SPACE TO GROUND

1
00:00:04,750 --> 00:00:02,489
Houston station on space to ground

2
00:00:06,610 --> 00:00:04,760
welcome to space to ground your weekly

3
00:00:08,589 --> 00:00:06,620
look at what's happening on board the

4
00:00:11,020 --> 00:00:08,599
International Space Station I'm Crawford

5
00:00:13,239 --> 00:00:11,030
Jones traffic picked up in space this

6
00:00:15,970 --> 00:00:13,249
week has two new vehicles arrived at the

7
00:00:18,160 --> 00:00:15,980
ISS SpaceX's Dragon resupply ship

8
00:00:20,080 --> 00:00:18,170
launched early Sunday morning from Cape

9
00:00:22,630 --> 00:00:20,090
Canaveral Florida and arrived at the

10
00:00:24,880 --> 00:00:22,640
station on Tuesday flight engineers reid

11
00:00:27,009 --> 00:00:24,890
wiseman and alexander gerst were at the

12
00:00:29,499 --> 00:00:27,019
controls of the robotics workstation and

13
00:00:31,300 --> 00:00:29,509

use the ISS robotic arm to capture the

14
00:00:33,430 --> 00:00:31,310
dragon while the crew took a break

15
00:00:35,200 --> 00:00:33,440
ground controllers remotely positioned

16
00:00:37,060 --> 00:00:35,210
the cargo craft at its docking port on

17
00:00:39,040 --> 00:00:37,070
the harmony module and then the crew

18
00:00:41,200 --> 00:00:39,050
secured it in place hatches were opened

19
00:00:43,660 --> 00:00:41,210
and the crew began unloading the nearly

20
00:00:46,240 --> 00:00:43,670
two and a half tons of supplies Hardware

21
00:00:48,160 --> 00:00:46,250
gear and experiments and the second

22
00:00:49,990 --> 00:00:48,170
vehicle to arrive at the ISS this week

23
00:00:52,209 --> 00:00:50,000
brought with it three new station

24
00:00:52,869 --> 00:00:52,219
residents to complete the expedition 41

25
00:00:54,700 --> 00:00:52,879
crew

26
00:00:57,490 --> 00:00:54,710
NASA astronaut butch Wilmore and

27
00:00:58,599 --> 00:00:57,500
cosmonauts alexander samokutyaev and

28
00:01:01,360 --> 00:00:58,609
yelena serova

29
00:01:03,459 --> 00:01:01,370
climbed aboard their soyuz tma 14 M

30
00:01:06,280 --> 00:01:03,469
spacecraft in Baikonur Kazakhstan on

31
00:01:08,980 --> 00:01:06,290
Thursday the rocket lifted off at 425

32
00:01:11,140 --> 00:01:08,990
Eastern Time in just six hours and four

33
00:01:12,820 --> 00:01:11,150
orbits around the earth later the Soyuz

34
00:01:15,190 --> 00:01:12,830
arrived at the station for docking to

35
00:01:17,170 --> 00:01:15,200
the poisk module hatches between the two

36
00:01:18,340 --> 00:01:17,180
spacecraft were open and station

37
00:01:20,560 --> 00:01:18,350
commander max suraev

38
00:01:21,640 --> 00:01:20,570

and flight engineers reid wiseman and

39
00:01:23,080 --> 00:01:21,650
alexander gerst

40
00:01:26,289 --> 00:01:23,090
welcomed their new crewmates aboard

41
00:01:28,569 --> 00:01:26,299
Wilmore samokutyaev and serova will live

42
00:01:30,969 --> 00:01:28,579
and work aboard the station until March

43
00:01:33,039 --> 00:01:30,979
of next year with all the orbital

44
00:01:34,990 --> 00:01:33,049
traffic this week we have a very fitting

45
00:01:36,969 --> 00:01:35,000
Twitter question from Adrian who wants

46
00:01:40,420 --> 00:01:36,979
to know how a capsule can catch up to

47
00:01:43,120 --> 00:01:40,430
the ISS when it's moving at 7.7 km/s

48
00:01:45,219 --> 00:01:43,130
well Adrian think of it like two cars on

49
00:01:47,020 --> 00:01:45,229
a racetrack the car in the inner lane

50
00:01:48,850 --> 00:01:47,030
driving the same speed as a car in the

51
00:01:50,590 --> 00:01:48,860
outer lane will complete a lap quicker

52
00:01:53,139 --> 00:01:50,600
because it has a shorter distance to

53
00:01:54,490 --> 00:01:53,149
travel so when an orbital vehicle is

54
00:01:56,529 --> 00:01:54,500
traveling closer to the Earth's surface

55
00:01:58,749 --> 00:01:56,539
in a lower orbit it's able to catch up

56
00:02:00,969 --> 00:01:58,759
with the space station as he gets closer

57
00:02:02,859 --> 00:02:00,979
to the ISS it can adjust its altitude

58
00:02:04,590 --> 00:02:02,869
through a series of burns until it

59
00:02:06,850 --> 00:02:04,600
eventually rendezvous with the station

60
00:02:07,779 --> 00:02:06,860
keep sending us your questions and

61
00:02:10,969 --> 00:02:07,789
comments using the hashtag