620

has the last couple years been for you seeing this program come to maturity and

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00:12:23,620 --> 00:12:27,700

you know you were talking a minute ago about the bipartisan support for it, why

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00:12:27,700 --> 00:12:31,120

has it attracted so much support now after maybe being controversial earlier

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00:12:31,120 --> 00:12:35,440

on? So I think it, I think people have seen the success they're seeing when I

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00:12:35,440 --> 00:12:40,810

say success not just commercial partners launching things into space but they're

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00:12:40,810 --> 00:12:45,190

also seeing the driving down of cost and the increasing of access they're

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00:12:45,190 --> 00:12:50,350

starting to see a more robust commercial marketplace. The thing that's important

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00:12:50,350 --> 00:12:53,410

for me is the administrator is to consider what the president has tasked

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00:12:53,410 --> 00:12:58,510

me with doing. I've been tasked to go
back to the Moon sustainably in other

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00:12:58,510 --> 00:13:01,120

words, this time when we go to the Moon
we're going to stay. That doesn't mean

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00:13:01,120 --> 00:13:04,360

we're going to necessarily have a
permanent human presence on the surface

174

00:13:04,360 --> 00:13:07,720

of the Moon, but we're going to have
permanent access to the surface of the

175

00:13:07,720 --> 00:13:13,320

Moon with landers and rovers and robots
and humans in, in and in this access

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00:13:13,320 --> 00:13:16,800

we're going to have more access to more
parts of the Moon than ever before

177

00:13:16,810 --> 00:13:19,500

because of Gateway. In other words, we're
going to be able to get to the poles

178

00:13:19,510 --> 00:13:22,450

where there are we now know that there
are

179

00:13:22,450 --> 00:13:25,510

hundreds of millions of tons of of
water-ice.

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00:13:25,510 --> 00:13:32,290

Here's the point in all of this. We
really have you know one exploration

181

00:13:32,290 --> 00:13:37,600

campaign with humans but we have three theaters. We have low Earth orbit, we have

182

00:13:37,600 --> 00:13:41,860

the Moon and we have Mars and when we think about those three theaters each

183

00:13:41,860 --> 00:13:47,200

one of them has requirements for funding and if we can commercialize as much as

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00:13:47,200 --> 00:13:50,710

possible our activities in low Earth orbit we can drive down the costs and

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00:13:50,710 --> 00:13:55,600

then we can spend our resources provided by the taxpayer to do things for which

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00:13:55,600 --> 00:13:59,440

there is not yet a commercial marketplace but where we believe there

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00:13:59,440 --> 00:14:03,700

will be an eventual commercial marketplace. That being cislunar space and

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00:14:03,700 --> 00:14:08,710

the surface of the Moon. So I was an advocate for commercial in the House of

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00:14:08,710 --> 00:14:12,700

Representatives that does not mean I was not an advocate for what the government

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00:14:12,700 --> 00:14:17,920

is doing as well and SLS and Orion are a critical piece of the architecture for

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00:14:17,920 --> 00:14:23,440

this entire this entire exploration
campaign which includes low Earth orbit

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00:14:23,440 --> 00:14:29,860
cislunar space and eventually Mars. So
again the goal here is is to fund the

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00:14:29,860 --> 00:14:34,150
entire package with international
partners which by the way we're working

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00:14:34,150 --> 00:14:37,570
really hard to grow the international
partnership and I know a lot of you guys

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00:14:37,570 --> 00:14:41,290
covered yesterday the fact that we had
this great announcement with Canada

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00:14:41,290 --> 00:14:45,490
joining us for the next 24 years in our
exploration of the Moon, which is

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00:14:45,490 --> 00:14:49,840
fantastic, we're thrilled about that
announcement, but we need international

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00:14:49,840 --> 00:14:52,960
partners we need them to grow the
partnership we need more international

199

00:14:52,960 --> 00:14:56,890
partners. There's now more space agencies
on the surface of the planet than ever

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00:14:56,890 --> 00:15:00,850
before and we also need more commercial
partners folks that are willing to step

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00:15:00,850 --> 00:15:04,540

up and partner with us as you mentioned
the public-private partnership where

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00:15:04,540 --> 00:15:08,530

they have they can take advantage of
their own opportunities apart from just

203

00:15:08,530 --> 00:15:12,960

providing services to the United States
government. So the whole architecture

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00:15:12,970 --> 00:15:17,460

commercial and government together
putting all of it together is ultimately

205

00:15:17,470 --> 00:15:24,430

what's going to make it possible. Hi this
is Diana from Real Clear Media my

206

00:15:24,430 --> 00:15:27,730

question is for the crew or the
administrator, if you could give us some

207

00:15:27,730 --> 00:15:32,140

insight about what's been different
about the preparations for this unique

208

00:15:32,140 --> 00:15:36,070

launch as opposed to others, do you treat
this like there are astronauts

209

00:15:36,070 --> 00:15:39,009

on board, can you just give a little insight
into what that process has been like

210

00:15:39,009 --> 00:15:44,889

getting ready for this? Wow that's a
tough one, when you've gone down the

211

00:15:44,889 --> 00:15:48,759

list 1 2 & 3 and I ended up with that question. So I guess the way I would

212

00:15:48,759 --> 00:15:53,110

describe it as you as you look at the Demo-1 vehicle and you compare that to

213

00:15:53,110 --> 00:15:56,769

the in-flight abort vehicle or the Demo-2 vehicle, we have to take the lessons that

214

00:15:56,769 --> 00:16:01,959

we can from this ship and see whether or not they apply to our mission or if the

215

00:16:01,959 --> 00:16:04,779

data that we can collect from this mission is important enough in other

216

00:16:04,779 --> 00:16:08,380

areas that maybe we would accept something that isn't quite the same way

217

00:16:08,380 --> 00:16:11,829

that we would do it for Demo-2, maybe that's a long way to describe it but

218

00:16:11,829 --> 00:16:16,180

what the kind of the crux of the issue is that this is a test flight the

219

00:16:16,180 --> 00:16:20,199

in-flight abort vehicle will be a test flight, our flight to the International

220

00:16:20,199 --> 00:16:24,160

Space Station will be a test flight in preparation for the mission that that

221

00:16:24,160 --> 00:16:27,310

these two guys along with a two
additional most likely international

222

00:16:27,310 --> 00:16:30,819
partner astronauts will actually
undertake when they go for a six-month

223

00:16:30,819 --> 00:16:34,820
increment and so this is a bit of a
shakeout cruise, we'll be the final shakeout

224

00:16:34,820 --> 00:16:37,630
cruise before their their long-term
mission onboard the International Space

225

00:16:37,630 --> 00:16:43,240
Station. I just like to add to that a
little bit too, when you talk about the

226

00:16:43,240 --> 00:16:47,800
cadence and how we set up for this, you
know it was last week early in the week

227

00:16:47,800 --> 00:16:52,140
we had a flight test readiness review
that the Commercial Crew program hosted

228

00:16:52,149 --> 00:16:57,320
in preparation for the agency Flight
Readiness review that Bill Gerstenmaier

229

00:16:57,329 --> 00:17:05,500
chaired here over at OSB II a week ago
Friday, a week ago today, you know that's

230

00:17:05,500 --> 00:17:09,880
the same team that we brought together
with some minor differences that we did

231

00:17:09,880 --> 00:17:13,540

for shuttle missions and we're getting into that cadence in fact we all

232

00:17:13,540 --> 00:17:17,679

commented it was great to have everybody back at the Kennedy Space Center for a

233

00:17:17,679 --> 00:17:21,189

Flight Readiness review. One of the great things about this test flight is there

234

00:17:21,189 --> 00:17:24,760

are some differences it's not exactly the way we did shuttle it's not exactly

235

00:17:24,760 --> 00:17:28,720

the way we do cargo or launch services program missions when we do the

236

00:17:28,720 --> 00:17:33,580

readiness reviews, so we're setting up our procedures and processes to prepare

237

00:17:33,580 --> 00:17:36,850

us this is a great learning event all the way through as we work through all

238

00:17:36,850 --> 00:17:40,960

the issues that we have to clear everything for readiness for this flight

239

00:17:40,960 --> 00:17:44,830

and prepare the next step we're actually putting crew on board we're figuring out

240

00:17:44,830 --> 00:17:48,580

how we're going to do that for this program and we've taken some of how we

241

00:17:48,580 --> 00:17:51,700

did shuttle we've taken
from other areas the way we do things

242

00:17:51,700 --> 00:17:56,739
and we're setting up those procedures
now. So I think you know we know how to

243

00:17:56,739 --> 00:17:59,919
do this, we know how to work through the
issues we know how to hold the reviews

244

00:17:59,919 --> 00:18:04,029
we know how to determine what needs to
get done safely in order to make it

245

00:18:04,029 --> 00:18:07,269
successful and what we learn from this
we'll go back into the next set of

246

00:18:07,269 --> 00:18:10,570
reviews we'll make some modifications
and we'll do it even better after having

247

00:18:10,570 --> 00:18:16,090
had this test flight. So this isn't just
a test flight of the vehicle it's a test

248

00:18:16,090 --> 00:18:19,899
flight of the entire leadership
management team many of those folks who

249

00:18:19,899 --> 00:18:23,440
weren't here for shuttle, so we kind of
got to set it up again and teach those

250

00:18:23,440 --> 00:18:27,159
folks how to do this as we work through
it. So this has just been a great

251

00:18:27,159 --> 00:18:30,929

experience so far getting to this point

252

00:18:36,299 --> 00:18:41,950

This question is for Doug, eight years ago you were on the last shuttle mission and you'll be on the

253

00:18:41,950 --> 00:18:45,879

first Crew Dragon mission

what's your sentiment like in being able

254

00:18:45,880 --> 00:18:54,400

to connect it to important flights into

important areas in the US space exploration history?

255

00:18:54,400 --> 00:19:00,700

You know it, it's it's not the easiest question to answer I mean it it was the only thing

256

00:19:00,700 --> 00:19:04,869

you can say is it's just great to have grown up in this country and had that

257

00:19:04,869 --> 00:19:08,799

opportunity and and been able to to participate in the last flight of the

258

00:19:08,799 --> 00:19:12,519

Space Shuttle, which in and of itself was just incredible to be part of that whole

259

00:19:12,519 --> 00:19:17,679

experience that whole year process of how we did what we did and then

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00:19:17,679 --> 00:19:23,229

eventually flew the mission. And since then it's kind of felt like trying to

261

00:19:23,229 --> 00:19:28,029

get us back to a point where the United States could fly humans in space again

262

00:19:28,029 --> 00:19:33,789

and I kind of felt like that was something that was important to me to do

263

00:19:33,789 --> 00:19:39,820

before I did something else with my life and and once again I think it's just a

264

00:19:39,820 --> 00:19:43,749

case of you know I was in the right spot at the right time and had the right

265

00:19:43,749 --> 00:19:48,759

qualifications to be selected to be in this flight and it's a tremendous

266

00:19:48,760 --> 00:19:54,909

tremendous honor and and I take it very seriously every day I try not to think

267

00:19:54,909 --> 00:19:59,500

about it too much because you know the focus that Bob and I and Mike and Victor

268

00:19:59,500 --> 00:20:03,730

have right now is just Demo-1 then In-flight Abort

269

00:20:03,730 --> 00:20:08,019

then Demo-2 and then as Bob said earlier getting these guys up there for six

270

00:20:08,019 --> 00:20:12,880

months for an expedition and so that's what we've been doing and and frankly

271

00:20:12,880 --> 00:20:15,519

I've been part of the Commercial Crew program in some way shape or form

272

00:20:15,519 --> 00:20:22,389

basically since I landed on Atlantis almost eight years ago so it'll be

273

00:20:22,389 --> 00:20:27,039

really neat to finally get dragged in in space and get to the Space Station again

274

00:20:27,039 --> 00:20:31,389

but it's it's it's a great thing for NASA it's a great thing for SpaceX and

275

00:20:31,389 --> 00:20:34,529

it's a great thing for the United States.

276

00:20:35,639 --> 00:20:41,620

Hi guys, Phil Keating Fox News Channel Victor and Mike good news you finally

277

00:20:41,620 --> 00:20:46,360

get to chime, (about time) but the question is question is for all four of you you know

278

00:20:46,360 --> 00:20:50,169

the only thing on board is the mannequin Ripley but it's loaded with sensors

279

00:20:50,169 --> 00:20:54,340

which are really about your own safety in the future, how impressed and

280

00:20:54,340 --> 00:20:59,529

confident are you with SpaceX and its relationship with NASA here that you

281

00:20:59,529 --> 00:21:04,899

would you actually be willing to be on board for this maiden voyage, why and why

282

00:21:04,899 --> 00:21:16,090
not? So that's a tough question as well
right because as we prepared for the the

283
00:21:16,090 --> 00:21:19,600
DM-1 mission of course it was done
knowing that there weren't crew on board

284
00:21:19,600 --> 00:21:25,269
and and so like everything that's that's
been going on over the past eight nine

285
00:21:25,269 --> 00:21:29,139
years with Commercial Crew it's been a
partnership between SpaceX and it's been

286
00:21:29,139 --> 00:21:33,130
a partnership with NASA and the safety
teams and the engineering teams and all

287
00:21:33,130 --> 00:21:36,669
of them evaluating this this particular
vehicle and making sure it's ready for

288
00:21:36,669 --> 00:21:42,039
this particular milestone and this
particular milestone doesn't include

289
00:21:42,039 --> 00:21:47,769
crew and and I think there's important
reasons why we don't put if we can if we

290
00:21:47,769 --> 00:21:51,610
don't have to put crew on something of a
first flight like this for safety

291
00:21:51,610 --> 00:21:57,460
reasons and and I think that's smart. So
in terms of, if we were going to be on

292

00:21:57,460 --> 00:22:02,160

that I think it there it would probably
be a little bit different process

293

00:22:02,160 --> 00:22:06,780

getting to this point maybe you'd reevaluate
some of the risks a little bit differently and so

294

00:22:06,789 --> 00:22:11,760

I think if if we were a part of the plan
I think we would be ready for that and

295

00:22:11,769 --> 00:22:17,700

we'd be ready to go. Anyone else?

296

00:22:19,379 --> 00:22:22,839

So first, I apologize for the glare
coming off my head it's a little warm

297

00:22:22,839 --> 00:22:25,839

out here but so I'm gonna answer your
question directly first and say no

298

00:22:25,839 --> 00:22:29,079

because we've we've learned something
you've got a group of folks up here all

299

00:22:29,079 --> 00:22:33,940

the training and experience that's up
here as developmental flight testers and

300

00:22:33,940 --> 00:22:37,209

even though I'm the rookie in the group
I'm still a test pilot for military test

301

00:22:37,209 --> 00:22:39,969

pilot as well and we understand the
importance of that build-up approach and

302

00:22:39,969 --> 00:22:43,959

so if we were to put a crew on that I
can tell you this we wouldn't be having

303

00:22:43,959 --> 00:22:46,779

this press conference right now we may
fly our first flight you know you're

304

00:22:46,779 --> 00:22:50,440

probably referring back to the shuttle
and in that era and if we were to try to

305

00:22:50,440 --> 00:22:54,909

do it with that approach it would take
us a lot longer so I'm very happy that

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00:22:54,909 --> 00:22:58,179

we're doing it this way and that we're
gonna get Bob and Doug up there to

307

00:22:58,179 --> 00:23:01,269

finish shaking out and the in-flight
abort and make sure that we're ready to

308

00:23:01,269 --> 00:23:06,789

go when we do a long-duration mission so
no. But Bob did you and do you anticipate

309

00:23:06,789 --> 00:23:14,349

any nervousness the next you know this
summer ideally. Like I guess that part of

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00:23:14,349 --> 00:23:17,469

the reason that we're in the job that
we're in is that we tend to get nervous

311

00:23:17,469 --> 00:23:22,029

kind of after the fact rather than in
the moment they do their best from a

312

00:23:22,029 --> 00:23:25,509

training perspective to try to beat that
all out of you by giving you a lot of

313

00:23:25,509 --> 00:23:29,679

experiences before you jump into the
actual spaceship and ride it into space

314

00:23:29,679 --> 00:23:33,879

and I remember on my first shuttle
launch we did have an anomaly right off

315

00:23:33,879 --> 00:23:38,049

the pad and we were flying through a
cloud deck and there was a lot of orange

316

00:23:38,049 --> 00:23:41,529

light coming through the through the
windows and so when those two things

317

00:23:41,529 --> 00:23:45,190

happen an anomaly and the orange light
coming through you start to think about

318

00:23:45,190 --> 00:23:50,199

whether or not those are confirming cues
of badness you know and I remember going

319

00:23:50,199 --> 00:23:53,799

through that moment and really having
just a fraction of a second where you

320

00:23:53,799 --> 00:23:56,889

know you could be scared but really
thinking internally that well I hope

321

00:23:56,889 --> 00:24:00,519

everything was done that could be done
because we're still heading in the

322

00:24:00,519 --> 00:24:03,069

direction that we're headed and so there was there was really nothing I could do

323

00:24:03,069 --> 00:24:07,299

at that point being nervous wasn't going to help. Definitely ten days later when

324

00:24:07,299 --> 00:24:10,959

our whole ascent flight deck space shuttle crew played back the video of

325

00:24:10,959 --> 00:24:14,949

that moment that's when we all went through the nervousness of the actual

326

00:24:14,949 --> 00:24:18,999

situation and we realized that was a little bit strange that wasn't what we

327

00:24:18,999 --> 00:24:23,199

were expecting, the separation from the external tank didn't go the way that we

328

00:24:23,199 --> 00:24:27,129

expected it to but we lived through it real time and and it just was something

329

00:24:27,129 --> 00:24:30,430

that we processed and executed and then got scared

330

00:24:30,430 --> 00:24:34,570

several days later when we actually played back the tape. Just to answer the

331

00:24:34,570 --> 00:24:38,980

question that you would initially ask I think that the process that Colonel

332

00:24:38,980 --> 00:24:43,390

Cabana outlined earlier included our SpaceX partners and so I think they

333

00:24:43,390 --> 00:24:46,840

would acknowledge that they have more work going forward in preparation for

334

00:24:46,840 --> 00:24:50,620

the Demo-2 flight that we'll be on I'm sure there'll be work that is a part of

335

00:24:50,620 --> 00:24:53,650

that in-flight abort mission as well that they want to accomplish before they

336

00:24:53,650 --> 00:24:58,000

fly that one and so I think as a team we would all agree that we probably aren't

337

00:24:58,000 --> 00:25:01,660

ready for the Demo-2 mission. We expect to get a lot of data from this one that

338

00:25:01,660 --> 00:25:05,110

will provide us with a better understanding of what we face when we

339

00:25:05,110 --> 00:25:08,920

jump into that actual test flight in preparation for the expedition crews

340

00:25:08,920 --> 00:25:12,640

that come after us but I think as a team including SpaceX

341

00:25:12,640 --> 00:25:16,150

we would say that hey this is not Demo-2 this is this is Demo-1 and that's what

342

00:25:16,150 --> 00:25:24,280

we assessed. Mike Wallace space.com,
going back to a couple questions ago I

343

00:25:24,280 --> 00:25:29,500

mean, now this is gonna be a flight off of Pad 39a

344

00:25:29,500 --> 00:25:33,070

and I mean we've seen the Shuttle go off
of that many times I mean, yeah I

345

00:25:33,070 --> 00:25:36,370

just wonder if this upcoming milestone
kind of occasions any introspection

346

00:25:36,370 --> 00:25:39,130

about what the Shuttle meant and kind of
what it meant to this country what it

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00:25:39,130 --> 00:25:42,730

was able to achieve so I mean you know
some of you guys have actually

348

00:25:42,730 --> 00:25:45,550

flown in the shuttle so so I'm just
wondering if if you have any feelings

349

00:25:45,550 --> 00:25:49,240

about that if it kind of brings anything
up about but what the legacy is and so on.

350

00:25:49,240 --> 00:25:52,900

Well first off, this pad has an awesome

351

00:25:52,900 --> 00:25:56,380

legacy like I said earlier you know I
mean all the flights that went to the

352

00:25:56,380 --> 00:26:00,250

moon launched off this pad but this
isn't the first launch off this pad

353

00:26:00,250 --> 00:26:04,990

since the shuttle launched you know
SpaceX has launched I think 13 times off

354

00:26:04,990 --> 00:26:08,560

this pad they've launched the Falcon
Heavy they launched 12 Falcon nines

355

00:26:08,560 --> 00:26:14,260

they had cargo to the International
Space Station, to me it's just it's an

356

00:26:14,260 --> 00:26:19,840

excellent use of a national resource to
be able to repurpose it so it just

357

00:26:19,840 --> 00:26:23,860

doesn't sit idle out there rusting away
in the salt air I mean how much better

358

00:26:23,860 --> 00:26:27,160

could that be, and you know from a
Shuttle point of view,

359

00:26:27,160 --> 00:26:32,170

hey the shuttle was an absolutely
amazing vehicle and we talk about

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00:26:32,170 --> 00:26:36,400

reusable vehicles I mean the shuttle was
reusable for 30 years. We were reused

361

00:26:36,400 --> 00:26:40,510

the orbiter the engines the solid rocket
motors the only thing we didn't reuse

362

00:26:40,510 --> 00:26:45,730

was the external tank. So you know what
you know the International Space Station

363

00:26:45,730 --> 00:26:48,940

we couldn't have built it without the shuttle. I think it was just a

364

00:26:48,940 --> 00:26:54,700

tremendous program but that's the past and what we gotta focus on is the future

365

00:26:54,700 --> 00:26:58,720

we got to focus on commercializing low Earth orbit. The shuttle was too

366

00:26:58,720 --> 00:27:02,830

expensive for a commercial company to run and operate and make a profit that

367

00:27:02,830 --> 00:27:06,580

was a national asset a national program a government program with these

368

00:27:06,580 --> 00:27:10,960

commercial rockets we now have the ability to commercialize low Earth orbit

369

00:27:10,960 --> 00:27:14,620

and allow NASA to do that really critical job of exploring beyond our

370

00:27:14,620 --> 00:27:19,000

home planet to do the expense of work to lay the groundwork in cooperation with

371

00:27:19,000 --> 00:27:24,880

our commercial partners so you know what does it mean to me, it means we're making

372

00:27:24,880 --> 00:27:29,049

use of an awesome asset that this nation has here at the

373

00:27:29,049 --> 00:27:39,730

Kennedy Space Center and I'm just happy to see rockets flying off it.

374

00:27:39,730 --> 00:27:43,870

I'm hoping you can take us a little bit behind the scenes of what you all are thinking as

375

00:27:43,870 --> 00:27:48,399

we're getting closer to this this is a first you know a first for SpaceX, what

376

00:27:48,400 --> 00:27:51,549

is going on in your heads with your families as you're talking about it the

377

00:27:51,549 --> 00:27:56,140

camaraderie you maybe you have with each other, you know as people not just as

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00:27:56,140 --> 00:27:59,160

astronauts participating in this what are you talking to your families about

379

00:27:59,169 --> 00:28:01,720

what are you talking to each other about now is this is becoming really real?

380

00:28:01,720 --> 00:28:08,950

Whoever wants to take it. I don't I don't know if you know this but both Bob and I

381

00:28:08,950 --> 00:28:13,510

are married to astronauts so in a lot of cases it makes the discussions at home a

382

00:28:13,510 --> 00:28:18,130

little easier because they both understand I think what we're kind of

383

00:28:18,130 --> 00:28:22,990

working towards and and what you would deal with on launch day and and you know

384

00:28:22,990 --> 00:28:27,460

I've told Victor this a couple times you know the hardest the hardest job is not

385

00:28:27,460 --> 00:28:32,200

your job it's the spouse watching you launch into space so an appreciation for

386

00:28:32,200 --> 00:28:37,630

that so whatever you can do to include your family in any event and and this is

387

00:28:37,630 --> 00:28:40,480

a little bit unique because especially for Bob and I we've been we've been

388

00:28:40,480 --> 00:28:44,559

traveling across the country for both SpaceX and Boeing for the last three and

389

00:28:44,559 --> 00:28:50,320

a half years working on this program so just to include them in our trips to

390

00:28:50,320 --> 00:28:54,070

California our trips to Huntsville our trips to wherever we went Denver and

391

00:28:54,070 --> 00:28:58,509

here and-and-and-and it could be the most innocuous

392

00:28:58,509 --> 00:29:02,860

things that you had happen or that you saw for the first time and and the

393

00:29:02,860 --> 00:29:07,180

little excitement the first time you do
an ascent in a simulator in a SpaceX

394

00:29:07,180 --> 00:29:11,820

simulator or a Boeing simulator the
first time. It may not seem like that big

395

00:29:11,829 --> 00:29:15,369

a deal but it's a pretty big deal when
you know when we first started this was

396

00:29:15,369 --> 00:29:20,139

just this program was just PowerPoint
charts and now we have we got a vehicle

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00:29:20,139 --> 00:29:24,549

out on the pad so and and they
understand that and I think as much as

398

00:29:24,549 --> 00:29:28,839

you can include your families in this
from start to finish they become just as

399

00:29:28,839 --> 00:29:32,619

invested as you do and they and they
know that it's filled with ups and downs

400

00:29:32,619 --> 00:29:36,489

and and they're along to enjoy it with
you. Anything else? Are you gonna do

401

00:29:36,489 --> 00:29:41,709

anything special as the crew flights get
closer in terms of preparing with each

402

00:29:41,709 --> 00:29:47,079

other and with your families? We we had a
pretty nice little Christmas party with

403

00:29:47,079 --> 00:29:52,569

our families and the four of us and
there was no cameras so I'm not gonna

404

00:29:52,569 --> 00:29:56,979

tell you what happened but it was fun
and then I don't know we're that's we

405

00:29:56,979 --> 00:30:00,399

kind of talked about that the other day
you know there's we have a chance to

406

00:30:00,399 --> 00:30:06,599

develop a tradition for all the crews
that fly on on Dragon and and so that

407

00:30:06,599 --> 00:30:11,109

it's a little bit of a hefty task to
kind of come up with some of this stuff

408

00:30:11,109 --> 00:30:14,589

but maybe that'll just happen naturally
but I think you know that that's kind of

409

00:30:14,589 --> 00:30:18,549

the neat stuff that we that we're
looking forward to continue to do and

410

00:30:18,549 --> 00:30:22,029

kind of pass on down the line to some of
the newer astronauts that are going to

411

00:30:22,029 --> 00:30:28,929

fly these vehicles. I would just maybe
describe every one of these events that

412

00:30:28,929 --> 00:30:33,159

you describe as a special one that we're
getting back into as we try again to get

413

00:30:33,159 --> 00:30:36,639

astronauts flying again off the Florida coast is a one that we look at and try

414

00:30:36,639 --> 00:30:40,749

to understand what opportunities there are to learn from it and so at a recent

415

00:30:40,749 --> 00:30:45,459

cargo mission my wife and I looked at the schedule and looked at what was in

416

00:30:45,459 --> 00:30:48,759

front of us for this mission where I would be in the flight control room and

417

00:30:48,759 --> 00:30:52,569

trying to follow along with that team to consider what we could do as a family to

418

00:30:52,569 --> 00:30:56,889

prepare for for my eventual flight into space and the last time I flew into

419

00:30:56,889 --> 00:31:00,179

space I didn't have a son I didn't have any children and and now I have a

420

00:31:00,179 --> 00:31:05,049

four-year-old and he had not been to a rocket launch before and I didn't want

421

00:31:05,049 --> 00:31:09,999

his first one to be his father launching into space and so we came down here and

422

00:31:09,999 --> 00:31:13,630

we're on the top of the building just across the way and watch

423

00:31:13,630 --> 00:31:18,250

that mission together as a family in preparation for my eventual flight on a

424

00:31:18,250 --> 00:31:22,809

Falcon luckily it was a Falcon 9 mission that was headed to Space Station so

425

00:31:22,809 --> 00:31:26,440

there were a lot of similarities to the mission that I'll fly on and so each one

426

00:31:26,440 --> 00:31:30,429

of these opportunities we look at very carefully at least I do with my spouse

427

00:31:30,429 --> 00:31:34,269

as a family to see hey what can we take away from it technically which is what

428

00:31:34,269 --> 00:31:37,659

I'm gonna do here for the demo mission number one what could we take away from

429

00:31:37,659 --> 00:31:40,360

it from a family you know we had to have the discussion should I wake my son up

430

00:31:40,360 --> 00:31:43,480

in the middle of the night tonight to try to get him to watch this rocket

431

00:31:43,480 --> 00:31:46,389

launch. He's kind of grumpy when you wake him up and so it's a trade-off case

432

00:31:46,389 --> 00:31:50,409

right so I got to make that decision and so having seen this mission we get to

433

00:31:50,409 --> 00:31:57,370

maybe not wake him up in the middle of the night this time around.

434

00:31:57,370 --> 00:32:04,179

We have time for one more question. Hi Irene Klotz with Aviation Week maybe for Doug

435

00:32:04,179 --> 00:32:09,429

if you could put your old crew cadre hat on for a second and I was wondering what

436

00:32:09,429 --> 00:32:15,100

you could have any thoughts or concerns about the prospect of the Boeing crew

437

00:32:15,100 --> 00:32:20,230

flight test turning into an extended station stay and for Mr. Bridenstine

438

00:32:20,230 --> 00:32:24,730

when you expect to make that call since you're now hopefully within 10 months of

439

00:32:24,730 --> 00:32:32,380

that flight. Well there there I know all three of those folks very well obviously

440

00:32:32,380 --> 00:32:37,630

we all do we we see him almost every week at Johnson they're training for a

441

00:32:37,630 --> 00:32:41,139

long-duration mission as we speak. I think they were in the NBL the other day

442

00:32:41,139 --> 00:32:46,720

and they've got a trip to Russia a training trip to Russia soon and you

443

00:32:46,720 --> 00:32:54,399

know that if you can you can think a lot
about whether you know a full

444

00:32:54,399 --> 00:32:57,789

long-duration mission is what will
happen or it'll be kind of maybe a few

445

00:32:57,789 --> 00:33:02,649

months it just kind of depends but
they'll be ready for it. I think going

446

00:33:02,649 --> 00:33:06,880

into this even before we were selected
for those missions they knew that the

447

00:33:06,880 --> 00:33:11,529

Boeing flight might be a longer flight
than potentially the SpaceX flight so I

448

00:33:11,529 --> 00:33:16,779

think they're they're fine you know Mike
Fincke was our boss up until just a few

449

00:33:16,779 --> 00:33:21,549

weeks ago and he's been to Space Station
gosh three times I think so he's more

450

00:33:21,549 --> 00:33:25,630

than qualified to handle any
eventualities in that flight and

451

00:33:25,630 --> 00:33:29,470

you know with Fergie he's been there
several times and and Duke this will be

452

00:33:29,470 --> 00:33:32,680

her first flight but she's she's as
capable as anybody we have in the office

453

00:33:32,680 --> 00:33:41,200

they'll be they'll be great. I would
just say that as it gets closer we're

454

00:33:41,200 --> 00:33:45,310

going to be able to assess what the
needs are and we'll make determinations

455

00:33:45,310 --> 00:33:51,160

based on what those needs are what
Victor talked about earlier as far as a

456

00:33:51,160 --> 00:33:57,790

step-by-step approach there's no reason
to prejudge what is necessary and I

457

00:33:57,790 --> 00:34:00,910

don't I don't have a timeline for you at
this time I know that's probably not the

458

00:34:00,910 --> 00:34:06,130

answer you wanted to receive but at the
end of the day we're gonna have specific

459

00:34:06,130 --> 00:34:10,540

requirements in order to do what we need
to do on the International Space Station

460

00:34:10,540 --> 00:34:13,540

and at the same time we have
requirements I have a requirement to

461

00:34:13,540 --> 00:34:17,440

make sure that the guys behind me are
safe and so we're gonna do we're gonna

462

00:34:17,440 --> 00:34:21,970

do that first. I want to be clear about
this point though and I think Victor

463

00:34:21,970 --> 00:34:27,460

made this point very clear earlier we
are not in a space race like we have no

464

00:34:27,460 --> 00:34:34,090

requirement to go early that race is
over. We went to the Moon and we won it's

465

00:34:34,090 --> 00:34:38,350

done now we're in a position where we
can take our time and make sure we get

466

00:34:38,350 --> 00:34:42,910

it right that's the goal here make sure
we get it right and that's what we

467

00:34:42,910 --> 00:34:55,240

intend to do, thanks. Thank you. I want to
thank you all for coming out today

468

00:34:55,240 --> 00:34:59,560

this is an absolutely exciting time for
NASA for the Kennedy Space Center for

469

00:34:59,560 --> 00:35:04,330

human spaceflight for our nation and I
this is an awesome group back here these

470

00:35:04,330 --> 00:35:09,250

guys are are awful humble but they've
worked really hard to be prepared for

471

00:35:09,250 --> 00:35:14,470

what's coming up now and I gotta admit I
really envy them, I told them walking out

472

00:35:14,470 --> 00:35:18,040

I'd trade places with them and they said
not on your life you know that's it so I

473

00:35:18,040 --> 00:35:21,550

hope you all enjoy the launch tonight

it's going to be fantastic