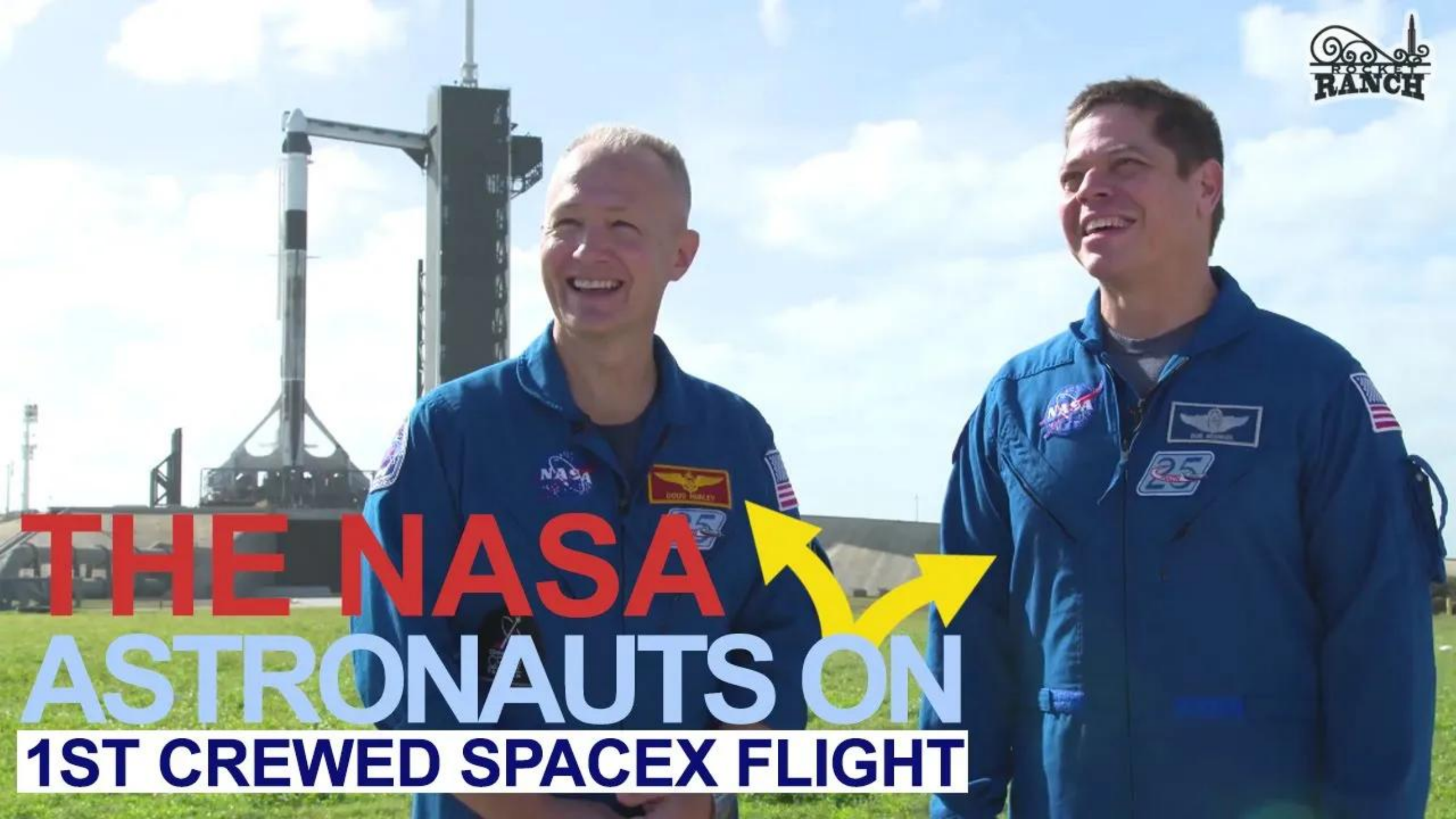
ROCKET RANCH
THE NASA
ASTRONAUTS ON
1ST CREWED SPACEX FLIGHT

1
00:00:09,220 --> 00:00:15,300
Bob Behnken and Doug Hurley will make history
when they break the bond from Earth in a SpaceX

2
00:00:15,300 --> 00:00:18,910
Crew Dragon capsule that's never been flown
by humans before.

3
00:00:18,910 --> 00:00:26,050
But find out how the strong bond of friendship
they share gives them the edge in space.

4
00:00:26,050 --> 00:00:28,400
Next on the Rocket Ranch.

5
00:00:28,400 --> 00:00:32,680
EGS Program Chief Engineer, verify no constraints
to launch…

6
00:00:32,680 --> 00:00:36,000
3, 2, 1, and lift off.

7
00:00:36,000 --> 00:00:37,200
Welcome to space.

8
00:00:42,060 --> 00:00:46,960
Along with launch crews from NASA and SpaceX,
astronauts Bob Behnken and Doug Hurley have

9
00:00:46,970 --> 00:00:49,900
been very busy preparing for space flight.

10
00:00:49,900 --> 00:00:55,550
They will be the first humans to fly to the
International Space Station from right here

11
00:00:55,550 --> 00:00:59,740
at the Kennedy Space Center since the Space
Shuttle retired in 2011.

12
00:00:59,740 --> 00:01:06,650
We caught up to them on a very windy day out
at historic pad 39A to talk about the historic

13
00:01:06,650 --> 00:01:12,530
mission, their friendship, and how their families
are coping with the risk of their space flight.

14
00:01:12,530 --> 00:01:20,610
Guys, we're standing in the shadow of a Falcon-9
rocket and a capsule that will be just like

15
00:01:20,610 --> 00:01:22,580
this when you guys fly.

16
00:01:22,580 --> 00:01:27,290
What are you feeling right now as you stand
here and gaze upon this rocket and spacecraft?

17
00:01:27,290 --> 00:01:31,360
It's really exciting for us to get down here
and actually see each of these tests as we

18
00:01:31,360 --> 00:01:33,310
go forward, and to see the progress.

19
00:01:33,310 --> 00:01:37,160
When we came down for Demo-1, we walked
out in the pad, but we did it in our flight

20
00:01:37,160 --> 00:01:39,830
suits like we're dressed right now.

21
00:01:39,830 --> 00:01:45,210
Today when we went out to the pad, we actually
wore the SpaceX suit and went through that

22
00:01:45,210 --> 00:01:48,490

entire exercise, all suited up, just like
we will for Demo-2.

23
00:01:48,490 --> 00:01:53,030
And so pretty high fidelity simulation, but
when we do it next time, there won't be two

24
00:01:53,030 --> 00:01:55,280
mannequins in our seats when we get there.

25
00:01:55,280 --> 00:01:58,000
The space will be empty and we'll get a chance
to do it.

26
00:01:58,000 --> 00:02:02,010
So it definitely makes it a little bit more
routine, which is how you really want launch

27
00:02:02,010 --> 00:02:06,920
day to be; you want to know what you're getting
yourself into, and then to go execute it.

28
00:02:06,920 --> 00:02:12,650
And so this just was one more of those steps
along the way to get to that point.

29
00:02:12,650 --> 00:02:13,650
It's certainly exciting.

30
00:02:13,650 --> 00:02:19,160
I mean, we were here for DM1; that was exciting,
kind of going through the whole process there,

31
00:02:19,160 --> 00:02:22,310
watching it launch and go to station.

32
00:02:22,310 --> 00:02:26,080
We got out to Hawthorne for the recovery of
that vehicle.

33
00:02:26,080 --> 00:02:31,380
Being here, doing another dress rehearsal
for our launch day, in conjunction with IFA,

34
00:02:31,380 --> 00:02:32,380
has been great.

35
00:02:32,380 --> 00:02:36,190
A unique aspect of this test flight is the
two of you guys were best friends; known each

36
00:02:36,190 --> 00:02:37,190
other for a long time.

37
00:02:37,190 --> 00:02:43,100
You both graduated in the same astronaut class
in 2000, and you both married astronauts and

38
00:02:43,100 --> 00:02:44,810
were in each other's wedding.

39
00:02:44,810 --> 00:02:49,370
What's that like, having a best friend that's
flying with you on this test flight?

40
00:02:49,370 --> 00:02:51,370
Yeah, a good question.

41
00:02:51,370 --> 00:02:57,200
I think for me, I remember John Young saying
this a lot more than once, "It's not what

42
00:02:57,200 --> 00:02:59,230
you do in space; it's who you do it with."

43
00:02:59,230 --> 00:03:06,830
And this is really neat, to be able to fly
with your best friend into space.

44
00:03:06,830 --> 00:03:12,670
You never think it's going to happen; obviously
we've had it happen over the years, I think

45
00:03:12,670 --> 00:03:17,300
folks that were close friends have flown together
before, but it's a neat experience.

46
00:03:17,300 --> 00:03:23,840
And then to add on top of it, the fact that
it's the first flight of a vehicle, is pretty neat.

47
00:03:23,840 --> 00:03:25,400
We consider ourselves pretty lucky.

48
00:03:25,400 --> 00:03:30,181
I think, in addition to the perks of being
with a close friend, of course, and being

49
00:03:30,181 --> 00:03:34,400
with your best friend, there's the other piece
that we know what each other thinks about

50
00:03:34,400 --> 00:03:37,260
just about everything. And so we can...

51
00:03:37,260 --> 00:03:38,780
Too much.

52
00:03:38,780 --> 00:03:42,080
...think ahead in terms of what
the other person is going to need, or what

53
00:03:42,090 --> 00:03:46,040
the other person is going to want, anticipate
the next input, all those sorts of things,

54
00:03:46,040 --> 00:03:49,230
which really, in a test flight like this,

goes a long way.

55
00:03:49,230 --> 00:03:53,750
You can really anticipate the other person's
reactions versus to have a, "Well, I don't

56
00:03:53,750 --> 00:03:54,750
know, Doug.

57
00:03:54,750 --> 00:03:56,220
How do you feel about the next series of events?"

58
00:03:56,220 --> 00:04:00,300
I already know the answers to those questions,
and it makes a big difference when you're

59
00:04:00,300 --> 00:04:01,940
doing something as critical as space flight.

60
00:04:01,940 --> 00:04:04,930
So one of you is for redundancy, then?

61
00:04:04,930 --> 00:04:06,900
Yeah, mostly.

62
00:04:06,920 --> 00:04:10,780
When both of you flew Space Shuttle, it had
already had a hundred flights under the belt

63
00:04:10,780 --> 00:04:11,760
of the program.

64
00:04:11,760 --> 00:04:13,870
It was a well-oiled machine.

65
00:04:13,870 --> 00:04:17,739
This is the first time that this will be flown
by humans.

66
00:04:17,739 --> 00:04:20,139
So what's the difference, in terms of mindset?

67
00:04:20,139 --> 00:04:22,520
You know, one of the things that...

68
00:04:22,520 --> 00:04:25,960
Folks often will look at the shuttle and talk
about the history, and how much practice we

69
00:04:25,960 --> 00:04:30,630
had before we launched those vehicles when
our opportunities came.

70
00:04:30,630 --> 00:04:35,960
It's really good, with this vehicle, that
the Falcon-9 has such a long heritage, and

71
00:04:35,960 --> 00:04:37,880
has so many flights under its belt.

72
00:04:37,880 --> 00:04:42,780
Even with the block five configuration that
will be the crew configuration, multiple flights

73
00:04:42,780 --> 00:04:45,930
flying in that configuration before we get
on board.

74
00:04:45,930 --> 00:04:52,000
And so that team is using the same people,
and it's a very well-oiled machine on that end.

75
00:04:52,000 --> 00:04:55,840
And then on the cargo side, several cargo
missions, of course, way into the double digits

76
00:04:55,850 --> 00:05:00,270
for heading to space station at this point,

it really gives you confidence that those

77
00:05:00,270 --> 00:05:04,560
teams are actually pretty well-oiled and pretty
experienced as they come together to try to

78
00:05:04,560 --> 00:05:06,620
do this with humans on board.

79
00:05:06,620 --> 00:05:11,720
So the step is not quite as big as it might
necessarily appear, because the team has worked

80
00:05:11,720 --> 00:05:16,930
so hard to make that operation for Falcon-9,
for everybody, be so similar, and then the

81
00:05:16,930 --> 00:05:20,030
cargo mission history leading into the crew
missions.

82
00:05:20,030 --> 00:05:24,320
Yeah, it's almost like the vehicle is now
talking back sometimes.

83
00:05:24,320 --> 00:05:29,490
And I think that's one of the biggest things
for SpaceX, as a company, needing to get used

84
00:05:29,490 --> 00:05:33,870
to, is just kind of what we would say and
what we're seeing in the vehicle and experiencing,

85
00:05:33,870 --> 00:05:35,620
and what they need to say back to us.

86
00:05:35,640 --> 00:05:40,030
Because obviously, with Cargo Dragons, they've
never had crew on board.

87
00:05:40,030 --> 00:05:46,480
But it's been an interesting process, kind
of developing not only the training, but the

88
00:05:46,490 --> 00:05:49,930
simulations, and then obviously the final
exam will be DM2.

89
00:05:49,930 --> 00:05:55,699
Both of you guys helped develop this spacecraft;
is there anything that has your signature

90
00:05:55,699 --> 00:06:01,310
on it, like Bob designed that little knob,
or Doug helped make that screen that way?

91
00:06:01,310 --> 00:06:08,139
We've tried very hard to not make it a vehicle
that just Bob likes, or just Doug likes.

92
00:06:08,139 --> 00:06:12,830
This is a vehicle for everybody after us that's
going to fly it.

93
00:06:12,830 --> 00:06:19,380
And so you have to provide those inputs in
that vein, I think is the best way to put it.

94
00:06:19,380 --> 00:06:24,680
And you're trying to make a vehicle that is
easy to operate in space, easy to interpret

95
00:06:24,680 --> 00:06:29,200
what it's telling you, easy to get in and
get out of it, all those things that you need

96
00:06:29,200 --> 00:06:33,170
to do that need to be well-oiled for a space
vehicle.

97
00:06:33,170 --> 00:06:38,889
We're trying to add our inputs that helps
everybody who flies this vehicle.

98
00:06:38,889 --> 00:06:41,229
Both of you married astronauts.

99
00:06:41,229 --> 00:06:45,560
I'm wondering if, when you get ready to help
your family understand the risk that you're

100
00:06:45,560 --> 00:06:50,280
taking here with this test flight, if it's
any easier knowing that both of your spouses

101
00:06:50,280 --> 00:06:56,240
were astronauts, and they understand very
well the risk that goes with this?

102
00:06:56,240 --> 00:07:01,130
One of the things I think that we're really
lucky to have is spouses that really understand

103
00:07:01,130 --> 00:07:03,259
the situations that we're going to be in.

104
00:07:03,259 --> 00:07:07,500
They understand what our role has been as
we've worked with the folks out in Hawthorne,

105
00:07:07,500 --> 00:07:10,370
as we traveled down here to go through an
exercise.

106
00:07:10,370 --> 00:07:13,720
They understand what it's like to be at the
other end of this camera and answer questions

107
00:07:13,720 --> 00:07:14,720

with you.

108
00:07:14,720 --> 00:07:20,290
And so that goes a long way to kind of shortening
how much you have to communicate where the

109
00:07:20,290 --> 00:07:22,860
other person, how their day went, and things
along those lines.

110
00:07:22,860 --> 00:07:28,210
I think if the spouses don't have as similar
of a career background, it seems like it could

111
00:07:28,210 --> 00:07:29,210
be difficult.

112
00:07:29,210 --> 00:07:32,960
I only have the one experience, and I think
it would be difficult for me, as a person,

113
00:07:32,960 --> 00:07:37,289
to really convey the challenges that I have
on a given day, or why I'm confident on a

114
00:07:37,289 --> 00:07:42,639
given day, or celebrate the successes the
same way if my spouse didn't understand them

115
00:07:42,639 --> 00:07:45,260
as deeply as having an astronaut spouse does.

116
00:07:45,260 --> 00:07:47,319
And so it's kind of like...

117
00:07:47,319 --> 00:07:49,510
And our son only knows it one way, as well.

118
00:07:49,510 --> 00:07:53,650

He's got two parents that fly in space, and
so that's probably better than, I have one

119
00:07:53,650 --> 00:07:55,150
that does and one that doesn't.

120
00:07:55,150 --> 00:07:57,090
It works out really well for us.

121
00:07:57,090 --> 00:08:02,080
And I think, just like any other family, you
share the ups and downs.

122
00:08:02,080 --> 00:08:08,830
We've been doing this for coming up on five
years as commercial crew astronauts, so they

123
00:08:08,830 --> 00:08:13,430
haven't all been great days, but some have
been really great days.

124
00:08:13,430 --> 00:08:15,039
And I think that's just part of it.

125
00:08:15,039 --> 00:08:18,870
You just try to keep them in the loop as much
as possible, just like you would in any other

126
00:08:18,870 --> 00:08:19,870
career path.

127
00:08:19,870 --> 00:08:24,900
So I think they appreciate that, but, by the
same token, they certainly understand it to

128
00:08:24,900 --> 00:08:27,810
a greater detail because of what they do,
as well.

129

00:08:27,810 --> 00:08:31,340
Doug and Bob, we wish you great success on
your first test flight, and thank you for

130
00:08:31,340 --> 00:08:32,669
taking the time to talk with us.

131
00:08:32,669 --> 00:08:33,380
You bet.

132
00:08:33,380 --> 00:08:33,880
Thank you.

133
00:08:34,660 --> 00:08:36,079
I'm Derrol Nail, and that's our show.

134
00:08:36,079 --> 00:08:37,969
And thanks for stopping by the Rocket Ranch.

135
00:08:37,969 --> 00:08:41,669
A special thanks to our guests, Doug Hurley
and Bob Behnken.

136
00:08:41,669 --> 00:08:46,990
To learn more about NASA's Commercial Crew
Program, visit nasa.gov, and to learn more

137
00:08:46,990 --> 00:08:50,449
about everything going on at Kennedy, go to
nasa.gov/Kennedy.

138
00:08:50,449 --> 00:08:54,800
And check out NASA's other podcasts to find
out what's happening there at the Centers

139
00:08:54,800 --> 00:08:56,540
at nasa.gov/podcasts.

140
00:08:56,540 --> 00:09:02,100

A special shout-out to our producer, John
Sackman, photographer Glenn Benson, soundman,

141
00:09:02,100 --> 00:09:05,379
Kim Shiflett, and our editor, Michelle Stone.