



1
00:00:05,990 --> 00:00:03,510
a day like any other brings the sun

2
00:00:08,790 --> 00:00:06,000
but this is not a day like any other

3
00:00:11,110 --> 00:00:08,800
it's day one of nasa's robotic refueling

4
00:00:13,110 --> 00:00:11,120
mission or rrm

5
00:00:15,430 --> 00:00:13,120
the action is on the international space

6
00:00:17,510 --> 00:00:15,440
station but also on the ground

7
00:00:20,070 --> 00:00:17,520
aimed at developing capabilities for

8
00:00:23,109 --> 00:00:20,080
servicing even refueling spacecraft on

9
00:00:25,189 --> 00:00:23,119
orbit rrm is like doing precise surgery

10
00:00:27,189 --> 00:00:25,199
at a distance doctor and patients

11
00:00:28,230 --> 00:00:27,199
separated by the void and vacuum of

12
00:00:31,750 --> 00:00:28,240
space

13
00:00:34,310 --> 00:00:31,760

it's tough but the payoff is huge

14

00:00:37,350 --> 00:00:34,320

no refueling on day one however that's

15

00:00:40,150 --> 00:00:37,360

day five today's goal unscrewing a

16

00:00:42,069 --> 00:00:40,160

mechanical cap but first the team has to

17

00:00:43,990 --> 00:00:42,079

get through a locking wire

18

00:00:46,310 --> 00:00:44,000

ground controllers at the johnson space

19

00:00:47,990 --> 00:00:46,320

center in houston and engineers using

20

00:00:49,830 --> 00:00:48,000

the high fidelity mock-up here at

21

00:00:51,270 --> 00:00:49,840

maryland's goddard space flight center

22

00:00:53,350 --> 00:00:51,280

wait

23

00:00:55,110 --> 00:00:53,360

months of careful software development

24

00:00:56,869 --> 00:00:55,120

hardware design and procedural

25

00:00:59,110 --> 00:00:56,879

rehearsals come to this

26

00:01:02,150 --> 00:00:59,120

then snip

27

00:01:04,229 --> 00:01:02,160

the tool cuts through but one tiny end

28

00:01:05,910 --> 00:01:04,239

wiggles itself into a crazy position

29

00:01:08,710 --> 00:01:05,920

that could get in the way of unscrewing

30

00:01:11,270 --> 00:01:08,720

the fuel cap a penny's worth of wire

31

00:01:13,429 --> 00:01:11,280

could foul the whole operation

32

00:01:16,550 --> 00:01:13,439

smart people get to work

33

00:01:19,030 --> 00:01:16,560

and that's the point of rrm test test

34

00:01:21,429 --> 00:01:19,040

test and learn everything possible from

35

00:01:24,070 --> 00:01:21,439

what happens next

36

00:01:26,149 --> 00:01:24,080

once flying satellites are uncooperative

37

00:01:28,950 --> 00:01:26,159

creatures and learning how to tame them

38

00:01:31,670 --> 00:01:28,960

in space takes patience and wits

39

00:01:33,990 --> 00:01:31,680

soon that pesky wire gets nudged aside

40

00:01:35,990 --> 00:01:34,000

and the team goes in for the grapple

41

00:01:37,190 --> 00:01:36,000

contact rotation

42

00:01:41,030 --> 00:01:37,200

capture