SPHERES

Synchronized Position Hold, Engage, Reorient, Experimental Satellites

1
00:00:01,830 --> 00:00:02,550
>> Good day.

2
00:00:02,550 --> 00:00:04,460
This is mission control Houston.

3
00:00:04,460 --> 00:00:05,940
Welcome and thank
you for joining us

4
00:00:05,940 --> 00:00:09,990
for today's ISS Update
this Friday November 30th.

5
00:00:09,990 --> 00:00:14,130
And now let's have a look
back at this week in space.

6
00:00:14,130 --> 00:00:17,060
On a Monday after
enjoying some time off

7
00:00:17,060 --> 00:00:18,690
over the Thanksgiving
holiday weekend,

8
00:00:18,690 --> 00:00:22,080
the three Expedition 34 crew
members got back to work.

9
00:00:22,080 --> 00:00:25,370
Station commander Kevin
Ford performed some routine

10
00:00:25,370 --> 00:00:28,630
maintenance in the waste
and hygiene compartment.

11
00:00:28,630 --> 00:00:32,550

He had spent some time to remove
and replace the air filters.

12
00:00:32,550 --> 00:00:36,460
He also then performed hatch
seal inspections throughout the

13
00:00:36,460 --> 00:00:39,520
US section of the orbiting
laboratory, taking photographs

14
00:00:39,520 --> 00:00:43,900
of the seals for down
link and expert analysis.

15
00:00:43,900 --> 00:00:44,890
Meanwhile, on the Russian side

16
00:00:44,890 --> 00:00:46,980
of the house flight
engineers Oleg Novitskiy

17
00:00:46,980 --> 00:00:51,840
and Evgeny Tarelkin had worked
with the Typologia experiment,

18
00:00:51,840 --> 00:00:55,530
which studies a crew members
psychophysical state and ability

19
00:00:55,530 --> 00:00:58,130
to perform and communicate
under stress.

20
00:00:58,130 --> 00:01:01,290
Novitskiy and Tarelkin can also
work in the Russian segment

21
00:01:01,290 --> 00:01:03,590
of the work station

monitoring it's systems

22
00:01:03,590 --> 00:01:05,830
and performing a
variety of housekeeping

23
00:01:05,830 --> 00:01:07,610
and maintenance duties,

24
00:01:07,610 --> 00:01:09,910
meanwhile the crew members
also collected blood samples

25
00:01:09,910 --> 00:01:12,430
and performed body mass
measurements to help experts

26
00:01:12,430 --> 00:01:14,970
on the ground track their
health during their stay aboard

27
00:01:14,970 --> 00:01:16,290
the station.

28
00:01:16,290 --> 00:01:17,230
Meanwhile on Monday

29
00:01:17,230 --> 00:01:19,720
at the Gagarian Cosmonaut
Training Center

30
00:01:19,720 --> 00:01:21,520
in Star City Russia,

31
00:01:21,520 --> 00:01:24,930
three additional Expedition
34 crew members continue their

32
00:01:24,930 --> 00:01:27,820

preparations for their
upcoming trip to the station.

33
00:01:27,820 --> 00:01:30,560
NASA astronaut Tom Marshburn,

34
00:01:30,560 --> 00:01:33,360
Canadian Space Agency
astronaut Chris Hadfield

35
00:01:33,360 --> 00:01:37,990
and Russian Federal Space Agent
Cosmonaut Roman Romanenko are

36
00:01:37,990 --> 00:01:40,770
scheduled to launch from
the Baikonur Cosmodrone

37
00:01:40,770 --> 00:01:42,840
on December 19th.

38
00:01:42,840 --> 00:01:47,030
Also on Monday, NASA, The
Russian Federal Space Agency

39
00:01:47,030 --> 00:01:50,710
and their international partners
selected two veteran spacefarers

40
00:01:50,710 --> 00:01:53,640
for a one year mission aboard
the International Space Station

41
00:01:53,640 --> 00:01:55,270
in 2015.

42
00:01:55,270 --> 00:01:57,720
This mission will include
collecting scientific data,

43
00:01:57,720 --> 00:02:01,980
important to our future human
exploration of our solar system.

44
00:02:01,980 --> 00:02:04,430
NASA has selected Scott Kelly

45
00:02:04,430 --> 00:02:08,750
and Roscosmos has
chosen Mikhail Kornienko

46
00:02:08,750 --> 00:02:11,250
and on Tuesday Commander
Kevin Ford

47
00:02:11,250 --> 00:02:14,600
and flight engineers
[inaudible] participated

48
00:02:14,600 --> 00:02:17,200
in emergency medical
procedure reviews

49
00:02:17,200 --> 00:02:19,150
with the crew health
care system.

50
00:02:19,150 --> 00:02:21,370
The training gives crew
members the opportunity to work

51
00:02:21,370 --> 00:02:25,460
as a team in resolving a
simulated medical emergency

52
00:02:25,460 --> 00:02:26,510
and refreshes their memory

53
00:02:26,510 --> 00:02:30,180

of equipment locations,
use and procedures.

54
00:02:30,180 --> 00:02:31,850
Ford also had some
time on Tuesday

55
00:02:31,850 --> 00:02:35,080
to schedule two review
procedures

56
00:02:35,080 --> 00:02:38,860
for upcoming data takes with
the synchronized position hold

57
00:02:38,860 --> 00:02:42,850
engage and reorient experimental
satellites also known

58
00:02:42,850 --> 00:02:44,530
as spheres.

59
00:02:44,530 --> 00:02:47,160
Spheres uses three bowling
ball size satellites

60
00:02:47,160 --> 00:02:49,880
to test techniques that
could lead to advancements

61
00:02:49,880 --> 00:02:54,330
in automated dockings, satellite
servicing, space craft assembly

62
00:02:54,330 --> 00:02:56,130
and emergency repairs.

63
00:02:56,130 --> 00:02:57,630
Ford also work on Tuesday

64
00:02:57,630 --> 00:03:01,550
in the Destiny labs microgravity
science club box for an ongoing

65
00:03:01,550 --> 00:03:03,270
in space three experiment.

66
00:03:03,270 --> 00:03:06,900
The study serves fluids filled
with microscopic particles

67
00:03:06,900 --> 00:03:11,190
or coeds and how they behave
when exposed to magnetic fields.

68
00:03:11,190 --> 00:03:14,090
Also on Tuesday, Ford
had participated in some

69
00:03:14,090 --> 00:03:18,910
in flight interviews with WNDU
TV and the Notre Dame Observer

70
00:03:18,910 --> 00:03:22,130
in South Bend Indiana,
answering a variety of questions

71
00:03:22,130 --> 00:03:24,770
about his stay aboard
the orbiting laboratory.

72
00:03:24,770 --> 00:03:27,580
Also on Tuesday robotics
officers

73
00:03:27,580 --> 00:03:30,310
in mission control had commanded
the stations robotic arm,

74

00:03:30,310 --> 00:03:32,250
the Canada arm too to walk off

75
00:03:32,250 --> 00:03:35,060
from the mobile base system
power and data grapple facture

76
00:03:35,060 --> 00:03:38,240
to the harmony power and data
grapple fixture in advance

77
00:03:38,240 --> 00:03:42,260
of a routine inspection of
the station arm latching

78
00:03:42,260 --> 00:03:46,550
in defector, then at the Gagarin
Cosmonaut Training Center

79
00:03:46,550 --> 00:03:51,400
in Star City Russia on Tuesday
those Expedition 34 crew members

80
00:03:51,400 --> 00:03:55,320
who are on the ground scheduled
to launch to the station

81
00:03:55,320 --> 00:03:58,430
on December 9th had
continued their preparations

82
00:03:58,430 --> 00:04:02,000
for their upcoming
trip to the station.

83
00:04:02,000 --> 00:04:05,400
Tuesday was their first of two
days of the Russian [inaudible]

84
00:04:05,400 --> 00:04:08,210

and Russian segment
qualification exams

85
00:04:08,210 --> 00:04:11,060
and simulations that
eventually led

86
00:04:11,060 --> 00:04:13,480
to their final certification
for flight.

87
00:04:13,480 --> 00:04:16,060
Then on Wednesday Commander
Kevin Ford collected data

88
00:04:16,060 --> 00:04:19,810
and water samples in the Kibo
Laboratories aquatic habitat

89
00:04:19,810 --> 00:04:22,410
for the Medaka experiment
which studies the effects

90
00:04:22,410 --> 00:04:23,160
of microgravity

91
00:04:23,160 --> 00:04:26,140
on the biological
systems of Medaka fish.

92
00:04:26,140 --> 00:04:30,970
Ford also worked again with
the spheres experiment again

93
00:04:30,970 --> 00:04:33,550
that is synchronized
position hold engage

94
00:04:33,550 --> 00:04:36,750
and reorient experimental

satellites,

95
00:04:36,750 --> 00:04:38,970
then our flight engineers
Oleg Novitskiy

96
00:04:38,970 --> 00:04:41,730
and Evgeny Tarelkin worked
with the typology experiment

97
00:04:41,730 --> 00:04:44,340
which studies a crew
member's psycho physical state

98
00:04:44,340 --> 00:04:47,580
and ability to perform and
communicate under stress.

99
00:04:47,580 --> 00:04:52,340
And then the second and final
day of qualification exams

100
00:04:52,340 --> 00:04:54,010
and simulations continued

101
00:04:54,010 --> 00:04:56,000
at the Gagarian Cosmonaut
Training Center

102
00:04:56,000 --> 00:04:57,400
in Star City Russia.

103
00:04:57,400 --> 00:05:01,100
Again those Expedition 34
crew members soon to launch

104
00:05:01,100 --> 00:05:04,580
to the Space Station are
NASA astronaut Tom Marshburn,

105
00:05:04,580 --> 00:05:07,680
Canadian Space Agency
astronaut Chris Hadfield

106
00:05:07,680 --> 00:05:10,490
and the Russian Federal
Space Agency cosmonaut

107
00:05:10,490 --> 00:05:12,560
Roman Romanenko.

108
00:05:12,560 --> 00:05:16,330
Then on Thursday the Expedition
34 crew members took part

109
00:05:16,330 --> 00:05:20,420
in a pair of emergency Soyuz
defense drills working closely

110
00:05:20,420 --> 00:05:23,160
with ground control teams
doing simulated fire

111
00:05:23,160 --> 00:05:25,320
and depressurization
emergencies.

112
00:05:25,320 --> 00:05:29,130
Ford also worked again on the
microgravity science club box

113
00:05:29,130 --> 00:05:32,380
for the ongoing in
space three experiment.

114
00:05:32,380 --> 00:05:34,970
And the three crew members soon

115
00:05:34,970 --> 00:05:37,540

to join the crew aboard the
International Space Station

116
00:05:37,540 --> 00:05:40,520
received their final formal
certification for flight

117
00:05:40,520 --> 00:05:43,770
after their two days
of qualification exams.

118
00:05:43,770 --> 00:05:46,970
They also held their
traditional news conference

119
00:05:46,970 --> 00:05:49,050
at the Gagarian Cosmonaut
Training Center