



1  
00:00:09,430 --> 00:00:07,190  
thank you for joining us here at launch

2  
00:00:11,030 --> 00:00:09,440  
pad 39a at nasa's kennedy space center

3  
00:00:12,549 --> 00:00:11,040  
for this media question and answer

4  
00:00:15,270 --> 00:00:12,559  
session with the four astronauts of

5  
00:00:17,189 --> 00:00:15,280  
space shuttle atlantis's scs-135 mission

6  
00:00:18,710 --> 00:00:17,199  
to the international space station and

7  
00:00:20,230 --> 00:00:18,720  
as you may know and judging by the

8  
00:00:21,269 --> 00:00:20,240  
turnout this morning you do know this

9  
00:00:24,230 --> 00:00:21,279  
this will be the final flight for the

10  
00:00:25,589 --> 00:00:24,240  
space shuttle program the scs-135 crew

11  
00:00:27,750 --> 00:00:25,599  
is here for training related to the

12  
00:00:30,070 --> 00:00:27,760  
terminal countdown demonstration test or

13  
00:00:31,990 --> 00:00:30,080

tc dt i'm not going to turn this over to

14

00:00:33,430 --> 00:00:32,000

the commander for the sts-135 mission

15

00:00:35,430 --> 00:00:33,440

chris ferguson and then we'll open it up

16

00:00:37,590 --> 00:00:35,440

to questions commander

17

00:00:39,830 --> 00:00:37,600

thanks alan well uh good morning again

18

00:00:41,830 --> 00:00:39,840

everyone um yeah we've been together it

19

00:00:44,150 --> 00:00:41,840

seems like long enough uh i'm beginning

20

00:00:45,590 --> 00:00:44,160

to see a lot of familiar faces out there

21

00:00:47,270 --> 00:00:45,600

thanks for coming out and greeting the

22

00:00:49,510 --> 00:00:47,280

crew for what as allard said is the

23

00:00:51,670 --> 00:00:49,520

final final opportunity to do this at

24

00:00:53,270 --> 00:00:51,680

least in front of a space shuttle

25

00:00:54,630 --> 00:00:53,280

and i couldn't think of a of a better

26

00:00:56,869 --> 00:00:54,640

backdrop

27

00:00:58,389 --> 00:00:56,879

you know it's an incredible vehicle it's

28

00:00:59,910 --> 00:00:58,399

beautiful for those of you who have ever

29

00:01:01,830 --> 00:00:59,920

had the opportunity to just stand

30

00:01:03,270 --> 00:01:01,840

underneath it and look up you know i've

31

00:01:05,350 --> 00:01:03,280

always said that the magic of the space

32

00:01:06,870 --> 00:01:05,360

shuttle is just its magnitude it's a

33

00:01:08,550 --> 00:01:06,880

it's an immense vehicle and it's it's

34

00:01:09,750 --> 00:01:08,560

gorgeous and you know fortunately we're

35

00:01:11,429 --> 00:01:09,760

all going to get together and watch it

36

00:01:13,190 --> 00:01:11,439

launch one more time

37

00:01:14,630 --> 00:01:13,200

we'll just pass the microphone down for

38

00:01:16,550 --> 00:01:14,640

quick introductions and then we'll open

39

00:01:19,510 --> 00:01:16,560

up the open up the field for questions

40

00:01:21,590 --> 00:01:19,520

to my right is the pilot doug hurley

41

00:01:23,749 --> 00:01:21,600

marine corps colonel a graduate of

42

00:01:24,830 --> 00:01:23,759

tulane university this will be doug's

43

00:01:27,190 --> 00:01:24,840

second space

44

00:01:28,230 --> 00:01:27,200

flight morning everybody thanks for

45

00:01:30,069 --> 00:01:28,240

coming

46

00:01:31,830 --> 00:01:30,079

we just always enjoy getting down to

47

00:01:33,270 --> 00:01:31,840

kennedy space center seeing the hardware

48

00:01:35,670 --> 00:01:33,280

and we're really looking forward to

49

00:01:37,670 --> 00:01:35,680

tomorrow to simulate the countdown

50

00:01:40,390 --> 00:01:37,680

to my right is mission specialist one

51  
00:01:43,109 --> 00:01:40,400  
sandy magnus she's a phd she's our load

52  
00:01:44,630 --> 00:01:43,119  
master on the flight and she's flown on

53  
00:01:46,389 --> 00:01:44,640  
sts-112

54  
00:01:49,270 --> 00:01:46,399  
and then had a nice four and a half

55  
00:01:50,630 --> 00:01:49,280  
month expedition to the space station

56  
00:01:52,149 --> 00:01:50,640  
good morning everybody welcome to

57  
00:01:53,749 --> 00:01:52,159  
florida hopefully we'll have some lovely

58  
00:01:55,590 --> 00:01:53,759  
weather today a little bit better than

59  
00:01:57,270 --> 00:01:55,600  
yesterday you guys really

60  
00:01:59,109 --> 00:01:57,280  
we're troopers out there in the weeds

61  
00:02:01,030 --> 00:01:59,119  
with the mosquitoes and everything today

62  
00:02:02,709 --> 00:02:01,040  
we have a breeze it's really nice

63  
00:02:04,389 --> 00:02:02,719

i'd like to introduce to my right

64

00:02:06,709 --> 00:02:04,399

mission specialist two rex walheim

65

00:02:08,710 --> 00:02:06,719

retired air force colonel graduated

66

00:02:10,630 --> 00:02:08,720

university of california berkeley and

67

00:02:12,390 --> 00:02:10,640

he's our eva specialist on the flight

68

00:02:13,910 --> 00:02:12,400

and assistant loadmaster so he and i are

69

00:02:15,750 --> 00:02:13,920

going to be busy in the mplm during the

70

00:02:17,110 --> 00:02:15,760

home mission

71

00:02:18,790 --> 00:02:17,120

thanks sandy it is a pleasure to be here

72

00:02:20,309 --> 00:02:18,800

and especially uh right in front of the

73

00:02:21,350 --> 00:02:20,319

space shuttle just gives you goosebumps

74

00:02:23,110 --> 00:02:21,360

thinking that we're gonna get to ride

75

00:02:24,790 --> 00:02:23,120

that in about two weeks and

76

00:02:26,710 --> 00:02:24,800

since nobody ever notices fergie chris

77

00:02:28,070 --> 00:02:26,720

ferguson is our commander from drexel

78

00:02:31,030 --> 00:02:28,080

university a veteran of two space

79

00:02:32,710 --> 00:02:31,040

flights uh 126 and 115 is that correct

80

00:02:34,630 --> 00:02:32,720

and he kept he keeps us all in line so

81

00:02:37,910 --> 00:02:34,640

that's his job so

82

00:02:40,949 --> 00:02:39,430

well again thank you everyone i think we

83

00:02:43,830 --> 00:02:40,959

have a few questions at least i hope we

84

00:02:45,990 --> 00:02:43,840

do and uh we can get started

85

00:02:47,270 --> 00:02:46,000

um hi marcia done associated press for

86

00:02:49,110 --> 00:02:47,280

you commander

87

00:02:50,710 --> 00:02:49,120

you will go down history will remember

88

00:02:52,949 --> 00:02:50,720

you as the commander of the last shuttle

89

00:02:56,229 --> 00:02:52,959

flight and i i know you're busy but when

90

00:02:58,070 --> 00:02:56,239

you pause to reflect on that personally

91

00:03:00,630 --> 00:02:58,080

can you talk about that a little bit

92

00:03:02,390 --> 00:03:00,640

uh well sure marcia and uh you know what

93

00:03:03,910 --> 00:03:02,400

i've said all along is that we've got

94

00:03:05,509 --> 00:03:03,920

we've got a complex mission we've had a

95

00:03:08,309 --> 00:03:05,519

very short training flow about nine

96

00:03:10,070 --> 00:03:08,319

months uh and four people

97

00:03:11,350 --> 00:03:10,080

the number of tasks aboard the shuttle

98

00:03:13,190 --> 00:03:11,360

haven't changed just because there's

99

00:03:15,030 --> 00:03:13,200

four people so i think what i'm driving

100

00:03:17,270 --> 00:03:15,040

at is we've been enormously busy and and

101  
00:03:18,710 --> 00:03:17,280  
although we've tried to pause and and

102  
00:03:20,710 --> 00:03:18,720  
think of good ways to reflect and

103  
00:03:22,309 --> 00:03:20,720  
remember those moments uh i don't think

104  
00:03:23,750 --> 00:03:22,319  
that the full magnitude of the moment

105  
00:03:26,149 --> 00:03:23,760  
will really hit us until the wheels have

106  
00:03:27,990 --> 00:03:26,159  
stopped on the runway

107  
00:03:30,470 --> 00:03:28,000  
i'm not sure words will really be able

108  
00:03:32,710 --> 00:03:30,480  
to capture for for the crew and for the

109  
00:03:33,830 --> 00:03:32,720  
entire shuttle workforce

110  
00:03:35,670 --> 00:03:33,840  
you know just how much the shuttle

111  
00:03:37,270 --> 00:03:35,680  
program has meant to us for the last 30

112  
00:03:38,390 --> 00:03:37,280  
years we're certainly going to try to

113  
00:03:40,470 --> 00:03:38,400

capture that

114

00:03:41,750 --> 00:03:40,480

and along the course over the course of

115

00:03:43,190 --> 00:03:41,760

the mission we'll also try to

116

00:03:45,350 --> 00:03:43,200

appropriately

117

00:03:47,670 --> 00:03:45,360

recognize those folks who have

118

00:03:49,670 --> 00:03:47,680

who have really turned to us there's a

119

00:03:51,110 --> 00:03:49,680

at least a couple generations of careers

120

00:03:53,030 --> 00:03:51,120

potentially in the space shuttle it's a

121

00:03:55,030 --> 00:03:53,040

long list of people to remember and i'm

122

00:03:57,190 --> 00:03:55,040

sure a lot of people will be watching

123

00:03:59,509 --> 00:03:57,200

and uh like i said in our introductory

124

00:04:01,670 --> 00:03:59,519

remarks when we showed up at the slf a

125

00:04:03,429 --> 00:04:01,680

couple days ago you know we we all want

126  
00:04:05,429 --> 00:04:03,439  
to be able to to

127  
00:04:06,789 --> 00:04:05,439  
remember this and we want to be able to

128  
00:04:08,470 --> 00:04:06,799  
pass to our children our children's

129  
00:04:11,589 --> 00:04:08,480  
children that we were fortunate enough

130  
00:04:13,670 --> 00:04:11,599  
to be a part of the space shuttle so um

131  
00:04:15,830 --> 00:04:13,680  
you know i i don't consider it

132  
00:04:18,310 --> 00:04:15,840  
a a personal thing with regard to the

133  
00:04:19,830 --> 00:04:18,320  
crew i consider us all in one family and

134  
00:04:21,670 --> 00:04:19,840  
being able to go through this together

135  
00:04:23,909 --> 00:04:21,680  
and like i said been able to savor the

136  
00:04:26,230 --> 00:04:23,919  
moment just one more time

137  
00:04:28,390 --> 00:04:26,240  
hi irene klotz with reuters i was just

138  
00:04:31,189 --> 00:04:28,400

curious for anybody who wants to answer

139

00:04:33,030 --> 00:04:31,199

how your uh emergency egress training is

140

00:04:37,830 --> 00:04:33,040

different with no one seated on the mid

141

00:04:40,870 --> 00:04:39,110

i guess i'll answer that since that's my

142

00:04:42,390 --> 00:04:40,880

job to jump down from the top deck to

143

00:04:43,990 --> 00:04:42,400

the lower deck to take care of stuff if

144

00:04:46,710 --> 00:04:44,000

we have an emergency situation we had to

145

00:04:48,150 --> 00:04:46,720

bail out so uh it's really uh the the

146

00:04:49,749 --> 00:04:48,160

steps are pretty similar i just uh we

147

00:04:52,790 --> 00:04:49,759

have a few things we've taken into

148

00:04:54,310 --> 00:04:52,800

consideration if we needed to to blow

149

00:04:56,550 --> 00:04:54,320

the hatch on the outside i would go

150

00:04:58,070 --> 00:04:56,560

downstairs and before i did that sandy

151  
00:04:59,909 --> 00:04:58,080  
would pop a circuit breaker so that the

152  
00:05:01,590 --> 00:04:59,919  
uh the audio would go downstairs so i

153  
00:05:03,749 --> 00:05:01,600  
could hear it normally when i unplug

154  
00:05:06,950 --> 00:05:03,759  
from my seat upstairs i would put my

155  
00:05:08,230 --> 00:05:06,960  
visor down and go on on internal oxygen

156  
00:05:09,350 --> 00:05:08,240  
and then climb down there but this case

157  
00:05:10,390 --> 00:05:09,360  
i need to be able to hear and stuff so

158  
00:05:12,390 --> 00:05:10,400  
that's going to be a little different so

159  
00:05:14,390 --> 00:05:12,400  
i'll keep keep off oxygen and then

160  
00:05:17,270 --> 00:05:14,400  
before i vent the hatch i'll make sure

161  
00:05:19,189 --> 00:05:17,280  
everybody's on visors and o2 and

162  
00:05:21,350 --> 00:05:19,199  
we would vent the hatch and if we had to

163  
00:05:22,790 --> 00:05:21,360

to parachute out we could all cycle down

164

00:05:23,909 --> 00:05:22,800

through there so we can do it just have

165

00:05:25,110 --> 00:05:23,919

little things a little bit out of order

166

00:05:27,270 --> 00:05:25,120

but we've managed to come up with a

167

00:05:28,469 --> 00:05:27,280

sequence that works pretty well for us

168

00:05:30,310 --> 00:05:28,479

thanks

169

00:05:32,710 --> 00:05:30,320

uh bill harwood cbs news i guess a

170

00:05:34,310 --> 00:05:32,720

question for the commander um when you

171

00:05:37,510 --> 00:05:34,320

look back on everything from the

172

00:05:39,749 --> 00:05:37,520

columbia accident commission to this day

173

00:05:41,270 --> 00:05:39,759

and the decisions that got made that

174

00:05:42,790 --> 00:05:41,280

that are making this the final flight of

175

00:05:44,390 --> 00:05:42,800

the shuttle

176

00:05:46,550 --> 00:05:44,400

what are the top two or three things do

177

00:05:48,070 --> 00:05:46,560

you think or what led to this day that

178

00:05:49,350 --> 00:05:48,080

made the government decide that they

179

00:05:51,270 --> 00:05:49,360

didn't want to fly this vehicle any

180

00:05:53,189 --> 00:05:51,280

longer and needed to do something else

181

00:05:54,790 --> 00:05:53,199

what got you to this point i mean i know

182

00:05:56,469 --> 00:05:54,800

you could talk all day but

183

00:05:58,629 --> 00:05:56,479

generally uh your thoughts about that

184

00:05:59,990 --> 00:05:58,639

thanks yeah that that's that's a real

185

00:06:01,590 --> 00:06:00,000

good question i have to go back about

186

00:06:04,070 --> 00:06:01,600

eight years because you know the crew

187

00:06:05,270 --> 00:06:04,080

office had a uh i mean we had a say

188

00:06:07,350 --> 00:06:05,280

obviously it was our friends that were

189

00:06:09,110 --> 00:06:07,360

lost aboard colombia so it was kind of

190

00:06:11,189 --> 00:06:09,120

an emotional time for everybody as we

191

00:06:12,309 --> 00:06:11,199

decided well you know what do we think

192

00:06:15,189 --> 00:06:12,319

about the space shuttle what does it

193

00:06:18,150 --> 00:06:15,199

mean to us so far how how much further

194

00:06:19,749 --> 00:06:18,160

should we go with it i mean we knew that

195

00:06:21,990 --> 00:06:19,759

you know it's it's safety record i don't

196

00:06:24,550 --> 00:06:22,000

think was what anyone had necessarily

197

00:06:26,150 --> 00:06:24,560

hoped for uh back when we advertised

198

00:06:29,029 --> 00:06:26,160

that the space shuttle would fly 40 or

199

00:06:30,950 --> 00:06:29,039

50 times uh per year and i think we

200

00:06:32,230 --> 00:06:30,960

settled on uh

201

00:06:34,550 --> 00:06:32,240

the right answer you know the right

202

00:06:37,189 --> 00:06:34,560

answer was hey perhaps we need something

203

00:06:39,270 --> 00:06:37,199

that has an order of magnitude more

204

00:06:41,749 --> 00:06:39,280

more survivability for the for the crew

205

00:06:44,070 --> 00:06:41,759

on board and perhaps the only way to do

206

00:06:45,590 --> 00:06:44,080

that is to go with an escape system

207

00:06:46,950 --> 00:06:45,600

which is the way we ultimately

208

00:06:48,629 --> 00:06:46,960

gravitated towards of course

209

00:06:50,550 --> 00:06:48,639

constellation orion before it was

210

00:06:52,469 --> 00:06:50,560

cancelled had a world-class escape

211

00:06:53,909 --> 00:06:52,479

system that would perhaps increase the

212

00:06:55,189 --> 00:06:53,919

the survivability of the crew up to one

213

00:06:56,710 --> 00:06:55,199

in a thousand

214

00:06:58,390 --> 00:06:56,720

so

215

00:06:59,589 --> 00:06:58,400

you know we we'd love to fly the shuttle

216

00:07:01,830 --> 00:06:59,599

ten more years i don't think there's

217

00:07:03,270 --> 00:07:01,840

anybody here at ksc jsc or within the

218

00:07:04,390 --> 00:07:03,280

nasa or perhaps even in the country who

219

00:07:05,909 --> 00:07:04,400

wouldn't like to see the shuttle

220

00:07:06,629 --> 00:07:05,919

continue a little bit

221

00:07:08,390 --> 00:07:06,639

but

222

00:07:09,909 --> 00:07:08,400

and i'm going to quote

223

00:07:11,670 --> 00:07:09,919

bob cabana a little bit yesterday he was

224

00:07:13,189 --> 00:07:11,680

talking to the managers that

225

00:07:15,270 --> 00:07:13,199

is the combination of what we

226

00:07:16,950 --> 00:07:15,280

experienced with columbia perhaps the

227

00:07:18,550 --> 00:07:16,960

the safety record that is not as great

228

00:07:20,390 --> 00:07:18,560

as we would like it to be in the in the

229

00:07:21,830 --> 00:07:20,400

space shuttle and uh the fact that we're

230

00:07:24,309 --> 00:07:21,840

going to have to stand down for a little

231

00:07:25,909 --> 00:07:24,319

while in order to put forth

232

00:07:27,670 --> 00:07:25,919

the limited budget that we have to

233

00:07:28,950 --> 00:07:27,680

invest in in the next generation of

234

00:07:31,589 --> 00:07:28,960

space vehicle

235

00:07:33,270 --> 00:07:31,599

so uh you know this is

236

00:07:34,870 --> 00:07:33,280

it's something i think that's its time

237

00:07:36,390 --> 00:07:34,880

has come i hate to see the space shuttle

238

00:07:37,909 --> 00:07:36,400

go away i really do but i think that

239

00:07:39,830 --> 00:07:37,919

there are some events historically that

240

00:07:42,230 --> 00:07:39,840

have led to this and it's it's probably

241

00:07:44,070 --> 00:07:42,240

appropriate and it's not a surprise and

242

00:07:45,270 --> 00:07:44,080

i've advertised that all along although

243

00:07:47,029 --> 00:07:45,280

we're a little disappointed we don't

244

00:07:48,869 --> 00:07:47,039

have something to fall right on the tail

245

00:07:50,710 --> 00:07:48,879

of the space shuttle uh we've we've

246

00:07:54,070 --> 00:07:50,720

known that the last flight is going to

247

00:07:56,309 --> 00:07:54,080

fall in the vicinity of 2010 2011 back

248

00:07:58,230 --> 00:07:56,319

when the when president then president

249

00:07:59,510 --> 00:07:58,240

bush made his announcement that he had a

250

00:08:00,950 --> 00:07:59,520

you know new vision for space

251  
00:08:02,790 --> 00:08:00,960  
exploration so this has been part of the

252  
00:08:04,230 --> 00:08:02,800  
plan all along

253  
00:08:06,309 --> 00:08:04,240  
sure bill thank you

254  
00:08:08,469 --> 00:08:06,319  
hi robert perlman with collectspace.com

255  
00:08:09,909 --> 00:08:08,479  
uh for anyone who wants to answer uh

256  
00:08:11,670 --> 00:08:09,919  
you're all veteran astronauts you've all

257  
00:08:14,309 --> 00:08:11,680  
been inside the space shuttle before and

258  
00:08:16,950 --> 00:08:14,319  
you've trained recently in vertical

259  
00:08:18,550 --> 00:08:16,960  
simulators at johnson space center so

260  
00:08:21,749 --> 00:08:18,560  
what exactly does

261  
00:08:24,830 --> 00:08:21,759  
this tcdt experience give you and

262  
00:08:27,830 --> 00:08:24,840  
in terms of preparing for this last

263  
00:08:29,110 --> 00:08:27,840

launch uh i i think the biggest thing is

264

00:08:31,110 --> 00:08:29,120

you're you're working with the whole

265

00:08:32,550 --> 00:08:31,120

team down here and and actually going

266

00:08:34,870 --> 00:08:32,560

through a launch count right up until

267

00:08:36,550 --> 00:08:34,880

t-0 uh you know you're working you've

268

00:08:38,310 --> 00:08:36,560

got your suits you've got your suit

269

00:08:39,829 --> 00:08:38,320

techs you're you're doing

270

00:08:42,230 --> 00:08:39,839

all the motions that you'd go through on

271

00:08:44,470 --> 00:08:42,240

launch day all the way out to the pad

272

00:08:46,310 --> 00:08:44,480

and uh and that's obviously for tomorrow

273

00:08:48,389 --> 00:08:46,320

and then all the other things we do we

274

00:08:49,910 --> 00:08:48,399

we reviewed the obviously the m113

275

00:08:51,829 --> 00:08:49,920

driving yesterday we did some bunker

276

00:08:53,990 --> 00:08:51,839

training today some

277

00:08:57,430 --> 00:08:54,000

fire training up on the pad so it's just

278

00:08:58,710 --> 00:08:57,440

a very comprehensive uh hands-on at the

279

00:09:00,630 --> 00:08:58,720

place you're gonna do it kind of

280

00:09:02,070 --> 00:09:00,640

training and it's invaluable i mean you

281

00:09:03,509 --> 00:09:02,080

can do all the simulators in the world

282

00:09:04,550 --> 00:09:03,519

but to until you get in that real

283

00:09:07,670 --> 00:09:04,560

vehicle

284

00:09:09,509 --> 00:09:07,680

see what you can reach see the different

285

00:09:10,790 --> 00:09:09,519

switches you know everything's just a

286

00:09:12,790 --> 00:09:10,800

little bit different when you're in the

287

00:09:15,110 --> 00:09:12,800

real vehicle so it's it's a great way to

288

00:09:19,350 --> 00:09:15,120

get you ready for the launch day when it

289

00:09:22,870 --> 00:09:21,509

hi kent kramer from space flight

290

00:09:24,550 --> 00:09:22,880

magazine and the written house

291

00:09:26,630 --> 00:09:24,560

astronomical society your hometown

292

00:09:28,870 --> 00:09:26,640

commander ferguson i wonder if you have

293

00:09:30,389 --> 00:09:28,880

some words for your folks in your

294

00:09:32,790 --> 00:09:30,399

hometown and for the children of

295

00:09:34,389 --> 00:09:32,800

philadelphia pennsylvania uh well ken we

296

00:09:35,910 --> 00:09:34,399

were talking yesterday about the

297

00:09:38,070 --> 00:09:35,920

experiences i had there at the franklin

298

00:09:40,150 --> 00:09:38,080

institute in philadelphia as a as a

299

00:09:42,630 --> 00:09:40,160

grade schooler and a high schooler and

300

00:09:46,070 --> 00:09:42,640

how i developed and cultivated a love of

301  
00:09:47,910 --> 00:09:46,080  
science interest uh space engineering uh

302  
00:09:49,590 --> 00:09:47,920  
in in many trips to the franklin

303  
00:09:51,430 --> 00:09:49,600  
institute

304  
00:09:53,030 --> 00:09:51,440  
of course i miss my hometown i have a

305  
00:09:53,910 --> 00:09:53,040  
lot of family and relatives there who i

306  
00:09:56,070 --> 00:09:53,920  
think are

307  
00:09:58,230 --> 00:09:56,080  
cheering the whole crew on

308  
00:09:59,990 --> 00:09:58,240  
and of course my hometown phillies love

309  
00:10:01,269 --> 00:10:00,000  
them too so

310  
00:10:03,990 --> 00:10:01,279  
it's big shout out to the friends in

311  
00:10:06,389 --> 00:10:04,000  
philadelphia thanks ken

312  
00:10:08,470 --> 00:10:06,399  
hello gosh bbc news chris how do you

313  
00:10:13,190 --> 00:10:08,480

actually feel about being on the last

314

00:10:14,949 --> 00:10:13,200

ever launch happy sad a bit of both

315

00:10:16,949 --> 00:10:14,959

happy sad a bit of both what would you

316

00:10:18,470 --> 00:10:16,959

say i think that's a real good answer

317

00:10:20,230 --> 00:10:18,480

that's a very good answer

318

00:10:21,430 --> 00:10:20,240

uh you know i think i think i speak for

319

00:10:22,630 --> 00:10:21,440

the whole crew you know we're very

320

00:10:24,069 --> 00:10:22,640

honored to be in this position there's

321

00:10:25,350 --> 00:10:24,079

many people who could be here we just

322

00:10:27,190 --> 00:10:25,360

happened to

323

00:10:28,870 --> 00:10:27,200

uh when the dice fell we were you know

324

00:10:31,190 --> 00:10:28,880

our names were facing up so we consider

325

00:10:33,509 --> 00:10:31,200

ourselves fortunate lucky um

326

00:10:34,870 --> 00:10:33,519

you know we i think and we haven't

327

00:10:37,269 --> 00:10:34,880

talked about this i think each of us

328

00:10:38,630 --> 00:10:37,279

feels a little perhaps extra burden to

329

00:10:40,550 --> 00:10:38,640

make sure that we put on the best

330

00:10:42,870 --> 00:10:40,560

possible face forward for the last uh

331

00:10:44,230 --> 00:10:42,880

for the last go-around of this and the

332

00:10:46,790 --> 00:10:44,240

crew's very prepared we're going to go

333

00:10:48,470 --> 00:10:46,800

out and do a fantastic job and like i

334

00:10:49,670 --> 00:10:48,480

said when it's all over at the very end

335

00:10:51,829 --> 00:10:49,680

i think that's when it's good the

336

00:10:53,910 --> 00:10:51,839

enormity of it is is going to hit us

337

00:10:56,150 --> 00:10:53,920

you know that last wheel stop is

338

00:10:57,430 --> 00:10:56,160

call is going to be a little tough and

339

00:10:58,710 --> 00:10:57,440

and i'm sure

340

00:11:01,030 --> 00:10:58,720

you know you want to appreciate the

341

00:11:03,110 --> 00:11:01,040

moment you you want to capture it for as

342

00:11:05,350 --> 00:11:03,120

many folks who are listening as

343

00:11:07,350 --> 00:11:05,360

as there will be i'm sure

344

00:11:09,269 --> 00:11:07,360

and uh you know you want to enjoy it

345

00:11:10,630 --> 00:11:09,279

with them and and like i said a couple

346

00:11:12,389 --> 00:11:10,640

days ago you want to savor the moment

347

00:11:14,710 --> 00:11:12,399

with them thank you and good luck to you

348

00:11:16,389 --> 00:11:14,720

all thank you

349

00:11:18,389 --> 00:11:16,399

jackie goddard for the times of london

350

00:11:19,910 --> 00:11:18,399

we're standing in a spot where history's

351

00:11:21,829 --> 00:11:19,920

been made for 50 years and i just

352

00:11:24,069 --> 00:11:21,839

wondered um rex whether you could kind

353

00:11:26,550 --> 00:11:24,079

of encapsulate some of the excitement of

354

00:11:28,870 --> 00:11:26,560

of being at such a historic spot and

355

00:11:30,389 --> 00:11:28,880

really what the children of today should

356

00:11:31,829 --> 00:11:30,399

take away from the space program now

357

00:11:34,550 --> 00:11:31,839

that maybe you took away as a kid from

358

00:11:36,550 --> 00:11:34,560

witnessing what went before yeah and a

359

00:11:37,990 --> 00:11:36,560

lot of the history of this pad did start

360

00:11:40,150 --> 00:11:38,000

out when i was a kid i mean i was a kid

361

00:11:42,550 --> 00:11:40,160

in michigan uh when apollo 11 went to

362

00:11:44,310 --> 00:11:42,560

the moon and i remember my parents

363

00:11:45,590 --> 00:11:44,320

waking me up that night and bringing us

364

00:11:47,030 --> 00:11:45,600

down even though we were sleepy and

365

00:11:49,509 --> 00:11:47,040

watching hey look somebody's sitting on

366

00:11:50,870 --> 00:11:49,519

the moon for the very first time and to

367

00:11:52,629 --> 00:11:50,880

look up the moon and just think how

368

00:11:54,069 --> 00:11:52,639

incredible that was and that kind of

369

00:11:55,670 --> 00:11:54,079

follows you when you when you become an

370

00:11:56,949 --> 00:11:55,680

astronaut you realize that the people

371

00:11:59,030 --> 00:11:56,959

that went before you and and how

372

00:12:00,470 --> 00:11:59,040

inspiring that is everything from the

373

00:12:01,990 --> 00:12:00,480

suit up room we stood up in the same

374

00:12:03,990 --> 00:12:02,000

room that the apollo 11 astronauts

375

00:12:05,269 --> 00:12:04,000

suited up for they went to the moon in

376

00:12:07,670 --> 00:12:05,279

the same room that our friends have that

377

00:12:09,430 --> 00:12:07,680

have gone before us and i i often do

378

00:12:11,990 --> 00:12:09,440

think that uh that we're launched from

379

00:12:13,509 --> 00:12:12,000

the exact same launch pad that uh apollo

380

00:12:15,829 --> 00:12:13,519

11 launched at to go from the moon it's

381

00:12:17,430 --> 00:12:15,839

just uh it gives you goosebumps uh it

382

00:12:18,710 --> 00:12:17,440

doesn't get old it's amazing the history

383

00:12:20,389 --> 00:12:18,720

that's here at the kennedy space center

384

00:12:22,069 --> 00:12:20,399

so we're proud to be part of the shuttle

385

00:12:23,430 --> 00:12:22,079

history and we're really looking forward

386

00:12:24,949 --> 00:12:23,440

to seeing what comes next because the

387

00:12:26,310 --> 00:12:24,959

kennedy space center is the premier

388

00:12:30,150 --> 00:12:26,320

spaceport and this is where history is

389

00:12:36,310 --> 00:12:33,190

hello this is naomi with nhk shb the

390

00:12:38,790 --> 00:12:36,320

last space shuttle project um i think

391

00:12:40,310 --> 00:12:38,800

some of them have already kind of asked

392

00:12:42,389 --> 00:12:40,320

similar questions but i'd like to have a

393

00:12:45,590 --> 00:12:42,399

comment from each one of you

394

00:12:47,990 --> 00:12:45,600

personally how do you feel about flying

395

00:12:51,269 --> 00:12:48,000

the last very last space shuttle to the

396

00:12:54,790 --> 00:12:51,279

iss and how do you feel about all the

397

00:12:57,670 --> 00:12:54,800

other long list of crews supporting this

398

00:12:58,949 --> 00:12:57,680

30 years of space shuttle program

399

00:13:00,310 --> 00:12:58,959

well i think

400

00:13:02,550 --> 00:13:00,320

we've mentioned before we feel very

401  
00:13:04,790 --> 00:13:02,560  
honored to be on this flight and we've

402  
00:13:07,269 --> 00:13:04,800  
been very focused to make sure that

403  
00:13:09,269 --> 00:13:07,279  
we perform it well in honor of all of

404  
00:13:11,110 --> 00:13:09,279  
the people who have been involved in not

405  
00:13:12,310 --> 00:13:11,120  
just this mission but all the missions

406  
00:13:14,310 --> 00:13:12,320  
you know we're just the tip of the

407  
00:13:15,430 --> 00:13:14,320  
iceberg of a huge group of people who

408  
00:13:17,829 --> 00:13:15,440  
plan

409  
00:13:20,230 --> 00:13:17,839  
and get the hardware ready and prepare

410  
00:13:22,069 --> 00:13:20,240  
our procedures and then watch over the

411  
00:13:22,870 --> 00:13:22,079  
vehicle while we're on board

412  
00:13:25,030 --> 00:13:22,880  
and

413  
00:13:26,949 --> 00:13:25,040

we feel very very strongly that we have

414

00:13:28,230 --> 00:13:26,959

to be prepared as possible to perform

415

00:13:30,389 --> 00:13:28,240

the mission to the

416

00:13:31,910 --> 00:13:30,399

extent that they're expecting of us and

417

00:13:33,590 --> 00:13:31,920

i think when it's all done we can all

418

00:13:37,750 --> 00:13:33,600

celebrate together not only just the

419

00:13:43,509 --> 00:13:39,670

no actually we don't have time randy

420

00:13:44,710 --> 00:13:43,519

siegel wstu radio sandy for you it's a

421

00:13:46,949 --> 00:13:44,720

homecoming

422

00:13:48,790 --> 00:13:46,959

you're going back home to the iss you

423

00:13:50,150 --> 00:13:48,800

know how crowded it is you're the load

424

00:13:52,150 --> 00:13:50,160

master

425

00:13:55,509 --> 00:13:52,160

um are you bringing anything special

426

00:13:56,949 --> 00:13:55,519

with you back to this station and uh

427

00:13:58,790 --> 00:13:56,959

are you gonna be able to savor any

428

00:14:00,870 --> 00:13:58,800

moments while you're up there well

429

00:14:01,910 --> 00:14:00,880

certainly we have a challenging timeline

430

00:14:03,430 --> 00:14:01,920

and

431

00:14:04,870 --> 00:14:03,440

i think we'll still find some time to

432

00:14:06,389 --> 00:14:04,880

savor the moments and i do feel a little

433

00:14:07,990 --> 00:14:06,399

bit like it's a homecoming but you know

434

00:14:09,590 --> 00:14:08,000

the home has grown

435

00:14:11,110 --> 00:14:09,600

in the last two years since i've been

436

00:14:13,030 --> 00:14:11,120

there and we're all looking forward to

437

00:14:13,910 --> 00:14:13,040

seeing the cupola we've heard some

438

00:14:15,350 --> 00:14:13,920

great

439

00:14:16,790 --> 00:14:15,360

comments from our colleagues about how

440

00:14:18,790 --> 00:14:16,800

beautiful that view is because you get

441

00:14:21,110 --> 00:14:18,800

the panoramic of the earth and i think

442

00:14:22,710 --> 00:14:21,120

we'll be spending some time in there and

443

00:14:24,870 --> 00:14:22,720

we're hoping to leave the station as

444

00:14:26,470 --> 00:14:24,880

nice as we

445

00:14:28,470 --> 00:14:26,480

arrived with it we'll leave it hopefully

446

00:14:29,990 --> 00:14:28,480

as clean as we arrived with it even

447

00:14:31,189 --> 00:14:30,000

though we are dumping lots of stuff on

448

00:14:32,710 --> 00:14:31,199

there hopefully we'll be able to do it

449

00:14:34,550 --> 00:14:32,720

in a nice and tidy way so we won't mess

450

00:14:36,870 --> 00:14:34,560

up their home it'll be really neat to

451

00:14:38,870 --> 00:14:36,880

see it again

452

00:14:40,629 --> 00:14:38,880

mark ratterman from talking space a

453

00:14:41,750 --> 00:14:40,639

question for whoever can see into the

454

00:14:44,710 --> 00:14:41,760

future

455

00:14:46,790 --> 00:14:44,720

uh do you do you foresee uh someday when

456

00:14:49,030 --> 00:14:46,800

we'll have ticker tape parades for

457

00:14:50,790 --> 00:14:49,040

astronauts that uh that fly and come

458

00:14:52,550 --> 00:14:50,800

home and and celebrate some

459

00:14:55,350 --> 00:14:52,560

extraordinary mission

460

00:14:56,949 --> 00:14:55,360

you know honestly it's not about us it's

461

00:14:58,389 --> 00:14:56,959

about the folks that get these vehicles

462

00:15:00,870 --> 00:14:58,399

into orbit and

463

00:15:03,430 --> 00:15:00,880

support the vehicle you know

464

00:15:05,189 --> 00:15:03,440

it's really enough for us just to get

465

00:15:07,189 --> 00:15:05,199

that look outside the window once it's

466

00:15:09,030 --> 00:15:07,199

all worth it but you know we ought to be

467

00:15:10,870 --> 00:15:09,040

celebrating the folks that that have

468

00:15:12,710 --> 00:15:10,880

worked an entire career to make these

469

00:15:15,430 --> 00:15:12,720

vehicles go into space safely and bring

470

00:15:17,350 --> 00:15:15,440

us home safely so i don't know you know

471

00:15:19,350 --> 00:15:17,360

there there probably will be ticker tape

472

00:15:21,509 --> 00:15:19,360

parade someday you know for some folks

473

00:15:23,189 --> 00:15:21,519

that you know go beyond low earth orbit

474

00:15:25,110 --> 00:15:23,199

to an asteroid or to mars or wherever we

475

00:15:26,550 --> 00:15:25,120

decide the destination is but

476

00:15:30,150 --> 00:15:26,560

you know i think it should be for all

477

00:15:33,829 --> 00:15:31,670

all right a great customer from japan's

478

00:15:37,350 --> 00:15:33,839

nippon television he's a question for

479

00:15:40,150 --> 00:15:37,360

commander um when you arrive at iss this

480

00:15:42,629 --> 00:15:40,160

time the robonaut 2 we have been working

481

00:15:43,829 --> 00:15:42,639

as your crew member already

482

00:15:46,629 --> 00:15:43,839

can you talk a little bit about the

483

00:15:50,230 --> 00:15:46,639

difference between what robots should

484

00:15:52,230 --> 00:15:50,240

and can do and what human

485

00:15:54,230 --> 00:15:52,240

only human can do and also the

486

00:15:55,269 --> 00:15:54,240

significance of having robots in the

487

00:15:56,949 --> 00:15:55,279

future

488

00:15:59,269 --> 00:15:56,959

space exploration

489

00:16:01,350 --> 00:15:59,279

absolutely i i would never claim to be a

490

00:16:02,470 --> 00:16:01,360

an expert on robonaut but i will tell

491

00:16:04,150 --> 00:16:02,480

you

492

00:16:06,790 --> 00:16:04,160

that we are taking up a payload it's

493

00:16:07,670 --> 00:16:06,800

called the robotics refueling module

494

00:16:10,310 --> 00:16:07,680

and

495

00:16:12,629 --> 00:16:10,320

this is to to demonstrate a capability

496

00:16:14,310 --> 00:16:12,639

uh for the special purpose dexterous

497

00:16:15,749 --> 00:16:14,320

manipulator which hasn't seen a whole

498

00:16:17,910 --> 00:16:15,759

lot of use on the international space

499

00:16:20,629 --> 00:16:17,920

station to date but we hope to turn that

500

00:16:22,150 --> 00:16:20,639

all around uh with this payload

501

00:16:24,870 --> 00:16:22,160

i've kind of likened it to to a

502

00:16:26,870 --> 00:16:24,880

fisher-price play toy for uh for a robot

503

00:16:28,790 --> 00:16:26,880

and and i don't mean that in a negative

504

00:16:30,230 --> 00:16:28,800

sense uh it is really it's an

505

00:16:33,189 --> 00:16:30,240

opportunity for the special purpose

506

00:16:34,790 --> 00:16:33,199

dexter's manipulator the spdm to get in

507

00:16:36,710 --> 00:16:34,800

there and use several different tools

508

00:16:38,710 --> 00:16:36,720

and prove the capability

509

00:16:40,949 --> 00:16:38,720

to do something extremely novel and that

510

00:16:43,670 --> 00:16:40,959

is to refuel satellites on orbit that

511

00:16:45,509 --> 00:16:43,680

were never designed to be refueled

512

00:16:47,749 --> 00:16:45,519

so the manipulator will actually go in

513

00:16:50,150 --> 00:16:47,759

and pick up special cutter tools and to

514

00:16:52,150 --> 00:16:50,160

cut safety wire it has a drill that can

515

00:16:54,389 --> 00:16:52,160

actually drill into a fuel tank

516

00:16:56,150 --> 00:16:54,399

so there's some very unique capabilities

517

00:16:58,629 --> 00:16:56,160

that that will be demonstrated using

518

00:17:00,389 --> 00:16:58,639

this and and i think just to to tag on

519

00:17:03,670 --> 00:17:00,399

to what i think your point was well what

520

00:17:05,189 --> 00:17:03,680

capability will robots provide to us in

521

00:17:06,710 --> 00:17:05,199

the future

522

00:17:08,390 --> 00:17:06,720

you know to think about going out there

523

00:17:10,309 --> 00:17:08,400

and perhaps grappling a satellite that

524

00:17:11,829 --> 00:17:10,319

was never designed to be refueled

525

00:17:14,390 --> 00:17:11,839

because the capability to refuel it

526

00:17:16,470 --> 00:17:14,400

didn't exist before it launched and

527

00:17:18,390 --> 00:17:16,480

refill it and use it for five an

528

00:17:20,949 --> 00:17:18,400

additional five or ten years i think is

529

00:17:23,270 --> 00:17:20,959

just a dramatic example of uh just how

530

00:17:24,949 --> 00:17:23,280

robotics can modify at least uh what

531

00:17:26,870 --> 00:17:24,959

we're doing in space and not the least

532

00:17:28,789 --> 00:17:26,880

of which of course that's the only one

533

00:17:30,630 --> 00:17:28,799

of several robotic arms i believe the

534

00:17:32,470 --> 00:17:30,640

tally is up to something like four uh

535

00:17:33,669 --> 00:17:32,480

that we have on the external

536

00:17:35,510 --> 00:17:33,679

the external side of the international

537

00:17:37,510 --> 00:17:35,520

space station right now that do any one

538

00:17:39,190 --> 00:17:37,520

of a number of things it'll actually

539

00:17:42,150 --> 00:17:39,200

load and unload the mplm from the back

540

00:17:44,710 --> 00:17:42,160

of the payload bay so robotics

541

00:17:48,789 --> 00:17:44,720

very clean and clear future in in space

542

00:17:52,710 --> 00:17:51,590

hi clara moskowitz with space.com and a

543

00:17:54,150 --> 00:17:52,720

question for any one of you who would

544

00:17:56,150 --> 00:17:54,160

like to answer

545

00:17:58,310 --> 00:17:56,160

with the shuttle retiring what would you

546

00:18:00,150 --> 00:17:58,320

tell children who dream of becoming an

547

00:18:01,270 --> 00:18:00,160

astronaut or who've dreamed of flying on

548

00:18:02,870 --> 00:18:01,280

the space shuttle about the

549

00:18:04,630 --> 00:18:02,880

opportunities that they still have to go

550

00:18:05,750 --> 00:18:04,640

to space well i think the opportunities

551  
00:18:07,270 --> 00:18:05,760  
are still there as you know we're

552  
00:18:08,310 --> 00:18:07,280  
entering what we call the gap period

553  
00:18:09,830 --> 00:18:08,320  
where there's

554  
00:18:11,750 --> 00:18:09,840  
may not be

555  
00:18:13,669 --> 00:18:11,760  
united states access to low earth orbit

556  
00:18:14,710 --> 00:18:13,679  
on our own capability but we'll get back

557  
00:18:18,230 --> 00:18:14,720  
there

558  
00:18:19,590 --> 00:18:18,240  
take a few years but the young kids

559  
00:18:21,029 --> 00:18:19,600  
today it should be kind of a blink of

560  
00:18:22,710 --> 00:18:21,039  
their eye you know four or five years or

561  
00:18:24,390 --> 00:18:22,720  
however long it takes is going to go by

562  
00:18:26,070 --> 00:18:24,400  
very quickly so if kids are in school

563  
00:18:27,110 --> 00:18:26,080

right now want to be astronauts there's

564

00:18:28,470 --> 00:18:27,120

going to be possibly even more

565

00:18:30,470 --> 00:18:28,480

opportunities with the commercialization

566

00:18:32,549 --> 00:18:30,480

of access to low earth orbit and then

567

00:18:33,270 --> 00:18:32,559

that will uh have a chance to go give

568

00:18:34,549 --> 00:18:33,280

people a chance to go to the

569

00:18:36,150 --> 00:18:34,559

international space station but then

570

00:18:38,470 --> 00:18:36,160

beyond low earth orbit the more the

571

00:18:40,870 --> 00:18:38,480

exploration nasa will be full and

572

00:18:42,470 --> 00:18:40,880

right in the front of that and

573

00:18:44,230 --> 00:18:42,480

the kids of today will have a chance to

574

00:18:45,590 --> 00:18:44,240

uh train to be astronauts to go to

575

00:18:47,350 --> 00:18:45,600

places like maybe the moon or an

576

00:18:49,669 --> 00:18:47,360

asteroid or to mars so there's

577

00:18:50,630 --> 00:18:49,679

incredible opportunities so they the

578

00:18:52,710 --> 00:18:50,640

only thing i can say to the kids is

579

00:18:54,710 --> 00:18:52,720

don't take a short side time frame look

580

00:18:56,950 --> 00:18:54,720

at the long-term time frame and the the

581

00:18:59,750 --> 00:18:56,960

uh the the future of the american space

582

00:19:01,510 --> 00:18:59,760

is is pretty bright

583

00:19:03,029 --> 00:19:01,520

kevin oliver with wftv i was just

584

00:19:04,870 --> 00:19:03,039

curious we haven't seen a crew this

585

00:19:06,310 --> 00:19:04,880

small in years and with the crew this

586

00:19:08,470 --> 00:19:06,320

small the amount of work that you have

587

00:19:10,950 --> 00:19:08,480

has there ever been any concern about

588

00:19:13,510 --> 00:19:10,960

too much work too too little crew and

589

00:19:15,669 --> 00:19:13,520

whether that would affect uh

590

00:19:17,750 --> 00:19:15,679

finishing all your objectives and your

591

00:19:19,669 --> 00:19:17,760

safety

592

00:19:22,470 --> 00:19:19,679

we've had a chance through training to

593

00:19:25,029 --> 00:19:22,480

go through all of the various scenarios

594

00:19:26,710 --> 00:19:25,039

you know contingency deorbits um

595

00:19:28,470 --> 00:19:26,720

different kinds of contingency undocking

596

00:19:30,950 --> 00:19:28,480

scenarios and we have actually found

597

00:19:33,029 --> 00:19:30,960

procedures that assume you have five or

598

00:19:34,630 --> 00:19:33,039

six or seven crew members and so these

599

00:19:36,150 --> 00:19:34,640

have been very good exercises for us to

600

00:19:37,510 --> 00:19:36,160

go through and figure out okay so now we

601  
00:19:39,909 --> 00:19:37,520  
only have four people how are we going

602  
00:19:41,510 --> 00:19:39,919  
to do it and we've got some really good

603  
00:19:43,430 --> 00:19:41,520  
workarounds in place for how we're going

604  
00:19:46,310 --> 00:19:43,440  
to get through these particular kinds of

605  
00:19:47,909 --> 00:19:46,320  
scenarios the overall workload is is

606  
00:19:49,510 --> 00:19:47,919  
pretty high we've had to do a lot more

607  
00:19:50,789 --> 00:19:49,520  
cross training than normal for a shuttle

608  
00:19:52,070 --> 00:19:50,799  
crew it actually feels a little bit to

609  
00:19:53,909 --> 00:19:52,080  
me like a station mission because you

610  
00:19:55,990 --> 00:19:53,919  
end up being a little bit more of a jack

611  
00:19:57,590 --> 00:19:56,000  
of all trades and not so much just a

612  
00:19:59,669 --> 00:19:57,600  
pipeline specialist and that's been a

613  
00:20:01,750 --> 00:19:59,679

lot of fun because we get to dabble in

614

00:20:04,149 --> 00:20:01,760

each other's areas so i think with

615

00:20:05,510 --> 00:20:04,159

between the cross training and the fact

616

00:20:07,510 --> 00:20:05,520

that we've you know nosed out these

617

00:20:08,950 --> 00:20:07,520

scenarios where we need to be a little

618

00:20:09,990 --> 00:20:08,960

bit smarter we're going to be in pretty

619

00:20:11,430 --> 00:20:10,000

good shape but we are going to be

620

00:20:12,710 --> 00:20:11,440

working very hard

621

00:20:14,950 --> 00:20:12,720

but it will be a lot of fun at the same

622

00:20:16,789 --> 00:20:14,960

time and very challenging

623

00:20:18,230 --> 00:20:16,799

mark miller discovery channel

624

00:20:19,990 --> 00:20:18,240

we've been trying to work a piece into

625

00:20:21,909 --> 00:20:20,000

our documentary about all of the people

626

00:20:23,990 --> 00:20:21,919

behind the scenes and they gave us a

627

00:20:25,590 --> 00:20:24,000

figure of about 15 000 people have got

628

00:20:27,830 --> 00:20:25,600

this thing to the pad

629

00:20:29,430 --> 00:20:27,840

maybe one of you guys can speak to that

630

00:20:32,070 --> 00:20:29,440

they tell me this is the last question

631

00:20:34,390 --> 00:20:32,080

so perhaps it's appropriate that we

632

00:20:36,789 --> 00:20:34,400

hear your thoughts on all the all the

633

00:20:37,750 --> 00:20:36,799

folks that don't get to be on tv

634

00:20:39,830 --> 00:20:37,760

well

635

00:20:42,950 --> 00:20:39,840

let me just uh mark tell you just from a

636

00:20:44,870 --> 00:20:42,960

personal uh perspective um

637

00:20:47,909 --> 00:20:44,880

you know we we knew nine months ago that

638

00:20:49,830 --> 00:20:47,919

we were probably going to fly sts-135 as

639

00:20:51,510 --> 00:20:49,840

the final flight and

640

00:20:53,190 --> 00:20:51,520

uh you know my boss came to me and said

641

00:20:54,310 --> 00:20:53,200

well how much time do you need to train

642

00:20:55,830 --> 00:20:54,320

how many people do you need to train

643

00:20:57,830 --> 00:20:55,840

what do you need to do to make this all

644

00:20:59,190 --> 00:20:57,840

happen so we tried to project in the

645

00:21:00,950 --> 00:20:59,200

future and think well there's there's an

646

00:21:02,950 --> 00:21:00,960

interesting twist in that this is the

647

00:21:05,590 --> 00:21:02,960

final flight so uh you know we added a

648

00:21:06,310 --> 00:21:05,600

little pad here and there but one thing

649

00:21:10,549 --> 00:21:06,320

that

650

00:21:11,510 --> 00:21:10,559

accounted for appropriately was the um

651

00:21:13,190 --> 00:21:11,520

just

652

00:21:14,789 --> 00:21:13,200

the the amount of emotion that people

653

00:21:16,789 --> 00:21:14,799

have in their general attachment to the

654

00:21:18,149 --> 00:21:16,799

vehicle and the fact that they all wanna

655

00:21:19,590 --> 00:21:18,159

when they get an opportunity they wanna

656

00:21:21,590 --> 00:21:19,600

talk to the crew about their experience

657

00:21:24,950 --> 00:21:21,600

and it's all enormously positive very

658

00:21:27,029 --> 00:21:24,960

very positive uh reflections on uh the

659

00:21:28,470 --> 00:21:27,039

the the 25 years they've been a part of

660

00:21:29,909 --> 00:21:28,480

the space shuttle program or the 40

661

00:21:32,070 --> 00:21:29,919

years they've been involved with nasa

662

00:21:34,149 --> 00:21:32,080

here at the kennedy space center uh and

663

00:21:35,750 --> 00:21:34,159

it's it's been it's been

664

00:21:37,669 --> 00:21:35,760

a very positive experience for us to

665

00:21:39,990 --> 00:21:37,679

hear that i'd have to say at the end of

666

00:21:41,430 --> 00:21:40,000

the day though you know we're like wow

667

00:21:43,750 --> 00:21:41,440

that's there's a lot of emotion here

668

00:21:44,549 --> 00:21:43,760

this is a this is uh it's

669

00:21:46,390 --> 00:21:44,559

it's

670

00:21:48,070 --> 00:21:46,400

it plays a factor in our training and

671

00:21:49,909 --> 00:21:48,080

just how long our days get but they're

672

00:21:51,590 --> 00:21:49,919

all stories that we want to hear but as

673

00:21:53,990 --> 00:21:51,600

you said there's uh there's tens of

674

00:21:55,669 --> 00:21:54,000

thousands perhaps of people who involve

675

00:21:57,750 --> 00:21:55,679

who are involved and get the shuttle to

676  
00:21:59,750 --> 00:21:57,760  
this position right here

677  
00:22:02,310 --> 00:21:59,760  
and i wish i could give credit to every

678  
00:22:03,990 --> 00:22:02,320  
single uh one of them because they

679  
00:22:06,230 --> 00:22:04,000  
certainly deserve it this is this is

680  
00:22:08,710 --> 00:22:06,240  
about the largest team effort i can

681  
00:22:10,950 --> 00:22:08,720  
imagine and what i do know is when it's

682  
00:22:13,510 --> 00:22:10,960  
all said and done folks watching on tv

683  
00:22:16,390 --> 00:22:13,520  
folks watching from the causeway

684  
00:22:17,750 --> 00:22:16,400  
there is not an american

685  
00:22:19,909 --> 00:22:17,760  
who doesn't

686  
00:22:21,669 --> 00:22:19,919  
look upon an ascending shuttle with a

687  
00:22:24,149 --> 00:22:21,679  
certain sense of

688  
00:22:26,710 --> 00:22:24,159

american pride

689

00:22:29,029 --> 00:22:26,720

you know hair on the back your neck

690

00:22:30,950 --> 00:22:29,039

chills call it what you will and it's

691

00:22:32,630 --> 00:22:30,960

just been great and i think it will be

692

00:22:34,310 --> 00:22:32,640

fantastic until the very end to know

693

00:22:36,230 --> 00:22:34,320

that just a little piece of every one of

694

00:22:38,630 --> 00:22:36,240

them went along with us for for every

695

00:22:39,750 --> 00:22:38,640

single ride and when it's all over we're

696

00:22:41,430 --> 00:22:39,760

going to go back and we're going to do

697

00:22:43,270 --> 00:22:41,440

our best to thank each and every one of

698

00:22:45,510 --> 00:22:43,280

them for the part that they paid that

699

00:22:46,950 --> 00:22:45,520

they paid and you know just the hopes

700

00:22:48,710 --> 00:22:46,960

that they'll kind of hang on there for

701  
00:22:51,270 --> 00:22:48,720  
this gap because we want their

702  
00:22:53,510 --> 00:22:51,280  
experience you know we want their

703  
00:22:54,390 --> 00:22:53,520  
we want their passion and we want their

704  
00:22:56,149 --> 00:22:54,400  
knowledge

705  
00:22:59,590 --> 00:22:56,159  
when we when we pick up and do this all

706  
00:23:01,830 --> 00:22:59,600  
over again in a different capacity

707  
00:23:03,029 --> 00:23:01,840  
well as you said that's uh

708  
00:23:04,950 --> 00:23:03,039  
our last question we'll just take the

709  
00:23:06,830 --> 00:23:04,960  
microphone from you good job

710  
00:23:08,630 --> 00:23:06,840  
we just do a quick photo

711  
00:23:41,909 --> 00:23:08,640  
opportunity and we'll get you back on