



1  
00:00:01,550 --> 00:00:02,980  
This is Mission Control Houston.

2  
00:00:02,980 --> 00:00:09,300  
Welcome and thank you for joining us for today's  
edition of ISS update this Friday, April 20.

3  
00:00:09,300 --> 00:00:14,080  
And now for this week, a look at this week  
aboard the International Space Station.

4  
00:00:14,080 --> 00:00:18,980  
On Monday Expedition 30 Commander Dan  
Burbank and Flight Engineers Anton Shkaplerov

5  
00:00:18,980 --> 00:00:24,550  
and Anatoly Ivanishin conducted leak checks and  
other tests Monday on the Russian Sokol launch

6  
00:00:24,550 --> 00:00:29,000  
and entry suits that they will wear for their  
departure from the International Space Station

7  
00:00:29,000 --> 00:00:33,220  
and return to Earth aboard  
the Soyuz TMA 22 spacecraft.

8  
00:00:33,220 --> 00:00:37,940  
Their landing about 56 miles north  
northeast at the remote town of Arkalyk

9  
00:00:37,940 --> 00:00:43,840  
in Kazakhstan will wrap up Expedition 30  
and is scheduled to take place on April 27.

10  
00:00:43,840 --> 00:00:50,200  
Burbank also performed maintenance work on a  
pump in the outpost's water recovery system.

11

00:00:50,200 --> 00:00:55,060

Shkaplerov and Ivanishin cleaned fan screens in the Poisk and Rassvet modules.

12

00:00:55,060 --> 00:01:00,370

And with an eye toward the scheduled arrival of the SpaceX Dragon commercial cargo craft,

13

00:01:00,370 --> 00:01:03,880

Flight Engineers Don Pettit and Andre Kuipers spent most

14

00:01:03,880 --> 00:01:09,150

of the day rehearsing rendezvous Canadarm2 grapple procedures

15

00:01:09,150 --> 00:01:11,790

at the cupola robotics workstation.

16

00:01:11,790 --> 00:01:15,980

Dragon is slated to launch atop a Falcon 9 rocket on April 30

17

00:01:15,980 --> 00:01:21,010

from Cape Canaveral Air Force Station, Florida, and the station crew is set to grapple

18

00:01:21,010 --> 00:01:22,900

and berth the supply ship on May 3.

19

00:01:22,900 --> 00:01:26,480

The Dragon will be the first commercial cargo vehicle employed

20

00:01:26,480 --> 00:01:29,200

to deliver supplies to the complex.

21

00:01:29,200 --> 00:01:32,050

Also on Monday, Pettit and Kuipers worked

22

00:01:32,050 --> 00:01:35,540

with the Space Sound experiment  
in the Japanese Kibo laboratory.

23

00:01:35,540 --> 00:01:38,890

One of the pair created sound with a  
special instrument that was recorded

24

00:01:38,890 --> 00:01:41,540

with a video camera and an audio recorder.

25

00:01:41,540 --> 00:01:45,730

Flight Engineer Oleg Kononenko  
took photographs of Earth as part

26

00:01:45,730 --> 00:01:49,110

of the Russian Uragan Earth  
imaging program which is named

27

00:01:49,110 --> 00:01:51,140

for the Russian word for hurricane.

28

00:01:51,140 --> 00:01:57,720

Uragan is a ground and space-based system for  
predicting natural and man-made disasters.

29

00:01:57,720 --> 00:02:03,660

And on Tuesday Flight Engineer Oleg Kononenko  
transferred trash and station discards

30

00:02:03,660 --> 00:02:10,690

to the ISS Progress 46 cargo craft for disposal  
to prepare for its hatch closure on Wednesday.

31

00:02:10,690 --> 00:02:15,450

It's departure set the stage for the arrival  
of the Progress 47 cargo craft that is now

32

00:02:15,450 --> 00:02:17,920

on its way to the International Space Station.

33

00:02:17,920 --> 00:02:22,130

Kononenko and Flight Engineer Anatoly Ivanishin had worked on the installation

34

00:02:22,130 --> 00:02:25,650

of a docking mechanism in the Pirs docking compartment to prepare

35

00:02:25,650 --> 00:02:28,400

for Sunday's arrival of Progress 47.

36

00:02:28,400 --> 00:02:32,910

Also on Tuesday Flight Engineer Anton Shkaplerov performed maintenance work on a cooler

37

00:02:32,910 --> 00:02:36,430

in the Soyuz TMA- 22 spacecraft that brought him,

38

00:02:36,430 --> 00:02:39,800

Ivanishin and Commander Dan Burbank to the station in November.

39

00:02:39,800 --> 00:02:44,270

The trio is scheduled to return to Earth April 27 aboard the Soyuz landing

40

00:02:44,270 --> 00:02:47,870

about 56 miles north northeast at the remote town of Arkalyk

41

00:02:47,870 --> 00:02:51,260

in Kazakhstan, and wrapping up Expedition 30.

42

00:02:51,260 --> 00:02:53,860

Burbank and Flight Engineer Andre Kuipers focused

43  
00:02:53,860 --> 00:02:56,890  
on unloading cargo from the Edoardo Amaldi.

44  
00:02:56,890 --> 00:03:00,190  
This is the Automated Transfer  
Vehicle that docked to the aft end

45  
00:03:00,190 --> 00:03:03,280  
of the Zvezda service module on March 28.

46  
00:03:03,280 --> 00:03:08,300  
It delivered 7.2 tons of food, fuel  
and supplies to the orbiting complex.

47  
00:03:08,300 --> 00:03:12,870  
And on Tuesday Flight Engineer Don Pettit  
participated in several biomedical experiment

48  
00:03:12,870 --> 00:03:15,740  
that measure the impacts of  
long-duration spaceflight

49  
00:03:15,740 --> 00:03:18,620  
on the human body for the Sprint experiment.

50  
00:03:18,620 --> 00:03:22,690  
Pettit worked with Kuipers to collect  
ultrasound readings of leg muscles

51  
00:03:22,690 --> 00:03:26,690  
to see how well high-intensity exercise  
minimizes the loss of muscle mass

52  
00:03:26,690 --> 00:03:30,320  
and bone density that typically  
occurs in a weightless environment.

53  
00:03:30,320 --> 00:03:34,850  
And also Pettit and Burbank had worked with

the Integrated Cardiovascular experiment,

54  
00:03:34,850 --> 00:03:37,870  
which measures the atrophy at the heart muscle.

55  
00:03:37,870 --> 00:03:40,010  
Investigators use the data from these tests

56  
00:03:40,010 --> 00:03:43,060  
to develop countermeasures  
to keep the crew healthy.

57  
00:03:43,060 --> 00:03:47,450  
Then on Wednesday Commander Dan Burbank  
and Flight Engineers Anton Shkaplerov

58  
00:03:47,450 --> 00:03:53,810  
and Anatoly Ivanishin continued to prepare for  
their departure and end their stay on April 27.

59  
00:03:53,810 --> 00:03:59,840  
The first commercial cargo craft to visit the  
station was also set for launch on April 30

60  
00:03:59,840 --> 00:04:03,670  
at 12:22 PM for a its test flight.

61  
00:04:03,670 --> 00:04:10,350  
The SpaceX Dragon capsule will deliver  
food, experiment, gear and station hardware.

62  
00:04:10,350 --> 00:04:14,000  
After a series of demonstration maneuvers  
it will rendezvous with the station

63  
00:04:14,000 --> 00:04:17,080  
to be grappled and berthed to the Harmony node.

64  
00:04:17,080 --> 00:04:21,160

Flight Engineers Don Pettit  
and Andre Kuipers are training

65

00:04:21,160 --> 00:04:23,020  
for the arrival of the Dragon capsule.

66

00:04:23,020 --> 00:04:27,120  
They worked in the cupola and used the  
Canadarm2 to retrieve Dragon and berthed it.

67

00:04:27,120 --> 00:04:30,170  
That that was again on Wednesday.

68

00:04:30,170 --> 00:04:33,340  
Finally three new crew members  
were scheduled to arrive

69

00:04:33,340 --> 00:04:37,740  
at the orbiting laboratory's Poisk  
mini research module on May 17.

70

00:04:37,740 --> 00:04:42,150  
Flight Engineers Gennady Padalka,  
Joe Acaba and Sergei Revin will dock

71

00:04:42,150 --> 00:04:45,880  
in their Soyuz TMA-04M spacecraft  
and join Pettit,

72

00:04:45,880 --> 00:04:50,120  
Kuipers and Expedition 31 Commander  
Oleg Kononenko.

73

00:04:50,120 --> 00:04:56,180  
Then on Thursday the ISS Progress 46 cargo  
craft, loaded with trash and unneeded items,

74

00:04:56,180 --> 00:04:59,910  
undocked from the Pirs docking  
compartment on Thursday

75

00:04:59,910 --> 00:05:04,690

as the station flew 245 miles  
above Southeast Russia.

76

00:05:04,690 --> 00:05:09,210

A series of separation burns moved the  
Progress a safe distance away from the station

77

00:05:09,210 --> 00:05:12,870

where its thrusters will be fired  
for several days next week for a test

78

00:05:12,870 --> 00:05:16,070

of radar tracking capability  
by Russian ground sites.

79

00:05:16,070 --> 00:05:21,100

The Progress will be commanded to deorbit  
on April 28 for a destructive reentry

80

00:05:21,100 --> 00:05:24,450

into Earth's atmosphere over the Pacific Ocean.

81

00:05:24,450 --> 00:05:29,270

Also on Thursday, Flight Engineer Anatoly  
Ivanishin photographed the departing cargo craft

82

00:05:29,270 --> 00:05:34,300

through a window in the Zvezda service module  
to verify that no seals were missing or damaged

83

00:05:34,300 --> 00:05:36,880

on the docking interface of the Progress.

84

00:05:36,880 --> 00:05:43,250

To prepare then for the arrival of Progress  
47 Flight Engineers Anton Shkaplerov

85

00:05:43,250 --> 00:05:48,170  
and Oleg Kononenko spent a few hours  
on Thursday practicing with the TORU,

86

00:05:48,170 --> 00:05:52,040  
the Russian telerobotically  
operated rendezvous system.

87

00:05:52,040 --> 00:05:57,900  
The Progress is designed to dock automatically  
via the Kurs automated rendezvous system,

88

00:05:57,900 --> 00:06:02,530  
but crews can use TORU to take over  
the process if difficulties arise.

89

00:06:02,530 --> 00:06:06,400  
Meanwhile on Thursday, Flight Engineer  
Andre Kuipers focused his attention

90

00:06:06,400 --> 00:06:12,110  
on the Card experiment providing blood and urine  
samples for later analysis back on Earth as well

91

00:06:12,110 --> 00:06:16,630  
as doing a few rebreathing  
exercises throughout the day.

92

00:06:16,630 --> 00:06:21,900  
Card investigates the mechanisms of  
heart disease and looks at changes

93

00:06:21,900 --> 00:06:26,060  
in blood pressure during  
long-duration spaceflight.

94

00:06:26,060 --> 00:06:31,620  
Then today on Friday, it was a successful  
launch of the Progress 47 cargo craft

95

00:06:31,620 --> 00:06:35,550  
from Baikonur Cosmodrome in Kazakhstan.

96  
00:06:35,550 --> 00:06:41,660  
The new Progress 47 carrying food,  
supplies, oxygen and fuel now on its way

97  
00:06:41,660 --> 00:06:48,170  
to the International Space Station, lifted  
off on time at 7:50 AM this morning.

98  
00:06:48,170 --> 00:06:54,960  
The Progress 47 cargo craft is set to dock to  
the station this Sunday at 9:40 AM central time.

99  
00:06:54,960 --> 00:06:57,680  
We'll bring live coverage  
here on NASA television

100  
00:06:57,680 --> 00:07:01,170  
at 9 AM central time, 10 AM Eastern time.

101  
00:07:01,170 --> 00:07:03,760  
Again that cargo craft is set to dock

102  
00:07:03,760 --> 00:07:08,060  
to the International Space  
Station at 9:40 AM central time.

103  
00:07:08,060 --> 00:07:11,600  
Also on Friday aboard the International  
Space Station, Commander Dan Burbank

104  
00:07:11,600 --> 00:07:13,470  
and Flight Engineers Anton Shkaplerov

105  
00:07:13,470 --> 00:07:17,070  
and Anatoly Ivanishin prepared  
for the return to Earth.

106

00:07:17,070 --> 00:07:20,570

Burbank, Shkaplerov and Ivanishin who  
launched from the Baikonur Cosmodrome

107

00:07:20,570 --> 00:07:25,710

in Kazakhstan aboard their Soyuz  
TMA-22 last November are wrapping

108

00:07:25,710 --> 00:07:29,540

up their final week aboard the  
International Space Station as they prepare

109

00:07:29,540 --> 00:07:33,160

to return back to Earth on April 27.

110

00:07:33,160 --> 00:07:37,470

The trio suited up into their suits  
for a fit check, strapped themselves

111

00:07:37,470 --> 00:07:42,750

into their Soyuz TMA-22 spacecraft  
and rehearsed descent drills

112

00:07:42,750 --> 00:07:44,820

for the return to Earth next week.

113

00:07:44,820 --> 00:07:49,330

Meanwhile, Flight Engineers Don Pettit and  
Andre Kuipers practiced for the capture

114

00:07:49,330 --> 00:07:52,490

of the first commercial spacecraft  
known as Dragon to arrive

115

00:07:52,490 --> 00:07:54,370

at the International Space Station.

116

00:07:54,370 --> 00:07:59,640

The pair performed three grapple practice

sessions using the station's Canadarm2 during

117

00:07:59,640 --> 00:08:01,070

today's dry run.

118

00:08:01,070 --> 00:08:05,040

SpaceX's Dragon is set to launch  
from NASA's Kennedy Space Center

119

00:08:05,040 --> 00:08:07,770

at the end of the month on April 30.

120

00:08:07,770 --> 00:08:11,830

And also today station Commander  
Dan Burbank and Kuipers worked

121

00:08:11,830 --> 00:08:17,340

with the onboard ultrasound equipment  
performing vessel and cardiovascular scans.

122

00:08:17,340 --> 00:08:21,920

And Flight Engineers Anton Shkaplerov  
and Oleg Kononenko participated

123

00:08:21,920 --> 00:08:29,180

in onboard training conference to review docking  
procedures and in anticipation of the arrival

124

00:08:29,180 --> 00:08:33,380

of the new Progress 47 now on its way  
to the International Space Station.

125

00:08:33,380 --> 00:08:39,810

That is set to dock to the orbiting complex  
this weekend on Sunday at 9:40 AM central time.

126

00:08:39,810 --> 00:08:42,900

Again live coverage will  
begin here on NASA television

127

00:08:42,900 --> 00:08:46,220

at 9 AM central time, 10 AM Eastern time.