

A man with thinning white hair, wearing a dark suit, white shirt, and red tie, is speaking at a podium. He has his hands raised in a gesturing motion. A microphone is in front of him, and a blue Aquafina water bottle is on the podium. The background is dark and out of focus.

WE HAD A WONDERFUL COMMISSION.  
OUR KIDS --

1  
00:00:04,460 --> 00:00:02,690  
good afternoon my name is Jim free I'm

2  
00:00:06,309 --> 00:00:04,470  
the deputy director at the NASA Glenn

3  
00:00:08,750 --> 00:00:06,319  
Research Center and it's my pleasure to

4  
00:00:11,360 --> 00:00:08,760  
welcome you here today and I'll be

5  
00:00:13,490 --> 00:00:11,370  
moderating our event it's a great

6  
00:00:16,039 --> 00:00:13,500  
opportunity for us to celebrate the 50th

7  
00:00:17,450 --> 00:00:16,049  
anniversary of Senator Glenn's historic

8  
00:00:19,910 --> 00:00:17,460  
spaceflight when he became the first

9  
00:00:22,759 --> 00:00:19,920  
american to orbit the Earth we are

10  
00:00:24,500 --> 00:00:22,769  
pleased also to have us with what's with

11  
00:00:30,140 --> 00:00:24,510  
us here today because he's an Ohio

12  
00:00:32,350 --> 00:00:30,150  
native he's a marine and he also served

13  
00:00:35,750 --> 00:00:32,360

this state so well for us as our senator

14

00:00:48,049 --> 00:00:35,760

so please join me in welcoming senator

15

00:00:50,060 --> 00:00:48,059

going also on our panel today is Major

16

00:00:52,939 --> 00:00:50,070

General Charles Bolden the NASA

17

00:00:54,920 --> 00:00:52,949

Administrator a distinguished career in

18

00:01:02,810 --> 00:00:54,930

the Marine Corps and a Shuttle astronaut

19

00:01:04,969 --> 00:01:02,820

please welcome true thank you and the

20

00:01:06,679 --> 00:01:04,979

third member of our panel he was able to

21

00:01:09,859 --> 00:01:06,689

say it all day that his boss now I'm

22

00:01:12,410 --> 00:01:09,869

introducing my boss distinguished NASA

23

00:01:14,630 --> 00:01:12,420

career at the Kennedy Space Center and

24

00:01:19,870 --> 00:01:14,640

at Glenn please welcome senator dr.

25

00:01:24,860 --> 00:01:22,040

okay we're going to start today with an

26  
00:01:26,180 --> 00:01:24,870  
opening statement from senator Glenn but

27  
00:01:28,100 --> 00:01:26,190  
before we do that I also want to

28  
00:01:29,630 --> 00:01:28,110  
recognize a person who I had the

29  
00:01:39,980 --> 00:01:29,640  
pleasure of spending a great deal of

30  
00:01:43,090 --> 00:01:39,990  
time with today Annie Glenn so senator

31  
00:01:45,050 --> 00:01:43,100  
Glenn thank you thank you thank you

32  
00:01:47,150 --> 00:01:45,060  
commemorative days are fun to look back

33  
00:01:48,980 --> 00:01:47,160  
and remember what happened back at a

34  
00:01:51,230 --> 00:01:48,990  
certain time but I think they're they're

35  
00:01:53,540 --> 00:01:51,240  
useful mainly as a stepping stone to

36  
00:01:55,219 --> 00:01:53,550  
looking forward and we can see what

37  
00:01:56,870 --> 00:01:55,229  
strides were made in the past by

38  
00:01:59,420 --> 00:01:56,880

whatever people and whatever whoever

39

00:02:01,010 --> 00:01:59,430

happened to come along at that time but

40

00:02:02,510 --> 00:02:01,020

I think they give us an insight maybe

41

00:02:04,460 --> 00:02:02,520

into what we can do in the future and

42

00:02:06,980 --> 00:02:04,470

that's the importance of a commemorative

43

00:02:09,830 --> 00:02:06,990

day like this hard for me to believe

44

00:02:11,720 --> 00:02:09,840

it's been 50 years since that first

45

00:02:15,380 --> 00:02:11,730

orbital flight back then it seems like

46

00:02:18,110 --> 00:02:15,390

just a couple of weeks to me but it is

47

00:02:20,660 --> 00:02:18,120

important I think to look back not that

48

00:02:23,510 --> 00:02:20,670

I'm looking for celebrations or anything

49

00:02:25,580 --> 00:02:23,520

like that but it's good to look back and

50

00:02:27,890 --> 00:02:25,590

think about where we may go in the

51  
00:02:29,479 --> 00:02:27,900  
future can we make some of those same

52  
00:02:31,449 --> 00:02:29,489  
strides in the future we've made in the

53  
00:02:34,250 --> 00:02:31,459  
past that's the importance of NASA is

54  
00:02:35,990 --> 00:02:34,260  
its leading the way in that area of

55  
00:02:39,199 --> 00:02:36,000  
research with the International Space

56  
00:02:40,759 --> 00:02:39,209  
Station and all the other research that

57  
00:02:44,090 --> 00:02:40,769  
is carried on within that's at the

58  
00:02:47,060 --> 00:02:44,100  
different centers including one that Ray

59  
00:02:48,440 --> 00:02:47,070  
has here right here in Cleveland and so

60  
00:02:50,750 --> 00:02:48,450  
those that's the important thing of

61  
00:02:53,990 --> 00:02:50,760  
looking back the past is prologue as

62  
00:02:57,199 --> 00:02:54,000  
somebody said and if we can use the pass

63  
00:03:00,830 --> 00:02:57,209

in AZ to keep our interest going

64

00:03:02,360 --> 00:03:00,840

particularly among young people I'm sure

65

00:03:04,810 --> 00:03:02,370

that ain't and I are probably the oldest

66

00:03:07,160 --> 00:03:04,820

people in the room here and we're maybe

67

00:03:11,600 --> 00:03:07,170

most of you here would be about a third

68

00:03:14,509 --> 00:03:11,610

of our age literally but the important

69

00:03:15,680 --> 00:03:14,519

part is that as you look back now the

70

00:03:17,900 --> 00:03:15,690

important thing is for you to look

71

00:03:20,350 --> 00:03:17,910

forward on what you can do in your own

72

00:03:22,570 --> 00:03:20,360

lifetime and set your own goals and

73

00:03:24,970 --> 00:03:22,580

that's the important thing of having a

74

00:03:26,890 --> 00:03:24,980

commemoration like this to me so I

75

00:03:28,270 --> 00:03:26,900

welcome the opportunity to be here and

76  
00:03:34,390 --> 00:03:28,280  
get whatever questions you may have a

77  
00:03:37,480 --> 00:03:34,400  
little bit thank you let's see we're

78  
00:03:40,060 --> 00:03:37,490  
going to start with the media first and

79  
00:03:42,520 --> 00:03:40,070  
we'll do a few comedians and then we'll

80  
00:03:44,440 --> 00:03:42,530  
have our our tweeters start their

81  
00:03:47,260 --> 00:03:44,450  
questions there's a question of

82  
00:03:49,480 --> 00:03:47,270  
microphones on either side of the room

83  
00:03:50,830 --> 00:03:49,490  
so please raise your hand and when you

84  
00:03:53,860 --> 00:03:50,840  
get the microphone state your

85  
00:03:59,440 --> 00:03:53,870  
affiliation and then begin with your

86  
00:04:03,430 --> 00:03:59,450  
question so questions from the media go

87  
00:04:06,190 --> 00:04:03,440  
right to the tweeters I think we have

88  
00:04:09,880 --> 00:04:06,200

one right here hi Kevin Kelly with

89

00:04:12,070 --> 00:04:09,890

Westlife newspaper senator Glenn I will

90

00:04:15,460 --> 00:04:12,080

it would it bother you if and should

91

00:04:17,470 --> 00:04:15,470

bother the American people if in the

92

00:04:19,750 --> 00:04:17,480

future the Rockets that nASA uses to

93

00:04:22,210 --> 00:04:19,760

launch NASA's astronauts are owned by

94

00:04:25,720 --> 00:04:22,220

the private sector and private industry

95

00:04:27,670 --> 00:04:25,730

rather than NASA itself no not at all

96

00:04:30,190 --> 00:04:27,680

because they you know this isn't

97

00:04:33,250 --> 00:04:30,200

something brand new NASA never had any

98

00:04:35,530 --> 00:04:33,260

factories of their own in the past he

99

00:04:37,270 --> 00:04:35,540

always contracted with some of the

100

00:04:40,120 --> 00:04:37,280

contractors and now the contractors

101  
00:04:43,000 --> 00:04:40,130  
would take a new role a little earlier

102  
00:04:46,750 --> 00:04:43,010  
in the process than they did before just

103  
00:04:49,570 --> 00:04:46,760  
when nasa put out a request for an rfp a

104  
00:04:51,670 --> 00:04:49,580  
request for proposal and then got the

105  
00:04:54,700 --> 00:04:51,680  
actions in actually there there it's

106  
00:04:58,690 --> 00:04:54,710  
more competition among the different

107  
00:05:00,880 --> 00:04:58,700  
companies earlier in the process and the

108  
00:05:04,090 --> 00:05:00,890  
charlie's the one who has devised a lot

109  
00:05:06,760 --> 00:05:04,100  
of this and his is running it right now

110  
00:05:08,170 --> 00:05:06,770  
and the Steve Lindsey's I was on the

111  
00:05:09,940 --> 00:05:08,180  
second flight with is with one of those

112  
00:05:12,460 --> 00:05:09,950  
companies now we're Steve he's right

113  
00:05:14,200 --> 00:05:12,470

here over here yeah Steve's with one of

114

00:05:15,640 --> 00:05:14,210

those companies now so it's good

115

00:05:17,740 --> 00:05:15,650

representation here in Charlie that's

116

00:05:19,300 --> 00:05:17,750

one that you have to take so I'm like

117

00:05:22,420 --> 00:05:19,310

him I think it's going to be great and

118

00:05:23,680 --> 00:05:22,430

as the senator says when he came in they

119

00:05:26,469 --> 00:05:23,690

spent a lot of time out in downey

120

00:05:27,760 --> 00:05:26,479

california or other places helping the

121

00:05:29,469 --> 00:05:27,770

contractors to build a vehicle

122

00:05:32,439 --> 00:05:29,479

specifying that ok it's got to have

123

00:05:34,149 --> 00:05:32,449

windows the biggest difference now

124

00:05:35,920 --> 00:05:34,159

is that we're not going to own the

125

00:05:38,290 --> 00:05:35,930

vehicle it will be owned by the private

126  
00:05:40,089 --> 00:05:38,300  
company and we still have to decide

127  
00:05:42,100 --> 00:05:40,099  
whether it's going to be a taxi or it's

128  
00:05:43,839 --> 00:05:42,110  
going to be a rental car but but that

129  
00:05:45,459 --> 00:05:43,849  
will be the only difference the big

130  
00:05:47,260 --> 00:05:45,469  
thing for the United States for the

131  
00:05:49,929 --> 00:05:47,270  
government is that we don't have to pay

132  
00:05:52,920 --> 00:05:49,939  
for the operation and maintenance we're

133  
00:05:55,149 --> 00:05:52,930  
going to be really busy senator Glenn

134  
00:05:56,290 --> 00:05:55,159  
emphasizes as he should the critical

135  
00:05:58,629 --> 00:05:56,300  
importance of the International Space

136  
00:06:00,339 --> 00:05:58,639  
Station that's why we need the private

137  
00:06:02,769 --> 00:06:00,349  
companies to give us the capability of

138  
00:06:04,329 --> 00:06:02,779

taking people and things to the

139

00:06:06,339 --> 00:06:04,339

international space station because we

140

00:06:09,459 --> 00:06:06,349

can't do the exploration we want to do

141

00:06:10,959 --> 00:06:09,469

without a viable international space

142

00:06:12,999 --> 00:06:10,969

station so that's that's what we're

143

00:06:14,739 --> 00:06:13,009

focused on trying to do important says

144

00:06:16,659 --> 00:06:14,749

to now is that we don't have a way of

145

00:06:17,679 --> 00:06:16,669

getting on our own in this country we

146

00:06:19,709 --> 00:06:17,689

have no way of getting to our

147

00:06:22,149 --> 00:06:19,719

international space station on our own

148

00:06:23,800 --> 00:06:22,159

we have to contract with the Russians we

149

00:06:25,239 --> 00:06:23,810

send our astronauts over there they're

150

00:06:27,579 --> 00:06:25,249

launched in Russia they come back to

151

00:06:30,279 --> 00:06:27,589

Russia and then come back to this

152

00:06:31,450 --> 00:06:30,289

country and that's a result of some of

153

00:06:34,329 --> 00:06:31,460

the decisions were made in the previous

154

00:06:38,290 --> 00:06:34,339

administration which I think were wrong

155

00:06:41,079 --> 00:06:38,300

wrong wrong but that's my view and what

156

00:06:43,749 --> 00:06:41,089

it did was cut out the shuttle to help

157

00:06:46,269 --> 00:06:43,759

pay for these things was the theory and

158

00:06:47,589 --> 00:06:46,279

so it means now that if something

159

00:06:49,269 --> 00:06:47,599

happened to the soy is we'd have no

160

00:06:51,939 --> 00:06:49,279

means of getting back and forth to it to

161

00:06:53,199 --> 00:06:51,949

the station at all and so the importance

162

00:06:56,499 --> 00:06:53,209

of what Steve is doing and other

163

00:06:59,769 --> 00:06:56,509

companies that that are in competition

164

00:07:02,529 --> 00:06:59,779

with his company are the importance of

165

00:07:05,980 --> 00:07:02,539

them getting on stream with vehicles and

166

00:07:07,989 --> 00:07:05,990

boosters rapidly is very very important

167

00:07:10,929 --> 00:07:07,999

so we get our own means of getting on

168

00:07:13,269 --> 00:07:10,939

with the research that the space station

169

00:07:15,040 --> 00:07:13,279

was built to do we spent over a hundred

170

00:07:17,019 --> 00:07:15,050

billion dollars building that station

171

00:07:18,339 --> 00:07:17,029

getting it up there it wasn't just to

172

00:07:20,170 --> 00:07:18,349

see if we could accomplish an

173

00:07:22,869 --> 00:07:20,180

engineering feat it was to do basic

174

00:07:24,639 --> 00:07:22,879

fundamental research and Charlie's got

175

00:07:26,679 --> 00:07:24,649

the thing crammed full what kind of

176

00:07:28,449 --> 00:07:26,689

research we can do now but we can do so

177

00:07:31,619 --> 00:07:28,459

much more if we have our own

178

00:07:38,390 --> 00:07:31,629

transportation system back and forth

179

00:07:55,339 --> 00:07:43,020

okay go on to folks who are their

180

00:08:08,520 --> 00:07:57,839

can't hear either might decide to take

181

00:08:10,469 --> 00:08:08,530

the risk which time first time I I was a

182

00:08:13,760 --> 00:08:10,479

military fighter pilot I was in the

183

00:08:17,460 --> 00:08:13,770

Marine Corps as a fighter pilot it was

184

00:08:19,379 --> 00:08:17,470

you looked at it as an assignment I like

185

00:08:21,659 --> 00:08:19,389

you're almost going into combat we knew

186

00:08:23,820 --> 00:08:21,669

there were some dangers but we want to

187

00:08:25,920 --> 00:08:23,830

minimize those dangers and we did in

188

00:08:28,350 --> 00:08:25,930

working with the manufacturers and with

189

00:08:30,920 --> 00:08:28,360

our own training to minimize those

190

00:08:33,209 --> 00:08:30,930

dangers as much as we possibly could and

191

00:08:35,810 --> 00:08:33,219

it was important for the country those

192

00:08:38,579 --> 00:08:35,820

were the depths of the Cold War days

193

00:08:40,709 --> 00:08:38,589

cold war may be ancient history to you

194

00:08:43,290 --> 00:08:40,719

you may want to go back and and get on

195

00:08:44,699 --> 00:08:43,300

your computer and the read a little bit

196

00:08:47,280 --> 00:08:44,709

about the Cold War it was a real

197

00:08:49,740 --> 00:08:47,290

competition between our country and

198

00:08:52,050 --> 00:08:49,750

communism and whether it was going to be

199

00:08:54,060 --> 00:08:52,060

the wave of the future around the world

200

00:08:56,819 --> 00:08:54,070

or not and so we thought it was

201  
00:08:59,130 --> 00:08:56,829  
important for the country and and so the

202  
00:09:01,100 --> 00:08:59,140  
were there some dangers yeah we knew

203  
00:09:03,930 --> 00:09:01,110  
that but we thought we had a minimized

204  
00:09:06,690 --> 00:09:03,940  
and I don't think just looking to the

205  
00:09:09,240 --> 00:09:06,700  
future space Drive will never be one

206  
00:09:10,380 --> 00:09:09,250  
hundred percent safe anymore than if you

207  
00:09:13,650 --> 00:09:10,390  
go out here and get in an automobile

208  
00:09:15,060 --> 00:09:13,660  
it's not one hundred percent safe that

209  
00:09:17,790 --> 00:09:15,070  
you're not going to have an accident

210  
00:09:22,470 --> 00:09:17,800  
someplace and we have accidents every

211  
00:09:24,300 --> 00:09:22,480  
day out on the highways but we try and

212  
00:09:27,960 --> 00:09:24,310  
minimize those and we try and minimize

213  
00:09:29,370 --> 00:09:27,970

them in space travel also and we've done

214

00:09:32,670 --> 00:09:29,380

a pretty good job of that I think we've

215

00:09:34,560 --> 00:09:32,680

had a couple of times when there were

216

00:09:37,199 --> 00:09:34,570

problems the Columbia accident that's

217

00:09:40,410 --> 00:09:37,209

where the spacecraft and the crew were

218

00:09:42,210 --> 00:09:40,420

destroyed but those have been minimal

219

00:09:43,190 --> 00:09:42,220

and we we hope that those days there

220

00:09:44,600 --> 00:09:43,200

never happened again

221

00:10:00,850 --> 00:09:44,610

just have to keep working for as much

222

00:10:06,200 --> 00:10:03,770

thank you but you're on TV hi my name is

223

00:10:08,690 --> 00:10:06,210

Alicia Hansen first on behalf of the

224

00:10:10,940 --> 00:10:08,700

clever twitter community and social media

225

00:10:12,980 --> 00:10:10,950

community I want to thank the tweetup

226

00:10:15,080 --> 00:10:12,990

folks for doing this because this really

227

00:10:17,210 --> 00:10:15,090

means a lot to all of us that have an

228

00:10:20,960 --> 00:10:17,220

active part in the online community here

229

00:10:24,350 --> 00:10:20,970

secondly i'm a proud nasa wife and i am

230

00:10:26,720 --> 00:10:24,360

very proud of my husband Hans and what

231

00:10:29,660 --> 00:10:26,730

advice perhaps would you have for him as

232

00:10:32,390 --> 00:10:29,670

a young NASA employee sort of you know

233

00:10:34,970 --> 00:10:32,400

how to really embrace his passions for

234

00:10:36,890 --> 00:10:34,980

space for engineering and going forth

235

00:10:38,960 --> 00:10:36,900

because I'm so proud i just want to see

236

00:10:40,850 --> 00:10:38,970

him to continue to do great things you

237

00:10:42,980 --> 00:10:40,860

don't mind I'll tell you the first thing

238

00:10:45,620 --> 00:10:42,990

you need to do is keep encouraging him

239

00:10:48,380 --> 00:10:45,630

if you noticed senator Glenn's wife

240

00:10:50,180 --> 00:10:48,390

she's at his side all the time so just

241

00:10:52,460 --> 00:10:50,190

keep encouraging and I'll let the boss

242

00:10:55,820 --> 00:10:52,470

tell you what you can do or what he

243

00:11:02,690 --> 00:10:55,830

should look forward to not any what

244

00:11:04,100 --> 00:11:02,700

should she do he did I what you're doing

245

00:11:05,930 --> 00:11:04,110

is really important and it obviously

246

00:11:08,360 --> 00:11:05,940

he's done what we've asked him to do

247

00:11:11,210 --> 00:11:08,370

which is we always tell NASA employees

248

00:11:12,290 --> 00:11:11,220

to be incredibly proud of what you do we

249

00:11:15,650 --> 00:11:12,300

make a difference in people's lives

250

00:11:17,450 --> 00:11:15,660

every single day and any time I come

251  
00:11:19,730 --> 00:11:17,460  
like when I came to Glenn a couple of

252  
00:11:21,020 --> 00:11:19,740  
weeks ago the message I left them with

253  
00:11:23,420 --> 00:11:21,030  
was I want you to go home at the end of

254  
00:11:24,500 --> 00:11:23,430  
the day every day understanding that you

255  
00:11:27,020 --> 00:11:24,510  
are making a difference in people's

256  
00:11:29,720 --> 00:11:27,030  
lives when John flew I don't think he

257  
00:11:32,570 --> 00:11:29,730  
had any idea the impact that he was

258  
00:11:35,840 --> 00:11:32,580  
going to have on the world but he did it

259  
00:11:38,450 --> 00:11:35,850  
and the reason he keeps beating us about

260  
00:11:40,220 --> 00:11:38,460  
making sure that we that we fully

261  
00:11:42,140 --> 00:11:40,230  
utilize the International Space Station

262  
00:11:44,210 --> 00:11:42,150  
is because right now that's the main

263  
00:11:46,640 --> 00:11:44,220

vehicle that allows us to bring benefits

264

00:11:49,040 --> 00:11:46,650

back to humanity right I mean it's doing

265

00:11:50,630 --> 00:11:49,050

incredible things and we just don't we

266

00:11:52,700 --> 00:11:50,640

not we're not telling our story very

267

00:11:55,010 --> 00:11:52,710

well unfortunately but we're working on

268

00:11:55,740 --> 00:11:55,020

it we hope you have a long and happy

269

00:11:57,090 --> 00:11:55,750

married life

270

00:12:08,280 --> 00:11:57,100

everything you will as long as he just

271

00:12:14,600 --> 00:12:08,290

keeps saying yes I think the tweeter is

272

00:12:17,070 --> 00:12:14,610

over with that kinda go ahead greet uh

273

00:12:18,480 --> 00:12:17,080

senator I was just wondering what are

274

00:12:20,910 --> 00:12:18,490

your thoughts about tourism through

275

00:12:26,070 --> 00:12:20,920

space well done women age I'm sorry uh

276

00:12:28,500 --> 00:12:26,080

Teddy cleanser and I'm 13 Glenn Oh Glenn

277

00:12:30,780 --> 00:12:28,510

son okay in 13 oh that now again I'm

278

00:12:33,750 --> 00:12:30,790

sorry yeah um what are your thoughts

279

00:12:36,300 --> 00:12:33,760

about tourism in space tourism in space

280

00:12:37,740 --> 00:12:36,310

I think it'll come sometime I think it's

281

00:12:39,480 --> 00:12:37,750

so expensive right now it's going to be

282

00:12:41,310 --> 00:12:39,490

prohibitive for most people and you know

283

00:12:43,440 --> 00:12:41,320

they're letting people go up into space

284

00:12:45,360 --> 00:12:43,450

where you technically become an

285

00:12:49,770 --> 00:12:45,370

astronaut and that you go beyond 100

286

00:12:52,290 --> 00:12:49,780

miles in space 60 62 and a half mile I'm

287

00:12:53,730 --> 00:12:52,300

sorry 100 kilometers in space and back

288

00:12:55,860 --> 00:12:53,740

down again you're up there above that

289

00:12:59,730 --> 00:12:55,870

level by about 45 minutes something like

290

00:13:01,170 --> 00:12:59,740

that and people are lining up Diane as I

291

00:13:02,910 --> 00:13:01,180

understand that to pay two hundred

292

00:13:05,730 --> 00:13:02,920

thousand dollars for a ticket to do that

293

00:13:10,560 --> 00:13:05,740

a little more not pay but that's where

294

00:13:14,490 --> 00:13:10,570

she goes the tourism in space I think

295

00:13:16,740 --> 00:13:14,500

we'll come and probably in my view after

296

00:13:18,420 --> 00:13:16,750

we get some better propulsion system as

297

00:13:20,550 --> 00:13:18,430

cheaper than the one we have now right

298

00:13:22,500 --> 00:13:20,560

now to load one of these things up with

299

00:13:24,120 --> 00:13:22,510

all the fuel you have to have and the

300

00:13:25,560 --> 00:13:24,130

mechanisms of taking it first on an

301

00:13:28,010 --> 00:13:25,570

airplane and launching it then from

302

00:13:31,740 --> 00:13:28,020

there or whatever that that's a long

303

00:13:33,240 --> 00:13:31,750

that's quite an expensive process but if

304

00:13:35,760 --> 00:13:33,250

you have a new energy source one of

305

00:13:37,620 --> 00:13:35,770

these days and it will come just like in

306

00:13:42,540 --> 00:13:37,630

the past we've had animal power steam

307

00:13:46,680 --> 00:13:42,550

power railroads gasoline engines steam

308

00:13:48,110 --> 00:13:46,690

power rockets and so on we'll have some

309

00:13:51,270 --> 00:13:48,120

other

310

00:13:52,590 --> 00:13:51,280

propulsion system someday and when we do

311

00:13:54,450 --> 00:13:52,600

and it becomes cheaper then I think

312

00:14:05,550 --> 00:13:54,460

people will go up and I hope you make it

313

00:14:09,880 --> 00:14:08,170

where she was going senator Glenn I'm a

314

00:14:12,670 --> 00:14:09,890

little closer to your demographic I

315

00:14:14,440 --> 00:14:12,680

think Tim the other two-thirds here but

316

00:14:23,650 --> 00:14:14,450

yet you're not using the same Barbara I

317

00:14:25,510 --> 00:14:23,660

can see ya this represents NASA plum

318

00:14:29,079 --> 00:14:25,520

Brook station which is just west of here

319

00:14:30,490 --> 00:14:29,089

and want to thank NASA for that's where

320

00:14:32,800 --> 00:14:30,500

my school district is I've spent 30

321

00:14:34,630 --> 00:14:32,810

years in education we live for stem

322

00:14:37,030 --> 00:14:34,640

grant as a school you talked about

323

00:14:39,310 --> 00:14:37,040

creativity you talked about energy

324

00:14:42,340 --> 00:14:39,320

research what do you say to the young

325

00:14:43,810 --> 00:14:42,350

people back in the 50s when the cold war

326

00:14:45,880 --> 00:14:43,820

was going on i'm a former history

327

00:14:49,600 --> 00:14:45,890

teacher we have that same threat today

328

00:14:51,010 --> 00:14:49,610

to get people involved in stem and what

329

00:14:54,670 --> 00:14:51,020

do you say to young people to get there

330

00:14:56,320 --> 00:14:54,680

we all have the same as the same reason

331

00:14:58,690 --> 00:14:56,330

for getting in as we had during the Cold

332

00:15:00,160 --> 00:14:58,700

War but I think the reason for getting

333

00:15:02,760 --> 00:15:00,170

into stem today is every bit as

334

00:15:05,230 --> 00:15:02,770

important as it was during the Cold War

335

00:15:06,780 --> 00:15:05,240

now this country got to be what it is I

336

00:15:10,540 --> 00:15:06,790

talked about this a little bit earlier

337

00:15:13,180 --> 00:15:10,550

got to be what it is by better educating

338

00:15:16,390 --> 00:15:13,190

our people particularly in the area of

339

00:15:20,680 --> 00:15:16,400

the sciences and the end doing more

340

00:15:22,510 --> 00:15:20,690

research and I think the we learned two

341

00:15:25,240 --> 00:15:22,520

new things first and with that educated

342

00:15:26,470 --> 00:15:25,250

citizenry wow we just stepped ahead of

343

00:15:31,040 --> 00:15:26,480

the rest of world in a fairly short

344

00:15:34,759 --> 00:15:32,870

I think that's the important thing right

345

00:15:37,810 --> 00:15:34,769

now is keeping our young people involved

346

00:15:40,009 --> 00:15:37,820

with it because other nations are

347

00:15:41,720 --> 00:15:40,019

they've seen what the goose was that

348

00:15:43,880 --> 00:15:41,730

laid the golden eggs in this country and

349

00:15:45,920 --> 00:15:43,890

they're now out competing us in

350

00:15:48,350 --> 00:15:45,930

education and stem in particular and

351

00:15:50,180 --> 00:15:48,360

their study after study I did one of

352

00:15:52,430 --> 00:15:50,190

them took about a year on it back just

353

00:15:53,810 --> 00:15:52,440

when I was leaving the Senate Secretary

354

00:15:55,400 --> 00:15:53,820

of Education asked me to head up a

355

00:15:58,579 --> 00:15:55,410

commission which I did for a year and we

356

00:16:00,199 --> 00:15:58,589

had a wonderful Commission and it showed

357

00:16:02,690 --> 00:16:00,209

that our kids up to about the fourth

358

00:16:05,000 --> 00:16:02,700

this was done in 41 nations over three

359

00:16:06,410 --> 00:16:05,010

years and showed that our kids up to

360

00:16:10,639 --> 00:16:06,420

about the fourth grade have the best

361

00:16:13,250 --> 00:16:10,649

concept or better concept of science and

362

00:16:14,720 --> 00:16:13,260

technology in math and so on than most

363

00:16:17,269 --> 00:16:14,730

kitten ania then the kids that were

364

00:16:19,009 --> 00:16:17,279

studying these 41 nations by the time

365

00:16:21,710 --> 00:16:19,019

our kids got out of high school were two

366

00:16:23,449 --> 00:16:21,720

or three from the bottom and it's gotten

367

00:16:26,750 --> 00:16:23,459

worse instead of better in the last ten

368

00:16:29,870 --> 00:16:26,760

years since that study was made so the

369

00:16:31,639 --> 00:16:29,880

the reason why it's important i think

370

00:16:33,019 --> 00:16:31,649

it's every bit as important for our

371

00:16:34,550 --> 00:16:33,029

country although there's a different

372

00:16:37,130 --> 00:16:34,560

reason why it's that we're under more

373

00:16:39,280 --> 00:16:37,140

competition now from other sources then

374

00:16:41,060 --> 00:16:39,290

we have been and we better shape up

375

00:16:43,550 --> 00:16:41,070

fortunately we have a better higher

376

00:16:45,079 --> 00:16:43,560

education system than any other nation

377

00:16:47,480 --> 00:16:45,089

in the world and we're the envy of the

378

00:16:48,889 --> 00:16:47,490

rest of the world in that area and that

379

00:16:52,130 --> 00:16:48,899

will do us for a little while but

380

00:16:53,810 --> 00:16:52,140

there's no guarantee that without good

381

00:16:55,730 --> 00:16:53,820

understanding of stem by our young

382

00:16:57,829 --> 00:16:55,740

people and willingness to get in and and

383

00:16:59,960 --> 00:16:57,839

really be active in that area and get a

384

00:17:02,329 --> 00:16:59,970

good education no no guarantee that

385

00:17:04,309 --> 00:17:02,339

we'll be number 1 50 or 75 years from

386

00:17:07,370 --> 00:17:04,319

now so I think it's just as important

387

00:17:08,929 --> 00:17:07,380

now that we get this the stem students

388

00:17:11,929 --> 00:17:08,939

out there and encourage them as it was

389

00:17:14,030 --> 00:17:11,939

back in the Cold War days that's a long

390

00:17:16,970 --> 00:17:14,040

answer your short question I did add one

391

00:17:19,669 --> 00:17:16,980

other thing as I grew up during the Cold

392

00:17:21,949 --> 00:17:19,679

War and it was a different kind of a war

393

00:17:24,530 --> 00:17:21,959

then it was more about you know a

394

00:17:26,030 --> 00:17:24,540

shirred mutual destruction we're

395

00:17:29,690 --> 00:17:26,040

fighting a different kind of a cold war

396

00:17:32,120 --> 00:17:29,700

it's an economics Cold War now and while

397

00:17:34,700 --> 00:17:32,130

we're doing good research to support

398

00:17:36,710 --> 00:17:34,710

NASA missions at NASA Glenn I think

399

00:17:38,899 --> 00:17:36,720

federal labs like NASA Glenn

400

00:17:41,419 --> 00:17:38,909

do more to get the technologies we're

401  
00:17:44,090 --> 00:17:41,429  
working out on into commercial

402  
00:17:45,590 --> 00:17:44,100  
application and so that's one of the

403  
00:17:47,299 --> 00:17:45,600  
things we've been doing at NASA Glenn

404  
00:17:50,570 --> 00:17:47,309  
working with a lot of private companies

405  
00:17:53,029 --> 00:17:50,580  
across the US including a colonel

406  
00:17:55,070 --> 00:17:53,039  
Lindsey's company to not only get the

407  
00:17:57,620 --> 00:17:55,080  
technology but the testing capabilities

408  
00:18:00,220 --> 00:17:57,630  
that we have into the hands of people

409  
00:18:04,460 --> 00:18:00,230  
who could potentially create economic

410  
00:18:06,740 --> 00:18:04,470  
activity create jobs so I think what we

411  
00:18:10,580 --> 00:18:06,750  
do at NASA has a potential to help us

412  
00:18:13,549 --> 00:18:10,590  
win the next Cold War okay over there

413  
00:18:15,080 --> 00:18:13,559

help hello my name is Andy oriole I'm a

414

00:18:16,820 --> 00:18:15,090

newspaper reporter at the Sandusky

415

00:18:18,440 --> 00:18:16,830

register i covered the nasa plum Brook

416

00:18:21,409 --> 00:18:18,450

station senator Glenn thanks for your

417

00:18:23,750 --> 00:18:21,419

time um I want to know was there any

418

00:18:25,940 --> 00:18:23,760

personal items that you wanted to take

419

00:18:27,980 --> 00:18:25,950

up into space and when you're up in

420

00:18:29,240 --> 00:18:27,990

space maybe other than your wife what

421

00:18:36,980 --> 00:18:29,250

was something that you really missed

422

00:18:39,409 --> 00:18:36,990

most honored my first on that know what

423

00:18:41,930 --> 00:18:39,419

you mean what kind of things I took into

424

00:18:43,970 --> 00:18:41,940

space what what personal items you

425

00:18:45,289 --> 00:18:43,980

absolutely couldn't be without well in

426  
00:18:47,419 --> 00:18:45,299  
space something that you brought up and

427  
00:18:50,029 --> 00:18:47,429  
then something that you wished you you

428  
00:18:51,740 --> 00:18:50,039  
could have had like piece of pizza you

429  
00:18:59,419 --> 00:18:51,750  
know tang or something like that I don't

430  
00:19:00,919 --> 00:18:59,429  
know forget the thing yes sure no I

431  
00:19:02,419 --> 00:19:00,929  
think you know you're pretty well

432  
00:19:05,680 --> 00:19:02,429  
supplied with everything you need up

433  
00:19:07,789 --> 00:19:05,690  
there when you get ready to go and NASA

434  
00:19:10,120 --> 00:19:07,799  
you don't get out of the grocery store

435  
00:19:12,560 --> 00:19:10,130  
and shopped it takes food along with you

436  
00:19:14,570 --> 00:19:12,570  
NASA supplies all of that and that was

437  
00:19:16,700 --> 00:19:14,580  
it that we took some little mementos for

438  
00:19:18,289 --> 00:19:16,710

my kids and things like that that I

439

00:19:20,779 --> 00:19:18,299

brought back and if they have as

440

00:19:23,510 --> 00:19:20,789

mementos of the flight and some things

441

00:19:26,560 --> 00:19:23,520

like that but as far as other things

442

00:19:30,560 --> 00:19:26,570

your pre you're pretty limited in the

443

00:19:31,789 --> 00:19:30,570

weight of things you can take and and

444

00:19:33,580 --> 00:19:31,799

you're up there to do basic research

445

00:19:35,860 --> 00:19:33,590

you're up there to do

446

00:19:38,799 --> 00:19:35,870

you're up there to work and you don't

447

00:19:43,539 --> 00:19:38,809

have a lot of time for for other things

448

00:19:45,370 --> 00:19:43,549

and extraneous matters and I think on

449

00:19:47,799 --> 00:19:45,380

the flight i was on with with steve last

450

00:19:50,080 --> 00:19:47,809

we had about it maybe 20 minutes or a

451  
00:19:52,110 --> 00:19:50,090  
half hour before we put the stops on the

452  
00:19:54,700 --> 00:19:52,120  
windows and declare its now night time

453  
00:19:57,730 --> 00:19:54,710  
because you have to create your own

454  
00:19:59,320 --> 00:19:57,740  
night and day up there and we had about

455  
00:20:01,659 --> 00:19:59,330  
20 minutes to a half hour in which we

456  
00:20:04,000 --> 00:20:01,669  
fiddled around and play with water balls

457  
00:20:05,950 --> 00:20:04,010  
you know you can put a little water ball

458  
00:20:09,220 --> 00:20:05,960  
out here in front of you like this and

459  
00:20:10,779 --> 00:20:09,230  
and blow on it little you can drive it

460  
00:20:12,310 --> 00:20:10,789  
back and forward to this float out here

461  
00:20:15,100 --> 00:20:12,320  
in front of you little things like that

462  
00:20:17,230 --> 00:20:15,110  
but there wasn't much time to do to play

463  
00:20:19,299 --> 00:20:17,240

things like that most of the time up

464

00:20:21,519 --> 00:20:19,309

there is very well planned for every

465

00:20:23,440 --> 00:20:21,529

single astronaut and you have the the

466

00:20:25,750 --> 00:20:23,450

timeline for every single last know what

467

00:20:27,940 --> 00:20:25,760

you're doing minute by minute and so

468

00:20:29,139 --> 00:20:27,950

it's not a time period not a lot of time

469

00:20:31,299 --> 00:20:29,149

up there when you have a lot of other

470

00:20:35,019 --> 00:20:31,309

time for other things as what I'm trying

471

00:20:36,760 --> 00:20:35,029

to say okay well I want to thank senator

472

00:20:38,710 --> 00:20:36,770

Glenn Charlie and Ray for their time

473

00:20:41,710 --> 00:20:38,720

today and for all of you to be here I'd

474

00:20:43,539 --> 00:20:41,720

ask that you stay seated till they leave

475

00:21:11,210 --> 00:20:43,549

the podium thanks this is my first tweet

476

00:21:11,220 --> 00:21:27,100

kinda guy there you go

477

00:21:35,509 --> 00:21:30,860

ok we're going to begin the next part of

478

00:21:40,310 --> 00:21:35,519

our program here and let me introduce

479

00:21:42,230 --> 00:21:40,320

our next four guests we have we're going

480

00:21:44,570 --> 00:21:42,240

to make you an honorary Ohio astronaut

481

00:21:49,310 --> 00:21:44,580

here today Steve that's joint 18 months

482

00:21:50,989 --> 00:21:49,320

in Ohio there you go close enough we

483

00:21:55,519 --> 00:21:50,999

won't look at the tax records for that

484

00:21:57,379 --> 00:21:55,529

um no really it a date I believe so let

485

00:22:01,190 --> 00:21:57,389

me first introduce Colonel Steve Lindsey

486

00:22:04,730 --> 00:22:01,200

who was introduced earlier today and you

487

00:22:08,119 --> 00:22:04,740

know veteran of five shuttle flights Air

488

00:22:09,980 --> 00:22:08,129

Force test pilot and out of the crew

489

00:22:11,690 --> 00:22:09,990

office I always thought it was great

490

00:22:14,419 --> 00:22:11,700

Steve he always had to get off the astro

491

00:22:16,879 --> 00:22:14,429

van there to go fly the STA approaches

492

00:22:18,169 --> 00:22:16,889

before before a launch so that was

493

00:22:20,989 --> 00:22:18,179

always I remember you were getting off

494

00:22:23,149 --> 00:22:20,999

that van let me next introduce Greg

495

00:22:24,529 --> 00:22:23,159

Johnson Greg box Johnson and nobody else

496

00:22:27,230 --> 00:22:24,539

has a nickname on here how do you get

497

00:22:31,519 --> 00:22:27,240

the only guy in nickname also a veteran

498

00:22:33,470 --> 00:22:31,529

of two flights the pilot on sts-1 23

499

00:22:35,769 --> 00:22:33,480

which he flew with Mike Foreman and the

500

00:22:40,369 --> 00:22:35,779

pilot on the endeavors final flight

501  
00:22:43,220 --> 00:22:40,379  
sts-134 in May of last year let me next

502  
00:22:45,409 --> 00:22:43,230  
introduce my good another Ohio astronaut

503  
00:22:49,239 --> 00:22:45,419  
from broadview heights mike is a veteran

504  
00:22:52,570 --> 00:22:49,249  
also of two shuttle flights sts-125 the

505  
00:22:57,460 --> 00:22:52,580  
hobbit last hubble servicing mission the

506  
00:23:00,049 --> 00:22:57,470  
and then sts-132 to ISS also a Air Force

507  
00:23:02,389 --> 00:23:00,059  
pilot Colonel near force and then

508  
00:23:05,749 --> 00:23:02,399  
finally captain Mike Foreman from

509  
00:23:09,109 --> 00:23:05,759  
wadsworth veteran of two shuttle flights

510  
00:23:11,419 --> 00:23:09,119  
and what I like to do is give them if

511  
00:23:12,919 --> 00:23:11,429  
they'd like a chance to make a couple

512  
00:23:15,730 --> 00:23:12,929  
remarks and then we'll open up for

513  
00:23:18,170 --> 00:23:15,740

questions see

514

00:23:20,810 --> 00:23:18,180

thanks it's a it's good to be here as I

515

00:23:23,930 --> 00:23:20,820

mentioned I when I got got called

516

00:23:25,460 --> 00:23:23,940

actually box called me and and he must

517

00:23:26,810 --> 00:23:25,470

have run out of anybody important

518

00:23:28,370 --> 00:23:26,820

because he finally got desperate and

519

00:23:31,160 --> 00:23:28,380

called me and said hey Steve could you

520

00:23:33,110 --> 00:23:31,170

come talk and so but but his real honor

521

00:23:34,670 --> 00:23:33,120

for me to come here and get a chance to

522

00:23:37,280 --> 00:23:34,680

talk a little bit about Jan sheriff you

523

00:23:39,500 --> 00:23:37,290

about John share a few of my memories of

524

00:23:41,810 --> 00:23:39,510

working with John over the years who

525

00:23:44,060 --> 00:23:41,820

known him for a long time now and you

526

00:23:46,280 --> 00:23:44,070

know I it's easy to talk about John

527

00:23:48,530 --> 00:23:46,290

because as I mentioned in my in my

528

00:23:50,570 --> 00:23:48,540

remarks is what you see is what you get

529

00:23:52,430 --> 00:23:50,580

and and he's a he's just a wonderful

530

00:23:54,230 --> 00:23:52,440

person both he and Annie and so is a

531

00:23:56,270 --> 00:23:54,240

real privilege for me to be up here

532

00:23:59,210 --> 00:23:56,280

today just to try to share a few

533

00:24:04,010 --> 00:23:59,220

memories and in honor John like he

534

00:24:08,000 --> 00:24:04,020

should be on her I just want to welcome

535

00:24:15,530 --> 00:24:08,010

you all to our first tweet up so here's

536

00:24:18,710 --> 00:24:15,540

for you but you know what senator Glenn

537

00:24:22,570 --> 00:24:18,720

I was I was he was he shot his first

538

00:24:24,890 --> 00:24:22,580

flight when I was born and so I've been

539

00:24:27,200 --> 00:24:24,900

coming along with him as he gets his

540

00:24:29,630 --> 00:24:27,210

30th anniversary i turned 30 he is his

541

00:24:33,590 --> 00:24:29,640

40th anniversary I turned 40 well guess

542

00:24:40,010 --> 00:24:33,600

what this year I turned 50 okay so you

543

00:24:42,080 --> 00:24:40,020

look 60 yeah okay I'll just leave it at

544

00:24:45,620 --> 00:24:42,090

that but but I was really excited you'll

545

00:24:48,830 --> 00:24:45,630

bid Jim oh yeah that's a lot Mike but i

546

00:24:51,350 --> 00:24:48,840

have to say that i'm so pleased I feel

547

00:24:53,540 --> 00:24:51,360

like we're sitting here with with part

548

00:24:57,110 --> 00:24:53,550

of our family that we'd been been with

549

00:25:00,140 --> 00:24:57,120

for over the last decade and I'm just so

550

00:25:06,470 --> 00:25:00,150

pleased that these guys came up to join

551  
00:25:08,560 --> 00:25:06,480  
in this event with us you know we two

552  
00:25:11,030 --> 00:25:08,570  
months which is not a lot of time and

553  
00:25:12,710 --> 00:25:11,040  
everybody came together all the people

554  
00:25:15,170 --> 00:25:12,720  
that work at the Glenn Research Center

555  
00:25:16,520 --> 00:25:15,180  
we have been working hard together to

556  
00:25:18,380 --> 00:25:16,530  
pull this off and thank you to everybody

557  
00:25:20,000 --> 00:25:18,390  
the Glenn Research Center who

558  
00:25:21,170 --> 00:25:20,010  
contributed to this event and to

559  
00:25:28,279 --> 00:25:21,180  
cleveland state because they were a

560  
00:25:33,120 --> 00:25:30,180  
but anyway I'm not going to get

561  
00:25:36,029 --> 00:25:33,130  
long-winded I'll introduce Mike one of

562  
00:25:39,180 --> 00:25:36,039  
the two mics that's Mike and that's

563  
00:25:40,919 --> 00:25:39,190

bueno just so you know who they are it's

564

00:25:46,260 --> 00:25:40,929

great it's great to be here this is also

565

00:25:48,029 --> 00:25:46,270

my first tweet on okay i will say I've

566

00:25:51,480 --> 00:25:48,039

had a Twitter account for a little over

567

00:25:56,279 --> 00:25:51,490

a week I think I i have three followers

568

00:25:57,840 --> 00:25:56,289

and yeah you know how many how many

569

00:26:03,690 --> 00:25:57,850

people in the audience have a thousand

570

00:26:08,990 --> 00:26:03,700

followers Wow two thousand Wow three

571

00:26:19,200 --> 00:26:09,000

thousand amazing wow that's gnosis I

572

00:26:21,230 --> 00:26:19,210

don't know what you just said but I'm

573

00:26:25,169 --> 00:26:21,240

trying not to get followers because

574

00:26:27,029 --> 00:26:25,179

thank you frankly i joined twitter so

575

00:26:29,700 --> 00:26:27,039

that i could follow my daughter because

576

00:26:36,120 --> 00:26:29,710

day in and day out my wife looks at her

577

00:26:39,500 --> 00:26:36,130

blackberry and and she says our daughter

578

00:26:42,870 --> 00:26:39,510

just tweeted again and you know she's i

579

00:26:44,130 --> 00:26:42,880

got to get her on this so I I I found

580

00:26:45,720 --> 00:26:44,140

out you know I can't just follow her I

581

00:26:47,340 --> 00:26:45,730

have to have a twitter account follower

582

00:26:51,510 --> 00:26:47,350

so I don't know if you guys knew that

583

00:26:55,740 --> 00:26:51,520

but but yeah I'm kind of I'm kind of the

584

00:26:59,250 --> 00:26:55,750

Twitter exit expert does so that's

585

00:27:01,200 --> 00:26:59,260

that's why I did it so you wouldn't be

586

00:27:02,610 --> 00:27:01,210

very exciting to follow me because I'm

587

00:27:04,620 --> 00:27:02,620

not planning to do a lot of tweeting

588

00:27:06,330 --> 00:27:04,630

although I did tweet something you know

589

00:27:08,399 --> 00:27:06,340

while we were sitting in there because i

590

00:27:10,260 --> 00:27:08,409

said here's my boyhood hero John Glenn

591

00:27:12,029 --> 00:27:10,270

I'm getting here to you know sit here

592

00:27:15,630 --> 00:27:12,039

and talk and that's pretty cool so yeah

593

00:27:17,379 --> 00:27:15,640

I got that one you got I have four

594

00:27:22,659 --> 00:27:17,389

followers now

595

00:27:28,359 --> 00:27:22,669

I was I dropped out so I think you back

596

00:27:29,949 --> 00:27:28,369

down to three after that but it is

597

00:27:33,339 --> 00:27:29,959

pretty cool to be here today and to be a

598

00:27:35,259 --> 00:27:33,349

part of this historic you know remembers

599

00:27:37,899 --> 00:27:35,269

and honoring John Glenn you know as

600

00:27:41,319 --> 00:27:37,909

Charlie said in his remarks John Glenn

601  
00:27:43,899 --> 00:27:41,329  
he was a space pioneer you know it was

602  
00:27:46,719 --> 00:27:43,909  
his service and dedication that allowed

603  
00:27:48,909 --> 00:27:46,729  
us to all go fly in space you know we

604  
00:27:51,489 --> 00:27:48,919  
got to go orbit but we didn't get to go

605  
00:27:56,739 --> 00:27:51,499  
orbit and fly in space you know until

606  
00:27:59,319 --> 00:27:56,749  
John did and so hopefully but we're not

607  
00:28:01,509 --> 00:27:59,329  
we're not the last you know so there's

608  
00:28:05,739 --> 00:28:01,519  
going to be that's why part of our job

609  
00:28:07,779 --> 00:28:05,749  
is to inspire others to not just you

610  
00:28:11,649 --> 00:28:07,789  
know fly in space but to learn more

611  
00:28:13,239 --> 00:28:11,659  
about science and technology math these

612  
00:28:15,219 --> 00:28:13,249  
kinds of things these are important and

613  
00:28:19,060 --> 00:28:15,229

you heard the senator talk about those

614

00:28:21,699 --> 00:28:19,070

so thanks to John Glenn for his service

615

00:28:24,430 --> 00:28:21,709

and for his dedication to what he didn't

616

00:28:26,349 --> 00:28:24,440

tell allow us to be able to go fly in

617

00:28:28,779 --> 00:28:26,359

space and to go chase our dreams that

618

00:28:33,279 --> 00:28:28,789

was my dream was to go fly in space and

619

00:28:35,019 --> 00:28:33,289

did and to get to do a spacewalk float

620

00:28:36,699 --> 00:28:35,029

over to the Hubble Space Telescope and

621

00:28:39,039 --> 00:28:36,709

open up the doors and actually crawl

622

00:28:46,229 --> 00:28:39,049

inside of that thing and get to use

623

00:28:51,639 --> 00:28:48,969

thanks Jim back to your your job is to

624

00:28:53,480 --> 00:28:51,649

keep us in it yeah that's the thing I've

625

00:28:55,610 --> 00:28:53,490

been sweating about all day is trying to

626

00:28:57,020 --> 00:28:55,620

trying to thank out Steve came up here

627

00:28:59,090 --> 00:28:57,030

because there's some sanity now with you

628

00:29:04,000 --> 00:28:59,100

not really we'll open up to questions

629

00:29:07,840 --> 00:29:04,010

from the media first any questions there

630

00:29:13,630 --> 00:29:07,850

okay how about all the new followers of

631

00:29:15,680 --> 00:29:13,640

Foreman I won't give it away go ahead

632

00:29:19,100 --> 00:29:15,690

it's right there right the gentleman

633

00:29:20,720 --> 00:29:19,110

ablution hi guys I'm Andrew Cal from

634

00:29:23,270 --> 00:29:20,730

Atlanta more than anything I just want

635

00:29:25,820 --> 00:29:23,280

to say thank you my life has been much

636

00:29:27,830 --> 00:29:25,830

more rich and full being inspired by

637

00:29:29,150 --> 00:29:27,840

what y'all and all you guys do you know

638

00:29:31,400 --> 00:29:29,160

living a life of science and engineering

639

00:29:34,370 --> 00:29:31,410

I heard my pilot's license I get to

640

00:29:36,530 --> 00:29:34,380

pursue that and really part of that is

641

00:29:37,880 --> 00:29:36,540

is watching what what you guys have done

642

00:29:40,340 --> 00:29:37,890

and previous guys have done and and

643

00:29:41,840 --> 00:29:40,350

making it possible for the rest of us so

644

00:29:43,880 --> 00:29:41,850

that's really all to say it it's just

645

00:29:49,810 --> 00:29:43,890

thanks for for making my life better I

646

00:29:55,780 --> 00:29:52,780

let's say you know all four of us have

647

00:29:56,950 --> 00:29:55,790

spent some time in Ohio and people

648

00:29:59,770 --> 00:29:56,960

always ask me why are there so many

649

00:30:00,940 --> 00:29:59,780

astronauts from Ohio I always say well

650

00:30:05,140 --> 00:30:00,950

just a lot of people looking for work

651  
00:30:07,300 --> 00:30:05,150  
outside the state but you know the truth

652  
00:30:09,520 --> 00:30:07,310  
the truth is and you've kind of picked

653  
00:30:11,830 --> 00:30:09,530  
up on this already from likes comments

654  
00:30:18,750 --> 00:30:11,840  
you know we were all inspired in this

655  
00:30:21,610 --> 00:30:18,760  
state by John Glenn because you know any

656  
00:30:24,250 --> 00:30:21,620  
we were at the ripe age you know to kind

657  
00:30:26,850 --> 00:30:24,260  
of take that all in and get inspired by

658  
00:30:30,160 --> 00:30:26,860  
John Glenn and that's that's doing it so

659  
00:30:38,500 --> 00:30:30,170  
thank you for your comment thanks max

660  
00:30:40,420 --> 00:30:38,510  
right here all the horrendous medical

661  
00:30:42,790 --> 00:30:40,430  
things they made the early astronauts do

662  
00:30:44,710 --> 00:30:42,800  
to get them ready and how he insisted

663  
00:30:46,360 --> 00:30:44,720

their head to the window and how he went

664

00:30:48,820 --> 00:30:46,370

out just bought a camera off the shelves

665

00:30:50,620 --> 00:30:48,830

take pictures because he was brilliant

666

00:30:52,810 --> 00:30:50,630

enough to realize something on a picture

667

00:30:54,790 --> 00:30:52,820

from space so how do you prepare your

668

00:31:01,540 --> 00:30:54,800

training program to what he went through

669

00:31:05,040 --> 00:31:01,550

over 50 years ago I'll start off it is

670

00:31:08,730 --> 00:31:05,050

true that now we've had over 500

671

00:31:11,890 --> 00:31:08,740

astronauts and cosmonauts are officially

672

00:31:14,700 --> 00:31:11,900

officially flown in space and so we've

673

00:31:17,440 --> 00:31:14,710

had obviously a lot more practice

674

00:31:22,540 --> 00:31:17,450

figuring out how to work and live in

675

00:31:25,060 --> 00:31:22,550

orbit and but but still the the

676

00:31:27,400 --> 00:31:25,070

adventure and the wonder of being

677

00:31:29,410 --> 00:31:27,410

weightless is such a surprise on your

678

00:31:31,840 --> 00:31:29,420

first flight and I have to say my first

679

00:31:34,270 --> 00:31:31,850

flight I really wasn't prepared because

680

00:31:36,820 --> 00:31:34,280

I really didn't know what what to expect

681

00:31:38,500 --> 00:31:36,830

I was prepared for training but I was

682

00:31:40,450 --> 00:31:38,510

not prepared for all the other things

683

00:31:43,180 --> 00:31:40,460

that you just can't practice on the on

684

00:31:45,250 --> 00:31:43,190

the planet and so we've gotten better at

685

00:31:47,140 --> 00:31:45,260

it but there's still a big learning

686

00:31:49,270 --> 00:31:47,150

curve on your first flight now Steve's

687

00:31:52,720 --> 00:31:49,280

flown five times so he can probably have

688

00:31:54,610 --> 00:31:52,730

further words well I mean I think you

689

00:31:56,350 --> 00:31:54,620

yes you know what's the difference in in

690

00:31:58,600 --> 00:31:56,360

the training or what they did you know

691

00:31:59,919 --> 00:31:58,610

and if you talk to John when they all

692

00:32:01,389 --> 00:31:59,929

came in for the mercury

693

00:32:03,100 --> 00:32:01,399

program they didn't know anything about

694

00:32:04,629 --> 00:32:03,110

space they didn't know how is going to

695

00:32:06,940 --> 00:32:04,639

react and depending on who you talk to

696

00:32:10,389 --> 00:32:06,950

you know you probably mentioned a few of

697

00:32:14,019 --> 00:32:10,399

those things today they did at all which

698

00:32:15,970 --> 00:32:14,029

by the way is partially true and they

699

00:32:17,799 --> 00:32:15,980

said you know you couldn't be able to be

700

00:32:19,480 --> 00:32:17,809

able to swallow you'd be so disoriented

701  
00:32:21,460 --> 00:32:19,490  
and so scared that you wouldn't be able

702  
00:32:23,049 --> 00:32:21,470  
to function I mean oh well it's unknown

703  
00:32:24,879 --> 00:32:23,059  
and so for the for the doctors at the

704  
00:32:26,320 --> 00:32:24,889  
time they didn't know what to do so they

705  
00:32:27,700 --> 00:32:26,330  
just did everything they could think of

706  
00:32:30,279 --> 00:32:27,710  
and I don't know if you watched the

707  
00:32:32,830 --> 00:32:30,289  
video but but they're showing that

708  
00:32:34,600 --> 00:32:32,840  
spinning chair that thing spun in three

709  
00:32:36,279 --> 00:32:34,610  
axis and John was telling me for his

710  
00:32:38,379 --> 00:32:36,289  
graduation exercise out of that I think

711  
00:32:41,080 --> 00:32:38,389  
they spun it up at a hundred degrees per

712  
00:32:43,600 --> 00:32:41,090  
second and all three axis and then he

713  
00:32:45,669 --> 00:32:43,610

had to manually control it and get it to

714

00:32:47,710 --> 00:32:45,679

a stop in three axes and 100 degrees per

715

00:32:49,450 --> 00:32:47,720

second we've done a lot of work on orbit

716

00:32:52,029 --> 00:32:49,460

flying vehicles and we can all tell you

717

00:32:53,649 --> 00:32:52,039

that stopping something spinning at that

718

00:32:55,239 --> 00:32:53,659

speed when you're spinning in it is

719

00:32:57,399 --> 00:32:55,249

really hard well we didn't we don't do

720

00:32:59,320 --> 00:32:57,409

that kind of thing because we hopefully

721

00:33:04,299 --> 00:32:59,330

we learn from that sand this is really

722

00:33:07,090 --> 00:33:04,309

unnecessary and so so our our medical

723

00:33:08,769 --> 00:33:07,100

you know we do medical testing and you

724

00:33:10,330 --> 00:33:08,779

know a lot of what we do is for these

725

00:33:12,430 --> 00:33:10,340

young guys I call them young guys

726

00:33:13,749 --> 00:33:12,440

because they're younger than me you know

727

00:33:15,340 --> 00:33:13,759

a lot of a lot of what we did

728

00:33:22,779 --> 00:33:15,350

intentionally just kind of to torture

729

00:33:24,580 --> 00:33:22,789

them okay in the back right there hi my

730

00:33:27,369 --> 00:33:24,590

name is best Reynolds from Houston Texas

731

00:33:29,470 --> 00:33:27,379

and what I'd like to know is what can we

732

00:33:31,359 --> 00:33:29,480

do as citizens to convince our

733

00:33:34,060 --> 00:33:31,369

government other than writing our

734

00:33:36,940 --> 00:33:34,070

legislators that we believe that science

735

00:33:39,489 --> 00:33:36,950

is extremely important that NASA needs

736

00:33:41,919 --> 00:33:39,499

more funding and that it will lead to

737

00:33:45,090 --> 00:33:41,929

more jobs if you simply educate people

738

00:33:49,180 --> 00:33:45,100

give them opportunities spend the money

739

00:33:52,580 --> 00:33:49,190

any ideas I mean besides tweeting you

740

00:34:00,270 --> 00:33:55,980

let my kids yeah Mike Mike idiot like

741

00:34:05,040 --> 00:34:00,280

good my good is brilliant he was going

742

00:34:08,730 --> 00:34:05,050

to answer this for us sorry to

743

00:34:10,320 --> 00:34:08,740

disappoint but that not that's a it's a

744

00:34:12,930 --> 00:34:10,330

brilliant question i don't think i have

745

00:34:15,419 --> 00:34:12,940

a brilliant answer i think if i did we'd

746

00:34:17,940 --> 00:34:15,429

be doing it but i think this is this is

747

00:34:22,500 --> 00:34:17,950

part of it I mean part of our jobs are

748

00:34:24,120 --> 00:34:22,510

to you know go out and were our mission

749

00:34:29,639 --> 00:34:24,130

is to explore space but then it's to

750

00:34:32,419 --> 00:34:29,649

bring it back pay for it you know we all

751  
00:34:36,330 --> 00:34:32,429  
work for the government and so we think

752  
00:34:41,190 --> 00:34:36,340  
and and letting us you know go ride

753  
00:34:42,570 --> 00:34:41,200  
rockets and go explore space I mean

754  
00:34:46,409 --> 00:34:42,580  
you're you're right on I don't know how

755  
00:34:48,330 --> 00:34:46,419  
to deliver that message any better but I

756  
00:34:49,680 --> 00:34:48,340  
think we we all just need to continue

757  
00:34:52,169 --> 00:34:49,690  
doing that I mean you say other than

758  
00:34:53,760 --> 00:34:52,179  
write your Congressman that's one step

759  
00:34:55,619 --> 00:34:53,770  
that's one thing to do it's one thing to

760  
00:34:58,110 --> 00:34:55,629  
let them know that hey this is important

761  
00:34:59,910 --> 00:34:58,120  
to us and we think you need to carry

762  
00:35:01,920 --> 00:34:59,920  
this fight to Washington and and you

763  
00:35:04,980 --> 00:35:01,930

gotta fund it I mean senator Glenn

764

00:35:06,540 --> 00:35:04,990

mentioned it several times that you know

765

00:35:08,160 --> 00:35:06,550

NASA's on a fixed budget and we're

766

00:35:10,920 --> 00:35:08,170

actually pretty lucky in these times

767

00:35:14,030 --> 00:35:10,930

that we've we've kept of a flat budget

768

00:35:16,380 --> 00:35:14,040

even we haven't taken deep cuts but

769

00:35:20,190 --> 00:35:16,390

we're being asked to do so many things

770

00:35:22,410 --> 00:35:20,200

and so that's why we had to really

771

00:35:24,330 --> 00:35:22,420

eliminate the space shuttle program so

772

00:35:28,380 --> 00:35:24,340

that we could use that money to start

773

00:35:30,210 --> 00:35:28,390

our programs you know a new space

774

00:35:32,580 --> 00:35:30,220

capsule and a new rocket so that we can

775

00:35:35,310 --> 00:35:32,590

go outside of low-earth orbit and go out

776

00:35:37,290 --> 00:35:35,320

to them you know moon to asteroids out

777

00:35:39,420 --> 00:35:37,300

to Mars that's where we want to go we

778

00:35:41,790 --> 00:35:39,430

want to explore out further and that's

779

00:35:43,410 --> 00:35:41,800

why Steven some of these commercial

780

00:35:44,640 --> 00:35:43,420

companies are going to help us get back

781

00:35:48,930 --> 00:35:44,650

and forth to the International Space

782

00:35:52,260 --> 00:35:48,940

Station and that allows us NASA to

783

00:35:57,250 --> 00:35:54,700

anything dad's yeah let me add a little

784

00:36:00,010 --> 00:35:57,260

something I honestly I don't understand

785

00:36:02,620 --> 00:36:00,020

it it seems it seems intuitively obvious

786

00:36:04,030 --> 00:36:02,630

to me that if you look at the history of

787

00:36:05,440 --> 00:36:04,040

our nation particularly in the 20th

788

00:36:06,970 --> 00:36:05,450

century where we came of age and we

789

00:36:09,190 --> 00:36:06,980

became the most powerful nation on the

790

00:36:11,050 --> 00:36:09,200

earth it was because of what we did in

791

00:36:12,970 --> 00:36:11,060

technology you picked the industry we

792

00:36:14,830 --> 00:36:12,980

did it we invested in it we spent the

793

00:36:16,570 --> 00:36:14,840

time in it and the money we invest in

794

00:36:19,150 --> 00:36:16,580

universities like this university right

795

00:36:20,890 --> 00:36:19,160

here to do research because when you

796

00:36:23,080 --> 00:36:20,900

invest fundamentally invest in things

797

00:36:25,690 --> 00:36:23,090

like research you can try a thousand

798

00:36:27,250 --> 00:36:25,700

things and 999 of them might fail but

799

00:36:28,600 --> 00:36:27,260

that's okay because one of them is going

800

00:36:30,880 --> 00:36:28,610

to succeed and it's going to change the

801

00:36:32,860 --> 00:36:30,890

world in a space world it's the same

802

00:36:35,890 --> 00:36:32,870

thing you know our nation invests in a

803

00:36:39,520 --> 00:36:35,900

space program if you look at the whole

804

00:36:41,500 --> 00:36:39,530

Mercury Gemini Apollo program it was

805

00:36:43,120 --> 00:36:41,510

about a cold war race to beat the beat

806

00:36:44,950 --> 00:36:43,130

the Soviets to the moon I mean that's

807

00:36:47,320 --> 00:36:44,960

what was all about is all about Cold War

808

00:36:49,750 --> 00:36:47,330

but look what came out of it wasn't the

809

00:36:52,000 --> 00:36:49,760

Cold War what came out of it was was

810

00:36:53,650 --> 00:36:52,010

completely changing your life I mean you

811

00:36:55,390 --> 00:36:53,660

kinda look at all the Twitter stuff

812

00:36:57,820 --> 00:36:55,400

that's going on here all electronic

813

00:37:00,730 --> 00:36:57,830

devices you're using all came out of the

814

00:37:01,780 --> 00:37:00,740

space program and in it since it's right

815

00:37:04,000 --> 00:37:01,790

in front of us and I don't know how to

816

00:37:06,550 --> 00:37:04,010

convince people that we have to invest

817

00:37:08,740 --> 00:37:06,560

in math and science we have to excite

818

00:37:11,050 --> 00:37:08,750

our children in math and science because

819

00:37:13,270 --> 00:37:11,060

it's so important and and by the way

820

00:37:15,040 --> 00:37:13,280

it's also really cool it's a lot of fun

821

00:37:17,440 --> 00:37:15,050

we're all in math and science so the

822

00:37:19,750 --> 00:37:17,450

reason I became an astronaut was not so

823

00:37:21,850 --> 00:37:19,760

I could be Stanton you know sitting up

824

00:37:23,500 --> 00:37:21,860

here and and being in front of the media

825

00:37:25,600 --> 00:37:23,510

because that's not my favorite thing to

826

00:37:27,970 --> 00:37:25,610

do the reason I became it is because I

827

00:37:29,320 --> 00:37:27,980

wanted I want it to be able to do math

828

00:37:31,090 --> 00:37:29,330

and science I want to be able to apply

829

00:37:33,550 --> 00:37:31,100

what I learned I wanted to explore new

830

00:37:35,320 --> 00:37:33,560

things and learn new things and it's

831

00:37:36,790 --> 00:37:35,330

it's what it's what's made our country's

832

00:37:38,380 --> 00:37:36,800

strong it will continue to make our

833

00:37:41,860 --> 00:37:38,390

country strong and it will make our

834

00:37:43,660 --> 00:37:41,870

country week if we don't so I I don't

835

00:37:45,490 --> 00:37:43,670

know I don't know how to convince people

836

00:37:49,480 --> 00:37:45,500

that but it seems intuitively obvious to

837

00:37:51,370 --> 00:37:49,490

me I think what we can do NASA can do is

838

00:37:53,530 --> 00:37:51,380

to get the message out better I think

839

00:37:57,340 --> 00:37:53,540

Charlie looted it to it earlier in his

840

00:37:59,380 --> 00:37:57,350

comments you know we NASA need to take

841

00:38:01,600 --> 00:37:59,390

advantage of as many opportunities as we

842

00:38:03,550 --> 00:38:01,610

can like Twitter and anything that we

843

00:38:05,150 --> 00:38:03,560

can do to get the message out that

844

00:38:06,799 --> 00:38:05,160

what's going on at NASA

845

00:38:09,680 --> 00:38:06,809

think we as astronauts have always

846

00:38:11,750 --> 00:38:09,690

thought you know if the if the people in

847

00:38:13,520 --> 00:38:11,760

the United States knew all of the great

848

00:38:15,500 --> 00:38:13,530

things that NASA does you know they

849

00:38:16,819 --> 00:38:15,510

would really be impressed you know so we

850

00:38:18,500 --> 00:38:16,829

just need to keep working at that that's

851  
00:38:23,470 --> 00:38:18,510  
not something that you can do but but we

852  
00:38:26,089 --> 00:38:23,480  
can work on that okay right here just

853  
00:38:28,069 --> 00:38:26,099  
first off money with stain th Rex I

854  
00:38:31,880 --> 00:38:28,079  
wanted to take them over to thank you

855  
00:38:35,620 --> 00:38:31,890  
NASA for supporting the tweetup events

856  
00:38:40,370 --> 00:38:35,630  
both personally and a programmatic basis

857  
00:38:42,170 --> 00:38:40,380  
in terms of a moment of levity we have

858  
00:38:43,700 --> 00:38:42,180  
several civilian spacecraft coming up

859  
00:38:44,839 --> 00:38:43,710  
just by show of hands you know if

860  
00:38:46,670 --> 00:38:44,849  
something is ready in the next two or

861  
00:38:52,059 --> 00:38:46,680  
three years for man's manned spaceflight

862  
00:38:57,500 --> 00:38:56,089  
what's the question I am sweet jump on I

863  
00:38:59,180 --> 00:38:57,510

didn't even no way into the candy thing

864

00:39:01,670 --> 00:38:59,190

I assume the question was who's who

865

00:39:03,200 --> 00:39:01,680

wants to jump exactly I'm in and among

866

00:39:06,480 --> 00:39:03,210

the tweeps that happen to be in the room

867

00:39:14,470 --> 00:39:11,370

thank you gentlemen okay back there

868

00:39:16,960 --> 00:39:14,480

again I want to thank you on behalf of

869

00:39:18,430 --> 00:39:16,970

everybody here I my name is stuart smith

870

00:39:20,110 --> 00:39:18,440

on the Cleveland area are very active in

871

00:39:22,960 --> 00:39:20,120

social media so we're all very excited

872

00:39:24,970 --> 00:39:22,970

to be here today I remember as a youth

873

00:39:27,220 --> 00:39:24,980

being active in Scouting and I would go

874

00:39:28,300 --> 00:39:27,230

to a national scout jamboree and hear

875

00:39:30,580 --> 00:39:28,310

about the future of the space shuttle

876

00:39:32,290 --> 00:39:30,590

and it really got me excited in this

877

00:39:34,690 --> 00:39:32,300

they were showing models and everything

878

00:39:36,610 --> 00:39:34,700

so I was really shocked when I saw the

879

00:39:38,500 --> 00:39:36,620

Space Shuttle discontinued so if you can

880

00:39:40,900 --> 00:39:38,510

give me a little bit so I can share with

881

00:39:43,030 --> 00:39:40,910

others what is the vision because that

882

00:39:45,040 --> 00:39:43,040

for me and you know again I'm not as

883

00:39:46,990 --> 00:39:45,050

involved as a lot of people here that go

884

00:39:48,910 --> 00:39:47,000

to a lot of your more NASA event so what

885

00:39:51,130 --> 00:39:48,920

is division for this rocket system

886

00:39:53,530 --> 00:39:51,140

that's coming up and is that the

887

00:39:58,060 --> 00:39:53,540

definite path and is it a us a path

888

00:40:00,100 --> 00:39:58,070

thank you All Stars and smooth well you

889

00:40:02,770 --> 00:40:00,110

know like any transportation system and

890

00:40:06,490 --> 00:40:02,780

you heard senator Glenn mention this as

891

00:40:08,290 --> 00:40:06,500

well as Charlie that as we progress in a

892

00:40:10,330 --> 00:40:08,300

transportation system airplanes were no

893

00:40:13,150 --> 00:40:10,340

different I mean airplanes started off a

894

00:40:16,960 --> 00:40:13,160

hundred years ago very very rudimentary

895

00:40:18,520 --> 00:40:16,970

airplanes and then we built on that and

896

00:40:20,800 --> 00:40:18,530

and there was a big propulsion

897

00:40:23,650 --> 00:40:20,810

breakthrough when the jet engine was

898

00:40:26,560 --> 00:40:23,660

invented and then all of a sudden today

899

00:40:29,320 --> 00:40:26,570

we fly airplanes coast to coast it's

900

00:40:31,000 --> 00:40:29,330

it's a commonplace thing and space is no

901  
00:40:32,500 --> 00:40:31,010  
different it's going to be an evolution

902  
00:40:34,210 --> 00:40:32,510  
and we're going to go from vehicle to

903  
00:40:37,540 --> 00:40:34,220  
vehicle where to stand on the shoulders

904  
00:40:39,790 --> 00:40:37,550  
of the previous vehicle and so to enable

905  
00:40:41,350 --> 00:40:39,800  
the the funds and to recognize that the

906  
00:40:44,110 --> 00:40:41,360  
shuttle was a mainstay of our space

907  
00:40:46,630 --> 00:40:44,120  
program for many many years and stunned

908  
00:40:49,180 --> 00:40:46,640  
many great things we want to invest in

909  
00:40:50,530 --> 00:40:49,190  
the next step and so what is that step

910  
00:40:52,020 --> 00:40:50,540  
well there's lots of things to do we

911  
00:40:54,760 --> 00:40:52,030  
want to get to the space station first

912  
00:40:56,110 --> 00:40:54,770  
but we also want to go outside of the

913  
00:40:58,510 --> 00:40:56,120

low Earth orbit we want to get to the

914

00:41:00,340 --> 00:40:58,520

moon and eventually to Mars and out of

915

00:41:01,720 --> 00:41:00,350

the solar system now to do that we're

916

00:41:04,810 --> 00:41:01,730

going to need a new propulsion system

917

00:41:07,750 --> 00:41:04,820

which goes back on the on the point of

918

00:41:09,520 --> 00:41:07,760

getting our kids energized somebody out

919

00:41:11,550 --> 00:41:09,530

there is going to come up with that new

920

00:41:14,200 --> 00:41:11,560

idea that's going to get us that

921

00:41:17,830 --> 00:41:14,210

incremental breakthrough just boom right

922

00:41:19,960 --> 00:41:17,840

past the the technology that we've got

923

00:41:27,430 --> 00:41:19,970

today and get us to

924

00:41:28,570 --> 00:41:27,440

places far away from our earth I don't

925

00:41:30,130 --> 00:41:28,580

know if you I don't know if your

926

00:41:32,290 --> 00:41:30,140

question was specifically like what's

927

00:41:38,730 --> 00:41:32,300

what's NASA's plan what's next for NASA

928

00:41:45,970 --> 00:41:41,230

box that was that was brilliant that was

929

00:41:47,339 --> 00:41:45,980

right on i think eloquent yeah i tried

930

00:41:50,650 --> 00:41:47,349

to talk about it a little bit before

931

00:41:54,430 --> 00:41:50,660

what NASA's doing inside NASA we are

932

00:41:56,680 --> 00:41:54,440

building a new crew module a new crude

933

00:41:58,420 --> 00:41:56,690

vehicle it's called Orion and that's

934

00:42:01,330 --> 00:41:58,430

being we're gonna have our first flight

935

00:42:03,280 --> 00:42:01,340

test on that in 2014 where we're going

936

00:42:04,720 --> 00:42:03,290

to send it out of low-earth orbit we're

937

00:42:06,310 --> 00:42:04,730

going to send it out and then bring it

938

00:42:10,300 --> 00:42:06,320

back in and it's going to do a re-entry

939

00:42:13,359 --> 00:42:10,310

test to test some of the protection

940

00:42:15,099 --> 00:42:13,369

system you know the the heat shield so

941

00:42:17,050 --> 00:42:15,109

that we can reenter it back to the

942

00:42:20,650 --> 00:42:17,060

Earth's atmosphere safely that's the

943

00:42:23,050 --> 00:42:20,660

first test in 2007 2017 we're going to

944

00:42:24,849 --> 00:42:23,060

do with the first unmanned test of this

945

00:42:27,670 --> 00:42:24,859

vehicle where we're going to send it

946

00:42:29,079 --> 00:42:27,680

around the moon again not land on the

947

00:42:31,240 --> 00:42:29,089

moon but send it around the moon into a

948

00:42:34,210 --> 00:42:31,250

lunar orbit and then the plan is in 2021

949

00:42:37,870 --> 00:42:34,220

to do a manned flight of this system

950

00:42:41,589 --> 00:42:37,880

around the moon so along with this new

951  
00:42:44,859 --> 00:42:41,599  
crew capsule we're also building a new

952  
00:42:47,200 --> 00:42:44,869  
space launch system sls and it's a big

953  
00:42:49,150 --> 00:42:47,210  
rocket bigger than the Saturn five that

954  
00:42:51,339 --> 00:42:49,160  
went to the moon okay that's that's

955  
00:42:53,829 --> 00:42:51,349  
going to be our next big heavy lift

956  
00:42:55,180 --> 00:42:53,839  
vehicle okay so that's what NASA is

957  
00:42:57,790 --> 00:42:55,190  
doing and that's to get out of low-earth

958  
00:43:00,040 --> 00:42:57,800  
orbit to go back to the moon asteroids

959  
00:43:03,820 --> 00:43:00,050  
and to Mars some day that's going to be

960  
00:43:06,070 --> 00:43:03,830  
the system that gets us there now closer

961  
00:43:07,480 --> 00:43:06,080  
to home and in the short term we need to

962  
00:43:08,980 --> 00:43:07,490  
get back and forth to the International

963  
00:43:12,370 --> 00:43:08,990

Space Station as you've heard everybody

964

00:43:14,140 --> 00:43:12,380

say we're a single string to get there

965

00:43:15,609 --> 00:43:14,150

and we're not only are we single string

966

00:43:18,160 --> 00:43:15,619

we're a single string to the Russians

967

00:43:20,170 --> 00:43:18,170

okay they've been a great partner but

968

00:43:21,849 --> 00:43:20,180

gosh we ought to have an American rocket

969

00:43:30,089 --> 00:43:21,859

to get Americans to space don't you

970

00:43:35,470 --> 00:43:32,859

so that's why Massa is providing money

971

00:43:37,420 --> 00:43:35,480

to several companies in competition and

972

00:43:40,599 --> 00:43:37,430

Steve now works for one of those

973

00:43:44,319 --> 00:43:40,609

companies that are working on a rocket

974

00:43:46,270 --> 00:43:44,329

and a capsule or us or a vehicle not

975

00:43:47,710 --> 00:43:46,280

just a capsule but a vehicle to get us

976  
00:43:49,720 --> 00:43:47,720  
back and forth to the International

977  
00:43:53,710 --> 00:43:49,730  
Space Station and I'll you know Steve if

978  
00:43:59,349 --> 00:43:53,720  
you want to recuse yourself from that

979  
00:44:00,970 --> 00:43:59,359  
question so well and so there's several

980  
00:44:04,390 --> 00:44:00,980  
commercial companies and what we're

981  
00:44:06,310 --> 00:44:04,400  
doing is we're using what what Mike

982  
00:44:08,170 --> 00:44:06,320  
described as a traditional approach to

983  
00:44:10,480 --> 00:44:08,180  
acquisition of systems that NASA is

984  
00:44:12,700 --> 00:44:10,490  
using to get out of low-earth orbit to

985  
00:44:15,250 --> 00:44:12,710  
to get into low-earth orbit and do the

986  
00:44:16,930 --> 00:44:15,260  
space station mission what they're

987  
00:44:18,250 --> 00:44:16,940  
trying to do is incentivize commercial

988  
00:44:21,190 --> 00:44:18,260

companies working alongside with

989

00:44:24,250 --> 00:44:21,200

commercial companies in a in a in a

990

00:44:25,870 --> 00:44:24,260

competition nature to in our job is to

991

00:44:28,329 --> 00:44:25,880

get to low-earth orbit as fast as we can

992

00:44:31,660 --> 00:44:28,339

safely with humans and so we're working

993

00:44:33,160 --> 00:44:31,670

on that I'm working for a company

994

00:44:34,690 --> 00:44:33,170

called Sierra Nevada we're working on a

995

00:44:36,339 --> 00:44:34,700

lifting body spacecraft like a mini

996

00:44:38,410 --> 00:44:36,349

space shuttle there are several other

997

00:44:40,240 --> 00:44:38,420

companies Boeing's working on as a

998

00:44:41,920 --> 00:44:40,250

capsule they're working on SpaceX has a

999

00:44:43,410 --> 00:44:41,930

capsule that they're working on the

1000

00:44:46,920 --> 00:44:43,420

origin as capsule they're working on

1001  
00:44:50,020 --> 00:44:46,930  
Excalibur Almaz is one am I missing I

1002  
00:44:52,910 --> 00:44:50,030  
think that was a United Launch Alliance

1003  
00:44:55,140 --> 00:44:52,920  
which are building the rocket there

1004  
00:45:00,300 --> 00:44:55,150  
our job is get to low Earth orbit as

1005  
00:45:03,030 --> 00:45:00,310  
soon as possible and helped on so the

1006  
00:45:05,280 --> 00:45:03,040  
ideas work faster get it done cheaper

1007  
00:45:07,590 --> 00:45:05,290  
turnaround costs lower you know provide

1008  
00:45:09,120 --> 00:45:07,600  
that and do that that work for NASA so

1009  
00:45:12,090 --> 00:45:09,130  
NASA can focus and resources on

1010  
00:45:13,770 --> 00:45:12,100  
exploration and and just to scope it out

1011  
00:45:16,110 --> 00:45:13,780  
that we're looking for in the next five

1012  
00:45:18,470 --> 00:45:16,120  
years we hope to you know have this kind

1013  
00:45:21,840 --> 00:45:18,480

of a system ready to go and operational

1014

00:45:23,640 --> 00:45:21,850

okay well what I want to say is we had

1015

00:45:26,790 --> 00:45:23,650

the pleasure of you know hearing from

1016

00:45:29,970 --> 00:45:26,800

sundry Glenn who obviously is a hero but

1017

00:45:31,800 --> 00:45:29,980

I I I look to these guys also for the

1018

00:45:34,320 --> 00:45:31,810

dangers that they put themselves in

1019

00:45:36,900 --> 00:45:34,330

front of both in their military and nasa

1020

00:45:39,290 --> 00:45:36,910

careers to fly in space and that's the

1021

00:45:41,550 --> 00:45:39,300

real inspiration from my perspective for

1022

00:45:42,870 --> 00:45:41,560

science and engineering and math so I