
SpacetoGround

1
00:00:03,020 --> 00:00:05,080
"HOUSTON, STATION ON SPACE TO GROUND."

2
00:00:05,080 --> 00:00:08,020
WELCOME TO SPACE TO GROUND, I'M LEAH CHESHIER.

3
00:00:08,020 --> 00:00:09,760
THIS WEEK, CHRIS CASSIDY WORKED ON

4
00:00:09,760 --> 00:00:12,110
THE PACKED BED REACTOR EXPERIMENT,

5
00:00:12,110 --> 00:00:15,750
WHICH HAS NOTHING AT ALL TO DO WITH SLEEPING.

6
00:00:15,750 --> 00:00:17,590
THE PACKED BED REACTOR EXPERIMENT

7
00:00:17,590 --> 00:00:19,700
STUDIES HOW GASES AND LIQUIDS BEHAVE

8
00:00:19,700 --> 00:00:21,660
WHEN THEY FLOW SIMULTANEOUSLY THROUGH

9
00:00:21,660 --> 00:00:23,250
A COLUMN PACKED WITH MEDIA

10
00:00:23,250 --> 00:00:25,650
LIKE SMALL GLASS OR TEFLON BEADS.

11
00:00:25,650 --> 00:00:27,230
CURRENTLY, THE SPACE STATION

12
00:00:27,230 --> 00:00:28,770
USES THIS TECHNOLOGY IN ITS

13
00:00:28,770 --> 00:00:30,400

WATER RECOVERY SYSTEM,

14
00:00:30,400 --> 00:00:32,160
FUEL CELLS AND OTHER EQUIPMENT,

15
00:00:32,160 --> 00:00:33,550
BUT NONE ARE DESIGNED TO HANDLE

16
00:00:33,550 --> 00:00:36,940
GAS AND LIQUID SIMULTANEOUSLY IN MICROGRAVITY.

17
00:00:36,940 --> 00:00:38,540
BY STUDYING THE HYDRODYNAMICS

18
00:00:38,540 --> 00:00:40,850
OF LIQUID AND GAS FLOWS ON ORBIT,

19
00:00:40,850 --> 00:00:42,750
SCIENTISTS ARE HOPEFUL THIS RESEARCH

20
00:00:42,750 --> 00:00:44,570
WILL LEAD TO MORE EFFICIENT AND LIGHTWEIGHT

21
00:00:44,570 --> 00:00:47,070
THERMAL MANAGEMENT AND LIFE SUPPORT SYSTEMS

22
00:00:47,070 --> 00:00:49,401
THAT CONSUME LESS ENERGY, WHICH ALSO HELPS
US

23
00:00:49,401 --> 00:00:51,540
PREPARE FOR FUTURE ARTEMIS MISSIONS

24
00:00:51,540 --> 00:00:54,590
TO THE MOON, OR EVENTUALLY, TO MARS.

25
00:00:54,590 --> 00:00:56,239
NEXT WEEK, YOU CAN WATCH LIVE

26
00:00:56,239 --> 00:00:59,969
AS THE LAST “WHITE STORK” SPACECRAFT OF
ITS GENERATION

27
00:00:59,969 --> 00:01:04,260
DESCENDS FROM ITS PERCH ON THE INTERNATIONAL
SPACE STATION.

28
00:01:04,260 --> 00:01:06,720
THE JAPANESE EXPLORATION AEROSPACE AGENCY’S

29
00:01:06,720 --> 00:01:08,520
H-II TRANSFER VEHICLE,

30
00:01:08,520 --> 00:01:11,009
ALSO KNOWN AS KOUNOTORI, OR WHITE STORK,

31
00:01:11,009 --> 00:01:13,979
WILL DEPART THE STATION ON TUESDAY, AUGUST
18.

32
00:01:13,979 --> 00:01:15,740
STATION COMMANDER CHRIS CASSIDY WILL USE

33
00:01:15,740 --> 00:01:17,899
THE CANADARM2 TO RELEASE THE VEHICLE,

34
00:01:17,899 --> 00:01:21,499
DESTINED FOR A FIREY REENTRY INTO EARTH’S
ATMOSPHERE.

35
00:01:21,499 --> 00:01:23,700
THIS WAS THE NINTH FLIGHT OF JAXA’S ORIGINAL

36
00:01:23,700 --> 00:01:27,259
HTV SPACECRAFT DESIGN, WHICH OVER THE LAST
11 YEARS,

37
00:01:27,259 --> 00:01:31,049
DELIVERED MORE THAN 40 TONS OF SUPPLIES TO
STATION RESIDENTS,

38
00:01:31,049 --> 00:01:33,590
INCLUDING THE NEW LITHIUM ION BATTERIES INSTALLED

39
00:01:33,590 --> 00:01:35,619
DURING RECENT SPACEWALKS.

40
00:01:35,619 --> 00:01:37,600
JAXA IS DEVELOPING A NEW GENERATION

41
00:01:37,600 --> 00:01:40,780
OF CARGO CRAFT FOR FUTURE FLIGHTS, CALLED HTV-X.

42
00:01:41,460 --> 00:01:43,380
LIVE COVERAGE ON NASA TV BEGINS

43
00:01:43,390 --> 00:01:47,209
AT 1:15 PM EASTERN TIME ON AUGUST 18.

44
00:01:47,209 --> 00:01:49,710
THIS WEEK'S QUESTION COMES FROM MONICA RUIZ,

45
00:01:49,710 --> 00:01:51,840
WHO WANTED TO WHAT THE PURPOSE OF THE BOOKLET

46
00:01:51,840 --> 00:01:55,270
ATTACHED TO THE ASTRONAUTS' LEFT ARM DURING
A SPACEWALK.

47
00:01:55,270 --> 00:01:57,389
GOOD EYE!

48
00:01:57,389 --> 00:01:59,109
THAT IS CALLED THE CUFF CHECKLIST,

49
00:01:59,109 --> 00:02:01,270
AND IS A SMALL BOOK WITH AN ELASTIC BAND

50
00:02:01,270 --> 00:02:02,659
TO FIT OVER THE SPACE SUIT.

51
00:02:02,659 --> 00:02:05,170
THIS BOOK CONTAINS CONTINGENCY RESPONSES

52
00:02:05,170 --> 00:02:07,409
THE CREW MAY NEED IF AN ISSUE ARISES

53
00:02:07,409 --> 00:02:10,080
WITH THEIR SUITS WHILE OUTSIDE THE STATION.

54
00:02:10,080 --> 00:02:11,980
IT ALSO CONTAINS BLANK PAGES FOR THE CREW

55
00:02:11,980 --> 00:02:14,580
TO ADD THEIR OWN NOTES OR MESSAGES

56
00:02:14,580 --> 00:02:17,470
BASED ON THE TASKS FOR A GIVEN SPACEWALK.

57
00:02:18,200 --> 00:02:19,660
KEEP SENDING IN YOUR QUESTIONS