



1  
00:00:07,349 --> 00:00:05,510  
well good afternoon and welcome to the

2  
00:00:09,110 --> 00:00:07,359  
uh kennedy space center i'm bob cabana

3  
00:00:10,950 --> 00:00:09,120  
to have the privilege of being the

4  
00:00:12,870 --> 00:00:10,960  
director here and i'd like to welcome

5  
00:00:14,709 --> 00:00:12,880  
you all to this 30th anniversary

6  
00:00:15,509 --> 00:00:14,719  
celebration of the space shuttle program

7  
00:00:17,349 --> 00:00:15,519  
and

8  
00:00:18,550 --> 00:00:17,359  
our long-awaited orbiter disposition

9  
00:00:20,550 --> 00:00:18,560  
announcement

10  
00:00:22,710 --> 00:00:20,560  
to get things started i'd like to start

11  
00:00:24,150 --> 00:00:22,720  
off with this video and it's narrated by

12  
00:00:30,470 --> 00:00:24,160  
someone that i'm sure you're going to

13  
00:00:37,110 --> 00:00:34,950

an idea born in unsettled times

14

00:00:39,350 --> 00:00:37,120

we are going forward

15

00:00:41,990 --> 00:00:39,360

america the united states

16

00:00:47,029 --> 00:00:42,000

is first in space

17

00:00:52,709 --> 00:00:50,950

the most complex machine ever built

18

00:00:56,389 --> 00:00:52,719

to bring humans to

19

00:01:00,470 --> 00:00:57,750

and eventually

20

00:01:02,630 --> 00:01:00,480

construct the next stop on the road to

21

00:01:05,270 --> 00:01:02,640

space exploration

22

00:01:08,230 --> 00:01:05,280

to take the radio

23

00:01:12,789 --> 00:01:10,630

as 30 years of flight draw to a close

24

00:01:18,390 --> 00:01:12,799

its legacy is one of unsurpassed

25

00:01:23,270 --> 00:01:21,270

nasa space shuttle

26  
00:01:26,149 --> 00:01:23,280  
space shuttle endeavour is rolling out

27  
00:01:31,190 --> 00:01:26,159  
to launch pad 39a at nasa's kennedy

28  
00:01:35,109 --> 00:01:33,109  
in 24 missions

29  
00:01:37,429 --> 00:01:35,119  
flown over 20 years

30  
00:01:40,789 --> 00:01:37,439  
endeavour has logged more than 103

31  
00:01:42,710 --> 00:01:40,799  
million miles in space

32  
00:01:45,270 --> 00:01:42,720  
the last of nasa's shuttles to be built

33  
00:01:48,389 --> 00:01:45,280  
endeavour prepares for her final flight

34  
00:01:52,630 --> 00:01:50,950  
endeavours six astronauts have trained

35  
00:01:54,149 --> 00:01:52,640  
for this mission for years

36  
00:01:56,310 --> 00:01:54,159  
well before any shuttle reaches the

37  
00:01:58,069 --> 00:01:56,320  
launch pad however a staggering amount

38  
00:02:00,870 --> 00:01:58,079

of work is required

39

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

the parts plans and people necessary to

40

00:02:04,630 --> 00:02:02,399

make each launch

41

00:02:06,069 --> 00:02:04,640

span the entire nation you've got all

42

00:02:08,070 --> 00:02:06,079

these people all these folks that are in

43

00:02:10,790 --> 00:02:08,080

their 20s some of them in their 30s and

44

00:02:12,630 --> 00:02:10,800

they are no kidding in charge of some

45

00:02:14,550 --> 00:02:12,640

part of the space shuttle some part of

46

00:02:16,949 --> 00:02:14,560

the space station or

47

00:02:19,030 --> 00:02:16,959

some part of the plan and every one of

48

00:02:20,550 --> 00:02:19,040

those people absolutely believes that

49

00:02:22,390 --> 00:02:20,560

they are the one that makes the

50

00:02:29,990 --> 00:02:22,400

difference on getting those astronauts

51  
00:02:34,070 --> 00:02:32,070  
at nasa's mission assembly facility in

52  
00:02:36,790 --> 00:02:34,080  
new orleans production begins on the

53  
00:02:45,350 --> 00:02:36,800  
shuttle's external fuel tank

54  
00:02:48,949 --> 00:02:46,949  
around the same time

55  
00:02:52,150 --> 00:02:48,959  
in clearfield utah

56  
00:02:54,309 --> 00:02:52,160  
technicians and atk launch systems start

57  
00:03:00,229 --> 00:02:54,319  
work on the shuttle system solid rocket

58  
00:03:04,630 --> 00:03:02,470  
unlike the orange external tank that is

59  
00:03:05,670 --> 00:03:04,640  
used only once the boosters detach

60  
00:03:08,630 --> 00:03:05,680  
themselves

61  
00:03:11,750 --> 00:03:08,640  
and parachute into the atlantic ocean

62  
00:03:17,990 --> 00:03:11,760  
they are then retrieved refurbished and

63  
00:03:21,750 --> 00:03:20,229

the shuttle missions crew is assigned

64

00:03:23,750 --> 00:03:21,760

right up until launch

65

00:03:26,470 --> 00:03:23,760

a shuttle crew will train in a variety

66

00:03:29,270 --> 00:03:26,480

of critical regimens some basic

67

00:03:31,509 --> 00:03:29,280

others specific to their mission

68

00:03:34,470 --> 00:03:31,519

simulators

69

00:03:36,949 --> 00:03:34,480

safety and contingency

70

00:03:39,430 --> 00:03:36,959

science experiments

71

00:03:46,550 --> 00:03:39,440

and underwater in the world's largest

72

00:03:51,670 --> 00:03:49,430

one month later the et is mated to the

73

00:03:54,630 --> 00:03:51,680

solid rocket boosters to form the

74

00:03:55,589 --> 00:03:54,640

backbone of the stack now all that's

75

00:04:02,149 --> 00:03:55,599

missing

76

00:04:06,789 --> 00:04:04,949

looking now much like it will at liftoff

77

00:04:09,190 --> 00:04:06,799

the space shuttle is carried to the

78

00:04:12,390 --> 00:04:09,200

launch pad atop the 6 million pound

79

00:04:14,630 --> 00:04:12,400

crawler transporter at a blazing pace of

80

00:04:15,990 --> 00:04:14,640

less than a mile an hour

81

00:04:18,229 --> 00:04:16,000

not exactly

82

00:04:19,590 --> 00:04:18,239

warm speed at our peak carrying full

83

00:04:21,909 --> 00:04:19,600

load we get a

84

00:04:24,469 --> 00:04:21,919

right around 38 feet per gallon not too

85

00:04:28,310 --> 00:04:24,479

bad for an original 1965 hybrid vehicle

86

00:04:34,790 --> 00:04:28,320

with low miles the 3.4 mile journey

87

00:04:39,189 --> 00:04:36,870

now on the launch pad the orbiter is

88

00:04:41,909 --> 00:04:39,199

ready to take on its main payload

89

00:04:44,230 --> 00:04:41,919

testing assures that the multi-ton cargo

90

00:04:46,310 --> 00:04:44,240

is secured and safely stowed in the

91

00:04:48,550 --> 00:04:46,320

payload bay before the technician

92

00:04:53,670 --> 00:04:48,560

certified the orbiter is ready for

93

00:04:58,390 --> 00:04:55,830

flying t-38 aircraft from ellington

94

00:05:03,830 --> 00:04:58,400

field in houston the crew members arrive

95

00:05:07,909 --> 00:05:05,430

this is the ntd conducting the launch

96

00:05:12,070 --> 00:05:07,919

status check all stations verify ready

97

00:05:15,270 --> 00:05:12,080

to resume count and go for launch otc

98

00:05:16,150 --> 00:05:15,280

tvc tbc girl ptc after nearly three

99

00:05:18,310 --> 00:05:16,160

years

100

00:05:19,909 --> 00:05:18,320

hundreds of thousands of hours logged by

101  
00:05:21,510 --> 00:05:19,919  
engineers

102  
00:05:22,950 --> 00:05:21,520  
technicians

103  
00:05:24,629 --> 00:05:22,960  
scientists

104  
00:05:26,150 --> 00:05:24,639  
seamstresses

105  
00:05:27,990 --> 00:05:26,160  
electricians

106  
00:05:30,150 --> 00:05:28,000  
and other program workers across the

107  
00:05:32,629 --> 00:05:30,160  
globe

108  
00:05:33,909 --> 00:05:32,639  
we have maintenance start two

109  
00:05:37,510 --> 00:05:33,919  
one

110  
00:05:40,310 --> 00:05:38,870  
the shuttle

111  
00:05:45,990 --> 00:05:40,320  
makes its way

112  
00:05:50,790 --> 00:05:47,749  
at liftoff

113  
00:05:53,350 --> 00:05:50,800

6.6 million pounds of thrust begin

114

00:05:55,270 --> 00:05:53,360

hurtling the vehicle and crew at speeds

115

00:05:59,990 --> 00:05:55,280

that'll reach 17

116

00:06:03,350 --> 00:06:01,830

the shuttle is like no other machine

117

00:06:05,510 --> 00:06:03,360

ever built

118

00:06:07,110 --> 00:06:05,520

for its launch to succeed more than a

119

00:06:13,510 --> 00:06:07,120

million parts must move together

120

00:06:18,550 --> 00:06:15,990

how this engineering marvel came to be

121

00:06:20,950 --> 00:06:18,560

is an amazing story that begins in the

122

00:06:22,870 --> 00:06:20,960

early 1970s

123

00:06:25,510 --> 00:06:22,880

a new mission is sought for nasa to send

124

00:06:27,350 --> 00:06:25,520

humans into space but mars

125

00:06:30,150 --> 00:06:27,360

for many the next logical step on the

126

00:06:33,029 --> 00:06:30,160

path of exploration is dismissed as too

127

00:06:36,230 --> 00:06:33,039

costly a destination for a country

128

00:06:40,390 --> 00:06:36,240

preoccupied with events back on earth

129

00:06:45,350 --> 00:06:40,400

instead on january 5th 1972

130

00:06:50,790 --> 00:06:48,070

low earth orbit president nixon really

131

00:06:52,870 --> 00:06:50,800

liked the idea and uh and and told the

132

00:06:54,629 --> 00:06:52,880

nasa administrator go do it

133

00:06:56,710 --> 00:06:54,639

and the nasa administrator got a call

134

00:06:57,830 --> 00:06:56,720

from omb the next morning someone there

135

00:06:59,589 --> 00:06:57,840

and said hey

136

00:07:01,990 --> 00:06:59,599

what the president really meant to say

137

00:07:05,029 --> 00:07:02,000

was you're going to get this much money

138

00:07:07,189 --> 00:07:05,039

and so do as best you can

139

00:07:08,629 --> 00:07:07,199

with the space transportation system and

140

00:07:09,510 --> 00:07:08,639

our choice

141

00:07:11,510 --> 00:07:09,520

uh

142

00:07:13,350 --> 00:07:11,520

logically was we have to have a vehicle

143

00:07:15,670 --> 00:07:13,360

first and so that that was the birth of

144

00:07:17,909 --> 00:07:15,680

the space shuttle as the first in the

145

00:07:20,550 --> 00:07:17,919

three-part space transportation system

146

00:07:22,309 --> 00:07:20,560

many designs were considered often they

147

00:07:23,430 --> 00:07:22,319

combined the best features of different

148

00:07:26,469 --> 00:07:23,440

concepts

149

00:07:29,350 --> 00:07:26,479

one was the use of a lifting body an

150

00:07:31,350 --> 00:07:29,360

aircraft with no conventional wings only

151  
00:07:33,830 --> 00:07:31,360  
its fuselage would keep the aircraft

152  
00:07:34,629 --> 00:07:33,840  
airborne and guide it safely back to

153  
00:07:36,629 --> 00:07:34,639  
earth

154  
00:07:39,189 --> 00:07:36,639  
at that time they were looking at having

155  
00:07:41,029 --> 00:07:39,199  
jet engines on the shuttle for landing

156  
00:07:42,870 --> 00:07:41,039  
and for transporting it across the

157  
00:07:45,350 --> 00:07:42,880  
country

158  
00:07:48,150 --> 00:07:45,360  
they were known as the flying bathtubs

159  
00:07:51,350 --> 00:07:48,160  
for the first test the m2f1 was towed

160  
00:07:53,830 --> 00:07:51,360  
behind a car a souped-up pontiac

161  
00:07:55,990 --> 00:07:53,840  
whitey whitesides drove that pontiac

162  
00:07:58,629 --> 00:07:56,000  
across the like that at about 120 miles

163  
00:08:01,110 --> 00:07:58,639

per hour dragging this flying bathtub

164

00:08:03,589 --> 00:08:01,120

behind it as well as groundbreaking

165

00:08:12,070 --> 00:08:03,599

their tests could also prove

166

00:08:17,830 --> 00:08:15,110

september 1976 more than four and a half

167

00:08:19,350 --> 00:08:17,840

years after president nixon signed off

168

00:08:22,629 --> 00:08:19,360

on its development

169

00:08:24,710 --> 00:08:22,639

america's new spacecraft constitution

170

00:08:26,869 --> 00:08:24,720

gets his first close-up before the

171

00:08:28,869 --> 00:08:26,879

cameras the orbiter itself was well

172

00:08:31,430 --> 00:08:28,879

received by the public but impassioned

173

00:08:33,990 --> 00:08:31,440

fans of a particular long-canceled

174

00:08:36,469 --> 00:08:34,000

television series called star trek

175

00:08:39,029 --> 00:08:36,479

wanted it called something else they

176  
00:08:41,190 --> 00:08:39,039  
staged a successful write-in campaign

177  
00:08:44,470 --> 00:08:41,200  
and the orbiter was renamed for the

178  
00:08:46,949 --> 00:08:44,480  
starship featured on the show thus

179  
00:08:48,389 --> 00:08:46,959  
nasa's new shuttle would be

180  
00:08:49,990 --> 00:08:48,399  
the enterprise

181  
00:08:57,990 --> 00:08:50,000  
boldly going

182  
00:09:01,750 --> 00:08:59,590  
whatever its name

183  
00:09:09,990 --> 00:09:01,760  
this bird still needed to prove he could

184  
00:09:15,030 --> 00:09:13,110  
in an age before computer simulations

185  
00:09:17,590 --> 00:09:15,040  
balsa wood models and wind tunnel

186  
00:09:19,670 --> 00:09:17,600  
testing was the only means to test the

187  
00:09:22,550 --> 00:09:19,680  
airliner sized glider

188  
00:09:25,030 --> 00:09:22,560

we put together a very aggressive flight

189

00:09:27,590 --> 00:09:25,040

test profile that consisted of data

190

00:09:29,509 --> 00:09:27,600

points continuously all the way down

191

00:09:32,070 --> 00:09:29,519

they were just not there was not a

192

00:09:34,630 --> 00:09:32,080

matter of 10 seconds went by without

193

00:09:37,750 --> 00:09:34,640

another either pitch doublet or a rudder

194

00:09:39,910 --> 00:09:37,760

kick or an angle of attack sweep

195

00:09:41,750 --> 00:09:39,920

the things that really turn on a test

196

00:09:44,790 --> 00:09:41,760

pilot to fly them as accurately as

197

00:09:46,790 --> 00:09:44,800

possible august 12 1977

198

00:09:48,790 --> 00:09:46,800

on a crystal clear california morning

199

00:09:51,030 --> 00:09:48,800

high above the mojave desert

200

00:09:53,990 --> 00:09:51,040

two nasa test pilots ready for

201  
00:09:57,430 --> 00:09:54,000  
enterprises first flight the plan was

202  
00:10:00,949 --> 00:09:57,440  
for fred hayes jr and gordon fullerton

203  
00:10:03,590 --> 00:10:00,959  
to lift the orbiter off a modified 747

204  
00:10:39,990 --> 00:10:03,600  
then land on a dry lake bed fifteen

205  
00:10:44,230 --> 00:10:42,230  
colombia nasa's first orbiter is

206  
00:10:47,750 --> 00:10:44,240  
fittingly named after the first american

207  
00:10:49,670 --> 00:10:47,760  
vessel to circumnavigate the globe

208  
00:10:51,829 --> 00:10:49,680  
while the new class of nasa astronauts

209  
00:10:54,870 --> 00:10:51,839  
trained for subsequent shuttle flights

210  
00:10:58,829 --> 00:10:54,880  
columbia was undergoing preparations for

211  
00:11:04,150 --> 00:11:01,910  
sts-1 veteran astronaut john young one

212  
00:11:06,710 --> 00:11:04,160  
of the 12 men to set foot on the moon

213  
00:11:32,870 --> 00:11:06,720

is in command his pilot is first-time

214

00:11:37,750 --> 00:11:34,310

together they would travel over a

215

00:11:40,230 --> 00:11:37,760

million miles and circle the earth 36

216

00:11:41,590 --> 00:11:40,240

times john used to says a they're

217

00:11:43,030 --> 00:11:41,600

getting ready to light off seven million

218

00:11:44,150 --> 00:11:43,040

pounds of thrust under you and you're a

219

00:11:45,750 --> 00:11:44,160

little bit

220

00:11:46,949 --> 00:11:45,760

excited you don't know what's going on

221

00:11:49,190 --> 00:11:46,959

they're both john and i knew what was

222

00:11:51,990 --> 00:11:49,200

going on launched like a rocket two days

223

00:11:54,150 --> 00:11:52,000

earlier columbia lands as a glider on

224

00:11:55,750 --> 00:11:54,160

the dry lake bed of edwards air force

225

00:11:57,990 --> 00:11:55,760

base in california we do a big

226

00:11:59,430 --> 00:11:58,000

turnaround to land on the lake bed for

227

00:12:01,590 --> 00:11:59,440

that first flight i remember when john

228

00:12:03,509 --> 00:12:01,600

went into a bank a big left bank i

229

00:12:05,670 --> 00:12:03,519

looked down at the lake bed and there's

230

00:12:07,829 --> 00:12:05,680

thousands of people out there

231

00:12:12,470 --> 00:12:07,839

john look at all those folks

232

00:12:16,870 --> 00:12:14,629

anyone who was associated with the

233

00:12:19,350 --> 00:12:16,880

program or there just to see the shuttle

234

00:12:22,870 --> 00:12:19,360

return i think felt a lot of pride in

235

00:12:23,829 --> 00:12:22,880

our country and our space program and so

236

00:12:26,069 --> 00:12:23,839

that

237

00:12:28,389 --> 00:12:26,079

those emotions were you know finally

238

00:12:31,430 --> 00:12:28,399

released and you said wow you know the

239

00:12:34,389 --> 00:12:31,440

flight was done safely they're back home

240

00:12:51,030 --> 00:12:34,399

uh the shuttle really does work it's a

241

00:12:55,990 --> 00:12:53,430

and thousands of americans dedicated to

242

00:12:57,750 --> 00:12:56,000

its safety and success have toiled in

243

00:13:00,949 --> 00:12:57,760

exhilarating triumph

244

00:13:03,829 --> 00:13:00,959

heartbreaking tragedy and most often

245

00:13:06,790 --> 00:13:03,839

quiet obscurity their contributions have

246

00:13:07,990 --> 00:13:06,800

extended beyond the bounds of space

247

00:13:09,670 --> 00:13:08,000

among others

248

00:13:11,829 --> 00:13:09,680

shuttle derived technologies have been

249

00:13:13,269 --> 00:13:11,839

used in developing an artificial heart

250

00:13:14,870 --> 00:13:13,279

and limbs three-dimensional

251

00:13:17,190 --> 00:13:14,880

biotechnology

252

00:13:19,190 --> 00:13:17,200

a light for treating tumors in children

253

00:13:22,870 --> 00:13:19,200

and improving crime prevention and

254

00:13:27,030 --> 00:13:24,550

from crawler driver

255

00:13:31,110 --> 00:13:27,040

to payload specialists

256

00:13:33,750 --> 00:13:31,120

from scuba dive to pilot

257

00:13:35,430 --> 00:13:33,760

from scientists to engineer

258

00:13:37,829 --> 00:13:35,440

they and many like

259

00:13:42,870 --> 00:13:37,839

throughout the nation share a commitment

260

00:13:44,870 --> 00:13:42,880

to sending humankind safely into space

261

00:13:46,069 --> 00:13:44,880

that dedication as much as any other

262

00:13:49,430 --> 00:13:46,079

acclaim

263

00:13:52,069 --> 00:13:49,440

will be the legacy of america's

264

00:13:55,110 --> 00:13:52,079

space shuttle i think

265

00:13:57,269 --> 00:13:55,120

we'll be remembered in

266

00:13:59,590 --> 00:13:57,279

thousands of years you know as perhaps

267

00:14:03,110 --> 00:13:59,600

the most incredible technological

268

00:14:04,710 --> 00:14:03,120

uh feat of humans of our time as is the

269

00:14:06,470 --> 00:14:04,720

order of life

270

00:14:09,910 --> 00:14:06,480

an ending for the space shuttle becomes

271

00:14:11,030 --> 00:14:09,920

a beginning for a space-bound successor

272

00:14:14,150 --> 00:14:11,040

soon

273

00:14:15,269 --> 00:14:14,160

america will again send astronauts into

274

00:14:16,550 --> 00:14:15,279

orbit

275

00:14:19,430 --> 00:14:16,560

and beyond

276

00:14:40,949 --> 00:14:19,440

to do what nasa does best

277

00:14:44,710 --> 00:14:42,790

amazing stuff hi

278

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

let me see a show of hands uh you

279

00:14:48,949 --> 00:14:46,240

don't need to raise your hand how many

280

00:14:49,990 --> 00:14:48,959

of you were here 30 years ago

281

00:14:52,310 --> 00:14:50,000

wow

282

00:14:53,990 --> 00:14:52,320

down

283

00:14:56,310 --> 00:14:54,000

30 years ago today

284

00:14:57,590 --> 00:14:56,320

the most amazing test flight of all time

285

00:14:59,750 --> 00:14:57,600

took place

286

00:15:02,069 --> 00:14:59,760

a couple of navy test pilots john young

287

00:15:04,710 --> 00:15:02,079

and bob crippen piloted columbia on its

288

00:15:06,710 --> 00:15:04,720

maiden voyage the first ever flight of a

289

00:15:09,430 --> 00:15:06,720

reusable spacecraft

290

00:15:10,870 --> 00:15:09,440

it was a two-day checkout of columbia

291

00:15:12,870 --> 00:15:10,880

launching from here at seven in the

292

00:15:13,990 --> 00:15:12,880

morning on pad a out at launch complex

293

00:15:16,230 --> 00:15:14,000

39

294

00:15:18,389 --> 00:15:16,240

and returning to edwards air force base

295

00:15:19,910 --> 00:15:18,399

on april 14th

296

00:15:22,389 --> 00:15:19,920

it was the beginning of a remarkable

297

00:15:24,790 --> 00:15:22,399

chapter in america's leadership in space

298

00:15:26,949 --> 00:15:24,800

exploration that opened the doors of

299

00:15:28,389 --> 00:15:26,959

space for everyone

300

00:15:30,710 --> 00:15:28,399

in spite of the many technical

301  
00:15:32,150 --> 00:15:30,720  
challenges that needed to be overcome

302  
00:15:34,069 --> 00:15:32,160  
in spite of the heartbreaks of

303  
00:15:36,310 --> 00:15:34,079  
challenger in colombia

304  
00:15:37,430 --> 00:15:36,320  
the space shuttle has been a phenomenal

305  
00:15:39,590 --> 00:15:37,440  
success

306  
00:15:41,030 --> 00:15:39,600  
in a symbol of america's leadership for

307  
00:15:43,030 --> 00:15:41,040  
years

308  
00:15:44,550 --> 00:15:43,040  
look at america's astronaut corps pre

309  
00:15:46,470 --> 00:15:44,560  
and post shuttle

310  
00:15:49,189 --> 00:15:46,480  
we've gone from a group of white male

311  
00:15:50,949 --> 00:15:49,199  
test pilots to a diverse group that

312  
00:15:52,470 --> 00:15:50,959  
represents the very fabric of our

313  
00:15:54,230 --> 00:15:52,480

society

314

00:15:57,110 --> 00:15:54,240

the same can be said for our flight

315

00:15:58,870 --> 00:15:57,120

controllers engineers and technicians

316

00:16:01,269 --> 00:15:58,880

that launch and recover this amazing

317

00:16:03,430 --> 00:16:01,279

machine and keep our space station

318

00:16:05,670 --> 00:16:03,440

safely on orbit

319

00:16:08,069 --> 00:16:05,680

but as amazing as the shuttle is and all

320

00:16:09,509 --> 00:16:08,079

its accomplishments are it's still just

321

00:16:11,350 --> 00:16:09,519

a machine

322

00:16:13,269 --> 00:16:11,360

it's the people that are the heart of

323

00:16:14,470 --> 00:16:13,279

the shuttle in the heart of our space

324

00:16:17,269 --> 00:16:14,480

program

325

00:16:18,230 --> 00:16:17,279

it's how we define ourselves it's who we

326

00:16:21,590 --> 00:16:18,240

are

327

00:16:23,990 --> 00:16:21,600

we're not just bob tom or nancy

328

00:16:25,829 --> 00:16:24,000

we're a shuttle mid-body technician a

329

00:16:28,629 --> 00:16:25,839

shuttle test conductor

330

00:16:31,269 --> 00:16:28,639

a shuttle tps engineer

331

00:16:32,150 --> 00:16:31,279

we are the shuttle program the shuttle

332

00:16:34,069 --> 00:16:32,160

team

333

00:16:36,069 --> 00:16:34,079

and we're extremely proud and privileged

334

00:16:38,069 --> 00:16:36,079

to be a part of it no matter what role

335

00:16:40,710 --> 00:16:38,079

we play

336

00:16:42,949 --> 00:16:40,720

so this celebration today it's not just

337

00:16:44,710 --> 00:16:42,959

to recognize the boldest and gutsiest

338

00:16:46,949 --> 00:16:44,720

test flight of all time

339

00:16:48,790 --> 00:16:46,959

it's to celebrate this amazing team that

340

00:16:50,710 --> 00:16:48,800

made it all possible

341

00:16:53,910 --> 00:16:50,720

and we'll make the next step possible

342

00:16:56,710 --> 00:16:53,920

too as we once again prepare to explore

343

00:16:58,790 --> 00:16:56,720

beyond the bounds of our home planet

344

00:17:01,269 --> 00:16:58,800

so thanks to all of you who made the

345

00:17:03,670 --> 00:17:01,279

shuttle program so successful and who

346

00:17:05,909 --> 00:17:03,680

make nasa and ksc such an outstanding

347

00:17:12,630 --> 00:17:05,919

place to work

348

00:17:18,230 --> 00:17:14,230

right now we gotta we got a special

349

00:17:20,309 --> 00:17:18,240

mission from the national space station

350

00:17:22,230 --> 00:17:20,319

russian cosmonaut from federal space

351  
00:17:25,590 --> 00:17:22,240  
agency and discussion 27 commander

352  
00:17:31,669 --> 00:17:28,150  
paolo nespoli italian astronaut of the

353  
00:17:31,679 --> 00:17:34,950  
ron garan from nasa

354  
00:17:34,960 --> 00:17:38,789  
alexander

355  
00:17:38,799 --> 00:17:43,029  
andrei barissian

356  
00:17:47,190 --> 00:17:45,430  
katie coleman from nasa

357  
00:17:49,430 --> 00:17:47,200  
we're thrilled to be a part of today's

358  
00:17:51,110 --> 00:17:49,440  
special commemoration i'm sorry that we

359  
00:17:53,430 --> 00:17:51,120  
can't be there with you today but it's

360  
00:17:56,470 --> 00:17:53,440  
because of your hard work that we're

361  
00:17:58,390 --> 00:17:56,480  
here today on the space station living

362  
00:18:02,310 --> 00:17:58,400  
and working on the only orbiting

363  
00:18:06,390 --> 00:18:04,390

the dedication of the amazing workforce

364

00:18:08,310 --> 00:18:06,400

across america that has built the space

365

00:18:10,310 --> 00:18:08,320

shuttle fleet and painstakingly

366

00:18:12,150 --> 00:18:10,320

processed and cared for the vehicles

367

00:18:14,230 --> 00:18:12,160

enabled these spaceships to do some

368

00:18:15,750 --> 00:18:14,240

truly amazing things including building

369

00:18:18,070 --> 00:18:15,760

this beautiful space station that will

370

00:18:19,510 --> 00:18:18,080

continue unprecedented scientific

371

00:18:25,750 --> 00:18:19,520

research and support international

372

00:18:31,350 --> 00:18:28,710

our crew is represented by three agency

373

00:18:33,350 --> 00:18:31,360

of the iss partnership

374

00:18:35,990 --> 00:18:33,360

a collaboration that was tested and

375

00:18:38,150 --> 00:18:36,000

proven by the space shuttle

376

00:18:41,029 --> 00:18:38,160

that carried astronauts from around the

377

00:18:42,789 --> 00:18:41,039

world into orbit long before

378

00:18:47,830 --> 00:18:42,799

construction began

379

00:18:52,230 --> 00:18:49,909

we will miss the capabilities and the

380

00:18:54,710 --> 00:18:52,240

beauty of the space shuttle it has been

381

00:18:57,190 --> 00:18:54,720

a national icon for innovation and

382

00:18:59,590 --> 00:18:57,200

exploration for 30 years

383

00:19:01,909 --> 00:18:59,600

but its legacy and yours

384

00:19:03,110 --> 00:19:01,919

lives on in the work that we do here on

385

00:19:04,789 --> 00:19:03,120

the iss

386

00:19:06,789 --> 00:19:04,799

the retirement of the shuttle fleet

387

00:19:09,110 --> 00:19:06,799

should not be seen as an end it

388

00:19:12,230 --> 00:19:09,120

represents the next step in extending

389

00:19:14,070 --> 00:19:12,240

humanity's reach further into space

390

00:19:16,549 --> 00:19:14,080

thank you for allowing us to be part of

391

00:19:18,549 --> 00:19:16,559

this very special day and please

392

00:19:38,630 --> 00:19:18,559

be sure to take a moment to be proud of

393

00:19:42,310 --> 00:19:41,110

i'd like to take a minute to recognize

394

00:19:43,990 --> 00:19:42,320

our elected officials and their

395

00:19:46,789 --> 00:19:44,000

representatives that are with us this

396

00:19:49,430 --> 00:19:46,799

afternoon uh please join me in welcoming

397

00:19:52,310 --> 00:19:49,440

county commissioner uh chuck nelson

398

00:19:55,190 --> 00:19:52,320

and representatives from senator

399

00:19:56,870 --> 00:19:55,200

nelson's senator rubio congresswoman

400

00:20:15,110 --> 00:19:56,880

sandy adams and representative bill

401  
00:20:19,669 --> 00:20:17,590  
the discovery named for past ships of

402  
00:20:22,070 --> 00:20:19,679  
exploration was delivered from its

403  
00:20:24,230 --> 00:20:22,080  
palmdale california shuttle factory to

404  
00:20:26,149 --> 00:20:24,240  
nasa's kennedy space center in november

405  
00:20:28,390 --> 00:20:26,159  
1983.

406  
00:20:30,710 --> 00:20:28,400  
since then discovery has lived up to the

407  
00:20:32,789 --> 00:20:30,720  
historic legacy of its name

408  
00:20:35,830 --> 00:20:32,799  
it flew to space more times than any

409  
00:20:38,470 --> 00:20:35,840  
other spacecraft in orbit it released a

410  
00:20:41,029 --> 00:20:38,480  
telescope to probe the universe and a

411  
00:20:42,789 --> 00:20:41,039  
spacecraft to explore the sun

412  
00:20:45,110 --> 00:20:42,799  
it carried laboratories to study

413  
00:20:47,510 --> 00:20:45,120

weightlessness and instruments to study

414

00:20:49,750 --> 00:20:47,520

the earth and its atmosphere

415

00:20:51,750 --> 00:20:49,760

early in its career discovery became the

416

00:21:02,070 --> 00:20:51,760

first spacecraft to bring a satellite

417

00:21:06,710 --> 00:21:04,070

but perhaps even more compelling than

418

00:21:08,470 --> 00:21:06,720

the discoveries that enabled in space is

419

00:21:14,710 --> 00:21:08,480

the spirit this vehicle has helped

420

00:21:18,310 --> 00:21:16,310

its missions include flights that

421

00:21:20,549 --> 00:21:18,320

showcased how one-time cold war

422

00:21:22,230 --> 00:21:20,559

adversaries can become long-term friends

423

00:21:24,070 --> 00:21:22,240

for exploration

424

00:21:27,029 --> 00:21:24,080

its flights further expanded space

425

00:21:28,149 --> 00:21:27,039

travel beyond boundaries of age gender

426  
00:21:30,390 --> 00:21:28,159  
and race

427  
00:21:32,710 --> 00:21:30,400  
counting among those who flew on it the

428  
00:21:34,549 --> 00:21:32,720  
oldest astronaut the first female

429  
00:21:37,029 --> 00:21:34,559  
shuttle pilot and the first

430  
00:21:39,590 --> 00:21:37,039  
african-american space walker

431  
00:21:41,430 --> 00:21:39,600  
but above all discovery twice proved

432  
00:21:43,669 --> 00:21:41,440  
that america had the will and the

433  
00:21:45,750 --> 00:21:43,679  
determination to persevere

434  
00:21:47,430 --> 00:21:45,760  
and succeed in the face of devastating

435  
00:21:49,830 --> 00:21:47,440  
grief and tragedy

436  
00:21:55,110 --> 00:21:49,840  
returning america to space after the

437  
00:22:00,310 --> 00:21:57,190  
discovery is the most accomplished space

438  
00:22:03,029 --> 00:22:00,320

shuttle ever amounting to over 5 000

439

00:22:14,549 --> 00:22:03,039

trips around the earth and more than 300

440

00:22:19,110 --> 00:22:16,710

it's now my pleasure to welcome to the

441

00:22:21,430 --> 00:22:19,120

podium a four-time shuttle astronaut a

442

00:22:23,430 --> 00:22:21,440

member of the astronaut hall of fame our

443

00:22:29,110 --> 00:22:23,440

nasa administrator and my friend charlie

444

00:22:33,510 --> 00:22:32,549

thank you all very much um stay focused

445

00:22:36,230 --> 00:22:33,520

you're going to hear me say that a

446

00:22:38,230 --> 00:22:36,240

couple of times that's not my script

447

00:22:39,990 --> 00:22:38,240

but stay focused

448

00:22:42,870 --> 00:22:40,000

bob i want to thank you very much for

449

00:22:44,149 --> 00:22:42,880

hosting this gala and uh allowing me to

450

00:22:46,070 --> 00:22:44,159

be down here

451

00:22:48,230 --> 00:22:46,080

it's always great to be back with uh

452

00:22:49,750 --> 00:22:48,240

members of the space shuttle program and

453

00:22:51,110 --> 00:22:49,760

and to celebrate the extraordinary

454

00:22:52,310 --> 00:22:51,120

success that we've seen through the

455

00:22:54,149 --> 00:22:52,320

years

456

00:22:55,750 --> 00:22:54,159

in addition to my friend bob cabana who

457

00:22:57,270 --> 00:22:55,760

was flying shuttle missions during the

458

00:23:00,149 --> 00:22:57,280

that's it sounds funny to say this

459

00:23:02,070 --> 00:23:00,159

during the same era as i

460

00:23:03,990 --> 00:23:02,080

we have another astronaut from that time

461

00:23:10,310 --> 00:23:04,000

you may have heard of bob crippen who

462

00:23:14,390 --> 00:23:12,149

as i think all of you know flew

463

00:23:16,149 --> 00:23:14,400

sts-1 with john young and then he flew

464

00:23:18,070 --> 00:23:16,159

three other shuttle missions before

465

00:23:19,990 --> 00:23:18,080

coming back here to actually run the

466

00:23:21,830 --> 00:23:20,000

kennedy space center for a while

467

00:23:28,950 --> 00:23:21,840

also joining us is janet cavandi the

468

00:23:32,310 --> 00:23:30,549

janet's a current astronaut and she's

469

00:23:33,909 --> 00:23:32,320

flown three times and is helping us

470

00:23:35,029 --> 00:23:33,919

oversee the phase out of the shuttle

471

00:23:36,789 --> 00:23:35,039

program

472

00:23:38,870 --> 00:23:36,799

so we have the full spectrum of shuttle

473

00:23:40,950 --> 00:23:38,880

astronauts here with us today

474

00:23:43,590 --> 00:23:40,960

covering the program's history

475

00:23:45,669 --> 00:23:43,600

stay focused

476  
00:23:47,830 --> 00:23:45,679  
and it's wonderful that this date

477  
00:23:50,549 --> 00:23:47,840  
dovetails with the 50th anniversary of

478  
00:23:52,470 --> 00:23:50,559  
yuri gagarin's courageous flight when he

479  
00:23:54,149 --> 00:23:52,480  
became the first human to reach fit to

480  
00:23:55,909 --> 00:23:54,159  
reach space

481  
00:23:57,669 --> 00:23:55,919  
i want to thank each and every one of

482  
00:23:59,110 --> 00:23:57,679  
you and the many others in the shuttle

483  
00:24:01,029 --> 00:23:59,120  
workforce over the years for your

484  
00:24:02,549 --> 00:24:01,039  
significant contribution

485  
00:24:04,070 --> 00:24:02,559  
to this tremendous american

486  
00:24:07,029 --> 00:24:04,080  
accomplishment

487  
00:24:09,510 --> 00:24:07,039  
you've inspired a generation

488  
00:24:11,669 --> 00:24:09,520

helped make the world a better place

489

00:24:13,269 --> 00:24:11,679

and given us a road map for future space

490

00:24:15,269 --> 00:24:13,279

exploration

491

00:24:17,190 --> 00:24:15,279

you should take pride in that today

492

00:24:19,190 --> 00:24:17,200

belongs not just to the hundreds of men

493

00:24:21,029 --> 00:24:19,200

and women who have flown on the shuttle

494

00:24:23,350 --> 00:24:21,039

but to all of you who have helped these

495

00:24:24,630 --> 00:24:23,360

missions to succeed

496

00:24:26,390 --> 00:24:24,640

those of us who have flown on the

497

00:24:27,990 --> 00:24:26,400

shuttle put our lives in your hands each

498

00:24:30,070 --> 00:24:28,000

time we flew

499

00:24:32,549 --> 00:24:30,080

and i never doubted that all of you on

500

00:24:34,390 --> 00:24:32,559

the ground and launching mission control

501  
00:24:37,269 --> 00:24:34,400  
in orbiter processing in every phase of

502  
00:24:38,870 --> 00:24:37,279  
the program we're absolutely dedicated

503  
00:24:41,510 --> 00:24:38,880  
and among the most skilled and committed

504  
00:24:43,909 --> 00:24:41,520  
people i've ever known

505  
00:24:45,590 --> 00:24:43,919  
your ability to troubleshoot and solve

506  
00:24:47,830 --> 00:24:45,600  
problems quickly

507  
00:24:49,750 --> 00:24:47,840  
has salvaged many a launch

508  
00:24:51,590 --> 00:24:49,760  
and also help keep astronauts safe in

509  
00:24:54,310 --> 00:24:51,600  
space

510  
00:24:55,909 --> 00:24:54,320  
whenever a problem arises with a shuttle

511  
00:24:57,510 --> 00:24:55,919  
we always see a huge amount of

512  
00:25:00,390 --> 00:24:57,520  
innovative thinking by the team to

513  
00:25:02,310 --> 00:25:00,400

identify and correct the issue new

514

00:25:03,590 --> 00:25:02,320

tester devised to isolate and identify

515

00:25:05,269 --> 00:25:03,600

the problem

516

00:25:07,830 --> 00:25:05,279

new hardware is made both for the

517

00:25:09,669 --> 00:25:07,840

testing and to install on the vehicle

518

00:25:12,870 --> 00:25:09,679

and new procedures and processes are

519

00:25:15,029 --> 00:25:12,880

developed to test and check out the fix

520

00:25:16,470 --> 00:25:15,039

the engineers and managers frequently

521

00:25:18,310 --> 00:25:16,480

collaborate

522

00:25:20,630 --> 00:25:18,320

both within nasa and across the

523

00:25:22,950 --> 00:25:20,640

government and academia

524

00:25:24,789 --> 00:25:22,960

to bring in systems experts to help

525

00:25:27,350 --> 00:25:24,799

identify the root cause of the problem

526

00:25:29,269 --> 00:25:27,360

and quickly converge on a solution

527

00:25:31,669 --> 00:25:29,279

over the past 30 years our shuttle team

528

00:25:34,310 --> 00:25:31,679

has demonstrated a tremendous degree of

529

00:25:37,029 --> 00:25:34,320

innovative thinking in solving problems

530

00:25:38,710 --> 00:25:37,039

whether in flight or on the ground

531

00:25:41,190 --> 00:25:38,720

the recent issue of the external tank

532

00:25:43,350 --> 00:25:41,200

stringer cracks is an excellent example

533

00:25:45,190 --> 00:25:43,360

of the very thorny problem that was

534

00:25:46,070 --> 00:25:45,200

successfully solved in innovative

535

00:25:50,230 --> 00:25:46,080

thinking

536

00:25:52,230 --> 00:25:50,240

perseverance and engineering discipline

537

00:25:53,510 --> 00:25:52,240

your ingenuity and innovation are second

538

00:25:57,029 --> 00:25:53,520

to none

539

00:25:59,269 --> 00:25:57,039

you you you truly are problem solvers

540

00:26:01,830 --> 00:25:59,279

and solution creators

541

00:26:04,070 --> 00:26:01,840

i've been proud and amazed many many

542

00:26:05,190 --> 00:26:04,080

times and just not during the past

543

00:26:06,789 --> 00:26:05,200

nearly two years i've been the

544

00:26:08,630 --> 00:26:06,799

administrator

545

00:26:12,230 --> 00:26:08,640

the shuttle has provided this nation

546

00:26:13,909 --> 00:26:12,240

with many firsts with many proud moments

547

00:26:16,710 --> 00:26:13,919

and it has helped the united states to

548

00:26:18,470 --> 00:26:16,720

lead the world in space exploration

549

00:26:20,230 --> 00:26:18,480

i was fortunate enough to be a part of

550

00:26:23,830 --> 00:26:20,240

two of its historic achievements the

551  
00:26:25,590 --> 00:26:23,840  
deployment of sts-31 on sts-31 of the

552  
00:26:27,750 --> 00:26:25,600  
hubble space telescope

553  
00:26:30,549 --> 00:26:27,760  
and the first russian u.s shuttle

554  
00:26:33,029 --> 00:26:30,559  
mission sts-60 which presaged the

555  
00:26:34,710 --> 00:26:33,039  
unprecedented international cooperation

556  
00:26:37,110 --> 00:26:34,720  
we've achieved since on the

557  
00:26:38,630 --> 00:26:37,120  
international space station

558  
00:26:40,630 --> 00:26:38,640  
i was privileged

559  
00:26:41,909 --> 00:26:40,640  
to fly aboard colombia

560  
00:26:43,669 --> 00:26:41,919  
discovery

561  
00:26:45,750 --> 00:26:43,679  
and atlantis

562  
00:26:48,789 --> 00:26:45,760  
there's no more r-inspiring or humbling

563  
00:26:50,789 --> 00:26:48,799

experience than flying to space

564

00:26:53,029 --> 00:26:50,799

with 7 million pounds of thrust beneath

565

00:26:54,230 --> 00:26:53,039

you you're aware of your frailty as a

566

00:26:56,549 --> 00:26:54,240

human being

567

00:26:58,390 --> 00:26:56,559

and also the great things which we are

568

00:27:01,510 --> 00:26:58,400

capable

569

00:27:03,350 --> 00:27:01,520

my experience as commander of sts-60

570

00:27:04,870 --> 00:27:03,360

the first flight of a russian cosmonaut

571

00:27:06,950 --> 00:27:04,880

on the shuttle

572

00:27:08,789 --> 00:27:06,960

taught me that there is no limit

573

00:27:10,070 --> 00:27:08,799

to what we

574

00:27:12,230 --> 00:27:10,080

what we

575

00:27:13,590 --> 00:27:12,240

can accomplish in our international

576  
00:27:16,310 --> 00:27:13,600  
partnerships

577  
00:27:19,110 --> 00:27:16,320  
when we set common goals among diverse

578  
00:27:22,230 --> 00:27:19,120  
sometimes discordant nations and set our

579  
00:27:24,389 --> 00:27:22,240  
minds to achievement of those goals

580  
00:27:26,070 --> 00:27:24,399  
over three decades this flagship program

581  
00:27:28,149 --> 00:27:26,080  
has become part of the fabric of our

582  
00:27:30,549 --> 00:27:28,159  
nation's history

583  
00:27:31,350 --> 00:27:30,559  
it's helped us improve communications on

584  
00:27:34,389 --> 00:27:31,360  
earth

585  
00:27:36,230 --> 00:27:34,399  
and to understand our home planet better

586  
00:27:38,070 --> 00:27:36,240  
it said scientific satellites like

587  
00:27:40,389 --> 00:27:38,080  
magellan and ulysses speeding on their

588  
00:27:42,070 --> 00:27:40,399

missions into the solar system

589

00:27:44,950 --> 00:27:42,080

and launched hubble

590

00:27:46,310 --> 00:27:44,960

and chandra to explore the universe

591

00:27:48,070 --> 00:27:46,320

the shuttle program has given us

592

00:27:50,710 --> 00:27:48,080

tremendous knowledge about a reusable

593

00:27:52,630 --> 00:27:50,720

spacecraft and launch system from which

594

00:27:54,230 --> 00:27:52,640

future government and commercial systems

595

00:27:55,669 --> 00:27:54,240

will benefit

596

00:27:58,070 --> 00:27:55,679

it's enabled construction of the

597

00:28:00,470 --> 00:27:58,080

international space station our anchor

598

00:28:02,710 --> 00:28:00,480

for future human exploration

599

00:28:05,510 --> 00:28:02,720

which is leading to breakthroughs in

600

00:28:07,830 --> 00:28:05,520

human health and microgravity research

601  
00:28:10,149 --> 00:28:07,840  
and it's provided as bob said

602  
00:28:13,430 --> 00:28:10,159  
first ever astronaut flight and command

603  
00:28:14,870 --> 00:28:13,440  
opportunities for women and minorities

604  
00:28:18,630 --> 00:28:14,880  
we'll never forget the crews of

605  
00:28:20,230 --> 00:28:18,640  
challenger and columbia

606  
00:28:24,710 --> 00:28:20,240  
many

607  
00:28:27,190 --> 00:28:24,720  
counted them as our personal friends

608  
00:28:28,549 --> 00:28:27,200  
and their sacrifice and achievements

609  
00:28:31,430 --> 00:28:28,559  
will live on in the spirit of

610  
00:28:34,149 --> 00:28:31,440  
perseverance and grit and hope

611  
00:28:43,350 --> 00:28:34,159  
in which they lived and worked

612  
00:28:48,070 --> 00:28:45,990  
they were all true american heroes who

613  
00:28:49,909 --> 00:28:48,080

made the ultimate sacrifice and service

614

00:28:51,669 --> 00:28:49,919

to this country

615

00:28:53,029 --> 00:28:51,679

the shuttle's retirement is bittersweet

616

00:28:54,630 --> 00:28:53,039

for all of us

617

00:28:57,269 --> 00:28:54,640

but at nasa

618

00:28:59,269 --> 00:28:57,279

we're also very excited about our future

619

00:29:01,430 --> 00:28:59,279

a future that is bright and open to us

620

00:29:03,269 --> 00:29:01,440

because of the shuttle program

621

00:29:04,870 --> 00:29:03,279

we could not be reaching for new heights

622

00:29:07,350 --> 00:29:04,880

and developing the next generation of

623

00:29:09,110 --> 00:29:07,360

capabilities without the technological

624

00:29:11,190 --> 00:29:09,120

breakthroughs of the shuttle

625

00:29:13,190 --> 00:29:11,200

and the many lessons learned that we

626  
00:29:15,029 --> 00:29:13,200  
will carry forward

627  
00:29:16,310 --> 00:29:15,039  
our commitment to human space flight is

628  
00:29:18,070 --> 00:29:16,320  
steadfast

629  
00:29:20,549 --> 00:29:18,080  
we will continue to lead the world in

630  
00:29:22,789 --> 00:29:20,559  
human exploration and discovery

631  
00:29:27,029 --> 00:29:22,799  
and don't let anybody

632  
00:29:29,269 --> 00:29:27,039  
don't let anybody tell you otherwise

633  
00:29:31,430 --> 00:29:29,279  
our human space flight program continues

634  
00:29:33,590 --> 00:29:31,440  
with astronauts living and working on

635  
00:29:35,269 --> 00:29:33,600  
the international space station

636  
00:29:37,350 --> 00:29:35,279  
where we have lived and worked for over

637  
00:29:39,750 --> 00:29:37,360  
ten years now and one could will

638  
00:29:41,190 --> 00:29:39,760

continue to do so for at least another

639

00:29:42,710 --> 00:29:41,200

decade

640

00:29:43,990 --> 00:29:42,720

of course

641

00:29:46,470 --> 00:29:44,000

we wouldn't have been able to build that

642

00:29:48,310 --> 00:29:46,480

orbiting outpost without the shuttle

643

00:29:50,789 --> 00:29:48,320

we wouldn't have established that model

644

00:29:52,870 --> 00:29:50,799

of global cooperation that will serve us

645

00:29:54,389 --> 00:29:52,880

well into the future as a guidepost for

646

00:29:56,389 --> 00:29:54,399

how we work

647

00:29:58,310 --> 00:29:56,399

and how we can work together as an

648

00:30:00,070 --> 00:29:58,320

international community toward the

649

00:30:01,909 --> 00:30:00,080

greater things of which we are capable

650

00:30:04,549 --> 00:30:01,919

as human beings

651  
00:30:07,110 --> 00:30:04,559  
with the last flight of atlantis in june

652  
00:30:09,430 --> 00:30:07,120  
the shuttle era will come to an end

653  
00:30:11,750 --> 00:30:09,440  
but they won't stop inspiring and they

654  
00:30:13,029 --> 00:30:11,760  
won't stop being a part of the fabric of

655  
00:30:14,789 --> 00:30:13,039  
america

656  
00:30:17,110 --> 00:30:14,799  
its significance is one of the most

657  
00:30:17,990 --> 00:30:17,120  
amazing technological marvels of all

658  
00:30:20,070 --> 00:30:18,000  
time

659  
00:30:21,830 --> 00:30:20,080  
will become even more evident

660  
00:30:24,149 --> 00:30:21,840  
after we no longer have it as our

661  
00:30:27,430 --> 00:30:24,159  
premier vehicle for transportation of

662  
00:30:28,710 --> 00:30:27,440  
crew and cargo to low earth orbit

663  
00:30:30,870 --> 00:30:28,720

each shuttle

664

00:30:33,029 --> 00:30:30,880

has stories to be told

665

00:30:34,789 --> 00:30:33,039

history to be shared

666

00:30:36,870 --> 00:30:34,799

we intend to tell their stories and

667

00:30:39,269 --> 00:30:36,880

share that history with as many people

668

00:30:40,710 --> 00:30:39,279

as we can over the coming years and

669

00:30:41,830 --> 00:30:40,720

decades

670

00:30:43,350 --> 00:30:41,840

today

671

00:30:45,750 --> 00:30:43,360

i'm proud to announce where these

672

00:30:47,990 --> 00:30:45,760

national treasures will be displayed and

673

00:30:51,110 --> 00:30:48,000

enjoyed by millions of americans once

674

00:30:53,110 --> 00:30:51,120

the shuttle program concludes first

675

00:30:55,110 --> 00:30:53,120

here at the kennedy space center

676  
00:31:07,909 --> 00:30:55,120  
where every shuttle mission and so many

677  
00:31:07,919 --> 00:31:25,830  
i guess i got something right today

678  
00:31:25,840 --> 00:31:29,350  
thanks very much

679  
00:31:32,789 --> 00:31:30,950  
i think i know what it does for you you

680  
00:31:36,310 --> 00:31:32,799  
have no idea what that applause did for

681  
00:31:37,830 --> 00:31:36,320  
me it's been a rough day

682  
00:31:39,430 --> 00:31:37,840  
first here at the kennedy space center

683  
00:31:41,110 --> 00:31:39,440  
where every shuttle mission and so many

684  
00:31:42,310 --> 00:31:41,120  
other historic human space flights have

685  
00:31:45,110 --> 00:31:42,320  
originated

686  
00:31:55,190 --> 00:31:45,120  
we'll showcase showcase my old friend

687  
00:31:58,789 --> 00:31:56,789  
not only will the workers have sent it

688  
00:32:00,870 --> 00:31:58,799

into space so many times

689

00:32:02,710 --> 00:32:00,880

have a chance to still see it

690

00:32:05,190 --> 00:32:02,720

the millions of visitors who come here

691

00:32:06,630 --> 00:32:05,200

every year to learn more about space

692

00:32:08,630 --> 00:32:06,640

and to be a part of the excitement of

693

00:32:10,149 --> 00:32:08,640

expert yoga

694

00:32:12,470 --> 00:32:10,159

and to be a part of the excitement of

695

00:32:14,549 --> 00:32:12,480

exploration we'll be able to see

696

00:32:29,269 --> 00:32:14,559

what is still a great rarity

697

00:32:33,029 --> 00:32:31,269

the california science center in los

698

00:32:35,269 --> 00:32:33,039

angeles only a few miles from the site

699

00:32:37,110 --> 00:32:35,279

of the old rockwell plant where the

700

00:32:39,509 --> 00:32:37,120

shuttle was developed and from where its

701  
00:32:40,950 --> 00:32:39,519  
construction was managed

702  
00:32:42,549 --> 00:32:40,960  
will be the new home of the shuttle on

703  
00:32:53,350 --> 00:32:42,559  
the launch pad preparing its final

704  
00:32:58,070 --> 00:32:55,350  
the smithsonian's national air and space

705  
00:33:00,789 --> 00:32:58,080  
museum stephen f udvarhazy center in

706  
00:33:09,990 --> 00:33:00,799  
virginia will get discovery our most

707  
00:33:13,669 --> 00:33:11,990  
and new york city's intrepid seer and

708  
00:33:16,149 --> 00:33:13,679  
space museum

709  
00:33:18,389 --> 00:33:16,159  
on whose flight deck mercury and gemini

710  
00:33:20,630 --> 00:33:18,399  
modules and flight crews were returned

711  
00:33:22,870 --> 00:33:20,640  
to us after splashdown from their

712  
00:33:25,509 --> 00:33:22,880  
historic space missions will get

713  
00:33:27,590 --> 00:33:25,519

enterprise our prototype orbiter that

714

00:33:34,230 --> 00:33:27,600

tested the aerodynamics of the craft

715

00:33:38,630 --> 00:33:36,470

there were many many worthy institutions

716

00:33:40,070 --> 00:33:38,640

that requested an orbiter and only four

717

00:33:41,750 --> 00:33:40,080

to go around

718

00:33:43,509 --> 00:33:41,760

many of the applicant institutions who

719

00:33:44,950 --> 00:33:43,519

did not receive an orbiter will receive

720

00:33:47,350 --> 00:33:44,960

significant shuttle hardware and

721

00:33:49,430 --> 00:33:47,360

artifacts to help bring to life this

722

00:33:51,669 --> 00:33:49,440

dynamic chapter of our nation's space

723

00:33:53,110 --> 00:33:51,679

exploration history for their many

724

00:33:54,950 --> 00:33:53,120

visitors

725

00:33:56,630 --> 00:33:54,960

people from across our nation and around

726

00:33:58,789 --> 00:33:56,640

the world will continue to learn from

727

00:34:00,470 --> 00:33:58,799

these amazing vehicles

728

00:34:01,669 --> 00:34:00,480

and the stories of their crews and their

729

00:34:03,509 --> 00:34:01,679

missions

730

00:34:05,430 --> 00:34:03,519

the shuttles will inspire many people

731

00:34:07,269 --> 00:34:05,440

who are now just in school

732

00:34:10,149 --> 00:34:07,279

to become the next generation of

733

00:34:12,069 --> 00:34:10,159

exploration leaders and millions more

734

00:34:14,550 --> 00:34:12,079

who are just proud and passionate about

735

00:34:17,430 --> 00:34:14,560

our space program will also now have a

736

00:34:19,349 --> 00:34:17,440

chance to see a space shuttle in person

737

00:34:21,510 --> 00:34:19,359

i want to congratulate all of these fine

738

00:34:23,109 --> 00:34:21,520

institutions and wish them many visitors

739

00:34:25,109 --> 00:34:23,119

and exciting programs with the space

740

00:34:27,669 --> 00:34:25,119

shuttle fleet

741

00:34:29,109 --> 00:34:27,679

for all of them take good care of our

742

00:34:31,349 --> 00:34:29,119

vehicles

743

00:34:33,349 --> 00:34:31,359

they've served the nation well

744

00:34:34,550 --> 00:34:33,359

and we at nasa have a deep and abiding

745

00:34:36,310 --> 00:34:34,560

relationship

746

00:34:39,190 --> 00:34:36,320

and love affair with them

747

00:34:40,710 --> 00:34:39,200

that's hard to put into words

748

00:34:42,149 --> 00:34:40,720

now

749

00:34:45,750 --> 00:34:42,159

we're going to look ahead to endeavors

750

00:34:47,589 --> 00:34:45,760

final mission into space sts-134

751  
00:34:48,550 --> 00:34:47,599  
thank you all again for your service and

752  
00:34:51,030 --> 00:34:48,560  
support

753  
00:34:53,829 --> 00:34:51,040  
to this amazing program

754  
00:34:55,750 --> 00:34:53,839  
and to these amazing flying machines

755  
00:34:56,710 --> 00:34:55,760  
and thank all of you for your dedicated

756  
00:34:58,950 --> 00:34:56,720  
service

757  
00:35:00,790 --> 00:34:58,960  
to our great nation

758  
00:35:02,790 --> 00:35:00,800  
stay focused

759  
00:35:04,470 --> 00:35:02,800  
as i look at mike mores and i look

760  
00:35:06,150 --> 00:35:04,480  
around at the others of you

761  
00:35:07,109 --> 00:35:06,160  
he's going to remind us over the coming

762  
00:35:09,190 --> 00:35:07,119  
days

763  
00:35:12,069 --> 00:35:09,200

stay focused

764

00:35:13,670 --> 00:35:12,079

we've got two more flights to do

765

00:35:14,790 --> 00:35:13,680

so that we can safely fly out the

766

00:35:17,190 --> 00:35:14,800

shuttle

767

00:35:19,589 --> 00:35:17,200

stay focused

768

00:35:21,829 --> 00:35:19,599

you've done an incredible job

769

00:35:23,510 --> 00:35:21,839

you should feel incredibly proud

770

00:35:24,950 --> 00:35:23,520

i know i do

771

00:35:25,990 --> 00:35:24,960

may god bless all of you and your

772

00:35:27,829 --> 00:35:26,000

families

773

00:35:40,630 --> 00:35:27,839

and may god bless the united states of

774

00:35:44,670 --> 00:35:42,790

space shuttle endeavour born out of the

775

00:35:47,349 --> 00:35:44,680

loss of the space shuttle challenger in

776

00:35:49,510 --> 00:35:47,359

1986 represented a commitment to

777

00:35:50,630 --> 00:35:49,520

continuing america's human space flight

778

00:35:52,950 --> 00:35:50,640

program

779

00:35:55,030 --> 00:35:52,960

the nation's decision to build endeavor

780

00:35:55,910 --> 00:35:55,040

set the stage for dramatic missions to

781

00:35:57,750 --> 00:35:55,920

come

782

00:36:00,069 --> 00:35:57,760

the last of five orbiters to be built

783

00:36:02,310 --> 00:36:00,079

for space flight endeavor was named in a

784

00:36:04,790 --> 00:36:02,320

national competition by elementary and

785

00:36:06,630 --> 00:36:04,800

secondary school students after the 18th

786

00:36:09,510 --> 00:36:06,640

century sailing vessel commanded by

787

00:36:11,510 --> 00:36:09,520

captain james cook

788

00:36:14,790 --> 00:36:11,520

construction of endeavor began with its

789

00:36:17,829 --> 00:36:14,800

contract award on july 31st 1987 to

790

00:36:22,310 --> 00:36:17,839

replace challenger which was lost 73

791

00:36:24,390 --> 00:36:22,320

seconds after launch on january 28 1986.

792

00:36:26,630 --> 00:36:24,400

endeavour was outfitted with many safety

793

00:36:29,270 --> 00:36:26,640

improvements including a drag chute to

794

00:36:31,430 --> 00:36:29,280

be deployed post landing and nose wheel

795

00:36:33,829 --> 00:36:31,440

steering to improve wear on the tires

796

00:36:36,150 --> 00:36:33,839

during roll out on the runway

797

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

additionally endeavors plumbing was

798

00:36:40,950 --> 00:36:38,160

designed for a state-of-the-art addition

799

00:36:42,710 --> 00:36:40,960

allowing for longer stays in space

800

00:36:44,550 --> 00:36:42,720

endeavour was delivered to nasa's

801  
00:36:47,150 --> 00:36:44,560  
kennedy space center from its palmdale

802  
00:36:50,390 --> 00:36:47,160  
california construction site in may

803  
00:36:52,270 --> 00:36:50,400  
1991. when endeavour completes its final

804  
00:36:55,829 --> 00:36:52,280  
mission it will have traveled more than

805  
00:36:56,950 --> 00:36:55,839  
115 million miles during 25 trips to

806  
00:36:59,349 --> 00:36:56,960  
space

807  
00:37:01,190 --> 00:36:59,359  
it will have carried 139 different

808  
00:37:03,030 --> 00:37:01,200  
people into orbit

809  
00:37:05,430 --> 00:37:03,040  
although endeavour was the final space

810  
00:37:06,950 --> 00:37:05,440  
shuttle to be built its career has been

811  
00:37:08,950 --> 00:37:06,960  
one of firsts

812  
00:37:11,829 --> 00:37:08,960  
and its legacy will be one of opening

813  
00:37:14,150 --> 00:37:11,839

humanity's greatest eye on the universe

814

00:37:16,310 --> 00:37:14,160

and expanding the space frontier for

815

00:37:17,990 --> 00:37:16,320

nations around the world

816

00:37:25,750 --> 00:37:18,000

for an out of this world space

817

00:37:25,760 --> 00:37:38,470

roger roll endeavor

818

00:37:43,270 --> 00:37:41,109

well let's see first off

819

00:37:45,670 --> 00:37:43,280

charlie thank you so much for uh

820

00:37:51,750 --> 00:37:45,680

trusting us with the care of atlantis i

821

00:37:54,630 --> 00:37:52,790

and uh

822

00:37:56,710 --> 00:37:54,640

again i'd like to add my congratulations

823

00:37:58,390 --> 00:37:56,720

to all the museums that have been

824

00:37:59,270 --> 00:37:58,400

entrusted with the care of an orbiter i

825

00:38:01,190 --> 00:37:59,280

know that

826

00:38:03,190 --> 00:38:01,200

it'll make a real difference around the

827

00:38:05,030 --> 00:38:03,200

country as we continue to inspire the

828

00:38:07,190 --> 00:38:05,040

next generation

829

00:38:09,190 --> 00:38:07,200

uh it's my pleasure now

830

00:38:11,589 --> 00:38:09,200

to introduce dr janet cavandi the

831

00:38:13,109 --> 00:38:11,599

director of flight crew operations i had

832

00:38:15,510 --> 00:38:13,119

the privilege of sitting on the

833

00:38:17,430 --> 00:38:15,520

astronaut selection board when janet was

834

00:38:19,190 --> 00:38:17,440

selected in

835

00:38:21,510 --> 00:38:19,200

dr cavandi is one of the reasons i'm

836

00:38:23,349 --> 00:38:21,520

really glad that i got to be selected as

837

00:38:26,150 --> 00:38:23,359

an astronaut when i was because folks

838

00:38:28,550 --> 00:38:26,160

are getting a whole lot smarter

839

00:38:30,870 --> 00:38:28,560

she's a veteran of three space shuttle

840

00:38:39,990 --> 00:38:30,880

missions but most importantly she's a

841

00:38:44,550 --> 00:38:42,310

well good afternoon and congratulations

842

00:38:46,310 --> 00:38:44,560

to all the very fortunate recipients of

843

00:38:47,910 --> 00:38:46,320

america's space shuttles you should be

844

00:38:50,310 --> 00:38:47,920

very proud

845

00:38:53,510 --> 00:38:50,320

it is an honor to be here with you today

846

00:38:55,349 --> 00:38:53,520

it is a day of mixed emotions excitement

847

00:38:57,910 --> 00:38:55,359

that the shuttle program has

848

00:38:59,190 --> 00:38:57,920

achieved that distinguished anniversary

849

00:39:00,470 --> 00:38:59,200

30 years

850

00:39:02,310 --> 00:39:00,480

and a little sadness that we are

851  
00:39:03,589 --> 00:39:02,320  
approaching the end of such an amazing

852  
00:39:06,069 --> 00:39:03,599  
era

853  
00:39:08,150 --> 00:39:06,079  
the shuttles have done a great many jobs

854  
00:39:10,790 --> 00:39:08,160  
in their long careers they have carried

855  
00:39:12,310 --> 00:39:10,800  
millions of pounds of cargo to orbit

856  
00:39:14,230 --> 00:39:12,320  
through the hubble space telescope

857  
00:39:15,990 --> 00:39:14,240  
they've given us views of the universe

858  
00:39:17,910 --> 00:39:16,000  
that no other instrument has yet been

859  
00:39:19,670 --> 00:39:17,920  
able to do from earth's surface

860  
00:39:21,510 --> 00:39:19,680  
and so i see professor ting here in the

861  
00:39:23,190 --> 00:39:21,520  
audience in the first row

862  
00:39:25,750 --> 00:39:23,200  
i'm compelled to also mention the alpha

863  
00:39:28,390 --> 00:39:25,760

magnetic spectrometer which flew on my

864

00:39:29,390 --> 00:39:28,400

first mission sts-91 and which will fly

865

00:39:32,790 --> 00:39:29,400

again on

866

00:39:35,430 --> 00:39:32,800

sts-134 the next flight it has a hope of

867

00:39:37,430 --> 00:39:35,440

collecting cosmic radiation and maybe

868

00:39:40,550 --> 00:39:37,440

antimatter which could help solve some

869

00:39:42,990 --> 00:39:40,560

of the mysteries of the of the universe

870

00:39:46,390 --> 00:39:43,000

the shuttles have so far carried

871

00:39:49,270 --> 00:39:46,400

356 individual humans aboard

872

00:39:51,109 --> 00:39:49,280

we expect to fly the last two new people

873

00:39:52,390 --> 00:39:51,119

later this month

874

00:39:53,990 --> 00:39:52,400

and they have been instrumental in the

875

00:39:56,550 --> 00:39:54,000

construction of the most amazing

876

00:39:58,870 --> 00:39:56,560

structure ever known to humankind the

877

00:40:00,630 --> 00:39:58,880

international space station

878

00:40:02,710 --> 00:40:00,640

but these are not the only things or

879

00:40:05,270 --> 00:40:02,720

perhaps even the most important things

880

00:40:07,349 --> 00:40:05,280

that the shuttle fleet has accomplished

881

00:40:08,870 --> 00:40:07,359

like many of us here i remember watching

882

00:40:11,510 --> 00:40:08,880

the first shuttle launch

883

00:40:13,030 --> 00:40:11,520

carrying john young and bob crippen

884

00:40:15,190 --> 00:40:13,040

while i was very concerned for the two

885

00:40:17,109 --> 00:40:15,200

men on board i was also thrilled to know

886

00:40:19,589 --> 00:40:17,119

that we were embarking on a new

887

00:40:21,910 --> 00:40:19,599

generation of spacecraft i felt the

888

00:40:23,990 --> 00:40:21,920

intense pride as an american and i was

889

00:40:26,069 --> 00:40:24,000

inspired and motivated to see what i

890

00:40:27,750 --> 00:40:26,079

could do to contribute to my country

891

00:40:29,910 --> 00:40:27,760

space program

892

00:40:31,349 --> 00:40:29,920

it is this inspiration

893

00:40:32,309 --> 00:40:31,359

motivation

894

00:40:33,349 --> 00:40:32,319

hope

895

00:40:35,270 --> 00:40:33,359

pride

896

00:40:37,270 --> 00:40:35,280

and honor for this country and her

897

00:40:38,870 --> 00:40:37,280

citizens that may be the shuttle's

898

00:40:40,870 --> 00:40:38,880

lasting legacy

899

00:40:43,109 --> 00:40:40,880

let me give some examples

900

00:40:44,470 --> 00:40:43,119

my uncle was a nasa engineer at the

901  
00:40:46,550 --> 00:40:44,480  
marshall space flight center in

902  
00:40:48,550 --> 00:40:46,560  
huntsville he worked with verna bron

903  
00:40:51,349 --> 00:40:48,560  
braun to design the space shuttle

904  
00:40:53,910 --> 00:40:51,359  
engines in the 1970s as a child i

905  
00:40:55,990 --> 00:40:53,920  
remember wanting to do what he did

906  
00:40:58,790 --> 00:40:56,000  
i thought working for nasa would be the

907  
00:41:02,710 --> 00:40:58,800  
best job anyone could have

908  
00:41:05,109 --> 00:41:02,720  
his work inspired and motivated me

909  
00:41:06,950 --> 00:41:05,119  
years later my nephew once told me that

910  
00:41:09,430 --> 00:41:06,960  
watching me launch on the space shuttle

911  
00:41:11,829 --> 00:41:09,440  
inspired him at a very young age to

912  
00:41:13,349 --> 00:41:11,839  
become a rocket scientist and now as a

913  
00:41:15,349 --> 00:41:13,359

freshman in high school he is in

914

00:41:17,349 --> 00:41:15,359

competition at the international level

915

00:41:19,109 --> 00:41:17,359

at the science fair

916

00:41:21,190 --> 00:41:19,119

my niece is at the top of a graduating

917

00:41:23,510 --> 00:41:21,200

class and wants to study

918

00:41:25,670 --> 00:41:23,520

animal sciences my son is studying

919

00:41:27,190 --> 00:41:25,680

engineering in college my daughter wants

920

00:41:29,829 --> 00:41:27,200

to be a physician

921

00:41:31,750 --> 00:41:29,839

so we can see just what one person who

922

00:41:34,870 --> 00:41:31,760

have worked in this business can do to

923

00:41:36,870 --> 00:41:34,880

inspire generations to come all these

924

00:41:38,550 --> 00:41:36,880

and these are only a few examples of the

925

00:41:40,550 --> 00:41:38,560

impact the shuttle program has had on

926  
00:41:41,829 --> 00:41:40,560  
our nature's feet on our nation's future

927  
00:41:43,589 --> 00:41:41,839  
leaders

928  
00:41:45,349 --> 00:41:43,599  
images of the shuttle have inspired

929  
00:41:47,349 --> 00:41:45,359  
school children to study math and

930  
00:41:48,870 --> 00:41:47,359  
science when they could have focused on

931  
00:41:50,710 --> 00:41:48,880  
easier subjects

932  
00:41:52,550 --> 00:41:50,720  
the shuttle has motivated college

933  
00:41:54,150 --> 00:41:52,560  
students to pursue the more difficult

934  
00:41:56,870 --> 00:41:54,160  
science and engineering degrees in the

935  
00:41:59,349 --> 00:41:56,880  
hopes of someday designing a vehicle or

936  
00:42:01,190 --> 00:41:59,359  
experiment that might fly into space

937  
00:42:03,190 --> 00:42:01,200  
the shuttle has inspired otherwise

938  
00:42:05,510 --> 00:42:03,200

completely rational adults with

939

00:42:07,910 --> 00:42:05,520

satisfying and successful careers to

940

00:42:09,430 --> 00:42:07,920

give it all up to move to houston texas

941

00:42:11,109 --> 00:42:09,440

for their chance to fly in space

942

00:42:12,790 --> 00:42:11,119

themselves

943

00:42:14,710 --> 00:42:12,800

the shuttle has motivated hard-working

944

00:42:17,349 --> 00:42:14,720

people from all around this nation to

945

00:42:19,750 --> 00:42:17,359

build the parts assemble the hardware

946

00:42:22,150 --> 00:42:19,760

code the software and launch these

947

00:42:25,109 --> 00:42:22,160

complex machines into space from the

948

00:42:26,870 --> 00:42:25,119

beautiful space coast of florida

949

00:42:28,630 --> 00:42:26,880

the space shuttles have literally been

950

00:42:30,390 --> 00:42:28,640

the pride and joy for the workers here

951  
00:42:31,990 --> 00:42:30,400  
at the kennedy space center

952  
00:42:33,750 --> 00:42:32,000  
partying with these vehicles will be

953  
00:42:35,910 --> 00:42:33,760  
light parting with family

954  
00:42:37,430 --> 00:42:35,920  
being a mother myself i can understand

955  
00:42:38,870 --> 00:42:37,440  
these feelings

956  
00:42:41,109 --> 00:42:38,880  
for instance you will always remember

957  
00:42:42,470 --> 00:42:41,119  
your orbiter's first rollout

958  
00:42:45,510 --> 00:42:42,480  
you will remember getting up at the

959  
00:42:46,870 --> 00:42:45,520  
crack of dawn to load their hyper goals

960  
00:42:48,309 --> 00:42:46,880  
you will remember sitting with them

961  
00:42:50,230 --> 00:42:48,319  
throughout the night before their first

962  
00:42:52,230 --> 00:42:50,240  
launch making sure that they were ready

963  
00:42:53,910 --> 00:42:52,240

when the big moment came

964

00:42:55,030 --> 00:42:53,920

these things were done with nothing less

965

00:42:57,030 --> 00:42:55,040

than love

966

00:42:59,109 --> 00:42:57,040

and you just hope that someday someone

967

00:43:01,349 --> 00:42:59,119

will appreciate all you sacrifice to

968

00:43:10,470 --> 00:43:01,359

make sure they turned out right

969

00:43:15,190 --> 00:43:12,630

america will now be able to appreciate

970

00:43:16,950 --> 00:43:15,200

all your hard work as they will be able

971

00:43:18,630 --> 00:43:16,960

to see these incredible machines up

972

00:43:20,230 --> 00:43:18,640

close as only you have had the

973

00:43:22,230 --> 00:43:20,240

opportunity to do

974

00:43:23,910 --> 00:43:22,240

your efforts will not be forgotten as

975

00:43:29,349 --> 00:43:23,920

these vehicles will be displayed with

976

00:43:34,309 --> 00:43:32,069

okay as one is coming back home at your

977

00:43:36,470 --> 00:43:34,319

children one of your children atlantis

978

00:43:38,150 --> 00:43:36,480

is coming back home to live with you

979

00:43:40,950 --> 00:43:38,160

i'm hoping that colonel cabana may

980

00:43:43,030 --> 00:43:40,960

consider a joint

981

00:43:45,589 --> 00:43:43,040

custody for maybe

982

00:43:47,990 --> 00:43:45,599

this orbiter because mom and dad both

983

00:43:50,470 --> 00:43:48,000

love atlantis and maybe we could work

984

00:43:52,150 --> 00:43:50,480

out something on holidays

985

00:43:54,069 --> 00:43:52,160

summers

986

00:43:56,069 --> 00:43:54,079

you know just think about it okay all

987

00:43:57,430 --> 00:43:56,079

right

988

00:43:59,109 --> 00:43:57,440

finally on half of

989

00:44:00,870 --> 00:43:59,119

behalf of the flight crew operations

990

00:44:02,790 --> 00:44:00,880

director the astronaut office and all

991

00:44:04,870 --> 00:44:02,800

those who have distinguished the

992

00:44:06,870 --> 00:44:04,880

distinguished privilege to serve as a

993

00:44:09,270 --> 00:44:06,880

crew member aboard the space shuttle let

994

00:44:10,710 --> 00:44:09,280

me express my deepest gratitude to every

995

00:44:12,150 --> 00:44:10,720

launch director

996

00:44:13,670 --> 00:44:12,160

flight director

997

00:44:14,790 --> 00:44:13,680

flight controller

998

00:44:17,030 --> 00:44:14,800

trainer

999

00:44:19,270 --> 00:44:17,040

engine specialist debris analyst and yes

1000

00:44:21,430 --> 00:44:19,280

rocket scientist plus all the other

1001  
00:44:24,069 --> 00:44:21,440  
thousands of specialists out there who i

1002  
00:44:27,030 --> 00:44:24,079  
don't have the time to name and most of

1003  
00:44:29,430 --> 00:44:27,040  
all to all those who gave their lives in

1004  
00:44:31,589 --> 00:44:29,440  
pursuit of these loftier goals

1005  
00:44:34,069 --> 00:44:31,599  
for the last 30 years of human space

1006  
00:44:36,309 --> 00:44:34,079  
flight we thank you it has been my

1007  
00:44:38,309 --> 00:44:36,319  
deepest honor and greatest privilege to

1008  
00:44:40,790 --> 00:44:38,319  
have served nasa and the united states

1009  
00:44:52,230 --> 00:44:40,800  
of america as a crew member on the

1010  
00:44:56,870 --> 00:44:53,910  
since first arriving at the kennedy

1011  
00:44:58,790 --> 00:44:56,880  
space center 25 years ago space shuttle

1012  
00:45:01,030 --> 00:44:58,800  
atlantis has made the four mile trek

1013  
00:45:03,349 --> 00:45:01,040

from ksc's vehicle assembly building to

1014

00:45:06,150 --> 00:45:03,359

its oceanside launch pads more than 30

1015

00:45:10,790 --> 00:45:08,470

the fourth of nasa's five orbiters

1016

00:45:11,829 --> 00:45:10,800

atlantis career has not been lacking in

1017

00:45:14,230 --> 00:45:11,839

firsts

1018

00:45:18,550 --> 00:45:14,240

among them the first shuttle to deploy a

1019

00:45:24,309 --> 00:45:20,230

the first shuttle to dock to a space

1020

00:45:29,349 --> 00:45:25,990

and the first shuttle to fly with a

1021

00:45:33,910 --> 00:45:32,309

atlantis has traveled more than 150

1022

00:45:35,430 --> 00:45:33,920

million miles in the pursuit of

1023

00:45:37,670 --> 00:45:35,440

exploration

1024

00:45:39,910 --> 00:45:37,680

its legacy enabled nasa and its

1025

00:45:41,990 --> 00:45:39,920

international partners to accomplish

1026  
00:45:50,230 --> 00:45:42,000  
some of the most complex work in human

1027  
00:45:54,150 --> 00:45:51,910  
work that has yielded immeasurable

1028  
00:46:37,589 --> 00:45:54,160  
benefits and allowed us to greatly

1029  
00:46:43,670 --> 00:46:40,230  
let's see i i now get to welcome a true

1030  
00:46:45,430 --> 00:46:43,680  
space pioneer to the podium mike parish

1031  
00:46:47,910 --> 00:46:45,440  
mike started out as a

1032  
00:46:49,270 --> 00:46:47,920  
an electrical tech in the mid body

1033  
00:46:51,510 --> 00:46:49,280  
and he worked his way up to being

1034  
00:46:53,270 --> 00:46:51,520  
endeavor endeavors vehicle manager for

1035  
00:46:55,270 --> 00:46:53,280  
united space alliance i also hear he's

1036  
00:46:56,870 --> 00:46:55,280  
into extreme sports but that's another

1037  
00:46:58,870 --> 00:46:56,880  
story

1038  
00:47:01,109 --> 00:46:58,880

please welcome an original member of the

1039

00:47:07,349 --> 00:47:01,119

sts-1 support team here at ksc mike

1040

00:47:10,710 --> 00:47:09,030

well i am the astronaut want to be on

1041

00:47:13,190 --> 00:47:10,720

stage i'm sure a lot of people can

1042

00:47:14,710 --> 00:47:13,200

relate to that out there

1043

00:47:17,349 --> 00:47:14,720

i started out here with the space

1044

00:47:18,870 --> 00:47:17,359

shuttle family 32 years ago

1045

00:47:20,549 --> 00:47:18,880

as bob said i was electrician working

1046

00:47:22,870 --> 00:47:20,559

the cargo bay

1047

00:47:25,270 --> 00:47:22,880

on columbia and i worked my up way up to

1048

00:47:27,910 --> 00:47:25,280

the crew module hoping to become one of

1049

00:47:29,349 --> 00:47:27,920

the spacecraft operators out here and i

1050

00:47:31,829 --> 00:47:29,359

remember my very first job working on

1051

00:47:33,190 --> 00:47:31,839

the crew module i was on the flight deck

1052

00:47:34,549 --> 00:47:33,200

and i was working on the enunciator

1053

00:47:35,670 --> 00:47:34,559

control assembly and we were doing some

1054

00:47:36,870 --> 00:47:35,680

of that troubleshooting that charlie had

1055

00:47:38,630 --> 00:47:36,880

talked about

1056

00:47:39,910 --> 00:47:38,640

the vehicle was powered up

1057

00:47:41,510 --> 00:47:39,920

and i was getting ready to put my test

1058

00:47:43,349 --> 00:47:41,520

leads into the breakout box and all of a

1059

00:47:45,670 --> 00:47:43,359

sudden the vehicle powered down

1060

00:47:49,910 --> 00:47:45,680

and i'm thinking oh no they're going to

1061

00:47:53,430 --> 00:47:51,750

all the fans are up there all in quiet

1062

00:47:56,790 --> 00:47:53,440

the lights went out

1063

00:47:58,309 --> 00:47:56,800

you know it wasn't a good day

1064

00:48:01,190 --> 00:47:58,319

so this voice that was on the flight

1065

00:48:02,470 --> 00:48:01,200

deck it says son what in the heck did

1066

00:48:03,750 --> 00:48:02,480

you just do

1067

00:48:05,829 --> 00:48:03,760

and that was a voice of guy named arch

1068

00:48:08,069 --> 00:48:05,839

mccabe archie was one of the guys here

1069

00:48:09,829 --> 00:48:08,079

from the apollo era you know he was uh

1070

00:48:12,230 --> 00:48:09,839

one of the guys we looked up to he was a

1071

00:48:13,510 --> 00:48:12,240

legend you know and i'll tell you for

1072

00:48:15,270 --> 00:48:13,520

that for the time that he was talking to

1073

00:48:16,630 --> 00:48:15,280

me i was nervous on the flight deck but

1074

00:48:18,710 --> 00:48:16,640

i found out that

1075

00:48:20,630 --> 00:48:18,720

my troubleshooting didn't bring down the

1076

00:48:22,309 --> 00:48:20,640

vehicle so that was good news they let

1077

00:48:24,390 --> 00:48:22,319

me stay up in the crew module and i

1078

00:48:27,030 --> 00:48:24,400

became one of those spacecraft operators

1079

00:48:28,549 --> 00:48:27,040

archie and i became

1080

00:48:31,109 --> 00:48:28,559

the first to become part of the

1081

00:48:32,630 --> 00:48:31,119

astronaut exchange crew and sts-4 so we

1082

00:48:34,549 --> 00:48:32,640

got to go in and take over some

1083

00:48:36,790 --> 00:48:34,559

responsibilities on the runway that the

1084

00:48:39,270 --> 00:48:36,800

astronauts got to do and we also got the

1085

00:48:41,109 --> 00:48:39,280

ride back to the hangar in the shuttle

1086

00:48:43,750 --> 00:48:41,119

even some of the astronaut snacks so

1087

00:48:45,510 --> 00:48:43,760

that was good

1088

00:48:47,510 --> 00:48:45,520

one of the other flights i do remember

1089

00:48:49,430 --> 00:48:47,520

was the sts-41g

1090

00:48:50,710 --> 00:48:49,440

and that was bob crippen's last mission

1091

00:48:52,390 --> 00:48:50,720

i don't know what it was about that

1092

00:48:54,790 --> 00:48:52,400

particular mission but when we opened up

1093

00:48:57,030 --> 00:48:54,800

the hatch it seemed like his entire crew

1094

00:48:59,109 --> 00:48:57,040

was down there to greet us sally ride

1095

00:49:00,950 --> 00:48:59,119

was there kathy sullivan was there dave

1096

00:49:02,150 --> 00:49:00,960

mark paul i don't know what inspired

1097

00:49:03,510 --> 00:49:02,160

them they were ready to come out i don't

1098

00:49:06,069 --> 00:49:03,520

know if they were looking for lunch or

1099

00:49:07,190 --> 00:49:06,079

some fresh air

1100

00:49:09,349 --> 00:49:07,200

i used to think i knew a lot about the

1101  
00:49:10,390 --> 00:49:09,359  
space shuttle until i went to houston

1102  
00:49:12,549 --> 00:49:10,400  
and got to spend some time in the

1103  
00:49:14,230 --> 00:49:12,559  
simulator doing deodorants with bill

1104  
00:49:17,510 --> 00:49:14,240  
shepard and we did make it back the

1105  
00:49:19,910 --> 00:49:17,520  
first three attempts

1106  
00:49:21,990 --> 00:49:19,920  
what i did realize that

1107  
00:49:27,270 --> 00:49:22,000  
at that time it gave me a new respect

1108  
00:49:30,870 --> 00:49:29,190  
so we all have a role to play

1109  
00:49:32,870 --> 00:49:30,880  
we are absolutely dedicated to what we

1110  
00:49:35,030 --> 00:49:32,880  
do and it's teamwork that makes a

1111  
00:49:37,910 --> 00:49:35,040  
shuttle program work we count on each

1112  
00:49:40,150 --> 00:49:37,920  
other we trust each other and that is

1113  
00:49:41,990 --> 00:49:40,160

one of the reasons i feel so blessed to

1114

00:49:44,150 --> 00:49:42,000

be part of this nasa team

1115

00:49:45,829 --> 00:49:44,160

we all do what we can do to help this

1116

00:49:47,109 --> 00:49:45,839

program and the people associated with

1117

00:49:48,630 --> 00:49:47,119

it

1118

00:49:51,430 --> 00:49:48,640

the person i have the privilege to

1119

00:49:54,549 --> 00:49:51,440

introduce is a decorated navy pilot who

1120

00:49:57,589 --> 00:49:54,559

has flown as four space shuttle missions

1121

00:50:01,670 --> 00:49:57,599

and has served as ksc director from 1992

1122

00:50:03,510 --> 00:50:01,680

to 1995. he was a pilot on sts-1 and he

1123

00:50:05,270 --> 00:50:03,520

is one of the bravest men i know

1124

00:50:13,910 --> 00:50:05,280

he is an american hero

1125

00:50:32,790 --> 00:50:15,670

thank you

1126

00:50:34,790 --> 00:50:32,800

and i appreciated uh

1127

00:50:36,950 --> 00:50:34,800

seeing quite a few hands go up when it

1128

00:50:37,990 --> 00:50:36,960

was asked who was working here 30 years

1129

00:50:39,030 --> 00:50:38,000

ago

1130

00:50:41,270 --> 00:50:39,040

and

1131

00:50:43,109 --> 00:50:41,280

thank you for inviting me to participate

1132

00:50:45,270 --> 00:50:43,119

in this event uh

1133

00:50:47,670 --> 00:50:45,280

it always gives me a pleasure to come

1134

00:50:49,910 --> 00:50:47,680

back to the kennedy space center

1135

00:50:51,030 --> 00:50:49,920

you know the 30th anniversary of when

1136

00:50:52,870 --> 00:50:51,040

john young

1137

00:50:54,870 --> 00:50:52,880

and i took colombia on the maiden flight

1138

00:50:58,470 --> 00:50:54,880

of the space shuttle

1139

00:51:02,390 --> 00:51:00,069

however recently

1140

00:51:05,109 --> 00:51:02,400

a daughter of one of my neighbors

1141

00:51:06,950 --> 00:51:05,119

brought over her social studies book

1142

00:51:10,390 --> 00:51:06,960

to show me that it contained a picture

1143

00:51:12,150 --> 00:51:10,400

of john and i on that flight

1144

00:51:17,349 --> 00:51:12,160

now being in a history book makes you

1145

00:51:23,510 --> 00:51:21,030

however april 12 1981

1146

00:51:26,390 --> 00:51:23,520

was a historic day for not only for john

1147

00:51:28,309 --> 00:51:26,400

and i and the entire shuttle team

1148

00:51:31,030 --> 00:51:28,319

the 1970s

1149

00:51:32,710 --> 00:51:31,040

was not exactly a high-water mark

1150

00:51:35,670 --> 00:51:32,720

in our nation

1151

00:51:37,670 --> 00:51:35,680

we'd had the vietnam war

1152

00:51:39,910 --> 00:51:37,680

we'd had both martin luther king and

1153

00:51:43,990 --> 00:51:39,920

robert kennedy shot

1154

00:51:45,829 --> 00:51:44,000

we'd had hostages taken in iran

1155

00:51:47,990 --> 00:51:45,839

and president reagan

1156

00:51:49,670 --> 00:51:48,000

was shot about two weeks before that

1157

00:51:53,670 --> 00:51:49,680

flight

1158

00:51:55,670 --> 00:51:53,680

we really needed a positive boost

1159

00:51:57,990 --> 00:51:55,680

and the space shuttle gave the united

1160

00:52:00,710 --> 00:51:58,000

states that boost

1161

00:52:02,549 --> 00:52:00,720

john and i had longer to train

1162

00:52:06,309 --> 00:52:02,559

than we had planned due to technical

1163

00:52:08,549 --> 00:52:06,319

problems which you usually run into on a

1164

00:52:09,990 --> 00:52:08,559

highly technical program

1165

00:52:11,510 --> 00:52:10,000

primarily with our space shuttle main

1166

00:52:13,430 --> 00:52:11,520

engines and the thermal protection

1167

00:52:14,950 --> 00:52:13,440

system for the tiles as we know them

1168

00:52:17,750 --> 00:52:14,960

here

1169

00:52:20,150 --> 00:52:17,760

however on april the 10th

1170

00:52:22,950 --> 00:52:20,160

we thought we might be ready

1171

00:52:24,470 --> 00:52:22,960

so we went out to give it a try

1172

00:52:26,470 --> 00:52:24,480

wasn't the case

1173

00:52:29,510 --> 00:52:26,480

we had a computer problem

1174

00:52:31,750 --> 00:52:29,520

something we hadn't seen before

1175

00:52:34,470 --> 00:52:31,760

but some smart people figured it out and

1176

00:52:36,710 --> 00:52:34,480

we tried again on april the 12th

1177

00:52:38,069 --> 00:52:36,720

and i truly expected

1178

00:52:40,069 --> 00:52:38,079

there was a high likelihood that we

1179

00:52:42,390 --> 00:52:40,079

would scrub again because it is such a

1180

00:52:45,349 --> 00:52:42,400

complicated vehicle

1181

00:52:47,750 --> 00:52:45,359

however when the count passed one minute

1182

00:52:49,510 --> 00:52:47,760

i turned to john and i said i think we

1183

00:52:50,870 --> 00:52:49,520

might do it

1184

00:52:53,109 --> 00:52:50,880

that's when my heart rate went up to

1185

00:52:55,349 --> 00:52:53,119

about 130.

1186

00:52:58,710 --> 00:52:55,359

john's was down at a nice calm 90 and

1187

00:53:01,030 --> 00:52:58,720

i'm i'm surprised i didn't go faster

1188

00:53:03,430 --> 00:53:01,040

and it was a fantastic flight

1189

00:53:06,549 --> 00:53:03,440

well worth the 14 years since i had

1190

00:53:08,309 --> 00:53:06,559

first been selected as an astronaut

1191

00:53:10,150 --> 00:53:08,319

john and i had trained for every

1192

00:53:11,270 --> 00:53:10,160

possible contingency that we could think

1193

00:53:12,549 --> 00:53:11,280

of

1194

00:53:16,470 --> 00:53:12,559

and thank goodness

1195

00:53:18,390 --> 00:53:16,480

we didn't have to contend with very many

1196

00:53:20,150 --> 00:53:18,400

after two and a half days

1197

00:53:21,829 --> 00:53:20,160

we flew back into edwards where john

1198

00:53:24,950 --> 00:53:21,839

made one of the world's best landing on

1199

00:53:30,470 --> 00:53:27,270

and as we pointed out by charlie

1200

00:53:32,309 --> 00:53:30,480

this is a bittersweet time for me

1201  
00:53:36,230 --> 00:53:32,319  
as we bring the shuttle program to a

1202  
00:53:38,309 --> 00:53:36,240  
close after three decades of operation

1203  
00:53:39,990 --> 00:53:38,319  
i am extremely proud

1204  
00:53:42,390 --> 00:53:40,000  
of what the shuttle has accomplished in

1205  
00:53:44,390 --> 00:53:42,400  
those 30 years

1206  
00:53:45,750 --> 00:53:44,400  
yes we did to have two terrible

1207  
00:53:47,349 --> 00:53:45,760  
tragedies

1208  
00:53:49,430 --> 00:53:47,359  
but after each one

1209  
00:53:51,270 --> 00:53:49,440  
the program pulled itself together and

1210  
00:53:53,750 --> 00:53:51,280  
did what was necessary to get us back

1211  
00:53:56,549 --> 00:53:53,760  
flying again

1212  
00:53:59,109 --> 00:53:56,559  
early on we flew some dod payloads that

1213  
00:54:02,549 --> 00:53:59,119

in my opinion had a significant role in

1214

00:54:07,829 --> 00:54:04,150

then with various satellites like

1215

00:54:09,510 --> 00:54:07,839

magellan galileo ulysses and hubble

1216

00:54:11,430 --> 00:54:09,520

we've revolutionized not only the

1217

00:54:14,230 --> 00:54:11,440

knowledge of our solar system but the

1218

00:54:16,549 --> 00:54:14,240

entire universe

1219

00:54:19,430 --> 00:54:16,559

we've learned to work and live in space

1220

00:54:21,589 --> 00:54:19,440

for extended periods of time

1221

00:54:24,150 --> 00:54:21,599

and now we've concluded by constructing

1222

00:54:25,910 --> 00:54:24,160

the most engineering complex system that

1223

00:54:28,390 --> 00:54:25,920

has ever been assembled the

1224

00:54:30,230 --> 00:54:28,400

international space station

1225

00:54:31,589 --> 00:54:30,240

that has taught us how to work in space

1226

00:54:34,230 --> 00:54:31,599

internationally

1227

00:54:36,470 --> 00:54:34,240

which will be extremely important

1228

00:54:40,549 --> 00:54:36,480

when we decide once more

1229

00:54:45,349 --> 00:54:43,750

all of that was made possible by you

1230

00:54:47,190 --> 00:54:45,359

and the thousands of other american

1231

00:54:48,950 --> 00:54:47,200

workers that have contributed the

1232

00:54:51,430 --> 00:54:48,960

program

1233

00:54:54,710 --> 00:54:51,440

i spent more than 25 years working on

1234

00:54:57,829 --> 00:54:54,720

the shuttle in various capacities

1235

00:55:01,349 --> 00:54:57,839

and yes i'm extremely proud of what each

1236

00:55:03,670 --> 00:55:01,359

of them has accomplished just as you are

1237

00:55:06,309 --> 00:55:03,680

i like to tell people that the program

1238

00:55:07,589 --> 00:55:06,319

is made up not of propellants hardware

1239

00:55:10,150 --> 00:55:07,599

and software

1240

00:55:11,589 --> 00:55:10,160

it's made up of people

1241

00:55:13,910 --> 00:55:11,599

each of one of us

1242

00:55:16,150 --> 00:55:13,920

knows that working on the shuttle is no

1243

00:55:18,230 --> 00:55:16,160

ordinary job

1244

00:55:21,510 --> 00:55:18,240

it takes a great deal

1245

00:55:23,510 --> 00:55:21,520

of skill and dedication

1246

00:55:25,030 --> 00:55:23,520

i know that

1247

00:55:27,589 --> 00:55:25,040

as we complete

1248

00:55:29,349 --> 00:55:27,599

the last two flights with endeavor and

1249

00:55:31,349 --> 00:55:29,359

atlantis

1250

00:55:33,990 --> 00:55:31,359

you will continue to demonstrate that

1251  
00:55:34,870 --> 00:55:34,000  
same dedication to ensure the program

1252  
00:55:37,030 --> 00:55:34,880  
ends

1253  
00:55:39,190 --> 00:55:37,040  
on the same high note that it began

1254  
00:55:43,109 --> 00:55:39,200  
thirty years ago

1255  
00:55:47,349 --> 00:55:45,589  
i believe it would be appropriate

1256  
00:55:48,390 --> 00:55:47,359  
if the discovery

1257  
00:55:49,750 --> 00:55:48,400  
endeavor

1258  
00:55:51,910 --> 00:55:49,760  
in atlantis

1259  
00:55:54,950 --> 00:55:51,920  
could form a trio

1260  
00:55:55,750 --> 00:55:54,960  
and sing that great old country song

1261  
00:55:58,069 --> 00:55:55,760  
by

1262  
00:56:20,789 --> 00:55:58,079  
boots and dun call you're going to miss

1263  
00:56:24,549 --> 00:56:22,470

well as we look toward that

1264

00:56:26,470 --> 00:56:24,559

final flight of atlantis in june we

1265

00:56:28,870 --> 00:56:26,480

can't help but recognize the legacy that

1266

00:56:30,870 --> 00:56:28,880

the space shuttle has left the world

1267

00:56:32,549 --> 00:56:30,880

the space shuttle program has made

1268

00:56:33,829 --> 00:56:32,559

possible countless scientific

1269

00:56:36,549 --> 00:56:33,839

breakthroughs it's produced

1270

00:56:38,950 --> 00:56:36,559

unprecedented international cooperation

1271

00:56:41,270 --> 00:56:38,960

and it's fostered a future of human

1272

00:56:43,270 --> 00:56:41,280

exploration made up of limitless

1273

00:56:45,270 --> 00:56:43,280

possibilities

1274

00:56:47,589 --> 00:56:45,280

i'm blessed to have been a very small

1275

00:56:49,270 --> 00:56:47,599

part of this program and this team

1276

00:56:51,910 --> 00:56:49,280

and more importantly

1277

00:56:55,030 --> 00:56:51,920

i'm extremely proud of the thousands of

1278

00:56:57,670 --> 00:56:55,040

people that have made it such a success

1279

00:56:59,030 --> 00:56:57,680

and that's all of you

1280

00:57:01,430 --> 00:56:59,040

uh

1281

00:57:03,190 --> 00:57:01,440

let's let's continue to dream we can't

1282

00:57:04,950 --> 00:57:03,200

ever give up on our dreams we're going

1283

00:57:06,789 --> 00:57:04,960

to continue to explore

1284

00:57:09,270 --> 00:57:06,799

and let's work together to that shared

1285

00:57:11,430 --> 00:57:09,280

vision of a future that we have with

1286

00:57:13,430 --> 00:57:11,440

limitless possibilities thank you so

1287

00:57:16,309 --> 00:57:13,440

much for coming today and being part of

1288

00:57:18,630 --> 00:57:16,319

this celebration i hope that a lot of

1289

00:57:19,829 --> 00:57:18,640

you have tickets to our barbecue at 3 30

1290

00:57:22,069 --> 00:57:19,839

over at the visitor center we'll

1291

00:57:23,430 --> 00:57:22,079

continue with some refreshments and a

1292

00:57:25,190 --> 00:57:23,440

live band

1293

00:57:26,950 --> 00:57:25,200

it's a special day and we don't want the

1294

00:57:29,349 --> 00:57:26,960

celebration to end

1295

00:57:41,190 --> 00:57:29,359

and finally let me say

1296

00:57:41,200 --> 00:57:56,950

good job