



1
00:00:10,870 --> 00:00:07,670
it's a bittersweet privilege to be

2
00:00:12,870 --> 00:00:10,880
taking endeavor on its last flight

3
00:00:16,550 --> 00:00:12,880
delivering the last major piece to the

4
00:00:19,429 --> 00:00:18,230
i was there before they put the wings on

5
00:00:22,790 --> 00:00:19,439
it it was just

6
00:00:24,470 --> 00:00:22,800
so it was almost like it was my baby

7
00:00:26,630 --> 00:00:24,480
that space station assembly mission was

8
00:00:29,109 --> 00:00:26,640
perfect from start to finish and a lot

9
00:00:31,269 --> 00:00:29,119
of that was endeavor it just phenomenal

10
00:00:33,110 --> 00:00:31,279
vehicle

11
00:00:34,870 --> 00:00:33,120
the eagle represent you know the united

12
00:00:36,470 --> 00:00:34,880
states of america it's something that

13
00:00:41,590 --> 00:00:36,480

we're proud of you know that's that's

14

00:00:46,709 --> 00:00:43,750
after nearly two decades of achievements

15

00:00:49,110 --> 00:00:46,719
in space endeavor makes one last reach

16

00:00:50,470 --> 00:00:49,120
for the stars on its 25th and final

17

00:00:51,910 --> 00:00:50,480
mission

18

00:00:54,069 --> 00:00:51,920
endeavour is traveling to the

19

00:00:56,630 --> 00:00:54,079
international space station with six

20

00:00:59,670 --> 00:00:56,640
veteran space fliers commander mark

21

00:01:02,790 --> 00:00:59,680
kelly pilot greg h johnson and mission

22

00:01:05,910 --> 00:01:02,800
specialist mike fink drew feustel greg

23

00:01:08,710 --> 00:01:05,920
shamatoff and roberto vittori from italy

24

00:01:11,350 --> 00:01:08,720
representing the european space agency

25

00:01:12,870 --> 00:01:11,360
i'm the commander of sts-134

26

00:01:14,870 --> 00:01:12,880

we've got a whole list of mission

27

00:01:15,910 --> 00:01:14,880

objectives probably 30 things on the

28

00:01:17,910 --> 00:01:15,920

list

29

00:01:20,789 --> 00:01:17,920

but the big objectives is to get the

30

00:01:23,109 --> 00:01:20,799

alpha magnetic spectrometer installed on

31

00:01:26,310 --> 00:01:23,119

the outside of the space station

32

00:01:28,310 --> 00:01:26,320

the 15 thousand pound ams is a massive

33

00:01:29,990 --> 00:01:28,320

particle physics detector that will

34

00:01:33,190 --> 00:01:30,000

attach to the international space

35

00:01:35,510 --> 00:01:33,200

station its job to search through cosmic

36

00:01:37,109 --> 00:01:35,520

rays looking for proof of dark matter

37

00:01:38,870 --> 00:01:37,119

and antimatter

38

00:01:41,030 --> 00:01:38,880

in my mind this is like the hubble space

39

00:01:42,710 --> 00:01:41,040

telescope i mean it has the same type of

40

00:01:45,429 --> 00:01:42,720

potential for revolutionizing our

41

00:01:47,350 --> 00:01:45,439

understanding of the universe

42

00:01:49,510 --> 00:01:47,360

they're also delivering critical spare

43

00:01:51,910 --> 00:01:49,520

parts to help keep the station up and

44

00:01:55,030 --> 00:01:51,920

running for years to come along with the

45

00:01:57,749 --> 00:01:55,040

shuttle's orbiter boom sensor system

46

00:02:00,149 --> 00:01:57,759

feustel think and shamatov will rotate

47

00:02:02,230 --> 00:02:00,159

through four spacewalks the last

48

00:02:03,749 --> 00:02:02,240

performed by shuttle crew members for

49

00:02:05,190 --> 00:02:03,759

the remainder of the space shuttle

50

00:02:07,270 --> 00:02:05,200

program

51
00:02:09,589 --> 00:02:07,280
and when endeavour makes its final

52
00:02:11,910 --> 00:02:09,599
touchdown on the runway it will end a

53
00:02:15,589 --> 00:02:11,920
storied flying career for the youngest

54
00:02:20,229 --> 00:02:18,070
even endeavour's beginnings were unique

55
00:02:22,630 --> 00:02:20,239
it was built as a replacement for space

56
00:02:26,070 --> 00:02:22,640
shuttle challenger a name for the first

57
00:02:27,990 --> 00:02:26,080
ship commanded by explorer james cook

58
00:02:30,070 --> 00:02:28,000
at the time of the challenger accident

59
00:02:32,390 --> 00:02:30,080
astronaut barbara morgan was part of the

60
00:02:34,630 --> 00:02:32,400
teacher in space program serving as

61
00:02:36,229 --> 00:02:34,640
backup to teacher christa mcauliffe who

62
00:02:39,509 --> 00:02:36,239
launched a board challenger on that

63
00:02:41,270 --> 00:02:39,519

fateful day in 1986. i think endeavor in

64

00:02:43,430 --> 00:02:41,280

particular because she was named by

65

00:02:44,710 --> 00:02:43,440

school children all over all over the

66

00:02:46,869 --> 00:02:44,720

country that

67

00:02:50,790 --> 00:02:46,879

really shows a carrying on and a moving

68

00:02:53,670 --> 00:02:50,800

forward and and how open-ended and

69

00:02:55,830 --> 00:02:53,680

never-ending that future can be

70

00:02:57,830 --> 00:02:55,840

like all shuttle orbiters before it

71

00:02:59,670 --> 00:02:57,840

endeavor was built by rockwell in

72

00:03:01,589 --> 00:02:59,680

palmdale california

73

00:03:03,589 --> 00:03:01,599

that's where astronaut bruce melnick's

74

00:03:06,390 --> 00:03:03,599

bond with endeavor began

75

00:03:08,390 --> 00:03:06,400

my first job as an astronaut even before

76

00:03:10,710 --> 00:03:08,400

i was a qualified astronaut was to

77

00:03:12,869 --> 00:03:10,720

represent the astronaut office out in

78

00:03:14,630 --> 00:03:12,879

palmdale where endeavor was being built

79

00:03:16,229 --> 00:03:14,640

so i got to see her being built from

80

00:03:18,869 --> 00:03:16,239

scratch to finish got to see the wings

81

00:03:20,869 --> 00:03:18,879

put on it's amazing

82

00:03:23,270 --> 00:03:20,879

the nation's brand new space shuttle was

83

00:03:26,789 --> 00:03:23,280

delivered to kennedy space center on may

84

00:03:29,190 --> 00:03:26,799

7 1991 exactly one year before its

85

00:03:31,350 --> 00:03:29,200

maiden flight it was it was great to see

86

00:03:33,270 --> 00:03:31,360

endeavour come in you know we knew why

87

00:03:35,190 --> 00:03:33,280

it was coming because it was replacing

88

00:03:37,030 --> 00:03:35,200

challenger so it was going to be the new

89

00:03:38,309 --> 00:03:37,040

fleet leader and the new kid in the

90

00:03:40,710 --> 00:03:38,319

block

91

00:03:42,630 --> 00:03:40,720

melnick was on endeavor's first flight

92

00:03:44,949 --> 00:03:42,640

sts-49

93

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

the seven-person crew faced an ambitious

94

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

eight-day mission to repair the stranded

95

00:03:51,750 --> 00:03:49,920

intelsat-6 satellite i'll never forget

96

00:03:54,149 --> 00:03:51,760

when dan brandenstein who was the chief

97

00:03:55,589 --> 00:03:54,159

astronaut at the time asked me if i

98

00:03:57,750 --> 00:03:55,599

wanted to be on

99

00:03:59,190 --> 00:03:57,760

the first flight of endeavor i mean you

100

00:04:00,710 --> 00:03:59,200

could hear me hooting and hollering

101
00:04:02,229 --> 00:04:00,720
because that was going to be the premier

102
00:04:04,229 --> 00:04:02,239
mission at the time

103
00:04:06,949 --> 00:04:04,239
endeavour made history again during the

104
00:04:08,949 --> 00:04:06,959
last shuttle mission of 1993

105
00:04:11,429 --> 00:04:08,959
when seven astronauts upgraded the

106
00:04:12,309 --> 00:04:11,439
hubble space telescope and improved its

107
00:04:14,630 --> 00:04:12,319
vision

108
00:04:17,509 --> 00:04:14,640
it was an extremely complex flight

109
00:04:19,830 --> 00:04:17,519
involving five back-to-back spacewalks

110
00:04:22,150 --> 00:04:19,840
and in the end all the hard work paid

111
00:04:24,310 --> 00:04:22,160
off the telescope's new second

112
00:04:26,790 --> 00:04:24,320
generation wide field and planetary

113
00:04:29,350 --> 00:04:26,800

camera being back grand images taken

114

00:04:31,270 --> 00:04:29,360

with dazzling clarity an endeavor helped

115

00:04:33,189 --> 00:04:31,280

to carry the load in the construction of

116

00:04:34,950 --> 00:04:33,199

the international space station

117

00:04:38,469 --> 00:04:34,960

including the very first shuttle flight

118

00:04:40,629 --> 00:04:38,479

to the fledgling outpost sts-88

119

00:04:42,950 --> 00:04:40,639

endeavour delivered the american unity

120

00:04:45,030 --> 00:04:42,960

module and astronauts connected it to

121

00:04:47,749 --> 00:04:45,040

the russian zarya module already in

122

00:04:49,909 --> 00:04:47,759

place and the station was born

123

00:04:52,230 --> 00:04:49,919

kennedy space center director bob cabana

124

00:04:54,390 --> 00:04:52,240

commanded that cornerstone flight

125

00:04:55,430 --> 00:04:54,400

i have to admit you know

126
00:04:56,870 --> 00:04:55,440
because

127
00:04:59,189 --> 00:04:56,880
i got to command endeavor on that first

128
00:05:01,430 --> 00:04:59,199
space station assembly mission i'm a

129
00:05:03,590 --> 00:05:01,440
little partial to endeavor but less than

130
00:05:06,189 --> 00:05:03,600
three years later the nation was stunned

131
00:05:07,909 --> 00:05:06,199
by the terrorist attacks of september 11

132
00:05:10,390 --> 00:05:07,919
2001.

133
00:05:12,310 --> 00:05:10,400
on december 5th all eyes turned to

134
00:05:14,230 --> 00:05:12,320
kennedy space center where endeavour

135
00:05:15,830 --> 00:05:14,240
waited to make the first flight after

136
00:05:17,590 --> 00:05:15,840
the tragedy

137
00:05:19,670 --> 00:05:17,600
mike first we'd like to say thank you to

138
00:05:21,749 --> 00:05:19,680

the entire ksc team for getting endeavor

139

00:05:23,350 --> 00:05:21,759

in great shape and secondly from the

140

00:05:25,029 --> 00:05:23,360

entire crew we're all

141

00:05:27,189 --> 00:05:25,039

well aware that for over 200 years and

142

00:05:28,870 --> 00:05:27,199

certainly over the last two months

143

00:05:30,070 --> 00:05:28,880

uh freedom rings bad and clear across

144

00:05:31,510 --> 00:05:30,080

this country but

145

00:05:33,110 --> 00:05:31,520

right here and right now it's time to

146

00:05:34,710 --> 00:05:33,120

let freedom

147

00:05:37,990 --> 00:05:34,720

let's light them up

148

00:05:39,990 --> 00:05:38,000

one we have booster ignition and liftoff

149

00:05:42,469 --> 00:05:40,000

of the space shuttle endeavour pushing

150

00:05:43,909 --> 00:05:42,479

our goals skyward using our station in

151
00:05:45,749 --> 00:05:43,919
space

152
00:05:47,749 --> 00:05:45,759
endeavor lifted the nation's spirits

153
00:05:50,070 --> 00:05:47,759
with a spectacular launch at the

154
00:05:52,310 --> 00:05:50,080
twilight's last gleaming

155
00:05:54,469 --> 00:05:52,320
after two more flights endeavour entered

156
00:05:56,629 --> 00:05:54,479
an extended downtime for planned

157
00:05:58,309 --> 00:05:56,639
maintenance and upgrades including the

158
00:06:00,469 --> 00:05:58,319
new glass cockpit

159
00:06:02,710 --> 00:06:00,479
and a global positioning system for

160
00:06:04,950 --> 00:06:02,720
landing i think the the missions you

161
00:06:06,710 --> 00:06:04,960
remember the most are the missions that

162
00:06:08,950 --> 00:06:06,720
were the toughest to get there but we

163
00:06:10,950 --> 00:06:08,960

met our goals on the way you know we

164

00:06:13,029 --> 00:06:10,960

powered up in time after coming out of a

165

00:06:15,430 --> 00:06:13,039

major power down period and the major

166

00:06:17,350 --> 00:06:15,440

upgrades with a glass cockpit

167

00:06:21,110 --> 00:06:17,360

the newly upgraded orbiter returned to

168

00:06:22,150 --> 00:06:21,120

service in august 2007 on the sts-118

169

00:06:26,870 --> 00:06:22,160

mission

170

00:06:28,710 --> 00:06:26,880

recalls watching an orbital sunrise

171

00:06:31,029 --> 00:06:28,720

i looked back up the horizon again and

172

00:06:33,590 --> 00:06:31,039

there was a crescent moon

173

00:06:35,270 --> 00:06:33,600

and i and it literally seemed even

174

00:06:36,629 --> 00:06:35,280

though you can't it's not this easy to

175

00:06:38,550 --> 00:06:36,639

do but it literally seemed all we had to

176

00:06:41,029 --> 00:06:38,560

do was yank on the tiller take a right

177

00:06:43,990 --> 00:06:41,039

turn and sail straight to the moon and

178

00:06:46,390 --> 00:06:44,000

that's when i really understood how

179

00:06:48,950 --> 00:06:46,400

natural and how right space exploration

180

00:06:51,309 --> 00:06:48,960

human space exploration is and endeavor

181

00:06:53,909 --> 00:06:51,319

played a big part of that

182

00:06:56,309 --> 00:06:53,919

sts-134 will be endeavor's 12th flight

183

00:06:58,550 --> 00:06:56,319

to the international space station one

184

00:07:00,629 --> 00:06:58,560

of the most memorable deliveries was its

185

00:07:02,790 --> 00:07:00,639

most recent the cupola with seven

186

00:07:13,350 --> 00:07:02,800

windows offering astronauts a room with

187

00:07:17,990 --> 00:07:15,830

after 30 years the shuttle program is

188

00:07:19,749 --> 00:07:18,000

coming to a close when you look up and

189

00:07:21,350 --> 00:07:19,759

you see that vehicle take off a launch

190

00:07:23,909 --> 00:07:21,360

pad i mean it's just such a sense of

191

00:07:25,749 --> 00:07:23,919

pride and you feel the shock waves

192

00:07:27,990 --> 00:07:25,759

hitting you in the chest and it just

193

00:07:29,350 --> 00:07:28,000

vibrates it just it just brings a tear

194

00:07:30,550 --> 00:07:29,360

to your eye that you know we're a part

195

00:07:33,589 --> 00:07:30,560

of that program

196

00:07:35,670 --> 00:07:33,599

and then to see endeavor go up the last

197

00:07:38,070 --> 00:07:35,680

ship that i flew and i was on her maiden

198

00:07:40,150 --> 00:07:38,080

voyage and she you know treated us so

199

00:07:42,230 --> 00:07:40,160

well to see her go into space for the

200

00:07:44,150 --> 00:07:42,240

last time knowing that she's going to be

201
00:07:47,350 --> 00:07:44,160
retired after this flight is going to be

202
00:07:51,350 --> 00:07:49,749
the vehicles we see you know every one

203
00:07:53,749 --> 00:07:51,360
of the vehicles including denver and

204
00:07:56,230 --> 00:07:53,759
discovery in atlantis they're all part

205
00:07:58,629 --> 00:07:56,240
of us and they all are you know they're

206
00:08:00,710 --> 00:07:58,639
they're alive and they represent

207
00:08:02,150 --> 00:08:00,720
each and every every one of us that had

208
00:08:04,309 --> 00:08:02,160
worked on them

209
00:08:06,309 --> 00:08:04,319
the close-knit shuttle processing team

210
00:08:08,550 --> 00:08:06,319
is adjusting to the shuttle's end while

211
00:08:09,830 --> 00:08:08,560
still maintaining laser-sharp focus on

212
00:08:11,189 --> 00:08:09,840
the job

213
00:08:13,189 --> 00:08:11,199

you know personally we do have to think

214

00:08:15,749 --> 00:08:13,199

about putting our emotions aside and we

215

00:08:16,950 --> 00:08:15,759

have our job number one which is to get

216

00:08:18,950 --> 00:08:16,960

this vehicle

217

00:08:20,670 --> 00:08:18,960

prepared safely for the um for the

218

00:08:22,869 --> 00:08:20,680

mission at hand with

219

00:08:24,790 --> 00:08:22,879

sts-134 launch

220

00:08:27,430 --> 00:08:24,800

but the toughest moment will be that

221

00:08:30,150 --> 00:08:27,440

final wheel stop when the devil returns

222

00:08:32,870 --> 00:08:30,160

to earth for good

223

00:08:37,750 --> 00:08:35,990

roger wheel stop endeavor welcome home

224

00:08:39,829 --> 00:08:37,760

i didn't want to get out of the seat

225

00:08:40,790 --> 00:08:39,839

i mean this was my spaceship you know it

226

00:08:42,310 --> 00:08:40,800

really

227

00:08:43,670 --> 00:08:42,320

that was hard getting

228

00:08:45,190 --> 00:08:43,680

in fact of all the things i've done it

229

00:08:47,350 --> 00:08:45,200

was hard getting out of that seat and

230

00:08:50,389 --> 00:08:47,360

giving endeavor back to the to the team

231

00:08:54,070 --> 00:08:50,399

was uh that was tough

232

00:08:55,590 --> 00:08:54,080

endeavor flight for the last time

233

00:08:57,670 --> 00:08:55,600

good it'll be show respect for

234

00:08:58,470 --> 00:08:57,680

everything that we've done for many many

235

00:09:00,550 --> 00:08:58,480

years

236

00:09:02,870 --> 00:09:00,560

we love the shuttle program we love this

237

00:09:06,710 --> 00:09:02,880

vehicle