
STAGE
1

1
00:00:07,519 --> 00:00:05,780
both lr 0 and L cross need a successful

2
00:00:10,280 --> 00:00:07,529
launch in order to begin their missions

3
00:00:12,320 --> 00:00:10,290
our next guest is an integral part in

4
00:00:15,259 --> 00:00:12,330
getting these spacecraft and many others

5
00:00:16,760 --> 00:00:15,269
off the ground chuck Tatro is a mission

6
00:00:19,609 --> 00:00:16,770
manager in NASA's launch services

7
00:00:20,960 --> 00:00:19,619
program at Kennedy Space Center he's

8
00:00:24,400 --> 00:00:20,970
going to tell us about the unique

9
00:00:27,380 --> 00:00:24,410
challenges of this two for one launch

10
00:00:28,910 --> 00:00:27,390
hello my name is Chuck Tetreau and I'm a

11
00:00:30,710 --> 00:00:28,920
mission manager for NASA's launch

12
00:00:32,450 --> 00:00:30,720
services program at Kennedy Space Center

13
00:00:34,160 --> 00:00:32,460

we're at the vertical integration

14
00:00:36,530 --> 00:00:34,170
facility on Cape Canaveral Air Force

15
00:00:39,020 --> 00:00:36,540
Station this is where we will assemble

16
00:00:40,790 --> 00:00:39,030
the Atlas 5 rocket that will send the LR

17
00:00:45,799 --> 00:00:40,800
0 and L cross spacecraft on their

18
00:00:48,110 --> 00:00:45,809
journey to the moon as a mission manager

19
00:00:49,610 --> 00:00:48,120
my job is to lead the effort to bring a

20
00:00:50,900 --> 00:00:49,620
new spacecraft and launch vehicle

21
00:00:55,340 --> 00:00:50,910
together to where they're ready to

22
00:00:56,689 --> 00:00:55,350
launch about three months before launch

23
00:00:59,000 --> 00:00:56,699
the spacecraft and the launch vehicle

24
00:01:01,069 --> 00:00:59,010
components arrive at the launch site for

25
00:01:03,529 --> 00:01:01,079
final testing about two months before

26
00:01:05,000 --> 00:01:03,539
launch this rocket components are

27
00:01:07,670 --> 00:01:05,010
erected on the mobile launch platform

28
00:01:09,859 --> 00:01:07,680
and filled with cryogenic fluids for a

29
00:01:12,109 --> 00:01:09,869
wet dress rehearsal about two weeks

30
00:01:13,640 --> 00:01:12,119
before launch the spacecraft is brought

31
00:01:15,830 --> 00:01:13,650
out here to the vertical integration

32
00:01:18,380 --> 00:01:15,840
facility and stacked on the rocket at

33
00:01:20,240 --> 00:01:18,390
about one week before launch we do a

34
00:01:23,510 --> 00:01:20,250
launch countdown rehearsal so the team

35
00:01:26,270 --> 00:01:23,520
can practice for countdown in a dual

36
00:01:28,670 --> 00:01:26,280
payload flow both spacecraft have their

37
00:01:31,190 --> 00:01:28,680
own intricate and an intimate

38
00:01:32,960 --> 00:01:31,200

requirements that are separate and may

39
00:01:35,539 --> 00:01:32,970
not play together nicely with the other

40
00:01:38,359 --> 00:01:35,549
spacecraft for example contamination

41
00:01:40,730 --> 00:01:38,369
orbital requirements because l cross is

42
00:01:42,560 --> 00:01:40,740
going to impact the moon and LRO is

43
00:01:43,999 --> 00:01:42,570
going to go in orbit around the moon we

44
00:01:47,790 --> 00:01:44,009
need to make sure that one doesn't

45
00:01:52,060 --> 00:01:50,230
the first challenge on this mission is

46
00:01:54,130 --> 00:01:52,070
the fact that the centaur second stage

47
00:01:56,440 --> 00:01:54,140
will remain attached to the L cross

48
00:01:58,840 --> 00:01:56,450
spacecraft after it does its normal job

49
00:02:01,300 --> 00:01:58,850
of delivering LR 0 and L cross on their

50
00:02:03,640 --> 00:02:01,310
journey to the moon l cross then will

51
00:02:07,150 --> 00:02:03,650
command the Centaur stage for an impact

52
00:02:10,240 --> 00:02:07,160
into the lunar surface the second

53
00:02:12,400 --> 00:02:10,250
challenge is that the orbit requirements

54
00:02:14,560 --> 00:02:12,410
for each spacecraft are complex this

55
00:02:17,200 --> 00:02:14,570
narrows the daily launch window that we

56
00:02:19,810 --> 00:02:17,210
have to launch this mission the third

57
00:02:22,000 --> 00:02:19,820
challenge is that this is NASA's first

58
00:02:23,710 --> 00:02:22,010
step in our return to the moon so

59
00:02:25,750 --> 00:02:23,720
there's a lot of public awareness and

60
00:02:27,250 --> 00:02:25,760
increased interest in this mission we

61
00:02:31,270 --> 00:02:27,260
want to make sure that this mission is

62
00:02:34,750 --> 00:02:31,280
launched safely and successfully that's

63
00:02:37,390 --> 00:02:34,760

our show to our guests Cathy Peddie dr.

64
00:02:39,220 --> 00:02:37,400
Kimberly in ago when Chuck Tatro thanks

65
00:02:41,860 --> 00:02:39,230
for giving us an insider's view of these

66
00:02:44,560 --> 00:02:41,870
two missions we also thank all of you

67
00:02:46,660 --> 00:02:44,570
for joining us for today's webcast be

68
00:02:49,330 --> 00:02:46,670
sure to join us on launch day for the

69
00:02:51,400 --> 00:02:49,340
liftoff of the Atlas 5 rocket carrying a

70
00:02:53,170 --> 00:02:51,410
lunar reconnaissance orbiter and the

71
00:02:56,170 --> 00:02:53,180
lunar crater observation and sensing

72
00:02:59,740 --> 00:02:56,180
satellite you can follow the countdown

73
00:03:09,070 --> 00:02:59,750
on NASA TV and on each missions website

74
00:03:11,890 --> 00:03:09,080
at WWDC gov / LRO and ww NSA gov / L

75
00:03:15,230 --> 00:03:11,900
cross from Kennedy Space Center in