1
00:00:10,490 --> 00:00:07,430
over 50 years ago Rocketdyne developed

2
00:00:13,490 --> 00:00:10,500
the j2 a high-performance upper stage

3
00:00:15,740 --> 00:00:13,500
rocket propulsion system the original j2

4
00:00:19,370 --> 00:00:15,750
combined liquid hydrogen and liquid

5
00:00:20,000 --> 00:00:19,380
oxygen to produce 225 thousand pounds of

6
00:00:22,670 --> 00:00:20,010
thrust

7
00:00:25,400 --> 00:00:22,680
today Pratt & Whitney Rocketdyne has

8
00:00:28,040 --> 00:00:25,410
capitalized upon a half-century of human

9
00:00:30,589 --> 00:00:28,050
spaceflight experience and is developing

10
00:00:33,020 --> 00:00:30,599
the j-2x a modern state-of-the-art

11
00:00:35,270 --> 00:00:33,030
rocket engine fusing advanced

12
00:00:37,100 --> 00:00:35,280
technologies design techniques and

13
00:00:40,790 --> 00:00:37,110

groundbreaking material and

14
00:00:44,380 --> 00:00:40,800
manufacturing processes to produce 294

15
00:00:49,970 --> 00:00:47,180
earlier this month Assembly of the first

16
00:00:52,910 --> 00:00:49,980
j-2x was finalized at NASA's Stennis

17
00:00:55,279 --> 00:00:52,920
Space Center upon assembly completion

18
00:00:57,770 --> 00:00:55,289
engineers and technicians representing a

19
00:00:59,619 --> 00:00:57,780
combined labor force from NASA Lockheed

20
00:01:02,750 --> 00:00:59,629
Martin and Pratt & Whitney Rocketdyne

21
00:01:06,020 --> 00:01:02,760
transferred j-2x engine number one zero

22
00:01:09,530 --> 00:01:06,030
zero zero one from building 90 101 and

23
00:01:12,140 --> 00:01:09,540
installed it into test stand a two Tim

24
00:01:14,840 --> 00:01:12,150
Lorenz his Pratt & Whitney Rocketdyne SJ

25
00:01:17,749 --> 00:01:14,850
2x program integrator at NASA's Stennis

26
00:01:20,570 --> 00:01:17,759
Space Center we took the engine out of

27
00:01:22,670 --> 00:01:20,580
the mobile dolly or the workplan

28
00:01:25,550 --> 00:01:22,680
platform it's a combination mobile dolly

29
00:01:28,520 --> 00:01:25,560
with platforms placed it onto the

30
00:01:32,450 --> 00:01:28,530
trailer and brought it over to the test

31
00:01:36,319 --> 00:01:32,460
stand and backed it up into the ramp

32
00:01:37,850 --> 00:01:36,329
down below here and put it up on onto

33
00:01:40,640 --> 00:01:37,860
the engine vertical installer which you

34
00:01:44,090 --> 00:01:40,650
see behind it after being hoisted up the

35
00:01:46,490 --> 00:01:44,100
GSE ground support equipment was removed

36
00:01:48,980 --> 00:01:46,500
and the engine was readied for final

37
00:01:50,690 --> 00:01:48,990
positioning into the gimbal joint I was

38
00:01:51,910 --> 00:01:50,700

kind of worried about how we were going

39
00:01:56,359 --> 00:01:51,920
to unattach

40
00:01:59,240 --> 00:01:56,369
the GSC or the hardware that actually

41
00:02:01,580 --> 00:01:59,250
attaches to the gimbal on the engine to

42
00:02:04,969 --> 00:02:01,590
pick it up because it is a large

43
00:02:07,339 --> 00:02:04,979
structure and the access to the bolts

44
00:02:10,109 --> 00:02:07,349
that attach it to the gimbal

45
00:02:13,140 --> 00:02:10,119
was very difficult one of the more

46
00:02:15,809 --> 00:02:13,150
senior GSE technicians volunteered to

47
00:02:18,869 --> 00:02:15,819
take on the task donned his fall arrest

48
00:02:21,300 --> 00:02:18,879
gear and while four stories up perched

49
00:02:23,670 --> 00:02:21,310
out over the edge of the stand and laid

50
00:02:30,270 --> 00:02:23,680
down right inside the engine to remove

51
00:02:33,420 --> 00:02:30,280
the Volt's matt seal is PWRs Stennis

52
00:02:35,070 --> 00:02:33,430
Space Center j-2x test stand lead well

53
00:02:36,210 --> 00:02:35,080
we have to go through all the planning

54
00:02:38,039 --> 00:02:36,220
that put the engine together make sure

55
00:02:40,440 --> 00:02:38,049
it's all closed out and complete and

56
00:02:43,800 --> 00:02:40,450
then we have to get to do all the

57
00:02:45,960 --> 00:02:43,810
functional checkouts that marries the

58
00:02:47,880 --> 00:02:45,970
test stand to the engine and then verify

59
00:02:50,250 --> 00:02:47,890
everything is good to go before we test

60
00:02:52,710 --> 00:02:50,260
the first time the challenge is going to

61
00:02:56,130 --> 00:02:52,720
be making sure we learn all the new

62
00:02:58,819 --> 00:02:56,140
systems and verify that all the hardware

63
00:03:01,770 --> 00:02:58,829

is being tested the important part is

64
00:03:03,780 --> 00:03:01,780
everything has been looked at and are

65
00:03:05,910 --> 00:03:03,790
confident you're safe to test at that

66
00:03:09,479 --> 00:03:05,920
point then it's pure excitement you get

67
00:03:11,550 --> 00:03:09,489
smoking and fire and it's it's really

68
00:03:13,650 --> 00:03:11,560
fun to watch so that part of its going

69
00:03:17,099 --> 00:03:13,660
to be very exciting as we move forward

70
00:03:20,640 --> 00:03:17,109
anthony Soames is PWRs test & Controls

71
00:03:22,140 --> 00:03:20,650
manager at NASA Stennis I would say it's

72
00:03:24,390 --> 00:03:22,150
going well everyone's working

73
00:03:26,910 --> 00:03:24,400
exceptionally well together we all have

74
00:03:30,390 --> 00:03:26,920
the same vested interest and that is a

75
00:03:33,360 --> 00:03:30,400
successful test of its j-2x engine we're

76
00:03:36,479 --> 00:03:33,370
lucky to have a very mature workforce

77
00:03:38,879 --> 00:03:36,489
that have been around big rocket engines

78
00:03:41,309 --> 00:03:38,889
for a long time that understand the

79
00:03:43,199 --> 00:03:41,319
behavior of a rocket engine that

80
00:03:45,780 --> 00:03:43,209
understand the processes that it takes

81
00:03:47,910 --> 00:03:45,790
to put a rocket engine together in hot

82
00:03:49,800 --> 00:03:47,920
fire we can be proud of what's been

83
00:03:52,069 --> 00:03:49,810
accomplished to date if you look at the

84
00:03:55,080 --> 00:03:52,079
time frame from the engine design

85
00:03:57,270 --> 00:03:55,090
through fabrication assembly and now

86
00:04:00,120 --> 00:03:57,280
we're here with engine installation for

87
00:04:02,490 --> 00:04:00,130
first test all in a very aggressive but

88
00:04:06,240 --> 00:04:02,500

successful time line build upon a

89
00:04:08,729 --> 00:04:06,250
heritage a legacy of success the j-2x

90
00:04:11,490 --> 00:04:08,739
will now be a great asset as the nation

91
00:04:14,009 --> 00:04:11,500
selects architecture to move forward for

92
00:04:16,490 --> 00:04:14,019
space exploration and manned space