SPACE TO GROUND

1
00:00:04,690 --> 00:00:02,520
Houston station on space to ground

2
00:00:06,579 --> 00:00:04,700
welcome to space to ground your weekly

3
00:00:08,500 --> 00:00:06,589
look at what's happening on board the

4
00:00:11,560 --> 00:00:08,510
International Space Station I'm Dan Huot

5
00:00:14,050 --> 00:00:11,570
orbital ATK is set to launch its fourth

6
00:00:15,970 --> 00:00:14,060
commercial resupply mission for the

7
00:00:17,800 --> 00:00:15,980
first time in its history the unmanned

8
00:00:20,470 --> 00:00:17,810
Cygnus spacecraft will ride into orbit

9
00:00:22,599 --> 00:00:20,480
atop an Atlas 5 rocket courtesy of

10
00:00:23,919 --> 00:00:22,609
United Launch Alliance and launch from

11
00:00:26,349 --> 00:00:23,929
Cape Canaveral in Florida

12
00:00:28,720 --> 00:00:26,359
Cygnus received a few upgrades since the

13
00:00:31,450 --> 00:00:28,730

last time it flew increasing its cargo

14
00:00:34,029 --> 00:00:31,460
carrying capacity and volume and trying

15
00:00:36,639 --> 00:00:34,039
out a new solar array design dubbed the

16
00:00:38,830 --> 00:00:36,649
SS deke Slayton - after the famous NASA

17
00:00:41,200 --> 00:00:38,840
astronaut the space freighter is loaded

18
00:00:43,270 --> 00:00:41,210
with more than 7,000 pounds of science

19
00:00:47,020 --> 00:00:43,280
hardware and supplies for use by the

20
00:00:49,150 --> 00:00:47,030
expedition 45 and 46 crews and among the

21
00:00:51,430 --> 00:00:49,160
tons of supplies packed on Cygnus are

22
00:00:54,279 --> 00:00:51,440
several exciting new science experiments

23
00:00:56,079 --> 00:00:54,289
the packed bed reactor experiment will

24
00:00:57,340 --> 00:00:56,089
be studying the behavior of gases and

25
00:00:59,319 --> 00:00:57,350
liquids when they flow together

26
00:01:01,389 --> 00:00:59,329
something that could help improve the

27
00:01:04,420 --> 00:01:01,399
design of future water recovery systems

28
00:01:06,280 --> 00:01:04,430
fuel cells and more a new burning and

29
00:01:08,230 --> 00:01:06,290
suppression of solids payload is on the

30
00:01:10,330 --> 00:01:08,240
flight and we'll explore flame resistant

31
00:01:12,640 --> 00:01:10,340
materials for use in space and here on

32
00:01:15,010 --> 00:01:12,650
earth and NASA's small spacecraft

33
00:01:17,350 --> 00:01:15,020
technology program is sending two node

34
00:01:20,109 --> 00:01:17,360
satellites to demonstrate how to control

35
00:01:22,149 --> 00:01:20,119
entire swarms of spacecraft we're all

36
00:01:23,830 --> 00:01:22,159
about robotics this December and one

37
00:01:26,260 --> 00:01:23,840
Twitter followers started us off with

38
00:01:28,810 --> 00:01:26,270

this question how is robotic technology

39
00:01:30,789 --> 00:01:28,820
being used on the station well just a

40
00:01:32,800 --> 00:01:30,799
few days after orbitals launched one of

41
00:01:33,520 --> 00:01:32,810
the biggest robotic devices will spring

42
00:01:35,709 --> 00:01:33,530
into action

43
00:01:38,410 --> 00:01:35,719
the station crew will use the large

44
00:01:41,410 --> 00:01:38,420
canadarm2 robotic arm to reach out and

45
00:01:43,630 --> 00:01:41,420
capture Cygnus once it arrives the 57

46
00:01:45,880 --> 00:01:43,640
point seven foot long limb has seven

47
00:01:47,920 --> 00:01:45,890
motorized joints and can routinely be

48
00:01:50,590 --> 00:01:47,930
seen moving equipment astronauts

49
00:01:53,139 --> 00:01:50,600
spacecraft and even huge pieces of the

50
00:01:55,300 --> 00:01:53,149
station itself it even has a super

51
00:01:57,490 --> 00:01:55,310
sophisticated attachment called Dexter

52
00:02:00,039 --> 00:01:57,500
to perform finely-tuned repairs and

53
00:02:02,050 --> 00:02:00,049
experiment work keep sending your

54
00:02:04,120 --> 00:02:02,060
robotics questions all month using the

55
00:02:05,950 --> 00:02:04,130
hashtag space-to-ground we'll see you