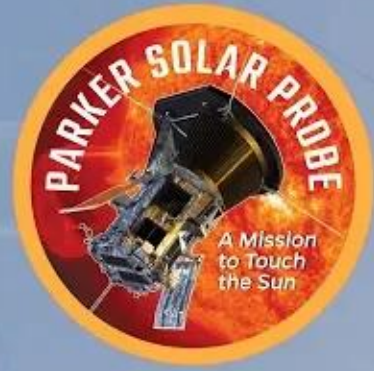


COUNTDOWN TO T-ZERO



1

00:00:03,110 --> 00:00:07,250

The Sun -- the heart of our solar system.

2

00:00:07,250 --> 00:00:13,151

It's as familiar as anything we know. Although the Sun has been studied for millennia, it

3

00:00:13,160 --> 00:00:18,000

still holds unsolved mysteries about its effects on our daily lives.

4

00:00:19,540 --> 00:00:25,580

To better understand the Sun, NASA is preparing to launch a spacecraft called the Parker Solar Probe.

5

00:00:26,120 --> 00:00:31,240

It will lift off from Cape Canaveral Air Force Station near the agency's Kennedy Space Center

6

00:00:31,240 --> 00:00:32,440

located in Florida.

7

00:00:34,050 --> 00:00:38,840

It's a mission of unprecedented opportunities that could revolutionize our understanding

8

00:00:38,840 --> 00:00:43,440

of our star and the outer layer of the Sun's atmosphere, the corona.

9

00:00:44,900 --> 00:00:50,320

"Going into the Sun's corona for the first time, going up close and personal, with our star..."

10

00:00:50,440 --> 00:00:55,020

To be able to answer some of the mysteries that live in this coronal region.

11

00:00:55,020 --> 00:00:58,640

Why is the Sun's corona hotter than the surface of the Sun?

12

00:00:58,640 --> 00:01:00,070

Why is there a solar wind?

13

00:01:00,070 --> 00:01:05,700

Why does this atmosphere, this corona, become so energized that it can move away from the

14

00:01:05,740 --> 00:01:09,620

Sun at super-sonic speeds and bathe all of the planets?"

15

00:01:10,480 --> 00:01:15,280

Now that the Parker Solar Probe has arrived, it's time to get it ready to launch at the

16

00:01:15,280 --> 00:01:17,840

Astrotech Spacecraft Processing facility.

17

00:01:18,500 --> 00:01:20,479

"Today's an exciting day on the Space Coast.

18

00:01:20,479 --> 00:01:23,610

Over at Astrotech, we'll ready their spacecraft for launch.

19

00:01:23,610 --> 00:01:28,990

That'll include any final assembly - including the assembly of the critical heat shield.

20

00:01:28,990 --> 00:01:34,260

We're going to be 24/7 helping the spacecraft get what they need to get ready for launch."

21

00:01:35,000 --> 00:01:39,440

The Parker Solar Probe will be the first mission to travel through the searing heat of the

22

00:01:39,500 --> 00:01:40,760

Sun's corona.

23

00:01:41,620 --> 00:01:46,900

Traveling this close is only possible because of the spacecraft's protective heat shield,

24

00:01:46,900 --> 00:01:52,360

where temperatures on the spacecraft reach 2,500 degrees Fahrenheit.

25

00:01:53,300 --> 00:01:56,659

"So Parker Solar Probe is actually going and touching the Sun.

26

00:01:56,659 --> 00:02:01,159

The previous missions have been really important for solar science as we study from afar and

27

00:02:01,159 --> 00:02:05,030

we can learn a lot from studying from afar, but Parker Solar Probe is actually going and

28

00:02:05,030 --> 00:02:08,270

touching, almost kissing the Sun, so we can learn so much more."

29

00:02:08,270 --> 00:02:13,620

And to do that, it will need to go faster than any other spacecraft in history.

30

00:02:13,620 --> 00:02:18,800

"Parker Solar Probe will be the fastest human-made object ever.

31

00:02:18,800 --> 00:02:24,430

We are traveling at an unbelievable 430,000 miles per hour."

32

00:02:24,430 --> 00:02:30,010

That's why, for the first time ever, NASA's Launch Services Program selected the United

33

00:02:30,010 --> 00:02:32,300

Launch Alliance Delta IV Heavy rocket.

34

00:02:32,300 --> 00:02:37,790

"Delta IV Heavy was selected for NASA's Parker Solar Probe program because of the extreme

35

00:02:37,790 --> 00:02:42,350

velocity required to meet the mission objectives in orbit around the Sun."

36

00:02:42,350 --> 00:02:48,520

"Going out and seeing the Delta IV Heavy on the pad is a truly awe-inspiring experience.

37

00:02:48,520 --> 00:02:53,940

Just seeing that amount of raw power right in front of you is just incredible -

38

00:02:54,040 --> 00:02:58,740

three boosters, our second stage, and then we have a third stage.

39

00:02:58,750 --> 00:03:00,400

We're a tiny little spacecraft.

40

00:03:00,400 --> 00:03:03,660

We look like a little hood ornament on the top of the Delta IV."

41

00:03:03,660 --> 00:03:08,180

Get ready to watch this historic mission lighting up the Space Coast as it thunders into the