



U.S. SPACEWALK 79 ANIMATION

1
00:00:06,389 --> 00:00:04,230
u.s spacewalk number 79 will begin at

2
00:00:08,390 --> 00:00:06,399
the quest airlock u.s astronaut kayla

3
00:00:10,470 --> 00:00:08,400
barron navy one denoted by the red

4
00:00:13,110 --> 00:00:10,480
stripes will egress first and receive a

5
00:00:15,110 --> 00:00:13,120
very large arosa mod kit strut bag u.s

6
00:00:16,630 --> 00:00:15,120
astronaut raja achary and the plain

7
00:00:19,029 --> 00:00:16,640
white suit will egress second with a

8
00:00:22,230 --> 00:00:19,039
crew luck bag after quick buddy checks

9
00:00:25,189 --> 00:00:22,240
ev1 will head up to phase one and out to

10
00:00:27,910 --> 00:00:25,199
the s4 integrated equipment assembly

11
00:00:30,390 --> 00:00:27,920
pausing momentarily to drop her fairlead

12
00:00:32,709 --> 00:00:30,400
green hook just inboard of the solar

13
00:00:35,910 --> 00:00:32,719

alpha rotary joint and then continue her

14

00:00:37,910 --> 00:00:35,920

translation out to the s4 3 alpha

15

00:00:40,709 --> 00:00:37,920

integrated equipment assembly where she

16

00:00:42,790 --> 00:00:40,719

will stow the large arosa mod kit strut

17

00:00:45,190 --> 00:00:42,800

bag and prep for the building of the

18

00:00:48,950 --> 00:00:45,200

upper triangle of the mod kit meanwhile

19

00:00:50,709 --> 00:00:48,960

ev2 will follow ev1 up to phase 1. ev2

20

00:00:52,389 --> 00:00:50,719

will stop at the starboard cedar cart

21

00:00:54,549 --> 00:00:52,399

where he will temp stow a crew lock bag

22

00:00:56,470 --> 00:00:54,559

of tools and retrieve a foot restraint

23

00:00:58,709 --> 00:00:56,480

and a worksite interface extender known

24

00:01:01,270 --> 00:00:58,719

as a wiff x and then translate out board

25

00:01:03,270 --> 00:01:01,280

pausing momentarily to drop his fairly

26

00:01:05,910 --> 00:01:03,280

green hook just in board of the solar

27

00:01:08,950 --> 00:01:05,920

alpha rotary joint continuing outboard

28

00:01:11,350 --> 00:01:08,960

ev2 will cross over to the radiator side

29

00:01:14,070 --> 00:01:11,360

of the iea and stow the foot restraint

30

00:01:17,190 --> 00:01:14,080

and the worksite interface extender into

31

00:01:18,950 --> 00:01:17,200

the worksite interface number 26. ev2

32

00:01:21,590 --> 00:01:18,960

will then set up the foot restraint for

33

00:01:23,030 --> 00:01:21,600

optimum arosa mod kit upper triangle

34

00:01:25,670 --> 00:01:23,040

installation

35

00:01:28,310 --> 00:01:25,680

and then translate over to join ev1 to

36

00:01:30,950 --> 00:01:28,320

begin assembling the upper triangle

37

00:01:32,870 --> 00:01:30,960

ev1 and ev2 will work together to build

38

00:01:35,030 --> 00:01:32,880

the upper triangle the crew will build

39

00:01:36,870 --> 00:01:35,040

the triangular segment loosely and that

40

00:01:38,550 --> 00:01:36,880

will tighten up the structure by driving

41

00:01:40,950 --> 00:01:38,560

the bolts to torque

42

00:01:42,950 --> 00:01:40,960

ev2 will then translate over to and

43

00:01:44,789 --> 00:01:42,960

ingress the foot restraint ev1 will

44

00:01:47,190 --> 00:01:44,799

reposition for the handoff maybe one

45

00:01:50,389 --> 00:01:47,200

will hand off the upper triangle to ev2

46

00:01:52,310 --> 00:01:50,399

ev2 will lay back and work to soft dock

47

00:01:55,350 --> 00:01:52,320

the segment onto the beta gimbal

48

00:01:57,670 --> 00:01:55,360

assembly and then drive four bolts ev1

49

00:02:00,870 --> 00:01:57,680

will temp stow her pgt with a short

50

00:02:03,030 --> 00:02:00,880

socket on a local handrail while ev2

51
00:02:05,749 --> 00:02:03,040
will egress the foot restraint and bias

52
00:02:08,550 --> 00:02:05,759
it to the left hand side ev1 will go

53
00:02:11,270 --> 00:02:08,560
over to the back and retrieve the left

54
00:02:15,510 --> 00:02:11,280
mid strut and work to pass this off to

55
00:02:18,150 --> 00:02:15,520
ev2 for a body restraint tetherstone ev2

56
00:02:20,790 --> 00:02:18,160
will then re-ingress the foot restraint

57
00:02:23,510 --> 00:02:20,800
while ev1 retrieves the long eight foot

58
00:02:26,949 --> 00:02:23,520
lower strut from the bag and hands it to

59
00:02:29,589 --> 00:02:26,959
ev2 while av2 holds the long lower strut

60
00:02:31,670 --> 00:02:29,599
ev1 will reposition to the solar array

61
00:02:34,150 --> 00:02:31,680
blanket box or saab

62
00:02:36,070 --> 00:02:34,160
for the install of the left lower strut

63
00:02:38,550 --> 00:02:36,080

as a team the crew will move the strut

64

00:02:41,990 --> 00:02:38,560

into position and ev1 will begin at

65

00:02:44,150 --> 00:02:42,000

driving this bolt by hand four turns ev2

66

00:02:46,309 --> 00:02:44,160

will then work to align and drive his

67

00:02:50,150 --> 00:02:46,319

bolt on the mounting bracket side two

68

00:02:52,070 --> 00:02:50,160

turns and then ev1 will work to complete

69

00:02:54,229 --> 00:02:52,080

the torque on this bolt by driving with

70

00:02:56,309 --> 00:02:54,239

the pistol grip tool to a high torque

71

00:02:57,910 --> 00:02:56,319

and then following with an even higher

72

00:03:00,630 --> 00:02:57,920

torque on the torque wrench once the

73

00:03:03,030 --> 00:03:00,640

bolt is deemed good ev2 will be given a

74

00:03:05,110 --> 00:03:03,040

go to drive his bolts to torque using

75

00:03:07,589 --> 00:03:05,120

the pistol grip tool and this completes

76
00:03:09,990 --> 00:03:07,599
our minimum config ev1 will reposition

77
00:03:11,830 --> 00:03:10,000
to the beta gimbal assembly and ev2 will

78
00:03:14,309 --> 00:03:11,840
hand off the telescoping mid strut for

79
00:03:17,190 --> 00:03:14,319
install ev1 will work to soft dock the

80
00:03:19,670 --> 00:03:17,200
side pad onto the bta while ev2 holds

81
00:03:22,070 --> 00:03:19,680
his clevis both side in place ev1 will

82
00:03:24,949 --> 00:03:22,080
start her four bolt two turns with the

83
00:03:26,550 --> 00:03:24,959
pistol grip tool and then ev2 will drive

84
00:03:29,030 --> 00:03:26,560
his clevis bolt to torque on the

85
00:03:32,070 --> 00:03:29,040
mounting bracket ev-1 will then complete

86
00:03:34,630 --> 00:03:32,080
her four bolts with her pistol grip tool

87
00:03:36,869 --> 00:03:34,640
and then ev2 will drive his bolt to

88
00:03:39,589 --> 00:03:36,879

torque

89

00:03:41,830 --> 00:03:39,599

ev2 will then egress and reposition the

90

00:03:43,190 --> 00:03:41,840

foot restraint to bias it to the right

91

00:03:44,949 --> 00:03:43,200

hand side

92

00:03:47,270 --> 00:03:44,959

the mod the crew will then repeat the

93

00:03:49,910 --> 00:03:47,280

handoff sequence first then mid strut

94

00:03:52,309 --> 00:03:49,920

for body restraint tether stow foot

95

00:03:55,190 --> 00:03:52,319

restraint ingress followed by hand off

96

00:03:57,110 --> 00:03:55,200

of the very long lower right strut ev1

97

00:03:59,030 --> 00:03:57,120

will then reposition to the right hand

98

00:04:01,670 --> 00:03:59,040

side of the three alpha beta gimbal

99

00:04:04,470 --> 00:04:01,680

assembly and an analogous install on

100

00:04:07,030 --> 00:04:04,480

strategy will unfold ev1 will position

101
00:04:09,830 --> 00:04:07,040
at the right saab bearing for lower

102
00:04:12,949 --> 00:04:09,840
strut install and drive the lower strut

103
00:04:14,949 --> 00:04:12,959
to torque ev1 will drive his clevis

104
00:04:17,509 --> 00:04:14,959
bolts to the mounting bracket

105
00:04:18,710 --> 00:04:17,519
ev-1 will then reposition at the bga and

106
00:04:20,629 --> 00:04:18,720
they will hand off the wright's

107
00:04:22,550 --> 00:04:20,639
telescoping mid-struts following the

108
00:04:24,550 --> 00:04:22,560
same install strategy

109
00:04:26,710 --> 00:04:24,560
once complete tv-1 will translate onto

110
00:04:28,710 --> 00:04:26,720
the mid-strut and drive two collar bolts

111
00:04:30,469 --> 00:04:28,720
to torque to lock out the telescoping

112
00:04:32,390 --> 00:04:30,479
mechanism and rigidize the right hand

113
00:04:35,670 --> 00:04:32,400

side ev2 will then egress the foot

114

00:04:38,070 --> 00:04:35,680

restraint and begin to clean up

115

00:04:40,790 --> 00:04:38,080

once the multi-layer installation or mli

116

00:04:42,550 --> 00:04:40,800

is fully closed and wired tied down ev1

117

00:04:45,990 --> 00:04:42,560

will reposition to repeat the collar

118

00:04:48,230 --> 00:04:46,000

bolt and mli ops on the left hand side

119

00:04:50,390 --> 00:04:48,240

pv2 will then translate around the

120

00:04:52,390 --> 00:04:50,400

integrated equipment assembly install

121

00:04:54,150 --> 00:04:52,400

the jewels back in the bag you'll then

122

00:04:56,629 --> 00:04:54,160

fold it in to third for ready for

123

00:04:59,030 --> 00:04:56,639

translation and later in the eba ev2

124

00:05:00,870 --> 00:04:59,040

will then translate back around the iea

125

00:05:02,390 --> 00:05:00,880

to the foot restraint and work to stow

126

00:05:04,629 --> 00:05:02,400

the foot restraint in the worksite

127

00:05:07,270 --> 00:05:04,639

interface extender on his body restraint

128

00:05:10,070 --> 00:05:07,280

tether ev1 the meanwhile will translate

129

00:05:11,909 --> 00:05:10,080

over to the non-radiator side of the iea

130

00:05:13,990 --> 00:05:11,919

to take some still imagery of the

131

00:05:16,550 --> 00:05:14,000

completed mod kit ev1 will then

132

00:05:18,870 --> 00:05:16,560

translate out to s6 to our battery

133

00:05:21,350 --> 00:05:18,880

charge discharge unit she will begin

134

00:05:24,310 --> 00:05:21,360

installing some wire ties on a handrail

135

00:05:26,469 --> 00:05:24,320

and prep for restraining the mli or

136

00:05:28,870 --> 00:05:26,479

multi-layer insulation that covers the

137

00:05:30,870 --> 00:05:28,880

battery charge discharge unit meanwhile

138

00:05:33,029 --> 00:05:30,880

ev2 will translate out to the starboard

139

00:05:35,350 --> 00:05:33,039

cedar cart to stow the foot restraint

140

00:05:37,670 --> 00:05:35,360

and worksite interface extender low

141

00:05:39,590 --> 00:05:37,680

profile on the starboard zeta cart ev2

142

00:05:41,909 --> 00:05:39,600

will then retrieve the crew lock bag

143

00:05:45,830 --> 00:05:41,919

onto his body restraint tether and head

144

00:05:47,830 --> 00:05:45,840

back out to s6 to join ev1 both crew

145

00:05:49,909 --> 00:05:47,840

will work together to open the

146

00:05:52,550 --> 00:05:49,919

multi-layer insulation covering the

147

00:05:55,270 --> 00:05:52,560

battery charge discharge units this will

148

00:05:57,430 --> 00:05:55,280

allow for robotic access when needed in

149

00:05:59,830 --> 00:05:57,440

the future they'll perform some on-orbit

150

00:06:02,469 --> 00:05:59,840

origami record it to the shape of a

151
00:06:04,629 --> 00:06:02,479
triangle and restrain it out with a wire

152
00:06:07,909 --> 00:06:04,639
tie to a local handrail the crew will

153
00:06:10,150 --> 00:06:07,919
then work to break torque first on h1

154
00:06:13,029 --> 00:06:10,160
followed by h2 and then restrain the

155
00:06:15,830 --> 00:06:13,039
other mli back to open and expose the

156
00:06:17,909 --> 00:06:15,840
second battery charge discharge unit

157
00:06:20,710 --> 00:06:17,919
and then work to break torque

158
00:06:23,990 --> 00:06:20,720
and reinstall to a known lower torque on

159
00:06:25,909 --> 00:06:24,000
the second battery charge discharge unit

160
00:06:29,029 --> 00:06:25,919
both crew then we'll clean up and

161
00:06:31,749 --> 00:06:29,039
retrieve the crew lock bag to the

162
00:06:33,510 --> 00:06:31,759
brt or body restraint tether and begin

163
00:06:36,390 --> 00:06:33,520

to head inboard

164

00:06:37,749 --> 00:06:36,400

the completion of the eba eb2 will lead

165

00:06:40,150 --> 00:06:37,759

the way in

166

00:06:43,110 --> 00:06:40,160

since he led with second outboard

167

00:06:46,070 --> 00:06:43,120

translate across the iea retrieve his

168

00:06:47,590 --> 00:06:46,080

fairlead green hook translate under the

169

00:06:49,189 --> 00:06:47,600

mt

170

00:06:53,350 --> 00:06:49,199

and at the c to handrail bridge

171

00:06:55,749 --> 00:06:53,360

translate nader down to our airlock ev1

172

00:06:57,510 --> 00:06:55,759

in the meanwhile will translate to the

173

00:06:59,350 --> 00:06:57,520

s4 iea

174

00:07:03,270 --> 00:06:59,360

retrieve the folded up

175

00:07:05,270 --> 00:07:03,280

mod kit bag grab her fairlead green hook

176

00:07:07,029 --> 00:07:05,280

translate past the cedar carts hitting

177

00:07:09,670 --> 00:07:07,039

those brake pedals

178

00:07:13,350 --> 00:07:09,680

down the sida handrail bridge and to the