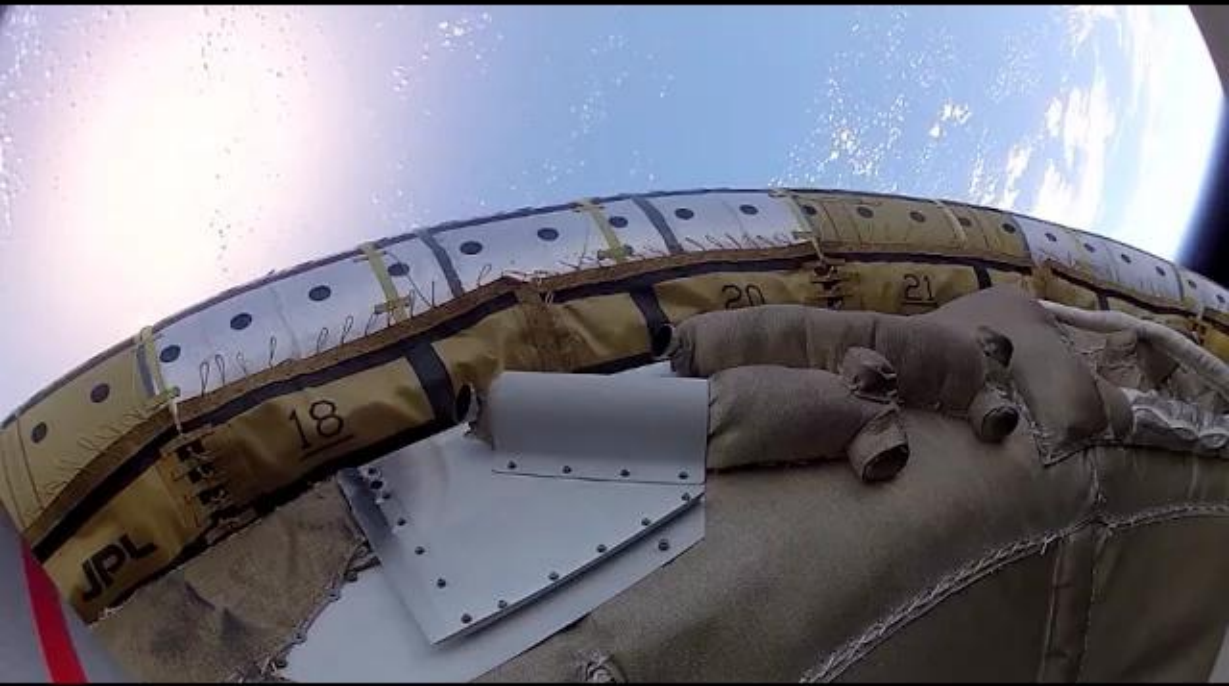
20
21
18
JPL

1
00:00:00,429 --> 00:00:05,259
I’m Ian Clark; I’m the Principal Investigator
for the NASA Low Density Supersonic Decelerator

2
00:00:05,259 --> 00:00:16,180
or LDSD Project.

3
00:00:16,180 --> 00:00:19,980
LDSD is developing the technologies that are
crucial for landing payloads on the surface

4
00:00:19,980 --> 00:00:21,050
of Mars.

5
00:00:21,050 --> 00:00:25,830
The next generation of Decelerators that LDSD
is maturing, will enable significantly larger

6
00:00:25,830 --> 00:00:29,890
payloads on the surface of Mars will allow
us to land them at altitudes and elevations

7
00:00:29,890 --> 00:00:34,060
we’ve never had access before and will allow
us to land them more accurately than we’ve

8
00:00:34,060 --> 00:00:35,460
been able to do before.

9
00:00:35,460 --> 00:00:39,780
All of this will lead to the next generation
of scientific and human precursor missions

10
00:00:39,780 --> 00:00:41,140
on Mars.

11
00:00:41,140 --> 00:00:44,360
One of the exciting aspects of LDSD is that
we’re developing new technologies.

12
00:00:44,360 --> 00:00:48,290
That means that we get to push the frontiers
not only of our knowledge but of our engineering,

13
00:00:48,290 --> 00:00:51,260
because we have to develop new ways of testing
these devices.

14
00:00:51,260 --> 00:00:54,500
These devices are larger and they need to
be tested in conditions that we have never

15
00:00:54,500 --> 00:00:55,960
been able to achieve before.

16
00:00:55,960 --> 00:00:59,720
So we come up with new test techniques, that
includes rocket sleds out in the desert.

17
00:00:59,720 --> 00:01:04,280
A forty-ton, welded, siege tower that we accelerate
from 0 to 300 miles per hour in just a few

18
00:01:04,280 --> 00:01:05,280
seconds.

19
00:01:05,280 --> 00:01:09,030
A parachute that we pull from the sky with
over one-hundred thousand pounds of force

20
00:01:09,030 --> 00:01:13,360
and a test vehicle that we send to over two-hundred
thousand feet in altitude to replicate the

21
00:01:13,360 --> 00:01:17,750
Martian atmosphere and we get it going at
over four times the speed of sound, all to

22

00:01:17,750 --> 00:01:22,220
see how these devices perform, how they behave
and to make sure that they operate the way

23
00:01:22,220 --> 00:01:25,890
that they need to here on earth before they
have to operate at Mars.