



1
00:00:17,420 --> 00:00:15,350
during their development these aircraft

2
00:00:20,810 --> 00:00:17,430
were tested at NASA Ames Research

3
00:00:22,790 --> 00:00:20,820
Center's full-scale aerodynamic complex

4
00:00:26,630 --> 00:00:22,800
in Mountain View California

5
00:00:29,240 --> 00:00:26,640
the largest wind tunnel in the world the

6
00:00:32,200 --> 00:00:29,250
newly renovated facility actually houses

7
00:00:35,180 --> 00:00:32,210
two test sections

8
00:00:38,420 --> 00:00:35,190
just about any full-scale airplane

9
00:00:41,120 --> 00:00:38,430
the first which measures 40 by 80 feet

10
00:00:45,410 --> 00:00:41,130
has been used to test most of the

11
00:00:47,930 --> 00:00:45,420
nations important aircraft since 1944 it

12
00:00:50,210 --> 00:00:47,940
even played a major role in testing the

13
00:00:53,630 --> 00:00:50,220

aerodynamic qualities of the steps at

14

00:00:58,369 --> 00:00:53,640

the second wind tunnel test section

15

00:01:01,910 --> 00:00:58,379

measures 80 by 120 feet in every way

16

00:01:04,520 --> 00:01:01,920

this test section is large the air

17

00:01:07,520 --> 00:01:04,530

intake side of the building is larger

18

00:01:10,430 --> 00:01:07,530

than a football field there are

19

00:01:12,530 --> 00:01:10,440

tremendous turning vanes in the shaft of

20

00:01:16,240 --> 00:01:12,540

the wind tunnel designed to straighten

21

00:01:19,219 --> 00:01:16,250

air flow they are 12 stories high and

22

00:01:21,440 --> 00:01:19,229

160 feet wide

23

00:01:24,289 --> 00:01:21,450

both wind tunnels are powered by the

24

00:01:26,569 --> 00:01:24,299

same Bank of six electric twenty-two

25

00:01:29,510 --> 00:01:26,579

thousand five hundred horsepower motors

26
00:01:33,080 --> 00:01:29,520
that were upgraded to provide a maximum

27
00:01:35,740 --> 00:01:33,090
airspeed of 345 miles per hour in the

28
00:01:41,709 --> 00:01:35,750
forty by eighty boiler test section and

29
00:01:49,309 --> 00:01:45,169
that it takes for persons to rotate one

30
00:01:52,699 --> 00:01:49,319
set of blades during an inspection before

31
00:01:55,969 --> 00:01:52,709
any aircraft can be tested in the 80 by

32
00:01:59,330 --> 00:01:55,979
120 foot tunnel a special calibration

33
00:02:02,510 --> 00:01:59,340
boom must be installed the delicate

34
00:02:04,999 --> 00:02:02,520
instrumented 90 foot Pro determines the

35
00:02:07,850 --> 00:02:05,009
quality of the airflow and helps

36
00:02:11,420 --> 00:02:07,860
engineers compensate for effects caused

37
00:02:21,320 --> 00:02:11,430
by the wind tunnel itself one of the

38
00:02:33,900 --> 00:02:24,830

and airplay it's twin prop rotors can

39

00:02:39,710 --> 00:02:36,150

kamilla days as a test day and is now

40

00:02:43,290 --> 00:02:39,720

being adapted for practical Africa

41

00:02:46,080 --> 00:02:43,300

NASA's national full-scale aerodynamics

42

00:02:48,930 --> 00:02:46,090

complex the largest wind tunnel in the