



**OLEG KOTOV**  
EXPEDITION 37 FLIGHT ENGINEER

1  
00:00:00,506 --> 00:00:13,276  
[ Music ]

2  
00:00:13,776 --> 00:00:15,066  
>> This is Mission  
Control Houston.

3  
00:00:15,066 --> 00:00:17,166  
We want to welcome you to  
today's Space Station Live.

4  
00:00:17,166 --> 00:00:19,456  
It is Monday, October 28, 2013.

5  
00:00:19,456 --> 00:00:21,936  
This is a live view inside the  
Space Station flight control

6  
00:00:21,936 --> 00:00:23,266  
room here at the  
Johnson Space Center.

7  
00:00:23,776 --> 00:00:24,946  
This team here being led

8  
00:00:24,946 --> 00:00:27,296  
by Flight Director Emily  
Nelson this morning.

9  
00:00:27,366 --> 00:00:28,846  
Sitting beside her  
is Leslie Ringo;

10  
00:00:28,846 --> 00:00:30,966  
that is the CapCom talking  
with the crew today.

11  
00:00:30,966 --> 00:00:34,206  
Of course the main news of today

is the Albert Einstein Automated

12

00:00:34,206 --> 00:00:37,716

Transfer Vehicle ATV-4, that  
is the European cargo craft,

13

00:00:37,716 --> 00:00:40,876

has departed the  
International Space Station.

14

00:00:40,876 --> 00:00:44,636

That took place earlier this  
morning at 3:55 AM Central Time.

15

00:00:44,636 --> 00:00:47,006

As we take a look back at the  
video from this morning --

16

00:00:47,636 --> 00:00:50,786

this spacecraft had brought up  
more than seven tons of food,

17

00:00:50,786 --> 00:00:53,686

fuel, and supplies to the  
station's residents --

18

00:00:54,816 --> 00:00:57,566

as it slowly backed away from  
its Zvezda Service Module.

19

00:00:57,566 --> 00:00:59,906

That is the aft portion  
of the Russian segment

20

00:01:00,476 --> 00:01:02,236

of the International  
Space Station.

21

00:01:02,236 --> 00:01:04,176

Now that ATV has departed.

22

00:01:04,636 --> 00:01:06,506

It is packed full of  
trash and other items

23

00:01:06,506 --> 00:01:09,676

that the crew no longer needed,  
and it will be de-orbited coming

24

00:01:09,676 --> 00:01:11,586

up this weekend on November 2nd.

25

00:01:11,946 --> 00:01:14,426

There's a couple of different  
de-orbit burns that are planned:

26

00:01:14,426 --> 00:01:17,726

one at 3:36 AM Central  
Time, the other one

27

00:01:17,726 --> 00:01:20,606

at 6:28 AM Central Time,

28

00:01:20,606 --> 00:01:23,826

and that will signal  
the end of ATV-4.

29

00:01:29,286 --> 00:01:32,676

All of that activity this  
morning went according to plan,

30

00:01:33,146 --> 00:01:35,416

so now the Zvezda Service  
Module on the back end

31

00:01:35,416 --> 00:01:39,166

of the Russian segment is set  
up to have a Soyuz relocated

32

00:01:39,166 --> 00:01:40,886  
over there, coming up  
in just a few short days

33

00:01:40,886 --> 00:01:41,786  
at the end of this week.

34

00:01:41,786 --> 00:01:43,806  
Fyodor Yurchikhin,  
Luca Parmitano

35

00:01:43,806 --> 00:01:46,696  
and Karen Nyberg will be  
relocating their Soyuz; that is,

36

00:01:46,696 --> 00:01:48,866  
the Soyuz that brought them  
up to the Station back in May.

37

00:01:48,866 --> 00:01:50,986  
It is going to serve as  
their ride home coming

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00:01:50,986 --> 00:01:52,926  
up on November the  
10th here in America.

39

00:01:52,926 --> 00:01:56,866  
They're going to relocate that  
from the current Rassvet module

40

00:01:57,216 --> 00:02:01,126  
over to Zvezda to make way for  
the upcoming Soyuz activities

41

00:02:01,126 --> 00:02:03,496  
that are coming up in  
just a couple of weeks.

42

00:02:05,536 --> 00:02:08,566

Also on board today, Oleg Kotov is working to tear down some

43

00:02:08,566 --> 00:02:09,596  
of the equipment that was used

44

00:02:09,596 --> 00:02:12,386  
for this morning's ATV  
activities on Zvezda.

45

00:02:13,256 --> 00:02:15,686  
He's going to be reinstalling  
some equipment on that port

46

00:02:15,776 --> 00:02:19,596  
to get it set up for that  
upcoming Soyuz relocation.

47

00:02:20,816 --> 00:02:22,636  
Also on board, Mike Hopkins,

48

00:02:22,856 --> 00:02:24,566  
the NASA Flight Engineer  
who's taking part

49

00:02:24,566 --> 00:02:26,396  
in the Spinal Ultrasound  
Experiment today.

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00:02:26,396 --> 00:02:28,656  
This is one of the on-board  
research activities.

51

00:02:29,126 --> 00:02:31,636  
It uses ultrasound technology  
to take a measurement

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00:02:31,636 --> 00:02:33,216  
of the crew members' spines.

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00:02:33,216 --> 00:02:36,006

The goal of the experiment  
is to help determine

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00:02:36,596 --> 00:02:39,086

and to help better predict  
what kind of changes happen

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00:02:39,086 --> 00:02:41,266

to the spinal cord whenever  
the crews are up on orbit.

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00:02:41,266 --> 00:02:42,586

They tend to get a  
little bit taller

57

00:02:43,106 --> 00:02:44,826

than what they are  
here on the planet.

58

00:02:45,276 --> 00:02:47,476

Crews have seen up to a three  
percent increase in height while

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00:02:47,476 --> 00:02:49,196

in space, which doesn't  
sound like a whole lot,

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00:02:49,196 --> 00:02:53,036

but it can cause some lower back  
pain and other muscles issues.

61

00:02:54,186 --> 00:02:57,286

So what they do is try to  
predict exactly what causes that

62

00:02:57,626 --> 00:03:00,536

and to help understand  
how different bodies react

63

00:03:00,536 --> 00:03:01,346  
to being up in space.

64

00:03:01,756 --> 00:03:04,756  
So that ultrasound will be used  
later on today on Mike Hopkins.

65

00:03:06,176 --> 00:03:09,666  
Hopkins also going to be taking  
part in some inspection of some

66

00:03:09,666 --> 00:03:11,426  
of the spacewalk gear  
that's inside the station,

67

00:03:11,426 --> 00:03:14,536  
mainly the tethers that are  
used to secure the astronauts

68

00:03:14,536 --> 00:03:16,496  
to the outside of the station  
whenever they're outside doing

69

00:03:16,496 --> 00:03:17,156  
a spacewalk.

70

00:03:17,646 --> 00:03:20,426  
They do these checks of the  
equipment and the Quest Airlock

71

00:03:20,426 --> 00:03:22,446  
from time to time just to  
make sure that everything is

72

00:03:22,836 --> 00:03:24,866  
in proper working  
order and ready

73

00:03:24,866 --> 00:03:27,566

to support future  
spacewalks when we get ready

74

00:03:27,566 --> 00:03:28,726  
to do those once again.

75

00:03:30,266 --> 00:03:33,376  
Karen Nyberg is working  
to install a humidifier

76

00:03:33,756 --> 00:03:36,466  
in the Cell Biology  
Experiment Rack today that is

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00:03:36,466 --> 00:03:37,596  
in the Kibo laboratory.

78

00:03:38,586 --> 00:03:40,036  
She'll also be working  
with Hopkins

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00:03:40,036 --> 00:03:42,806  
on the Spinal Ultrasound  
Experiment, as well.

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00:03:43,386 --> 00:03:45,876  
Of course, Nyberg, as  
well as Luca Parmitano

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00:03:45,876 --> 00:03:48,556  
and Fyodor Yurchikhin, are  
getting ready to come home.

82

00:03:49,006 --> 00:03:51,756  
Their time aboard the Space  
Station is rapidly coming

83

00:03:51,756 --> 00:03:52,916  
to a close but, of course,

84

00:03:52,916 --> 00:03:55,466

we're going to do things  
a little bit out of order.

85

00:03:55,466 --> 00:03:57,616

Typically what we do is have  
a landing and then a launch,

86

00:03:58,036 --> 00:04:00,346

but because of the  
upcoming nine-person crew

87

00:04:00,346 --> 00:04:02,776

on board the Space Station,  
as well as the Olympic torch

88

00:04:03,226 --> 00:04:06,676

that is coming up, we're going  
to be doing a launch first.

89

00:04:06,676 --> 00:04:10,926

So down now getting ready for  
launch is the upcoming crew

90

00:04:11,696 --> 00:04:14,956

of Mikhail Tyurin, Rick  
Mastracchio and Koichi Wakata.

91

00:04:15,556 --> 00:04:17,796

They are going to be  
launching on November the 6th.

92

00:04:17,796 --> 00:04:21,396

That launch will take place as  
those three head up into space

93

00:04:21,396 --> 00:04:25,636

at 10:14 PM Central Time  
on November the 6th.

94

00:04:25,636 --> 00:04:27,606

Here's a look at all our programming that's coming

95

00:04:27,606 --> 00:04:30,456

up as we offer live coverage of those activities.

96

00:04:30,826 --> 00:04:33,236

So again, launch at 10:14 PM Central Time.

97

00:04:33,716 --> 00:04:36,726

Our docking coverage will begin that night -- or that morning,

98

00:04:36,726 --> 00:04:40,396

rather -- at 3:45 AM Central Time on November the 7th.

99

00:04:41,186 --> 00:04:44,346

Docking will take place at 4:31 AM Central Time.

100

00:04:44,836 --> 00:04:48,496

Hatch opening coverage will begin at 6:15 AM Central Time,

101

00:04:48,496 --> 00:04:50,646

with the actual hatch opening taking place

102

00:04:50,646 --> 00:04:53,406

at 6:40 AM Central Time.

103

00:04:53,406 --> 00:04:55,206

And at that point we'll have nine people

104

00:04:55,206 --> 00:04:56,276  
on board the Space Station.

105  
00:04:56,276 --> 00:04:58,706  
That is something we have not...

106  
00:04:58,706 --> 00:05:02,536  
had in quite a number of months  
and years, so it'll be exciting

107  
00:05:02,536 --> 00:05:05,666  
to see nine people  
on-board the Space Station.

108  
00:05:06,076 --> 00:05:08,086  
After that takes place,  
there'll be a spacewalk,

109  
00:05:08,086 --> 00:05:12,636  
and then the crew of  
Nyberg and Parmitano

110  
00:05:12,636 --> 00:05:14,076  
and Yurchikhin will come home.

111  
00:05:14,606 --> 00:05:16,566  
Their landing is  
due to take place

112  
00:05:17,266 --> 00:05:19,696  
on Sunday, November the 10th.

113  
00:05:20,646 --> 00:05:22,576  
They will physically undock  
from the Space Station

114  
00:05:22,576 --> 00:05:25,706  
at 5:26 PM Central Time  
on November the 10th.

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00:05:26,116 --> 00:05:28,816

There will be a separation burn that will take place at 5:29

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00:05:28,816 --> 00:05:30,386

to back them away from the Space Station.

117

00:05:30,836 --> 00:05:34,146

The de-orbit burn will take place at 7:56 PM Central Time

118

00:05:34,146 --> 00:05:37,756

with landing at 8:50 PM Central Time.

119

00:05:37,756 --> 00:05:38,716

Of course, they're going to be landing

120

00:05:38,716 --> 00:05:40,556

in Kazakhstan, as is traditional.

121

00:05:40,556 --> 00:05:44,346

They will be outside of the southernmost city of Karaganda.

122

00:05:45,326 --> 00:05:48,826

And preparations are underway to get ready to support that crew

123

00:05:48,826 --> 00:05:50,916

as they return back home to Earth