



SPACE TO GROUND

1
00:00:00,780 --> 00:00:02,540
"HOUSTON, STATION
ON SPACE TO GROUND."

2
00:00:02,776 --> 00:00:04,966
WELCOME TO SPACE TO
GROUND, I'M ISIDRO REYNA.

3
00:00:05,366 --> 00:00:07,326
THIS WEEK ON STATION,
THE CREW PREPARED

4
00:00:07,326 --> 00:00:08,656
FOR AN UPCOMING SPACEWALK.

5
00:00:09,636 --> 00:00:11,226
TWO NASA ASTRONAUTS
ARE SCHEDULED

6
00:00:11,226 --> 00:00:13,556
TO VENTURE OUTSIDE THE
INTERNATIONAL SPACE STATION

7
00:00:13,656 --> 00:00:16,346
FOR A SIX-AND-A-HALF-HOUR
SPACEWALK ON MAY 16TH.

8
00:00:16,916 --> 00:00:19,716
EXPEDITION 55 FLIGHT
ENGINEERS DREW FEUSTEL

9
00:00:19,716 --> 00:00:22,206
AND RICKY ARNOLD HAVE BEEN
PREPPING THEIR SPACESUITS

10
00:00:22,316 --> 00:00:23,826
AND REVIEWING PROCEDURES
THIS WEEK

11

00:00:23,996 --> 00:00:26,616
FOR WHAT WILL BE THE
210TH SPACEWALK IN SUPPORT

12
00:00:26,616 --> 00:00:29,076
OF STATION ASSEMBLY,
MAINTENANCE AND UPGRADES.

13
00:00:29,156 --> 00:00:30,576
THE PRIMARY OBJECTIVE IS

14
00:00:30,696 --> 00:00:33,066
TO FINISH UPGRADING
COOLING SYSTEM HARDWARE.

15
00:00:33,456 --> 00:00:35,346
LIVE COVERAGE OF THE
SPACEWALKS WILL AIR

16
00:00:35,346 --> 00:00:37,476
ON NASA TV AND NASA.GOV.

17
00:00:38,296 --> 00:00:39,536
THIS WEEK, THE CREW WORKED

18
00:00:39,536 --> 00:00:42,946
ON THE ELECTRO-STATIC LEVITATION
FURNANCE ALSO KNOWN AS ELF.

19
00:00:44,026 --> 00:00:46,946
ELF IS AN EXPERIMENTAL
FACILITY DESIGNED TO LEVITATE,

20
00:00:47,016 --> 00:00:48,726
MELT AND SOLIDIFY MATERIALS

21
00:00:48,996 --> 00:00:51,696
BY CONTAINERLESS PROCESSING
TECHNIQUES USING THE

22
00:00:51,696 --> 00:00:53,526
ELECTROSTATIC LEVITATION METHOD.

23
00:00:53,896 --> 00:00:56,266
WITH THIS FACILITY,
THERMOPHYSICAL PROPERTIES

24
00:00:56,266 --> 00:00:59,546
OF HIGH TEMPERATURE MELTS CAN
BE MEASURED AND SOLIDIFICATION

25
00:00:59,546 --> 00:01:01,666
FROM DEEPLY UNDERCOOLED
MELTS CAN BE ACHIEVED.

26
00:01:02,286 --> 00:01:04,046
THE CREW EXCHANGED
THE SAMPLE HOLDERS

27
00:01:04,216 --> 00:01:07,466
AND INSTALLED A NEW SAMPLE
CARTRIDGE WITHIN ELF TO PREPARE

28
00:01:07,496 --> 00:01:10,286
FOR UPCOMING GROUND-COMMANDED
OPERATIONS.

29
00:01:10,476 --> 00:01:13,176
STUDENTS FROM HOUSTON AREA
SCHOOLS SPOKE TO ASTRONAUTS

30
00:01:13,176 --> 00:01:15,476
ON THE STATION DURING AN
EVENT HOSTED BY BOEING

31
00:01:15,606 --> 00:01:16,726
AND SPACE CENTER HOUSTON.

32
00:01:17,246 --> 00:01:20,096

THE EVENT WAS PART OF NASA'S
YEAR OF EDUCATION ON STATION.

33
00:01:20,736 --> 00:01:23,616
SCOTT TINGLE WAS ASKED ABOUT THE
SCIENCE BEING CONDUCTED ONBOARD

34
00:01:23,886 --> 00:01:24,746
THE ISS.

35
00:01:24,746 --> 00:01:28,166
"WE HAVE IN ANY GIVEN TIME
200 TO 250 EXPERIMENTS

36
00:01:28,166 --> 00:01:31,006
THAT ARE BEING WORKED ON THE
INTERNATIONAL SPACE STATION,

37
00:01:31,366 --> 00:01:32,946
BUT SOME OF THE BIG ONES
THAT I'VE BEEN WORKING

38
00:01:32,946 --> 00:01:36,556
ON INCLUDES APEX AND VEGGIE AND
THEY INCLUDE GROWING VEGETABLES.

39
00:01:36,556 --> 00:01:40,696
WE GROW LETTUCE, WE'RE LOOKING
AT COMBUSTION, WE'RE LOOKING

40
00:01:40,696 --> 00:01:44,776
AT CAPILLARY FLUIDS FLOW, AND
WE'RE TAKING PART IN A LOT

41
00:01:44,776 --> 00:01:47,626
OF HUMAN RESEARCH SUCH AS
WHAT HAPPENS WITH OUR BLOOD,

42
00:01:47,916 --> 00:01:50,786
WHAT HAPPENS WITH HEADACHES AND

FLUID SHIFT, AND WHAT HAPPENS

43

00:01:51,296 --> 00:01:55,056
WITH OUR BONE DENSITY,
AND THINGS LIKE THAT.

44

00:01:55,406 --> 00:01:57,146
SO LOTS OF STUFF GOING ON HERE

45

00:01:57,306 --> 00:01:59,666
AND IT'S AN AMAZING
PLACE TO BE."

46

00:02:00,176 --> 00:02:02,296
THIS WEEK'S TWITTER
QUESTION COMES FROM OZZY.

47

00:02:02,466 --> 00:02:04,316
HE WANTS TO KNOW HOW
ASTRONAUTS KEEP TRACK

48

00:02:04,316 --> 00:02:05,326
OF WHERE THEY ARE IN SPACE.

49

00:02:05,886 --> 00:02:09,466
THE STATION'S POSITION OR
STATE IN SPACE IS DETERMINED

50

00:02:09,466 --> 00:02:13,386
BY A GLOBAL POSITIONING SYSTEM
OR GPS RECEIVER SIMILAR TO THOSE

51

00:02:13,386 --> 00:02:14,916
IN A CAR OR MOBILE PHONE.

52

00:02:15,336 --> 00:02:17,636
THE RECEIVER KEEPS TRACK OF
THE SPACE STATION'S POSITION

53

00:02:17,636 --> 00:02:19,586

AND VELOCITY AT ALL
POINTS IN ORBIT.

54

00:02:20,136 --> 00:02:21,936

FLIGHT CONTROLLERS
IN HOUSTON KEEP TRACK

55

00:02:21,936 --> 00:02:24,656

OF HOW THE STATION IS ORIENTED
AND WHERE THE SUN, EARTH,

56

00:02:24,656 --> 00:02:27,546

AND COMMUNICATION SATELLITES
ARE IN REFERENCE TO STATION.