
VOICE OF
Pat Ryan
JOHNSON SPACE CENTER, HOUSTON, TX

1
00:00:02,276 --> 00:00:03,976
This is Mission Control Houston.

2
00:00:04,416 --> 00:00:08,036
The Expedition 33 crew members
onboard the International Space

3
00:00:08,036 --> 00:00:10,406
Station have been
focused on a variety

4
00:00:10,406 --> 00:00:13,956
of scientific research this
week while also preparing

5
00:00:13,956 --> 00:00:17,106
for operations with a
number of visiting vehicles.

6
00:00:17,786 --> 00:00:22,106
On Monday, Flight Engineer Aki
Hoshide activated the Re-Entry

7
00:00:22,106 --> 00:00:24,456
Breakup Recorder
and installed it

8
00:00:24,516 --> 00:00:27,016
in the Automated Transfer
Vehicle number three

9
00:00:27,016 --> 00:00:29,506
for its planned Tuesday
undocking.

10
00:00:30,036 --> 00:00:34,536
That REBR records data during
re-entry on temperature,

11

00:00:34,616 --> 00:00:37,666
acceleration, rotational
rates and other items --

12
00:00:38,366 --> 00:00:39,866
data that will be transferred...

13
00:00:40,226 --> 00:00:42,786
transmitted to the
ground and studied

14
00:00:42,786 --> 00:00:45,716
to help design future
spacecraft that would pose less

15
00:00:45,716 --> 00:00:47,416
of a hazard during re-entry.

16
00:00:47,946 --> 00:00:51,796
He then joined Commander
Suni Williams

17
00:00:51,796 --> 00:00:56,136
for some ATV undocking training
before both of them went

18
00:00:56,136 --> 00:01:00,166
to work closing the hatches
between the ATV and the station.

19
00:01:00,646 --> 00:01:02,096
Leak checks were conducted

20
00:01:02,176 --> 00:01:05,296
through the night tonight
looking ahead toward the

21
00:01:05,296 --> 00:01:06,856
undocking on Tuesday.

22
00:01:07,346 --> 00:01:10,876
Hoshide also worked with
Commander Suni Williams

23
00:01:11,216 --> 00:01:15,616
on Monday and Thursday training
for next month's arrival

24
00:01:15,796 --> 00:01:19,586
of the Dragon spacecraft -- the
commercial cargo ship targeted

25
00:01:19,586 --> 00:01:21,976
for its first operational
flight to the station

26
00:01:21,976 --> 00:01:26,396
in early October -- launching
October 7 and planning to arrive

27
00:01:26,396 --> 00:01:28,086
at the station October 10.

28
00:01:28,786 --> 00:01:32,486
The computer-based training
of how they will use Canadarm2

29
00:01:32,486 --> 00:01:35,706
to grapple the Dragon when
it approaches the station

30
00:01:36,026 --> 00:01:38,636
and berth it to the
Harmony node just

31
00:01:38,636 --> 00:01:41,876
as was done during
the first Dragon visit

32

00:01:41,876 --> 00:01:44,566
to the station during its
demonstration flight in May.

33
00:01:45,996 --> 00:01:48,316
Tuesday's schedule
centered around preparations

34
00:01:48,316 --> 00:01:50,986
for the undocking of the ATV.

35
00:01:51,246 --> 00:01:54,726
All the crew had a shortened
day since they would be up later

36
00:01:54,726 --> 00:01:58,226
than usual to monitor
the ATV's undocking.

37
00:01:58,746 --> 00:02:02,296
Although during the day Suni
Williams set up the ultrasound

38
00:02:02,296 --> 00:02:05,576
for the Integrated
Cardiovascular experiment

39
00:02:05,906 --> 00:02:08,256
in which an echocardiogram
is conducted

40
00:02:08,256 --> 00:02:11,526
on the crew member
before and after exercise.

41
00:02:11,986 --> 00:02:15,336
Scientists try to quantify the
atrophy of the heart muscle

42
00:02:15,676 --> 00:02:18,066

that is associated with
long-duration spaceflight.

43
00:02:18,066 --> 00:02:23,086
Hoshide assisted her on that
experiment and spent part

44
00:02:23,086 --> 00:02:25,776
of the early part of that
day exchanging samples

45
00:02:25,776 --> 00:02:29,966
in the NanoStep experiment while
their crewmate Flight Engineer

46
00:02:29,966 --> 00:02:32,806
Yuri Malenchenko took care
of the routine maintenance

47
00:02:32,806 --> 00:02:34,646
in the Russian segment
of the station.

48
00:02:35,236 --> 00:02:38,206
Williams also conducted
two in-flight interviews

49
00:02:38,486 --> 00:02:43,016
with the Huffington Post and
CBS Radio before all three crew

50
00:02:43,016 --> 00:02:44,946
members got a midday break.

51
00:02:45,436 --> 00:02:50,136
Tuesday's undocking attempt
was aborted just a few minutes

52
00:02:50,136 --> 00:02:53,736
before the undocking took

place when the commands

53
00:02:53,736 --> 00:02:57,636
to open the hooks in the
ATV did not go through.

54
00:02:58,146 --> 00:03:01,676
The error in that configuration
was subsequently identified

55
00:03:01,676 --> 00:03:02,646
and resolved.

56
00:03:03,116 --> 00:03:07,246
But a second undocking effort
was postponed due to planning

57
00:03:07,246 --> 00:03:09,866
for a possible debris
avoidance maneuver.

58
00:03:10,546 --> 00:03:14,136
Ground teams in Houston had
been tracking two items -

59
00:03:14,136 --> 00:03:17,356
a piece of Russian Cosmos
satellite that was involved

60
00:03:17,356 --> 00:03:20,406
in a collision in
2009 and a piece

61
00:03:20,406 --> 00:03:22,736
of exploded Indian rocket body

62
00:03:23,166 --> 00:03:26,006
that had been on
orbit since 2001.

63
00:03:26,466 --> 00:03:29,966
Both of which were on course the
pass too close to the station,

64
00:03:30,266 --> 00:03:32,586
one on Thursday morning
and one on Friday morning.

65
00:03:33,226 --> 00:03:37,026
By midday Wednesday, Houston
flight controllers had been

66
00:03:37,026 --> 00:03:40,476
instructed to begin planning
for a debris avoidance maneuver

67
00:03:40,836 --> 00:03:44,996
which would involve firing the
thrusters on the ATV in order

68
00:03:44,996 --> 00:03:47,536
to change the station's
orbit and avoid the debris.

69
00:03:48,256 --> 00:03:49,986
But additional tracking later

70
00:03:49,986 --> 00:03:53,246
in the day gave the teams
confidence that neither

71
00:03:53,246 --> 00:03:55,646
of the objects presented
a real concern

72
00:03:55,646 --> 00:03:58,356
for a conjunction
anymore and so the plans

73

00:03:58,356 --> 00:04:01,006
for the maneuver were
canceled and replanning

74
00:04:01,006 --> 00:04:03,676
for the ATV's undocking
took precedence.

75
00:04:04,406 --> 00:04:06,316
On Thursday, Suni
Williams worked

76
00:04:06,316 --> 00:04:10,016
on human life sciences
investigations use...

77
00:04:10,106 --> 00:04:14,426
taking measurements for the
VO2Max experiment gauging an

78
00:04:14,426 --> 00:04:17,206
astronaut's maximum
oxygen uptake on orbit

79
00:04:17,876 --> 00:04:21,786
and the European Space
Agency's Thermolab investigation

80
00:04:22,086 --> 00:04:23,526
which looks at the changes

81
00:04:23,526 --> 00:04:27,636
in the body core temperature
before during and after exercise

82
00:04:27,956 --> 00:04:30,206
to measure adaptation
of the body

83
00:04:30,206 --> 00:04:31,906

to the microgravity environment.

84
00:04:33,276 --> 00:04:34,606
Yuri Malenchenko spent time

85
00:04:34,606 --> 00:04:36,766
on Thursday cleaning
the ventilation system

86
00:04:36,766 --> 00:04:38,206
in the Zvezda module.

87
00:04:38,476 --> 00:04:42,006
Aki Hoshide did maintenance
with the air sampling equipment

88
00:04:42,006 --> 00:04:43,926
in Kibo and maintenance

89
00:04:43,926 --> 00:04:46,336
on the advanced resistive
exercise device.

90
00:04:46,976 --> 00:04:49,186
On Friday, the crew
members worked together

91
00:04:49,186 --> 00:04:53,136
in a routine drill to
practice their emergency

92
00:04:53,136 --> 00:04:54,676
evacuation procedures.

93
00:04:55,156 --> 00:04:58,756
They also had time spent
packing items that are scheduled

94
00:04:58,756 --> 00:05:00,456

to return to Earth next month

95
00:05:00,456 --> 00:05:04,566
on that Dragon cargo ship
before getting another scheduled

96
00:05:04,566 --> 00:05:09,836
mid-day rest again due to the
change in schedule required

97
00:05:09,886 --> 00:05:12,066
to support the planned undocking

98
00:05:12,326 --> 00:05:15,396
of the European cargo
ship the "Edoardo Amaldi."

99
00:05:15,966 --> 00:05:19,816
After time off-duty over the
weekend and an opportunity

100
00:05:19,816 --> 00:05:21,786
to talk to their
families on the ground,

101
00:05:22,406 --> 00:05:26,866
next week the Expedition 33 crew
will tackle more routine station

102
00:05:26,866 --> 00:05:29,066
maintenance plus
additional training

103
00:05:29,106 --> 00:05:31,496
for the upcoming
robotic arm operations