



1
00:00:02,190 --> 00:00:04,380
This is mission control Houston.

2
00:00:04,380 --> 00:00:09,799
The International Space Station's Expedition
30 crew put in a lot of science time this

3
00:00:09,799 --> 00:00:16,930
week despite having the week shortened somewhat
by a holiday and also going through some unexpected

4
00:00:16,930 --> 00:00:18,960
events on their schedule.

5
00:00:18,960 --> 00:00:23,100
The week kicked off on Monday with the crew
having time off duty in observance of the

6
00:00:23,100 --> 00:00:28,250
Russian Christmas holiday, although most of
the crew members did some exercise on the

7
00:00:28,250 --> 00:00:33,680
Advanced Resistive Exercise Device, which
was downlinked for review by specialists in

8
00:00:33,680 --> 00:00:34,680
Houston.

9
00:00:34,680 --> 00:00:39,570
That's done in order to verify that the
crew members are performing the exercise properly

10
00:00:39,570 --> 00:00:44,170
as well as to evaluate the performance of
the equipment itself.

11
00:00:44,170 --> 00:00:49,289
On Monday station Commander Dan Burbank also

had an amateur radio talk with some high school

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00:00:49,289 --> 00:00:55,440

students near Paris, and Russian crew members start of a weeklong effort to provide video

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00:00:55,440 --> 00:01:01,960

for a Russian television program for kids about science that's known as "Science

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00:01:01,960 --> 00:01:02,960

2.0."

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00:01:02,960 --> 00:01:08,530

On Tuesday crew members began gathering science data immediately after wake up, taking body

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00:01:08,530 --> 00:01:12,560

mass measurements and calf volume measurements.

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00:01:12,560 --> 00:01:17,660

Data of that nature is gathered for ongoing research into how a person's body response

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00:01:17,660 --> 00:01:22,070

to spending an extended period of time in the absence of gravity.

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00:01:22,070 --> 00:01:26,750

Each day the crew members have two physical workouts to help them combat the bone and

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00:01:26,750 --> 00:01:31,560

muscle loss that comes as a result of a long-duration trip in space.

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00:01:31,560 --> 00:01:37,380

The science gathering continued through the week as the crew members spent time variously

22
00:01:37,380 --> 00:01:43,920
with experiments gathering more physical data,
including measurements of oxygen uptake during

23
00:01:43,920 --> 00:01:45,210
exercise.

24
00:01:45,210 --> 00:01:53,560
That experiment known as the VO₂max experiment
closely monitors a crew member's respiration

25
00:01:53,560 --> 00:01:58,590
while they are exercising so the specialists
on the ground can determine if they are getting

26
00:01:58,590 --> 00:02:05,560
enough oxygen while they exercise and if needed
to make adjustments to their exercise routines.

27
00:02:05,560 --> 00:02:10,060
Crew members also conducted ultrasound examinations
of their eyes.

28
00:02:10,060 --> 00:02:16,670
They monitored cardiovascular function during
exercise, and they also took tests of their

29
00:02:16,670 --> 00:02:24,360
own reaction time to measure the impact on
them of the fatigue from being in space.

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00:02:24,360 --> 00:02:29,170
Burbank spent time during the week today,
during the week, also removing a secondary

31
00:02:29,170 --> 00:02:33,760
power distribution assembly jumper in the
Destiny laboratory.

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00:02:33,760 --> 00:02:39,069

That was another step to get the systems into the proper configuration to support next month's

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00:02:39,069 --> 00:02:44,610

client commercial cargo demonstration flight to the International Space Station.

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00:02:44,610 --> 00:02:50,540

Andre Kuipers also had an opportunity in a European space agency public affairs about

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00:02:50,540 --> 00:02:55,620

to speak with the Prime Minister of the Netherlands and students at Delft University in the city

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00:02:55,620 --> 00:02:57,540

of Delft.

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00:02:57,540 --> 00:03:02,650

On Wednesday Burbank installed a spare communications unit that's also needed for the flight of

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00:03:02,650 --> 00:03:08,650

that commercial cargo ship Dragon and he finished an annual maintenance on the Waste Hygiene

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00:03:08,650 --> 00:03:12,040

Compartment, changing out hydraulic components.

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00:03:12,040 --> 00:03:17,520

Flight Engineers Anton Shkaplerov and Anatoly Ivanishin worked stowing items in the Progress

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00:03:17,520 --> 00:03:22,880

supply ship that is attached to the Pirs docking compartment.

42

00:03:22,880 --> 00:03:28,230

And they did other preparations for the undocking

of that vehicle which is targeted for Monday,

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00:03:28,230 --> 00:03:30,370

January 23.

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00:03:30,370 --> 00:03:35,340

Flight Engineer Oleg Kononenko spent a big part of the day on Wednesday monitoring the

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00:03:35,340 --> 00:03:40,070

refilling the cooling loops in the environmental control system in the Russian segment of the

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00:03:40,070 --> 00:03:44,630

station, as well as taking some microbial air samples.

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00:03:44,630 --> 00:03:51,280

Flight Engineer Don Pettit on Wednesday activated the NanoRacks experiment, which is a new experiment

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00:03:51,280 --> 00:03:58,480

on the station which is processing material science samples in that microgravity environment.

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00:03:58,480 --> 00:04:04,700

On Thursday station commander set up and executed a protocol to scrub the cooling loops of two

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00:04:04,700 --> 00:04:11,390

of the Extravehicular Mobility Units, the spacesuits that are worn by crew members when

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00:04:11,390 --> 00:04:17,430

they do spacewalks out of the Quest airlock in the Russian, rather the American segment

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00:04:17,430 --> 00:04:18,970

of the station.

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00:04:18,970 --> 00:04:25,310

Burbank did that and joined Kuipers and Pettit to discuss the progress of their mission in

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00:04:25,310 --> 00:04:29,070

an on-orbit interview with the Weather Channel.

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00:04:29,070 --> 00:04:34,060

On Thursday the team in Mission Control in Houston began planning a debris avoidance

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00:04:34,060 --> 00:04:39,340

maneuver after the trajectory operations officers determined that a piece of communications

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00:04:39,340 --> 00:04:44,960

satellite debris was on course to pass close by the station on two consecutive orbits on

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00:04:44,960 --> 00:04:46,870

Friday afternoon.

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00:04:46,870 --> 00:04:53,080

The Zvezda module's engines were used to perform that maneuver Friday morning to move the station

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00:04:53,080 --> 00:04:55,810

away from that anticipated conjunction.

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00:04:55,810 --> 00:05:01,720

The maneuver also served put the station into the proper orbit to support the arrival of

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00:05:01,720 --> 00:05:08,380

a new Progress supply ship in two weeks time, January 27, that will be arriving with a new