1
00:00:09,190 --> 00:00:06,550
[Music]

2
00:00:12,070 --> 00:00:09,200
the united launch alliance delta iv

3
00:00:13,589 --> 00:00:12,080
heavy one of the largest rockets in the

4
00:00:15,350 --> 00:00:13,599
world

5
00:00:17,830 --> 00:00:15,360
and it's not often nasa's launch

6
00:00:20,710 --> 00:00:17,840
services program chooses to launch it

7
00:00:22,390 --> 00:00:20,720
in fact they've never launched it until

8
00:00:25,029 --> 00:00:22,400
now

9
00:00:27,990 --> 00:00:25,039
i'm nikki fox project scientist for

10
00:00:30,470 --> 00:00:28,000
parker solar probe and tonight you will

11
00:00:33,110 --> 00:00:30,480
witness up close and personal this

12
00:00:35,190 --> 00:00:33,120
spacecraft being launched on her journey

13
00:00:37,990 --> 00:00:35,200

to the sun

14
00:00:40,069 --> 00:00:38,000
watch as we encapsulate the spacecraft

15
00:00:42,709 --> 00:00:40,079
as you can see parker's solar probe to

16
00:00:45,110 --> 00:00:42,719
your left looks pretty small compared to

17
00:00:47,670 --> 00:00:45,120
these enormous fairing halves that

18
00:00:49,670 --> 00:00:47,680
protect her during launch

19
00:00:51,670 --> 00:00:49,680
that is because the delta iv was made to

20
00:00:54,950 --> 00:00:51,680
launch satellites the size of school

21
00:00:57,350 --> 00:00:54,960
buses so why on earth would nasa need a

22
00:01:01,590 --> 00:00:57,360
rocket this powerful to launch our

23
00:01:02,790 --> 00:01:01,600
little 1500 pound spacecraft to the sun

24
00:01:05,750 --> 00:01:02,800
speed

25
00:01:08,070 --> 00:01:05,760
that's right pure and simple

26
00:01:10,789 --> 00:01:08,080
parker solar probe needs the most launch

27
00:01:15,109 --> 00:01:10,799
power she can get to leave earth and get

28
00:01:18,310 --> 00:01:15,119
to the sun it takes 55 times more energy

29
00:01:21,030 --> 00:01:18,320
to get to the sun than mars and we need

30
00:01:23,190 --> 00:01:21,040
all of it to get into the right orbit

31
00:01:25,670 --> 00:01:23,200
around our star

32
00:01:27,910 --> 00:01:25,680
park a solar probe built by the johns

33
00:01:29,749 --> 00:01:27,920
hopkins applied physics lab will keep

34
00:01:32,230 --> 00:01:29,759
her protective heat shield between

35
00:01:33,670 --> 00:01:32,240
herself and the sun once she's in that

36
00:01:35,510 --> 00:01:33,680
orbit

37
00:01:38,469 --> 00:01:35,520
the spacecraft will soar through the

38
00:01:40,630 --> 00:01:38,479

sun's 3 million degree plasma atmosphere

39
00:01:42,950 --> 00:01:40,640
that we call the corona and give our

40
00:01:45,350 --> 00:01:42,960
scientists some incredible data to

41
00:01:47,570 --> 00:01:45,360
answer long sought after questions about

42
00:01:49,350 --> 00:01:47,580
the sun

43
00:01:51,830 --> 00:01:49,360
[Music]

44
00:01:54,710 --> 00:01:51,840
back on the launch pad united launch

45
00:01:57,990 --> 00:01:54,720
alliance's delta iv heavy is just the

46
00:02:00,630 --> 00:01:58,000
right rocket three massive booster cores

47
00:02:03,190 --> 00:02:00,640
a cryogenic second stage and even a

48
00:02:06,870 --> 00:02:03,200
third stage specially made by northrop

49
00:02:10,790 --> 00:02:06,880
grumman to propel parker over 94 miles

50
00:02:13,190 --> 00:02:10,800
per second at spacecraft separation

51
00:02:14,229 --> 00:02:13,200
liftoff in five

52
00:02:15,430 --> 00:02:14,239
four

53
00:02:16,470 --> 00:02:15,440
three

54
00:02:17,350 --> 00:02:16,480
two

55
00:02:19,990 --> 00:02:17,360
one

56
00:02:25,270 --> 00:02:23,030
and liftoff of the parker solar probe on

57
00:02:30,630 --> 00:02:25,280
her way to unlock the mysteries of the

58
00:02:33,750 --> 00:02:32,309
that was awesome

59
00:02:35,430 --> 00:02:33,760
why don't we watch it again from the

60
00:02:38,309 --> 00:02:35,440
front side

61
00:02:39,589 --> 00:02:38,319
bye parker the coolest hottest mission