1
00:00:01,300 --> 00:00:05,460
Good morning and welcome to today's
International Space Station update.

2
00:00:05,460 --> 00:00:11,690
On board the crew of Expedition 30 is busying
themselves with some scientific experiment work

3
00:00:11,690 --> 00:00:15,780
and maintenance activities as
they move out of an off-duty day.

4
00:00:15,780 --> 00:00:19,690
On board you can see in the center
of your screen NASA astronaut

5
00:00:19,690 --> 00:00:22,910
and Expedition 30 Commander Dan Burbank.

6
00:00:22,910 --> 00:00:28,480
Joining him are Russian cosmonauts
Anton Shkaplerov and Anatoly Ivanishin.

7
00:00:28,480 --> 00:00:32,760
This is Burbank's third flight into space,
his first two were shuttle missions,

8
00:00:32,760 --> 00:00:36,410
including STS-106 which prepared
the International Space Station

9
00:00:36,410 --> 00:00:39,180
for the arrival of its first permanent crew.

10
00:00:39,180 --> 00:00:44,270
And this is the first spaceflight
for both Shkaplerov and Ivanishin.

11
00:00:44,270 --> 00:00:47,910

On board today, Dan Burbank
participated in a public affairs event,

12
00:00:47,910 --> 00:00:50,920
talking with CBS News in Florida.

13
00:00:50,920 --> 00:00:57,150
And following that, he is doing a range of
experiment work today, including some repair

14
00:00:57,150 --> 00:01:00,720
to the International Space
Station agricultural camera.

15
00:01:00,720 --> 00:01:04,650
This camera is mounted in the window
Observational Research Facility

16
00:01:04,650 --> 00:01:10,660
on board the station and its function is to
take images of both visible and infrared light

17
00:01:10,660 --> 00:01:15,570
of vegetated areas in the northern
Great Plains region of United States.

18
00:01:15,570 --> 00:01:19,610
This includes growing crops,
grassland and forest.

19
00:01:19,610 --> 00:01:24,850
It is also being used to study dynamic
Earth processes around the world.

20
00:01:24,850 --> 00:01:29,470
And these phenomenon include things like
melting glaciers, ecosystem responses

21
00:01:29,470 --> 00:01:36,050
to seasonal changes, human impacts and rapid

response monitoring of any natural disasters.

22
00:01:36,050 --> 00:01:41,560
In addition to that, Dan Burbank did
some work on the Passages experiment,

23
00:01:41,560 --> 00:01:47,860
which the technical term for that is scaling
body related actions in the absence of gravity.

24
00:01:47,860 --> 00:01:52,740
And this is a test that interprets
visual information,

25
00:01:52,740 --> 00:01:58,340
or rather how the astronauts retinas
interpret visual information in microgravity.

26
00:01:58,340 --> 00:02:05,530
And here you see Dan Burbank working
with that Passages experiment.

27
00:02:05,530 --> 00:02:09,710
What that's doing is testing for
effects of weightlessness on estimates

28
00:02:09,710 --> 00:02:12,660
of visual distance and perceived eye height.

29
00:02:12,660 --> 00:02:17,940
And these bodily functions can be
used to calibrate physical dimensions

30
00:02:17,940 --> 00:02:23,910
in the person's visual field, determining such
easy things as the pass ability of a doorway.

31
00:02:23,910 --> 00:02:28,170
You can see him setting up this experiment,
its a box similar to what you might see

32
00:02:28,170 --> 00:02:34,170
at your eye doctor, the astronauts then look
through and perform a number of exercises.

33
00:02:34,170 --> 00:02:39,260
Also on board, Russian cosmonauts Anton
Shkaplerov and Anatoly Ivanishin participated

34
00:02:39,260 --> 00:02:43,510
in a Russian public affairs event,
talking to some of their Russian media.

35
00:02:43,510 --> 00:02:48,340
Shkaplerov then did some work
on the cryogen refrigerator,

36
00:02:48,340 --> 00:02:50,770
removing that and replacing some components.

37
00:02:50,770 --> 00:02:56,020
The rest of his day was taken up by some crew
orientation time as he continues to adapt

38
00:02:56,020 --> 00:02:59,710
to the microgravity environment on
board the International Space Station.

39
00:02:59,710 --> 00:03:06,340
He and the other crew members also got in, will
get in their two hours of scheduled exercise.

40
00:03:06,340 --> 00:03:10,620
This of course combats the negative
effects of the microgravity environment

41
00:03:10,620 --> 00:03:14,780
on both their bone density
and muscle structures.

42
00:03:14,780 --> 00:03:20,350
Shkaplerov is also doing some work on
Elektron, which is the oxygen generation system

43
00:03:20,350 --> 00:03:23,950
on the Russian segment of the
International Space Station.

44
00:03:23,950 --> 00:03:30,210
This of course is one of the important items
onboard International Space Station and part

45
00:03:30,210 --> 00:03:36,450
of their dissimilar redundancy, which is a
practice on board to ensure that there always

46
00:03:36,450 --> 00:03:41,360
at least two pieces of equipment that perform
the same function, but in various ways.

47
00:03:41,360 --> 00:03:45,260
The U.S. segment has the
Oxygen Generation System.

48
00:03:45,260 --> 00:03:51,510
Some other items of that also employ this
dissimilar redundancy policy are the CDRA,

49
00:03:51,510 --> 00:03:58,360
which is the Carbon Dioxide Removal Assembly on
board the U.S. segment and the Russian Vozdukh.

50
00:03:58,360 --> 00:04:03,770
Rounding out the crew, Anatoly Ivanishin again
participated in that Russian PAO event and much

51
00:04:03,770 --> 00:04:08,010
of his day will be taken up with maintenance
work on the Russian toilet system.

52
00:04:08,010 --> 00:04:12,200
The crew will end their day with another
daily planning conference as they talk

53
00:04:12,200 --> 00:04:14,630
to ground controllers in
the flight control room.

54
00:04:14,630 --> 00:04:18,950
They will then move into their pre-sleep
period where they do any wrap-up work