is it a great-looking group or what huh

how about it so welcome to the Kennedy

Space Center what a great day I can't

wait till this evening when at Falcon 9

and crew dragon take off and once again

we're gonna be launching a crew vehicle

from Launchpad 39a eight-year hiatus

here at the Kennedy Space Center it's

just one step forward to getting cruise

to the International Space Station

before the end of the year on a u.s.

rocket with a u.s. crew from US soil and

we're gonna make that happen and these

are the guys they're gonna be a part of
it now I think y'all know but I'll just run down the line before I turn it over

the Administrator Doug Hurley Bob Behnken our administrator Jim bridgenstine Mike Hopkins and Victor Glover and these guys you know you saw him get assigned to fly except for the one in the middle he wishes he were assigned to fly and but Doug and Bob they've been tracking this vehicle for a long time as we developed it they were assigned to watch The Commercial Crew program to be involved and I'm gonna leave the questions to them but before
we open it up for questions I want to give the mic to our administrator Jim Brian Stann he's doing an outstanding job leading us and I can't wait to get this successful crew launch under his belt thank you thank you Bob for that intro and I just want to share with you how important this is it's a critically important event in American history we're we're on the precipice of launching American astronauts on American Rockets from American soil again for the first time since the retirement of the space shuttles in 2011
and this time when we do it we're doing it differently than we've ever done it

before NASA is not going to purchase own and operate the hardware in fact we're going to be a customer we're gonna buy a service and our goal here is to be one customer of many customers driving down the cost and increasing the access to space in a very robust commercial marketplace for human spaceflight in low-earth orbit but we don't just want to be one customer of many customers we also want ultimately to have numerous providers that are competing on cost and innovation
and because we have that capability
developing right now of which demo1 is a
critical I don't want to say first step
but it's a critical step in the eventualities of launching Americans
again from our own soil because we have that capability we're going to have more access to space at a better cost than at any point in human history and we want to continue this progress I want to say

thank you to Bob Cabana a lot of you here might be local media and it is absolutely true that with the retirement of the space shuttles and the
cancellation of constellation this

Center was devastated but because of the activities that have been going on here under Bob's leadership and previous NASA administrators this Center the Kennedy Space Center is thriving and in fact it's growing and we've got commercial launches not just Boeing and SpaceX but in the not-too-distant future we're going to be launching the SLS with the Orion crew capsule on a deep-space mission all the way to the moon so we have a lot under development right now in fact you could argue we've got more...
under development right now than at any
time even during the Apollo era so this
is a great time for American space
flight I also want to say this and it's
an important point we have had amazing
support from the administration with the
budget requests for NASA in fact the
president's first budget request took
NASA's budget up 1 billion dollars which
was over a five percent increase and by
the time I got sworn in as the NASA
Administrator bipartisan support in the
House of Representatives and in the
Senate gave us an increase of one point
seven billion dollars an eight percent increase in NASA's budget we haven't seen this level of strong bipartisan support at administration support in a long time so with all of this support and with these commercial capabilities that have been developing here on the Space Coast we are in a great position right now and tonight is going to be a great moment a great achievement in this future of space exploration and the future of space development that includes launching commercial where NASA is a customer and we have numerous providers competing on cost and
innovation so with that I think we'll just open it up for questions and we have some very special guests here that and maybe even entertain a few those questions themselves hello I think we're asking from over here Marsha done ap for Doug and Bob please what's it like to be next in line for flying a dragon and capsule splashdowns it's all so retro it's back to the future could you sort of talk about that alright I'll take the first part and maybe Bob will take the second ya next in line is pretty exciting obviously as
the administrator said this is kind of

the next critical step in putting people

on dragon so we've got this flight and

then we've got the in-flight abort and

then and then ideally our flight soon to

follow so I can't begin to explain to

you how exciting it is for a test pilot

to be on a first flight of a vehicle and

you know we'll be ready when SpaceX and

NASA is ready for us to fly it I think

for both of us as Doug mentioned there's

da something really exciting about being

first getting to fly a crewed mission

kind of coming out of this and we're
gonna do it like you said the old school way we both landed on shuttles smoothly at the the runway here I think for both of us on both of our shuttle flights and so really excited on to be on this flight and to to take the splashdown at the end I think suni Williams described it the best it was the one experience that none of the original group of us as Commercial Crew cadre had under our belts was landing in a capsule and so we're looking looking forward to that hi I'm Stephen Clark from Space Flight now for Doug and Bob
as well if you could speak a little bit

00:06:07.350 --> 00:06:11.220 about what you're gonna be doing during

00:06:09.209 --> 00:06:12.779 the countdown tonight and we're gonna

00:06:11.220 --> 00:06:15.510 watch the launch from are you gonna be

00:06:12.779 --> 00:06:17.089 doing any practicing like it's gonna be

00:06:15.509 --> 00:06:20.279 the real launch day for you guys or just

00:06:17.089 --> 00:06:21.810 spectators and also have you had a

00:06:20.279 --> 00:06:24.209 chance to strap into this particular

00:06:21.810 --> 00:06:25.918 crew dragon to go inside and look around

00:06:24.209 --> 00:06:28.289 and giving your impressions of what

00:06:25.918 --> 00:06:30.269 Ripley will experience during the launch

00:06:28.290 --> 00:06:32.819 yeah we we have not been in this

00:06:30.269 --> 00:06:35.310 particular vehicle although prior to the

00:06:32.819 --> 00:06:37.889 hot fire we were out at the pad on the

00:06:35.310 --> 00:06:39.449 swingarm and and at least got near it
but we haven't actually been in the vehicle although bob was he for the CIT so he might be able to tell you a little bit more we're gonna be in firing room 4 for the launch itself listening along with the team and kind of keying on the things that would be relatively important to us you know the timing for the fuelling and the different things when we strap in all those different events so just kind of keying in to what the team's doing at those times we've been here before for how fires are for launches so we've kind
of gotten used to the cadence of their team as they launch their Falcon 9 so this will be just one more step in kind of familiarizing ourselves with that that event I think we're taking the opportunity with this this demo flight to learn all that we can in preparation for our upcoming crewed flight so one of the things that we'll have to do is understand our role as a part of the team that pulls off this as the spaceflight endeavor and so part of that is understanding what happens inside the firing room what happens out at
Hawthorne for the spacecraft control so we'll be chasing the spacecraft down in some sense we'll be racing from here cross-country to get out to Hawthorne for the docking and then we'll both be in place in Hawthorne to follow along with entry for this vehicle and it really is our chance to not be on board but be with the rest of the team that'll support us when we actually fly this vehicle when demo2 comes around I was able to be inside of the demo one capsule a few months back as a part of the kind of a crew exercise to check the
interfaces out that the crew on orbit

will have to operate to make this

mission successful when it gets to the

International Space Station it was a

really neat experience not everything

was exactly as it is right now it's

continued to get polished in some sense

to make it as successful as it can be

when it gets to the space station so

definitely excited to have been in a

space ship that's headed towards the

International Space Station later

tonight hi Jeff Foust is facing this

question for the administrator what's

your level of confidence that either
crew dragon and/or Boeing Starliner is going to be ready to start flying people by the end of the year safely and then also what's the status of the review of the safety culture of the Commercial Crew program that you plant you announced a few months back would be undertaken so number one I would say I'm very confident in fact you can write in your article I'm a hundred percent confident as far as I'm concerned you're either 40 or not and I think we're going to get it done as far as the you know the the
safety review that's underway this is

for both contractors NASA has a long history we've been through accidents

we've seen them before and we want to

make sure that that culture that we have developed over the years as a result of those incidents not just applies to our agency but also applies to our contractors I'm certainly not going to prejudge any any of the results of that I will tell you that I'm highly confident that our contractors are complying with the terms of their contract and I expect that we will find
that their culture is very safe and we look forward to revealing that when the time is right. Hi Marina Corn from the Atlantic this is a question for the crew.

I want to ask about your training inside crew Dragon versus shuttle or Soyuz. Because the inside of Dragon looks really sleek and like something out of a movie but some of your previous experiences you've just been faced with wall to wall switches and butt and buttons. I'm wondering if you can compare your experiences between the two. Yeah as Colonel Cabana can testify.
switches and circuit breakers inside the

00:10:14,889 --> 00:10:19,629
space shuttle this vehicle has on the

00:10:17,110 --> 00:10:21,629
order of about 30 buttons that are hard

00:10:19,629 --> 00:10:23,620
Hardware buttons and everything else is

00:10:21,629 --> 00:10:26,259
interacted with the vehicle via the

00:10:23,620 --> 00:10:28,419
touchscreen so it's it's an incredibly

00:10:26,259 --> 00:10:32,230
sleek looking vehicle from the inside

00:10:28,419 --> 00:10:34,149
and it's very easy to operate from the

00:10:32,230 --> 00:10:35,709
crew interface perspective relative to

00:10:34,149 --> 00:10:39,759
what we were used to with shuttle so

00:10:35,708 --> 00:10:41,559
much easier a lot less errors that the

00:10:39,759 --> 00:10:43,778
crew can make the shuttle was very easy

00:10:41,559 --> 00:10:44,948
you had switches literally right next to

00:10:43,778 --> 00:10:46,750
each other and if you threw the wrong

00:10:44,948 --> 00:10:48,669
one you could make your day a lot worse
rather than a lot better and it's just

so much more intuitive in this vehicle

so they did a really nice job of kind of

setting it up for the crew to be

successful if it's alright I'd like to

to address that as well and this is an

important point remember the goal here

for NASA is to be one customer of many

cuss

in a robust commercial marketplace and

because of that objective we we we have

numerous providers that are competing on

cost and innovation and they are

preparing for a future where customers
are not NASA those customers could be it

could be foreign sovereign countries it

could be individuals that want to go to

space and so what has happened here is

we have one of our providers that has

developed a crew capsule that looks as

much as possible like the inside of the

cabin of a commercial airliner which is

a development that took place not

because NASA had a requirement but

because NASA is a customer and in a in a

robust commercial marketplace of the

future where there will be other

commercial customers for this kind of
activity so that's why I think that the capsule has this very different look than those of the past hello Tim four notes from quartz another question for the administrator in your previous job in Congress you were a big advocate for the public/private partnerships and the kind of commercial activity you're talking about right now I'm curious if you wanted to reflect now that we're just at the moment before the launch how is that last couple years been for you seeing this program come to maturity and you know you were talking a minute ago
about the bipartisan support for it why

329
00:12:27,700 --> 00:12:31,120
has it attracted so much support now

330
00:12:29,350 --> 00:12:33,519
after maybe being controversial earlier

331
00:12:31,120 --> 00:12:35,440
on so I think it I think people have

332
00:12:33,519 --> 00:12:39,129
seen the success they're seeing when I

333
00:12:35,440 --> 00:12:40,810
say success not just commercial partners

334
00:12:39,129 --> 00:12:43,570
launching things into space but they're

335
00:12:40,809 --> 00:12:45,189
also seeing the driving down of cost and

336
00:12:43,570 --> 00:12:48,129
the increasing of access they're

337
00:12:45,190 --> 00:12:50,350
starting to see a more robust commercial

338
00:12:48,129 --> 00:12:51,759
marketplace the thing that's important

339
00:12:50,350 --> 00:12:53,409
for me is the administrator is to

340
00:12:51,759 --> 00:12:55,778
consider what the president has tasked

341
00:12:53,409 --> 00:12:58,509
me with doing I've been tasked to go

342
00:12:55,778 --> 00:12:59,948
back to the moon sustainably in other
words this time when we go to the moon

we're going to stay that doesn't mean

we're going to necessarily have a

permanent human presence on the surface

of the Moon but we're going to have

permanent access to the surface of the

Moon with Landers and Rovers and robots

and humans in and in this access

we're going to have more access to more

parts of the moon than ever before

because of Gateway in other words we're

going to be able to get to the poles

where there are we now know that there

are
hundreds of millions of tons of water-ice here's the point in all of this we really have you know one exploration campaign with humans but we have three theaters we have low-earth orbit we have the moon and we have Mars and when we think about those three theaters each one of them has requirements for funding and if we can commercialize as much as possible our activities in low-earth orbit we can drive down the costs and then we can spend our resources provided by the taxpayer to do things for which
there is not yet a commercial marketplace but where we believe there will be an eventual commercial marketplace not being cislunar space and the surface of the Moon so I was an advocate for commercial in the House of Representatives that does not mean I was not an advocate for what the government is doing as well and SLS and Orion are a critical piece of the architecture for this entire exploration campaign which includes low Earth orbit cislunar space and eventually Mars so again the goal here is is to fund the
entire package with international partners which by the way we're working really hard to grow the international partnership and I know a lot of you guys covered yesterday the fact that we had this great announcement with Canada joining us for the next 24 years in our exploration of the Moon which is fantastic we're thrilled about that announcement but we need international partners we need them to grow the partnership we need more international partners there's now more space agencies on the surface of the planet than ever before and we also need more commercial
partners folks that are willing to step up and partner with us as you mentioned

the public-private partnership where they have they can take advantage of their own opportunities apart from just providing services to the United States

government so the whole architecture commercial and government together

putting all of it together is ultimately what's going to make it possible hi this

is Diana from real clear media my question is for the crew or the administrator if you could give us some insight about what's been different
about the preparations for this unique 

launch as opposed to others do you treat 

this like there are astronauts 

bored can you just give a little insight 

into what that process has been like 

getting ready for this wow that's a 

tough one window you've got down the 

list 1 2 & 3 and I ended up with that 

question so I guess the way I would 

describe it as you as you look at the 

demo1 vehicle and you compare that to 

the in-flight abort vehicle or the demo2 

vehicle we have to take the lessons that 

we can from this ship and see whether or
not they apply to our mission or if the data that we can collect from this mission is important enough in other areas that maybe we would accept something that isn't quite the same way that we would do it for demo 2 maybe that's a long way to describe it but what the kind of the crux of the issue is that this is a test flight the in-flight abort vehicle will be a test flight hour flight to the International Space Station will be a test flight in preparation for the mission that that these two guys along with a two
additional most likely international

00:16:27,309 --> 00:16:30,818
partner astronauts will actually

00:16:29,198 --> 00:16:32,769
undertake when they go for a six-month

00:16:30,818 --> 00:16:34,809
increment and so this is a bit of a

00:16:32,769 --> 00:16:36,310
shakeout crews will be the final shake

00:16:34,809 --> 00:16:37,629
out crews before their their long-term

00:16:36,309 --> 00:16:41,828
mission onboard the International Space

00:16:37,629 --> 00:16:43,240
Station I just like to add to that a

00:16:41,828 --> 00:16:45,370
little bit too when you talk about the

00:16:43,240 --> 00:16:47,799
cadence and how we set up for this you

00:16:45,370 --> 00:16:49,419
know it was last week early in the week

00:16:47,799 --> 00:16:52,149
we had a flight test readiness review

00:16:49,419 --> 00:16:55,149
that the Commercial Crew program hosted

00:16:52,149 --> 00:16:57,328
in preparation for the agency Flight

00:16:55,149 --> 00:17:01,179
Readiness review that bill Gerstenmaier

...[15/09/2019 15:59:03]
chaired here over an OS b2 a week ago

Friday week ago today you know that's

the same team that we brought together

with some minor differences that we did

for shuttle missions and we're getting

into that cadence in fact we all

commented it was great to have everybody

back at the Kennedy Space Center for a

Flight Readiness review one of the great

things about this test flight is there

are some differences it's not exactly

the way we did shuttle it's not exactly

the way we do cargo or launch services

program missions when we do the
readiness reviews so we're setting up our procedures and processes to prepare us this is a great learning event all the way through as we work through all the issues that we have to clear everything for readiness for this flight and prepare the next step we're actually putting crew on board we're figuring out how we're going to do that for this program and we've taken some of how we did shuttle we've taken from other areas the way we do things and we're setting up those procedures now so I think you know we know how to
do this we know how to work through the issues we know how to hold the reviews we know how to determine what needs to get done safely in order to make it successful and what we learn from this we'll go back into the next set of reviews we'll make some modifications and we'll do it even better after having had this test flight so this isn't just a test flight of the vehicle it's a test flight of the entire leadership management team many of those folks who weren't here for shuttle so we kind of got to set it up again and teach those
folks how to do this as we work through

00:18:24,848 --> 00:18:30,928
it so this has just been a great

00:18:27,159 --> 00:18:30,929
experience so far getting to this point

00:18:36,298 --> 00:18:41,950
for Doug eight years ago you were on the

00:18:40,148 --> 00:18:44,018
last shuttle mission and you be on the

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

00:18:44,019 --> 00:18:47,919
what's your sentiment like in being able

00:18:45,878 --> 00:18:55,238
to connect it to important flights into

00:18:47,919 --> 00:18:57,278
important areas in the US you know it

00:18:55,239 --> 00:19:00,700
it's it's not the easiest question to

00:18:57,278 --> 00:19:02,558
answer I mean it it was the only thing

00:19:00,700 --> 00:19:04,869
you can say is it's just great to have

00:19:02,558 --> 00:19:07,329
grown up in this country and had that

00:19:04,868 --> 00:19:08,798
opportunity and and been able to to

00:19:07,329 --> 00:19:10,778
participate in the last flight of the
space shuttle which in and of itself was just incredible to be part of that whole experience that whole year process of how we did what we did and then eventually flew the mission and since then it's kind of felt like trying to get us back to a point where the United States could fly humans in space again and I kind of felt like that was something that was important to me to do before I did something else with my life and once again I think it's just a case of you know I was in the right spot at the right time and had the right
qualifications to be selected to be in this flight and it's a tremendous
tremendous honor and and I take it very seriously every day I try not to think
about it too much because you know the focus that Bob and I and Mike and Viktor have right now is just demo1 then in
flight aboard
than demo2 and then as bob said earlier getting these guys up there for six
months for an expedition and so that's what we've been doing and and frankly
I've been part of the Commercial Crew program in some way shape or form

basically since I landed on Atlantis almost eight years ago so it'll be really neat to finally get dragged in in space and get to the space station again but it's it's a great thing for NASA it's a great thing for SpaceX and it's a great thing for the United States hi guys Phil Keating Fox News Channel Victor and Mike good news you finally get to chime in but the question is question is for all four of you you know the only thing on board is the mannequin Ripley but it's loaded with sensors which are really about your own safety
in the future how impressed and

557 00:20:54,339 --> 00:20:59,528
confident are you with SpaceX and its

558 00:20:57,190 --> 00:21:01,870
relationship with NASA here that you

559 00:20:59,528 --> 00:21:04,898
would you actually be willing to be on

560 00:21:01,869 --> 00:21:12,788
board for this maiden voyage why and why

561 00:21:04,898 --> 00:21:16,089
not so that's a tough question as well

562 00:21:12,788 --> 00:21:17,919
right because as we prepared for the the

563 00:21:16,089 --> 00:21:19,599
dm1 mission of course it was done

564 00:21:17,919 --> 00:21:23,710
knowing that there weren't crew on board

565 00:21:19,599 --> 00:21:25,269
and and so like everything that's that's

566 00:21:23,710 --> 00:21:26,769
been going on over the past eight nine

567 00:21:25,269 --> 00:21:29,138
years with Commercial Crew it's been a

568 00:21:26,769 --> 00:21:31,388
partnership between SpaceX and it's been

569 00:21:29,138 --> 00:21:33,129
a partnership with NASA and the safety

570 00:21:31,388 --> 00:21:34,778
teams and the engineering teams and all
of them evaluating this this particular
vehicle and making sure it's ready for
this particular milestone and this
particular milestone doesn't include
crew and and I think there's important
reasons why we don't put if we can if we
don't have to put crew on something of a
first flight like this for safety
reasons and and I think that's smart so
in terms of if we were going to be on
that I think it there it would probably
be a little bit different process
getting to this point maybe you'd really
risk is a little bit differently and so
I think if we were a part of the plan, I think we would be ready for that and we'd be ready to go anyone else.

So first, I apologize for the glare coming off my head; it's a little warm out here. But so I'm gonna answer your question directly first and say no because we've learned something. You've got a group of folks up here all the training and experience that's up here as developmental flight testers and even though I'm the rookie in the group, I'm still a test pilot for military test pilot as well and we understand the...
importance of that build-up approach and so if we were to put a crew on that I can tell you this we wouldn't be having this press conference right now we may fly our first flight you know you're probably referring back to the shuttle and in that era and if we were to try to do it with that approach it would take us a lot longer so I'm very happy that we're doing it this way and that we're gonna get Bob and Doug up there to finish shaking out and the in-flight abort and make sure that we're ready to go when we do a long-duration mission so
no but Bob did you and do you anticipate

614
00:23:06,788 --> 00:23:14,348
any nervousness the next you know this

615
00:23:09,278 --> 00:23:15,848
summer ideally like I guess that part of

616
00:23:14,348 --> 00:23:17,468
the reason that we're in the job that

617
00:23:15,848 --> 00:23:19,989
we're in is that we tend to get nervous

618
00:23:17,469 --> 00:23:22,028
kind of after the fact rather than in

619
00:23:19,989 --> 00:23:24,129
the moment they do their best from a

620
00:23:22,028 --> 00:23:25,509
training perspective to try to beat that

621
00:23:24,128 --> 00:23:27,308
all out of you by giving you a lot of

622
00:23:25,509 --> 00:23:29,679
experiences before you jump into the

623
00:23:27,308 --> 00:23:31,269
actual spaceship and ride it into space

624
00:23:29,679 --> 00:23:33,879
and I remember on my first shuttle

625
00:23:31,269 --> 00:23:36,489
launch we did have an anomaly right off

626
00:23:33,878 --> 00:23:38,048
the pad and we were flying through a

627
00:23:36,489 --> 00:23:39,940
cloud deck and there was a lot of orange
light coming through the windows and so when those two things happen an anomaly and the orange light coming through you start to think about whether or not those are confirming cues of badness you know and I remember going through that moment and really having just a fraction of a second where you know you could be scared but really thinking internally that well I hope everything was done that could be done because we're still heading in the direction that we're headed and so there was there was really nothing I could do
at that point being nervous wasn't going to help definitely ten days later when our whole ascent flight deck space shuttle crew played back the video of that moment that's when we all went through the nervousness of the actual situation and we realized that was a little bit strange that wasn't what we were expecting the separation from the external tank didn't go the way that we expected it to but we lived through it real time and and it just was something that we processed and executed and then got scared
several days later when we actually
played back the tape just to answer the
question that you would initially ask I
think that the process that Colonel
cabana outlined earlier included our
SpaceX partners and so I think they
would acknowledge that they have more
work going forward in preparation for
the demo2 flight that will be on I'm
sure there'll be work that is a part of
that in-flight abort mission as well
that they want to accomplish before they
fly that one and so I think as a team we
would all agree that we probably aren't
ready for the demo2 mission we expect to get a lot of data from this one that will provide us with a better understanding of what we face when we jump into that actual test flight in preparation for the expedition crews that come after us but I think as a team including SpaceX we would say that hey this is not demo - this is this is demo one and that's what we assessed Mike Wallace based comm um going back to a couple questions ago I mean did yeah this is gonna be the yeah it's gonna be a flight off of a pad 39a and I mean we've seen the shuttle go off
of that many times I mean I yeah yeah I

just wonder if this upcoming milestone

kind of occasions any introspection

about what the shuttle meant and kind of

what it meant to this country what it

was able to achieve so I mean you know

some of you guys have I've actually

flown in the shuttle so so I'm just

wondering if if you have any feelings

about that if it kind of brings anything

up about but what the legacy is and so

on

well first off this pad has an awesome

legacy like I said earlier you know I
mean all the flights that went to the moon launched off this pad but this isn't the first launch off this bad since the shuttle launched you know SpaceX has launched I think 13 times off this pad they've launched the Falcon Heavy they launched 12 Vulcan nines they had cargo to the International Space Station to me it's just it's an excellent use of a national resource to be able to repurpose it so it just doesn't sit idle out there rusting away in the salt air I mean how much better could that be and you know from a
shuttle point of view

yeah the shuttle was an absolutely amazing vehicle and we talked about reusable vehicles I mean the shuttle was reusable for 30 years we were used to the orbiter the engines the solid rocket motors the only thing we didn't reuse was the external tank so you know what you know the International Space Station we couldn't have built it without the shuttle I I think it was just a tremendous program but that's the past and what we gotta focus on is the future we got to focus on commercializing
low-earth orbit the shuttle was too expensive for a commercial company to run and operate and make a profit that was a national asset a national program a government program with these commercial rockets we now have the ability to commercialize low-earth orbit and allow NASA to do that really critical job of exploring beyond our home planet to do the expense of work to lay the groundwork in cooperation with our commercial partners so you know what does it mean to me it means we're making use of an awesome asset that this nation has here at the
Kennedy Space Center and I’m just happy to see rockets flying off it I’m hoping you can take us a little bit behind the scenes of what you all are thinking is we’re getting closer to this this is a first you know at first for SpaceX what is going on in your heads with your families as you’re talking about it the camaraderie you maybe you have with each other you know as people not just as astronauts participating in this what are you talking to your families about are you talking to each other about now is this is becoming really really
where once I take it I don't I don't

know if you know this but both Bob and I

are married to astronauts so in a lot of

cases it makes the discussions at home a

little easier because they both

understand I think what we're kind of

working towards and and what you would

deal with on launch day and and you know

I've told Victor this a couple times you

know the hardest the hardest job is not

your job it's the spouse watching you

launch into space so an appreciation for

that so whatever you can do to include

your family in any event and and this is
a little bit unique because especially
for Bob and I we've been we've been
traveling across the country for both
SpaceX and Boeing for the last three and
a half years working on this program so
just to include them in our trips to
California our trips to Huntsville our
trips to wherever we went Denver and
here and-and-and-and it could be the
most innocuous
things that you had happen or that you
saw for the first time and and the
little excitement the first time you do
a asset in a simulator in a spacex
simulator or a Boeing simulator the
first time it may not seem like that big

a deal but it's a pretty big deal when

you know when we first started this was

just this program was just PowerPoint

charts and now we have we got a vehicle

out on the pad so and and they

understand that and I think as much as

you can include your families in this

from start to finish they become just as

invested as you do and they and they

know that it's filled with ups and downs

and and they're long to enjoy it with

you anything else are you gonna do

anything special as the crew flights get
closer in terms of preparing with each other and with your families we had a pretty nice little Christmas party with our families and the four of us and there was no cameras so I'm not gonna tell you what happened but it was fun and then I don't know we're that's we kind of talked about that the other day you know there's we have a chance to develop a tradition for all the crews that fly on on Dragon and and so that it's a little bit of a hefty task to kind of come up with some of this stuff but maybe that'll just happen naturally
but I think you know that that's kind of

the neat stuff that we that we're

looking forward to continue to do and

kind of pass on down the line to some of

the newer astronauts that are going to

fly these vehicles I would just maybe

describe every one of these events that

you describe as a special one that we're

getting back into as we try again to get

astronauts flying again off the Florida

cost is a one that we look at and try

to understand what opportunities there

are to learn from it and so at a recent

cargo mission my wife and I looked at
the schedule and looked at what was in
front of us for this mission where I
would be in the flight control room and
trying to follow along with that team to
consider what we could do as a family to
prepare for my eventual flight into
space and the last time I flew into
space I didn't have a son I didn't have
any children and now I have a
four-year-old and he had not been to a
rocket launch before and I didn't want
his first one to be his father launching
into space and so we came down here and
we're on the top of the
building just across the way and watch

00:31:13,630 --> 00:31:18,250
that mission together as a family in

00:31:15,730 --> 00:31:21,099
preparation for my eventual flight on a

00:31:18,250 --> 00:31:22,808
falcon luckily it was a Falcon 9 mission

00:31:21,099 --> 00:31:24,308
that was headed to Space Station so

00:31:22,808 --> 00:31:26,440
there were a lot of similarities to the

00:31:24,308 --> 00:31:28,000
mission that I'll fly on and so each one

00:31:26,440 --> 00:31:30,429
of these opportunities we look at very

00:31:28,000 --> 00:31:32,740
carefully at least I do with my spouse

00:31:30,429 --> 00:31:34,269
as a family to see hey what can we take

00:31:32,740 --> 00:31:35,798
away from it technically which is what

00:31:34,269 --> 00:31:37,659
I'm gonna do here for the demo mission

00:31:35,798 --> 00:31:39,069
number one what could we take away from

00:31:37,659 --> 00:31:40,360
it from a family you know we had to have

00:31:39,069 --> 00:31:42,038
the discussion should I wake my son up
in the middle of the night tonight to try to get him to watch this rocket launch she's kind of grumpy when you wake him up and so it's a trade-off case right so I got to make that decision and so having seen this mission we get to maybe not wake him up in the middle of the night this time around so we have time for one more question hi Irene Klotz with Aviation Week maybe for Doug if you could put your old crew cadre hat on for a second and I was wondering what you could have any thoughts or concerns about the prospect of the Boeing crew
flight test turning into an extended station stay and for Mr. Brydon Stein

when you expect to make that call since you're now hopefully within 10 months of that flight well there I know all three of those folks very well obviously we all do we see him almost every week at Johnson they're training for a long-duration mission as we speak I think they were in the NBL the other day and they've got a trip to Russia a training trip to Russia soon and you know that it you can think a lot about whether you know a full
A long-duration mission is what will happen or it'll be kind of maybe a few months it just kind of depends but they'll be ready for it I think going into this even before we were selected for those missions they knew that the Boeing flight might be a longer flight than potentially the SpaceX flight so I think they're fine you know Mike Fincke was our boss up until just a few weeks ago and he's been to Space Station gosh three times I think so he's more than qualified to handle any eventualities in that flight and
you know with Fergie he's been there

00:33:27,009 --> 00:33:31,119
several times and and Duke this will be

00:33:29,470 --> 00:33:32,680
her first flight but she's she's as

00:33:31,119 --> 00:33:38,529
capable as anybody we have in the office

00:33:32,680 --> 00:33:41,200
they'll be they'll be great! I I would

00:33:38,529 --> 00:33:43,119
just say that as it gets closer we're

00:33:41,200 --> 00:33:45,309
going to be able to assess what the

00:33:43,119 --> 00:33:48,819
needs are and we'll make determinations

00:33:45,309 --> 00:33:51,159
based on what those needs are what

00:33:48,819 --> 00:33:53,889
Victor talked about earlier as far as a

00:33:51,160 --> 00:33:57,790
step-by-step approach there's no reason

00:33:53,890 --> 00:33:59,470
to prejudge what is necessary and I

00:33:57,789 --> 00:34:00,909
don't I don't have a timeline for you at

00:33:59,470 --> 00:34:03,970
this time I know that's probably not the

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 requirements in order to do what we need to do on the International Space Station and at the same time we have requirements I have a requirement to make sure that the guys behind me are safe and so we're gonna do we're gonna do that first I want to be clear about this point though and I think Victor made this point very clear earlier we are not in a space race like we have no requirement to go early that race is over we went to the moon and we won it's done now we're in a position where we
can take our time and make sure we get it right that's the goal here make sure we get it right and that's what we intend to do thank you I want to thank you all for coming out today this is an absolutely exciting time for NASA for the Kennedy Space Center for human spaceflight for our nation and I this is an awesome group back here these guys are are awful humble but they've worked really hard to be prepared for what's coming up now and I gotta admit I really envy dad I told him walking out I'd trade places with them and they said...
not on your life you know that's it so I

hope you all enjoy the launch tonight

it's going to be fantastic

last I checked everything's on track the

weather's still looking good so go

dragon go Falcon thank you