
SpacetoGround

1
00:00:02,166 --> 00:00:04,126
"HOUSTON, STATION
ON SPACE TO GROUND."

2
00:00:04,706 --> 00:00:07,196
WELCOME TO SPACE TO
GROUND, I AM KAYLA LAFRANCE.

3
00:00:07,196 --> 00:00:10,656
THIS WEEK, ASTRONAUTS ONBOARD
HAVE BEEN BUSY WITH NEW CARGO

4
00:00:10,656 --> 00:00:13,636
AND SCIENCE BROUGHT TO THE
STATION BY ITS NEWEST VISITOR.

5
00:00:14,926 --> 00:00:17,536
AFTER LAST WEEK'S
SUCCESSFUL LAUNCH AND DOCKING

6
00:00:17,536 --> 00:00:19,846
OF THE CYGNUS NG-11
CARGO VEHICLE,

7
00:00:20,216 --> 00:00:23,866
THE CREW ONBOARD WASTED NO TIME
DIVING INTO THE ROUGHLY THREE

8
00:00:23,866 --> 00:00:25,716
AND A HALF TONS PACKED INSIDE.

9
00:00:26,586 --> 00:00:28,876
NASA ASTRONAUTS NICK
HAUGE, CHRISTINA KOCH,

10
00:00:28,876 --> 00:00:32,796
AND ANNE MCCLAIN, ALONGSIDE
CANADIAN SPACE AGENCY ASTRONAUT

11

00:00:32,796 --> 00:00:35,226
DAVID ST. JACQUES, HAVE
BEEN ACTIVELY WORKING

12
00:00:35,226 --> 00:00:37,156
TO UNLOAD ALL OF THIS NEW CARGO.

13
00:00:37,776 --> 00:00:40,506
ONE OF THE NEW TECHNOLOGY
DEMONSTRATIONS THAT ARRIVED

14
00:00:40,506 --> 00:00:42,906
TO THE STATION WILL
BE TESTED FOR ITS USE

15
00:00:42,956 --> 00:00:46,186
ON FUTURE CREWED MISSIONS TO
THE MOON, MARS AND BEYOND.

16
00:00:47,726 --> 00:00:49,816
THE THERMAL AMINE
SCRUBBER IS A NEW SYSTEM

17
00:00:49,876 --> 00:00:52,266
TO REMOVE CARBON DIOXIDE
FROM THE ATMOSPHERE

18
00:00:52,466 --> 00:00:54,056
AS IT'S BREATHED
OUT BY THE CREW.

19
00:00:54,646 --> 00:00:57,796
THIS NEW AIR SCRUBBER SYSTEM
WILL UTILIZE ACTIVELY HEATED

20
00:00:57,866 --> 00:01:01,856
AND COOLED AMINE BEDS, WHICH USE
A NITROGEN-CONTAINING ORGANIC

21
00:01:02,096 --> 00:01:04,426

COMPOUND THAT IS
DERIVED FROM AMMONIA.

22
00:01:05,216 --> 00:01:08,376
IT CAUSES A REACTION THAT
REMOVES CO2 FROM THE ATMOSPHERE

23
00:01:08,556 --> 00:01:10,476
AND CREATES WATER
AS A BYPRODUCT,

24
00:01:10,786 --> 00:01:11,876
WHICH CAN THEN BE USED

25
00:01:11,956 --> 00:01:15,376
TO RESUPPLY THE OXYGEN
REGENERATION PROCESS USED

26
00:01:15,376 --> 00:01:16,206
ON THE STATION.

27
00:01:16,726 --> 00:01:18,116
TESTING NEW SYSTEMS LIKE THIS

28
00:01:18,146 --> 00:01:20,316
ON THE STATION RIGHT NOW
WILL HELP PAVE THE WAY

29
00:01:20,316 --> 00:01:23,256
AS NASA LOOKS TOWARDS FUTURE
MISSIONS BEYOND EARTH ORBIT

30
00:01:23,466 --> 00:01:25,106
WITH THE ORION AND
GATEWAY PROGRAMS.

31
00:01:26,336 --> 00:01:27,766
SOME NEW MATERIALS ARE

32

00:01:27,800 --> 00:01:30,736
ABOUT TO GET SOME SERIOUS
EXPOSURE ABOARD THE STATION.

33
00:01:33,100 --> 00:01:35,500
ASTRONAUT ANNE MCCLAIN PREPARED
THREE NEW SAMPLE CONTAINERS

34
00:01:35,536 --> 00:01:37,786
FOR THEIR TRIP THROUGH
THE JAPANESE AIRLOCK

35
00:01:37,786 --> 00:01:38,936
AND OUT INTO SPACE.

36
00:01:39,666 --> 00:01:40,376
THEY'LL BE HOUSED

37
00:01:40,376 --> 00:01:43,776
ON THE MATERIALS ISS
EXPERIMENT FLIGHT FACILITY,

38
00:01:44,146 --> 00:01:47,386
OR MISSE-FF FOR SHORT,
WHERE THEY'LL BE EXPOSED

39
00:01:47,476 --> 00:01:50,856
TO THE HARSH REALITY OF OUTER
SPACE, FACING ULTRAVIOLET,

40
00:01:51,136 --> 00:01:55,206
ELECTROMAGNETIC AND IONIZING
RADIATION, ATOMIC OXYGEN,

41
00:01:55,656 --> 00:01:57,436
VACUUM, CHARGED PARTICLES,

42
00:01:57,726 --> 00:02:00,346
EXTREME TEMPERATURES
AND MICRO-METEOROIDS.

43
00:02:01,016 --> 00:02:03,166
INDUSTRIES LIKE ADVANCED
MANUFACTURING,

44
00:02:03,646 --> 00:02:07,066
SPACECRAFT DESIGN,
AERONAUTICS, ENERGY PRODUCTION

45
00:02:07,386 --> 00:02:10,036
AND EVEN AUTOMOTIVE
PRODUCTION CAN USE MISSE

46
00:02:10,086 --> 00:02:11,286
TO DEVELOP STRONGER,

47
00:02:11,286 --> 00:02:14,096
MORE RESILIENT MATERIALS
FOR FUTURE PROJECTS.