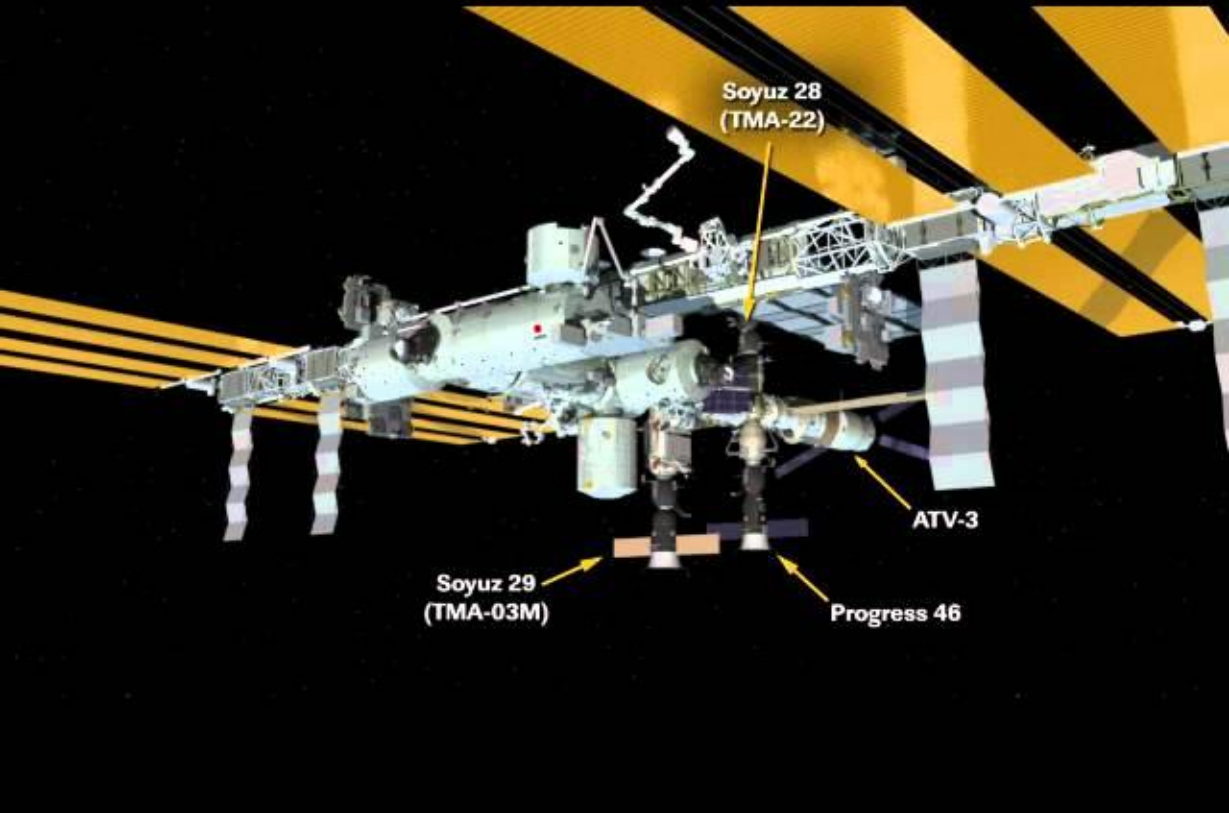
Soyuz 28
(TMA-22)
ATV-3
Soyuz 29
(TMA-03M)
Progress 46

1
00:00:01,366 --> 00:00:02,786
This is Mission Control Houston.

2
00:00:02,786 --> 00:00:06,186
Good morning to you from the International
Space Station Flight Control Room

3
00:00:06,186 --> 00:00:07,696
and welcome to ISS Update.

4
00:00:07,696 --> 00:00:10,466
It is Monday, April 9, 2012.

5
00:00:11,196 --> 00:00:16,056
The crew has got a very busy day today working
on a variety of different maintenance tasks

6
00:00:16,056 --> 00:00:19,456
and also quite a bit of onboard
training and experiment work.

7
00:00:20,256 --> 00:00:24,196
Dan Burbank, who is the commander, started
off his morning with some routine maintenance

8
00:00:24,196 --> 00:00:27,736
on the spacesuits that are
onboard inside the Quest airlock.

9
00:00:28,526 --> 00:00:31,876
Those have to be maintained periodically
by scrubbing the coolant loops.

10
00:00:31,876 --> 00:00:34,316
You see the work they're going on inside Quest.

11
00:00:34,316 --> 00:00:35,166
There is Burbank.

12
00:00:36,306 --> 00:00:40,146
He's also going to be unstowing some materials
today from the Combustion Integrated Rack.

13
00:00:40,436 --> 00:00:45,396
This is the one of the onboard facilities that
the crew performs different experiments on.

14
00:00:46,346 --> 00:00:49,886
It deals with exactly what it sounds like,
different types of combustion elements.

15
00:00:50,246 --> 00:00:52,866
It has an optics bench inside
a combustion chamber

16
00:00:53,456 --> 00:00:55,286
which you see is the large
part there in the middle.

17
00:00:55,456 --> 00:00:59,656
It's got fuel and oxidizer controls
and five different cameras so the crew

18
00:00:59,656 --> 00:01:01,906
and the ground teams can
watch what the crew does.

19
00:01:02,466 --> 00:01:08,416
It can also perform experiments in either high
or low pressure so they can simulate a vacuum

20
00:01:08,756 --> 00:01:12,946
or take it up to three times an atmosphere
what you would find here on Earth.

21
00:01:13,616 --> 00:01:18,306
Anton Shkaplerov also busy today taking some
measurements inside the Zvezda service module.

22
00:01:18,966 --> 00:01:21,076
He's making sure that there are no contaminants

23
00:01:21,076 --> 00:01:25,496
for anything untoward there inside
the Russian segment, this is typical,

24
00:01:25,876 --> 00:01:27,606
that the crew does every few weeks or so.

25
00:01:28,356 --> 00:01:32,216
He's also working on what's called
the Kulonovskiy Crystal experiment.

26
00:01:33,476 --> 00:01:35,356
It looks at how crystals form in space.

27
00:01:35,356 --> 00:01:41,316
It could lead to better designs for solar arrays
on future spacecraft by improving the current

28
00:01:41,736 --> 00:01:46,796
that is distributed from those solar
arrays into the spacecraft itself.

29
00:01:46,796 --> 00:01:51,956
Shkaplerov also working on stowing some items
in the Progress 46 which is currently docked

30
00:01:51,956 --> 00:01:53,516
with the Pirs docking compartment.

31
00:01:54,106 --> 00:01:57,966
That is one of the cargo crafts that
visit the International Space Station.

32
00:01:57,966 --> 00:02:00,436
You see the Progress back
there on the Russian segment.

33
00:02:01,556 --> 00:02:06,536
This is the current layout of the station
with the Soyuz-28 or TMA-22 up there on top.

34
00:02:07,706 --> 00:02:12,046
That is the Poisk module that is on the
space-facing side of the Russian segment.

35
00:02:12,636 --> 00:02:19,616
The Soyuz-29 or TMA-03M is down there on
Rassvet which is close to the Zarya module.

36
00:02:20,076 --> 00:02:24,626
And then the newly arrived ATV-3, the
large European Space Agency cargo craft,

37
00:02:24,626 --> 00:02:27,396
back there on the Zvezda service module as well.

38
00:02:27,396 --> 00:02:29,526
But that Progress 46 is getting close

39
00:02:29,526 --> 00:02:33,836
to its final few days onboard
the International Space Station.

40
00:02:33,836 --> 00:02:36,946
It is going to be undocked
coming up on April 19.

41
00:02:36,946 --> 00:02:38,846
So the crew is getting everything set for that.

42
00:02:39,736 --> 00:02:42,436
Anatoly Ivanishin also has been
working on some of the cargo stowage

43
00:02:42,436 --> 00:02:44,656

from that Progress this morning as well.

44
00:02:45,476 --> 00:02:48,286
He has also been working on what
is called the Uragan experiment.

45
00:02:48,366 --> 00:02:51,686
This started back on board
the Mir Space Station.

46
00:02:52,126 --> 00:02:58,476
But basically it utilizes and takes advantage of
the unique vantage point of the space station,

47
00:02:58,476 --> 00:03:04,906
close to 240 miles up in space and uses the
orbiting complex to take photos and videos

48
00:03:04,906 --> 00:03:09,876
of different types of natural and man-made
phenomena down on the planet to help analyze

49
00:03:09,876 --> 00:03:13,996
and better predict certain types of
disasters that happen here on Earth.

50
00:03:14,836 --> 00:03:19,716
Ivanishin, as well as Oleg Kononenko,
also working on what's called the TORU,

51
00:03:19,936 --> 00:03:24,056
which is the of Tele-robotically
Operated Rendezvous System.

52
00:03:24,886 --> 00:03:29,506
This is a series of controls back in the
Russian segment in the Zvezda service module

53
00:03:29,946 --> 00:03:35,586
that the crew mans and watches over

should they ever have to take control

54
00:03:35,736 --> 00:03:38,446
of rendezvous and approaching spacecraft.

55
00:03:38,906 --> 00:03:43,646
But this is all being done in advance of the
Progress 46, which as we mentioned is going

56
00:03:43,646 --> 00:03:46,156
to back away from the station
and then undock on April 19.

57
00:03:46,156 --> 00:03:48,986
So they're going to checking
out that TORU system today.

58
00:03:49,926 --> 00:03:53,016
Don Pettit, which you were hearing the
voice of here just a few seconds ago,

59
00:03:53,016 --> 00:03:56,926
also working on quite a number of
different science experiments onboard.

60
00:03:57,506 --> 00:04:01,506
Mainly he's working on one called the
Burning and Suppression of Solids.

61
00:04:02,156 --> 00:04:05,336
This is an experiment that looks
at different fuels and how the burn

62
00:04:05,496 --> 00:04:07,766
of those fuels takes place in space.

63
00:04:08,336 --> 00:04:10,186
Hopefully this will lead
to better fire protection,

64
00:04:10,466 --> 00:04:14,826
detection and suppression in
space and also here on Earth.

65
00:04:15,696 --> 00:04:21,636
He and Kuipers are also starting about
two weeks worth of training today.

66
00:04:22,346 --> 00:04:26,926
This is all coming up for the
approaching date of the SpaceX launch.

67
00:04:26,926 --> 00:04:31,556
The SpaceX Dragon spacecraft getting ready to
head up to the International Space Station.

68
00:04:31,556 --> 00:04:36,506
Both Pettit and Kuipers are going to
be manning the station's robotic arm

69
00:04:37,306 --> 00:04:42,596
which will be used once Dragon gets close to
the station at a distance of about 30 feet.

70
00:04:42,596 --> 00:04:46,166
That arm will be used to grapple on
to Dragon and bring it in and berth it

71
00:04:46,166 --> 00:04:47,936
with the bottom side of the Harmony node.

72
00:04:48,346 --> 00:04:51,516
So today Pettit and Kuipers are starting
about two weeks with the training,

73
00:04:51,966 --> 00:04:53,886
getting ready for all the
different onboard activities

74

00:04:53,886 --> 00:04:57,516
that they will do as that mission draws near.

75
00:04:58,306 --> 00:05:02,706
They're also having a meeting today with flight
controllers here in Houston to take a look