
PAO

1
00:00:02,346 --> 00:00:04,136
>> Dan Huot: So on board the
International Space Station

2
00:00:04,136 --> 00:00:04,976
on Tuesday.

3
00:00:05,146 --> 00:00:08,576
NASA astronaut Mike Hopkins is
going to be doing some more work

4
00:00:08,576 --> 00:00:10,186
on one of the spacesuits
on board

5
00:00:10,186 --> 00:00:11,876
that the astronauts
use for spacewalks.

6
00:00:11,876 --> 00:00:14,016
This one in particular,
the one that was worn

7
00:00:14,016 --> 00:00:16,856
by Luca Parmitano back
in his July spacewalk

8
00:00:16,906 --> 00:00:19,076
that developed a
water leak in it.

9
00:00:19,116 --> 00:00:20,646
Now we've been doing a
lot of work, you know,

10
00:00:20,646 --> 00:00:21,846
over the past couple of months.

11
00:00:22,316 --> 00:00:24,466

Here to tell me about what's
going to be happening tomorrow,

12
00:00:24,466 --> 00:00:27,626
Alex Kanelakos, one of
our EVA flight controllers

13
00:00:27,626 --> 00:00:28,596
and crew instructors.

14
00:00:29,026 --> 00:00:31,076
So Alex, again, this
is all kind of --

15
00:00:31,356 --> 00:00:33,586
it's that suit that had the
water leak back in July.

16
00:00:33,586 --> 00:00:34,666
They've been doing
a lot of work.

17
00:00:34,666 --> 00:00:36,226
What's been done up
until this point?

18
00:00:36,506 --> 00:00:37,346
>> Alex Kanelakos:
That's correct, Dan.

19
00:00:37,346 --> 00:00:39,126
So kind of a big picture of EVA.

20
00:00:39,126 --> 00:00:41,136
You know, when the
astronauts go outside,

21
00:00:41,136 --> 00:00:43,016
they're kind of like Superman.

22
00:00:43,176 --> 00:00:44,786
You know, they wear a spacesuit.

23
00:00:45,176 --> 00:00:48,106
They're going into extreme
dangerous environment,

24
00:00:48,106 --> 00:00:50,926
and they go out and
save the day by fixing

25
00:00:50,926 --> 00:00:52,706
or repairing something
on the space station.

26
00:00:53,116 --> 00:00:55,956
So our spacesuit is really
what protects the crew members

27
00:00:55,956 --> 00:00:59,806
from the harmful and harsh
environments of space.

28
00:01:00,206 --> 00:01:02,636
And what we have been doing

29
00:01:02,636 --> 00:01:05,466
since the incident last
summer is trying to fix

30
00:01:05,466 --> 00:01:06,546
and repair our spacesuit.

31
00:01:07,046 --> 00:01:10,806
And we've been removing and
replacing several components

32
00:01:10,806 --> 00:01:15,136
on the spacesuit and doing

screen checks to basically try

33
00:01:15,136 --> 00:01:19,136
to evaluate and reproduce
the failure

34
00:01:19,296 --> 00:01:21,596
and resolve what's
happened on our spacesuit.

35
00:01:21,596 --> 00:01:26,646
So we most recently replaced
a fan pump water separator

36
00:01:26,816 --> 00:01:30,086
on our spacesuit and
did a screen test.

37
00:01:30,086 --> 00:01:34,276
And after that screen test,
we successfully we're able

38
00:01:34,276 --> 00:01:36,436
to not reproduce the failure.

39
00:01:36,436 --> 00:01:40,336
So we think that, that
was attributing issue

40
00:01:40,336 --> 00:01:43,926
of our failure last summer.

41
00:01:43,926 --> 00:01:46,416
So what we are now
task to do now is

42
00:01:46,416 --> 00:01:50,806
to basically return the service,
this particular spacesuit,

43
00:01:50,806 --> 00:01:52,276
so we can use in the future

44
00:01:52,276 --> 00:01:54,726
for other crew members
and other spacewalks.

45
00:01:54,876 --> 00:01:56,846
>> Dan Huot: And so you
know, up until this point

46
00:01:57,106 --> 00:01:59,626
that spacesuit kind of
-- it's not ready to go.

47
00:01:59,676 --> 00:02:01,016
They need to do a spacewalk.

48
00:02:01,196 --> 00:02:03,306
They wouldn't be able
to use that suit.

49
00:02:03,626 --> 00:02:04,166
>> Alex Kanelakos:
That's correct.

50
00:02:04,166 --> 00:02:06,296
So we currently have
four spacesuits on orbit,

51
00:02:06,296 --> 00:02:07,716
and this is one of those four.

52
00:02:08,016 --> 00:02:11,026
So this spacesuit
does not go for EVA.

53
00:02:11,436 --> 00:02:11,836
>> Dan Huot: Okay.

54
00:02:11,836 --> 00:02:13,996
Now what are you guys
going to be doing tomorrow

55
00:02:14,416 --> 00:02:17,256
to do all this verification
to make sure that it's going

56
00:02:17,256 --> 00:02:19,146
to be ready and safe
for these astronauts?

57
00:02:19,646 --> 00:02:21,966
>> Alex Kanelakos: Well,
in order to return it

58
00:02:22,076 --> 00:02:25,286
to service we have several
different checkouts or checks,

59
00:02:25,286 --> 00:02:26,926
steps, that we have to do.

60
00:02:27,396 --> 00:02:30,586
So we'll first be turning
on the suit, powering it up,

61
00:02:30,876 --> 00:02:35,316
and we'll be doing comm and data
checks with the crew member.

62
00:02:35,706 --> 00:02:38,386
So I'm not only voice
audio to make sure

63
00:02:38,386 --> 00:02:41,026
that our radio is functioning
and our antenna is functioning

64
00:02:41,266 --> 00:02:42,466
but also all the data.

65
00:02:42,466 --> 00:02:44,956
And we have several different
frequencies that we use

66
00:02:45,386 --> 00:02:47,256
and radios that we use.

67
00:02:47,256 --> 00:02:49,486
So several different
configurations.

68
00:02:49,996 --> 00:02:53,486
After that we'll be basically
doing a performance check

69
00:02:53,486 --> 00:02:54,066
of our suit.

70
00:02:54,066 --> 00:02:59,856
We'll be looking at the amps,
the volts of our battery.

71
00:03:00,226 --> 00:03:04,746
We'll be running the fan and
the water pump and separator

72
00:03:05,906 --> 00:03:08,126
to basically see what the
performance is looking at.

73
00:03:08,126 --> 00:03:09,676
And we'll be getting
data on the ground

74
00:03:09,676 --> 00:03:14,406
and evaluating the

spacesuit's telemetry.

75
00:03:15,236 --> 00:03:17,266
After that we will be looking

76
00:03:17,266 --> 00:03:20,146
to see is the spacesuit's
cooling loop running properly?

77
00:03:20,406 --> 00:03:25,016
Is it able to take the
air bubbles that are

78
00:03:25,016 --> 00:03:27,796
in the coolant loop and
degas the coolant loop,

79
00:03:27,886 --> 00:03:30,416
making sure that our water
separator is functioning

80
00:03:30,646 --> 00:03:31,266
as well?

81
00:03:31,836 --> 00:03:33,496
Then what we'll be doing
is we'll be getting

82
00:03:33,496 --> 00:03:36,106
into several different
leak checks.

83
00:03:36,136 --> 00:03:39,996
So we'll first start a
30-minute water leak check.

84
00:03:39,996 --> 00:03:42,736
So we'll run the fan for 30
minute and pressurize the loop

85
00:03:42,736 --> 00:03:45,906
to 15 psi Delta, and at

86
00:03:45,906 --> 00:03:48,576
that point we'll come
back 30 minutes later

87
00:03:48,786 --> 00:03:53,476
and inspect many surfaces and
many orifices and interfaces

88
00:03:53,476 --> 00:03:54,656
of our suit to make sure

89
00:03:54,946 --> 00:03:59,056
that our spacesuit isn't
leaking once we pressurize the

90
00:03:59,136 --> 00:03:59,926
coolant loop.

91
00:04:00,686 --> 00:04:03,626
After that we will pressurize
the entire spacesuit.

92
00:04:03,626 --> 00:04:08,656
So we'll put our O2
into a 4.3 psi Delta

93
00:04:08,656 --> 00:04:10,976
and we'll pressurize
the entire spacesuit.

94
00:04:11,376 --> 00:04:13,196
And with our bleed orifice

95
00:04:13,196 --> 00:04:15,516
and our spacesuit we
will actually be able

96
00:04:15,516 --> 00:04:19,086
to pressure our suit above
the normal 4.3 pressure

97
00:04:19,086 --> 00:04:20,936
that the crew members go
outside the door with.

98
00:04:21,036 --> 00:04:24,906
So we'll pressurize it up,
and once it gets high enough

99
00:04:24,906 --> 00:04:30,296
to an adequate level
we'll take our O2 lever

100
00:04:30,296 --> 00:04:32,246
and basically move it
into the off position

101
00:04:32,246 --> 00:04:34,966
so that we're no longer
feeding the pressure.

102
00:04:35,326 --> 00:04:38,146
And we're allowed to
basically see, is our --

103
00:04:38,146 --> 00:04:42,186
how tight our suit is, and
we'll do a gas leak check

104
00:04:42,186 --> 00:04:43,216
from that standpoint.

105
00:04:43,646 --> 00:04:46,316
So those are the checkouts
that we'll be doing tomorrow.

106
00:04:46,556 --> 00:04:46,966
>> Dan Huot: Okay.

107
00:04:46,966 --> 00:04:48,206
So you know, a real big picture.

108
00:04:48,206 --> 00:04:51,136
We're basically going to put the
suit in a configuration almost

109
00:04:51,136 --> 00:04:53,666
that an astronaut, who is
wearing it, would be in,

110
00:04:54,046 --> 00:04:56,236
and even go above and
beyond that, a little bit

111
00:04:56,236 --> 00:04:58,506
of extra pressure just to
see if we have any issues.

112
00:04:58,636 --> 00:04:58,886
>> Alex Kanelakos: Right.

113
00:04:58,886 --> 00:05:03,046
So for a normal EVA we do
several checkouts before

114
00:05:03,046 --> 00:05:03,976
the spacewalk.

115
00:05:04,276 --> 00:05:07,656
But this is kind of going
beyond those normal space --

116
00:05:07,656 --> 00:05:10,816
beyond the normal
checkouts just to make sure

117
00:05:10,816 --> 00:05:14,576
that this suit is able to return
back to an EVA performance.

118
00:05:14,696 --> 00:05:15,036
>> Dan Huot: Okay.

119
00:05:15,036 --> 00:05:17,456
And again, NASA astronaut
Mike Hopkins is going

120
00:05:17,456 --> 00:05:18,646
to be doing those checkouts

121
00:05:18,646 --> 00:05:20,796
on board the station
tomorrow on Tuesday.

122
00:05:20,796 --> 00:05:23,196
The teams down here on the
ground, including Alex,

123
00:05:23,446 --> 00:05:26,216
will be walking along with him
throughout those procedures.

124
00:05:26,216 --> 00:05:28,486
Alex, thanks for giving us
kind of the nitty-gritty

125
00:05:28,486 --> 00:05:30,046
on everything that's
going on tomorrow.

126
00:05:30,046 --> 00:05:32,336
I've been following the
spacesuit story very closely.

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00:05:32,956 --> 00:05:34,666
We'll look forward to all
those checkouts tomorrow.

128
00:05:34,666 --> 00:05:34,996
Thanks.

129
00:05:34,996 --> 00:05:35,286
>> Alex Kanelakos: All right.