



1  
00:00:03,660 --> 00:00:05,240  
NASA recently conducted flight

2  
00:00:05,240 --> 00:00:07,319  
experiments at Edwards Air Force Base in

3  
00:00:07,319 --> 00:00:09,280  
Southern California to examine the

4  
00:00:09,280 --> 00:00:11,610  
effect of low amplitude sonic booms on

5  
00:00:11,610 --> 00:00:12,880  
large office buildings.

6  
00:00:13,260 --> 00:00:16,340  
As part of the Sonic Booms on Big Structures effort two

7  
00:00:16,350 --> 00:00:19,200  
NASA F/A-18 aircraft from NASA's Dryden

8  
00:00:19,200 --> 00:00:21,300  
Flight Research Center flew a series of

9  
00:00:21,300 --> 00:00:23,280  
supersonic runs that caused multiple

10  
00:00:23,280 --> 00:00:26,500  
sonic booms of varying intensity over Edwards.

11  
00:00:28,820 --> 00:00:29,700  
[sound of sonic boom]

12  
00:00:31,400 --> 00:00:34,280  
This is actually a very important step in our process of

13  
00:00:34,280 --> 00:00:37,640

understanding community response to  
sonic boom.

14  
00:00:38,180 --> 00:00:41,200  
So what we set out to do today was concentrate on

15  
00:00:41,240 --> 00:00:44,180  
booms that we know are within the realm of capability

16  
00:00:44,190 --> 00:00:45,820  
of our design tools to develop

17  
00:00:45,820 --> 00:00:48,380  
civil aircraft that can produce those booms.

18  
00:00:48,460 --> 00:00:49,900  
We brought in some people who have

19  
00:00:49,900 --> 00:00:52,020  
experience with hearing sonic booms or

20  
00:00:52,020 --> 00:00:54,280  
some expertise and supersonics in the

21  
00:00:54,280 --> 00:00:56,160  
past and we just asked them to

22  
00:00:56,160 --> 00:00:59,240  
experience a number of booms, a very low overpressure,

23  
00:00:59,240 --> 00:01:01,060  
a very low loudness boom,

24  
00:01:01,480 --> 00:01:03,500  
to a moderate loudness boom.

25  
00:01:03,880 --> 00:01:05,840  
We had instruments outside that recorded the

26

00:01:05,850 --> 00:01:08,520

data so we can correlate that with other

27

00:01:08,520 --> 00:01:09,960

tests that we have done with outdoor

28

00:01:09,960 --> 00:01:12,420

booms and booms in smaller structures.

29

00:01:12,420 --> 00:01:14,040

We're just interested in getting the... the

30

00:01:14,040 --> 00:01:17,040

perception of the folks listening to the booms.

31

00:01:18,040 --> 00:01:18,900

[sound of single sonic boom]

32

00:01:19,760 --> 00:01:21,240

So we're simulating, what we

33

00:01:21,340 --> 00:01:23,620

anticipate will be the boom level of a

34

00:01:23,620 --> 00:01:27,020

new aircraft by using an existing F-18 airplane.

35

00:01:27,780 --> 00:01:29,600

To do that, we have to dive the airplane

36

00:01:29,600 --> 00:01:31,280

in a unique manner and that

37

00:01:31,290 --> 00:01:33,680

creates both a quiet boom at the location

38

00:01:33,680 --> 00:01:35,280  
where we want to measure but

39  
00:01:35,280 --> 00:01:37,460  
also some loud booms in the vicinity.

40  
00:01:37,880 --> 00:01:39,320  
We're working on the technology that

41  
00:01:39,330 --> 00:01:41,200  
will enable a next generation of

42  
00:01:41,200 --> 00:01:44,240  
supersonic aircraft that the public can fly on.

43  
00:01:44,740 --> 00:01:46,020  
But we don't want to do that in a

44  
00:01:46,020 --> 00:01:47,780  
way that creates a disturbance.

45  
00:01:48,320 --> 00:01:50,300  
The technology that we're developing will  
result

46  
00:01:50,300 --> 00:01:53,580  
in quiet supersonic aircraft

47  
00:01:54,760 --> 00:01:55,580  
[sound of sonic boom]

48  
00:01:56,020 --> 00:01:58,120  
NASA engineers are now reviewing data

49  
00:01:58,120 --> 00:02:00,240  
from sensitive instrumentation installed

50  
00:02:00,240 --> 00:02:01,820

in a recently constructed office

51

00:02:01,820 --> 00:02:03,630

building at Edwards to determine the

52

00:02:03,630 --> 00:02:05,080

building's structural response