



1
00:00:17,640 --> 00:00:16,049
I'm bill hubscher and I'm Lori Meggs and

2
00:00:19,050 --> 00:00:17,650
welcome to focus on Marshall we're here

3
00:00:21,210 --> 00:00:19,060
right outside the gates of redstone

4
00:00:23,159 --> 00:00:21,220
arsenal on a very exciting day for a

5
00:00:25,079 --> 00:00:23,169
very special ceremony yeah kind of a

6
00:00:26,339 --> 00:00:25,089
birthday party of sorts that's right the

7
00:00:28,529 --> 00:00:26,349
george c marshall space flight center

8
00:00:29,790 --> 00:00:28,539
turns 50 and we are here to mark the

9
00:00:31,559 --> 00:00:29,800
occasion with the unveiling of an

10
00:00:32,939 --> 00:00:31,569
historic marker to celebrate this

11
00:00:34,080 --> 00:00:32,949
important milestone that's right we're

12
00:00:35,549 --> 00:00:34,090
also going to get to talk to some of the

13
00:00:37,200 --> 00:00:35,559

great folks who have contributed to

14

00:00:38,279 --> 00:00:37,210

America's space program we've had a

15

00:00:39,840 --> 00:00:38,289

chance to catch up with some of our

16

00:00:42,029 --> 00:00:39,850

colleagues here and to sit down with a

17

00:00:43,169 --> 00:00:42,039

few as well so let's get right to it i'm

18

00:00:45,119 --> 00:00:43,179

here with marshall center director

19

00:00:46,650 --> 00:00:45,129

Robert Lightfoot and Robert today is all

20

00:00:48,240 --> 00:00:46,660

about the work of generations tell us

21

00:00:49,829 --> 00:00:48,250

what that means to the team here well

22

00:00:51,240 --> 00:00:49,839

we're celebrating our 50th anniversary

23

00:00:55,500 --> 00:00:51,250

we got a historical marker we're going

24

00:00:57,360 --> 00:00:55,510

to dedicate today to represent his

25

00:00:59,489 --> 00:00:57,370

contribution to the state of Alabama and

26

00:01:01,020 --> 00:00:59,499

the nation so it's kind of cool and as

27

00:01:02,369 --> 00:01:01,030

you know our 50th anniversary has been

28

00:01:03,959 --> 00:01:02,379

all about the workers generations

29

00:01:05,520 --> 00:01:03,969

everything we get to do builds off the

30

00:01:07,950 --> 00:01:05,530

first folks that we're here to start us

31

00:01:10,050 --> 00:01:07,960

on this path along 50 years ago today

32

00:01:11,280 --> 00:01:10,060

personally what's it like for you to be

33

00:01:14,670 --> 00:01:11,290

the center director of the marshall

34

00:01:16,980 --> 00:01:14,680

center uh well it's it's it's exciting

35

00:01:19,680 --> 00:01:16,990

it's a great opportunity to get to lead

36

00:01:21,180 --> 00:01:19,690

a cool a bunch of folks that really love

37

00:01:23,280 --> 00:01:21,190

what they do and really have a great

38

00:01:25,290 --> 00:01:23,290

passion for exploration and just been

39

00:01:26,880 --> 00:01:25,300

been on top of that group is pretty

40

00:01:28,530 --> 00:01:26,890

humbling frankly because they're so

41

00:01:31,890 --> 00:01:28,540

dadgum smart and so good at what they do

42

00:01:34,050 --> 00:01:31,900

but just trying to trying to lead at

43

00:01:35,160 --> 00:01:34,060

this time is a it's an interesting time

44

00:01:37,320 --> 00:01:35,170

with everything going on and all the

45

00:01:39,120 --> 00:01:37,330

changes but we're it's fun we're having

46

00:01:40,290 --> 00:01:39,130

a good time with it I'm glad you said

47

00:01:42,120 --> 00:01:40,300

all those nice things about me thank you

48

00:01:43,620 --> 00:01:42,130

Robert for your time today well the

49

00:01:45,090 --> 00:01:43,630

dignitary certainly have come out

50

00:01:46,650 --> 00:01:45,100

Charles scales is joined to seize the

51
00:01:49,080 --> 00:01:46,660
associate deputy administrator for the

52
00:01:50,370 --> 00:01:49,090
agency and mr. scales thanks for coming

53
00:01:52,050 --> 00:01:50,380
down from Washington DC for this one

54
00:01:54,060 --> 00:01:52,060
happy to do it always good to come back

55
00:01:56,820 --> 00:01:54,070
to the Tennessee Valley so you spent

56
00:01:58,230 --> 00:01:56,830
half of Marshalls 50 years here at

57
00:01:59,790 --> 00:01:58,240
Marshall tell us a little about how you

58
00:02:01,980 --> 00:01:59,800
got started down here well I started

59
00:02:05,730 --> 00:02:01,990
here as a cooperative education student

60
00:02:08,550 --> 00:02:05,740
in January 1973 this beautiful Center

61
00:02:11,370 --> 00:02:08,560
was only 12 years old at that point so I

62
00:02:13,210 --> 00:02:11,380
started as the coop for me I am in the

63
00:02:15,130 --> 00:02:13,220

office of telecommunications

64

00:02:17,350 --> 00:02:15,140

okay what other departments did you end

65

00:02:19,120 --> 00:02:17,360

up spending some time i shall i die i

66

00:02:20,860 --> 00:02:19,130

started in telecommunications then I

67

00:02:22,990 --> 00:02:20,870

worked in program control in the

68

00:02:24,820 --> 00:02:23,000

facilities office and resources

69

00:02:28,840 --> 00:02:24,830

management and the information systems

70

00:02:30,550 --> 00:02:28,850

office plans and analysis in the center

71

00:02:32,410 --> 00:02:30,560

operations directorate and that was the

72

00:02:34,870 --> 00:02:32,420

Equal Opportunity officer here for about

73

00:02:37,180 --> 00:02:34,880

four and a half years love time in

74

00:02:39,490 --> 00:02:37,190

building 4200 correct and a lot of time

75

00:02:41,320 --> 00:02:39,500

in feeling 4200 I enjoyed every day of

76

00:02:43,450 --> 00:02:41,330

it considering that you got your start

77

00:02:44,980 --> 00:02:43,460

with the agency here at Marshall what

78

00:02:47,320 --> 00:02:44,990

does this marking this anniversary me to

79

00:02:49,870 --> 00:02:47,330

you oh it's a great opportunity when I

80

00:02:52,000 --> 00:02:49,880

started to work here we were getting

81

00:02:55,120 --> 00:02:52,010

prepared for the apollo-soyuz mission

82

00:02:56,800 --> 00:02:55,130

which is our first link up with what was

83

00:02:58,720 --> 00:02:56,810

then was the Soviet Union which was a

84

00:03:00,400 --> 00:02:58,730

major milestone in international

85

00:03:02,470 --> 00:03:00,410

relations and we were also making

86

00:03:05,110 --> 00:03:02,480

preparations for the Skylab mission and

87

00:03:06,940 --> 00:03:05,120

you know we're also making great plans

88

00:03:09,580 --> 00:03:06,950

for the start of the shuttle program so

89

00:03:10,630 --> 00:03:09,590

it was an exciting time to be here it's

90

00:03:11,740 --> 00:03:10,640

exciting that we were able to have you

91

00:03:14,050 --> 00:03:11,750

here and we appreciate you coming to

92

00:03:15,520 --> 00:03:14,060

emphasize how can you do it Alex thank

93

00:03:18,250 --> 00:03:15,530

you for inviting us into your home today

94

00:03:19,540 --> 00:03:18,260

we have a lot of ground to cover since

95

00:03:22,300 --> 00:03:19,550

you started working at Redstone Arsenal

96

00:03:24,340 --> 00:03:22,310

in 1954 let's start there tell us what

97

00:03:27,340 --> 00:03:24,350

it was like well you have to look at the

98

00:03:30,940 --> 00:03:27,350

Community House for very small you

99

00:03:33,250 --> 00:03:30,950

probably have 50,000 people the Germans

100

00:03:36,340 --> 00:03:33,260

had just come in 1950 from Fort Bliss

101
00:03:38,199 --> 00:03:36,350
Texas it was red stone are so they just

102
00:03:39,820 --> 00:03:38,209
started and the Germans has already

103
00:03:42,220 --> 00:03:39,830
started looking at a redstone missile

104
00:03:45,640 --> 00:03:42,230
for the army we all work farming those

105
00:03:48,759 --> 00:03:45,650
days we worked on Explorer satellite in

106
00:03:50,680 --> 00:03:48,769
fact i was in proposing those days and i

107
00:03:53,220 --> 00:03:50,690
sighs the tanks and there was a lot of

108
00:03:55,570 --> 00:03:53,230
activity going on for the explorer

109
00:03:57,340 --> 00:03:55,580
Secretary of Defense decided the Navy

110
00:04:00,370 --> 00:03:57,350
would be putting up first satellite

111
00:04:02,199 --> 00:04:00,380
Sputnik had come along we could put ours

112
00:04:04,420 --> 00:04:02,209
up first and that's in the history books

113
00:04:06,009 --> 00:04:04,430

you can find that but we were told put

114

00:04:13,090 --> 00:04:06,019

ours in the warehouse in the meantime

115

00:04:23,720 --> 00:04:15,700

Vaughn Vaughn says we can do it so they

116

00:04:28,340 --> 00:04:25,430

so next thing we started looking at

117

00:04:30,830 --> 00:04:28,350

besides for the redstone modified to put

118

00:04:35,480 --> 00:04:30,840

a suborbital flight which was Alan

119

00:04:38,930 --> 00:04:35,490

Shepards flight he flew I think was May

120

00:04:42,020 --> 00:04:38,940

5th 1961 suborbital he is one up and

121

00:04:43,670 --> 00:04:42,030

down leaves our first person in space so

122

00:04:46,280 --> 00:04:43,680

we felt like we were getting there but

123

00:04:48,500 --> 00:04:46,290

we hadn't gone in orbit yet now later on

124

00:04:50,840 --> 00:04:48,510

was John Glenn's flight how did you

125

00:04:53,600 --> 00:04:50,850

transition to the Saturn program you'd

126

00:04:55,160 --> 00:04:53,610

worked on the redstone rocket how

127

00:04:57,410 --> 00:04:55,170

difficult was that at the time well it

128

00:04:59,750 --> 00:04:57,420

somewhat award the technical part the

129

00:05:01,820 --> 00:04:59,760

challenges were tremendous but we had to

130

00:05:04,190 --> 00:05:01,830

cluster engines von Braun had to side

131

00:05:07,460 --> 00:05:04,200

here putting things together and we were

132

00:05:10,160 --> 00:05:07,470

able to take the tanks redstone tanks

133

00:05:12,320 --> 00:05:10,170

with 70 inch in diameter liquid oxygen

134

00:05:14,450 --> 00:05:12,330

tags 105 minutes and we clustered those

135

00:05:16,460 --> 00:05:14,460

and cluster the engines now the

136

00:05:19,040 --> 00:05:16,470

nightmare was was a plumber's nightmare

137

00:05:20,930 --> 00:05:19,050

we had all these lines getting the

138

00:05:23,120 --> 00:05:20,940

proponents out of the tanks into the

139

00:05:25,190 --> 00:05:23,130

engines had to deal with that had

140

00:05:27,620 --> 00:05:25,200

crosstalk he had to continue to

141

00:05:30,500 --> 00:05:27,630

pressurization of the tanks when you go

142

00:05:32,030 --> 00:05:30,510

during a said yet because the propellers

143

00:05:34,670 --> 00:05:32,040

are coming out he had to keep pressure

144

00:05:36,920 --> 00:05:34,680

in there you didn't want to take to be

145

00:05:39,440 --> 00:05:36,930

sucked in McCulloch atmospheric pressure

146

00:05:41,840 --> 00:05:39,450

but all this was a precursor and helping

147

00:05:44,720 --> 00:05:41,850

us to understand how you cluster engines

148

00:05:47,150 --> 00:05:44,730

how'd he get the proposed how you do to

149

00:05:49,160 --> 00:05:47,160

pressure the pressure season and the

150

00:05:51,830 --> 00:05:49,170

propellants and dealing with those for

151
00:05:53,480 --> 00:05:51,840
Saturn 5 because now we're going to one

152
00:05:56,540 --> 00:05:53,490
and a half million pounds thrust per

153
00:05:59,180 --> 00:05:56,550
engine who had to deal with five engines

154
00:06:01,310 --> 00:05:59,190
seven half million pounds of thrust I me

155
00:06:03,500 --> 00:06:01,320
as a nightmare number one with the

156
00:06:06,110 --> 00:06:03,510
engines get the ins info we grew up

157
00:06:09,080 --> 00:06:06,120
pumps I'm telling you wait Rick test

158
00:06:12,290 --> 00:06:09,090
stands lots and lots of that and so

159
00:06:14,750 --> 00:06:12,300
after that reconciling those problems

160
00:06:17,060 --> 00:06:14,760
have a big meeting here at Marshall and

161
00:06:19,670 --> 00:06:17,070
I was fortunate to participate in that

162
00:06:22,180 --> 00:06:19,680
meeting dr. von Braun his boss our

163
00:06:26,300 --> 00:06:22,190

corporate presidents were here and

164

00:06:29,380 --> 00:06:26,310

George Lewis suggested we fly man around

165

00:06:31,790 --> 00:06:29,390

the moon ok concern again this

166

00:06:34,490 --> 00:06:31,800

technological race with Russians and

167

00:06:35,129 --> 00:06:34,500

thought we could do it so they go to the

168

00:06:38,339 --> 00:06:35,139

moon

169

00:06:40,559 --> 00:06:38,349

and then everything was okay all the

170

00:06:43,950 --> 00:06:40,569

systems work good we've watching that

171

00:06:46,499 --> 00:06:43,960

bated breath and everything but they get

172

00:06:49,290 --> 00:06:46,509

ready to go around the moon Frank Borman

173

00:06:59,550 --> 00:06:49,300

has the Bible he's going to read about

174

00:07:03,059 --> 00:06:59,560

the creation account book of Genesis hey

175

00:07:04,920 --> 00:07:03,069

what and the classic is when you they go

176
00:07:06,510 --> 00:07:04,930
around the moon and they're looking back

177
00:07:08,550 --> 00:07:06,520
at Earth and there's a picture of the

178
00:07:10,080 --> 00:07:08,560
earth and you see that most people

179
00:07:12,869 --> 00:07:10,090
seeing that I get goosebumps thinking

180
00:07:15,330 --> 00:07:12,879
about even now as we talk when we've

181
00:07:17,249 --> 00:07:15,340
launched like all Apollo vehicle all the

182
00:07:20,189 --> 00:07:17,259
whole thing everything go into the water

183
00:07:22,200 --> 00:07:20,199
we lose it so in the meantime smart guys

184
00:07:24,510 --> 00:07:22,210
away when we design something like an

185
00:07:26,909 --> 00:07:24,520
airplane at least bring some of it bite

186
00:07:29,119 --> 00:07:26,919
say the money reuse it so we start

187
00:07:31,769 --> 00:07:29,129
looking at shuttle and then later on

188
00:07:34,459 --> 00:07:31,779

1970 i went to a test team for two years

189

00:07:38,760 --> 00:07:34,469

get the configuration which we fly today

190

00:07:41,730 --> 00:07:38,770

what is marshal well first marshall it

191

00:07:44,070 --> 00:07:41,740

to me is an organization it's a living

192

00:07:46,619 --> 00:07:44,080

organization and i just hope they can

193

00:07:48,360 --> 00:07:46,629

get something to continue engineering

194

00:07:51,860 --> 00:07:48,370

we've always had excellent leadership

195

00:07:55,829 --> 00:07:51,870

see starting with von Braun and his team

196

00:07:57,719 --> 00:07:55,839

that he had been brought over with so no

197

00:08:01,290 --> 00:07:57,729

question when you think about government

198

00:08:03,360 --> 00:08:01,300

owns a NASA number one nothing compared

199

00:08:05,219 --> 00:08:03,370

to NASA Alex thank you so much this has

200

00:08:06,899 --> 00:08:05,229

been so interesting and we really

