



1
00:00:00,010 --> 00:00:04,030
[tech sounds]

2
00:00:08,070 --> 00:00:12,080
Hi, my name is Alex Janas. I'm a robotic operator here at the

3
00:00:12,100 --> 00:00:16,100
Servicing Technology Center. [music] So the test I want

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00:00:16,120 --> 00:00:20,110
to talk to you guys about today is called RROxiTT, and this is a

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00:00:20,130 --> 00:00:24,170
remote fluid transfer test, which is going to be performed by taking this robot and sending it

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00:00:24,190 --> 00:00:28,210
down to Kennedy Space Center in Florida. And myself, I'm going to be the operator

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00:00:28,230 --> 00:00:32,240
right here at NASA Goddard. Some of the challenging aspects of this task

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00:00:32,260 --> 00:00:36,250
include this valve. This is a standard satellite valve that they use for filling a satellite with fuel

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00:00:36,270 --> 00:00:40,270
on the ground, and then it's sealed up and never meant to be opened again in space.

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00:00:40,290 --> 00:00:44,320
My job is going to be to fly up, align to, and access this servicing valve.

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00:00:44,340 --> 00:00:48,360
So if you can imagine, this would be a servicing arm in space;

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00:00:48,380 --> 00:00:52,380
this tool would be our tool; and this would access a satellite that's already in space.

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00:00:52,400 --> 00:00:56,400

Another hard aspect about this test is that I'm going to be commanding this robot from

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00:00:56,420 --> 00:01:00,420

here at NASA Goddard. So now I'm commanding it and I'm telling the robot to go forward,

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00:01:00,440 --> 00:01:04,460

up, down, left, right, and align it; there's going to be a time delay from when I send the robot a

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00:01:04,480 --> 00:01:08,500

command and when the robot actually receives the command itself. So the fluid that we're

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00:01:08,520 --> 00:01:12,510

going to be using during this test is called NTO, and it's one of two fluids that are combined

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00:01:12,530 --> 00:01:16,530

in a spacecraft in order to create an explosion to propel a spacecraft forward in space.

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00:01:16,550 --> 00:01:20,540

Now this is very corrosive, dangerous fluid, so when we're performing the test down in Florida,

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00:01:20,560 --> 00:01:24,590

any humans within several hundred feet of the work site actually have to be wearing

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00:01:24,610 --> 00:01:28,630

huge, big safety protective gear. This test is all part of a greater effort

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00:01:28,650 --> 00:01:32,660

to continue maturing and advancing the technology needed to repair and refuel

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00:01:32,680 --> 00:01:36,670

satellites in space so that they'll last longer. So tune in

24

00:01:36,690 --> 00:01:40,690

in early 2014 to watch me drive this robot and perform the actual refueling test.