
Mission Control Center
JAXA
OSO
ADCO
ISO
CATO

1
00:00:00,766 --> 00:00:09,575
[Music]

2
00:00:20,286 --> 00:00:22,788
>> Wrapping up a busy week here

3
00:00:22,788 --> 00:00:25,157
with the international space
station flight control room

4
00:00:25,157 --> 00:00:28,394
where Flight Director Royce
Renfrew is leading the Orbit 2

5
00:00:28,394 --> 00:00:31,163
team of space station
flight controllers.

6
00:00:32,565 --> 00:00:34,934
They're watching over the space
station systems while the crew,

7
00:00:34,934 --> 00:00:37,403
now newly expanded
from six members --

8
00:00:37,403 --> 00:00:40,473
or two six members takes
some well-deserved rest

9
00:00:40,473 --> 00:00:42,842
after a long day yesterday.

10
00:00:44,777 --> 00:00:49,782
Following the 9:28 p.m. Central
Time Soyuz docking yesterday,

11
00:00:49,782 --> 00:00:53,052
the Expedition 35 crew now

includes not only Commander

12
00:00:53,052 --> 00:00:55,855
Chris Hadfield with the
Canadian Space Agency,

13
00:00:55,855 --> 00:00:59,592
NASA Flight Engineer
Tom Marshburn

14
00:00:59,592 --> 00:01:01,393
and Russian Flight
Engineer Roman Romanenko

15
00:01:01,393 --> 00:01:03,929
but also NASA Flight
Engineer Chris Cassidy

16
00:01:03,929 --> 00:01:07,133
and Russian Flight
Engineers Pavel Vinogradov

17
00:01:07,133 --> 00:01:09,802
and Alexander Misurkin.

18
00:01:09,802 --> 00:01:14,039
The entire crew is now orbiting
about 253 miles above Thailand,

19
00:01:14,039 --> 00:01:18,811
heading northeast over
Laos and then China.

20
00:01:21,614 --> 00:01:24,950
Cassidy, Vinogradov
and Misurkin launched

21
00:01:24,950 --> 00:01:27,786
in docking yesterday
makes them the first crew

22
00:01:27,786 --> 00:01:30,823
to have ever launched and
docked in a single day.

23
00:01:30,823 --> 00:01:35,594
They launched in their Soyuz TMA
08M from the Baikonur Cosmodrome

24
00:01:35,594 --> 00:01:40,232
in Kazakhstan at 3:43 p.m.
Central Time and rather

25
00:01:40,232 --> 00:01:42,768
than taking the usual
two day trip to catch

26
00:01:42,768 --> 00:01:45,404
up with the space station,
they docked to it less

27
00:01:45,404 --> 00:01:49,475
than six hours later
at 9:28 p.m. Central.

28
00:01:49,475 --> 00:01:53,212
By 11:35 p.m., the two
crews had opened hatches

29
00:01:53,212 --> 00:01:55,347
between their vehicles
and Hadfield, Marshburn

30
00:01:55,347 --> 00:01:58,951
and Romanenko were
welcoming their new crewmates.

31
00:02:00,653 --> 00:02:02,755
Marshburn, Hadfield
and Romanenko launched

32
00:02:02,755 --> 00:02:07,193
to the space station on December
19 in their Soyuz TMA 07M

33
00:02:07,193 --> 00:02:09,662
which they then docked to the
station's [inaudible] module

34
00:02:09,662 --> 00:02:12,598
on December 21, that puts
them now in their one hundred

35
00:02:12,598 --> 00:02:15,034
and first day in space and
their ninety eighth day

36
00:02:15,034 --> 00:02:16,869
on the space station.

37
00:02:16,869 --> 00:02:20,072
Cassidy, Vinogradov and Misurkin
of course haven't quite made it

38
00:02:20,072 --> 00:02:23,509
to the 24 hour mark yet on
either their stay in space

39
00:02:23,509 --> 00:02:25,644
or their stay at the station.

40
00:02:29,682 --> 00:02:33,052
Yesterday's Soyuz arrival capped
off an especially busy week

41
00:02:33,052 --> 00:02:34,753
onboard the space station,

42
00:02:34,753 --> 00:02:39,391

the crew on Tuesday saw
the SpaceX dragon capsule

43
00:02:39,391 --> 00:02:41,093
which had been docked at
the station's [inaudible]

44
00:02:41,093 --> 00:02:46,065
since March 3rd, when it arrived
with 1,268 pounds of research,

45
00:02:46,065 --> 00:02:48,067
supplies and experiments.

46
00:02:48,067 --> 00:02:51,637
It was released from the station
at 5:56 a.m. Central Time

47
00:02:51,637 --> 00:02:56,942
on Tuesday and then sent back
to earth with 2,668 pounds

48
00:02:56,942 --> 00:02:59,178
of science samples
and supplies to return

49
00:02:59,178 --> 00:03:01,880
to researchers here
on the ground.

50
00:03:01,880 --> 00:03:04,950
It splashed down safely
in the Pacific Ocean

51
00:03:04,950 --> 00:03:07,286
and has already made
it back to land.

52
00:03:07,286 --> 00:03:12,458
And in the midst of these

two dynamic operations,

53
00:03:12,458 --> 00:03:17,763
the crew on orbit still had
some time to put into a number

54
00:03:17,763 --> 00:03:21,567
of scientific investigations
as well.

55
00:03:21,567 --> 00:03:25,271
Tom Marshburn and Chris Hadfield
performed multiple session

56
00:03:25,271 --> 00:03:28,607
of the reaction self test
experiment over the course

57
00:03:28,607 --> 00:03:32,645
of the week, that is a 5
minute reaction time task

58
00:03:32,645 --> 00:03:35,147
that allows crew members to
monitor the daily effects

59
00:03:35,147 --> 00:03:39,218
of fatigue on their performance,
particularly at times like these

60
00:03:39,218 --> 00:03:42,755
when their sleep schedule
is shifting or disrupted.

61
00:03:42,755 --> 00:03:44,356
They have each been taking part

62
00:03:44,356 --> 00:03:49,495
in the test right before their
sleep period begins; all week

63
00:03:49,495 --> 00:03:51,964
and occasionally when
they wake up as well.

64
00:03:51,964 --> 00:03:54,867
In all, they aimed to
have performed 115 runs

65
00:03:54,867 --> 00:03:58,537
of the experiment by the end
of their stay at the station.

66
00:04:00,606 --> 00:04:03,709
Hadfield spent some time
with the viable experiment

67
00:04:03,709 --> 00:04:08,514
or evaluation and
monitoring of microbial films,

68
00:04:08,514 --> 00:04:12,217
micro bio films inside the
international space station,

69
00:04:12,217 --> 00:04:15,521
that study looks at
microbial biofilm development

70
00:04:15,521 --> 00:04:18,324
on space materials.

71
00:04:18,324 --> 00:04:20,626
And to help that process along,
one of the crew's duties is

72
00:04:20,626 --> 00:04:23,796
to take the experiment back out,
touch the top of it and blow

73
00:04:23,796 --> 00:04:26,198
into the bag once a month.

74
00:04:27,466 --> 00:04:31,203
Hadfield also worked on Monday
with the BCAT experiment

75
00:04:31,203 --> 00:04:34,606
or the binary colloidal alloyed
test which studies the effects

76
00:04:34,606 --> 00:04:38,610
of phase separation on
crystal growth and Wednesday,

77
00:04:38,610 --> 00:04:42,114
he spent some time setting
up the new ISERV experiment,

78
00:04:42,114 --> 00:04:46,852
that stands for ISS severe
environmental research

79
00:04:46,852 --> 00:04:50,856
and visualization system, that's
an automated system designed

80
00:04:50,856 --> 00:04:53,125
to acquire images of
the earth's surface

81
00:04:53,125 --> 00:04:57,363
from the space station both
at the way to gain experience

82
00:04:57,363 --> 00:05:00,199
and expertise and automated
photography from the station

83

00:05:00,199 --> 00:05:02,935
and to provide useful images
for disaster monitoring

84
00:05:02,935 --> 00:05:06,772
and assessment, as well as
environmental decision making.

85
00:05:09,541 --> 00:05:11,677
Tom Marshburn spent a
good deal of his time

86
00:05:11,677 --> 00:05:14,079
on Wednesday participating
in the energy experiment

87
00:05:14,079 --> 00:05:16,715
which is aimed at measuring
how much food is needed

88
00:05:16,715 --> 00:05:20,018
for astronauts during
long term space missions.

89
00:05:21,387 --> 00:05:24,757
His participation in that is
still ongoing and he'll continue

90
00:05:24,757 --> 00:05:27,593
to carefully log his
food and water intake

91
00:05:27,593 --> 00:05:30,796
and take urine samples, as
well as wear and armband

92
00:05:30,796 --> 00:05:32,931
that collects data
for the experiment.

93

00:05:32,931 --> 00:05:35,501
But the bulk of the work
was done on Wednesday

94
00:05:35,501 --> 00:05:37,669
when he spent several
sessions in an oxygen mask

95
00:05:37,669 --> 00:05:39,304
to monitor his oxygen intake.

96
00:05:39,304 --> 00:05:43,108
And then on Thursday,
he also spent time

97
00:05:43,108 --> 00:05:44,943
with the seedling
growth experiment

98
00:05:44,943 --> 00:05:48,881
which studies how gravity
affects the cellular mechanisms

99
00:05:48,881 --> 00:05:53,485
of plant response to
life or phototropism,

100
00:05:53,485 --> 00:05:56,221
also looks at its effect on
plant growth and proliferation

101
00:05:56,221 --> 00:05:59,358
under microgravity conditions.

102
00:05:59,358 --> 00:06:02,294
The crew is scheduled to rest
and catch up on their sleep

103
00:06:02,294 --> 00:06:05,264
for the rest of the day, they'll

get their next wakeup call

104
00:06:05,264 --> 00:06:07,032
at 1 a.m. Central
Time on Saturday,

105
00:06:07,032 --> 00:06:09,968
but even then they'll have the
weekend off for the most part

106
00:06:09,968 --> 00:06:13,672
with a little Soyuz
transferred work scheduled

107
00:06:13,672 --> 00:06:16,909
on the Russian side of the space
station but they'll be back

108
00:06:16,909 --> 00:06:20,312
to work on Monday with now a
full crew of six astronauts

109
00:06:20,312 --> 00:06:24,082
to share the load, that's what's
been going on in space this week