



1

00:00:00,010 --> 00:00:04,170

A day like any other brings the sun. But this

2

00:00:04,190 --> 00:00:08,350

is not a day like any other. It's Day One of NASA's Robotic

3

00:00:08,370 --> 00:00:12,530

Refueling Mission, or RRM. The action is on the

4

00:00:12,550 --> 00:00:16,700

International Space Station, but also on the ground. Aimed at developing

5

00:00:16,720 --> 00:00:20,860

capabilities for servicing...even refueling...spacecraft on orbit,

6

00:00:20,880 --> 00:00:25,010

RRM is like doing precise surgery at a distance, doctor and

7

00:00:25,030 --> 00:00:29,150

patient separated by the void and vacuum of space. It's tough...

8

00:00:29,170 --> 00:00:33,270

but the payoff is huge. No refueling on Day

9

00:00:33,290 --> 00:00:37,380

One, however. That's Day Five. Today's goal... unscrewing

10

00:00:37,400 --> 00:00:41,470

a mechanical cap. But first the team has to get through a locking

11

00:00:41,490 --> 00:00:45,550

wire. Ground controllers at the Johnson Space Center in Houston, and

12

00:00:45,570 --> 00:00:49,620

engineers using the high fidelity mock-up here at Maryland's Goddard Space Flight

13

00:00:49,640 --> 00:00:53,660

Flight Center wait. Months of careful software development,

14

00:00:53,680 --> 00:00:57,720

hardware design, and procedural rehearsals come to this. Then...

15

00:00:57,740 --> 00:01:01,900

snip. The tool cuts through, but one tiny

16

00:01:01,920 --> 00:01:06,080

end wiggles itself into a crazy position that could get in the way of unscrewing

17

00:01:06,100 --> 00:01:10,260

the fuel cap. A penny's worth of wire could foul the whole

18

00:01:10,280 --> 00:01:14,440

operation. Smart people get to work. And that's the

19

00:01:14,460 --> 00:01:18,630

point of RRM: test, test, test...and learn everything

20

00:01:18,650 --> 00:01:22,810

possible from what happens next. Once flying,

21

00:01:22,830 --> 00:01:26,990

satellites are uncooperative creatures, and learning how to tame them in space

22

00:01:27,010 --> 00:01:31,160

takes patience and wit. Soon that pesky wire gets nudged

23

00:01:31,180 --> 00:01:35,300

, and the team goes in for the grapple. Contact...