



# Spacecraft Fire Experiment

1  
00:00:00,506 --> 00:00:03,756  
[ Music ]

2  
00:00:04,256 --> 00:00:08,846  
Saffire is contained inside a  
2 foot by 3 foot by 4 foot box

3  
00:00:09,406 --> 00:00:13,576  
that consists of an avionics  
bay containing the computer

4  
00:00:14,086 --> 00:00:17,746  
and instrumentation and a flow  
duct which holds the material

5  
00:00:17,746 --> 00:00:21,516  
to be burned, this will be  
carried aboard Orbital's Cygnus

6  
00:00:21,656 --> 00:00:24,736  
spacecraft during a scheduled  
cargo resupply mission

7  
00:00:24,736 --> 00:00:26,186  
to the International  
Space Station.

8  
00:00:27,536 --> 00:00:30,646  
Once at the station,  
Saffire will remain on Cygnus

9  
00:00:31,206 --> 00:00:33,076  
until all the supplies  
are off-loaded

10  
00:00:33,076 --> 00:00:34,146  
by the crew of astronauts.

11  
00:00:35,266 --> 00:00:37,996

Once supplies are offloaded  
and replaced with trash

12

00:00:37,996 --> 00:00:40,576

from the ISS, Cygnus  
will depart.

13

00:00:41,546 --> 00:00:43,546

Once reaching a safe  
distance from the station,

14

00:00:44,266 --> 00:00:45,786

NASA Glenn engineers, working

15

00:00:45,786 --> 00:00:48,486

from Orbital's mission control  
center in Dulles, Virginia,

16

00:00:48,926 --> 00:00:50,926

will remotely turn  
on the experiment.

17

00:00:51,516 --> 00:00:52,546

Cygnus will then be put

18

00:00:52,546 --> 00:00:55,656

into free drift while the  
Saffire experiment is conducted,

19

00:00:55,996 --> 00:00:57,476

up to 2-1/2 hours.

20

00:00:57,576 --> 00:01:01,086

The experiment's sensors and  
video cameras are designed

21

00:01:01,126 --> 00:01:02,306

to capture valuable data

22

00:01:02,306 --> 00:01:05,556  
and imagery documenting  
large-scale flame spread

23

00:01:05,966 --> 00:01:07,976  
and material flammability  
limits.

24

00:01:08,626 --> 00:01:10,636  
At the conclusion of  
the Saffire experiment,

25

00:01:11,316 --> 00:01:12,676  
the Cygnus vehicle will remain

26

00:01:12,676 --> 00:01:15,536  
in orbit while the data  
captured is downlinked

27

00:01:15,536 --> 00:01:18,536  
to several ground stations  
around the globe and transferred

28

00:01:18,536 --> 00:01:21,586  
to NASA Glenn's scientists  
and engineers in Cleveland.

29

00:01:22,786 --> 00:01:24,006  
When downlink is complete,

30

00:01:24,556 --> 00:01:26,266  
Cygnus will then  
begin its reentry

31

00:01:26,266 --> 00:01:28,696  
through the Earth's  
atmosphere where it will burn-up

32

00:01:29,116 --> 00:01:30,146  
over the Pacific Ocean.

