



Space to Ground

1

00:00:03,220 --> 00:00:06,060

WELCOME TO SPACE TO GROUND, I'M KATHRYN
CLAYTON.

2

00:00:06,060 --> 00:00:10,970

THIS WEEK SPACE STATION CREWMEMBERS COMPLETED YET ANOTHER SPACEWALK AND PREPAR

3

00:00:10,970 --> 00:00:12,500

GOODBYE TO THE CYGNUS SPACECRAFT.

4

00:00:13,980 --> 00:00:19,650

LAST WEEKEND, ASTRONAUT ANDREW MORGAN AND
EUROPEAN SPACE AGENCY ASTRONAUT LUCA PARMITANO

5

00:00:19,650 --> 00:00:24,029

COMPLETED THE FOURTH AND FINAL SPACEWALK TO
REPAIR THE ALPHA MAGNETIC SPECTROMETER OR

6

00:00:30,789 --> 00:00:25,029

AMS.

7

00:00:30,789 --> 00:00:35,040

IN THE DAYS FOLLOWING THE SPACEWALK, PAYLOAD
CONTROLLERS TURNED ON NEW COOLING PUMPS AND

8

00:00:35,040 --> 00:00:39,610

ARE IN THE PROCESS OF RESUMING SCIENCE OPERATIONS ON THE COMPLEX EXPERIMENT, WHICH

9

00:00:39,610 --> 00:00:44,430

AMS WILL BE BACK TO WORK SOON SEARCHING FOR
EVIDENCE OF DARK MATTER AND ANTIMATTER THAT

10

00:00:44,430 --> 00:00:47,140

GIVE US INSIGHT INTO THE ORIGINS OF THE UNIVERSE.

11

00:00:47,670 --> 00:00:50,440

THIS WAS THE SEVENTH SPACEWALK FOR ANDREW
MORGAN.

12

00:00:50,440 --> 00:00:54,690

LUCA PARMITANO NOW HOLDS THE EUROPEAN RECORD FOR CUMULATIVE SPACEWALKING TIME.

13

00:00:54,690 --> 00:00:58,520

LOGGING 33 HOURS AND NINE MINUTES OVER THE COURSE OF SEVEN SPACEWALKS

14

00:00:59,400 --> 00:01:04,140

THE EXPEDITION 61 CREW TURNED THEIR ATTENTION TO PACKING NOTHRUP GRUMMANS CYNGUS RESUPPLY

15

00:01:04,140 --> 00:01:04,880

FOR RELEASE.

16

00:01:06,400 --> 00:01:11,340

CYGNUS WAS PACKED WITH TRASH AND DISCARDED HARDWARE TO PREPARE FOR ITS RELEASE ON FRIDAY.

17

00:01:11,340 --> 00:01:16,490

THE RESUPPLY SHIP ARRIVED IN NOVEMBER AND CARRIED OVER 8200 POUNDS OF SCIENCE AND CARGO

18

00:01:16,490 --> 00:01:17,490

TO THE STATION.

19

00:01:17,490 --> 00:01:22,350

CYGNUS WILL DEMONSTRATE A NEW RELEASE POSITION FOR DEPARTURE OPERATIONS AND WILL

20

00:01:22,350 --> 00:01:23,700

THE FIRST GROUND CONTROLLED RELEASE.

21

00:01:24,880 --> 00:01:29,640

THIS WEEK'S QUESTION COMES FROM DARIN WHO WANTS TO KNOW WHAT POWER SOURCE POWERS AND

22

00:01:29,640 --> 00:01:31,260

MANUEVERS THE SPACE STATION?

23

00:01:32,040 --> 00:01:36,680

THE ISS BOASTS 4 SETS OF SOLAR ARRAYS THAT CONVERT SOLAR ENERGY TO ELECTRICITY.

24

00:01:36,680 --> 00:01:41,550

THE STATIONS SOLAR ARRAYS ARE ATTACHED TO THE STATIONS TRUSS AND ROTATE TO FACE THE

25

00:01:41,550 --> 00:01:43,630

SUN TO MAXIMIZE SUNLIGHT EXPOSURE.

26

00:01:43,630 --> 00:01:49,361

THE SOLAR ARRAYS GENERATE 84 TO 120 KILOWATTS OF ELECTRICITY OR ROUGHLY ENOUGH TO POWER

27

00:01:49,361 --> 00:01:50,420

40 HOMES.

28

00:01:50,420 --> 00:01:54,760

WHILE THE SOLAR ARRAYS PRODUCE MORE THAN ENOUGH ELECTRICITY TO CHARGE THE STATIO

29

00:01:54,760 --> 00:02:00,500

AND PROVIDE ELECTRICITY FOR SYSTEMS AND INVESTIGATIONS, THIS ENERGY IS NOT USED TO P

30

00:02:01,020 --> 00:02:05,360

IN ORDER TO MAINTAIN AN AVERAGE ALTITUDE OF 400 KILOMETERS RELATIVE TO THE EARTH.

31

00:02:05,369 --> 00:02:10,280

THE ISS RELIES ON THE ENGINES OF THE RUSSIAN ZVESDA MODULE, OR VISITING VEHICLES TO PROVIDE

32

00:02:10,280 --> 00:02:13,060

THE FORCE NECESSARY TO ADJUST ITS POSITION.