



1
00:00:01,467 --> 00:00:04,537
>> Good day, and welcome
to Mission Control Houston

2
00:00:04,537 --> 00:00:06,672
where the team of flight
controllers is watching

3
00:00:06,672 --> 00:00:08,074
over the activities

4
00:00:08,074 --> 00:00:12,845
of the Expedition 33 crew aboard
the International Space Station.

5
00:00:12,845 --> 00:00:14,713
Space Station currently orbiting

6
00:00:14,713 --> 00:00:19,185
about 240 statute miles just
off the eastern coast of Canada,

7
00:00:19,185 --> 00:00:22,555
heading out over the Atlantic
Ocean over cloudy skies.

8
00:00:22,555 --> 00:00:26,525
On board, Commander Suni
Williams is continuing to work

9
00:00:26,525 --> 00:00:27,993
with her crew mates,

10
00:00:27,993 --> 00:00:31,764
which include fellow NASA
astronaut Kevin Ford,

11
00:00:31,764 --> 00:00:35,468
Japan aerospace exploration

agency astronaut Akihiko

12

00:00:35,468 --> 00:00:39,538
Hoshide, and Russian Federal
Space Agency cosmonauts Yuri

13

00:00:39,538 --> 00:00:43,309
Malenchenko, Oleg Novitskiy,
and Evgeny Tarelkin.

14

00:00:43,309 --> 00:00:48,481
As the six crew members get
ready for the departure of three

15

00:00:48,481 --> 00:00:51,684
of those crew members and
the continued operations

16

00:00:51,684 --> 00:00:53,119
of the Space Station with three

17

00:00:53,119 --> 00:00:55,321
of the newly arrived
crew members.

18

00:00:55,321 --> 00:00:58,791
Here at Mission Control
Houston guiding the activities

19

00:00:58,791 --> 00:01:02,828
of the team today is flight
director Tomas Gonzales Torres

20

00:01:02,828 --> 00:01:05,064
on the second shift of the day.

21

00:01:05,064 --> 00:01:07,900
He's working with spacecraft
communicator Jay Marschke

22

00:01:07,900 --> 00:01:12,138
and a visiting payload
operations control center work,

23

00:01:12,138 --> 00:01:15,741
who is here in Mission Control
to get some familiarization

24

00:01:15,741 --> 00:01:19,378
with how things go
here in Houston.

25

00:01:19,378 --> 00:01:21,947
With maintenance work
completed earlier this week,

26

00:01:21,947 --> 00:01:24,717
today is devoted to
science experiments,

27

00:01:24,717 --> 00:01:26,819
particularly ultrasound
data takes.

28

00:01:26,819 --> 00:01:28,854
The ultrasound is
going to be used part

29

00:01:28,854 --> 00:01:32,057
of the integrated
cardiovascular experiment,

30

00:01:32,057 --> 00:01:37,029
which looks at how
the heart relates

31

00:01:37,029 --> 00:01:39,298
to long duration space flight.

32

00:01:39,298 --> 00:01:44,236

It's also going to be used to
look at the human eye as part

33

00:01:44,236 --> 00:01:46,472

of an ongoing set of
research that looks

34

00:01:46,472 --> 00:01:50,843

at how long-term stays in
space flight affect vision

35

00:01:50,843 --> 00:01:52,044

for astronauts.

36

00:01:52,044 --> 00:01:56,348

Some of that can be long
term changes to the vision

37

00:01:56,348 --> 00:01:57,483

of the astronauts that last

38

00:01:57,483 --> 00:02:00,119

after they have returned
home to Earth.

39

00:02:00,119 --> 00:02:03,822

Going to be taking advantage
of these ultrasound studies

40

00:02:03,822 --> 00:02:07,259

of the eye to get more
information on that.

41

00:02:07,259 --> 00:02:08,627

Williams, Hoshide,

42

00:02:08,627 --> 00:02:11,764

and Malenchenko are continuing
their departure preparations

43

00:02:11,764 --> 00:02:14,066
for their return to
Earth a week from Sunday.

44

00:02:14,066 --> 00:02:17,336
They have all week
to continue working

45

00:02:17,336 --> 00:02:20,206
on those activities
while Ford, Novitskiy,

46

00:02:20,206 --> 00:02:23,475
and Tarelkin are continuing
to familiarize themselves

47

00:02:23,475 --> 00:02:25,444
with their new home in space.

48

00:02:25,444 --> 00:02:28,113
Just to wrap up the week.

49

00:02:28,113 --> 00:02:31,884
The week started out with the
station completing its 80,000

50

00:02:31,884 --> 00:02:35,487
orbit of the Earth, which
is about 2.1 billion miles

51

00:02:35,487 --> 00:02:38,824
or roughly the distance from
here to Pluto and was set

52

00:02:38,824 --> 00:02:42,394
up so the integrated
cardiovascular experiment work.

53

00:02:42,394 --> 00:02:44,129

They also did some
troubleshooting for the waste

54

00:02:44,129 --> 00:02:46,665

and hygiene compartment
toilet that had clogged

55

00:02:46,665 --> 00:02:50,336

over the weekend and were
working on their familiarization

56

00:02:50,336 --> 00:02:52,838

and departure preparations.

57

00:02:52,838 --> 00:02:55,107

Tuesday started on a
challenging note with both

58

00:02:55,107 --> 00:02:56,976

of the local area
network servers

59

00:02:56,976 --> 00:02:58,777

on the space station failing.

60

00:02:58,777 --> 00:03:02,114

Those laptop servers support
non-critical computer activities

61

00:03:02,114 --> 00:03:05,751

like messaging, scheduling,
and procedure holding.

62

00:03:05,751 --> 00:03:07,820

Mission Control was able to
perform some work arounds

63

00:03:07,820 --> 00:03:09,455

to the schedule so that all

64

00:03:09,455 --> 00:03:11,423
of the day's work
could be completed,

65

00:03:11,423 --> 00:03:12,491
but the crew spent much

66

00:03:12,491 --> 00:03:15,027
of Monday morning
replacing hard drives

67

00:03:15,027 --> 00:03:19,198
so that Mission Control could
restore the server software.

68

00:03:19,198 --> 00:03:22,501
Additional troubleshooting on
the toilet plumbing continued,

69

00:03:22,501 --> 00:03:25,237
but Kevin Ford was able
to do his first work

70

00:03:25,237 --> 00:03:26,939
with the elite experiment.

71

00:03:26,939 --> 00:03:29,541
That's a European space agency
investigation that looks

72

00:03:29,541 --> 00:03:32,678
at the connections between
the brain, visualization,

73

00:03:32,678 --> 00:03:35,581
and motions in micro gravity.

74

00:03:35,581 --> 00:03:38,117

Wednesday was devoted
to more plumbing work,

75

00:03:38,117 --> 00:03:40,586

but the crew also conducted
an emergency equipment

76

00:03:40,586 --> 00:03:43,756

familiarization drill to be sure
that the new crew members know

77

00:03:43,756 --> 00:03:46,358

where all the portable
breathing, fire fighting,

78

00:03:46,358 --> 00:03:48,961

and other emergency
equipment are located and how

79

00:03:48,961 --> 00:03:50,362

to operate them on orbit,

80

00:03:50,362 --> 00:03:52,865

although they would
receive thorough training

81

00:03:52,865 --> 00:03:54,333

on the ground before
they launched.

82

00:03:54,333 --> 00:03:57,536

Always good to get an
on-orbit training session in.

83

00:03:57,536 --> 00:03:59,672

On Thursday the crew
finally fixed the toilet

84

00:03:59,672 --> 00:04:02,741

by replacing a pre-treatment

liquid tank.

85

00:04:02,741 --> 00:04:06,512

Kevin Ford actually got
his hands dirty doing

86

00:04:06,512 --> 00:04:07,479

that plumbing work.

87

00:04:07,479 --> 00:04:09,815

Good familiarization
with the toilet

88

00:04:09,815 --> 00:04:11,350

in the U.S. operating segment

89

00:04:11,350 --> 00:04:14,720

of the Space Station before
the experiment crew members,

90

00:04:14,720 --> 00:04:17,656

the experienced crew
members head for home.

91

00:04:17,656 --> 00:04:22,161

And that means the two restrooms
are now conveniently available

92

00:04:22,161 --> 00:04:23,829

to the crew on board
the Space Station.

93

00:04:23,829 --> 00:04:26,632

This is recorded video
of Kevin Ford doing

94

00:04:26,632 --> 00:04:29,301

that last troubleshooting work.

95

00:04:29,301 --> 00:04:31,937

Aki Hoshide also had
an opportunity to work

96

00:04:31,937 --> 00:04:34,840

with the newly arrived
Jacks Aquarium,

97

00:04:34,840 --> 00:04:38,177

which he performed some
collection and freezing

98

00:04:38,177 --> 00:04:40,913

of the sample [inaudible]
fish that are being used

99

00:04:40,913 --> 00:04:44,216

to study how bones are
affected by long stays in space.

100

00:04:44,216 --> 00:04:48,120

The [inaudible] fish, which
have skeletons, are good analogs

101

00:04:48,120 --> 00:04:49,755

for the human skeleton,
and the fact

102

00:04:49,755 --> 00:04:54,593

that their lives are much
shorter allows more exposure

103

00:04:54,593 --> 00:04:59,565

to the micro gravity environment
from a comparative aspect.

104

00:05:01,066 --> 00:05:04,136

And meanwhile at the [inaudible]
Cosmonaut Training Center

105

00:05:04,136 --> 00:05:08,340
in Star City, Russia, two of the
crew members for the next crew,

106

00:05:08,340 --> 00:05:10,409
[inaudible] and Chris Hadfield,

107

00:05:10,409 --> 00:05:13,879
are conducting additional soil
use simulation runs today.

108

00:05:13,879 --> 00:05:17,082
Hadfield eventually will become
the first Canadian commander

109

00:05:17,082 --> 00:05:19,151
of the International
Space Station.

110

00:05:19,151 --> 00:05:21,620
Meanwhile, their crew mate,
Tom Marshburn, is returning

111

00:05:21,620 --> 00:05:25,491
to Star City Monday to begin
final pre-launch training.

112

00:05:25,491 --> 00:05:32,931
The current crew is looking
forward to a two-day weekend,

113

00:05:32,931 --> 00:05:35,901
but while International
Space Station update

114

00:05:35,901 --> 00:05:37,936
on NASA television
has the day off Monday

115

00:05:37,936 --> 00:05:40,038

for the Veterans' Day holiday,

116

00:05:40,038 --> 00:05:43,108

the station crew will
work a full day on Monday.

117

00:05:43,108 --> 00:05:45,577

They'll be completing
their preparations

118

00:05:45,577 --> 00:05:49,381

for the upcoming change of
command ceremony on Saturday

119

00:05:49,381 --> 00:05:54,119

and the Expedition 33
crew's departure on Sunday.

120

00:05:57,356 --> 00:05:59,525

There's several other
big-ticket items coming

121

00:05:59,525 --> 00:06:01,393

up for the final
work for that crew.

122

00:06:01,393 --> 00:06:05,597

The advanced resistive exercise
device, that cable arm rope,

123

00:06:05,597 --> 00:06:09,001

an exercise rope are going
to be replaced on Monday.

124

00:06:09,001 --> 00:06:10,202

There'll be some work

125

00:06:10,202 --> 00:06:13,505

on the combined operation
load bearing treadmill.

126

00:06:13,505 --> 00:06:17,109

Regular six-month maintenance,
and some additional work

127

00:06:17,109 --> 00:06:21,814

on the local area network
plan during the week.

128

00:06:21,814 --> 00:06:23,916

There's also some installation

129

00:06:23,916 --> 00:06:28,554

of ultrasound background noise
sensors on the laboratory.

130

00:06:32,124 --> 00:06:35,694

And some additional
work on Friday next week

131

00:06:35,694 --> 00:06:40,065

with the carbon dioxide removal
assembly to check and see

132

00:06:40,065 --> 00:06:43,836

if Aki Hoshide can isolate a
small leak that's been noticed

133

00:06:43,836 --> 00:06:45,070

in that system that's used

134

00:06:45,070 --> 00:06:48,006

to scrub excess carbon
dioxide from the atmosphere.

135

00:06:48,006 --> 00:06:51,343

NASA TV will provide
full coverage

136

00:06:51,343 --> 00:06:54,646
of the departure activities
beginning on Saturday

137
00:06:54,646 --> 00:06:56,148
with the change of
command ceremony

138
00:06:56,148 --> 00:06:58,283
at 1:15 P.M. Central time,

139
00:06:58,283 --> 00:07:02,120
and then on Sunday NASA
TV will begin its coverage

140
00:07:02,120 --> 00:07:05,290
of the actual departure with
farewell and hatch closure

141
00:07:05,290 --> 00:07:08,861
at 12:45 P.M. That will
be the start of coverage

142
00:07:08,861 --> 00:07:12,397
with the closure expected
at 1:10 P.M. Central time.

143
00:07:12,397 --> 00:07:14,299
Undocking coverage
starts at 4:00 P.M.

144
00:07:14,299 --> 00:07:18,337
with the undocking planned
about 4:26 P.M. Central time,

145
00:07:18,337 --> 00:07:21,139
and then deorbit burn and
landing coverage begins

146
00:07:21,139 --> 00:07:24,309

at 6:30 P.M. with landing
expected on the step

147

00:07:24,309 --> 00:07:28,413
of Kazakhstan at 7:53
P.M. Central time.

148

00:07:28,413 --> 00:07:32,050
On Monday we'll have a video
file, on the November the 19th

149

00:07:32,050 --> 00:07:33,185
that provides a lot

150

00:07:33,185 --> 00:07:36,421
of post-landing coverage
and interviews.

151

00:07:36,421 --> 00:07:38,490
With the International
Space Station now