1
00:00:00,506 --> 00:00:06,546
[Music]

2
00:00:07,046 --> 00:00:07,366
>> [Background Music]
Good morning.

3
00:00:07,366 --> 00:00:08,616
This is Mission Control Houston.

4
00:00:08,616 --> 00:00:11,296
Welcome and and thank you for
joining us for today's edition

5
00:00:11,296 --> 00:00:14,266
of Space Station Live
this Monday, April 15th.

6
00:00:15,216 --> 00:00:17,086
Topping today's news
for the Space Station,

7
00:00:17,086 --> 00:00:20,736
a Russian cargo vehicle known
as Progress 49 that brought

8
00:00:20,736 --> 00:00:24,516
up nearly three tons of supplies
for the Station crew undocked

9
00:00:24,596 --> 00:00:28,276
from the aft port of Zvezda
service module earlier this

10
00:00:28,386 --> 00:00:33,066
morning at 7:02 a.m. central
time via unpiloted vehicle

11
00:00:33,336 --> 00:00:34,696

which arrived at
the Station back

12
00:00:34,726 --> 00:00:38,596
on October 31st will now use
its thrusters for a series

13
00:00:38,596 --> 00:00:41,696
of test firings over the next
few days to enable engineers

14
00:00:41,696 --> 00:00:44,126
on the ground to
calibrate the radar systems.

15
00:00:44,736 --> 00:00:47,996
The Progress 49 will be
de-orbited on next Sunday

16
00:00:48,396 --> 00:00:50,296
and will burn up in
the earth's atmosphere

17
00:00:50,296 --> 00:00:52,256
over the Pacific Ocean.

18
00:00:52,886 --> 00:00:56,946
Progress' departure clears the
aft port Zvezda for the arrival

19
00:00:56,946 --> 00:01:00,476
of the next Progress cargo
ship -- Progress 51 --

20
00:01:00,846 --> 00:01:03,016
which is scheduled for
launch on April 24th

21
00:01:03,316 --> 00:01:04,736
from the Baikonur Cosmodrome.

22
00:01:05,006 --> 00:01:07,616
It'll dock to Zvezda
on April 26th.

23
00:01:08,266 --> 00:01:11,296
Commander Hadfield and Flight
Engineer Marshburn both spent

24
00:01:11,296 --> 00:01:14,166
some time early this morning
with the data collecting

25
00:01:14,166 --> 00:01:16,726
and recording for two
separate human body studies --

26
00:01:17,146 --> 00:01:19,776
one known as Pro K and
the other as Energy.

27
00:01:20,246 --> 00:01:22,906
Pro K seeks a dietary
countermeasure

28
00:01:22,906 --> 00:01:25,696
for bone loss while
Energy studies --

29
00:01:25,806 --> 00:01:27,716
evaluates a energy balance

30
00:01:27,716 --> 00:01:29,776
of a long duration space
flight crew member.

31
00:01:30,386 --> 00:01:33,296
The pair also worked together
to measure the airflow

32
00:01:33,296 --> 00:01:35,216
of the Japanese pressurized
module.

33
00:01:35,526 --> 00:01:37,466
Hadfield then performed
some maintenance

34
00:01:37,466 --> 00:01:38,826
to the water recovery system.

35
00:01:39,266 --> 00:01:41,366
The water recovery
system converts urine,

36
00:01:41,506 --> 00:01:44,606
sweat and condensation into
drinkable water for the crew.

37
00:01:45,426 --> 00:01:47,686
Marshburn then performed
some prep work

38
00:01:47,686 --> 00:01:49,576
on two ongoing science studies

39
00:01:49,576 --> 00:01:51,966
that will be performed
this week, one of which

40
00:01:52,086 --> 00:01:55,826
that uses three bowling ball
free-flying satellites known

41
00:01:55,826 --> 00:02:01,176
as Synchronized Position Hold
Engage Reorient Experimental

42
00:02:01,176 --> 00:02:02,616

Satellites -- or SPHERES.

43
00:02:02,816 --> 00:02:06,026
They're used to test techniques
that could lead to advancements

44
00:02:06,026 --> 00:02:10,346
in automated dockings, satellite
servicing, spacecraft assembly,

45
00:02:10,346 --> 00:02:11,406
and emergency repairs.

46
00:02:12,116 --> 00:02:13,856
Marshburn also performed
maintenance

47
00:02:13,856 --> 00:02:17,356
of the Combustion Integrated
Racks Optic Bench today

48
00:02:17,406 --> 00:02:19,886
for planned science
operation center scheduled

49
00:02:19,886 --> 00:02:21,246
to take place this week.

50
00:02:21,706 --> 00:02:25,226
The Combustion Integrated
Rack can safely accommodate

51
00:02:25,226 --> 00:02:28,246
experiments that examine
droplet, solid fuel

52
00:02:28,246 --> 00:02:31,036
and gaseous fuel combustion
in a weightless environment.

53
00:02:31,846 --> 00:02:33,956
Meanwhile Flight Engineer
Chris Cassidy had worked

54
00:02:33,956 --> 00:02:37,296
with the Fluids Integrated Rack,
wiping samples to be tested

55
00:02:37,366 --> 00:02:40,156
within the fluids
physics research facility.

56
00:02:40,696 --> 00:02:42,906
He also spent some time
with Commander Hadfield

57
00:02:42,906 --> 00:02:47,006
in crew handover activities then
performed sample initialization

58
00:02:47,046 --> 00:02:49,266
of the BCAT-3 -- also known

59
00:02:49,266 --> 00:02:51,576
as the Binary Colloidal
Alloy Test --

60
00:02:51,576 --> 00:02:53,636
the study that explores
the separation

61
00:02:53,756 --> 00:02:56,096
of phases of liquid and gas.

62
00:02:57,276 --> 00:02:59,656
And meanwhile on the Russian
side of the house, Vinogradov

63
00:02:59,656 --> 00:03:01,966

and Romanenko continue
their preparations today

64
00:03:02,486 --> 00:03:07,516
for their spacewalk scheduled
Friday outside the Pirs docking

65
00:03:07,516 --> 00:03:11,526
compartment airlock to install
and retrieve several experiments

66
00:03:11,526 --> 00:03:13,716
and to replace a
faulty retro-reflector

67
00:03:13,716 --> 00:03:15,106
on the aft end of Zvezda.

68
00:03:15,686 --> 00:03:19,246
That is part of a suite of
navigational aids to be used

69
00:03:19,246 --> 00:03:22,056
by the European Space
Agency's Albert Einstein --

70
00:03:22,056 --> 00:03:23,796
the automated transfer
vehicle 4 --

71
00:03:24,156 --> 00:03:27,096
towards automated docking to
the station later in June.

72
00:03:27,796 --> 00:03:31,676
Vinogradov and Romanenko are
installing lights and tool belts

73
00:03:31,706 --> 00:03:33,756
to their Russian

Orlan spacesuits

74
00:03:33,756 --> 00:03:35,716
and revealing the
spacewalk checklist.

75
00:03:36,246 --> 00:03:40,626
Commander Hadfield inspected the
U.S. spacesuit lights and the --

76
00:03:40,626 --> 00:03:43,116
and Cassidy had configured the
cameras that were installed

77
00:03:43,116 --> 00:03:44,536
to the Orlan spacesuits

78
00:03:44,536 --> 00:03:47,016
that will be worn outside
the complex during this

79
00:03:47,016 --> 00:03:47,726
week's spacewalk.

80
00:03:48,526 --> 00:03:50,046
The crew will then
wrap up their day