
UNITED STATES OF AMERICA

1
00:00:51,990 --> 00:00:49,320
able to fly from airport runways

2
00:00:55,290 --> 00:00:52,000
directly into his orbit and withstand

3
00:00:57,840 --> 00:00:55,300
temperatures up to 5,000 degrees the

4
00:00:59,700 --> 00:00:57,850
National aerospace plane represents the

5
00:01:05,189 --> 00:00:59,710
future in aeronautics and space

6
00:01:07,290 --> 00:01:05,199
technology NASA and the Department of

7
00:01:09,210 --> 00:01:07,300
Defense are co-sponsoring a unique

8
00:01:11,850 --> 00:01:09,220
cooperative effort among aerospace

9
00:01:14,400 --> 00:01:11,860
companies to design and develop the

10
00:01:16,680 --> 00:01:14,410
airframe materials and systems for the

11
00:01:20,790 --> 00:01:16,690
national aerospace plane scheduled to

12
00:01:23,100 --> 00:01:20,800
begin flights in the late 1990s the

13
00:01:25,109 --> 00:01:23,110

aerospace plane follows in the footsteps

14
00:01:27,330 --> 00:01:25,119
of a distinguished series of

15
00:01:30,469 --> 00:01:27,340
experimental aircraft that overcame many

16
00:01:33,660 --> 00:01:30,479
obstacles beginning with the bell x-1

17
00:01:37,290 --> 00:01:33,670
Chuck Yeager's historic flight broke the

18
00:01:39,810 --> 00:01:37,300
sound barrier in the 60s the x-15 flew

19
00:01:43,230 --> 00:01:39,820
at seven times the speed of sound

20
00:01:45,450 --> 00:01:43,240
more recently the x29 with its

21
00:01:47,649 --> 00:01:45,460
sophisticated forward swept wing design

22
00:01:50,669 --> 00:01:47,659
proved advanced materials

23
00:01:55,539 --> 00:01:50,679
pewter rated controls yield unmatched

24
00:01:58,480 --> 00:01:55,549
maneuverability when the next

25
00:01:59,230 --> 00:01:58,490
experimental plane the x30 becomes a

26
00:02:01,709 --> 00:01:59,240
reality

27
00:02:04,690 --> 00:02:01,719
it will furnace a set of ramjet scramjet

28
00:02:07,959 --> 00:02:04,700
sand finally rocket propulsion flying

29
00:02:10,839 --> 00:02:07,969
directly into orbit the promise of

30
00:02:13,270 --> 00:02:10,849
low-cost access to space has also

31
00:02:15,339 --> 00:02:13,280
encouraged the Europeans and Japanese to

32
00:02:19,449 --> 00:02:15,349
begin working on their own versions of

33
00:02:21,670 --> 00:02:19,459
the space plane while the interest in

34
00:02:24,580 --> 00:02:21,680
creating such a technology is very high

35
00:02:28,180 --> 00:02:24,590
it presents unique can even daunting

36
00:02:31,720 --> 00:02:28,190
challenges no existing plane or wind

37
00:02:35,860 --> 00:02:31,730
tunnel can duplicate the 17,500 miles

38
00:02:37,869 --> 00:02:35,870

per hour the X 30 will attain computer

39
00:02:40,000 --> 00:02:37,879
models are being used to simulate the

40
00:02:41,979 --> 00:02:40,010
shock waves and heat the X 30 will

41
00:02:45,699 --> 00:02:41,989
encounter as it roars through Earth's

42
00:02:49,240 --> 00:02:45,709
atmosphere nearly 30 times faster than a

43
00:02:51,430 --> 00:02:49,250
jet airliner materials for the plane

44
00:02:53,740 --> 00:02:51,440
must meet rival needs of strength

45
00:02:57,430 --> 00:02:53,750
lightness and ability to withstand

46
00:02:59,979 --> 00:02:57,440
searing temperatures at re-entry unlike

47
00:03:02,830 --> 00:02:59,989
a previous design resembling a Concorde

48
00:03:05,110 --> 00:03:02,840
the new x thirties wide fuselage

49
00:03:09,670 --> 00:03:05,120
provides much of the plane's lift and

50
00:03:15,130 --> 00:03:12,670
a wide nose directs airflow into the

51
00:03:18,039 --> 00:03:15,140
planes air breathing ramjet and scramjet

52
00:03:20,170 --> 00:03:18,049
engines dual vertical tails have been

53
00:03:24,890 --> 00:03:20,180
added for greater stability at all

54
00:03:30,949 --> 00:03:28,220
America's national aerospace plane

55
00:03:34,290 --> 00:03:30,959
technology that promises affordable