



1

00:00:15,450 --> 00:00:20,210

Right now when it comes to comes to sonic boom overland flight, it's based on just

2

00:00:20,210 --> 00:00:21,210

a speed.

3

00:00:21,210 --> 00:00:26,150

Right now, it is for civil aircraft, thou shalt not go over Mach 1.

4

00:00:26,150 --> 00:00:31,590

What we want to do is we want to change that regulation and base it on the noise and not

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00:00:31,590 --> 00:00:34,380

on just an arbitrary speed.

6

00:00:37,880 --> 00:00:44,420

So the Low Boom Flight Demonstrator project's goal is to design, develop, and test a vehicle

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00:00:44,420 --> 00:00:48,580

that has a low noise sonic boom signature.

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00:00:48,580 --> 00:00:54,880

The new sonic boom from the LBFD airplane or X-59A will sound more like a thump, we're

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00:00:54,900 --> 00:00:55,920

hoping.

10

00:00:55,920 --> 00:00:59,860

Your traditional sonic boom typically sounds like two big cracks.

11

00:01:03,020 --> 00:01:09,000

Right now we can fly F-18's get some sonic booms, record them, measure information about

12
00:01:09,000 --> 00:01:11,690
the weather and then use that to build models.

13
00:01:11,690 --> 00:01:17,280
We've done bits and pieces of tailoring
the boom in flight and through the design

14
00:01:17,280 --> 00:01:23,819
tools so this project is actually the culmination
of activities like the Quiet Spike project

15
00:01:23,819 --> 00:01:27,390
that we had on the F-15 with Gulfstream.

16
00:01:27,390 --> 00:01:32,450
We've done tests such as FAINT where we
studied Mach cut off and the extent of the

17
00:01:32,450 --> 00:01:33,980
carpet size.

18
00:01:34,560 --> 00:01:41,820
It's six decades of sonic boom research,
so it's sixty years in the making

19
00:01:45,460 --> 00:01:51,320
A shaped-boom demonstrator, this X-59, is
the next logical step.

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00:01:57,000 --> 00:02:02,860
The interesting thing about the X-59 is that
it looks really sleek and fast, and it is,

21
00:02:02,860 --> 00:02:06,520
and it looks like a fighter but it' really
not.

22
00:02:06,529 --> 00:02:10,300

As you've seen, it doesn't have a forward field of view, there's no windscreen.

23
00:02:10,300 --> 00:02:17,010
So, because of that we'll have an Ultra HD camera and an Ultra HD screen and that's

24
00:02:17,010 --> 00:02:19,959
what will be essentially our forward window.

25
00:02:19,959 --> 00:02:24,470
You know there's a big bunch of the field of view that would be blocked by the nose

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00:02:24,470 --> 00:02:25,470
itself.

27
00:02:25,470 --> 00:02:30,720
Well the FVS camera's on the bottom, so they can actually kind of fill in that whole

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00:02:30,720 --> 00:02:35,060
picture to make it look like I don't have a nose on the airplane at all.

29
00:02:35,060 --> 00:02:38,900
But now, you know, we're in the design phase and it's really cool to be in on the ground

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00:02:38,900 --> 00:02:44,670
floor of the design and helping write the requirements and helping when it comes to

31
00:02:44,670 --> 00:02:49,400
some of the little design issues and then three years from now it's going to be really awesome

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00:02:49,400 --> 00:02:51,240
to go fly that thing.

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00:02:53,160 --> 00:03:00,640

Flight tests will start in 2021, we'll do a handful of checkout flights followed by

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00:03:00,640 --> 00:03:02,560

envelope expansion.

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00:03:02,560 --> 00:03:06,090

And then from there on we'll go into our next phase which will be what we call validation.

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00:03:06,090 --> 00:03:10,030

That's making sure that the sonic boom is as quiet as we designed it to be and then

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00:03:10,030 --> 00:03:11,739

we'll go into phase three.

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00:03:11,739 --> 00:03:15,980

And then phase three is community response testing.

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00:03:15,980 --> 00:03:21,780

So that's when we actually take the airplane out across the country, go to different communities,

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00:03:21,780 --> 00:03:26,640

and see how people respond to the noise we're generating.

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00:03:27,969 --> 00:03:33,980

Once we clear the way for a new regulation then basically aircraft manufacturers can

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00:03:33,989 --> 00:03:38,750

say "Hey if I can build to the regulation, I can go build a whole new class of aircraft

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00:03:38,750 --> 00:03:42,599

that'll get people from, you know, from point A to point B twice as fast."

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00:03:42,599 --> 00:03:47,439

If we can create an aircraft that can perform like that, that can fly supersonic and not

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00:03:47,439 --> 00:03:50,760

bother anyone and not have any problems with it then that's awesome.

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00:03:50,760 --> 00:03:57,020

I mean look at X-59 it looks like the airplanes we always saw in the 50's and 60's - the

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00:03:57,120 --> 00:03:59,620

big ol' pointy airplane.