



1
00:00:06,950 --> 00:00:04,789
six astronauts with the help of space

2
00:00:09,030 --> 00:00:06,960
shuttle discovery on its final flight

3
00:00:11,350 --> 00:00:09,040
are completing work to the international

4
00:00:13,270 --> 00:00:11,360
space station designed to put the

5
00:00:15,669 --> 00:00:13,280
station into the best configuration

6
00:00:19,269 --> 00:00:15,679
possible for operation beyond the

7
00:00:23,429 --> 00:00:21,109
mission commander steve lindsey a

8
00:00:25,910 --> 00:00:23,439
retired air force colonel has flown on

9
00:00:30,029 --> 00:00:25,920
four previous space flights he was the

10
00:00:35,590 --> 00:00:30,039
pilot on missions sts-87 in 1997 and

11
00:00:38,229 --> 00:00:35,600
sts-95 in 1998. in 2001 sts-104 was his

12
00:00:41,110 --> 00:00:38,239
first mission as commander and he also

13
00:00:43,590 --> 00:00:41,120

commanded the sts-121 return to flight

14

00:00:45,510 --> 00:00:43,600
mission in 2006.

15

00:00:47,190 --> 00:00:45,520
lindsay was serving as nasa's chief

16

00:00:49,270 --> 00:00:47,200
astronaut when he was assigned to

17

00:00:51,029 --> 00:00:49,280
sts-133

18

00:00:53,990 --> 00:00:51,039
while growing up in the los angeles

19

00:00:56,150 --> 00:00:54,000
suburb of temple city california lindsay

20

00:00:58,869 --> 00:00:56,160
developed a passion for engineering and

21

00:01:00,150 --> 00:00:58,879
for flying i pretty much decided early

22

00:01:01,830 --> 00:01:00,160
into high school that i kind of wanted

23

00:01:03,349 --> 00:01:01,840
to be an engineer but the other thing i

24

00:01:06,310 --> 00:01:03,359
really want to do is i wanted to be a

25

00:01:07,910 --> 00:01:06,320
pilot and i got to thinking about

26

00:01:10,390 --> 00:01:07,920

what can i do that will allow me to

27

00:01:12,390 --> 00:01:10,400

pursue both of those things

28

00:01:15,429 --> 00:01:12,400

he got his answer while visiting the air

29

00:01:17,990 --> 00:01:15,439

force academy in colorado springs

30

00:01:20,230 --> 00:01:18,000

in 1982 lindsey earned a bachelor's

31

00:01:22,550 --> 00:01:20,240

degree from the academy in engineering

32

00:01:24,950 --> 00:01:22,560

sciences he went on to become a fighter

33

00:01:26,630 --> 00:01:24,960

pilot and flight instructor he then

34

00:01:28,469 --> 00:01:26,640

earned a masters in aeronautical

35

00:01:31,030 --> 00:01:28,479

engineering from the air force institute

36

00:01:32,550 --> 00:01:31,040

of technology and became an experimental

37

00:01:33,350 --> 00:01:32,560

test pilot

38

00:01:35,109 --> 00:01:33,360

so

39

00:01:37,990 --> 00:01:35,119

i got i got through that process been a

40

00:01:40,069 --> 00:01:38,000

test pilot for several years and uh

41

00:01:41,590 --> 00:01:40,079

realized and kind of wasn't shooting

42

00:01:42,469 --> 00:01:41,600

this way but kind of realized that well

43

00:01:44,389 --> 00:01:42,479

you know

44

00:01:46,230 --> 00:01:44,399

if i were to apply to the astronaut

45

00:01:47,510 --> 00:01:46,240

program an astronaut's job is very

46

00:01:49,590 --> 00:01:47,520

similar to this

47

00:01:52,469 --> 00:01:49,600

you know you combine flying and

48

00:01:54,710 --> 00:01:52,479

technology and science and engineering

49

00:01:56,630 --> 00:01:54,720

all of those things together lindsay

50

00:02:01,990 --> 00:01:56,640

applied to the astronaut corps and was

51

00:02:05,830 --> 00:02:03,830

the pilot on the crew is air force

52

00:02:07,350 --> 00:02:05,840

colonel eric bowe who is making his

53

00:02:09,830 --> 00:02:07,360

second space flight

54

00:02:13,270 --> 00:02:09,840

in 2008 beau was the pilot on the

55

00:02:15,110 --> 00:02:13,280

sts-126 mission that delivered supplies

56

00:02:17,750 --> 00:02:15,120

and amenities to the international space

57

00:02:18,869 --> 00:02:17,760

station needed to sustain a six-person

58

00:02:20,790 --> 00:02:18,879

crew

59

00:02:23,270 --> 00:02:20,800

beau says some of his most vivid

60

00:02:25,270 --> 00:02:23,280

memories from that flight are of gazing

61

00:02:27,510 --> 00:02:25,280

down at the earth you can really see

62

00:02:29,670 --> 00:02:27,520

that the earth is alive and also you

63

00:02:31,190 --> 00:02:29,680

kind of get an appreciation for how how

64

00:02:32,869 --> 00:02:31,200

big the earth is and at the same time

65

00:02:33,990 --> 00:02:32,879

how small we are as compared to the rest

66

00:02:35,509 --> 00:02:34,000

of the universe as you're orbiting the

67

00:02:37,830 --> 00:02:35,519

planet

68

00:02:40,790 --> 00:02:37,840

beau who grew up in chamblee georgia

69

00:02:42,790 --> 00:02:40,800

just outside of atlanta says watching tv

70

00:02:45,270 --> 00:02:42,800

coverage of astronauts walk on the moon

71

00:02:47,589 --> 00:02:45,280

instilled a desire in him to become an

72

00:02:50,390 --> 00:02:47,599

astronaut i thought about you know what

73

00:02:52,070 --> 00:02:50,400

a neat endeavor that

74

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

humans had participated actually walk on

75

00:02:55,990 --> 00:02:54,239

something that you look at

76
00:02:57,910 --> 00:02:56,000
oftentimes in the night sky and so that

77
00:02:59,350 --> 00:02:57,920
was kind of set the bit of something you

78
00:03:00,470 --> 00:02:59,360
know maybe if i was lucky enough and had

79
00:03:02,470 --> 00:03:00,480
the opportunity i'd like to be an

80
00:03:04,390 --> 00:03:02,480
astronaut after high school beau

81
00:03:06,149 --> 00:03:04,400
attended the air force academy where he

82
00:03:08,790 --> 00:03:06,159
earned a bachelor's in aeronautical

83
00:03:10,949 --> 00:03:08,800
engineering he spent several years as a

84
00:03:13,030 --> 00:03:10,959
fighter pilot and instructor before

85
00:03:15,750 --> 00:03:13,040
completing work for a masters in

86
00:03:18,070 --> 00:03:15,760
electrical engineering at georgia tech

87
00:03:20,390 --> 00:03:18,080
beau was serving as a test pilot at

88
00:03:24,869 --> 00:03:20,400

eglin air force base in florida when

89

00:03:29,229 --> 00:03:26,789

air force colonel alvin drew is one of

90

00:03:32,550 --> 00:03:29,239

the two space walkers on the crew

91

00:03:34,789 --> 00:03:32,560

sts-133 is his second trip to space

92

00:03:37,910 --> 00:03:34,799

during the sts-118 mission to the space

93

00:03:39,990 --> 00:03:37,920

station in 2007 he witnessed a rare

94

00:03:41,030 --> 00:03:40,000

sight from a space shuttle window at

95

00:03:43,110 --> 00:03:41,040

that moment

96

00:03:44,789 --> 00:03:43,120

a satellite passed between me and the

97

00:03:46,309 --> 00:03:44,799

earth and i don't think very many

98

00:03:47,830 --> 00:03:46,319

astronauts get a chance to see any other

99

00:03:49,270 --> 00:03:47,840

body besides maybe the hubble or the

100

00:03:50,309 --> 00:03:49,280

space station but just some other random

101
00:03:51,670 --> 00:03:50,319
satellite

102
00:03:53,350 --> 00:03:51,680
and that was when i thought was we're

103
00:03:55,509 --> 00:03:53,360
not in kansas anymore

104
00:03:57,750 --> 00:03:55,519
in the first grade the washington d.c

105
00:04:00,070 --> 00:03:57,760
native remembers being faced with a bit

106
00:04:02,550 --> 00:04:00,080
of a dilemma after watching the launch

107
00:04:03,750 --> 00:04:02,560
of an apollo mission at school i went

108
00:04:06,550 --> 00:04:03,760
home you know

109
00:04:08,070 --> 00:04:06,560
very troubled asked my dad and says

110
00:04:09,910 --> 00:04:08,080
what should i do can i should i be an

111
00:04:11,190 --> 00:04:09,920
astronaut or should i be a pilot he goes

112
00:04:13,350 --> 00:04:11,200
you can do both those things all these

113
00:04:15,509 --> 00:04:13,360

astronauts have been pilots

114

00:04:17,909 --> 00:04:15,519

after high school drew attended the air

115

00:04:19,990 --> 00:04:17,919

force academy graduating with bachelor's

116

00:04:22,710 --> 00:04:20,000

degrees in physics and aeronautical

117

00:04:25,030 --> 00:04:22,720

engineering he went on to fly helicopter

118

00:04:27,749 --> 00:04:25,040

combat missions in panama the persian

119

00:04:30,310 --> 00:04:27,759

gulf and iraq as a member of the air

120

00:04:32,469 --> 00:04:30,320

force special operations command

121

00:04:35,590 --> 00:04:32,479

later after obtaining a rating and jet

122

00:04:37,749 --> 00:04:35,600

aircraft drew became a test pilot

123

00:04:39,990 --> 00:04:37,759

drew also has master's degrees in

124

00:04:42,070 --> 00:04:40,000

aerospace science from embry riddle

125

00:04:44,469 --> 00:04:42,080

university and strategic studies in

126

00:04:47,350 --> 00:04:44,479

political science from the united states

127

00:04:52,070 --> 00:04:47,360

air force air university he was selected

128

00:04:56,550 --> 00:04:54,629

u.s army colonel tim copra is the other

129

00:04:58,870 --> 00:04:56,560

space walker on the crew

130

00:05:00,550 --> 00:04:58,880

the native of austin texas is making his

131

00:05:03,029 --> 00:05:00,560

first trip back to the international

132

00:05:05,189 --> 00:05:03,039

space station since spending time on

133

00:05:08,310 --> 00:05:05,199

board as a member of the expedition 20

134

00:05:09,749 --> 00:05:08,320

crew in 2009 i think that

135

00:05:11,670 --> 00:05:09,759

one of the things i'm looking forward to

136

00:05:14,070 --> 00:05:11,680

the most is seeing the cupola

137

00:05:15,590 --> 00:05:14,080

observing the planet and uh and space

138

00:05:17,270 --> 00:05:15,600

and also

139

00:05:18,629 --> 00:05:17,280

looking at these new modules that we've

140

00:05:20,469 --> 00:05:18,639

added because it's even bigger than the

141

00:05:22,390 --> 00:05:20,479

last time we were there

142

00:05:24,230 --> 00:05:22,400

like most other kids who watched apollo

143

00:05:26,790 --> 00:05:24,240

astronauts walk on the moon kopra

144

00:05:28,629 --> 00:05:26,800

developed a fascination with space

145

00:05:30,950 --> 00:05:28,639

after high school he attended the u.s

146

00:05:33,350 --> 00:05:30,960

military academy at west point where he

147

00:05:35,110 --> 00:05:33,360

earned a bachelor of science degree

148

00:05:37,430 --> 00:05:35,120

it was during his time at west point

149

00:05:39,670 --> 00:05:37,440

that copper realized that his dream of

150

00:05:41,430 --> 00:05:39,680

becoming an astronaut wasn't so far

151

00:05:43,830 --> 00:05:41,440

fetchd because there were several

152

00:05:45,909 --> 00:05:43,840

people who had graduated from west point

153

00:05:48,390 --> 00:05:45,919

and even some of my instructors

154

00:05:50,870 --> 00:05:48,400

eventually became astronauts and it went

155

00:05:52,629 --> 00:05:50,880

from this unrealistic childhood goal to

156

00:05:54,469 --> 00:05:52,639

something that was clearly tangible and

157

00:05:56,230 --> 00:05:54,479

possible if you work really hard

158

00:05:58,870 --> 00:05:56,240

commissioned as a second lieutenant

159

00:06:01,189 --> 00:05:58,880

copra became an army aviator he flew

160

00:06:03,590 --> 00:06:01,199

helicopters in germany and in operations

161

00:06:05,189 --> 00:06:03,600

desert shield and desert storm he went

162

00:06:07,510 --> 00:06:05,199

on to earn a master of science in

163

00:06:09,670 --> 00:06:07,520

aerospace engineering at georgia tech

164

00:06:10,950 --> 00:06:09,680

and completed training at the navy test

165

00:06:13,270 --> 00:06:10,960

pilot school

166

00:06:15,430 --> 00:06:13,280

copra who also holds a masters in

167

00:06:17,909 --> 00:06:15,440

strategic studies from the u.s army war

168

00:06:20,150 --> 00:06:17,919

college came to nasa's johnson space

169

00:06:23,350 --> 00:06:20,160

center as a vehicle test integration

170

00:06:27,270 --> 00:06:23,360

engineer in 1998 he was selected as an

171

00:06:31,590 --> 00:06:29,510

mission specialist dr mike barrett is

172

00:06:33,510 --> 00:06:31,600

the second of three former space station

173

00:06:37,350 --> 00:06:33,520

crew members on this mission

174

00:06:41,350 --> 00:06:37,360

in 2009 barrett spent about 199 days on

175

00:06:43,510 --> 00:06:41,360

board iss with expeditions 19 and 20. as

176
00:06:45,110 --> 00:06:43,520
a space medical specialist

177
00:06:47,510 --> 00:06:45,120
my flight experience was like a dream

178
00:06:49,670 --> 00:06:47,520
come true i was able to kind of

179
00:06:52,150 --> 00:06:49,680
personally look at my own adaptation

180
00:06:54,950 --> 00:06:52,160
process both physiologic what the body

181
00:06:57,270 --> 00:06:54,960
does in response to zero gravity and

182
00:06:59,830 --> 00:06:57,280
behavioral how you learn to operate and

183
00:07:02,790 --> 00:06:59,840
perform well in zero gravity and then i

184
00:07:05,270 --> 00:07:02,800
saw that in various other people as well

185
00:07:07,110 --> 00:07:05,280
barrett grew up in camas washington a

186
00:07:09,990 --> 00:07:07,120
farming community that sits along the

187
00:07:12,309 --> 00:07:10,000
columbia river near vancouver it was an

188
00:07:13,430 --> 00:07:12,319

area that helped him develop a number of

189

00:07:15,189 --> 00:07:13,440

interests

190

00:07:18,390 --> 00:07:15,199

i wanted to be a marine biologist at one

191

00:07:19,749 --> 00:07:18,400

time an astronomer an archaeologist and

192

00:07:22,150 --> 00:07:19,759

when i went to undergrad at the

193

00:07:23,749 --> 00:07:22,160

university of washington my focus was

194

00:07:25,110 --> 00:07:23,759

marine zoology

195

00:07:28,550 --> 00:07:25,120

and probably

196

00:07:31,110 --> 00:07:28,560

late during my undergrad years i started

197

00:07:32,950 --> 00:07:31,120

getting interested in space and the more

198

00:07:35,749 --> 00:07:32,960

i went through medical school i realized

199

00:07:38,469 --> 00:07:35,759

that space is a field that puts so many

200

00:07:40,070 --> 00:07:38,479

things together that that i love

201
00:07:42,390 --> 00:07:40,080
after finishing medical school at

202
00:07:44,150 --> 00:07:42,400
northwestern university barrett stayed

203
00:07:46,629 --> 00:07:44,160
in chicago for residencies at

204
00:07:48,469 --> 00:07:46,639
northwestern and at lakeside veterans

205
00:07:50,550 --> 00:07:48,479
administration hospital

206
00:07:52,550 --> 00:07:50,560
he then completed the aerospace medicine

207
00:07:54,070 --> 00:07:52,560
program at wright state university near

208
00:07:55,830 --> 00:07:54,080
dayton ohio

209
00:07:59,189 --> 00:07:55,840
barrett came to the johnson space center

210
00:08:00,550 --> 00:07:59,199
in 1991 as a project physician for space

211
00:08:02,309 --> 00:08:00,560
station freedom

212
00:08:04,629 --> 00:08:02,319
he became a nasa flight surgeon the

213
00:08:09,909 --> 00:08:04,639

following year and was selected as an

214

00:08:13,670 --> 00:08:11,749

nicole stott is the third member of

215

00:08:16,230 --> 00:08:13,680

discovery's crew who has completed a

216

00:08:19,510 --> 00:08:16,240

long duration space mission from august

217

00:08:21,830 --> 00:08:19,520

to november of 2009 stott was an iss

218

00:08:24,070 --> 00:08:21,840

flight engineer for the expeditions 20

219

00:08:26,309 --> 00:08:24,080

and 21 crews

220

00:08:28,469 --> 00:08:26,319

stott was born in albany new york but

221

00:08:30,790 --> 00:08:28,479

grew up in clearwater florida in a

222

00:08:32,630 --> 00:08:30,800

family that loved aviation you know my

223

00:08:35,110 --> 00:08:32,640

dad had a real passion for flying that

224

00:08:37,350 --> 00:08:35,120

he shared with us as a family and he

225

00:08:39,589 --> 00:08:37,360

built a couple airplanes small

226

00:08:41,029 --> 00:08:39,599

aerobatic airplanes that started in our

227

00:08:43,990 --> 00:08:41,039

garage and then would move to the

228

00:08:46,230 --> 00:08:44,000

airport it got in my blood there and

229

00:08:48,710 --> 00:08:46,240

that's kind of what you know really

230

00:08:50,389 --> 00:08:48,720

helped me choose what i wanted to do

231

00:08:52,070 --> 00:08:50,399

after high school scott earned her

232

00:08:54,470 --> 00:08:52,080

pilot's license by completing the

233

00:08:56,550 --> 00:08:54,480

program at st petersburg college

234

00:08:58,550 --> 00:08:56,560

she later earned a bachelor's degree in

235

00:09:00,949 --> 00:08:58,560

aeronautical engineering from embry

236

00:09:03,750 --> 00:09:00,959

riddle university then applied for a job

237

00:09:06,150 --> 00:09:03,760

at nasa but the agency was in a hiring

238

00:09:07,990 --> 00:09:06,160

freeze at that time so stop took a job

239

00:09:09,509 --> 00:09:08,000

at pratt and whitney as a structural

240

00:09:11,910 --> 00:09:09,519

design engineer

241

00:09:14,389 --> 00:09:11,920

about a year later nasa began hiring

242

00:09:16,630 --> 00:09:14,399

again and stott landed a job as an

243

00:09:19,350 --> 00:09:16,640

operations engineer at the kennedy space

244

00:09:22,070 --> 00:09:19,360

center's orbiter processing facility

245

00:09:23,670 --> 00:09:22,080

and had just a fantastic experience

246

00:09:25,430 --> 00:09:23,680

there i mean you are right there you

247

00:09:28,550 --> 00:09:25,440

walk down into the hangar and there's a

248

00:09:30,870 --> 00:09:28,560

an orbiter above you and the opportunity

249

00:09:32,949 --> 00:09:30,880

to get in the crew module or you know

250

00:09:34,389 --> 00:09:32,959

work inside the payload bay

251
00:09:37,110 --> 00:09:34,399
and working

252
00:09:40,310 --> 00:09:37,120
every aspect of processing from landing

253
00:09:42,070 --> 00:09:40,320
to launch in 1992 stott earned a

254
00:09:43,910 --> 00:09:42,080
master's degree in engineering

255
00:09:47,269 --> 00:09:43,920
management at the university of central

256
00:09:49,350 --> 00:09:47,279
florida then in 1998 she came to the

257
00:09:51,430 --> 00:09:49,360
johnson space center to work as a flight

258
00:09:54,070 --> 00:09:51,440
simulation engineer on the shuttle