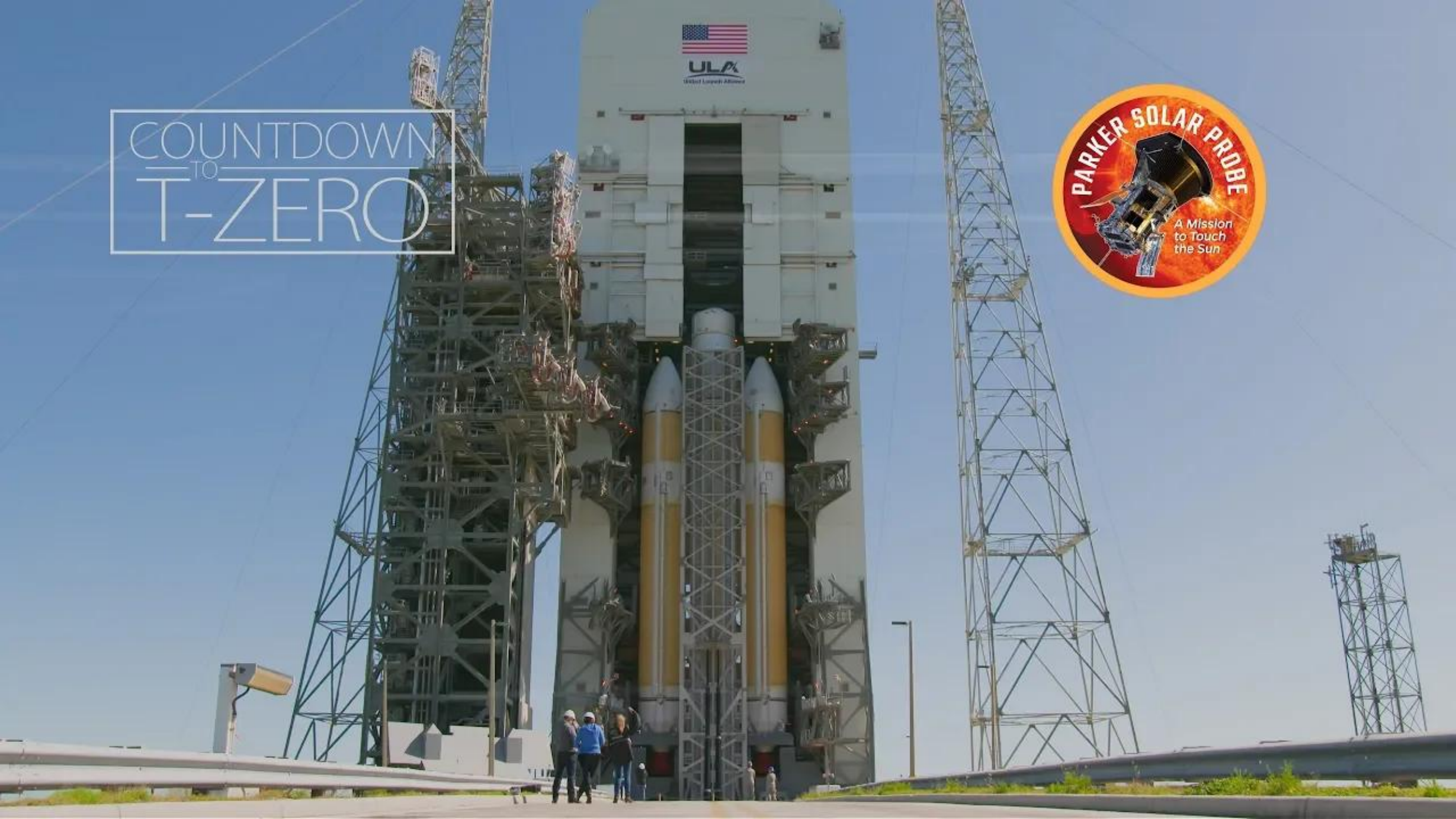
COUNTDOWN
TO
T-ZERO
ULA
PARKER SOLAR PROBE
A Mission
to Touch
the Sun

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 outter 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 sheild,

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
"When we launch, 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 orniment 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