1
00:00:02,330 --> 00:00:05,290
Good day, and welcome to mission
control Houston, where a team

2
00:00:05,290 --> 00:00:06,990
of flight controllers
is watching

3
00:00:06,990 --> 00:00:10,280
over all the systems aboard
the International Space Station

4
00:00:10,280 --> 00:00:14,270
as it orbits 250 statute
miles over the Himalayas

5
00:00:14,270 --> 00:00:16,700
on an easterly course.

6
00:00:16,700 --> 00:00:19,630
On board, Commander
Oleg Kononenko

7
00:00:19,630 --> 00:00:22,730
and Flight Engineers
Andre Kuipers, Don Pettit,

8
00:00:22,730 --> 00:00:26,600
Gennady Padalka , Sergei Revin
and Joe Acaba are working

9
00:00:26,600 --> 00:00:29,390
through a very busy day
of activities that range

10
00:00:29,390 --> 00:00:34,860
from robot operations with
the small Japanese arm,

11

00:00:34,860 --> 00:00:37,880
to some preparations
for some experiments

12
00:00:37,880 --> 00:00:41,510
on board the International Space
Station, and also getting ready

13
00:00:41,510 --> 00:00:44,310
for the departure of
Kononenko, Kuipers and Pettit,

14
00:00:44,310 --> 00:00:47,070
coming up at the
end of the week.

15
00:00:47,070 --> 00:00:50,840
The crew members are
getting ready to depart

16
00:00:50,840 --> 00:00:51,830
and they are going
through a number

17
00:00:51,830 --> 00:00:54,190
of different activities
associated

18
00:00:54,190 --> 00:00:55,680
with their preparations,
packing up

19
00:00:55,680 --> 00:00:57,150
and making sure they
have got all

20
00:00:57,150 --> 00:00:59,810
of their personal items
ready to go home with them.

21

00:00:59,810 --> 00:01:01,710
aboard their Soyuz spacecraft.

22
00:01:01,710 --> 00:01:07,190
Some of the Russian
cosmonauts are going

23
00:01:07,190 --> 00:01:12,400
through some lower body negative
pressure sessions to try

24
00:01:12,400 --> 00:01:14,750
to pull fluids back in
their lower extremities

25
00:01:14,750 --> 00:01:18,020
since extremities tend
to pool in the midsection

26
00:01:18,020 --> 00:01:20,610
and the upper portions
of the body.

27
00:01:20,610 --> 00:01:22,490
That is one potential
countermeasure.

28
00:01:22,490 --> 00:01:25,350
They are also getting some
exercise to help them get ready

29
00:01:25,350 --> 00:01:30,670
for the return to Earth gravity
after six months in orbit.

30
00:01:30,670 --> 00:01:33,350
A change of command ceremony
is officially scheduled

31
00:01:33,350 --> 00:01:40,330

for 6:35 p.m. CT coming up
on this Friday, June 29.

32
00:01:40,330 --> 00:01:42,610
And that will involve
the handover

33
00:01:42,610 --> 00:01:45,930
from Commander Kononenko
to the new commander

34
00:01:45,930 --> 00:01:49,090
of Expedition 32
Gennady Padalka.

35
00:01:49,090 --> 00:01:51,060
All crew members will be
participating in that.

36
00:01:51,060 --> 00:01:54,440
We will have that live on
NASA television for you.

37
00:01:54,440 --> 00:01:58,620
On Sunday, actually
Saturday U.S. time,

38
00:01:58,620 --> 00:02:05,110
starting on June the
30th about 11:48 p.m. CT,

39
00:02:05,110 --> 00:02:06,930
will be the undocking

40
00:02:06,930 --> 00:02:11,330
of the Soyuz spacecraft carrying
Kononenko, Kuipers and Pettit.

41
00:02:11,330 --> 00:02:14,180
And then they will land on

the steppe of Kazakhstan

42
00:02:14,180 --> 00:02:16,550
on early Sunday morning.

43
00:02:16,550 --> 00:02:24,650
Scheduled for 3:14 a.m. CT,
which works out to 2:14 p.m.

44
00:02:24,650 --> 00:02:26,360
in the afternoon Kazakh time.

45
00:02:26,360 --> 00:02:30,180
Of course that will be seen
here live on NASA television.

46
00:02:30,180 --> 00:02:32,200
Today the crew is working
with several different types

47
00:02:32,200 --> 00:02:33,370
of maintenance activities.

48
00:02:33,370 --> 00:02:34,720
They are greasing the rails

49
00:02:34,720 --> 00:02:37,450
on the Advanced Resistive
Exercise Device,

50
00:02:37,450 --> 00:02:39,090
which lets them mimic
weightlifting,

51
00:02:39,090 --> 00:02:41,680
even though there is
no gravity in space.

52
00:02:41,680 --> 00:02:43,140

They are making sure those rails

53
00:02:43,140 --> 00:02:47,060
which use the exercise
arms have free travel.

54
00:02:47,060 --> 00:02:48,950
Here is a graph that
shows you a look

55
00:02:48,950 --> 00:02:52,300
at the Advanced Resistive
Exercise Device.

56
00:02:52,300 --> 00:02:55,410
They are also doing some
ventalation system maintenance

57
00:02:55,410 --> 00:02:56,640
and are checking dust filters

58
00:02:56,640 --> 00:02:58,510
in the Russian segment
of the space station.

59
00:02:58,510 --> 00:03:01,390
They are also inspecting
the window condition

60
00:03:01,390 --> 00:03:03,210
in the Russian segment
of the space station,

61
00:03:03,210 --> 00:03:05,530
something done periodically
to take a look

62
00:03:05,530 --> 00:03:09,440
for any possible micrometeorite
or orbital debris hits,

63
00:03:09,440 --> 00:03:12,910
or any damage or any cleaning
that needs to be done there.

64
00:03:12,910 --> 00:03:15,020
Russians are also
working with an experiment

65
00:03:15,020 --> 00:03:19,440
that measures radiation dosages
aboard the space station.

66
00:03:19,440 --> 00:03:23,980
Joe Acaba is working with some
equipment for an upcoming run

67
00:03:23,980 --> 00:03:26,520
with the Combustion Integrated
Rack experiment that looks

68
00:03:26,520 --> 00:03:32,310
at how flames and other
fire affects smoke happen

69
00:03:32,310 --> 00:03:37,420
in micro gravity where you don't
have a normal affects accompany

70
00:03:37,420 --> 00:03:38,420
Earth gravity.

71
00:03:38,420 --> 00:03:42,430
Flames in space tend to
be a round ball instead

72
00:03:42,430 --> 00:03:44,700
of the normal candle shape flame

73

00:03:44,700 --> 00:03:48,070
and those experiments are
expected to look deeply

74
00:03:48,070 --> 00:03:52,450
into the nature of combustion
and hopefully lead to advances

75
00:03:52,450 --> 00:03:56,110
on the Earth related to more
efficient combustion for engines

76
00:03:56,110 --> 00:03:59,700
and should save energy in the
long run and also help protect

77
00:03:59,700 --> 00:04:02,450
against fire in space.

78
00:04:02,450 --> 00:04:06,910
Don Pettitt is going to do a
self scan using the ultrasound

79
00:04:06,910 --> 00:04:09,840
device aboard the space
station of his leg, this is part

80
00:04:09,840 --> 00:04:11,730
of an experiment
known as Sprint.

81
00:04:11,730 --> 00:04:16,740
The Sprint experiment to
is one that takes a look

82
00:04:16,740 --> 00:04:19,900
at long-duration stays on
aboard the space station

83
00:04:19,900 --> 00:04:22,290

and how it effects
the human body.

84
00:04:23,920 --> 00:04:27,430
Sprint stands for integrated
resistance anaerobic training

85
00:04:27,430 --> 00:04:31,810
study and it's designed to
look at the high-intensity,

86
00:04:31,810 --> 00:04:35,990
low volume exercise training
and to try to minimize muscle,

87
00:04:35,990 --> 00:04:40,530
bone and cardiovascular
degradation during long-duration

88
00:04:40,530 --> 00:04:41,890
missions on the space station.

89
00:04:41,890 --> 00:04:44,600
This could also have some
value to folks on the Earth

90
00:04:44,600 --> 00:04:47,230
that to end up in a
situation where they might be

91
00:04:47,230 --> 00:04:49,460
on extended bed rest
and the like.

92
00:04:49,460 --> 00:04:54,920
Also, a lot of work going
on with the robotic arm

93
00:04:54,920 --> 00:04:58,730
on the Japan Aerospace

Exploration Agency's

94
00:04:58,730 --> 00:05:00,140
Kibo module.

95
00:05:00,140 --> 00:05:04,460
That module has an airlock and
a front porch for experiments,

96
00:05:04,460 --> 00:05:08,220
and the next Japanese
resupply vehicle is scheduled

97
00:05:08,220 --> 00:05:10,330
to launch to the space station.

98
00:05:10,330 --> 00:05:14,300
That's coming up
later on in July

99
00:05:14,300 --> 00:05:17,990
and it will be delivering
some external cargo

100
00:05:17,990 --> 00:05:23,120
and what's affectionately
known as the trunk of HTV-3.

101
00:05:23,120 --> 00:05:25,600
The robotic arm just
got a software upgrade

102
00:05:25,600 --> 00:05:27,660
that the crew is testing it
out to make sure it's ready

103
00:05:27,660 --> 00:05:31,090
to remove that cargo
from the external trunk

104
00:05:31,090 --> 00:05:34,750
of the HTV-3 vehicle
and places it

105
00:05:34,750 --> 00:05:38,490
on the external experiment
rack that's on the outside,

106
00:05:38,490 --> 00:05:41,830
also known as the front
porch, of the Kibo laboratory.

107
00:05:41,830 --> 00:05:45,210
So a very busy day on board the
International Space Station.

108
00:05:45,210 --> 00:05:49,310
All systems working well and the
crew very active today with here

109
00:05:49,310 --> 00:05:52,880
in mission control Emily Nelson
in charge of the team watching

110
00:05:52,880 --> 00:05:56,480
over and Robert Hanley
talking with the crew as needed