howdy I'm Bob Behnken spacewalker on sts-130 and you're watching NASA TV
take my land take me where I cannot stay
I don't care I'm still free take the sky from
ain't come take the sky from
and hopefully I bounce
God from me
good morning endeavor and a special good morning to you today Bob Thank You
Shannon and a special good morning back
to you guys down in Houston for helping
us out so much yesterday for a successful ETA 1 and I also just like to say that both on endeavour and on the ISS so there is a little peace of serenity for each of us who've all up and to the fireplace very think this is Mission Control Houston with a view back inside the International Space Station the station and spatial endeavor crews are working through the first tests of the day this view is inside the unity node the crew members will be focusing on the beginnings of the internal outfitting for the new tranquility node
that was installed during the missions

first spacewalk this is a view inside

the International Space Station looking

inside the quest airlock astronaut Bob

bankin is there and he will be joined by

astronaut necklace Patrick to work on

that those preparation activities for

their second spacewalk that will be

taking place Saturday evening as Canada

arm to was used to retrieve tranquility

from endeavour's cargo bay and bring it

up to install on the port side of the

station on the unity node for this

operation today the arm was commanded to

00:02:24,669 --> 00:02:31,208
00:02:26,229 --> 00:02:32,949
00:02:31,209 --> 00:02:35,709
00:02:32,949 --> 00:02:38,289
00:02:35,709 --> 00:02:40,030
00:02:38,289 --> 00:02:42,789
00:02:40,030 --> 00:02:45,400
00:02:42,789 --> 00:02:50,169
00:02:45,400 --> 00:02:52,989
00:02:50,169 --> 00:02:55,449
00:02:52,989 --> 00:02:57,819
00:02:55,449 --> 00:03:02,018
00:02:57,819 --> 00:03:04,329
00:03:02,019 --> 00:03:06,269
00:03:04,330 --> 00:03:10,630
release tranquility now that it is

00:03:06,269 --> 00:03:13,299
installed on the station and this free

00:03:10,629 --> 00:03:15,639
arm is going to rotate around and down

00:03:13,299 --> 00:03:18,689
to latch on to the grapple fixture on

00:03:15,639 --> 00:03:18,689
the Destiny lab

00:03:43,150 --> 00:03:47,810
this is a view from a camera on the end

00:03:45,620 --> 00:03:49,730
of Canada arm to looking down at the

00:03:47,810 --> 00:03:52,239
grapple fixture and that it will be

00:03:49,729 --> 00:03:55,789
attached to shortly on the Destiny lab

00:03:52,239 --> 00:03:58,670
is of you providing an alignment to

00:03:55,789 --> 00:04:02,919
guide for astronauts terry virts and k

00:03:58,669 --> 00:04:02,919
hire who are operating the robotic arm

00:04:16,600 --> 00:04:19,870
experienced an issue with one of the

00:04:18,279 --> 00:04:22,479
fans operating at a lower speed than

00:04:19,870 --> 00:04:24,610
expected which was fine for the first
spacewalk but engineers prefer that a different space suit being used as that problem is not understood the suit originally for banking now has the new power harness and Patrick indicated it checked out ok and it will be resized basically taking the lower torque on the outside of the International Space Station the canadarm2 continues to move into a new position it will be parked until it is needed for the relocation of the cupola couple has seen covered by some thermal blankets in the lower right corner of this view it will be relocated
to the earth-facing port on tranquility

this is a live view inside the International Space Station with a camera set up in the unity node looking towards the new tranquility node crew members are doing the initial setup work to provide some air flow into the new module to grab two with a temporary ducting Bobby Roger noguchi and Kota worked on removing that exercise device from its location in unity earlier because it is in the area where these crew members are working now so that is why that is the piece of equipment to be
moved first into tranquility the actual
installation of the exercise device will not occur until the next day
the initial setup of that duct work indicated some airflow readings that aren't as optimum as the team had expected but calculations indicate that it will work for the time being for the about four four crew members to work inside the module at a time this is Mission Control Houston with the view inside the International Space Station station commander Jeff Williams is taking the video camera to show Mission
Control the setup inside the cupola

101  
00:06:42,740 --> 00:06:47,930  
hatches open they're still for the crew  

102  
00:06:46,250 --> 00:06:52,069  
members to work on the procedures to get  

103  
00:06:47,930 --> 00:06:54,978  
the cupola ready for relocation he's  

104  
00:06:52,069 --> 00:06:58,580  
working on the procedure to install a  

105  
00:06:54,978 --> 00:07:02,079  
cover on that hatch way before closing  

106  
00:06:58,579 --> 00:07:02,079  
the hatch back up  

107  
00:07:12,660 --> 00:07:22,510  
ever Houston you guys ready for the  

108  
00:07:15,189 --> 00:07:26,490  
event I might yes good I guess it's good  

109  
00:07:22,509 --> 00:07:26,490  
evening to you Bob and I are very ready  

110  
00:07:26,730 --> 00:07:34,450  
first thing is first question it's about  

111  
00:07:31,569 --> 00:07:36,879  
the sounds and smells in space can you  

112  
00:07:34,449 --> 00:07:39,610  
describe how the various parts of the  

113  
00:07:36,879 --> 00:07:41,500  
shuttle or the ISS how they smell and  

114  
00:07:39,610 --> 00:07:43,480  
some of the sounds it's there that you
hear that might might describe the
environment further or your followers
well that's a good question Mike
obviously launches really noisy but once
you're in space space itself is really
quiet but the inside of the spacecraft
is never quiet this it's full of fan
noise everywhere you go there's a fan
circulating air because there's no no
convection that on earth is caused by
gravity and temperature differences
there's no convection up here to
circulate the air for you so that's the
biggest noise we notice how about smells
Bob what do you notice up here well I think one of the most remarkable smells that you notice in space everything smells relatively similar except for food and then one of the thing and that's that second thing is the smell that you smell when you actually go into a place that was recently at vacuum I've heard it described as ozone ish also at being attributed to the oxidation of aluminum but the smell of coming into an area that had just been at vacuum just been at space is really unique and I haven't smelled it to any place on the
ground just coming through the hatch or

actually coming back in from an EV a you

can smell the EV a crew members or

spacewalkers when they come in and they

really have a strong smell the smell of

space I just can't help to follow up on

that question what do you think causes

that's that smell of space what do you

what do you think it is you think it's

actually space or is it something else I

think the the smell that you get is

actually all the hard work of the

spacewalkers who are outside you know

they spend six or eight hours as like
yourself Mike

158 00:09:26,049 --> 00:09:30,639 eight hours on a spacewalk on the last

159 00:09:28,509 --> 00:09:32,319 couple that you had on Hubble they spend

160 00:09:30,639 --> 00:09:36,059 a lot of time outside working and you

161 00:09:32,320 --> 00:09:36,060 can generate probably a pretty good odor

162 00:09:37,139 --> 00:09:42,159 okay I have a way I like to describe

163 00:09:39,370 --> 00:09:45,399 that smell to people Mike that that

164 00:09:42,159 --> 00:09:47,799 smell to me is to metal what the smell

165 00:09:45,399 --> 00:09:51,100 of toast is to bread if that makes any

166 00:09:47,799 --> 00:09:53,319 sense yeah that's why we so it might be

167 00:09:51,100 --> 00:09:54,759 some out guessing going on there alright

168 00:09:53,320 --> 00:09:57,010 thanks very much that's question number

169 00:09:54,759 --> 00:09:58,778 one question number two we're looking

170 00:09:57,009 --> 00:10:01,419 for funny moments were there any funny

171 00:09:58,778 --> 00:10:03,338 moments particularly after you first get
to space you know anything anything

unusual anything funny went you unbuckle

zero-g for the first time what was that

like I think we were both smiling when

we unbuckled at the the funny the funny

things are when when things that you

think you had just 10 seconds ago a gun

and there's one thing i lost i still

haven't found that five days later so

we're too busy to really really have our

humors up at full speed but it is

amusing to watch things and people fly

around as though it were the first time

in a new environment and for many of us
00:10:36,669 --> 00:10:43,328
it it is the first time in the new

00:10:38,049 --> 00:10:45,069
environment i think one of the things I

00:10:43,328 --> 00:10:47,199
wouldn't describe as a you know kind of

00:10:45,070 --> 00:10:49,660
funny in the joking sort of a sense but

00:10:47,200 --> 00:10:52,028
what was really fun for me on this

00:10:49,659 --> 00:10:54,730
flight was to see folks get to do things

00:10:52,028 --> 00:10:57,519
for the first time and so to see Terry

00:10:54,730 --> 00:10:59,440
Virts our pilot start floating around

00:10:57,519 --> 00:11:02,528
and try to work his way out of his suit

00:10:59,440 --> 00:11:05,050
and deal with the challenges of weakness

00:11:02,528 --> 00:11:06,939
weightlessness was a was fun to watch

00:11:05,049 --> 00:11:08,649
for me and it was also fun for me to

00:11:06,940 --> 00:11:10,779
share that experience with him as he

00:11:08,649 --> 00:11:13,360
went through it for the first time and
for Nick going out the hatch it was fun

for me to watch him go out on his first spacewalk and experience that for the first time so it's not really funny in the comical sense to Nick didn't do anything comical during the EBA but it was fun for me to be there for the first time a couple of folks got to do those things for both of you can you describe what the earth looks like I mean either through the look through the windows of the spaceship is one thing but what is it what was your impressions of seeing from the spacewalk well Mike I think
there's two things that are really impressive during the spacewalk.

First one is just the depth of the atmosphere and you can see the clouds and the shadow that they cast. I don't know if you've ever had the experience of being on the ground and then had an airplane fly over you or had a dense cloud go over you but that shadow that it cast on the ground and then that's something that you can really see the depth of the atmosphere and notice how high the clouds actually are. You can also see lightning you can see cities at night all that's a
remarkable pneus that you can look out

the window and kind of see through just

a little small portal you kind of have

the whole horizon out in front of you

through your space helmet and it's it's

really remarkable to just to take that

all in you have to take mental pictures

because the even the cameras that we

have don't have a wide enough field of

view to take all of that in and the

other remarkable part of going out for

the spacewalks is again just

thinking about all the people who come

together to make make it all possible
and so it takes a giant team on the ground to get us into space and to make it all happen. I know you had a great support team on your previous flights and we've had a huge support team and just to know all those people are rewarded and excited by how things are going during the spacewalk is also a pretty neat thing.

really hard to describe Mike I'll try we went out of the hatch in the dark so I couldn't see anything at first except the underside of space station and endeavor which were lit in flood lights.
and that was beautiful enough and we got

working and at some point in that I

think Steve warned us that our first

sunrise was coming up and I looked

towards the horizon and there was this

beautiful hbu blue glow coming towards

us and there isn't much time to watch it

but the once or twice I could watch it

during the spacewalk yesterday it was

just amazing the views panoramic as Bob

said you can in the helmet you can see

so much more than you can through

shuttle windows because you can see

almost 180 degrees field of view
but that the blue spreads across the horizon and towards you and then turns orange and red and the Sun pokes up and the space station is bathed in a brilliant light it all happens extremely quickly and of course it happened 16 times a day and it's a really stunning sight from anywhere up here but especially from the inside of a spacesuit nice job is hard to describe it but you guys did really well and following up we have another question related to what you see during a spacewalk did you notice any stars while you were face walking I did see some
stars Micah but there are so small compared to actually being able to look at the earth and see the lightning or to see the cities at night that the stars are actually very dim compared to the lit up space station or the Space Shuttle we did see a very good view of the moon and like I said the cities at night and the lightning show that you get through the atmosphere is just really remarkable the stars are a little bit tougher to see you can break out the colors on individual stars but they're there they're hard to compare to just
all you can see on the ground as a bub

mentioned the moon I did watch the moon

rise behind Bob yesterday once it came

up through the atmosphere I wasn't sure

what I was seeing but literally rose

through the atmosphere so it was a white

moon behind him blue haze and then all

of a sudden it was up in the clear black

of space and I could tell that it really

was the moon I'd been looking at that

was really a remarkable thing to see but

I didn't see any stars yesterday I look

for them tomorrow that those great

descriptions of what you guys saw out
there you know it's just an incredible
experience and appreciate you sharing
that with us and like you said you got a
couple more opportunities to make some
more memories so a great job on your
first dva and good luck on the next
couple will be watching it's a slightly
different topic now how are you sleeping
how are your sleep patterns up there and
how are your dreams affected by being in
space
well let's sleep patterns aren't
affected too much with a couple of
exceptions or the first is we have a
huge what we call a sleep shift to get

00:16:19,589 --> 00:16:24,449
here we needed to launch at four thirty

00:16:21,448 --> 00:16:25,588
in the morning eastern time and because

00:16:24,448 --> 00:16:29,370
of the amount of work you have to do

00:16:25,589 --> 00:16:30,630
when you get to two space takes about a

00:16:29,370 --> 00:16:32,278
whole afternoons worth of work to

00:16:30,629 --> 00:16:34,019
convert the shuttle into something

00:16:32,278 --> 00:16:36,179
that's appropriate for living in once

00:16:34,019 --> 00:16:39,149
you've launched we needed to make that

00:16:36,179 --> 00:16:40,859
just after our lunch time so we were

00:16:39,149 --> 00:16:44,070
sleep shifted by about nine or ten hours

00:16:40,860 --> 00:16:45,930
to achieve that and that took us a week

00:16:44,070 --> 00:16:47,310
or two really to get comfortable with

00:16:45,929 --> 00:16:49,019
that huge sleep shift and we're still

00:16:47,309 --> 00:16:51,299
roughly on that sleep cycle sleeping
when people in North America are awake

and we're awake when they're asleep but

up here on on on station now that we've

adapted to that sleep schedule we're

more or less sleeping normally they just

didn't as much time for it as we'd like

for us Mike it was like making a trip to

Tokyo right before we launched and we

did a about three days before the launch

we did the equivalent of transferring to

almost Tokyo time tokyo japan and and

going through that is going to happen on

the other end when we come back so i'm

sure will not only be tired from the
mission but will be tired from those two big sleep shifts as nick described when we get back well you have plenty of time to catch up when you get back to earth another question now comes from the los famosos and i'm probably mispronouncing that sixth graders at the sherman middle school in madison wisconsin so this comes from a bunch of sixth graders so be prepared they want to know what do you weigh in space well for a bunch of sixth graders they asked some pretty tough questions for us you know i think Nick and i probably have well over 30
years of education between the two of us

and getting questions from 6th graders

is always the most challenging

all but I think Nick just demonstrated

and I think that we both could show you

that we we don't weigh much of anything

while we're up here very nice

demonstration but you know the 6th

graders will probably be interested

probably be interested to hear Mike that

although you don't weigh anything you

still have mass you still have inertia

so if you start something moving like if

I take Bob and I move them towards the
camera it takes me a second to speed

00:18:51.898 --> 00:18:56.489
them up I have to take that same second

00:18:54.058 --> 00:18:58.980
to slow him down because he is massive

00:18:56.490 --> 00:19:00.630
and just as we all are he'll keep moving

00:18:58.980 --> 00:19:02.130
in one direction as long as there's no

00:19:00.630 --> 00:19:03.750
force acting on him so there's really

00:19:02.130 --> 00:19:06.140
some interesting physics to observe up

00:19:03.750 --> 00:19:12.179
in not just the weight but also the mass

00:19:06.140 --> 00:19:16.380
thanks Bob well done boys moving on to a

00:19:12.179 --> 00:19:21.899
different topic your meals we have this

00:19:16.380 --> 00:19:24.510
this comes from chef Casey Wilson and he

00:19:21.898 --> 00:19:26.788
or she asks the chef's ass what your

00:19:24.509 --> 00:19:29.398
meals consist of and is there anything

00:19:26.788 --> 00:19:30.658
specific that you asked to bring up that

00:19:29.398 --> 00:19:38.788
you're eating that's maybe a little bit
different well Mike I think there's always a lot of interest in what type of food we actually eat on orbit and it's a mixture of kind of camping food and military rations and kind of dehydrated things and so we've kind of got just about everything that you have on the ground just in a slightly different format that we either warm up or add water to and then warm up so those are kind of the two things that we have so nothing nothing too fancy as far as chefs go because we don't get to use all the fancy techniques we just get to add
water or add heat and that's just about

it for me I brought up some some

chocolates that I like and I also

brought up some breakfast rolls and some

fresh fruit because one of the things

that you don't have very much of up here

like I said with all rehydrated or or

food that you just warm up you don't get

a lot of vegetables so it's a it is nice

to to taste citrus and

tastes fresh fresh vegetables during the

week or two that you're actually on

orbit and when we arrived with the for

the station crew we actually brought

them quite a bit of fresh fruit I don't think you can see any more of it here actually you can there's some of it stowed right above Nick's head up here there's some oranges and some apples and some avocados and some limits so a lot of fresh fruits that only get delivered when there's a progress vehicle arriving or a space shuttle arrives to drop some of these things saw okay next question comes from p otras 007 and they want to know how long do you prepare for a for your flight how are you guys prepare for your space flight well we've been
training for about a year Mike we got

00:21:17,049 --> 00:21:23,169
assigned to this mission i think in

00:21:18,789 --> 00:21:25,000
december of 2008 and so we trained for

00:21:23,170 --> 00:21:26,110
just over a year before we launched but

00:21:25,000 --> 00:21:27,759
in a way we've been training for this

00:21:26,109 --> 00:21:30,909
for all of our lives Bob and I are both

00:21:27,759 --> 00:21:34,329
engineers Bob's an Air Force flight test

00:21:30,910 --> 00:21:35,830
engineer and I'm a civilian mechanical

00:21:34,329 --> 00:21:38,319
engineer as you know because we were at

00:21:35,829 --> 00:21:40,689
school together but we have literally

00:21:38,319 --> 00:21:43,359
been training to be astronauts for the

00:21:40,690 --> 00:21:45,789
last 30 or 40 years through our

00:21:43,359 --> 00:21:46,929
education one of the things I was struck

00:21:45,789 --> 00:21:50,109
by yesterday when i was doing my

00:21:46,930 --> 00:21:52,690
spacewalk is that I think you probably
can't feel really comfortable hanging from hanging from space station 200 miles above the planet going about 18,000 miles an hour unless you're really confident in the physics that you'll just keep going around the planet than one fall so in a way I think we've been training a long long time next question is from I one meter and the question is what times what types of experiments you have on board what experiments are you guys do I know you're busy with lots of stuff but if you have any time for experiments what
are you doing well Mike we do have a couple of experiment experiments with us and most of them are biological in nature really as far as our flight goes the space station is doing a quite a bit of a additional work this is an assembly mission to the space station and so we're primarily focused on that but the experiments that we do have we have one which is a experiment to actually control viruses and so we have a they're in a contained vessel and we cycled them through their process trying to activate them and then deactivate
them inside their canister to understand what the effects gravity have on those viruses we also fly a big freezer it's called a glacier and it keeps biological samples really cold and also allows us to transfer new science materials either to the station or back down from the station and so just the day that we arrived I opened up that freezer and exchanged some samples that Jeff Williams the commander of the space station right now had on board and swap those out and I know there'll be a large number of blood samples and other
samples from the crews that have been on orbit to make sure that they've been healthy and understand the effects of gravity on their health during their six-month stay on the space station boys.

I think we have time for one more question and this one is pertinent to our twittering in space this comes from Richard V Miller he wants to know what kind of computer do you use to send your tweets and Nick are you able to tweet from space as you know Mike I was tweeting every day before we launched and unfortunately I haven't had enough time to do too much tweeting from up
here although I will send another one

out today when I send a tweet I have to

e-mail it to a colleague on the ground

who's agreed to post it for me but when

the folks on the space station here send

a tweet they're able to do it directly

via a live computer link with a machine

down in Mission Control so they're actually able to directly if somewhat slowly post their own tweets and that's

a something that TJ Creamer the ISS flight engineer up in now has just set up with help from colleagues on the

ground so that's a very exciting
development for the tweeting community

well we know you're busy Nick and

anything you can send down I know the folks would be interested in reading

eventually and we're out of time

actually I know you guys are busy and have something else to do it's been a real honor for me to work as your cap

comment to talk to you this evening it's a real blast then you guys look great

and you're doing a great job and we're all proud of everything you guys are doing anything you want to say to wrap up you want to say hi to anybody or
thank anyone or what do you got closing

closing thoughts for us cost of it we

got to thank everybody uh but we won't

thank everybody it's a bit like an Oscar

speech if you do that I guess we'd like

to thank the people who got us here our

trainers in Houston and the people at

the neutral buoyancy lab who make the

underwater training possible and flight

control team on the ground those are the

really important groups to think I'd

like to thank my family to for putting

up with my what should we call it

business travel which can be demanding


and Nick covered the folks that that

have got us to this point and also been

supporting us while we're here on orbit

I'd also like to thank my family and my

wife Megan who's also a Capcom for some

other other missions and flew with you

Micah back to the the Space Telescope a

little bits a little while back so I'd

like to thank her specifically as well

this is Mission Control Houston a good

view of the international space station

with its new module here from the

cameras in the exterior of the space

shuttle this is Mission Control Houston

you can see the crew assembling here in
the Harmony node to begin their EV a2 or

spacewalk to procedures review going

over the plan for tomorrow's spacewalk

this space walkthrough begins later

today rather and goes into tomorrow and

what everybody's different jobs for that

spy smoke will be of course mission

specialist Bob banking and Nicolas

Patrick will be going outside endeavour

station this is the Associated Press how

do you hear me that's a loud and clear

hello Marsha good morning colonel verse

hello Marsha good morning colonel verse

captain higher talking to you this

morning from the launching site both of
you tell me about your new room

tranquility what's the first impressions

course we saw it when it was still at the Kennedy Space Center before it launched looks a lot different here especially now that we can float all over and use the entire volume instead of just in 1g you're pretty much restricted to just a floor being a floor but i will tell you we're filling it up very quickly we're loading all kinds of equipment in there and starting to bring
it to life so it's going to look very different in just a short number of hours does it have that new room or new car smell and feel to it and at least at first was it stuffy hot cold comfortable in there just a little bit of description of the ambience it it definitely has the new spaceship smell it had a when we first open it up it had the same temperature as a station and then probably for the first couple hours that we were in there it started to get warm as we were all working doing a lot of physical work in there and we
didn't have all the ventilation hooked
614
00:28:31.558 --> 00:28:35.279
up yet and now it's starting to feel
615
00:28:33.450 --> 00:28:39.000
more like the rest of the station but I
616
00:28:35.279 --> 00:28:43.440
had a unique smell almost a space male
617
00:28:39.000 --> 00:28:45.839
to it still limited to four people in
618
00:28:43.440 --> 00:28:47.070
there at a time I know at first it
619
00:28:45.839 --> 00:28:48.839
seemed like there was some sluggish
620
00:28:47.069 --> 00:28:50.730
airflow going on as I've been resolved
621
00:28:48.839 --> 00:28:58.288
and you still have to wear goggles and
622
00:28:50.730 --> 00:29:00.929
masks well that's correct when we first
623
00:28:58.288 --> 00:29:04.048
went in because there was no power or
624
00:29:00.929 --> 00:29:06.990
ventilation set up inside no three it
625
00:29:04.048 --> 00:29:08.668
was dark and a bit stuffy so we had to
626
00:29:06.990 --> 00:29:10.740
be careful and sample the environment
627
00:29:08.669 --> 00:29:12.929
make sure it was safe make sure there
was no particles floating around that

might get into our eyes or caused

problems so we did have goggles and dust

masks as we went in until we can get the

ventilation full up and working and

that's that's on our schedule of things

to do and we'll we'll get that all

resolved soon and get it up and

operating well for each of you you're

both visiting the space station for the

verse first time what's been the biggest

surprise for each of you

well there's a several differences

between the shuttle and the station the
first one you notice is just how big it is one of the things that you can do is start at one end and push off and try and float you know as far as you can and as a rookie especially is the first time visitor to the station we're not very good and we tend to float up or hit the walls but if you watch the station crew these guys are real pros and they can push off and go for 50 or 100 feet without touching anything so that that requires some adaptation with your body to learn how to fly and float in space so that's been a lot of fun okay what
the what are your thoughts you know

we've seen so many beautiful pictures of

the International Space Station every

crew sends down just phenomenal images

but to see it for real especially as we

approach our rendezvous it just beyond

description it's just so sharp very high

def it's kind of like the difference

between seeing a very old analog type of

a picture and the first time you ever

see really super high definition and

here it is it's just such a large

station and there's just so many

capabilities on board I think that was
the biggest surprise was just how

00:31:03,319 --> 00:31:09,149
phenomenal it looked as we approach well

00:31:07,019 --> 00:31:12,839
that leads me into my next question with

00:31:09,150 --> 00:31:14,880
the shuttle era winding down the space

00:31:12,839 --> 00:31:18,059
station is going to be its legacy and

00:31:14,880 --> 00:31:21,750
now that you've actually been there are

00:31:18,059 --> 00:31:26,369
there have your do you have different a

00:31:21,750 --> 00:31:31,890
different perspective on on all this as

00:31:26,369 --> 00:31:34,649
being part of history you know Marshall

00:31:31,890 --> 00:31:36,330
when we attach note 3 in cupola the

00:31:34,650 --> 00:31:38,690
thing that that reminds me of is

00:31:36,329 --> 00:31:41,819
finishing the Transcontinental Railroad

00:31:38,690 --> 00:31:43,500
that was a huge project that America

00:31:41,819 --> 00:31:44,939
really got behind it was an

00:31:43,500 --> 00:31:46,710
international project we had workers
from around the world and when it was done it opened up the West to let our country become the nation that we are today and in some ways putting no 3 and tranquility on the cupola are the end of one phase of the space station but it really i think it's the beginning of a future of space exploration that a long time from now we'll look back on and see in a similar vein well i'm just wondering is my last question well the astronauts will the two crews be doing anything special for valentine's day tomorrow maybe sharing a
special meal or anything else thanks for reminding me that's pretty funny because i was saying earlier today that i didn't even really remember what day of the week it was or what day of the month because everything up here is all about either greenwich mean time or mission elapse time so that's that's how our days are built and we have to actually remind ourselves every now and then of what day it is so yes thanks for the reminder well happy Valentine's Day it's easy for me to remember thanks it's easy for me to remember Valentine's Day
because my wife's birthday is tomorrow

so I have a birthday in a Valentine's Day and it's hard for me to forget both

of this well that's great well i'm told

i need to wind up so good luck to all of you and God speed on your journeys home

loud and clear hello bill yeah Terry

okay it's a great to see you guys up

there obviously I'm going to start with node 3 today they tell us that when the station when the shuttle departs the station is going to be ninety eight percent complete how do you guys characterize that accomplishment you
know I remember a few years ago the space station processing facility was just packed with equipment and now it's empty pretty much what do you know what do you think about that like I said I made the analogy with the Transcontinental Railroad and I think it's an accomplishment that all Americans should be really proud of from what we've done up here and really all of our international partners Japan Europe Russia there's been many countries involved in building the space station and I think it's something that a lot of folks should be really proud of
and excited about you know seeing

that module come out of the shuttles

cargo bay remind a lot of folks about

how much capability is going to be lost

when the shuttle stops flying and you

know given the administration's new

budget which obviously happened right

before you guys took off and the shift

in emphasis either if you have any

concerns about NASA's ability to keep

the station flying through 2020 well you

know first of all I'd like to say that

I'm just so honored to be part of this

fantastic team and it is just
unbelievable what this team this international team has done together
that we have put all these different high technical pieces and parts all
together and brought them up to space
and put them together up here we see
many times things that are built in vastly different locations by several
different companies and contractors and
governments brought to space for the first time without ever being fit check
together brought together here and put
together and it works great and this team just does a fantastic job and I'm
sure they'll continue you know looking

ahead though guys there's a there's a

fair amount of angst I guess among the

NASA troops about the budget the new

direction for NASA what do you guys have

to say to everybody about where you

think things are going well I know it's

a tough time and there's a lot of

uncertainty out there but from my

personal point of view we've been

focused on what's happening this

afternoon and this evening and I really

haven't had time to think about what's

going on too much in the future but I
know that we have a very busy year of

00:35:57,969 --> 00:36:01,599
space shuttle flights and flying the

00:36:00,070 --> 00:36:04,210
Space Shuttle is a very difficult thing

00:36:01,599 --> 00:36:05,858
to do it's a very complex machine maybe

00:36:04,210 --> 00:36:08,289
the most complex machine that we've ever

00:36:05,858 --> 00:36:10,000
built and it's just really important

00:36:08,289 --> 00:36:12,759
right now for us to focus on flying the

00:36:10,000 --> 00:36:15,550
shuttle safely it's a really hard thing

00:36:12,760 --> 00:36:17,170
to get into orbit and a hard thing to

00:36:15,550 --> 00:36:19,119
come back from orbit and

00:36:17,170 --> 00:36:20,588
hard thing to operate here in orbit like

00:36:19,119 --> 00:36:22,599
we're doing like you mentioned the

00:36:20,588 --> 00:36:24,608
shuttle has so much capability and it

00:36:22,599 --> 00:36:28,359
does so much so I think in the near term

00:36:24,608 --> 00:36:30,250
we just need to keep it about 24 the ars
rock well let me ask you just one more

along those lines tarea you know

obviously this this shift commercial

vehicles is something that is a big

change arey arey just because it's so

hard to get into space you're confident

that private industry can can do what

needs to be done both unmanned and

manned to support the station I'm going

to pass that one over 2k yeah I was just

wondering just because it is so

difficult to get into space this your

challenge of all of this how confident

you guys are the private industry can
step up both with unmanned cargo craft

and the manned craft you'll eventually

need to continue supporting Space

Station well you know again this is a

phenomenal team and NASA has been around

for more than 50 years and we faced a

lot of challenges in the past I remember

when we ended the Apollo program and it

took a while for us to to get the

shuttle program launched but people were

working on it so I think that this is

really going to lead to better things

just as we stepped up from Apollo to

shuttle and the International Space
Station this is just a phase that we must go through sometimes it would have been nice to happen maybe a little smoother but this is something that we will meet this challenge nasa and its entire international team will make sure that we fly safely and we're going to come up with something great i'm sure that the next program is going to be wonderful thanks a lot guys they tell me I got a rep so have a safe flight and we look forward to seeing you back on the ground in Florida thanks a lot we'll see you endeavor iff this is Reuters how do
you read me read you loud and clear how

842
00:38:23,710 --> 00:38:28,269
do you read us

843
00:38:25,079 --> 00:38:29,949
very good thank you Colonel verts

844
00:38:28,269 --> 00:38:31,960
captain higher it's Chris Baltimore with

845
00:38:29,949 --> 00:38:34,359
Reuters in Houston it's been a while

846
00:38:31,960 --> 00:38:35,889
since both of you have been on orbit how

847
00:38:34,360 --> 00:38:42,519
has the experience been different for

848
00:38:35,889 --> 00:38:46,389
you both this time around well this is

849
00:38:42,519 --> 00:38:47,590
my first time and it's been amazing it's

850
00:38:46,389 --> 00:38:50,409
different than what I thought it would

851
00:38:47,590 --> 00:38:52,420
be a lot better and it really when you

852
00:38:50,409 --> 00:38:54,239
hear indescribable that's really true

853
00:38:52,420 --> 00:38:56,860
because you just can't put words to it

854
00:38:54,239 --> 00:38:58,839
the earth looks different than I thought

855
00:38:56,860 --> 00:39:03,070
it would look it has more colors to it
and more tones and it was just surprising. I've been looking at pictures of the earth for my whole life and it was really surprising to see it especially the first few days in orbit. There was a thin moon out and I just saw some amazing things the east coast of the US and night flew over Israel and Jerusalem one night with the moon setting right above it and so those images are going to stick with me forever. The other thing that's different and and I knew it would happen but it's it's a lot of fun to get used to.
floating and learning to not there's a natural reaction that your body wants to push and touch and grab things and whenever you do that you end up do it you know doing that and floating up just with a really small push so you really have to learn it's like learning how to walk again only you have to learn in a few hours or a few days instead of years thank you a question for Captain hire the shuttle program is nearing its retirement with four remaining missions after this one for you and your team members is this a feeling more bitter or
more sweet well I'll tell you I think

it's going to hit me a little bit more

after we land we have been so focused on

sts-1 30 in this flight and the task

that we have to accomplish on this

flight that we haven't really had a lot

of time to reflect about it but I'm sure

that when i get back and the reality of

only four more flight sets in its it's

going to feel a little strange but it's

also an exciting time because it means

that we're moving on to something else

so I'm pretty excited to see what's

going to come next
thank you a question for Colonel verts

after the shuttle is retired current plans call for US astronauts to reach the space station of aya privately-run space taxis is this a viable plan to you and do you think that private industry can uphold the same standards of quality and safety that nASA has you know my focus for last year has been on training for this flight so I haven't I'm not familiar at all with what plans the commercial companies may have for building it I was aware of Orion and I worked on that some but I'm sure that NASA is going to hold them to a very
913
00:41:15,670 --> 00:41:21,579
high standard that there it'll be safe

914
00:41:18,608 --> 00:41:23,558
it'll work to the best of our

915
00:41:21,579 --> 00:41:24,940
abilities to make it work so I'm

916
00:41:23,559 --> 00:41:26,349
confident that NASA will make sure that

917
00:41:24,940 --> 00:41:28,389
there's high safety standards but I

918
00:41:26,349 --> 00:41:30,548
haven't had a chance to I'm not familiar

919
00:41:28,389 --> 00:41:34,958
with what types of designs or plans that

920
00:41:30,548 --> 00:41:37,630
they have right now thank you and may be

921
00:41:34,958 --> 00:41:40,358
in question for both both of you the

922
00:41:37,630 --> 00:41:42,548
current NASA budget does away with the

923
00:41:40,358 --> 00:41:45,098
constellation program to put an American

924
00:41:42,548 --> 00:41:50,818
vehicle on the moon what's your take on

925
00:41:45,099 --> 00:41:50,818
this this priority shift going forward

926
00:41:54,239 --> 00:41:59,380
well I have to echo what Terry Virts
just told you and that's that we have

been so focused on sts-132 personally

for me and I'm sure for the rest of our

crew that we really haven't even been

reading the news or looking at the

details of all of that I know there's a

lot of discussion going on about that

right now but I'm really just not up to

speed on that but we can sure talk about

this mission sts-131 accomplished while

we're here at the International Space

Station you bet maybe you could give me

a few impressions about the new

tranciity mode and node and what what
it's looking like and how it's shaping

up we were able to open the hatch

and go in today and it's starting off it

was dark and just a little bit stuffy if

you will because there was no air

circulation going on and we're in the

process of setting all that up so as we

are going

there now and bringing new equipment

inside we are wearing little headlamps

and carrying flashlights and and little

portable fans and until we get

everything all up and running but that's

going to be soon and it's just going to
be a fantastic module for the folks on

00:43:08,719 --> 00:43:15,589
the International Space Station very

00:43:13,789 --> 00:43:19,219
good i know that your crew is working

00:43:15,590 --> 00:43:22,970
some issues with getting the the proper

00:43:19,219 --> 00:43:25,879
equipment for sealing the cupola on to

00:43:22,969 --> 00:43:28,359
the tranquility node do you envision

00:43:25,880 --> 00:43:30,110
that creating any problems for

00:43:28,360 --> 00:43:37,910
completing that that part of the

00:43:30,110 --> 00:43:39,500
installation yes we just noticed there's

00:43:37,909 --> 00:43:43,009
a cover that we were going to put on the

00:43:39,500 --> 00:43:45,619
outside hatch of node 3 and we cover

00:43:43,010 --> 00:43:46,730
that hatch up as we move the cupola off

00:43:45,619 --> 00:43:48,769
of it and then we're going to move

00:43:46,730 --> 00:43:51,320
another module called p.m. a 3 on to

00:43:48,769 --> 00:43:53,300
that location and the ground is deciding
right now how they want to proceed in

fact that just happened as you know a

few hours ago ok and I were installing

it we found out that it didn't fit

there's no meeting the both modules are

in great shape and so it's just a matter

of deciding how we're going to proceed

at this point well Colonel verts captain

hire it's been a pleasure thank you so

much for taking the time thanks a lot

and I hope you're having a great time

back there on earth

you

you