



16

1
00:00:07,039 --> 00:00:02,540
shadolla station are currently 216 miles

2
00:00:09,259 --> 00:00:07,049
above Guatemala heading toward Cuba and

3
00:00:12,560 --> 00:00:09,269
the very tip of Florida over Miami in

4
00:00:13,999 --> 00:00:12,570
the next few minutes and the

5
00:00:15,230 --> 00:00:14,009
spacewalkers are two hours and 12

6
00:00:19,939 --> 00:00:15,240
minutes into their six and a half hour

7
00:00:24,890 --> 00:00:19,949
space walk right up your left now I see

8
00:00:27,710 --> 00:00:24,900
you try to go down how far am I going

9
00:00:32,540 --> 00:00:27,720
let's see nothing enough for her big 12

10
00:00:36,040 --> 00:00:32,550
that exists okay here's the Bay State

11
00:00:39,440 --> 00:00:36,050
comet ave a trustee front of 10 oh

12
00:00:43,670 --> 00:00:39,450
you're hoping that's how it works faith

13
00:00:46,490 --> 00:00:43,680

in you okay and i also have way that you

14

00:00:50,779 --> 00:00:46,500

made you a for Vance fairlead at the uhf

15

00:00:53,720 --> 00:00:50,789

antenna lon cho yep at the internal

16

00:00:55,819 --> 00:00:53,730

right now and I can't tell but it looks

17

00:00:59,180 --> 00:00:55,829

like the launch now it might be off your

18

00:01:11,660 --> 00:00:59,190

left yeah there's two of them so either

19

00:01:14,600 --> 00:01:11,670

one okay looking for a handrail down

20

00:01:17,210 --> 00:01:14,610

here I think I see you yeah I'm trying

21

00:01:20,090 --> 00:01:17,220

to look it's the unfortunately yes it

22

00:01:22,490 --> 00:01:20,100

just gets cut off my you take like you

23

00:01:25,460 --> 00:01:22,500

twist your feet to your right suck it

24

00:01:31,719 --> 00:01:25,470

slide in underneath you other yeah it's

25

00:01:41,719 --> 00:01:39,710

you guys see the handrail daddy and a

26
00:01:44,450 --> 00:01:41,729
pedi nagar Anderson and miss tracking

27
00:01:46,190 --> 00:01:44,460
over we'll be installing two more of

28
00:01:47,359 --> 00:01:46,200
these stowage beams on the starboard

29
00:01:53,200 --> 00:01:47,369
side of the station's truss tear in

30
00:02:04,850 --> 00:01:53,210
their third spacewalk one Tuesday

31
00:02:06,679 --> 00:02:04,860
correct location daddy be here from

32
00:02:08,389 --> 00:02:06,689
reston specialist rick mastracchio is

33
00:02:10,790 --> 00:02:08,399
helmet camera before you can also see

34
00:02:12,910 --> 00:02:10,800
Anderson on the left hand side of the

35
00:02:14,230 --> 00:02:12,920
screen news for you yeah

36
00:02:17,760 --> 00:02:14,240
there you go forward with the tether

37
00:02:23,320 --> 00:02:17,770
point okay I'm going to work on our

38
00:02:27,910 --> 00:02:23,330

pockets walk doggies yeah that's good

39

00:02:35,590 --> 00:02:27,920

call and this so it was good too much on

40

00:02:40,150 --> 00:02:35,600

both of those full yeah like it's um if

41

00:02:44,830 --> 00:02:40,160

I get this wrestle lock doesn't pull it

42

00:02:46,780 --> 00:02:44,840

away good nuff Oh looks like about 13

43

00:02:51,759 --> 00:02:46,790

are at thirteen and a half or D turns on

44

00:02:53,559 --> 00:02:51,769

that one okay that's good those are both

45

00:02:56,400 --> 00:02:53,569

those expected now just sent that there

46

00:03:01,090 --> 00:02:56,410

are no white lion physical on the boat I

47

00:03:06,160 --> 00:03:01,100

see no light line hold on a little thick

48

00:03:09,220 --> 00:03:06,170

still though I guess that's not all very

49

00:03:11,590 --> 00:03:09,230

low in the cupola I'm taking your

50

00:03:15,840 --> 00:03:11,600

picture from the commander st. here we

51
00:03:18,520 --> 00:03:15,850
are go to window you all right clay um

52
00:03:27,460 --> 00:03:18,530
view here of the space station robotic

53
00:03:37,270 --> 00:03:27,470
arm back in America okay there we go go

54
00:03:37,280 --> 00:03:53,710
and i'll let this one go Airbus oriental

55
00:04:00,410 --> 00:03:58,640
daddy hey daddy check with Houston the

56
00:04:02,530 --> 00:04:00,420
beam I definitely got good terms of good

57
00:04:04,880 --> 00:04:02,540
torque on both full the white line

58
00:04:06,410 --> 00:04:04,890
appears just a little bit of play in the

59
00:04:11,030 --> 00:04:06,420
bolts and a little bit of ply in the

60
00:04:18,490 --> 00:04:11,040
beam just very very little you can do

61
00:04:24,110 --> 00:04:21,319
Jake are you comfortable with asking are

62
00:04:26,920 --> 00:04:24,120
configured sir motion yes I'll be with

63
00:04:31,040 --> 00:04:26,930

you like 10 seconds we're dealing

64

00:04:38,930 --> 00:04:31,050

there's one thing off all right let me

65

00:04:41,270 --> 00:04:38,940

see if I can find you can grab onto the

66

00:04:45,860 --> 00:04:41,280

a PFR I could because it Ruffo love to

67

00:04:48,320 --> 00:04:45,870

see you okay now I got a good for you

68

00:04:50,450 --> 00:04:48,330

too hey we've got clear and cheerful

69

00:04:52,550 --> 00:04:50,460

clip it right now yeah Gino will be sure

70

00:04:56,540 --> 00:04:52,560

to lose it ok so your face we're going

71

00:05:01,540 --> 00:04:56,550

to come be on Nador 6 meters Nader the

72

00:05:03,440 --> 00:05:01,550

creator's major okay second off

73

00:05:08,060 --> 00:05:03,450

decorating the way of play when he

74

00:05:10,520 --> 00:05:08,070

translates fire my only concern that's a

75

00:05:12,080 --> 00:05:10,530

good question we could start down and if

76

00:05:13,700 --> 00:05:12,090

it starts to look like a concern we can

77

00:05:15,529 --> 00:05:13,710

stop her yeah I wouldn't just hold here

78

00:05:22,530 --> 00:05:15,539

your choice so certain aider and will

79

00:05:27,770 --> 00:05:25,530

close view here of the shoulder joint of

80

00:05:34,560 --> 00:05:27,780

the station's 57 foot long robotic arm

81

00:05:36,480 --> 00:05:34,570

currently has a seventeen hundred pound

82

00:05:38,880 --> 00:05:36,490

ammonia tank assembly on the end of it

83

00:05:40,620 --> 00:05:38,890

moving that towards the spacewalkers on

84

00:06:00,300 --> 00:05:40,630

the S one segment of the trust for

85

00:06:03,360 --> 00:06:00,310

installation at askari four evaa we

86

00:06:17,100 --> 00:06:03,370

think hard impulsive force on top of the

87

00:06:20,370 --> 00:06:17,110

clevis bracket might help out for your

88

00:06:30,930 --> 00:06:20,380

boat for that in here I think your foes

89

00:06:36,150 --> 00:06:30,940

oh stop putting for calling the popped

90

00:06:41,990 --> 00:06:36,160

up we're calling it that way you look

91

00:06:46,110 --> 00:06:42,000

boy see that soft I thought that the

92

00:06:51,630 --> 00:06:46,120

pushing in oh there's no you can move

93

00:06:59,310 --> 00:06:51,640

here get there let's get the theater and

94

00:07:02,790 --> 00:06:59,320

I thank ya yeah we will what's this we

95

00:07:04,560 --> 00:07:02,800

can head that way there four bolts it's

96

00:07:06,480 --> 00:07:04,570

are used to hold diamond you take

97

00:07:09,360 --> 00:07:06,490

assembly down to the s-1 truss segment

98

00:07:12,030 --> 00:07:09,370

into those are in place however to left

99

00:07:21,650 --> 00:07:12,040

to be driven and the expense long as I

100

00:07:21,660 --> 00:07:36,110

what aspects back again I'm not sure yet

101

00:08:22,400 --> 00:07:38,820

that's pretty good right there feisty

102

00:08:31,680 --> 00:08:24,960

if you hear from clay Anderson's helmet

103

00:08:34,320 --> 00:08:31,690

camera is he and uh mr. Keogh float

104

00:08:37,560 --> 00:08:34,330

about 260 miles above the coast of

105

00:08:41,100 --> 00:08:37,570

France yeah and maybe you push down

106

00:08:45,000 --> 00:08:41,110

while I try to push the pins in it's

107

00:08:48,450 --> 00:08:45,010

like he buys old Maggie yeah I'm my body

108

00:08:50,910 --> 00:08:48,460

yeah you go up there with maybe come up

109

00:08:52,860 --> 00:08:50,920

here at that handrail they're okay and

110

00:08:55,140 --> 00:08:52,870

it's easy to put down while I try to

111

00:09:03,980 --> 00:08:55,150

push the pin yeah let me I'm still doing

112

00:09:34,070 --> 00:09:03,990

this down I'm going to take a couple of

113

00:09:34,080 --> 00:09:46,740

ok

114

00:09:51,090 --> 00:09:49,620

as a reminder the number 18 at the lower

115

00:09:53,400 --> 00:09:51,100

right-hand portion of your screen means

116

00:09:55,290 --> 00:09:53,410

that that is Rick Mastracchio helmet cam

117

00:09:58,170 --> 00:09:55,300

if you see a 16 that is clay Anderson's

118

00:10:00,750 --> 00:09:58,180

Arjun is it okay to put it on the press

119

00:10:02,700 --> 00:10:00,760

safe well we got to move it so what's

120

00:10:04,950 --> 00:10:02,710

foot of where they want it and if I need

121

00:10:11,790 --> 00:10:04,960

which they probably won't we'll go get

122

00:10:14,310 --> 00:10:11,800

it just a few minutes ago you heard

123

00:10:16,620 --> 00:10:14,320

Capcom over in the International Space

124

00:10:18,510 --> 00:10:16,630

Station room stand love inform the crew

125

00:10:22,440 --> 00:10:18,520

that the ground team here has decided to

126
00:10:24,950 --> 00:10:22,450
go ahead and relocate that adjustable

127
00:10:27,960 --> 00:10:24,960
portable foot restraint to the crew

128
00:10:31,200 --> 00:10:27,970
equipment translation aid cart as per

129
00:10:32,520 --> 00:10:31,210
the normal the normal plan so they

130
00:10:37,590 --> 00:10:32,530
should take care of that here in just a

131
00:10:38,730 --> 00:10:37,600
few seconds they've also confirm that

132
00:10:40,350 --> 00:10:38,740
they've gotten one of the electrical

133
00:10:47,280 --> 00:10:40,360
connections made to the brand-new ATA

134
00:10:49,290 --> 00:10:47,290
and there's a second one coming up the

135
00:10:51,630 --> 00:10:49,300
part that they will defer is the actual

136
00:10:57,690 --> 00:10:51,640
mating of the quick disconnect fluid

137
00:12:00,530 --> 00:10:57,700
lines that will be deferred to another

138
00:12:00,540 --> 00:12:07,639

look at you too buddy picking a camera

139

00:12:29,579 --> 00:12:17,699

thank you kept it clean that's all you

140

00:12:32,220 --> 00:12:29,589

we got this is Mission Control Houston

141

00:12:33,900 --> 00:12:32,230

we are now five hours and 43 minutes

142

00:12:35,009 --> 00:12:33,910

into today's space walk by rick

143

00:12:37,740 --> 00:12:35,019

mastracchio and clay Anderson

144

00:12:50,639 --> 00:12:37,750

comfortable at all read you everything I

145

00:12:52,949 --> 00:12:50,649

got I think I've got everything both mr.

146

00:12:55,170 --> 00:12:52,959

onkyo and Anderson were running about 40

147

00:12:56,850 --> 00:12:55,180

minutes ahead of schedule before they

148

00:13:02,360 --> 00:12:56,860

ran into this troublesome bolt on this

149

00:13:17,620 --> 00:13:02,370

new ammonia tank assembly pick it up

150

00:13:27,460 --> 00:13:25,480

can continue would it be in trouble to

151
00:13:31,090 --> 00:13:27,470
give us some Nader Jim maybe you have

152
00:13:34,660 --> 00:13:31,100
less than half a metre Nader oh you can

153
00:13:36,640 --> 00:13:34,670
do that thank you did you ask do you in

154
00:13:45,250 --> 00:13:36,650
the ass no shenanigan residence inator

155
00:13:47,650 --> 00:13:45,260
thank you soo good motion this is

156
00:13:50,260 --> 00:13:47,660
Mission Control Houston six hours and 34

157
00:13:52,030 --> 00:13:50,270
minutes into todays space walk I feel

158
00:13:54,540 --> 00:13:52,040
look carefully you can see the station's

159
00:13:58,690 --> 00:13:54,550
robotic arm with the old ammonia tank

160
00:14:03,430 --> 00:13:58,700
attached to it slowly being moved away

161
00:14:07,480 --> 00:14:03,440
from the two spacewalkers playa clara

162
00:14:09,190 --> 00:14:07,490
declare ok chris is good girl perfect as

163
00:14:11,860 --> 00:14:09,200

we mentioned that old ammonia tank even

164

00:14:15,130 --> 00:14:11,870

though some of its ammonia has been used

165

00:14:18,370 --> 00:14:15,140

up in the station's cooling system that

166

00:14:20,920 --> 00:14:18,380

tank still ways quite a bit as 1295

167

00:14:23,260 --> 00:14:20,930

pounds his ultimate destination will be

168

00:14:25,300 --> 00:14:23,270

discoveries payload Bay where it will be

169

00:14:27,460 --> 00:14:25,310

attached to the same cargo carrier and

170

00:14:30,610 --> 00:14:27,470

brought back home that the new ammonia

171

00:14:39,300 --> 00:14:30,620

tank pick him up to the station on felt

172

00:14:58,080 --> 00:14:49,900

little bit more continue you know the

173

00:15:02,980 --> 00:14:58,090

animators at least cabbies you free ooh

174

00:15:18,880 --> 00:15:02,990

that's good right there let's let them

175

00:15:21,760 --> 00:15:18,890

lock it up clay either the letter to get

176
00:15:24,430 --> 00:15:21,770
trapped underneath it yeah the campaign

177
00:15:27,520 --> 00:15:24,440
is doing a 180 to bigger it's about the

178
00:15:28,990 --> 00:15:27,530
moment we've got it thank you hey guys

179
00:15:31,300 --> 00:15:29,000
we're in standby mode you're going

180
00:15:35,460 --> 00:15:31,310
through the install hey hold on here

181
00:15:38,950 --> 00:15:35,470
pull that a little bit didn't clear yep

182
00:15:41,740 --> 00:15:38,960
Kim theft you guys are clear movie a

183
00:15:46,510 --> 00:15:41,750
monkey tank copy that we're getting in

184
00:15:48,760 --> 00:15:46,520
mud thank you very much so the

185
00:15:50,620 --> 00:15:48,770
adjustable grapple bar has been attached

186
00:15:53,260 --> 00:15:50,630
to the ammonia tank assembly this will

187
00:15:56,110 --> 00:15:53,270
allow it to be moved and it will head

188
00:15:57,430 --> 00:15:56,120

toward the poem which is in the same

189

00:15:59,440 --> 00:15:57,440

position that the new tank was

190

00:16:00,970 --> 00:15:59,450

temporarily stowed on right after the

191

00:16:02,410 --> 00:16:00,980

first spacewalk of the mission this

192

00:16:04,960 --> 00:16:02,420

movement will be taken care of by the

193

00:16:07,300 --> 00:16:04,970

station's robotic arm this is where the

194

00:16:08,980 --> 00:16:07,310

ammonia tank will remain until the third

195

00:16:10,660 --> 00:16:08,990

spacewalk of the mission win Rick

196

00:16:13,330 --> 00:16:10,670

Mastracchio and clay Anderson will begin

197

00:16:15,910 --> 00:16:13,340

the process of moving the old tank into

198

00:16:16,900 --> 00:16:15,920

discoveries payload Bay actually think

199

00:16:24,430 --> 00:16:16,910

that's what we're supposed to do clay

200

00:16:29,320 --> 00:16:24,440

leave me the bag yes that was original

201

00:16:31,540 --> 00:16:29,330

fan it without it for mayor we put on

202

00:16:33,910 --> 00:16:31,550

the seat of car now dragon board with me

203

00:16:48,700 --> 00:16:33,920

okay good motion cam good Clarence you

204

00:16:53,210 --> 00:16:51,020

okay guys we've got good clearance views

205

00:16:55,070 --> 00:16:53,220

thanks for the help with the clearance

206

00:17:11,150 --> 00:16:55,080

there and thank you see you back near

207

00:17:13,610 --> 00:17:11,160

along shortly great job playboy will

208

00:17:15,620 --> 00:17:13,620

take with you is a full inventory of

209

00:17:35,180 --> 00:17:15,630

your mini workstations and that love

210

00:17:37,640 --> 00:17:35,190

check before you translate all right pvp

211

00:17:50,360 --> 00:17:37,650

with 6-inch wall though and what if it

212

00:17:54,430 --> 00:17:50,370

can see an illustration for the second

213

00:17:59,570 --> 00:17:54,440

round with milky appearance T y'r tides

214

00:18:12,220 --> 00:17:59,580

talk bag with a multi inside and the VIP

215

00:18:14,420 --> 00:18:12,230

of four wire ties in the globe look good

216

00:18:19,120 --> 00:18:14,430

okay let me make sure a couple things

217

00:18:22,370 --> 00:18:19,130

ABS got your brt and I was act on it

218

00:18:23,840 --> 00:18:22,380

want to make sure you've got your

219

00:18:27,830 --> 00:18:23,850

adjustable on the back of your mini

220

00:18:29,840 --> 00:18:27,840

workstation no that's all in with all

221

00:18:34,850 --> 00:18:29,850

the gaggle of risk because I use that

222

00:18:37,400 --> 00:18:34,860

one on the tie-down for the CD Club oh

223

00:18:40,490 --> 00:18:37,410

that's right yes so I got you you just

224

00:18:42,320 --> 00:18:40,500

kept it with it okay we are getting

225

00:18:45,170 --> 00:18:42,330

close to the end of todays space walk

226

00:18:46,880 --> 00:18:45,180

the two crew members making their way

227

00:18:50,810 --> 00:18:46,890

back to the quest airlock this will take

228

00:18:52,310 --> 00:18:50,820

just a few minutes how many here at that

229

00:18:54,260 --> 00:18:52,320

point they will be in the process of

230

00:18:55,190 --> 00:18:54,270

crawling back inside they will close the

231

00:18:56,870 --> 00:18:55,200

thermal cover

232

00:18:58,549 --> 00:18:56,880

as well as the hatch they will plug

233

00:19:03,649 --> 00:18:58,559

themselves back into the station power

234

00:19:06,379 --> 00:19:03,659

supply and communications and once that

235

00:19:08,600 --> 00:19:06,389

quest airlock begins to be repressurized

236

00:19:23,930 --> 00:19:08,610

that will signal the end of todays space

237

00:19:26,810 --> 00:19:23,940

walk okay I see you with the APF art and

238

00:19:30,549 --> 00:19:26,820

you're going to come back to the forward

239

00:21:13,739 --> 00:19:30,559

side to the starboard see the card and

240

00:21:43,450 --> 00:21:17,830

the death of deaths from we're here to

241

00:21:49,720 --> 00:21:47,950

this is Mission Control Houston sts-131

242

00:21:51,760 --> 00:21:49,730

pilot Jim Dutton there at the hatchway

243

00:21:54,850 --> 00:21:51,770

in between the equipment lock of the

244

00:21:57,279 --> 00:21:54,860

quest airlock and the crew lock there's

245

00:22:01,029 --> 00:21:57,289

Tracy Caldwell Dyson the expedition 23

246

00:22:03,070 --> 00:22:01,039

flight engineer to recap the numbers one

247

00:22:07,240 --> 00:22:03,080

more time today's spacewalk began at

248

00:22:09,970 --> 00:22:07,250

twelve-thirty a.m. central time it ended

249

00:22:12,610 --> 00:22:09,980

at 756 a.m. central the total elapsed

250

00:22:16,040 --> 00:22:12,620

time for today's activity was seven

251
00:22:22,040 --> 00:22:19,610
this was the 140 second spacewalk in

252
00:22:25,490 --> 00:22:22,050
support of the assembly and maintenance

253
00:22:27,530 --> 00:22:25,500
of the International Space Station the

254
00:22:35,170 --> 00:22:27,540
total time now for all of those

255
00:22:40,820 --> 00:22:38,140
114 of those spacewalks have been out of

256
00:22:45,320 --> 00:22:40,830
International Space Station airlocks for

257
00:22:49,040 --> 00:22:45,330
a total time of 699 minutes 699 hours

258
00:22:55,230 --> 00:22:52,740
this was the 230 fifth spacewalk by US

259
00:22:58,620 --> 00:22:55,240
astronauts in history it brings the

260
00:23:02,550 --> 00:22:58,630
total spacewalk time for sts-131 to 13

261
00:23:04,590 --> 00:23:02,560
hours and 53 minutes this was the fifth

262
00:23:07,830 --> 00:23:04,600
spacewalk for both Rick miss Jackie O

263
00:23:10,290 --> 00:23:07,840

and clay Anderson the total time for

264

00:23:12,990 --> 00:23:10,300

Rick Mastracchio now is 32 hours and six

265

00:23:16,440 --> 00:23:13,000

minutes a total time for clay Anderson

266

00:23:18,720 --> 00:23:16,450

it's 32 hours and four minutes so once

267

00:23:20,190 --> 00:23:18,730

again to recap the 140 second spacewalk

268

00:23:22,290 --> 00:23:20,200

today conducted in support of

269

00:23:25,440 --> 00:23:22,300

international space station assembly and

270

00:23:29,370 --> 00:23:25,450

maintenance the total time is 887 hours

271

00:23:32,940 --> 00:23:29,380

and nine minutes this was the 114th

272

00:23:37,440 --> 00:23:32,950

space walk out of ISS airlocks the total

273

00:23:41,100 --> 00:23:37,450

time 699 hours and 54 minutes a total

274

00:23:43,560 --> 00:23:41,110

time now for sts-131 is 13 hours and 53

275

00:23:45,180 --> 00:23:43,570

minutes today was the fifth spacewalk

276

00:23:48,540 --> 00:23:45,190

for both miss Frankie oh and Anderson

277

00:23:51,300 --> 00:23:48,550

mr. ankles time is now 32 hours and six