SPACE TO GROUND

1
00:00:00,940 --> 00:00:04,210
VFX: Houston, station on space to ground.

2
00:00:04,210 --> 00:00:07,250
Welcome to "Space to Ground," your weekly
look at what's happening on board the International

3
00:00:07,250 --> 00:00:08,250
Space Station.

4
00:00:08,250 --> 00:00:09,430
I'm Amiko Kauderer.

5
00:00:09,430 --> 00:00:12,980
The space station crew is set to capture a
dragon.

6
00:00:12,980 --> 00:00:18,490
SpaceX's Falcon 9 rocket with the Dragon resupply
ship atop is set to liftoff from Cape Canaveral,

7
00:00:18,490 --> 00:00:21,730
Florida on Saturday at 2:14 am eastern.

8
00:00:21,730 --> 00:00:26,840
The craft is loaded with more than 5,000 pounds
of supplies and science experiments for the

9
00:00:26,840 --> 00:00:27,840
station.

10
00:00:27,840 --> 00:00:31,640
Flight Engineers Reid Wiseman and Alexander
Gerst refreshed their robotics skills this

11
00:00:31,640 --> 00:00:35,649
week in advance of dragon's arrival and capture
on Monday.

12
00:00:35,649 --> 00:00:40,100
And arriving aboard dragon is a piece of equipment
that may transform the station into a working

13
00:00:40,100 --> 00:00:41,449
machine shop.

14
00:00:41,449 --> 00:00:44,649
It's the first ever 3-d printer flown in space.

15
00:00:44,649 --> 00:00:49,960
The printer works by extruding heated plastic,
which then builds layer upon layer to create

16
00:00:49,960 --> 00:00:51,069
three-dimensional objects.

17
00:00:51,069 --> 00:00:55,829
So that critical missing bolt may no longer
require a wait for the next resupply ship

18
00:00:55,829 --> 00:00:56,929
to be replaced.

19
00:00:56,929 --> 00:01:00,249
Instead, the part could be manufactured in
space.

20
00:01:00,249 --> 00:01:04,519
This capability could decrease cost and risk
on the station by creating on-demand supply

21
00:01:04,519 --> 00:01:06,480
for tools and parts.

22
00:01:06,480 --> 00:01:10,910
As the three current station residents continue
their work in space, the other half of the

23
00:01:10,910 --> 00:01:14,190
Expedition 41 crew is preparing to join them.

24
00:01:14,190 --> 00:01:20,440
NASA astronaut Barry Wilmore and cosmonauts
Alexander Samokutyaev and Elena Serova traveled

25
00:01:20,440 --> 00:01:25,140
to the Baikonur Cosmodrome in Kazakhstan last
week to complete final preparations for their

26
00:01:25,140 --> 00:01:31,520
launch to the station on September 25 at 4:25
p.m. eastern aboard their Soyuz spacecraft.

27
00:01:31,520 --> 00:01:36,030
After a six-hour trek to the orbiting complex
the Soyuz will dock to the station's Poisk

28
00:01:36,030 --> 00:01:41,410
module, and its three crewmembers will spend
nearly six months living and working in space.

29
00:01:41,410 --> 00:01:43,300
This week's social media question is:

30
00:01:43,300 --> 00:01:46,360
How do the docking ports on the ISS prevent
leakage?

31
00:01:46,360 --> 00:01:48,700
Rubber or plastics would get brittle in space,
right?

32
00:01:48,700 --> 00:01:53,830
That's true - rubber and plastic would degrade
in space over a long period of time, and the

33
00:01:53,830 --> 00:01:56,280

ISS has been flying for nearly 16 years.

34
00:01:56,280 --> 00:02:00,600
So, the rubber seals that prevent leakage
at the docking ports are attached to the visiting

35
00:02:00,600 --> 00:02:02,740
vehicles, rather than the station.

36
00:02:02,740 --> 00:02:07,010
This prevents the material from being exposed
to the harsh environment of space for too

37
00:02:07,010 --> 00:02:08,010
long.