1
00:00:12,200 --> 00:00:09,709
scientists discover what there is but

2
00:00:15,410 --> 00:00:12,210
engineers create that which never was

3
00:00:18,050 --> 00:00:15,420
and in my mind engineers are creators

4
00:00:19,840 --> 00:00:18,060
we're almost like artists but instead of

5
00:00:22,519 --> 00:00:19,850
working with art we're working with

6
00:00:24,679 --> 00:00:22,529
scientific things or mechanical things

7
00:00:27,050 --> 00:00:24,689
or electrical things to try and create

8
00:00:28,970 --> 00:00:27,060
something and that's what's so rewarding

9
00:00:31,970 --> 00:00:28,980
about working at Goddard is that we get

10
00:00:33,620 --> 00:00:31,980
these fantastic problems to solve and we

11
00:00:36,260 --> 00:00:33,630
have to come up with really creative

12
00:00:38,389 --> 00:00:36,270
solutions to basically create something

13
00:00:42,560 --> 00:00:38,399

in this case a satellite that will do a

14
00:00:44,240 --> 00:00:42,570
certain job and do it well for us do the

15
00:00:47,119 --> 00:00:44,250
majority of the spacecraft was built

16
00:00:48,740 --> 00:00:47,129
here in house both the instrument module

17
00:00:51,380 --> 00:00:48,750
and the spacecraft bus were built here

18
00:00:52,639 --> 00:00:51,390
at Goddard the instruments were made out

19
00:00:54,770 --> 00:00:52,649
of house but then they're brought here

20
00:00:57,110 --> 00:00:54,780
to Goddard and integrate it into the

21
00:00:59,959 --> 00:00:57,120
satellite you know building up to some

22
00:01:01,459 --> 00:00:59,969
of our full systems tests it's five

23
00:01:03,439 --> 00:01:01,469
years worth of work all coming together

24
00:01:05,929 --> 00:01:03,449
in one final text and to be able to see

25
00:01:08,240 --> 00:01:05,939
it function the way you intended is very

26
00:01:09,859 --> 00:01:08,250
very exciting and that's a very high

27
00:01:12,590 --> 00:01:09,869
point in our Prius and building a

28
00:01:16,039 --> 00:01:12,600
spacecraft this mission we have a

29
00:01:18,560 --> 00:01:16,049
requirement to work on over 45 years and

30
00:01:21,320 --> 00:01:18,570
we want it to work for 10 or 11 years so

31
00:01:23,480 --> 00:01:21,330
we really have to know that it's not

32
00:01:25,999 --> 00:01:23,490
only going to work just now that we want

33
00:01:28,219 --> 00:01:26,009
it to work for a long long time we

34
00:01:31,340 --> 00:01:28,229
assembled the entire propulsion

35
00:01:34,340 --> 00:01:31,350
subsystem here for sto and in addition

36
00:01:36,289 --> 00:01:34,350
to that all of the instruments and all

37
00:01:38,149 --> 00:01:36,299
of the electronics boxes were assembled

38
00:01:40,789 --> 00:01:38,159

onto the spacecraft structure and the

39
00:01:42,740 --> 00:01:40,799
entire observatory was put together so

40
00:01:45,679 --> 00:01:42,750
really a Goddard we see the culmination

41
00:01:47,749 --> 00:01:45,689
of all kinds of work that's done really

42
00:01:50,330 --> 00:01:47,759
all around the world and we all bring it

43
00:01:53,030 --> 00:01:50,340
together here and test it end-to-end to

44
00:01:54,620 --> 00:01:53,040
make sure the entire system works well I

45
00:01:56,060 --> 00:01:54,630
started just interfacing with the

46
00:01:57,990 --> 00:01:56,070
instruments because I'm really I've

47
00:02:00,510 --> 00:01:58,000
worked on more instruments here

48
00:02:02,900 --> 00:02:00,520
I have spacecraft and so I was brought

49
00:02:04,830 --> 00:02:02,910
in to interface with the three outside

50
00:02:07,080 --> 00:02:04,840
instruments that were built outside of

51
00:02:10,380 --> 00:02:07,090
Goddard with our spacecraft team here

52
00:02:12,480 --> 00:02:10,390
and that was my job primarily and then I

53
00:02:14,670 --> 00:02:12,490
helped integrate them and then I got

54
00:02:16,170 --> 00:02:14,680
moved into helping integrate the entire

55
00:02:18,810 --> 00:02:16,180
spacecraft and making sure that

56
00:02:21,120 --> 00:02:18,820
everything is good to do in engineering

57
00:02:24,240 --> 00:02:21,130
I think if you have a strong tendency

58
00:02:25,860 --> 00:02:24,250
toward science and mathematics it's a

59
00:02:28,020 --> 00:02:25,870
very good position to be in I mean

60
00:02:29,910 --> 00:02:28,030
really engineering is basically Applied

61
00:02:31,380 --> 00:02:29,920
Physics you're taking a lot of physics

62
00:02:34,830 --> 00:02:31,390
principles and applying them to real

63
00:02:37,020 --> 00:02:34,840

life reality having you know enjoying

64
00:02:38,640 --> 00:02:37,030
hands-on activities building things

65
00:02:41,070 --> 00:02:38,650
yourself with your hands it's a very

66
00:02:43,170 --> 00:02:41,080
good lead into the game engineer that's

67
00:02:46,500 --> 00:02:43,180
how I started working with cars and

68
00:02:48,840 --> 00:02:46,510
things but you know if you have a real

69
00:02:50,220 --> 00:02:48,850
strong desire to do those kind of things

70
00:02:51,810 --> 00:02:50,230
and you apply some science and

71
00:02:53,729 --> 00:02:51,820
mathematics then you can go ahead and

72
00:02:56,100 --> 00:02:53,739
design and build and test your own

73
00:02:58,260 --> 00:02:56,110
things which is what we get here I would

74
00:02:59,880 --> 00:02:58,270
just really like to encourage the next

75
00:03:02,400 --> 00:02:59,890
generation I think that's something that

76
00:03:04,500 --> 00:03:02,410
NASA does in a way that only NASA can do

77
00:03:07,229 --> 00:03:04,510
just to inspire the younger generation

78
00:03:09,630 --> 00:03:07,239
to be interested in math and science and

79
00:03:12,150 --> 00:03:09,640
outer space and what's out there and

80
00:03:14,190 --> 00:03:12,160
just to inspire them guider is one of

81
00:03:16,350 --> 00:03:14,200
those places where you you don't only

82
00:03:19,080 --> 00:03:16,360
see the small part of the spacecraft

83
00:03:20,910 --> 00:03:19,090
building and the engineering you have

84
00:03:23,039 --> 00:03:20,920
two scientists here tues without the big

85
00:03:25,979 --> 00:03:23,049
vision and kind of are able to think

86
00:03:28,080 --> 00:03:25,989
about if I could just do this than I

87
00:03:30,840 --> 00:03:28,090
might be able to prove this or I might