



Space**to**Ground

1

00:00:03,030 --> 00:00:05,090

"HOUSTON, STATION ON SPACE TO GROUND."

2

00:00:05,090 --> 00:00:07,540

WELCOME TO SPACE TO GROUND, I'M LEAH CHESHIER.

3

00:00:07,540 --> 00:00:11,880

THE SPACE STATION FREED UP ONE MORE PARKING SPOT THIS WEEK WITH THE DEPARTURE OF

4

00:00:11,880 --> 00:00:14,020

NORTHROP GRUMMAN'S CYGNUS SPACECRAFT.

5

00:00:15,340 --> 00:00:21,320

AFTER 109 DAYS ABOARD THE SPACE STATION, CYGNUS COMPLETED ITS 11TH COMMERCIAL RES

6

00:00:21,330 --> 00:00:23,820

AND WAS RELEASED BY NASA'S NICK HAGUE.

7

00:00:23,820 --> 00:00:30,160

UPON ITS ARRIVAL ON APRIL 19th, CYGNUS DELIVERED NEARLY 7,600 POUNDS OF RESEARCH AND

8

00:00:30,160 --> 00:00:34,840

TO THE ORBITING LABORATORY, INCLUDING EXPERIMENTS STUDYING VASCULAR AGING IN ASTR

9

00:00:35,300 --> 00:00:38,660

A TOOL TO MORE EASILY ANALYZE BIOLOGICAL SAMPLES IN SPACE,

10

00:00:38,860 --> 00:00:42,760

AND A FEW FREE-FLYING ROBOTS CALLED ASTROBEE.

11

00:00:42,760 --> 00:00:47,180

THOUGH CYGNUS IS NO LONGER ATTACHED TO THE SPACE STATION, ITS WORK IS NOT FINISHED Y

12

00:00:48,610 --> 00:00:53,020

ONCE CYGNUS REACHES A SAFE DISTANCE AND HIGHER ALTITUDE FROM THE STATION, IT WILL US

13

00:00:53,030 --> 00:00:56,949

SLINGSHOT DEPLOYER TO EJECT A SERIES OF NANOSATELLITES.

14

00:00:56,949 --> 00:01:01,769

IT WILL ALSO BE EVALUATED BY AN EXTERNAL,
FREE-FLYING ROBOT CALLED "SEEKER."

15

00:01:01,769 --> 00:01:06,320

SEEKER WILL TAKE IMAGES OF CYGNUS AND PERFORM ATTITUDE MANEUVERS TO DEMONSTRATE

16

00:01:06,320 --> 00:01:09,259

TO OPERATE SAFELY AROUND ANOTHER SPACECRAFT.

17

00:01:09,259 --> 00:01:14,530

AFTERWARD, IT WILL BE COMMANDED TOWARD A DISPOSAL TRAJECTORY, LEAVING IT TO BURN UP

18

00:01:14,530 --> 00:01:16,060

TO EARTH'S ATMOSPHERE.

19

00:01:16,060 --> 00:01:21,610

AFTER A FEW MORE MONTHS OF SYSTEM TESTS, CYGNUS WILL ALSO BE DESTROYED UPON ATMO

20

00:01:22,860 --> 00:01:27,320

THIS WEEK'S QUESTION IS FROM ALEX M, WHO
ASKS IF CYGNUS CAN BOOST THE SPACE STATION

21

00:01:27,320 --> 00:01:29,860

BEFORE IT RETURNS TO EARTH.

22

00:01:29,860 --> 00:01:34,480

AS ALEX NOTED, SOME SPACECRAFT HAVE THE CAPABILITY TO BOOST THE SPACE STATION

23

00:01:34,500 --> 00:01:37,579

OR RAISE ITS ALTITUDE, WHILE STILL ATTACHED.

24

00:01:37,579 --> 00:01:41,740

THIS KEEPS THE SPACE STATION FROM HAVING TO USE ITS LIMITED FUEL SUPPLY TO STAY IN ORB

25

00:01:41,740 --> 00:01:44,689

AT ABOUT 250 MILES ABOVE EARTH.

26

00:01:44,689 --> 00:01:49,210

CYGNUS HAS BEEN TESTED FOR AND CAN PROVIDE A BOOST TO THE SPACE STATION IF REQUIRE

27

00:01:49,210 --> 00:01:53,619

BUT MOST ALTITUDE ADJUSTMENTS ARE MADE BY THE RUSSIAN PROGRESS SPACECRAFT OR BY I

28

00:01:53,620 --> 00:01:56,860

THE THRUSTERS ON THE RUSSIAN SERVICE MODULE, ZVEZDA.