



1
00:00:05,910 --> 00:00:04,630
well good evening ladies and gentlemen

2
00:00:07,430 --> 00:00:05,920
i'm jack daly director of the

3
00:00:09,509 --> 00:00:07,440
smithsonian's national air and space

4
00:00:10,790 --> 00:00:09,519
museum and it's my honor to welcome you

5
00:00:14,310 --> 00:00:10,800
this evening

6
00:00:17,510 --> 00:00:14,320
to the ninth annual john glenn lecture

7
00:00:19,029 --> 00:00:17,520
since it was inaugurated in 2004 this

8
00:00:21,590 --> 00:00:19,039
lecture stands out as one of the most

9
00:00:24,310 --> 00:00:21,600
popular events of our annual calendar

10
00:00:25,910 --> 00:00:24,320
and tonight is no exception

11
00:00:28,150 --> 00:00:25,920
in addition to the hundreds of people

12
00:00:29,509 --> 00:00:28,160
who secured tickets to be with us this

13
00:00:31,349 --> 00:00:29,519

evening

14

00:00:33,350 --> 00:00:31,359

thousands more will be watching on our

15

00:00:35,270 --> 00:00:33,360

webcast

16

00:00:37,110 --> 00:00:35,280

as it was last year the lecture is made

17

00:00:38,709 --> 00:00:37,120

possible through the generous support of

18

00:00:40,549 --> 00:00:38,719

the boeing company

19

00:00:42,310 --> 00:00:40,559

over the years boeing has partnered with

20

00:00:43,430 --> 00:00:42,320

the smithsonian on many important

21

00:00:45,350 --> 00:00:43,440

projects

22

00:00:47,590 --> 00:00:45,360

including construction of the stephen f

23

00:00:50,150 --> 00:00:47,600

udrahasi center

24

00:00:51,510 --> 00:00:50,160

the building's central hangar is named

25

00:00:54,150 --> 00:00:51,520

the boeing aviation hangar in

26

00:00:55,510 --> 00:00:54,160

recognition of this support

27

00:00:57,910 --> 00:00:55,520

representing the boeing company here

28

00:00:59,510 --> 00:00:57,920

tonight is mr leo brooks vice president

29

00:01:01,189 --> 00:00:59,520

national security and space group of

30

00:01:08,149 --> 00:01:01,199

government operations and leo would you

31

00:01:11,750 --> 00:01:09,910

it's important to note that none of

32

00:01:14,469 --> 00:01:11,760

these programs would be possible without

33

00:01:16,310 --> 00:01:14,479

sponsorship so if we if we weren't

34

00:01:18,789 --> 00:01:16,320

didn't have these sponsors we wouldn't

35

00:01:20,469 --> 00:01:18,799

have the program so we really are most

36

00:01:21,910 --> 00:01:20,479

appreciative of

37

00:01:24,149 --> 00:01:21,920

of the support that we've had from

38

00:01:25,830 --> 00:01:24,159

boeing over the years

39

00:01:28,310 --> 00:01:25,840

one of the reasons for the success of

40

00:01:30,710 --> 00:01:28,320

the john h glenn lecture is its namesake

41

00:01:34,069 --> 00:01:30,720

who is here with us tonight he has been

42

00:01:35,990 --> 00:01:34,079

for every program since the series began

43

00:01:37,270 --> 00:01:36,000

senator glenn thank you for all you have

44

00:01:38,789 --> 00:01:37,280

done for our country and for the

45

00:01:41,270 --> 00:01:38,799

smithsonian's national air and space

46

00:01:43,510 --> 00:01:41,280

museum both you and annie have supported

47

00:01:45,510 --> 00:01:43,520

many projects and after activities here

48

00:01:47,429 --> 00:01:45,520

at the museum over the years

49

00:01:49,429 --> 00:01:47,439

at programs and educational events you

50

00:01:51,590 --> 00:01:49,439

have inspired people of all ages to

51
00:01:53,270 --> 00:01:51,600
learn about the history of flight

52
00:01:55,190 --> 00:01:53,280
your dedication to education

53
00:01:57,910 --> 00:01:55,200
particularly the stem disciplines of

54
00:01:59,670 --> 00:01:57,920
science technology engineering and math

55
00:02:01,429 --> 00:01:59,680
will help ensure america remains

56
00:02:03,990 --> 00:02:01,439
competitive in its commitment to the

57
00:02:05,510 --> 00:02:04,000
future space exploration

58
00:02:08,229 --> 00:02:05,520
beginning with the centennial of the

59
00:02:09,270 --> 00:02:08,239
wright brothers flight in 2003

60
00:02:11,190 --> 00:02:09,280
there have been a series of

61
00:02:12,790 --> 00:02:11,200
anniversaries marking the first uses of

62
00:02:14,390 --> 00:02:12,800
aircraft by different branches of the

63
00:02:16,309 --> 00:02:14,400

armed forces

64

00:02:17,990 --> 00:02:16,319

the museum has participated in all of

65

00:02:21,110 --> 00:02:18,000

these occasions and this year we are

66

00:02:23,270 --> 00:02:21,120

recognizing the marine corps

67

00:02:24,949 --> 00:02:23,280

in january we opened fly marines

68

00:02:27,510 --> 00:02:24,959

centennial of marine corps aviation

69

00:02:28,949 --> 00:02:27,520

1912-2012

70

00:02:30,949 --> 00:02:28,959

presented in partnership with the

71

00:02:33,670 --> 00:02:30,959

national museum of the marine corps the

72

00:02:37,190 --> 00:02:33,680

exhibition features 91 works of art by

73

00:02:39,990 --> 00:02:37,200

marine artists many of them perform or

74

00:02:41,830 --> 00:02:40,000

painting in combat situations

75

00:02:44,390 --> 00:02:41,840

since january we've incorporated the

76

00:02:47,509 --> 00:02:44,400

mean marine aviation theme into our

77

00:02:49,270 --> 00:02:47,519

programs including tonight's lecture

78

00:02:51,030 --> 00:02:49,280

i'm proud to say we have an all marine

79

00:02:53,030 --> 00:02:51,040

lineup this evening

80

00:02:54,630 --> 00:02:53,040

both senator glenn and our speaker began

81

00:02:56,710 --> 00:02:54,640

their distinguished careers in the front

82

00:02:57,830 --> 00:02:56,720

lines of skilled and courageous marine

83

00:02:59,830 --> 00:02:57,840

aviators

84

00:03:02,229 --> 00:02:59,840

to get the program started it's my great

85

00:03:04,790 --> 00:03:02,239

honor and privilege to introduce one of

86

00:03:15,030 --> 00:03:04,800

america's great heroes senator john

87

00:03:20,229 --> 00:03:17,110

thank you jack and thank you ladies and

88

00:03:22,869 --> 00:03:20,239

gentlemen you know it's a uh

89

00:03:24,949 --> 00:03:22,879

pleasure to be here on this

90

00:03:26,149 --> 00:03:24,959

special occasion the ninth anniversary

91

00:03:27,670 --> 00:03:26,159

hard to believe that we've been doing

92

00:03:29,670 --> 00:03:27,680

these now for

93

00:03:32,550 --> 00:03:29,680

uh nine years next year will be our 10th

94

00:03:34,229 --> 00:03:32,560

anniversary hard to believe on that one

95

00:03:36,390 --> 00:03:34,239

but you know compare if you think about

96

00:03:40,070 --> 00:03:36,400

our country and compared to

97

00:03:45,990 --> 00:03:42,070

our history shows that we moved ahead

98

00:03:48,869 --> 00:03:46,000

more rapidly in many different areas

99

00:03:51,350 --> 00:03:48,879

than other nations around the world

100

00:03:53,910 --> 00:03:51,360

and there were reasons for that

101
00:03:56,070 --> 00:03:53,920
i think education became for everybody

102
00:03:58,229 --> 00:03:56,080
in this country we put more emphasis on

103
00:04:00,149 --> 00:03:58,239
research we learned the new

104
00:04:03,030 --> 00:04:00,159
and with an educated citizenry a little

105
00:04:04,550 --> 00:04:03,040
bit of investment in the way we went

106
00:04:06,470 --> 00:04:04,560
it's almost unbelievable that this

107
00:04:08,789 --> 00:04:06,480
country went from a two or three million

108
00:04:11,830 --> 00:04:08,799
people along the east coast

109
00:04:12,949 --> 00:04:11,840
uh to a world leader in just about 125

110
00:04:14,390 --> 00:04:12,959
years

111
00:04:15,910 --> 00:04:14,400
which i don't think has ever happened

112
00:04:18,229 --> 00:04:15,920
before in

113
00:04:20,550 --> 00:04:18,239

in history

114

00:04:21,990 --> 00:04:20,560

as an example of that in 1903 the wright

115

00:04:23,110 --> 00:04:22,000

brothers

116

00:04:24,950 --> 00:04:23,120

launched the

117

00:04:27,270 --> 00:04:24,960

air age with their

118

00:04:28,870 --> 00:04:27,280

achievements at kitty hawk

119

00:04:30,710 --> 00:04:28,880

in just a few years one many years

120

00:04:32,790 --> 00:04:30,720

before airplanes were being pressed into

121

00:04:34,950 --> 00:04:32,800

service by the military

122

00:04:36,150 --> 00:04:34,960

remember rickenbacker and setting new

123

00:04:39,189 --> 00:04:36,160

records of

124

00:04:41,430 --> 00:04:39,199

of combat in europe at that time my dad

125

00:04:43,590 --> 00:04:41,440

was in world war one remember seeing

126
00:04:44,870 --> 00:04:43,600
talk to me about airplanes he saw flying

127
00:04:47,830 --> 00:04:44,880
overhead

128
00:04:50,070 --> 00:04:47,840
and that was only about 14 13 14 years

129
00:04:51,430 --> 00:04:50,080
after the maybe 15 years after the

130
00:04:53,670 --> 00:04:51,440
wright brothers

131
00:04:55,749 --> 00:04:53,680
so we went ahead very very rapidly in

132
00:04:56,710 --> 00:04:55,759
those days and it was only about

133
00:04:59,590 --> 00:04:56,720
another

134
00:05:00,870 --> 00:04:59,600
59 years we did orbital flight in 66

135
00:05:02,629 --> 00:05:00,880
years neil

136
00:05:04,710 --> 00:05:02,639
armstrong landed on the moon it was an

137
00:05:06,150 --> 00:05:04,720
almost unbelievable

138
00:05:08,310 --> 00:05:06,160

progression

139

00:05:10,310 --> 00:05:08,320

a this year we're celebrating the

140

00:05:11,749 --> 00:05:10,320

centennial of marine aviation as jack

141

00:05:14,150 --> 00:05:11,759

said

142

00:05:15,830 --> 00:05:14,160

and our speaker has a 34-year career in

143

00:05:18,469 --> 00:05:15,840

the marine corps

144

00:05:19,749 --> 00:05:18,479

and for 14 of those years he served as

145

00:05:22,469 --> 00:05:19,759

in the uh

146

00:05:25,270 --> 00:05:22,479

with nasa's astronauts

147

00:05:27,189 --> 00:05:25,280

when i began to fly in 1942 the

148

00:05:28,550 --> 00:05:27,199

prospect of space flight just wasn't

149

00:05:31,270 --> 00:05:28,560

there yet

150

00:05:33,189 --> 00:05:31,280

uh nobody had any concepts of that

151

00:05:35,110 --> 00:05:33,199

there were books that uh touted what

152

00:05:36,950 --> 00:05:35,120

buck rogers would do or

153

00:05:38,790 --> 00:05:36,960

or flash gordon

154

00:05:39,990 --> 00:05:38,800

or somebody like that and i see a few

155

00:05:41,670 --> 00:05:40,000

smiles here

156

00:05:42,950 --> 00:05:41,680

some of you read those same things when

157

00:05:43,909 --> 00:05:42,960

i did

158

00:05:45,510 --> 00:05:43,919

and

159

00:05:46,710 --> 00:05:45,520

we thought things like

160

00:05:48,230 --> 00:05:46,720

there were little jokes and i don't

161

00:05:50,390 --> 00:05:48,240

remember the joke i remember the punch

162

00:05:54,070 --> 00:05:50,400

line at the end take it once more around

163

00:05:57,430 --> 00:05:54,080

buck rogers flash gordon's on final

164

00:05:58,550 --> 00:05:57,440

well that was a joke in those days

165

00:06:00,710 --> 00:05:58,560

until

166

00:06:02,790 --> 00:06:00,720

i was on a space flight where we were 20

167

00:06:04,150 --> 00:06:02,800

seconds from saying go around again and

168

00:06:06,870 --> 00:06:04,160

land at edwards

169

00:06:08,469 --> 00:06:06,880

because the weather was bad at the cape

170

00:06:09,830 --> 00:06:08,479

take it once around again charlie i

171

00:06:11,830 --> 00:06:09,840

don't know when you're you're on four

172

00:06:13,909 --> 00:06:11,840

flights i don't know whether you had to

173

00:06:15,990 --> 00:06:13,919

go around again or not on that

174

00:06:17,029 --> 00:06:16,000

but that had delay

175

00:06:20,230 --> 00:06:17,039

but uh

176
00:06:21,909 --> 00:06:20,240
that just shows how fast we went ahead

177
00:06:26,710 --> 00:06:21,919
in this country

178
00:06:31,350 --> 00:06:29,350
there was no such word as astronaut

179
00:06:32,710 --> 00:06:31,360
hadn't been invented yet

180
00:06:34,070 --> 00:06:32,720
because nobody had done any of that we

181
00:06:36,469 --> 00:06:34,080
didn't need a word for that because

182
00:06:38,150 --> 00:06:36,479
nobody was even contemplating doing that

183
00:06:39,909 --> 00:06:38,160
at that time

184
00:06:42,469 --> 00:06:39,919
and the

185
00:06:44,309 --> 00:06:42,479
yet by 1959

186
00:06:46,150 --> 00:06:44,319
when i was accepted into the

187
00:06:47,909 --> 00:06:46,160
mercury program

188
00:06:49,510 --> 00:06:47,919

human space flight was on the verge of

189

00:06:50,950 --> 00:06:49,520

reality

190

00:06:53,189 --> 00:06:50,960

all the training i received in the

191

00:06:54,390 --> 00:06:53,199

astronaut corps was arduous

192

00:06:56,469 --> 00:06:54,400

i think the

193

00:06:58,309 --> 00:06:56,479

marine corps background that we're

194

00:06:59,990 --> 00:06:58,319

talking about here this year

195

00:07:02,390 --> 00:07:00,000

was particularly good

196

00:07:04,230 --> 00:07:02,400

training for going into space

197

00:07:07,510 --> 00:07:04,240

just for the the

198

00:07:09,510 --> 00:07:07,520

aspect of it being arduous training

199

00:07:11,430 --> 00:07:09,520

and the experience you have in combat or

200

00:07:13,189 --> 00:07:11,440

in doing test pilot work

201
00:07:15,430 --> 00:07:13,199
that we did in the marine corps and that

202
00:07:16,950 --> 00:07:15,440
charlie did also

203
00:07:18,390 --> 00:07:16,960
these are things that i think were

204
00:07:20,390 --> 00:07:18,400
pretty good training

205
00:07:23,189 --> 00:07:20,400
for what we were looking at in the

206
00:07:25,510 --> 00:07:23,199
astronaut program in the early days

207
00:07:27,749 --> 00:07:25,520
and our speaker tonight

208
00:07:28,790 --> 00:07:27,759
traveled somewhat that same path that i

209
00:07:31,350 --> 00:07:28,800
did

210
00:07:33,510 --> 00:07:31,360
although began his uh career a couple of

211
00:07:35,510 --> 00:07:33,520
decades after i did

212
00:07:37,510 --> 00:07:35,520
hate to believe i'm that much older than

213
00:07:39,189 --> 00:07:37,520

charlie but uh i guess i have to face

214

00:07:41,029 --> 00:07:39,199

facts

215

00:07:42,870 --> 00:07:41,039

charlie was born in south columbia south

216

00:07:44,469 --> 00:07:42,880

carolina 46

217

00:07:45,830 --> 00:07:44,479

when he graduated from high school he

218

00:07:47,189 --> 00:07:45,840

received an appointment to the naval

219

00:07:48,469 --> 00:07:47,199

academy

220

00:07:49,830 --> 00:07:48,479

received degree in electrical

221

00:07:51,110 --> 00:07:49,840

engineering and science he was

222

00:07:52,390 --> 00:07:51,120

commissioned a second lieutenant the

223

00:07:55,430 --> 00:07:52,400

marine corps

224

00:07:57,110 --> 00:07:55,440

1970 became a naval aviator

225

00:07:59,110 --> 00:07:57,120

and i think most people here probably

226

00:08:01,589 --> 00:07:59,120

know but maybe not everyone

227

00:08:03,589 --> 00:08:01,599

that all marine pilots go through naval

228

00:08:04,629 --> 00:08:03,599

aviation training naval aviation flight

229

00:08:05,909 --> 00:08:04,639

school

230

00:08:07,189 --> 00:08:05,919

and then get their commissions in the

231

00:08:09,110 --> 00:08:07,199

marine corps

232

00:08:11,110 --> 00:08:09,120

but as a naval aviator he flew more than

233

00:08:13,350 --> 00:08:11,120

100 combat missions in north and south

234

00:08:14,550 --> 00:08:13,360

vietnam and laos and cambodia based out

235

00:08:16,230 --> 00:08:14,560

of thailand

236

00:08:17,909 --> 00:08:16,240

much of that time

237

00:08:19,510 --> 00:08:17,919

upon returning to the states general

238

00:08:21,029 --> 00:08:19,520

bolden served in a number of positions

239

00:08:22,469 --> 00:08:21,039

in the marine corps

240

00:08:24,550 --> 00:08:22,479

he was selected as an astronaut

241

00:08:26,430 --> 00:08:24,560

candidate in 1980

242

00:08:29,670 --> 00:08:26,440

remained in the astronaut corps until

243

00:08:33,110 --> 00:08:29,680

1994 when he returned to active duty

244

00:08:35,029 --> 00:08:33,120

as a deputy commandant a midshipman

245

00:08:37,430 --> 00:08:35,039

at the naval academy

246

00:08:39,589 --> 00:08:37,440

now i want to stress that because

247

00:08:42,149 --> 00:08:39,599

they don't just pick anybody off the

248

00:08:46,230 --> 00:08:42,159

list of for assignment

249

00:08:48,949 --> 00:08:46,240

for those jobs to be to hit up the

250

00:08:51,990 --> 00:08:48,959

sections of the that run the

251

00:08:53,990 --> 00:08:52,000

the students at the naval academy

252

00:08:56,230 --> 00:08:54,000

they just don't do that they pick people

253

00:08:58,389 --> 00:08:56,240

not only for their past record

254

00:09:00,790 --> 00:08:58,399

but also as people i think will be a

255

00:09:03,030 --> 00:09:00,800

role model

256

00:09:04,230 --> 00:09:03,040

for those people that they're overseeing

257

00:09:05,829 --> 00:09:04,240

over there

258

00:09:07,670 --> 00:09:05,839

and charlie was selected for that

259

00:09:09,110 --> 00:09:07,680

position

260

00:09:11,110 --> 00:09:09,120

he would not have been commanding

261

00:09:13,030 --> 00:09:11,120

general later on in support of operation

262

00:09:15,750 --> 00:09:13,040

desert thunder in kuwait

263

00:09:17,990 --> 00:09:15,760

he retired in the military in 94

264

00:09:21,030 --> 00:09:18,000

but his career as an astronaut is as

265

00:09:23,430 --> 00:09:21,040

distinguished as his career in the core

266

00:09:24,870 --> 00:09:23,440

he traveled into orbit four times aboard

267

00:09:26,310 --> 00:09:24,880

the space shuttle

268

00:09:27,430 --> 00:09:26,320

and he was commander of two of those

269

00:09:31,350 --> 00:09:27,440

missions

270

00:09:33,269 --> 00:09:31,360

hubble space telescope and we walked by

271

00:09:36,389 --> 00:09:33,279

there just a few moments ago of the

272

00:09:38,470 --> 00:09:36,399

hubble that full-size

273

00:09:39,670 --> 00:09:38,480

vision of the hubble out there

274

00:09:41,829 --> 00:09:39,680

and you can

275

00:09:44,230 --> 00:09:41,839

if anybody ever asks you what the size

276
00:09:46,230 --> 00:09:44,240
of the cargo bay was

277
00:09:48,710 --> 00:09:46,240
on the shuttle you can tell them exactly

278
00:09:50,790 --> 00:09:48,720
that size it was built to fit

279
00:09:51,990 --> 00:09:50,800
the cargo bay with just a few inches

280
00:09:54,310 --> 00:09:52,000
here and there

281
00:09:56,230 --> 00:09:54,320
of a spare size

282
00:09:57,750 --> 00:09:56,240
and so that was the

283
00:09:59,190 --> 00:09:57,760
charlie was the one who put hubble up

284
00:10:00,949 --> 00:09:59,200
and it's that

285
00:10:01,870 --> 00:10:00,959
mission has wound up through the years

286
00:10:08,389 --> 00:10:01,880
as

287
00:10:09,590 --> 00:10:08,399
because we've learned so much from that

288
00:10:11,829 --> 00:10:09,600

also was

289

00:10:13,590 --> 00:10:11,839

on the first u.s russian

290

00:10:17,430 --> 00:10:13,600

joint mission

291

00:10:19,670 --> 00:10:17,440

so he's had a very distinguished record

292

00:10:21,829 --> 00:10:19,680

through the years we had a lot of things

293

00:10:23,190 --> 00:10:21,839

happen in the space program

294

00:10:25,430 --> 00:10:23,200

we've talked about some of them here

295

00:10:26,470 --> 00:10:25,440

before in previous lectures and meetings

296

00:10:28,550 --> 00:10:26,480

here

297

00:10:30,310 --> 00:10:28,560

uh some very controversial things as a

298

00:10:34,389 --> 00:10:30,320

matter of fact and

299

00:10:37,269 --> 00:10:34,399

in 2004 in the previous administration

300

00:10:39,190 --> 00:10:37,279

it decided to cancel the shuttle

301
00:10:42,870 --> 00:10:39,200
and so it was against that background in

302
00:10:44,790 --> 00:10:42,880
in 2009 it canceled the shuttle by 2010

303
00:10:46,310 --> 00:10:44,800
which which happened

304
00:10:48,470 --> 00:10:46,320
and it was against that kind of

305
00:10:50,710 --> 00:10:48,480
background that uh

306
00:10:52,470 --> 00:10:50,720
in 2009 he was appointed by president

307
00:10:54,389 --> 00:10:52,480
barack obama to be the 12th

308
00:10:56,230 --> 00:10:54,399
administrator of nasa

309
00:10:58,230 --> 00:10:56,240
he was a great position to be in and a

310
00:11:00,150 --> 00:10:58,240
difficult position to be in

311
00:11:01,430 --> 00:11:00,160
and he's to be complimented for the work

312
00:11:03,110 --> 00:11:01,440
he's done there

313
00:11:05,590 --> 00:11:03,120

so it's my great pleasure to introduce

314

00:11:07,269 --> 00:11:05,600

the administrator of nasa

315

00:11:18,230 --> 00:11:07,279

our good friend the honorable charles

316

00:11:21,590 --> 00:11:20,710

annie good to see you always

317

00:11:23,190 --> 00:11:21,600

um

318

00:11:25,829 --> 00:11:23,200

senator glenn thank you so very much for

319

00:11:27,110 --> 00:11:25,839

the for the very kind introduction he he

320

00:11:29,430 --> 00:11:27,120

told me he was just going to come up and

321

00:11:31,590 --> 00:11:29,440

say okay he has three beautiful

322

00:11:34,470 --> 00:11:31,600

granddaughters they're soon to be six

323

00:11:36,069 --> 00:11:34,480

one's nine and one's 12. and say here's

324

00:11:36,949 --> 00:11:36,079

charlie

325

00:11:38,150 --> 00:11:36,959

but

326

00:11:39,670 --> 00:11:38,160

he didn't do that and i really

327

00:11:42,630 --> 00:11:39,680

appreciate it you know i'll tell you one

328

00:11:44,470 --> 00:11:42,640

story i do have prepared remarks okay

329

00:11:46,870 --> 00:11:44,480

i know you you're looking don't don't

330

00:11:48,310 --> 00:11:46,880

start telling stories i have one quick

331

00:11:49,910 --> 00:11:48,320

story

332

00:11:51,990 --> 00:11:49,920

and it's um

333

00:11:53,990 --> 00:11:52,000

you know without knowing it i i have

334

00:11:56,069 --> 00:11:54,000

been following john

335

00:11:58,310 --> 00:11:56,079

jackie my wife and i have been following

336

00:12:00,230 --> 00:11:58,320

john and annie glenn

337

00:12:02,790 --> 00:12:00,240

sort of using them as role models

338

00:12:04,949 --> 00:12:02,800

unintended as it may be

339

00:12:06,870 --> 00:12:04,959
and if you uh there is an article

340

00:12:08,069 --> 00:12:06,880
recently written about about their love

341

00:12:10,230 --> 00:12:08,079
affair

342

00:12:13,750 --> 00:12:10,240
and i think it is absolutely incredible

343

00:12:15,910 --> 00:12:13,760
particularly in this day and age uh when

344

00:12:18,550 --> 00:12:15,920
you know love affairs don't

345

00:12:20,069 --> 00:12:18,560
i i don't know that just not like it

346

00:12:21,509 --> 00:12:20,079
used to be

347

00:12:23,030 --> 00:12:21,519
but um

348

00:12:25,670 --> 00:12:23,040
jackie and i

349

00:12:27,350 --> 00:12:25,680
met well we met before but we became

350

00:12:29,509 --> 00:12:27,360
acquainted with each other at the age of

351
00:12:31,750 --> 00:12:29,519
three

352
00:12:33,910 --> 00:12:31,760
and uh our families were good friends my

353
00:12:35,509 --> 00:12:33,920
mom and dad and jackie's mom and dad had

354
00:12:37,670 --> 00:12:35,519
gone to high school together in columbia

355
00:12:39,110 --> 00:12:37,680
south carolina and then off to college

356
00:12:40,550 --> 00:12:39,120
and came back and they all became

357
00:12:43,110 --> 00:12:40,560
teachers but

358
00:12:44,629 --> 00:12:43,120
as the story goes i'm telling you as the

359
00:12:46,389 --> 00:12:44,639
story goes

360
00:12:48,629 --> 00:12:46,399
we were at the beach

361
00:12:50,790 --> 00:12:48,639
in south carolina and my father

362
00:12:53,750 --> 00:12:50,800
told jackie's father to

363
00:12:55,750 --> 00:12:53,760

save that one for charles and that was

364

00:12:57,750 --> 00:12:55,760

me

365

00:13:00,470 --> 00:12:57,760

and that was jackie so we went to

366

00:13:02,870 --> 00:13:00,480

kindergarten together and we we were

367

00:13:04,389 --> 00:13:02,880

apart for elementary school but then

368

00:13:05,269 --> 00:13:04,399

back together for junior high and high

369

00:13:07,110 --> 00:13:05,279

school

370

00:13:08,629 --> 00:13:07,120

and then apart for college and then we

371

00:13:10,310 --> 00:13:08,639

married when we both graduated from

372

00:13:12,550 --> 00:13:10,320

college

373

00:13:14,629 --> 00:13:12,560

as the story goes

374

00:13:16,790 --> 00:13:14,639

john and annie have been together since

375

00:13:18,150 --> 00:13:16,800

they were two

376

00:13:20,790 --> 00:13:18,160

and we talk about it because i think

377

00:13:23,509 --> 00:13:20,800

they actually shared a crib and i'm not

378

00:13:24,550 --> 00:13:23,519

going any further than that

379

00:13:29,430 --> 00:13:24,560

but

380

00:13:31,110 --> 00:13:29,440

you know it it's amazing how my

381

00:13:33,670 --> 00:13:31,120

my background being somebody who never

382

00:13:36,150 --> 00:13:33,680

dreamed of going to space

383

00:13:38,150 --> 00:13:36,160

would so end up following

384

00:13:40,310 --> 00:13:38,160

a an incredible role model like senator

385

00:13:41,590 --> 00:13:40,320

glenn and senator i do thank you very

386

00:13:42,949 --> 00:13:41,600

much for everything that you've done for

387

00:13:44,949 --> 00:13:42,959

the nation

388

00:13:46,470 --> 00:13:44,959

and also for me personally so thank you

389

00:13:48,949 --> 00:13:46,480

very much

390

00:13:51,190 --> 00:13:48,959

i also want to thank general daly and uh

391

00:13:54,790 --> 00:13:51,200

and the team here at uh at the

392

00:13:55,910 --> 00:13:54,800

smithsonian air and space museum and um

393

00:13:57,750 --> 00:13:55,920

uh

394

00:13:59,509 --> 00:13:57,760

it it is just an incredible job that you

395

00:14:01,910 --> 00:13:59,519

do of hosting us all the time that we

396

00:14:02,790 --> 00:14:01,920

come over your hospitality is always so

397

00:14:03,509 --> 00:14:02,800

warm

398

00:14:09,750 --> 00:14:03,519

and

399

00:14:12,870 --> 00:14:09,760

somebody asked me earlier tonight you

400

00:14:14,550 --> 00:14:12,880

know what was it that made general daly

401
00:14:17,269 --> 00:14:14,560
who he is and as good as he is and i

402
00:14:19,030 --> 00:14:17,279
said well first thing is marine

403
00:14:21,030 --> 00:14:19,040
that was easy and i said that was good

404
00:14:23,110 --> 00:14:21,040
prep for this job

405
00:14:25,910 --> 00:14:23,120
senator glenn said it again i and and we

406
00:14:28,629 --> 00:14:25,920
are all proud of of being marines

407
00:14:31,189 --> 00:14:28,639
because that common heritage is is what

408
00:14:32,710 --> 00:14:31,199
makes us who we are and i'm and i i i'm

409
00:14:34,870 --> 00:14:32,720
saying i'm babbling here because i want

410
00:14:36,710 --> 00:14:34,880
to talk about very quickly

411
00:14:39,269 --> 00:14:36,720
uh ceremony that i attended earlier

412
00:14:41,110 --> 00:14:39,279
today because i'm a i am a somewhat

413
00:14:43,189 --> 00:14:41,120

unique individual and and all of us

414

00:14:44,710 --> 00:14:43,199

stand on the shoulders of giants i think

415

00:14:46,230 --> 00:14:44,720

i think anybody would say that but i'm

416

00:14:47,189 --> 00:14:46,240

especially blessed

417

00:14:50,389 --> 00:14:47,199

because

418

00:14:52,949 --> 00:14:50,399

i had the the opportunity to attend

419

00:14:54,389 --> 00:14:52,959

a congressional gold medal ceremony this

420

00:14:56,389 --> 00:14:54,399

afternoon

421

00:14:57,509 --> 00:14:56,399

for a group of men the montford point

422

00:14:58,949 --> 00:14:57,519

marines

423

00:14:59,910 --> 00:14:58,959

and not many of you have ever heard of

424

00:15:03,910 --> 00:14:59,920

them

425

00:15:06,389 --> 00:15:03,920

during the

426
00:15:08,389 --> 00:15:06,399
the days of the segregated military um

427
00:15:09,829 --> 00:15:08,399
back in 1941

428
00:15:11,590 --> 00:15:09,839
the president of the united states

429
00:15:13,030 --> 00:15:11,600
issued an executive order that said we

430
00:15:14,470 --> 00:15:13,040
were going to integrate the military and

431
00:15:16,310 --> 00:15:14,480
so

432
00:15:18,710 --> 00:15:16,320
not wanting to do that the establishment

433
00:15:20,310 --> 00:15:18,720
said okay we'll we'll we'll do what he

434
00:15:21,829 --> 00:15:20,320
said kinda

435
00:15:23,509 --> 00:15:21,839
and so

436
00:15:24,949 --> 00:15:23,519
african-american young men who wanted to

437
00:15:27,269 --> 00:15:24,959
fly airplanes went to a place called

438
00:15:30,710 --> 00:15:27,279

motonfield in tuskegee alabama

439

00:15:32,470 --> 00:15:30,720

and made history as the tuskegee airmen

440

00:15:33,990 --> 00:15:32,480

young men who wanted to just get down

441

00:15:36,550 --> 00:15:34,000

and dirty

442

00:15:38,470 --> 00:15:36,560

and be grunts and be marines and go to

443

00:15:40,949 --> 00:15:38,480

war went to a place called montford

444

00:15:42,870 --> 00:15:40,959

point camp in the backwoods of camp

445

00:15:45,670 --> 00:15:42,880

lejeune north carolina

446

00:15:47,590 --> 00:15:45,680

and uh and trained there and

447

00:15:49,509 --> 00:15:47,600

and they trained there

448

00:15:50,949 --> 00:15:49,519

and took abuse and everything and they

449

00:15:53,269 --> 00:15:50,959

were finally recognized for their

450

00:15:55,269 --> 00:15:53,279

contributions to this nation today

451
00:15:56,629 --> 00:15:55,279
by receipt of a congressional gold medal

452
00:15:57,829 --> 00:15:56,639
about nineteen thousand eighteen

453
00:15:59,829 --> 00:15:57,839
thousand of them went through training

454
00:16:02,310 --> 00:15:59,839
at montford point camp and today there

455
00:16:03,350 --> 00:16:02,320
are about 440 of them living so i'm so

456
00:16:05,590 --> 00:16:03,360
glad

457
00:16:08,069 --> 00:16:05,600
that we were able to capture them before

458
00:16:10,150 --> 00:16:08,079
uh before there were none left so so i

459
00:16:12,389 --> 00:16:10,160
if i if i get emotional as i talk about

460
00:16:14,629 --> 00:16:12,399
things today it's because um

461
00:16:15,990 --> 00:16:14,639
um i'm humbled by being here first of

462
00:16:18,470 --> 00:16:16,000
all

463
00:16:19,910 --> 00:16:18,480

and uh and i'm even more humbled by the

464

00:16:21,670 --> 00:16:19,920

fact that i had an opportunity to be

465

00:16:23,509 --> 00:16:21,680

with my heroes this afternoon the

466

00:16:25,590 --> 00:16:23,519

montford point marines

467

00:16:27,509 --> 00:16:25,600

i also want to salute a person who is

468

00:16:30,389 --> 00:16:27,519

here joe where are you

469

00:16:31,829 --> 00:16:30,399

dr joe allen he probably ate and left

470

00:16:34,470 --> 00:16:31,839

no he didn't

471

00:16:37,189 --> 00:16:34,480

dr joe allen up there is was my very

472

00:16:39,350 --> 00:16:37,199

first office mate when i got down to

473

00:16:41,590 --> 00:16:39,360

houston to become an astronaut i didn't

474

00:16:43,269 --> 00:16:41,600

have a clue what i was getting myself

475

00:16:45,189 --> 00:16:43,279

into

476

00:16:46,629 --> 00:16:45,199

i had never wanted to go to space and i

477

00:16:48,949 --> 00:16:46,639

will talk a little bit about it in a few

478

00:16:50,790 --> 00:16:48,959

minutes but but i ended up in houston in

479

00:16:52,389 --> 00:16:50,800

the astronaut office and they shuffled

480

00:16:53,670 --> 00:16:52,399

me into this office

481

00:16:55,430 --> 00:16:53,680

and i had

482

00:16:56,389 --> 00:16:55,440

three roommates at the time didn't we

483

00:17:01,990 --> 00:16:56,399

joe

484

00:17:03,350 --> 00:17:02,000

bill thornton

485

00:17:05,909 --> 00:17:03,360

and

486

00:17:07,590 --> 00:17:05,919

who else did we have in there joe

487

00:17:11,829 --> 00:17:07,600

didn't stay long

488

00:17:13,990 --> 00:17:11,839

no you me bill thornton and uh forgot

489

00:17:15,909 --> 00:17:14,000

i think i drove him away

490

00:17:19,029 --> 00:17:15,919

but they were all veterans

491

00:17:20,870 --> 00:17:19,039

and joe kind of took me under his wing

492

00:17:22,789 --> 00:17:20,880

joe was my racquetball partner joe

493

00:17:24,309 --> 00:17:22,799

taught me to play handball tried but i

494

00:17:26,150 --> 00:17:24,319

couldn't play with my left hand so i was

495

00:17:27,990 --> 00:17:26,160

never any good there taught me how to

496

00:17:31,830 --> 00:17:28,000

play squash and taught me how to be an

497

00:17:33,350 --> 00:17:31,840

astronaut and we celebrate joe's 75th

498

00:17:35,110 --> 00:17:33,360

birthday today

499

00:17:39,669 --> 00:17:35,120

earlier tonight we sang happy birthday

500

00:17:43,029 --> 00:17:41,430

but joe and his lovely wife bonnie are

501
00:17:44,870 --> 00:17:43,039
back there and i just want to thank you

502
00:17:47,270 --> 00:17:44,880
all for coming out particularly bonnie

503
00:17:49,190 --> 00:17:47,280
for for bringing him out on his 75th

504
00:17:50,470 --> 00:17:49,200
birthday when when you could have been

505
00:17:52,950 --> 00:17:50,480
partying somewhere and having a good

506
00:17:54,789 --> 00:17:52,960
time so thank you all

507
00:17:57,190 --> 00:17:54,799
it's always been a pleasure for me to

508
00:17:59,750 --> 00:17:57,200
come here to the smithsonian national

509
00:18:01,909 --> 00:17:59,760
air and space museum and it's home to so

510
00:18:03,350 --> 00:18:01,919
many of the artifacts from from our

511
00:18:04,710 --> 00:18:03,360
nation's leadership in space and

512
00:18:07,990 --> 00:18:04,720
aeronautics

513
00:18:09,590 --> 00:18:08,000

it's a living history as any of you know

514

00:18:11,669 --> 00:18:09,600

if you come here

515

00:18:14,710 --> 00:18:11,679

because we continue to innovate and

516

00:18:16,950 --> 00:18:14,720

reach to father horizons

517

00:18:18,710 --> 00:18:16,960

i'm also delighted to speak at a lecture

518

00:18:19,990 --> 00:18:18,720

honoring my esteemed colleague senator

519

00:18:22,070 --> 00:18:20,000

john glenn

520

00:18:23,830 --> 00:18:22,080

who just last month was recognized with

521

00:18:25,110 --> 00:18:23,840

a well-deserved presidential medal of

522

00:18:26,870 --> 00:18:25,120

freedom

523

00:18:29,990 --> 00:18:26,880

for his extraordinary service to our

524

00:18:31,590 --> 00:18:30,000

country when john first flew

525

00:18:33,590 --> 00:18:31,600

he not only undertook a dangerous

526
00:18:35,510 --> 00:18:33,600
mission he personified

527
00:18:38,150 --> 00:18:35,520
america's dreams

528
00:18:40,070 --> 00:18:38,160
what we believed we could be

529
00:18:41,270 --> 00:18:40,080
through his unflappable nature and his

530
00:18:43,750 --> 00:18:41,280
confidence

531
00:18:45,270 --> 00:18:43,760
he helped us believe in what we could

532
00:18:47,350 --> 00:18:45,280
achieve

533
00:18:49,590 --> 00:18:47,360
i know that right here in this very

534
00:18:51,350 --> 00:18:49,600
theater this museum showed live launch

535
00:18:54,630 --> 00:18:51,360
coverage of john's second historic

536
00:18:55,830 --> 00:18:54,640
flight back in 1998 on the space shuttle

537
00:18:58,150 --> 00:18:55,840
discovery

538
00:19:01,350 --> 00:18:58,160

as he once again made history this time

539

00:19:03,669 --> 00:19:01,360

as the oldest person to fly in space

540

00:19:06,549 --> 00:19:03,679

and john has told me i'm not quite ready

541

00:19:08,150 --> 00:19:06,559

yet uh he he is a data point of one we

542

00:19:09,990 --> 00:19:08,160

he and i always talk about data points

543

00:19:11,830 --> 00:19:10,000

because we're we really believe that we

544

00:19:13,430 --> 00:19:11,840

need to get as much use out of the

545

00:19:15,510 --> 00:19:13,440

international space station as we can as

546

00:19:17,350 --> 00:19:15,520

a national laboratory

547

00:19:20,070 --> 00:19:17,360

i've got a little bit to go he says the

548

00:19:21,669 --> 00:19:20,080

window is 70 to 90. so in four years

549

00:19:24,710 --> 00:19:21,679

i'll be in the window

550

00:19:27,110 --> 00:19:24,720

joe allen has already 75 years old joe's

551

00:19:29,029 --> 00:19:27,120

volunteer general daly's volunteered

552

00:19:30,789 --> 00:19:29,039

general senator glenn has volunteered to

553

00:19:32,710 --> 00:19:30,799

be the commander of our crew so we have

554

00:19:34,310 --> 00:19:32,720

a crew of four

555

00:19:36,470 --> 00:19:34,320

that's ready to go on any commercial

556

00:19:41,110 --> 00:19:36,480

vehicle whenever they're ready

557

00:19:46,630 --> 00:19:43,909

and they will never see a crew like that

558

00:19:51,350 --> 00:19:49,510

anybody ever see space cowboys

559

00:19:53,830 --> 00:19:51,360

you just said that huh okay all right

560

00:19:55,110 --> 00:19:53,840

it's great i told him we're ready

561

00:19:57,510 --> 00:19:55,120

we're going to build we're going to

562

00:19:58,950 --> 00:19:57,520

continue building on on senator glenn's

563

00:20:00,870 --> 00:19:58,960

legacy as we reach toward new

564

00:20:02,789 --> 00:20:00,880

destinations and build new capabilities

565

00:20:05,430 --> 00:20:02,799

for exploration

566

00:20:07,430 --> 00:20:05,440

just a month ago at this time the dragon

567

00:20:09,350 --> 00:20:07,440

capsule was making history

568

00:20:10,789 --> 00:20:09,360

as the first space vehicle built by a

569

00:20:12,870 --> 00:20:10,799

private company not intended

570

00:20:16,390 --> 00:20:12,880

specifically for government purchase

571

00:20:19,350 --> 00:20:16,400

to visit the international space station

572

00:20:21,750 --> 00:20:19,360

there are many more exciting days ahead

573

00:20:23,990 --> 00:20:21,760

not only in commercial space

574

00:20:26,470 --> 00:20:24,000

but as nasa continues to launch science

575

00:20:28,149 --> 00:20:26,480

missions that rewrite history

576

00:20:31,029 --> 00:20:28,159

develop cutting edge aeronautics

577

00:20:32,870 --> 00:20:31,039

technologies and build the rocket and

578

00:20:35,190 --> 00:20:32,880

crew vehicle that will that will take

579

00:20:36,230 --> 00:20:35,200

astronauts to an asteroid

580

00:20:37,830 --> 00:20:36,240

mars

581

00:20:40,070 --> 00:20:37,840

and perhaps other deep space

582

00:20:41,669 --> 00:20:40,080

destinations

583

00:20:43,990 --> 00:20:41,679

back in april

584

00:20:45,990 --> 00:20:44,000

we transferred to the smithsonian the

585

00:20:49,029 --> 00:20:46,000

space shuttle discovery

586

00:20:51,430 --> 00:20:49,039

on which john flew while its sister ship

587

00:20:54,470 --> 00:20:51,440

enterprise went to new york's new york

588

00:20:55,909 --> 00:20:54,480

city's intrepid sea air and space museum

589

00:20:57,270 --> 00:20:55,919

we're delighted to share the

590

00:21:00,070 --> 00:20:57,280

achievements of the space shuttle

591

00:21:02,310 --> 00:21:00,080

program with millions of visitors

592

00:21:04,870 --> 00:21:02,320

many of whom will doubtless become the

593

00:21:06,789 --> 00:21:04,880

exploration leaders of tomorrow

594

00:21:08,549 --> 00:21:06,799

at the same time

595

00:21:10,390 --> 00:21:08,559

we're very attached to this fleet of

596

00:21:12,070 --> 00:21:10,400

vehicles probably the most amazing

597

00:21:14,470 --> 00:21:12,080

machines ever built

598

00:21:16,710 --> 00:21:14,480

on which we've flown millions of miles

599

00:21:17,990 --> 00:21:16,720

and accomplished so much

600

00:21:20,149 --> 00:21:18,000

so in a way

601
00:21:22,549 --> 00:21:20,159
as a fellow flyer aboard discovery i

602
00:21:24,870 --> 00:21:22,559
feel like part of me is on permanent

603
00:21:25,830 --> 00:21:24,880
display out at the hudvar jose center as

604
00:21:28,070 --> 00:21:25,840
well

605
00:21:29,990 --> 00:21:28,080
that's a good thing

606
00:21:31,830 --> 00:21:30,000
the shuttle gave our nation minifirst

607
00:21:33,990 --> 00:21:31,840
many proud moments

608
00:21:37,190 --> 00:21:34,000
i was fortunate to fly on it for four

609
00:21:38,310 --> 00:21:37,200
times and be part of two very historic

610
00:21:40,070 --> 00:21:38,320
achievements

611
00:21:41,430 --> 00:21:40,080
aboard discovery

612
00:21:44,789 --> 00:21:41,440
the deployment of the hubble space

613
00:21:47,270 --> 00:21:44,799

telescope on sts-31 in 1990

614

00:21:48,630 --> 00:21:47,280

which has redefined our perception of

615

00:21:51,430 --> 00:21:48,640

the universe

616

00:21:54,149 --> 00:21:51,440

and the first u.s russian mission

617

00:21:55,990 --> 00:21:54,159

sts-60 in 1994

618

00:21:58,470 --> 00:21:56,000

that presaged the unprecedented

619

00:22:00,310 --> 00:21:58,480

international cooperation we've achieved

620

00:22:02,549 --> 00:22:00,320

since then on the international space

621

00:22:05,029 --> 00:22:02,559

station and yes that's me

622

00:22:07,110 --> 00:22:05,039

i know many of you are going who is that

623

00:22:09,590 --> 00:22:07,120

young looking guy

624

00:22:12,310 --> 00:22:09,600

i also flew on columbia and atlantis

625

00:22:14,070 --> 00:22:12,320

atlantis joined discovery and endeavor

626
00:22:16,549 --> 00:22:14,080
as the transport for the subsequent

627
00:22:18,789 --> 00:22:16,559
servicing missions to hubble that

628
00:22:20,710 --> 00:22:18,799
extended this unique resource

629
00:22:22,470 --> 00:22:20,720
and enhanced the great observatory's

630
00:22:24,390 --> 00:22:22,480
capabilities

631
00:22:26,230 --> 00:22:24,400
among those many historic achievements

632
00:22:28,390 --> 00:22:26,240
of the shuttle was the deployment of the

633
00:22:30,470 --> 00:22:28,400
chandra x-ray observatory

634
00:22:33,190 --> 00:22:30,480
that among other things documented the

635
00:22:35,270 --> 00:22:33,200
largest supernova ever witnessed

636
00:22:37,190 --> 00:22:35,280
the shuttle also deployed the magellan

637
00:22:39,110 --> 00:22:37,200
probe to venus

638
00:22:41,430 --> 00:22:39,120

many of the tracking and data relay or

639

00:22:42,950 --> 00:22:41,440

tdrs satellites were also deployed from

640

00:22:45,350 --> 00:22:42,960

the shuttle

641

00:22:48,230 --> 00:22:45,360

nasa uses these satellites to maintain

642

00:22:50,070 --> 00:22:48,240

contact from the space station

643

00:22:51,990 --> 00:22:50,080

and with government agencies all and

644

00:22:54,390 --> 00:22:52,000

other government agencies also use them

645

00:22:56,070 --> 00:22:54,400

for satellite communications

646

00:22:58,070 --> 00:22:56,080

we also deployed communication

647

00:22:59,590 --> 00:22:58,080

satellites for many other countries from

648

00:23:01,830 --> 00:22:59,600

the shuttle

649

00:23:03,669 --> 00:23:01,840

sts-41c

650

00:23:06,390 --> 00:23:03,679

brought us the capture and repair of the

651
00:23:09,590 --> 00:23:06,400
solar maximum satellite the first repair

652
00:23:11,830 --> 00:23:09,600
of a satellite on orbit and of course

653
00:23:13,909 --> 00:23:11,840
we constructed one of the world's true

654
00:23:17,029 --> 00:23:13,919
engineering marvels the international

655
00:23:18,950 --> 00:23:17,039
space station itself using the shuttle

656
00:23:20,230 --> 00:23:18,960
the shuttle program also taught us hard

657
00:23:22,390 --> 00:23:20,240
lessons

658
00:23:24,230 --> 00:23:22,400
the tragic losses of challenger

659
00:23:26,149 --> 00:23:24,240
and columbia crews

660
00:23:27,110 --> 00:23:26,159
were extraordinarily painful for the

661
00:23:29,270 --> 00:23:27,120
nation

662
00:23:31,430 --> 00:23:29,280
and for those of us who knew these brave

663
00:23:34,950 --> 00:23:31,440

explorers personally

664

00:23:36,470 --> 00:23:34,960

space travel is hard and unforgiving

665

00:23:38,230 --> 00:23:36,480

it's always been

666

00:23:40,789 --> 00:23:38,240

and always will be

667

00:23:42,070 --> 00:23:40,799

there's never going to be zero risk

668

00:23:45,110 --> 00:23:42,080

when you're breaking the bonds of

669

00:23:47,190 --> 00:23:45,120

gravity that's just part of the deal

670

00:23:50,390 --> 00:23:47,200

but tonight i want to talk about my own

671

00:23:51,909 --> 00:23:50,400

recollections as a traveler to space and

672

00:23:53,669 --> 00:23:51,919

perhaps reflect on the greater

673

00:23:55,669 --> 00:23:53,679

significance of the space program to our

674

00:23:57,669 --> 00:23:55,679

nation in the world

675

00:24:01,510 --> 00:23:57,679

some of the mementos things we've

676

00:24:03,430 --> 00:24:01,520

accomplished and where we're headed next

677

00:24:06,230 --> 00:24:03,440

i have to tell you that space was never

678

00:24:08,549 --> 00:24:06,240

really in my sights as a youngster

679

00:24:10,630 --> 00:24:08,559

i wasn't one of those kids who dreamed

680

00:24:12,549 --> 00:24:10,640

of being an astronaut

681

00:24:14,630 --> 00:24:12,559

even though john glenn and the mercury

682

00:24:17,430 --> 00:24:14,640

seven and later the gemini and apollo

683

00:24:19,350 --> 00:24:17,440

astronauts were doing amazing things

684

00:24:20,390 --> 00:24:19,360

the stuff that was discussed at dinner

685

00:24:22,390 --> 00:24:20,400

tables

686

00:24:24,149 --> 00:24:22,400

and water coolers as well as in the

687

00:24:27,430 --> 00:24:24,159

halls of power

688

00:24:29,750 --> 00:24:27,440

i was focused on public service

689

00:24:31,909 --> 00:24:29,760

i wanted to join the military and serve

690

00:24:33,909 --> 00:24:31,919

as my father and uncles had done in

691

00:24:35,990 --> 00:24:33,919

world war ii

692

00:24:38,230 --> 00:24:36,000

they served with distinction

693

00:24:39,669 --> 00:24:38,240

but not always recognition because of

694

00:24:41,269 --> 00:24:39,679

their race

695

00:24:43,110 --> 00:24:41,279

it was a different world back then in

696

00:24:44,390 --> 00:24:43,120

the segregated south and in south

697

00:24:45,909 --> 00:24:44,400

carolina

698

00:24:47,750 --> 00:24:45,919

and the thought that i would be the

699

00:24:49,750 --> 00:24:47,760

first african-american administrator of

700

00:24:51,750 --> 00:24:49,760

our nation's space program under the

701
00:24:54,070 --> 00:24:51,760
nation's first black president would

702
00:24:56,630 --> 00:24:54,080
have seemed as much science fiction as

703
00:24:59,029 --> 00:24:56,640
the idea that an orbiting outpost with a

704
00:25:00,630 --> 00:24:59,039
football field's worth of solar rays

705
00:25:03,669 --> 00:25:00,640
would have had people living and working

706
00:25:04,870 --> 00:25:03,679
aboard it continuously from russia

707
00:25:06,870 --> 00:25:04,880
the us

708
00:25:08,470 --> 00:25:06,880
and many other nations for more than 11

709
00:25:10,310 --> 00:25:08,480
years now

710
00:25:13,190 --> 00:25:10,320
but the future doesn't always wait for

711
00:25:15,350 --> 00:25:13,200
us to embrace it does it

712
00:25:17,909 --> 00:25:15,360
it's coming at us and we can certainly

713
00:25:20,710 --> 00:25:17,919

try to prepare for our involvement but

714

00:25:21,909 --> 00:25:20,720

the momentum is always there

715

00:25:23,909 --> 00:25:21,919

today

716

00:25:25,190 --> 00:25:23,919

we are at a once in a generation turning

717

00:25:27,909 --> 00:25:25,200

point

718

00:25:30,549 --> 00:25:27,919

it may be even bigger than that as we

719

00:25:32,870 --> 00:25:30,559

transition from a phenomenal 30-year

720

00:25:35,350 --> 00:25:32,880

flagship program in the space shuttle to

721

00:25:37,110 --> 00:25:35,360

an entirely new way of doing business

722

00:25:40,149 --> 00:25:37,120

next slide

723

00:25:41,669 --> 00:25:40,159

it's particularly exciting for me

724

00:25:43,350 --> 00:25:41,679

and for us

725

00:25:45,510 --> 00:25:43,360

to really be focusing on the

726

00:25:48,390 --> 00:25:45,520

technologies that the aerospace field

727

00:25:50,230 --> 00:25:48,400

has broadly agreed for years we would

728

00:25:51,350 --> 00:25:50,240

need to get farther into the solar

729

00:25:53,909 --> 00:25:51,360

system

730

00:25:56,470 --> 00:25:53,919

it's not overstating it to say that

731

00:25:58,230 --> 00:25:56,480

right now we're opening a new chapter in

732

00:26:00,310 --> 00:25:58,240

the space age

733

00:26:02,390 --> 00:26:00,320

nasa's role has historically been

734

00:26:04,710 --> 00:26:02,400

crucial in seeding the technology and

735

00:26:07,110 --> 00:26:04,720

innovations that brought our nation's

736

00:26:09,269 --> 00:26:07,120

capabilities to the cutting edge

737

00:26:11,190 --> 00:26:09,279

made america the world's leader in space

738

00:26:13,190 --> 00:26:11,200

exploration and made a difference in

739

00:26:15,029 --> 00:26:13,200

everyday lives

740

00:26:16,870 --> 00:26:15,039

the agency's impact on our nation's

741

00:26:19,029 --> 00:26:16,880

technological future

742

00:26:21,590 --> 00:26:19,039

the workforce and the economy are based

743

00:26:23,750 --> 00:26:21,600

on investments and innovations that we

744

00:26:24,870 --> 00:26:23,760

had the courage to make

745

00:26:26,950 --> 00:26:24,880

today

746

00:26:29,110 --> 00:26:26,960

our space technology program has about a

747

00:26:30,950 --> 00:26:29,120

thousand projects developing the

748

00:26:32,310 --> 00:26:30,960

technologies we need for tomorrow's

749

00:26:34,310 --> 00:26:32,320

missions

750

00:26:35,669 --> 00:26:34,320

in the nation's laboratories and the

751

00:26:37,990 --> 00:26:35,679

test chambers

752

00:26:40,710 --> 00:26:38,000

nasa is driving advances in new high

753

00:26:42,549 --> 00:26:40,720

payoff space technologies and developing

754

00:26:45,110 --> 00:26:42,559

and maturing broadly applicable

755

00:26:46,789 --> 00:26:45,120

technology in areas such as in-space

756

00:26:48,310 --> 00:26:46,799

propulsion

757

00:26:50,149 --> 00:26:48,320

robotics

758

00:26:53,350 --> 00:26:50,159

space power systems

759

00:26:56,870 --> 00:26:53,360

deep space communications cryogenic fuel

760

00:26:58,870 --> 00:26:56,880

handling and entry descent and landing

761

00:27:01,190 --> 00:26:58,880

which are essential for exploration

762

00:27:04,549 --> 00:27:01,200

beyond low earth orbit

763

00:27:07,430 --> 00:27:04,559

when we invest in technology for space

764

00:27:09,510 --> 00:27:07,440

we spend that money right here on earth

765

00:27:10,870 --> 00:27:09,520

creating high-tech jobs

766

00:27:12,549 --> 00:27:10,880

capabilities

767

00:27:15,990 --> 00:27:12,559

and products that help our nation

768

00:27:18,390 --> 00:27:16,000

maintain its global economic leadership

769

00:27:20,549 --> 00:27:18,400

as part of that focus on the future

770

00:27:22,470 --> 00:27:20,559

we're also building a rocket

771

00:27:24,789 --> 00:27:22,480

that will take astronauts deeper into

772

00:27:26,470 --> 00:27:24,799

space than ever before

773

00:27:28,789 --> 00:27:26,480

orion

774

00:27:31,669 --> 00:27:28,799

the vehicle in which they'll travel

775

00:27:33,590 --> 00:27:31,679

has undergone water tests

776

00:27:35,110 --> 00:27:33,600

parachute drop tests

777

00:27:36,870 --> 00:27:35,120

and a lot of work on its thermal

778

00:27:39,269 --> 00:27:36,880

protection material

779

00:27:42,789 --> 00:27:39,279

we plan to fly a test flight as early as

780

00:27:47,350 --> 00:27:44,710

i'm going to show you a chart i think

781

00:27:50,950 --> 00:27:47,360

that shows you the relative sizes of

782

00:27:53,430 --> 00:27:50,960

saturn v a shuttle and our new rocket

783

00:27:55,510 --> 00:27:53,440

in two different configurations

784

00:27:57,750 --> 00:27:55,520

so you can see

785

00:28:00,310 --> 00:27:57,760

we're going for something quite new and

786

00:28:01,590 --> 00:28:00,320

spectacular if you come from saturn on

787

00:28:02,870 --> 00:28:01,600

your left

788

00:28:05,990 --> 00:28:02,880

to shuttle

789

00:28:08,230 --> 00:28:06,000

to uh the space launch system as we call

790

00:28:10,549 --> 00:28:08,240

it a heavy lift launch vehicle the first

791

00:28:12,950 --> 00:28:10,559

being phase one which is a oh i don't

792

00:28:15,909 --> 00:28:12,960

know a 70 metric ton vehicle

793

00:28:18,149 --> 00:28:15,919

growing to be able to carry 130 150

794

00:28:20,789 --> 00:28:18,159

metric tons that's carrying planetary

795

00:28:22,070 --> 00:28:20,799

missions in science or astronauts to

796

00:28:25,430 --> 00:28:22,080

mars and

797

00:28:28,149 --> 00:28:25,440

asteroids and deep space destinations

798

00:28:29,990 --> 00:28:28,159

at the same time

799

00:28:32,389 --> 00:28:30,000

we've reached a point where we can turn

800

00:28:34,470 --> 00:28:32,399

over the path to low earth orbit

801
00:28:36,149 --> 00:28:34,480
that government pioneered to our private

802
00:28:38,310 --> 00:28:36,159
industry partners

803
00:28:40,789 --> 00:28:38,320
this will allow nasa to focus on those

804
00:28:43,190 --> 00:28:40,799
father horizons we want to reach

805
00:28:44,710 --> 00:28:43,200
vehicles with names like

806
00:28:46,310 --> 00:28:44,720
cygnus

807
00:28:47,909 --> 00:28:46,320
dragon

808
00:28:49,669 --> 00:28:47,919
dream chaser

809
00:28:52,630 --> 00:28:49,679
are at the vanguard of this new

810
00:28:54,470 --> 00:28:52,640
innovative push by industry

811
00:28:56,149 --> 00:28:54,480
our science missions

812
00:28:57,669 --> 00:28:56,159
are working in partnership with

813
00:28:59,750 --> 00:28:57,679

exploration

814

00:29:02,549 --> 00:28:59,760

so that the things we learn will support

815

00:29:04,630 --> 00:29:02,559

future missions with astronauts

816

00:29:07,830 --> 00:29:04,640

the dawn mission has recently visited

817

00:29:09,510 --> 00:29:07,840

the asteroid vesta for instance

818

00:29:12,230 --> 00:29:09,520

the first time we've orbited one of

819

00:29:14,710 --> 00:29:12,240

these ancient rocks and it sent us a lot

820

00:29:16,230 --> 00:29:14,720

of surprising data that we'll take into

821

00:29:18,310 --> 00:29:16,240

account as we work toward a human

822

00:29:20,870 --> 00:29:18,320

mission to an asteroid

823

00:29:22,630 --> 00:29:20,880

as we review our mars program

824

00:29:24,789 --> 00:29:22,640

we'll be looking at ways that science

825

00:29:27,110 --> 00:29:24,799

and exploration can work together to

826

00:29:29,350 --> 00:29:27,120

make the most of our missions so that we

827

00:29:30,950 --> 00:29:29,360

can continue to make discoveries that

828

00:29:32,789 --> 00:29:30,960

rewrite textbooks

829

00:29:35,029 --> 00:29:32,799

while supporting the first human boots

830

00:29:36,710 --> 00:29:35,039

on the red planet

831

00:29:38,230 --> 00:29:36,720

nasa has been blessed throughout its

832

00:29:40,630 --> 00:29:38,240

life with support from across the

833

00:29:42,789 --> 00:29:40,640

political spectrum

834

00:29:45,430 --> 00:29:42,799

there's something about exploration that

835

00:29:48,630 --> 00:29:45,440

crosses political boundaries

836

00:29:51,990 --> 00:29:48,640

just as surely as those disappear

837

00:29:54,789 --> 00:29:52,000

when the earth is seen from space

838

00:29:57,430 --> 00:29:54,799

the public support not only in dollars

839

00:29:59,990 --> 00:29:57,440

but also in attitudes in willingness to

840

00:30:01,269 --> 00:30:00,000

believe in something that seemed almost

841

00:30:02,070 --> 00:30:01,279

impossible

842

00:30:04,310 --> 00:30:02,080

that

843

00:30:05,669 --> 00:30:04,320

was a big part of what made space travel

844

00:30:08,149 --> 00:30:05,679

possible

845

00:30:09,669 --> 00:30:08,159

with the leadership of president kennedy

846

00:30:11,990 --> 00:30:09,679

and the courageous corps of space

847

00:30:14,870 --> 00:30:12,000

pioneers like john glenn

848

00:30:16,470 --> 00:30:14,880

it became something we had to do

849

00:30:19,190 --> 00:30:16,480

as a nation

850

00:30:20,630 --> 00:30:19,200

the cold war was a motivator of course

851

00:30:23,590 --> 00:30:20,640

but i believe

852

00:30:25,350 --> 00:30:23,600

we still would have explored without it

853

00:30:26,710 --> 00:30:25,360

we were on the cusp of so many

854

00:30:27,990 --> 00:30:26,720

technological developments and

855

00:30:30,710 --> 00:30:28,000

discoveries

856

00:30:31,990 --> 00:30:30,720

our robotic probes like explorer ranger

857

00:30:34,149 --> 00:30:32,000

and mariner

858

00:30:35,510 --> 00:30:34,159

were revolutionizing our understanding

859

00:30:36,630 --> 00:30:35,520

of outer space

860

00:30:39,590 --> 00:30:36,640

the moon

861

00:30:40,950 --> 00:30:39,600

mars and venus even as john and the rest

862

00:30:43,430 --> 00:30:40,960

of the astronauts

863

00:30:44,789 --> 00:30:43,440

made history as the first humans in

864

00:30:46,789 --> 00:30:44,799

space

865

00:30:48,950 --> 00:30:46,799

i might note that a replica of explorer

866

00:30:50,950 --> 00:30:48,960

one our first satellite is hanging

867

00:30:53,430 --> 00:30:50,960

outside this very theater in the

868

00:30:55,510 --> 00:30:53,440

milestones of flight gallery

869

00:30:57,110 --> 00:30:55,520

a replica of ranger hangs on the east

870

00:30:59,190 --> 00:30:57,120

side of the museum

871

00:31:02,470 --> 00:30:59,200

and an engineering model of the severe

872

00:31:05,669 --> 00:31:02,480

moon lander hangs near that

873

00:31:07,590 --> 00:31:05,679

nasa has also was also busy pioneering

874

00:31:09,350 --> 00:31:07,600

the technologies needed for whole new

875

00:31:10,950 --> 00:31:09,360

industries and services

876
00:31:12,950 --> 00:31:10,960
at a time

877
00:31:14,789 --> 00:31:12,960
and then handling those handing those

878
00:31:15,830 --> 00:31:14,799
capabilities on to commercial space

879
00:31:18,470 --> 00:31:15,840
flight

880
00:31:20,149 --> 00:31:18,480
communication satellites like echo for

881
00:31:21,590 --> 00:31:20,159
instance helped lead the commercial

882
00:31:25,269 --> 00:31:21,600
satellites

883
00:31:28,070 --> 00:31:25,279
like tyrus

884
00:31:29,750 --> 00:31:28,080
led to a series currently operated by

885
00:31:31,750 --> 00:31:29,760
noaa the national oceanic and

886
00:31:33,990 --> 00:31:31,760
atmospheric administration

887
00:31:36,789 --> 00:31:34,000
then of course apollo missions tested

888
00:31:38,870 --> 00:31:36,799

spacecraft in earth and moon orbit and

889

00:31:41,830 --> 00:31:38,880

visited the moon six times

890

00:31:43,269 --> 00:31:41,840

studying soil mechanics

891

00:31:45,509 --> 00:31:43,279

meteoroids

892

00:31:47,990 --> 00:31:45,519

and questions about seismic activity

893

00:31:49,430 --> 00:31:48,000

heat flow magnetic fields and solar

894

00:31:51,750 --> 00:31:49,440

winds

895

00:31:53,909 --> 00:31:51,760

even when an oxygen tank explosion

896

00:31:55,430 --> 00:31:53,919

forced apollo 13 to scrub its lunar

897

00:31:56,909 --> 00:31:55,440

landing

898

00:32:00,149 --> 00:31:56,919

the can-do

899

00:32:02,630 --> 00:32:00,159

problem-solving attitude of crew and

900

00:32:04,630 --> 00:32:02,640

mission control turned the mission into

901
00:32:05,750 --> 00:32:04,640
a successful failure

902
00:32:07,110 --> 00:32:05,760
today

903
00:32:09,029 --> 00:32:07,120
the international space station

904
00:32:10,389 --> 00:32:09,039
continues as the core of our human space

905
00:32:13,430 --> 00:32:10,399
flight efforts

906
00:32:15,909 --> 00:32:13,440
an amazing showcase for human ingenuity

907
00:32:18,789 --> 00:32:15,919
and a unique scientific resource

908
00:32:20,549 --> 00:32:18,799
like no other the world has ever seen

909
00:32:22,789 --> 00:32:20,559
it's going to help us understand a lot

910
00:32:25,590 --> 00:32:22,799
of human health issues we'll need to get

911
00:32:27,269 --> 00:32:25,600
our arms around before traveling farther

912
00:32:29,110 --> 00:32:27,279
into space

913
00:32:31,669 --> 00:32:29,120

it will also allow us to demonstrate

914

00:32:33,269 --> 00:32:31,679

some of the technologies that we'll need

915

00:32:35,909 --> 00:32:33,279

now that it's complete

916

00:32:37,750 --> 00:32:35,919

we're ramping up our utilization by many

917

00:32:40,830 --> 00:32:37,760

different types of groups from

918

00:32:43,830 --> 00:32:40,840

government agencies to academia and

919

00:32:46,789 --> 00:32:43,840

industry led by the u s in partnership

920

00:32:49,029 --> 00:32:46,799

with russian japanese european

921

00:32:52,149 --> 00:32:49,039

canadian partners the iss is the most

922

00:32:53,909 --> 00:32:52,159

complex space facility ever built

923

00:32:56,230 --> 00:32:53,919

it carries almost a million pounds of

924

00:32:58,710 --> 00:32:56,240

hardware spans more than a length of a

925

00:33:01,669 --> 00:32:58,720

football field and has an interior

926

00:33:04,950 --> 00:33:01,679

volume greater than a 747

927

00:33:07,830 --> 00:33:04,960

it travels 17 500 miles an hour

928

00:33:09,669 --> 00:33:07,840

orbiting the earth 16 times a day with

929

00:33:12,710 --> 00:33:09,679

an international crew of six actively

930

00:33:15,269 --> 00:33:12,720

participating in over 100 research

931

00:33:17,430 --> 00:33:15,279

investigations at any time

932

00:33:19,190 --> 00:33:17,440

so don't let anybody tell you that the

933

00:33:20,549 --> 00:33:19,200

u.s has walked away from human space

934

00:33:22,710 --> 00:33:20,559

flight

935

00:33:25,110 --> 00:33:22,720

every research investigation

936

00:33:27,750 --> 00:33:25,120

in all of the systems that keep the iss

937

00:33:30,149 --> 00:33:27,760

operational helps us figure out how to

938

00:33:32,630 --> 00:33:30,159

improve life here on earth

939

00:33:33,909 --> 00:33:32,640

as we prepare to explore father from our

940

00:33:36,389 --> 00:33:33,919

planet

941

00:33:38,950 --> 00:33:36,399

effective reliance on solar power and

942

00:33:40,710 --> 00:33:38,960

onboard water processing are just two

943

00:33:42,950 --> 00:33:40,720

examples of how we're learning to better

944

00:33:45,750 --> 00:33:42,960

operate a spacecraft independent of

945

00:33:47,590 --> 00:33:45,760

resources resupplied from earth

946

00:33:49,750 --> 00:33:47,600

developing these necessities for living

947

00:33:51,750 --> 00:33:49,760

and working on board the iss

948

00:33:54,149 --> 00:33:51,760

is enabling us to figure out how to

949

00:33:55,830 --> 00:33:54,159

better use renewable sources of

950

00:33:57,750 --> 00:33:55,840

resources on earth

951
00:33:59,909 --> 00:33:57,760
and how to do things like provide clean

952
00:34:01,909 --> 00:33:59,919
water to people living in undeveloped

953
00:34:04,230 --> 00:34:01,919
countries and oh by the way

954
00:34:06,230 --> 00:34:04,240
even in some states here in the united

955
00:34:07,430 --> 00:34:06,240
states

956
00:34:09,909 --> 00:34:07,440
now

957
00:34:11,909 --> 00:34:09,919
when i graduated from the naval academy

958
00:34:13,030 --> 00:34:11,919
we were on the cusp of landing humans on

959
00:34:14,950 --> 00:34:13,040
the moon

960
00:34:17,430 --> 00:34:14,960
a lot of my colleagues naval aviators

961
00:34:20,389 --> 00:34:17,440
went on to pursue careers with nasa

962
00:34:21,750 --> 00:34:20,399
but it still wasn't on my radar so to

963
00:34:23,510 --> 00:34:21,760

speak

964

00:34:26,629 --> 00:34:23,520

it wasn't until i began to see the

965

00:34:28,550 --> 00:34:26,639

recruitment efforts in the 1970s

966

00:34:30,710 --> 00:34:28,560

of people like michelle nichols

967

00:34:31,589 --> 00:34:30,720

television's lieutenant ahura on star

968

00:34:34,389 --> 00:34:31,599

trek

969

00:34:37,349 --> 00:34:34,399

that i realized how committed nasa was

970

00:34:39,270 --> 00:34:37,359

to diversifying the astronaut core and

971

00:34:41,190 --> 00:34:39,280

really taking the shuttle program in a

972

00:34:42,790 --> 00:34:41,200

whole new direction

973

00:34:44,550 --> 00:34:42,800

it was while i was a test pilot at the

974

00:34:46,950 --> 00:34:44,560

naval air test center at patuxent river

975

00:34:48,389 --> 00:34:46,960

maryland that i met the late great dr

976

00:34:50,230 --> 00:34:48,399

ron mcnaair

977

00:34:52,470 --> 00:34:50,240

who convinced me that i needed to apply

978

00:34:54,550 --> 00:34:52,480

to the astronaut program

979

00:34:55,750 --> 00:34:54,560

my very strong logical case for not

980

00:34:57,510 --> 00:34:55,760

applying

981

00:34:59,030 --> 00:34:57,520

was simply that i didn't think i'd be

982

00:35:00,950 --> 00:34:59,040

selected

983

00:35:03,190 --> 00:35:00,960

ron made short work

984

00:35:05,030 --> 00:35:03,200

of that argument when he told me and he

985

00:35:08,069 --> 00:35:05,040

looked me right in the eye and he said

986

00:35:10,230 --> 00:35:08,079

that's the dumbest thing i ever heard

987

00:35:12,630 --> 00:35:10,240

he said how do you know

988

00:35:14,150 --> 00:35:12,640

how do you know if you don't ask and so

989

00:35:15,430 --> 00:35:14,160

for the young people in the audience and

990

00:35:19,030 --> 00:35:15,440

i see a lot of you probably getting

991

00:35:20,790 --> 00:35:19,040

tired and i'm almost done okay

992

00:35:22,630 --> 00:35:20,800

how do you know

993

00:35:25,510 --> 00:35:22,640

unless you ask

994

00:35:28,829 --> 00:35:25,520

dream big dreams believe in yourselves

995

00:35:30,470 --> 00:35:28,839

study really really really hard and

996

00:35:32,710 --> 00:35:30,480

ask

997

00:35:35,829 --> 00:35:32,720

we lost ron on challenger but his

998

00:35:37,829 --> 00:35:35,839

influence in my life continues today

999

00:35:39,270 --> 00:35:37,839

certainly traveling to space has changed

1000

00:35:40,950 --> 00:35:39,280

my life

1001
00:35:42,150 --> 00:35:40,960
i think we travel to space not only

1002
00:35:44,950 --> 00:35:42,160
because it's

1003
00:35:46,870 --> 00:35:44,960
human nature to explore

1004
00:35:49,670 --> 00:35:46,880
but also because it's our nature to

1005
00:35:52,550 --> 00:35:49,680
expand the number of places we can live

1006
00:35:54,310 --> 00:35:52,560
to expand the reach of the human race

1007
00:35:56,870 --> 00:35:54,320
we've now effectively extended our

1008
00:35:58,870 --> 00:35:56,880
biosphere to space

1009
00:36:00,470 --> 00:35:58,880
and there hasn't been a time

1010
00:36:04,069 --> 00:36:00,480
i want you to hear this

1011
00:36:06,790 --> 00:36:04,079
there has not been a time in the past 11

1012
00:36:09,589 --> 00:36:06,800
years when all of us human beings have

1013
00:36:11,670 --> 00:36:09,599

lived on this planet at the same time

1014

00:36:13,750 --> 00:36:11,680

not a single second

1015

00:36:16,150 --> 00:36:13,760

when all of us human beings have lived

1016

00:36:18,470 --> 00:36:16,160

on this planet at the same time

1017

00:36:21,750 --> 00:36:18,480

america has been in space for almost 12

1018

00:36:24,230 --> 00:36:21,760

years continuously without interruption

1019

00:36:26,310 --> 00:36:24,240

and you should be very proud of that and

1020

00:36:28,630 --> 00:36:26,320

you should brag of that and you should

1021

00:36:30,390 --> 00:36:28,640

push back when anybody tries to tell you

1022

00:36:32,310 --> 00:36:30,400

that we're walking away from exploration

1023

00:36:34,069 --> 00:36:32,320

and walking away from human space flight

1024

00:36:37,109 --> 00:36:34,079

because as we said when i was growing up

1025

00:36:39,270 --> 00:36:37,119

in south carolina it just ain't so

1026
00:36:41,349 --> 00:36:39,280
trust me

1027
00:36:43,589 --> 00:36:41,359
that's pretty amazing but it also gives

1028
00:36:44,630 --> 00:36:43,599
us a responsibility to do more

1029
00:36:47,190 --> 00:36:44,640
than just

1030
00:36:49,430 --> 00:36:47,200
take fantastic pictures of our people

1031
00:36:52,470 --> 00:36:49,440
with the smoking flames of a launch

1032
00:36:54,230 --> 00:36:52,480
as spectacular as those may be

1033
00:36:57,190 --> 00:36:54,240
nasa has one of the most dedicated

1034
00:36:59,670 --> 00:36:57,200
workforces around and we're on a mission

1035
00:37:01,750 --> 00:36:59,680
not just the specific one at hand but a

1036
00:37:04,150 --> 00:37:01,760
mission to uncover new knowledge that's

1037
00:37:05,990 --> 00:37:04,160
so that what we learn and do can benefit

1038
00:37:08,870 --> 00:37:06,000

all humankind

1039

00:37:10,550 --> 00:37:08,880

my time in space taught me many things

1040

00:37:13,030 --> 00:37:10,560

but even before the space station was

1041

00:37:14,150 --> 00:37:13,040

constructed our exploration efforts from

1042

00:37:15,510 --> 00:37:14,160

apollo

1043

00:37:17,670 --> 00:37:15,520

soyuz

1044

00:37:19,589 --> 00:37:17,680

to the shuttle mir and shuttle missions

1045

00:37:21,190 --> 00:37:19,599

with the international crews

1046

00:37:22,710 --> 00:37:21,200

were teaching us how to be global

1047

00:37:25,190 --> 00:37:22,720

citizens

1048

00:37:27,430 --> 00:37:25,200

space exploration is something we do as

1049

00:37:29,270 --> 00:37:27,440

nations together

1050

00:37:30,310 --> 00:37:29,280

we don't always have the same goals up

1051
00:37:33,190 --> 00:37:30,320
there

1052
00:37:34,710 --> 00:37:33,200
but we can do it all peacefully

1053
00:37:36,390 --> 00:37:34,720
i was privileged to command the first

1054
00:37:37,430 --> 00:37:36,400
shuttle mission with a russian cosmonaut

1055
00:37:39,109 --> 00:37:37,440
on board

1056
00:37:41,270 --> 00:37:39,119
and i confess

1057
00:37:42,710 --> 00:37:41,280
that it was humbling and not initially

1058
00:37:44,069 --> 00:37:42,720
inviting for me to face my

1059
00:37:45,910 --> 00:37:44,079
preconceptions

1060
00:37:48,790 --> 00:37:45,920
of what it would be like to work with

1061
00:37:51,030 --> 00:37:48,800
someone who was ostensibly

1062
00:37:52,950 --> 00:37:51,040
at one time my enemy

1063
00:37:54,550 --> 00:37:52,960

but when you live and train with someone

1064

00:37:56,630 --> 00:37:54,560

for two years

1065

00:37:58,230 --> 00:37:56,640

and you get to know their family well

1066

00:37:59,750 --> 00:37:58,240

let's just say

1067

00:38:01,589 --> 00:37:59,760

it's hard to look at them in the same

1068

00:38:03,030 --> 00:38:01,599

way again

1069

00:38:06,150 --> 00:38:03,040

that man

1070

00:38:07,670 --> 00:38:06,160

sergey konstantinovich krikalev

1071

00:38:09,589 --> 00:38:07,680

and his family

1072

00:38:11,190 --> 00:38:09,599

have become lifelong friends to my

1073

00:38:12,550 --> 00:38:11,200

family and me

1074

00:38:14,630 --> 00:38:12,560

today

1075

00:38:17,030 --> 00:38:14,640

he leads the gagarin cosmonaut training

1076
00:38:18,470 --> 00:38:17,040
center outside moscow

1077
00:38:19,750 --> 00:38:18,480
in russia

1078
00:38:22,390 --> 00:38:19,760
so for me

1079
00:38:24,630 --> 00:38:22,400
space is not just a destination

1080
00:38:26,790 --> 00:38:24,640
it's not just something about which i

1081
00:38:28,790 --> 00:38:26,800
can say i've been there

1082
00:38:30,550 --> 00:38:28,800
one of the lucky few

1083
00:38:33,190 --> 00:38:30,560
it encompasses a way of approaching our

1084
00:38:34,630 --> 00:38:33,200
biggest problems a way of looking at our

1085
00:38:36,950 --> 00:38:34,640
world differently

1086
00:38:38,710 --> 00:38:36,960
and thinking how to solve

1087
00:38:40,710 --> 00:38:38,720
and how to strive to our highest

1088
00:38:43,589 --> 00:38:40,720

potential

1089

00:38:45,190 --> 00:38:43,599

how to work together as nations

1090

00:38:46,630 --> 00:38:45,200

while our space program began in

1091

00:38:48,790 --> 00:38:46,640

competition

1092

00:38:50,069 --> 00:38:48,800

it has now become an international

1093

00:38:52,790 --> 00:38:50,079

collaboration

1094

00:38:55,030 --> 00:38:52,800

space is a uniter

1095

00:38:57,589 --> 00:38:55,040

it's hard not to feel connected

1096

00:38:59,030 --> 00:38:57,599

when you see our shared planet below

1097

00:39:01,109 --> 00:38:59,040

looking fragile

1098

00:39:02,870 --> 00:39:01,119

in the great blackness but free of

1099

00:39:05,109 --> 00:39:02,880

political boundaries

1100

00:39:06,230 --> 00:39:05,119

seeing only those created by nature such

1101

00:39:08,710 --> 00:39:06,240

as rivers

1102

00:39:11,510 --> 00:39:08,720

oceans and mountain ranges

1103

00:39:13,670 --> 00:39:11,520

if everyone if everyone could view our

1104

00:39:15,990 --> 00:39:13,680

world from space

1105

00:39:17,349 --> 00:39:16,000

they'd see how we're all in this life

1106

00:39:19,750 --> 00:39:17,359

together

1107

00:39:21,270 --> 00:39:19,760

on a marvelous globe that needs our

1108

00:39:23,910 --> 00:39:21,280

stewardship

1109

00:39:26,710 --> 00:39:23,920

it changes you forever

1110

00:39:29,589 --> 00:39:26,720

it has made me want to dedicate my life

1111

00:39:31,589 --> 00:39:29,599

to helping other people get there

1112

00:39:32,870 --> 00:39:31,599

today that door to space is opening

1113

00:39:35,510 --> 00:39:32,880

wider

1114

00:39:37,270 --> 00:39:35,520

with the recent success of spacex

1115

00:39:39,910 --> 00:39:37,280

becoming the first entity outside of a

1116

00:39:41,510 --> 00:39:39,920

government to successfully send a cargo

1117

00:39:43,910 --> 00:39:41,520

capsule to the international space

1118

00:39:46,390 --> 00:39:43,920

station and retrieve it intact

1119

00:39:47,349 --> 00:39:46,400

we're at the start of something new and

1120

00:39:49,589 --> 00:39:47,359

big

1121

00:39:51,510 --> 00:39:49,599

and really exciting

1122

00:39:52,950 --> 00:39:51,520

we're opening up an entirely new segment

1123

00:39:54,950 --> 00:39:52,960

of the economy

1124

00:39:56,950 --> 00:39:54,960

at the same time as we're making space

1125

00:39:58,790 --> 00:39:56,960

more accessible

1126

00:40:00,870 --> 00:39:58,800

more a part of our daily lives than it

1127

00:40:02,630 --> 00:40:00,880

has ever been before

1128

00:40:05,589 --> 00:40:02,640

there are space ports all around the

1129

00:40:07,589 --> 00:40:05,599

world a few right here in the u.s

1130

00:40:10,230 --> 00:40:07,599

and i believe that many more people will

1131

00:40:12,790 --> 00:40:10,240

be taking to the stars in the future as

1132

00:40:14,950 --> 00:40:12,800

researchers tourists students and

1133

00:40:16,630 --> 00:40:14,960

representatives of a globally space

1134

00:40:18,349 --> 00:40:16,640

faring people

1135

00:40:20,950 --> 00:40:18,359

nasa received more than

1136

00:40:22,470 --> 00:40:20,960

6300 applicants

1137

00:40:24,950 --> 00:40:22,480

during our most recent call for

1138

00:40:26,790 --> 00:40:24,960

astronauts earlier this year

1139

00:40:28,470 --> 00:40:26,800

that's the second highest number we've

1140

00:40:30,390 --> 00:40:28,480

ever received

1141

00:40:31,589 --> 00:40:30,400

so i don't think interest in space is

1142

00:40:33,270 --> 00:40:31,599

waned

1143

00:40:35,030 --> 00:40:33,280

the young people i talk to around the

1144

00:40:37,109 --> 00:40:35,040

world are passionate

1145

00:40:38,790 --> 00:40:37,119

about our future

1146

00:40:40,310 --> 00:40:38,800

it's one of the things that gives me

1147

00:40:42,550 --> 00:40:40,320

great hope

1148

00:40:44,390 --> 00:40:42,560

to think that my granddaughters my

1149

00:40:47,829 --> 00:40:44,400

beautiful granddaughters may witness the

1150

00:40:49,670 --> 00:40:47,839

first humans on mars or even better as

1151

00:40:52,630 --> 00:40:49,680

my oldest granddaughter the rocket

1152

00:40:55,430 --> 00:40:52,640

scientist likes to say

1153

00:40:57,910 --> 00:40:55,440

may be among those pioneers actually

1154

00:40:59,670 --> 00:40:57,920

making that mission themselves

1155

00:41:02,150 --> 00:40:59,680

i believe it's an attainable achievement

1156

00:41:04,870 --> 00:41:02,160

in many of our lifetimes when i look

1157

00:41:10,150 --> 00:41:04,880

through this audience most of you

1158

00:41:13,750 --> 00:41:11,910

with a president who has urged us to

1159

00:41:15,910 --> 00:41:13,760

develop the technologies that will be

1160

00:41:17,589 --> 00:41:15,920

required to get us there

1161

00:41:19,829 --> 00:41:17,599

and a growing fascination with the

1162

00:41:21,589 --> 00:41:19,839

accomplishments of nasa and its many

1163

00:41:23,510 --> 00:41:21,599

partners in space

1164

00:41:25,510 --> 00:41:23,520

deep space exploration with humans is

1165

00:41:27,829 --> 00:41:25,520

within our grasp

1166

00:41:29,030 --> 00:41:27,839

when the curiosity rover lands on mars

1167

00:41:31,109 --> 00:41:29,040

in august

1168

00:41:32,550 --> 00:41:31,119

it's going to be another incredible

1169

00:41:34,630 --> 00:41:32,560

milestone

1170

00:41:36,150 --> 00:41:34,640

i know here at air in space one of the

1171

00:41:38,390 --> 00:41:36,160

most popular things

1172

00:41:39,510 --> 00:41:38,400

you had going after the mars exploration

1173

00:41:41,829 --> 00:41:39,520

rovers

1174

00:41:43,430 --> 00:41:41,839

landed was the evolving display of the

1175

00:41:44,870 --> 00:41:43,440

incredible images from those plucky

1176

00:41:47,190 --> 00:41:44,880

little vehicles

1177

00:41:49,750 --> 00:41:47,200

and that same kind of excitement

1178

00:41:51,510 --> 00:41:49,760

is going to happen again with curiosity

1179

00:41:53,270 --> 00:41:51,520

beginning in august

1180

00:41:55,510 --> 00:41:53,280

it's going to visit a new place on the

1181

00:41:57,750 --> 00:41:55,520

martian surface

1182

00:41:59,510 --> 00:41:57,760

a hard to reach place

1183

00:42:01,190 --> 00:41:59,520

near a mountain range and the arrival

1184

00:42:04,230 --> 00:42:01,200

will demonstrate the precision landing

1185

00:42:06,309 --> 00:42:04,240

technic technologies will need to land

1186

00:42:07,670 --> 00:42:06,319

future missions on other planetary

1187

00:42:08,710 --> 00:42:07,680

bodies

1188

00:42:10,550 --> 00:42:08,720

then

1189

00:42:14,230 --> 00:42:10,560

we'll have this laboratory about the

1190

00:42:15,829 --> 00:42:14,240

size of a small car and see you just

1191

00:42:17,349 --> 00:42:15,839

i love it

1192

00:42:20,230 --> 00:42:17,359

that's all right if your heart's pumping

1193

00:42:21,510 --> 00:42:20,240

that's good that's good

1194

00:42:23,109 --> 00:42:21,520

because you're going to be doing this

1195

00:42:25,589 --> 00:42:23,119

stuff

1196

00:42:27,589 --> 00:42:25,599

we'll have a a small laboratory about

1197

00:42:29,510 --> 00:42:27,599

the size of a small car like a mini

1198

00:42:32,150 --> 00:42:29,520

cooper or a volkswagen

1199

00:42:34,309 --> 00:42:32,160

roving all over the planet with the most

1200

00:42:36,790 --> 00:42:34,319

sophisticated suite of instruments

1201
00:42:39,670 --> 00:42:36,800
ever to evaluate whether mars might have

1202
00:42:41,190 --> 00:42:39,680
ever been habitable to life

1203
00:42:43,510 --> 00:42:41,200
certainly among the biggest questions

1204
00:42:45,109 --> 00:42:43,520
mankind has ever considered are are we

1205
00:42:48,309 --> 00:42:45,119
alone

1206
00:42:50,470 --> 00:42:48,319
is there life elsewhere in the universe

1207
00:42:52,710 --> 00:42:50,480
these are questions that have captured

1208
00:42:54,630 --> 00:42:52,720
the curiosity of humankind since the

1209
00:42:56,870 --> 00:42:54,640
beginning of time

1210
00:42:59,190 --> 00:42:56,880
at the same time as curiosity sends back

1211
00:43:00,550 --> 00:42:59,200
what is sure to be an incredible data

1212
00:43:02,710 --> 00:43:00,560
from mars

1213
00:43:03,990 --> 00:43:02,720

we'll also still be orbiting mercury and

1214

00:43:06,950 --> 00:43:04,000

saturn

1215

00:43:08,950 --> 00:43:06,960

and on our way to jupiter and pluto

1216

00:43:10,710 --> 00:43:08,960

just two weeks ago we launched nustar a

1217

00:43:12,309 --> 00:43:10,720

black hole spotter

1218

00:43:14,790 --> 00:43:12,319

kepler has discovered hundreds of

1219

00:43:17,190 --> 00:43:14,800

planets around stars and other solar

1220

00:43:18,309 --> 00:43:17,200

systems and continues to do its work

1221

00:43:20,309 --> 00:43:18,319

hubble

1222

00:43:22,790 --> 00:43:20,319

keeps transforming our view of our

1223

00:43:25,190 --> 00:43:22,800

cosmic of cosmic phenomena

1224

00:43:26,470 --> 00:43:25,200

and the james webb space telescope its

1225

00:43:29,670 --> 00:43:26,480

successor

1226

00:43:31,670 --> 00:43:29,680

is preparing for a 2018 launch

1227

00:43:33,589 --> 00:43:31,680

that telescope's first instrument just

1228

00:43:35,030 --> 00:43:33,599

arrived at goddard space flight center a

1229

00:43:36,550 --> 00:43:35,040

couple of weeks ago

1230

00:43:39,030 --> 00:43:36,560

and the project has been meeting its

1231

00:43:40,550 --> 00:43:39,040

many structural technical and spending

1232

00:43:42,550 --> 00:43:40,560

milestones

1233

00:43:43,430 --> 00:43:42,560

the webb telescope's launch will be a

1234

00:43:45,990 --> 00:43:43,440

first

1235

00:43:47,829 --> 00:43:46,000

as we send it to a point one million

1236

00:43:50,230 --> 00:43:47,839

miles away from earth

1237

00:43:52,390 --> 00:43:50,240

on a hunt for light from the earliest

1238

00:43:54,069 --> 00:43:52,400

days in our universe

1239

00:43:56,309 --> 00:43:54,079

right now many of our earth scientists

1240

00:43:58,630 --> 00:43:56,319

are gearing up for hurricane season

1241

00:44:01,670 --> 00:43:58,640

the aquarius mission recently released

1242

00:44:03,510 --> 00:44:01,680

the first map of global ocean salinity

1243

00:44:06,150 --> 00:44:03,520

we certainly haven't lost sight of our

1244

00:44:08,150 --> 00:44:06,160

home planet as we extend our reach

1245

00:44:09,349 --> 00:44:08,160

throughout the solar system and look

1246

00:44:11,349 --> 00:44:09,359

beyond it

1247

00:44:12,950 --> 00:44:11,359

so today

1248

00:44:16,550 --> 00:44:12,960

there may be budget squabbles up the

1249

00:44:18,950 --> 00:44:16,560

street in that big dome building

1250

00:44:22,230 --> 00:44:18,960

but at nasa we're still in the future

1251

00:44:23,670 --> 00:44:22,240

business so we take the long-term view

1252

00:44:25,910 --> 00:44:23,680

when you're preparing an instrument to

1253

00:44:27,750 --> 00:44:25,920

peer back billions of years

1254

00:44:30,550 --> 00:44:27,760

or developing the technology that will

1255

00:44:32,309 --> 00:44:30,560

rocket humans at tens of thousands of

1256

00:44:33,910 --> 00:44:32,319

miles an hour to destinations they've

1257

00:44:36,470 --> 00:44:33,920

never before visited

1258

00:44:39,109 --> 00:44:36,480

or studying the mysteries of the sun and

1259

00:44:41,349 --> 00:44:39,119

how it affects our planet well

1260

00:44:43,990 --> 00:44:41,359

you can get lost in the magnitude of our

1261

00:44:46,550 --> 00:44:44,000

work and today's problems may seem like

1262

00:44:48,630 --> 00:44:46,560

such not such a big deal

1263

00:44:50,390 --> 00:44:48,640

it's been my great honor to be a part of

1264

00:44:51,589 --> 00:44:50,400

a mission that deployed the hubble space

1265

00:44:52,870 --> 00:44:51,599

telescope

1266

00:44:54,790 --> 00:44:52,880

one of the greatest scientific

1267

00:44:56,630 --> 00:44:54,800

instruments of all time

1268

00:44:58,870 --> 00:44:56,640

and to be part of a core that flew an

1269

00:45:01,270 --> 00:44:58,880

experimental vehicle that incredible

1270

00:45:03,750 --> 00:45:01,280

flying machine the space shuttle for

1271

00:45:05,510 --> 00:45:03,760

three decades continually refining it

1272

00:45:08,470 --> 00:45:05,520

and bringing into existence something

1273

00:45:10,950 --> 00:45:08,480

that the world hadn't seen before

1274

00:45:13,030 --> 00:45:10,960

a reusable space vehicle which some of

1275

00:45:14,550 --> 00:45:13,040

our commercial partners will now also be

1276

00:45:17,109 --> 00:45:14,560

developing

1277

00:45:19,750 --> 00:45:17,119

because nasa pioneered such a thing they

1278

00:45:22,390 --> 00:45:19,760

can follow in our footsteps

1279

00:45:24,150 --> 00:45:22,400

there are legacies like these all across

1280

00:45:25,190 --> 00:45:24,160

our space program

1281

00:45:27,030 --> 00:45:25,200

people

1282

00:45:29,349 --> 00:45:27,040

and technologies

1283

00:45:31,190 --> 00:45:29,359

among this nation's greatest legacies

1284

00:45:33,030 --> 00:45:31,200

and legacies may be

1285

00:45:36,230 --> 00:45:33,040

maybe the wrong word

1286

00:45:37,990 --> 00:45:36,240

because we're not stopping anytime soon

1287

00:45:38,950 --> 00:45:38,000

these achievements represent the jump

1288

00:45:40,950 --> 00:45:38,960

start

1289

00:45:42,630 --> 00:45:40,960

we gave to a global exploration

1290

00:45:44,790 --> 00:45:42,640

enterprise

1291

00:45:46,790 --> 00:45:44,800

these achievements help turn what a

1292

00:45:48,150 --> 00:45:46,800

global competition what was a global

1293

00:45:50,150 --> 00:45:48,160

competition

1294

00:45:51,270 --> 00:45:50,160

into global cooperation

1295

00:45:53,990 --> 00:45:51,280

today

1296

00:45:55,910 --> 00:45:54,000

we remain at the forefront as leader of

1297

00:45:57,430 --> 00:45:55,920

this massive effort

1298

00:45:59,270 --> 00:45:57,440

i was privileged to be at the events

1299

00:46:01,589 --> 00:45:59,280

earlier this year celebrating the 50th

1300

00:46:03,030 --> 00:46:01,599

anniversary of john glenn's first

1301
00:46:04,710 --> 00:46:03,040
orbital flight

1302
00:46:07,109 --> 00:46:04,720
and he talks about

1303
00:46:08,950 --> 00:46:07,119
how at each stage of the path we learn

1304
00:46:11,510 --> 00:46:08,960
something

1305
00:46:13,349 --> 00:46:11,520
the research is always important

1306
00:46:15,589 --> 00:46:13,359
in incorporating what we've done to make

1307
00:46:16,950 --> 00:46:15,599
it to the next level will always be

1308
00:46:18,630 --> 00:46:16,960
critical

1309
00:46:20,790 --> 00:46:18,640
enhancing our utilization of the

1310
00:46:24,470 --> 00:46:20,800
international space station is one of

1311
00:46:25,270 --> 00:46:24,480
john's passions as well as one of mine

1312
00:46:28,870 --> 00:46:25,280
this

1313
00:46:30,870 --> 00:46:28,880

is a challenge we must meet to enable

1314

00:46:33,190 --> 00:46:30,880

realization of many of our exploration

1315

00:46:36,870 --> 00:46:33,200

dreams and visions

1316

00:46:38,710 --> 00:46:36,880

today's space program is vital and alive

1317

00:46:41,990 --> 00:46:38,720

it's led by men and women who are

1318

00:46:43,990 --> 00:46:42,000

passionately dedicated to space and

1319

00:46:46,390 --> 00:46:44,000

keeping america the leader in its

1320

00:46:49,109 --> 00:46:46,400

exploration and expanding

1321

00:46:52,790 --> 00:46:49,119

john glenn's legacy

1322

00:46:55,030 --> 00:46:52,800

is the food on which we feed

1323

00:46:56,630 --> 00:46:55,040

they're across this nation

1324

00:46:58,390 --> 00:46:56,640

and around the world

1325

00:47:00,710 --> 00:46:58,400

working on the next phase of a global

1326

00:47:02,550 --> 00:47:00,720

space exploration enterprise

1327

00:47:04,790 --> 00:47:02,560

that those first astronauts and

1328

00:47:07,030 --> 00:47:04,800

scientists and engineers and many

1329

00:47:09,030 --> 00:47:07,040

thousands of people who supported them

1330

00:47:10,950 --> 00:47:09,040

helped to make possible

1331

00:47:12,550 --> 00:47:10,960

it's been my honor

1332

00:47:13,750 --> 00:47:12,560

to be a part of our nation's greatest

1333

00:47:15,670 --> 00:47:13,760

successes

1334

00:47:17,349 --> 00:47:15,680

and to help shepherd nasa to its next

1335

00:47:19,109 --> 00:47:17,359

destinations

1336

00:47:20,950 --> 00:47:19,119

there are many bright days ahead for the

1337

00:47:24,150 --> 00:47:20,960

nation space program and for

1338

00:47:26,790 --> 00:47:24,160

civilization's progress into space i

1339

00:47:30,390 --> 00:47:26,800

hope every one of you here tonight is

1340

00:47:32,309 --> 00:47:30,400

excited and passionate i know i have one

1341

00:47:34,230 --> 00:47:32,319

i hope every one of you though is as

1342

00:47:37,430 --> 00:47:34,240

excited and passionate

1343

00:47:39,990 --> 00:47:37,440

as i am about ensuring that we realize

1344

00:47:42,150 --> 00:47:40,000

every potential of our times

1345

00:47:44,630 --> 00:47:42,160

my thanks again general daily to you and

1346

00:47:46,630 --> 00:47:44,640

to the smithsonian for this opportunity

1347

00:47:48,870 --> 00:47:46,640

john to you for honoring me by me by

1348

00:47:51,430 --> 00:47:48,880

allowing me to be a glenn lecturer

1349

00:47:53,109 --> 00:47:51,440

and for the role that the smithsonian

1350

00:47:55,349 --> 00:47:53,119

the incredible role that they have

1351
00:47:57,670 --> 00:47:55,359
played in the promotion of exploration

1352
00:47:59,990 --> 00:47:57,680
and keeping the dream alive god bless

1353
00:48:01,510 --> 00:48:00,000
each one of you and may god bless the

1354
00:48:09,109 --> 00:48:01,520
good old usa

1355
00:48:13,589 --> 00:48:11,750
i have been told that i have uh

1356
00:48:15,270 --> 00:48:13,599
i have a few minutes that i can take

1357
00:48:16,550 --> 00:48:15,280
thank you very much thank you thanks so

1358
00:48:18,069 --> 00:48:16,560
much

1359
00:48:20,470 --> 00:48:18,079
i've been told that i can take a few

1360
00:48:22,790 --> 00:48:20,480
questions if you have them i'd ask you

1361
00:48:24,309 --> 00:48:22,800
to yell it out and then i'll repeat the

1362
00:48:27,829 --> 00:48:24,319
question so that everybody knows what

1363
00:48:30,150 --> 00:48:27,839

i'm attempting to answer okay and i i

1364

00:48:31,910 --> 00:48:30,160

say that attempting to answer

1365

00:48:34,790 --> 00:48:31,920

even my driver can answer most of these

1366

00:48:35,829 --> 00:48:34,800

questions john's driver will answer most

1367

00:48:37,910 --> 00:48:35,839

of them

1368

00:48:52,549 --> 00:48:37,920

since he's the expert in this crowd all

1369

00:48:57,990 --> 00:48:55,910

the question was we recently acquired

1370

00:48:59,430 --> 00:48:58,000

by gift

1371

00:49:01,990 --> 00:48:59,440

essentially the makings of two

1372

00:49:04,069 --> 00:49:02,000

telescopes from the nro the national

1373

00:49:06,230 --> 00:49:04,079

reconnaissance organization and

1374

00:49:08,870 --> 00:49:06,240

he was asking if we had definitive plans

1375

00:49:10,950 --> 00:49:08,880

for their employment yet we do not

1376

00:49:12,790 --> 00:49:10,960

we accepted them because

1377

00:49:13,670 --> 00:49:12,800

there is great promise of what they can

1378

00:49:17,270 --> 00:49:13,680

do

1379

00:49:19,030 --> 00:49:17,280

exploration program where we've gone

1380

00:49:21,349 --> 00:49:19,040

we've gone out to the public we've gone

1381

00:49:22,309 --> 00:49:21,359

to academia industry and other people

1382

00:49:23,829 --> 00:49:22,319

and said

1383

00:49:25,670 --> 00:49:23,839

you know what should a mars program look

1384

00:49:27,510 --> 00:49:25,680

like for the united states and our

1385

00:49:29,109 --> 00:49:27,520

international partners in the future

1386

00:49:31,430 --> 00:49:29,119

we're now collaborating with the science

1387

00:49:33,990 --> 00:49:31,440

community because there are a lot of

1388

00:49:35,349 --> 00:49:34,000

things that they have great hope that we

1389

00:49:37,030 --> 00:49:35,359

will be able to do

1390

00:49:38,549 --> 00:49:37,040

a lot of things depend on funding but

1391

00:49:40,470 --> 00:49:38,559

that's not something that we're planning

1392

00:49:42,710 --> 00:49:40,480

for right now so you're probably going

1393

00:49:44,549 --> 00:49:42,720

to see us start talking about them

1394

00:49:47,270 --> 00:49:44,559

a couple of budget cycles down the road

1395

00:49:48,950 --> 00:49:47,280

so don't don't go right into congress

1396

00:49:50,630 --> 00:49:48,960

and saying give nasa more money i don't

1397

00:49:52,950 --> 00:49:50,640

i do need it but i don't need it for

1398

00:49:54,710 --> 00:49:52,960

that all right so but but they are very

1399

00:49:57,589 --> 00:49:54,720

promising and we'll determine what we're

1400

00:49:58,309 --> 00:49:57,599

going to do with them soon we hope

1401

00:50:00,470 --> 00:49:58,319

so

1402

00:50:02,069 --> 00:50:00,480

from an internal viewpoint i think

1403

00:50:04,390 --> 00:50:02,079

there's some things that go on at nasa

1404

00:50:06,390 --> 00:50:04,400

centers that public don't realize and

1405

00:50:08,549 --> 00:50:06,400

that i work at a center where it's an

1406

00:50:10,630 --> 00:50:08,559

interesting divide within nasa between

1407

00:50:13,349 --> 00:50:10,640

earth science and planetary science

1408

00:50:15,510 --> 00:50:13,359

particularly with budget issues

1409

00:50:17,430 --> 00:50:15,520

big thing going on is

1410

00:50:19,750 --> 00:50:17,440

that we have our 40th

1411

00:50:20,710 --> 00:50:19,760

anniversary of landsat coming up

1412

00:50:22,790 --> 00:50:20,720

and

1413

00:50:24,790 --> 00:50:22,800

i'm just wondering how you would get

1414

00:50:27,190 --> 00:50:24,800

nasa to be more of a cohesive whole

1415

00:50:29,190 --> 00:50:27,200

again instead of that great divide that

1416

00:50:30,950 --> 00:50:29,200

i see

1417

00:50:33,030 --> 00:50:30,960

the question here was from from an

1418

00:50:35,670 --> 00:50:33,040

internal point of view working at a nasa

1419

00:50:38,870 --> 00:50:35,680

center she sees a divide between

1420

00:50:41,190 --> 00:50:38,880

communities earth science space science

1421

00:50:43,990 --> 00:50:41,200

i talked about human space flight and

1422

00:50:46,230 --> 00:50:44,000

science period um the one thing that i

1423

00:50:48,150 --> 00:50:46,240

think you will see us doing today we we

1424

00:50:49,190 --> 00:50:48,160

are trying to think strategically and

1425

00:50:52,150 --> 00:50:49,200

we're trying to think of where the

1426
00:50:53,750 --> 00:50:52,160
nation wants us to be 30 years from now

1427
00:50:55,829 --> 00:50:53,760
and the other thing that we're doing is

1428
00:50:57,349 --> 00:50:55,839
we're trying to become relevant uh to

1429
00:50:58,790 --> 00:50:57,359
the needs of the people of the nation

1430
00:51:00,069 --> 00:50:58,800
and i think you heard us heard me say

1431
00:51:02,150 --> 00:51:00,079
earlier you know our vision if i

1432
00:51:04,390 --> 00:51:02,160
paraphrase it is we reach for new

1433
00:51:06,069 --> 00:51:04,400
heights for greater heights to reveal

1434
00:51:07,510 --> 00:51:06,079
the unknown so that what we learn and

1435
00:51:08,710 --> 00:51:07,520
what we do makes life better for

1436
00:51:10,390 --> 00:51:08,720
humankind

1437
00:51:11,910 --> 00:51:10,400
earth science plays a critical role in

1438
00:51:14,390 --> 00:51:11,920

everything that we do and i think if you

1439

00:51:16,309 --> 00:51:14,400

look at if you look at the budget

1440

00:51:18,230 --> 00:51:16,319

because you have to say okay

1441

00:51:19,750 --> 00:51:18,240

what is it that you're emphasizing you

1442

00:51:21,109 --> 00:51:19,760

go to the budget

1443

00:51:22,470 --> 00:51:21,119

and if you look at the budget earth

1444

00:51:23,270 --> 00:51:22,480

science has

1445

00:51:26,069 --> 00:51:23,280

has

1446

00:51:27,430 --> 00:51:26,079

been healthy and and healthier

1447

00:51:30,069 --> 00:51:27,440

we have a president who is very

1448

00:51:31,990 --> 00:51:30,079

interested in in earth and its

1449

00:51:33,030 --> 00:51:32,000

preservation and so you find that we are

1450

00:51:34,950 --> 00:51:33,040

putting more

1451
00:51:36,710 --> 00:51:34,960
much more emphasis on on earth science

1452
00:51:39,990 --> 00:51:36,720
that we did then we then we have done in

1453
00:51:42,230 --> 00:51:40,000
recent years but there has to be uh

1454
00:51:44,630 --> 00:51:42,240
collaboration between the two

1455
00:51:46,790 --> 00:51:44,640
we can't know what we need to know about

1456
00:51:50,150 --> 00:51:46,800
earth unless we study

1457
00:51:51,910 --> 00:51:50,160
other planets and asteroids people say

1458
00:51:53,829 --> 00:51:51,920
why do you care about an asteroid i

1459
00:51:55,750 --> 00:51:53,839
mentioned vesta earlier

1460
00:51:58,390 --> 00:51:55,760
uh as an earth scientist if that's what

1461
00:52:00,710 --> 00:51:58,400
you are you probably are hungry for data

1462
00:52:03,030 --> 00:52:00,720
from vesta because we're finding that

1463
00:52:04,870 --> 00:52:03,040

this asteroid this rock is what we

1464

00:52:07,030 --> 00:52:04,880

thought it was

1465

00:52:09,670 --> 00:52:07,040

we now are starting to slowly

1466

00:52:11,510 --> 00:52:09,680

lean toward classifying it as a

1467

00:52:14,549 --> 00:52:11,520

what do we call it a microplanet or a

1468

00:52:17,190 --> 00:52:14,559

small planet or a dwarf planet

1469

00:52:20,230 --> 00:52:17,200

because we're seeing tectonic the

1470

00:52:22,950 --> 00:52:20,240

signs of past tectonic activity if we

1471

00:52:25,109 --> 00:52:22,960

can understand from space science what

1472

00:52:26,870 --> 00:52:25,119

happened to things like older planets

1473

00:52:28,950 --> 00:52:26,880

and asteroids in the light

1474

00:52:30,390 --> 00:52:28,960

we can hopefully keep from making some

1475

00:52:33,030 --> 00:52:30,400

of those mistakes

1476

00:52:35,190 --> 00:52:33,040

uh that you know that humans might cause

1477

00:52:37,109 --> 00:52:35,200

that would cause us to end up like a

1478

00:52:38,150 --> 00:52:37,119

vesta which we would not want to do so i

1479

00:52:39,270 --> 00:52:38,160

think you're going to find hopefully

1480

00:52:41,510 --> 00:52:39,280

what you're going to see is that there's

1481

00:52:43,109 --> 00:52:41,520

much more collaboration among the earth

1482

00:52:45,270 --> 00:52:43,119

scientists and the space scientists and

1483

00:52:46,870 --> 00:52:45,280

among human and robotic space flight

1484

00:52:54,630 --> 00:52:46,880

that's that's what we're striving for

1485

00:52:54,640 --> 00:53:01,109

what is

1486

00:53:05,750 --> 00:53:03,030

uh good question the question is are we

1487

00:53:08,230 --> 00:53:05,760

a rel the basic question was are we are

1488

00:53:10,230 --> 00:53:08,240

we a reliable international partner the

1489

00:53:11,510 --> 00:53:10,240

preface for all that was he's talked to

1490

00:53:13,430 --> 00:53:11,520

a lot of his friends in the european

1491

00:53:15,589 --> 00:53:13,440

space agency and other places and and

1492

00:53:18,870 --> 00:53:15,599

they're concerned because nasa has has

1493

00:53:20,309 --> 00:53:18,880

had to to not continue work with them in

1494

00:53:22,309 --> 00:53:20,319

some things that we were we were

1495

00:53:24,390 --> 00:53:22,319

thinking about doing i think we're an

1496

00:53:27,430 --> 00:53:24,400

incredibly reliable partner and the

1497

00:53:28,470 --> 00:53:27,440

collaboration between the us nasa being

1498

00:53:31,190 --> 00:53:28,480

the space

1499

00:53:33,030 --> 00:53:31,200

arm of the u.s between the u.s and and

1500

00:53:35,430 --> 00:53:33,040

our international partners remains very

1501
00:53:37,349 --> 00:53:35,440
robust if you look at

1502
00:53:38,309 --> 00:53:37,359
the james webb space telescope that i

1503
00:53:39,829 --> 00:53:38,319
mentioned

1504
00:53:41,190 --> 00:53:39,839
that is a partnership between the

1505
00:53:43,589 --> 00:53:41,200
europeans

1506
00:53:45,030 --> 00:53:43,599
the canadians the united states

1507
00:53:46,630 --> 00:53:45,040
we're going to launch it on an ariane

1508
00:53:48,950 --> 00:53:46,640
spacecraft

1509
00:53:50,790 --> 00:53:48,960
so that is a that is something that's

1510
00:53:52,390 --> 00:53:50,800
that's out in the future that that

1511
00:53:53,829 --> 00:53:52,400
remains intact

1512
00:53:55,270 --> 00:53:53,839
if you look at what we're trying to do

1513
00:53:57,430 --> 00:53:55,280

with the mars program as we try to

1514

00:54:00,069 --> 00:53:57,440

restructure our mars program

1515

00:54:01,430 --> 00:54:00,079

we had a workshop in houston

1516

00:54:03,990 --> 00:54:01,440

two weeks ago

1517

00:54:06,470 --> 00:54:04,000

and we had an abundance of international

1518

00:54:09,030 --> 00:54:06,480

partners who came in people representing

1519

00:54:11,589 --> 00:54:09,040

academia the science community industry

1520

00:54:14,150 --> 00:54:11,599

all trying to give us ideas on what

1521

00:54:16,630 --> 00:54:14,160

would a mars program look like given

1522

00:54:18,710 --> 00:54:16,640

today's budgetary environment so

1523

00:54:20,390 --> 00:54:18,720

our international partners are vital to

1524

00:54:21,750 --> 00:54:20,400

everything that we do and particularly

1525

00:54:22,470 --> 00:54:21,760

in the mars program so i think you'll

1526

00:54:24,390 --> 00:54:22,480

see

1527

00:54:27,190 --> 00:54:24,400

we've committed to support them with the

1528

00:54:29,670 --> 00:54:27,200

program called exomars which we did not

1529

00:54:31,750 --> 00:54:29,680

we were not able to to fully stay in the

1530

00:54:33,750 --> 00:54:31,760

way that that we were thinking about but

1531

00:54:35,910 --> 00:54:33,760

we've committed a communications orbiter

1532

00:54:37,750 --> 00:54:35,920

to them for that 2016 mission that

1533

00:54:39,430 --> 00:54:37,760

they're trying to trying to fly and

1534

00:54:41,750 --> 00:54:39,440

because we need it ourselves we have

1535

00:54:43,750 --> 00:54:41,760

also committed to provide our expertise

1536

00:54:45,589 --> 00:54:43,760

in entry decent landing because it's

1537

00:54:48,150 --> 00:54:45,599

only the united states that has ever

1538

00:54:51,109 --> 00:54:48,160

successfully landed something on another

1539

00:54:53,109 --> 00:54:51,119

planet and we know how to do that

1540

00:54:55,190 --> 00:54:53,119

we're trying to help others learn how to

1541

00:54:57,190 --> 00:54:55,200

do it so so we'll continue to be a part

1542

00:55:07,270 --> 00:54:57,200

of their programs

1543

00:55:11,349 --> 00:55:08,950

oh what's nasa's vision on private

1544

00:55:13,829 --> 00:55:11,359

enterprise beyond orbit uh

1545

00:55:15,430 --> 00:55:13,839

we're really working hard on what we can

1546

00:55:17,510 --> 00:55:15,440

do to enable

1547

00:55:20,390 --> 00:55:17,520

private industry to follow in our

1548

00:55:22,230 --> 00:55:20,400

footsteps as far as they can um there

1549

00:55:23,589 --> 00:55:22,240

are some private companies that that

1550

00:55:25,109 --> 00:55:23,599

have visions

1551

00:55:27,430 --> 00:55:25,119

of uh because

1552

00:55:29,829 --> 00:55:27,440

and i need to explain this

1553

00:55:32,309 --> 00:55:29,839

i'm not developing commercial space okay

1554

00:55:35,030 --> 00:55:32,319

under pl get that straight

1555

00:55:37,589 --> 00:55:35,040

i nasa is facilitating

1556

00:55:39,109 --> 00:55:37,599

the the success of a commercial

1557

00:55:40,150 --> 00:55:39,119

enterprise if that's where you want to

1558

00:55:42,549 --> 00:55:40,160

go

1559

00:55:44,470 --> 00:55:42,559

okay if the american taxpayer

1560

00:55:46,710 --> 00:55:44,480

and investors

1561

00:55:48,470 --> 00:55:46,720

and entrepreneurs want to go there we

1562

00:55:50,630 --> 00:55:48,480

can make them successful we can help

1563

00:55:53,030 --> 00:55:50,640

them be successful but

1564

00:55:54,470 --> 00:55:53,040

my job is not to build the industry i am

1565

00:55:57,270 --> 00:55:54,480

a facilitator

1566

00:56:00,230 --> 00:55:57,280

we have met with great success so far in

1567

00:56:01,829 --> 00:56:00,240

our commercial cargo program we have

1568

00:56:04,230 --> 00:56:01,839

we're hoping that orbital will fly their

1569

00:56:05,670 --> 00:56:04,240

first flight coming up here this fall

1570

00:56:07,349 --> 00:56:05,680

spacex has already flown their

1571

00:56:09,430 --> 00:56:07,359

demonstration the next time they fly it

1572

00:56:11,270 --> 00:56:09,440

will be for pay it'll be for contract

1573

00:56:13,829 --> 00:56:11,280

and that's what we're trying to do we're

1574

00:56:14,950 --> 00:56:13,839

working with uh with a number of of

1575

00:56:16,390 --> 00:56:14,960

american

1576

00:56:18,069 --> 00:56:16,400

lead companies that are trying to

1577

00:56:20,230 --> 00:56:18,079

develop vehicles that can carry humans

1578

00:56:22,069 --> 00:56:20,240

to orbit we need that badly to support

1579

00:56:23,510 --> 00:56:22,079

the international space station senator

1580

00:56:24,789 --> 00:56:23,520

glenn and i were talking earlier we need

1581

00:56:27,270 --> 00:56:24,799

to be able to get

1582

00:56:29,270 --> 00:56:27,280

uh an in a larger crew up there than we

1583

00:56:32,470 --> 00:56:29,280

have right now because we need people

1584

00:56:34,309 --> 00:56:32,480

who will tend to the care and feeding of

1585

00:56:36,150 --> 00:56:34,319

the international space station while

1586

00:56:37,990 --> 00:56:36,160

researchers go off and do their work one

1587

00:56:39,910 --> 00:56:38,000

of the problems we have now with a crew

1588

00:56:40,950 --> 00:56:39,920

of six is that we aren't able to get as

1589

00:56:43,510 --> 00:56:40,960

much

1590

00:56:45,349 --> 00:56:43,520

research in as we would like to do so

1591

00:56:47,030 --> 00:56:45,359

we're looking for ways to enhance the

1592

00:56:50,870 --> 00:56:47,040

utilization of the international space

1593

00:56:53,750 --> 00:56:50,880

station uh if if we have private

1594

00:56:55,510 --> 00:56:53,760

industry that wants to colonize the moon

1595

00:56:56,470 --> 00:56:55,520

and if you if you follow the space

1596

00:56:59,270 --> 00:56:56,480

program you'll know that there are a

1597

00:57:02,069 --> 00:56:59,280

number of private companies that are

1598

00:57:04,390 --> 00:57:02,079

looking into ways that they can do an

1599

00:57:06,549 --> 00:57:04,400

elaborate number of things and and we

1600

00:57:08,630 --> 00:57:06,559

support that and we will do everything

1601
00:57:11,510 --> 00:57:08,640
that we can to to facilitate their

1602
00:57:14,390 --> 00:57:11,520
success but but we do not in we don't

1603
00:57:16,470 --> 00:57:14,400
visualize or envision uh

1604
00:57:18,470 --> 00:57:16,480
making private industry

1605
00:57:20,150 --> 00:57:18,480
do things beyond low earth orbit if they

1606
00:57:21,910 --> 00:57:20,160
want to do it we're happy and we'll

1607
00:57:27,990 --> 00:57:21,920
support them

1608
00:57:31,349 --> 00:57:29,589
oh what advice do i have for you as a

1609
00:57:33,190 --> 00:57:31,359
future astronaut

1610
00:57:34,950 --> 00:57:33,200
uh it's very simple you know i wish i

1611
00:57:36,470 --> 00:57:34,960
could tell you something you know i

1612
00:57:38,470 --> 00:57:36,480
could give you some magic potion but

1613
00:57:40,390 --> 00:57:38,480

it's what my mom and dad told me

1614

00:57:42,470 --> 00:57:40,400

you got to study your little tail off i

1615

00:57:44,390 --> 00:57:42,480

mean you have to study hard

1616

00:57:46,630 --> 00:57:44,400

what do you study everything take math

1617

00:57:48,549 --> 00:57:46,640

and science they're absolutely critical

1618

00:57:49,990 --> 00:57:48,559

challenge yourself every step along the

1619

00:57:52,710 --> 00:57:50,000

way

1620

00:57:54,390 --> 00:57:52,720

don't get focused on a's get focused on

1621

00:57:55,270 --> 00:57:54,400

knowledge

1622

00:57:57,589 --> 00:57:55,280

you know

1623

00:57:59,910 --> 00:57:57,599

take the difficult courses work really

1624

00:58:01,510 --> 00:57:59,920

hard if you're an athlete or a musician

1625

00:58:03,670 --> 00:58:01,520

or anything else

1626
00:58:06,150 --> 00:58:03,680
do the same focus in the classroom that

1627
00:58:07,990 --> 00:58:06,160
you do when you're on the sports field

1628
00:58:09,430 --> 00:58:08,000
separate them don't worry about sports

1629
00:58:11,430 --> 00:58:09,440
when you're in academics don't worry

1630
00:58:13,829 --> 00:58:11,440
about academics when you're in sports we

1631
00:58:15,510 --> 00:58:13,839
need real well-rounded human beings so i

1632
00:58:17,510 --> 00:58:15,520
need for you to be an athlete and i need

1633
00:58:18,710 --> 00:58:17,520
for you to be a musician but i also need

1634
00:58:20,630 --> 00:58:18,720
for you to be a

1635
00:58:23,190 --> 00:58:20,640
critical thinker and finally don't be

1636
00:58:26,390 --> 00:58:23,200
afraid of failure

1637
00:58:28,470 --> 00:58:26,400
space travel is difficult and dangerous

1638
00:58:30,789 --> 00:58:28,480

i have lived through the loss of two

1639

00:58:32,470 --> 00:58:30,799

groups of friends in two vehicles

1640

00:58:35,270 --> 00:58:32,480

john's been through three

1641

00:58:38,069 --> 00:58:35,280

and so you know we have suffered through

1642

00:58:39,589 --> 00:58:38,079

triumphant tragedy uh they go together

1643

00:58:41,750 --> 00:58:39,599

you can't have one without the other

1644

00:58:43,990 --> 00:58:41,760

there is no triumph without tragedy

1645

00:58:45,190 --> 00:58:44,000

without people willing to take risks so

1646

00:58:46,789 --> 00:58:45,200

those are the three things i tell you

1647

00:58:48,309 --> 00:58:46,799

study hard work really hard and don't be

1648

00:58:50,950 --> 00:58:48,319

afraid of failure don't let anybody tell

1649

00:58:51,910 --> 00:58:50,960

you you can't do something

1650

00:58:55,190 --> 00:58:51,920

okay

1651
00:58:58,789 --> 00:58:57,430
12 i love it that's my granddaughter

1652
00:59:00,789 --> 00:58:58,799
that's my oldest grand that's not my

1653
00:59:02,549 --> 00:59:00,799
oldest granddaughter but

1654
00:59:03,990 --> 00:59:02,559
but i need to introduce you to my oldest

1655
00:59:06,230 --> 00:59:04,000
granddaughter who's 12 and she's the

1656
00:59:07,510 --> 00:59:06,240
rocket scientist she doesn't talk about

1657
00:59:09,030 --> 00:59:07,520
going to space but she wants to build

1658
00:59:11,430 --> 00:59:09,040
rockets so people can go to space and

1659
00:59:13,190 --> 00:59:11,440
i'm incredibly proud maybe two more

1660
00:59:18,309 --> 00:59:13,200
questions one way back up in the back

1661
00:59:22,390 --> 00:59:20,150
what's uh say one more i know it's

1662
00:59:24,390 --> 00:59:22,400
something about a future marine but

1663
00:59:25,430 --> 00:59:24,400

oh what advice would i have for a future

1664

00:59:28,470 --> 00:59:25,440

marine

1665

00:59:34,630 --> 00:59:31,990

work hard do not accept failure

1666

00:59:37,430 --> 00:59:34,640

and get in shape

1667

00:59:39,910 --> 00:59:37,440

okay not just physical shape but but get

1668

00:59:41,910 --> 00:59:39,920

in shape in your head

1669

00:59:43,750 --> 00:59:41,920

you know just just get ready to take

1670

00:59:44,870 --> 00:59:43,760

anything anybody throws at you because

1671

00:59:48,150 --> 00:59:44,880

that's

1672

00:59:50,470 --> 00:59:48,160

it's a little bit tougher than being an

1673

00:59:51,430 --> 00:59:50,480

astronaut but you can do it

1674

00:59:53,750 --> 00:59:51,440

okay

1675

00:59:56,309 --> 00:59:53,760

last question or what i pointed to

1676

00:59:58,789 --> 00:59:56,319

somebody and i apologize was it you yes

1677

01:00:00,950 --> 00:59:58,799

i'm sorry i know that uh the kepler team

1678

01:00:03,349 --> 01:00:00,960

right now is almost inundated with

1679

01:00:05,430 --> 01:00:03,359

information coming in and that they put

1680

01:00:07,990 --> 01:00:05,440

some of that uh online and they've been

1681

01:00:09,589 --> 01:00:08,000

able to crowdsource a lot of um

1682

01:00:11,750 --> 01:00:09,599

input into where they can find

1683

01:00:15,190 --> 01:00:11,760

exoplanets do you have any other ideas

1684

01:00:16,870 --> 01:00:15,200

of how the public can be engaged

1685

01:00:18,309 --> 01:00:16,880

i'm going to ask somebody believe it or

1686

01:00:20,230 --> 01:00:18,319

not becky would you come up here for a

1687

01:00:22,549 --> 01:00:20,240

minute

1688

01:00:23,910 --> 01:00:22,559

i don't know the answer

1689

01:00:25,589 --> 01:00:23,920

one of the things i learned a long time

1690

01:00:27,510 --> 01:00:25,599

ago when i became the nasa administrator

1691

01:00:29,829 --> 01:00:27,520

was don't pretend you know the answer to

1692

01:00:32,069 --> 01:00:29,839

everything because you don't uh

1693

01:00:34,309 --> 01:00:32,079

becky is one of one of our

1694

01:00:36,150 --> 01:00:34,319

one of our experts in the communications

1695

01:00:37,510 --> 01:00:36,160

department so i'm going to ask her to

1696

01:00:39,270 --> 01:00:37,520

answer your question and i'm going to

1697

01:00:40,789 --> 01:00:39,280

give you the simplest answer possible

1698

01:00:42,870 --> 01:00:40,799

there's lots of stuff out there but go

1699

01:00:45,910 --> 01:00:42,880

to nasa.gov

1700

01:00:48,470 --> 01:00:45,920

it's all online we have

1701

01:00:50,630 --> 01:00:48,480

if you are a student there's a place to

1702

01:00:52,549 --> 01:00:50,640

go for students if you're a teacher go

1703

01:00:54,789 --> 01:00:52,559

to the four teachers for the public

1704

01:00:56,390 --> 01:00:54,799

there's for parents even we've got

1705

01:00:57,910 --> 01:00:56,400

all sorts of cool little sections of

1706

01:01:01,430 --> 01:00:57,920

places where you can go to find what to

1707

01:01:04,230 --> 01:01:01,440

do and you can get involved if you are a

1708

01:01:06,549 --> 01:01:04,240

big social media person

1709

01:01:09,190 --> 01:01:06,559

come to one of our nasa socials

1710

01:01:11,109 --> 01:01:09,200

and you get amazing behind the scenes

1711

01:01:13,750 --> 01:01:11,119

looks at what we do plus you get to meet

1712

01:01:15,510 --> 01:01:13,760

all these other cool social media folks

1713

01:01:18,549 --> 01:01:15,520

that's a great way to get involved but

1714

01:01:20,870 --> 01:01:18,559

go to nasa.gov it's all on there we put

1715

01:01:22,789 --> 01:01:20,880

all of these opportunities online and

1716

01:01:24,950 --> 01:01:22,799

there are lots of ways for you to get

1717

01:01:26,630 --> 01:01:24,960

involved if you can't find them give me

1718

01:01:28,950 --> 01:01:26,640

a call

1719

01:01:32,630 --> 01:01:28,960

becky ramsay

1720

01:01:35,190 --> 01:01:32,640

or sarah or sarah sarah rebecca

1721

01:01:36,309 --> 01:01:35,200

um thanks becky

1722

01:01:37,670 --> 01:01:36,319

the the

1723

01:01:39,430 --> 01:01:37,680

socials

1724

01:01:41,750 --> 01:01:39,440

that's what we call them now right

1725

01:01:43,349 --> 01:01:41,760

yeah they used to be called tweet ups

1726

01:01:45,990 --> 01:01:43,359

but but they're now called socials i see

1727

01:01:48,549 --> 01:01:46,000

a lot of thumbs going up if you if you

1728

01:01:51,109 --> 01:01:48,559

do any kind of social media

1729

01:01:53,109 --> 01:01:51,119

uh you want to try to find a social

1730

01:01:55,670 --> 01:01:53,119

we're having them all over the country

1731

01:01:57,589 --> 01:01:55,680

for the uh curiosity

1732

01:02:00,390 --> 01:01:57,599

landing so

1733

01:02:02,309 --> 01:02:00,400

august at least august fourth and fifth

1734

01:02:06,309 --> 01:02:02,319

uh there's probably gonna be some here

1735

01:02:08,390 --> 01:02:06,319

fourth fourth fifth and sixth

1736

01:02:10,470 --> 01:02:08,400

okay there's six nasa socials but you

1737

01:02:12,870 --> 01:02:10,480

can probably find it on online again go

1738

01:02:15,030 --> 01:02:12,880

to nasa.gov and look for

1739

01:02:16,710 --> 01:02:15,040

all that stuff one at goddard are we

1740

01:02:18,549 --> 01:02:16,720

doing one here

1741

01:02:21,829 --> 01:02:18,559

we're not doing one general daily says

1742

01:02:24,230 --> 01:02:21,839

he is now so

1743

01:02:26,950 --> 01:02:24,240

i'm just kidding i i i didn't

1744

01:02:29,430 --> 01:02:26,960

i didn't say that but but really i i am

1745

01:02:31,349 --> 01:02:29,440

very proud of of the nasa website it is

1746

01:02:33,589 --> 01:02:31,359

it's it is an award-winning website for

1747

01:02:35,109 --> 01:02:33,599

those of you who who follow social media

1748

01:02:37,510 --> 01:02:35,119

and stuff like that and all that kind of

1749

01:02:39,670 --> 01:02:37,520

stuff we've won a number of webbies uh

1750

01:02:43,349 --> 01:02:39,680

it's like an academy award for websites

1751

01:02:45,190 --> 01:02:43,359

and stuff um and and becky and and bob

1752

01:02:46,390 --> 01:02:45,200

jacobs and david weaver and the whole

1753

01:02:48,309 --> 01:02:46,400

crew

1754

01:02:49,910 --> 01:02:48,319

in communications do an absolutely

1755

01:02:51,990 --> 01:02:49,920

incredible job

1756

01:02:54,150 --> 01:02:52,000

i am a hard taskmaster so i always say

1757

01:02:56,549 --> 01:02:54,160

it's not good enough because we still

1758

01:02:58,309 --> 01:02:56,559

have people who come up to me when i go

1759

01:02:59,510 --> 01:02:58,319

places and say why are we no longer in

1760

01:03:01,670 --> 01:02:59,520

space

1761

01:03:03,589 --> 01:03:01,680

and why is nasa walking away from human

1762

01:03:05,589 --> 01:03:03,599

space flight and so if i didn't leave

1763

01:03:07,190 --> 01:03:05,599

you with anything tonight you know i

1764

01:03:10,309 --> 01:03:07,200

need you to be missionaries i need for

1765

01:03:11,910 --> 01:03:10,319

you to go out and you need to brag about

1766

01:03:13,510 --> 01:03:11,920

what you do

1767

01:03:15,670 --> 01:03:13,520

whether you work at nasa or not you've

1768

01:03:17,990 --> 01:03:15,680

heard me say this right

1769

01:03:19,349 --> 01:03:18,000

i tell our nasa family all the time they

1770

01:03:20,950 --> 01:03:19,359

need to be proud of what they do they

1771

01:03:23,190 --> 01:03:20,960

need to go stick their chests out they

1772

01:03:25,349 --> 01:03:23,200

need to be marines about nasa

1773

01:03:27,910 --> 01:03:25,359

you don't see any marine who's bashful

1774

01:03:29,589 --> 01:03:27,920

about talking about being a marine

1775

01:03:30,789 --> 01:03:29,599

we're very proud of it because we know

1776

01:03:32,549 --> 01:03:30,799

we're good

1777

01:03:34,309 --> 01:03:32,559

at nasa we're very proud of it because

1778

01:03:35,589 --> 01:03:34,319

we know we're good we do stuff no one

1779

01:03:38,069 --> 01:03:35,599

else can do

1780

01:03:40,470 --> 01:03:38,079

and uh and we lead the world and so

1781

01:03:41,990 --> 01:03:40,480

i would ask you to go back home tomorrow

1782

01:03:42,710 --> 01:03:42,000

or go to work or whatever it is and said

1783

01:03:44,470 --> 01:03:42,720

hey

1784

01:03:45,670 --> 01:03:44,480

i saw this lousy speaker but he had good

1785

01:03:47,510 --> 01:03:45,680

images

1786

01:03:50,789 --> 01:03:47,520

and uh and he told me to go out and

1787

01:03:52,710 --> 01:03:50,799

proselytize about exploration and so if

1788

01:03:54,710 --> 01:03:52,720

you do that i will have been successful

1789

01:03:56,549 --> 01:03:54,720

tonight so thank you very much again for

1790

01:03:57,670 --> 01:03:56,559

uh for allowing me to come here and be

1791

01:03:59,430 --> 01:03:57,680

with you tonight thanks so much for

1792

01:04:01,190 --> 01:03:59,440

giving up your evening thanks again

1793

01:04:02,470 --> 01:04:01,200

general daley senator glenn thank you