



1
00:01:00,630 --> 00:00:58,630
for three decades the united states has

2
00:01:03,110 --> 00:01:00,640
processed launched and operated the

3
00:01:06,710 --> 00:01:03,120
world's first and only reusable

4
00:01:11,109 --> 00:01:08,710
the space shuttle is an engineering and

5
00:01:14,710 --> 00:01:11,119
operational marvel ferrying men and

6
00:01:16,950 --> 00:01:14,720
women from around the world into space

7
00:01:18,710 --> 00:01:16,960
in its 30 years of flight the shuttle

8
00:01:23,350 --> 00:01:18,720
has proven itself to be the most

9
00:01:27,590 --> 00:01:25,429
this remarkable spaceship has been the

10
00:01:29,590 --> 00:01:27,600
platform from which many of the world's

11
00:01:31,590 --> 00:01:29,600
great scientific instruments have been

12
00:01:33,270 --> 00:01:31,600
deployed

13
00:01:35,910 --> 00:01:33,280

it has carried astronauts who have

14

00:01:41,990 --> 00:01:35,920

launched and repaired satellites that

15

00:01:46,630 --> 00:01:44,550

it has enabled technology demonstrations

16

00:01:49,270 --> 00:01:46,640

and allowed space-based research in

17

00:01:51,590 --> 00:01:49,280

physics and medicine and materials

18

00:01:53,190 --> 00:01:51,600

science

19

00:01:55,109 --> 00:01:53,200

and has allowed the creation of a

20

00:01:58,149 --> 00:01:55,119

partnership of nations from around the

21

00:02:00,709 --> 00:01:58,159

world to assemble a world-class national

22

00:02:29,350 --> 00:02:00,719

research laboratory in orbit around our

23

00:02:33,589 --> 00:02:30,949

with the final flight of shuttle

24

00:02:36,470 --> 00:02:33,599

atlantis and its crew of four astronauts

25

00:02:39,670 --> 00:02:36,480

the space shuttle era comes to a close

26
00:02:42,070 --> 00:02:39,680
and america and the world bids a final

27
00:02:45,110 --> 00:02:42,080
farewell to a sleek and one-of-a-kind

28
00:02:55,750 --> 00:02:45,120
ship that has helped history unfold in

29
00:02:57,830 --> 00:02:56,790
six

30
00:03:07,990 --> 00:02:57,840
five

31
00:03:11,110 --> 00:03:10,229
it all started more than three decades

32
00:03:13,589 --> 00:03:11,120
ago

33
00:03:15,750 --> 00:03:13,599
two americans john young and robert

34
00:03:19,350 --> 00:03:15,760
crippen blast off on a winged space

35
00:03:22,070 --> 00:03:19,360
plane named columbia

36
00:03:25,190 --> 00:03:22,080
now more than 30 years later with the

37
00:03:27,270 --> 00:03:25,200
33rd and final flight of atlantis nasa

38
00:03:29,670 --> 00:03:27,280

adds a fitting coda to the space shuttle

39

00:03:34,869 --> 00:03:29,680

program

40

00:03:37,509 --> 00:03:34,879

sts-135 mission will help ensure

41

00:03:40,390 --> 00:03:37,519

humankind can continue to live and work

42

00:03:45,990 --> 00:03:42,309

atlantis carries the rafaello

43

00:03:48,070 --> 00:03:46,000

multipurpose logistics module or mplm to

44

00:03:50,149 --> 00:03:48,080

deliver a year's worth of supplies and

45

00:03:52,390 --> 00:03:50,159

spare parts for the international space

46

00:03:54,309 --> 00:03:52,400

station

47

00:03:56,710 --> 00:03:54,319

the orbiter delivers a system designed

48

00:03:58,949 --> 00:03:56,720

to remotely test the robotic refueling

49

00:04:01,270 --> 00:03:58,959

of satellites and return a failed

50

00:04:03,789 --> 00:04:01,280

cooling pump to earth

51
00:04:06,710 --> 00:04:03,799
from a historical perspective the

52
00:04:20,710 --> 00:04:06,720
sts-135 astronauts are the first crew of

53
00:04:25,430 --> 00:04:22,870
retired navy captain chris ferguson

54
00:04:27,430 --> 00:04:25,440
commands atlantis crew as he makes his

55
00:04:29,670 --> 00:04:27,440
third trip to orbit

56
00:04:32,950 --> 00:04:29,680
he first flew on atlantis as the pilot

57
00:04:35,030 --> 00:04:32,960
of sts-115 in 2006

58
00:04:39,990 --> 00:04:35,040
then returned to orbit as commander of

59
00:04:43,749 --> 00:04:42,070
the pilot of atlantis is marine corps

60
00:04:46,790 --> 00:04:43,759
colonel doug hurley

61
00:04:49,189 --> 00:04:46,800
his first space flight sts-127

62
00:04:52,870 --> 00:04:49,199
coincided with the 40th anniversary of

63
00:04:55,110 --> 00:04:52,880

apollo 11 in 2009.

64

00:04:57,670 --> 00:04:55,120

he will be at the controls as atlantis

65

00:05:01,110 --> 00:04:57,680

undocks from the iss for the shuttle's

66

00:05:03,590 --> 00:05:01,120

historic departure from the station

67

00:05:04,390 --> 00:05:03,600

dr sandy magnus is mission specialist

68

00:05:06,390 --> 00:05:04,400

one

69

00:05:08,550 --> 00:05:06,400

a veteran of two space flights she

70

00:05:10,469 --> 00:05:08,560

served as iss science officer for

71

00:05:12,230 --> 00:05:10,479

expedition 18.

72

00:05:16,629 --> 00:05:12,240

she first flew on atlantis during

73

00:05:18,870 --> 00:05:16,639

sts-112 in 2002

74

00:05:21,510 --> 00:05:18,880

mission specialist 2 is retired air

75

00:05:23,510 --> 00:05:21,520

force colonel rex walheim this is his

76

00:05:34,629 --> 00:05:23,520

third and final space flight aboard

77

00:05:39,510 --> 00:05:37,110

the flight of atlantis marks the 37th

78

00:05:41,510 --> 00:05:39,520

shuttle mission to the space station

79

00:05:43,510 --> 00:05:41,520

the flight was originally manifested

80

00:05:45,990 --> 00:05:43,520

only as the launch on need rescue

81

00:05:47,909 --> 00:05:46,000

mission for sts-134

82

00:05:51,029 --> 00:05:47,919

which at the time was scheduled as the

83

00:05:52,710 --> 00:05:51,039

shuttle's final flight

84

00:05:55,270 --> 00:05:52,720

with the launch of atlantis there will

85

00:05:57,270 --> 00:05:55,280

be no rescue shuttle standing by

86

00:05:59,830 --> 00:05:57,280

in case of an unexpected problem or

87

00:06:01,909 --> 00:05:59,840

emergency atlantis astronauts would

88

00:06:03,749 --> 00:06:01,919

remain aboard the space station

89

00:06:07,749 --> 00:06:03,759

ultimately returning to earth aboard a

90

00:06:09,510 --> 00:06:07,759

series of russian soyuz spacecraft

91

00:06:11,830 --> 00:06:09,520

america's leadership ultimately

92

00:06:14,790 --> 00:06:11,840

recognized the value of one additional

93

00:06:17,270 --> 00:06:14,800

shuttle mission and the sts-135 flight

94

00:06:19,749 --> 00:06:17,280

plan evolved into an historic 12-day

95

00:06:22,070 --> 00:06:19,759

mission delivering valuable equipment

96

00:06:24,469 --> 00:06:22,080

parts and supplies to the completed and

97

00:06:26,309 --> 00:06:24,479

fully operational station

98

00:06:28,469 --> 00:06:26,319

it's an effort to posture the space

99

00:06:30,070 --> 00:06:28,479

station for about a year

100

00:06:32,150 --> 00:06:30,080

put it in a good position until we can

101
00:06:34,390 --> 00:06:32,160
get our commercial

102
00:06:36,550 --> 00:06:34,400
cargo resupply system up and running on

103
00:06:38,469 --> 00:06:36,560
flight day four the crew of atlantis

104
00:06:41,909 --> 00:06:38,479
will install the rafaella logistics

105
00:06:43,830 --> 00:06:41,919
module moving van to the iss

106
00:06:47,110 --> 00:06:43,840
the station crew and shuttle astronauts

107
00:06:49,749 --> 00:06:47,120
will unpack about 15 000 pounds of cargo

108
00:06:52,469 --> 00:06:49,759
for the current and future iss crews

109
00:06:54,390 --> 00:06:52,479
items such as food clothing spare parts

110
00:06:56,469 --> 00:06:54,400
for the station and scientific

111
00:06:58,950 --> 00:06:56,479
experiments

112
00:07:01,430 --> 00:06:58,960
at the same time the joint crews will be

113
00:07:03,430 --> 00:07:01,440

repacking rafaela with over 12 000

114

00:07:05,350 --> 00:07:03,440

pounds of shuttle related equipment

115

00:07:07,430 --> 00:07:05,360

stored on the iss

116

00:07:09,749 --> 00:07:07,440

other items marked for return to earth

117

00:07:11,830 --> 00:07:09,759

and trash offloaded from the station

118

00:07:14,070 --> 00:07:11,840

we'll take stuff out of the node 2 nader

119

00:07:15,350 --> 00:07:14,080

spot translate down the lab and most of

120

00:07:17,830 --> 00:07:15,360

the stowage and transfer that we're

121

00:07:19,670 --> 00:07:17,840

doing will be in the permanent mplm

122

00:07:21,990 --> 00:07:19,680

that's on board magnus serves as

123

00:07:23,510 --> 00:07:22,000

rafaello's loadmaster with assistance

124

00:07:25,749 --> 00:07:23,520

from wallheim

125

00:07:27,749 --> 00:07:25,759

the very first most important rule is do

126

00:07:29,430 --> 00:07:27,759

what sandy says because sandy's lived up

127

00:07:30,469 --> 00:07:29,440

there and she's our load master so she

128

00:07:32,150 --> 00:07:30,479

knows where

129

00:07:35,029 --> 00:07:32,160

where things go and we'll figure out

130

00:07:36,950 --> 00:07:35,039

ways to to make that shell game happen i

131

00:07:38,390 --> 00:07:36,960

didn't realize this until

132

00:07:40,629 --> 00:07:38,400

until we got into the planning of the

133

00:07:42,710 --> 00:07:40,639

mission is the space station software

134

00:07:45,589 --> 00:07:42,720

was never designed to accommodate more

135

00:07:47,749 --> 00:07:45,599

than one logistics module we've had to

136

00:07:49,510 --> 00:07:47,759

perform a little i guess sleight of hand

137

00:07:51,110 --> 00:07:49,520

to get the space station to believe that

138

00:07:53,430 --> 00:07:51,120

there's actually two logistics modules

139

00:07:55,749 --> 00:07:53,440

on board atlantis will also deliver the

140

00:07:57,990 --> 00:07:55,759

robotics refueling payload which will be

141

00:07:59,830 --> 00:07:58,000

tested using the space station's dexter

142

00:08:07,589 --> 00:07:59,840

robot

143

00:08:08,869 --> 00:08:07,599

hand capable of performing fine minute

144

00:08:10,869 --> 00:08:08,879

tasks

145

00:08:14,150 --> 00:08:10,879

the payload will be its first workout to

146

00:08:16,629 --> 00:08:14,160

see how well it can perform

147

00:08:19,189 --> 00:08:16,639

on flight day 5 the crew of atlantis

148

00:08:21,670 --> 00:08:19,199

will support one station-based spacewalk

149

00:08:25,270 --> 00:08:21,680

performed by expedition 28 astronauts

150

00:08:27,390 --> 00:08:25,280

mike fossum and ron garan

151

00:08:29,990 --> 00:08:27,400

the pair flew three years ago on the

152

00:08:32,149 --> 00:08:30,000

sts-124 mission performing three

153

00:08:35,589 --> 00:08:32,159

spacewalks together to help install the

154

00:08:37,990 --> 00:08:35,599

japanese kibo laboratory module

155

00:08:40,230 --> 00:08:38,000

during this eva magnus and hurley will

156

00:08:41,269 --> 00:08:40,240

provide robotic support for fossum and

157

00:08:43,350 --> 00:08:41,279

garen

158

00:08:46,630 --> 00:08:43,360

wallheim will serve as the iv or

159

00:08:49,509 --> 00:08:46,640

intravehicular officer for the spacewalk

160

00:08:51,590 --> 00:08:49,519

a failed cooling pump temporarily stowed

161

00:08:54,550 --> 00:08:51,600

outside the station during a spacewalk

162

00:08:57,990 --> 00:08:54,560

during the sts-133 mission will be

163

00:08:59,590 --> 00:08:58,000

removed and brought home by the shuttle

164

00:09:01,990 --> 00:08:59,600

thanks to the shuttle's ability to

165

00:09:03,910 --> 00:09:02,000

return cargo engineers will have the

166

00:09:05,910 --> 00:09:03,920

opportunity to study the cause of the

167

00:09:07,910 --> 00:09:05,920

pump's failure while we're in the

168

00:09:10,150 --> 00:09:07,920

payload by attaching the pump module to

169

00:09:11,910 --> 00:09:10,160

the logistics carrier will retrieve this

170

00:09:14,310 --> 00:09:11,920

experiment for the special purpose of

171

00:09:16,389 --> 00:09:14,320

dextrous manipulator that will allow

172

00:09:19,350 --> 00:09:16,399

the robotics community to show the

173

00:09:21,110 --> 00:09:19,360

ability to do remote refueling and other

174

00:09:23,670 --> 00:09:21,120

dexterous attacks that might be involved

175

00:09:25,350 --> 00:09:23,680

in servicing satellites possum and

176

00:09:27,190 --> 00:09:25,360

guaran will install the robotics

177

00:09:29,350 --> 00:09:27,200

refueling payload on a temporary

178

00:09:32,150 --> 00:09:29,360

platform near the dexter robot and the

179

00:09:34,550 --> 00:09:32,160

destiny lab it really is the chance to

180

00:09:44,070 --> 00:09:34,560

show how well the spdm can function in

181

00:09:48,550 --> 00:09:46,550

over the past three decades hundreds of

182

00:09:51,509 --> 00:09:48,560

thousands of people have dedicated their

183

00:09:54,389 --> 00:09:51,519

time energy and passion and in many

184

00:09:57,670 --> 00:09:54,399

instances their lives as the shuttle was

185

00:09:59,430 --> 00:09:57,680

designed developed built and flown

186

00:10:02,310 --> 00:09:59,440

they are the people who have made the

187

00:10:05,910 --> 00:10:02,320

nasa team and the space shuttle program

188

00:10:12,790 --> 00:10:05,920

such a remarkable success from sts-1

189

00:10:17,670 --> 00:10:15,430

their legacy lives on as the shuttle

190

00:10:20,150 --> 00:10:17,680

leaves behind a fully assembled and

191

00:10:21,509 --> 00:10:20,160

operational space station to see a

192

00:10:23,829 --> 00:10:21,519

completed space station up there is

193

00:10:25,590 --> 00:10:23,839

really a testament to not only ingenuity

194

00:10:26,550 --> 00:10:25,600

of all the engineers and scientists and

195

00:10:28,069 --> 00:10:26,560

people on the ground who work in the

196

00:10:29,190 --> 00:10:28,079

space station but also the people who

197

00:10:31,350 --> 00:10:29,200

worked on the space shuttle that could

198

00:10:34,550 --> 00:10:31,360

make such an incredible reusable space

199

00:10:39,269 --> 00:10:36,790

atlantis was the first one that i flew

200

00:10:41,509 --> 00:10:39,279

on for sds 112 and that'll be my last

201
00:10:43,910 --> 00:10:41,519
mission as well

202
00:10:45,750 --> 00:10:43,920
so i have it has a holds a special place

203
00:10:47,509 --> 00:10:45,760
in my heart for the people who who have

204
00:10:49,190 --> 00:10:47,519
worked on atlantis for so long i think

205
00:10:51,910 --> 00:10:49,200
it's special for them that it will be

206
00:10:53,829 --> 00:10:51,920
the last mission you want to represent

207
00:10:56,230 --> 00:10:53,839
the thousands and thousands of people

208
00:10:57,910 --> 00:10:56,240
that have worked probably their entire

209
00:11:00,389 --> 00:10:57,920
careers i i don't know how many people

210
00:11:03,030 --> 00:11:00,399
that we've talked to or met that have

211
00:11:06,150 --> 00:11:03,040
been in the space shuttle program since

212
00:11:08,069 --> 00:11:06,160
sts-1 we just want them to to know uh

213
00:11:11,110 --> 00:11:08,079

that that what they've accomplished is

214

00:11:12,630 --> 00:11:11,120

is incredible and we'll do our best to

215

00:11:14,949 --> 00:11:12,640

to finish this program the way it

216

00:11:17,030 --> 00:11:14,959

deserves to be finished nothing means

217

00:11:19,910 --> 00:11:17,040

more i think to all four of us than to

218

00:11:20,870 --> 00:11:19,920

to honor that legacy and and and go out

219

00:11:22,790 --> 00:11:20,880

with as

220

00:11:24,949 --> 00:11:22,800

best of mission as we can fly it'll be

221

00:11:26,949 --> 00:11:24,959

an emotional moment i think for for a

222

00:11:29,509 --> 00:11:26,959

lot of folks who have seen

223

00:11:31,670 --> 00:11:29,519

the shuttle essentially build the better

224

00:11:33,750 --> 00:11:31,680

part of the space station and to know

225

00:11:35,750 --> 00:11:33,760

that this will be the final time it

226

00:11:38,069 --> 00:11:35,760

leaves the one thing that strikes me is

227

00:11:41,829 --> 00:11:38,079

how remarkably dedicated they are that