



1
00:00:11,669 --> 00:00:09,750
space shuttle endeavour born out of the

2
00:00:14,390 --> 00:00:11,679
loss of the space shuttle challenger in

3
00:00:16,470 --> 00:00:14,400
1986 represented a commitment to

4
00:00:17,590 --> 00:00:16,480
continuing america's human spaceflight

5
00:00:19,910 --> 00:00:17,600
program

6
00:00:21,910 --> 00:00:19,920
the nation's decision to build endeavor

7
00:00:22,870 --> 00:00:21,920
set the stage for dramatic missions to

8
00:00:24,710 --> 00:00:22,880
come

9
00:00:26,950 --> 00:00:24,720
the last of five orbiters to be built

10
00:00:29,189 --> 00:00:26,960
for space flight endeavor was named in a

11
00:00:31,669 --> 00:00:29,199
national competition by elementary and

12
00:00:33,590 --> 00:00:31,679
secondary school students after the 18th

13
00:00:36,470 --> 00:00:33,600

century sailing vessel commanded by

14

00:00:38,470 --> 00:00:36,480

captain james cook

15

00:00:41,750 --> 00:00:38,480

construction of endeavor began with its

16

00:00:44,709 --> 00:00:41,760

contract award on july 31 1987 to

17

00:00:49,190 --> 00:00:44,719

replace challenger which was lost 73

18

00:00:51,270 --> 00:00:49,200

seconds after launch on january 28 1986.

19

00:00:53,510 --> 00:00:51,280

endeavour was outfitted with many safety

20

00:00:56,150 --> 00:00:53,520

improvements including a drag chute to

21

00:00:58,310 --> 00:00:56,160

be deployed post landing and nose wheel

22

00:01:00,790 --> 00:00:58,320

steering to improve wear on the tires

23

00:01:03,029 --> 00:01:00,800

during rollout on the runway

24

00:01:05,109 --> 00:01:03,039

additionally endeavour's plumbing was

25

00:01:07,830 --> 00:01:05,119

designed for a state-of-the-art addition

26

00:01:10,070 --> 00:01:07,840

allowing for longer stays in space

27

00:01:11,510 --> 00:01:10,080

endeavor was delivered to nasa's kennedy

28

00:01:13,910 --> 00:01:11,520

space center from its palmdale

29

00:01:16,630 --> 00:01:13,920

california construction site in may

30

00:01:18,550 --> 00:01:16,640

1991.

31

00:01:20,310 --> 00:01:18,560

endeavour's flight history has included

32

00:01:22,870 --> 00:01:20,320

some of the shuttle program's most

33

00:01:27,190 --> 00:01:22,880

memorable flights starting with its very

34

00:01:29,190 --> 00:01:27,200

first mission sts-49 in may 1992

35

00:01:31,270 --> 00:01:29,200

just one year after endeavour first

36

00:01:33,429 --> 00:01:31,280

arrived at the kennedy space center for

37

00:01:35,429 --> 00:01:33,439

final processing

38

00:01:38,550 --> 00:01:35,439

the primary goal of that mission was to

39

00:01:40,550 --> 00:01:38,560

rescue the intelsat 6 satellite stranded

40

00:01:42,310 --> 00:01:40,560

in low earth orbit after launch atop an

41

00:01:44,550 --> 00:01:42,320

expendable rocket

42

00:01:46,310 --> 00:01:44,560

it would be outfitted with a new motor

43

00:01:48,789 --> 00:01:46,320

designed to boost the communications

44

00:01:51,190 --> 00:01:48,799

satellite to its operational orbit 22

45

00:01:53,350 --> 00:01:51,200

thousand miles above the earth ignition

46

00:01:57,830 --> 00:01:53,360

and liftoff of the maiden voyage of

47

00:02:01,910 --> 00:01:59,990

for two spacewalks astronauts pierre

48

00:02:03,830 --> 00:02:01,920

thewet and rick tried to place a

49

00:02:06,149 --> 00:02:03,840

specially designed grapple bar on

50

00:02:08,550 --> 00:02:06,159

intelsat to facilitate its capture with

51
00:02:10,710 --> 00:02:08,560
the shuttle's robot arm when those

52
00:02:13,430 --> 00:02:10,720
attempts failed the crew and mission

53
00:02:16,229 --> 00:02:13,440
control devised a dramatic plan calling

54
00:02:18,550 --> 00:02:16,239
for the and a third astronaut tom

55
00:02:20,309 --> 00:02:18,560
akers to reach up and grab the huge

56
00:02:30,630 --> 00:02:20,319
satellite by hand

57
00:02:36,869 --> 00:02:32,470
yeah we're watching down here we've got

58
00:02:39,750 --> 00:02:36,879
a lot of smiles down here dad

59
00:02:42,390 --> 00:02:39,760
it was and still is the only spacewalk

60
00:02:44,550 --> 00:02:42,400
ever performed by three people

61
00:02:46,309 --> 00:02:44,560
the flight set a host of other records

62
00:02:47,910 --> 00:02:46,319
including the most spacewalks on a

63
00:02:50,309 --> 00:02:47,920

shuttle mission to date

64

00:02:55,750 --> 00:02:50,319

the longest spacewalk to date and the

65

00:03:02,309 --> 00:02:57,670

endeavour continued that trend on its

66

00:03:04,070 --> 00:03:02,319

second mission sts-47 in september 1992

67

00:03:06,149 --> 00:03:04,080

a flight that conducted japanese

68

00:03:07,190 --> 00:03:06,159

research in a laboratory in the cargo

69

00:03:08,470 --> 00:03:07,200

bay

70

00:03:11,030 --> 00:03:08,480

the crew included the first

71

00:03:13,350 --> 00:03:11,040

african-american female to fly in space

72

00:03:14,869 --> 00:03:13,360

astronaut mae jemison i think the

73

00:03:16,949 --> 00:03:14,879

important thing is for people to

74

00:03:19,030 --> 00:03:16,959

understand and to know that yes we are

75

00:03:21,110 --> 00:03:19,040

we do have and are willing to

76

00:03:24,070 --> 00:03:21,120

accept women and minorities at

77

00:03:26,390 --> 00:03:24,080

minorities as astronauts and

78

00:03:28,229 --> 00:03:26,400

i hope that i'm just the first in a long

79

00:03:29,910 --> 00:03:28,239

line of

80

00:03:33,190 --> 00:03:29,920

african american women who will be

81

00:03:35,589 --> 00:03:33,200

involved in the space program

82

00:03:37,270 --> 00:03:35,599

and we have liftoff liftoff of the space

83

00:03:39,030 --> 00:03:37,280

shuttle endeavour on an ambitious

84

00:03:40,630 --> 00:03:39,040

mission to service the hubble space

85

00:03:43,830 --> 00:03:40,640

telescope

86

00:03:45,830 --> 00:03:43,840

in december 1993 endeavour was called

87

00:03:49,350 --> 00:03:45,840

upon to carry out the most ambitious

88

00:03:51,430 --> 00:03:49,360

shuttle mission to date on sts-61 the

89

00:03:53,910 --> 00:03:51,440

first hubble space telescope servicing

90

00:03:58,869 --> 00:03:56,309

endeavor has a firm handshake with mr

91

00:04:00,869 --> 00:03:58,879

hubble's telescope

92

00:04:03,350 --> 00:04:00,879

with the world riveted on the mission's

93

00:04:05,750 --> 00:04:03,360

every move seven astronauts restored

94

00:04:07,429 --> 00:04:05,760

hubble's vision during an unprecedented

95

00:04:09,830 --> 00:04:07,439

five spacewalks

96

00:04:12,390 --> 00:04:09,840

the back-to-back evas were completed by

97

00:04:14,070 --> 00:04:12,400

two teams of spacewalkers who outfitted

98

00:04:16,229 --> 00:04:14,080

hubble with a corrective optics

99

00:04:18,390 --> 00:04:16,239

instrument called costar

100

00:04:21,189 --> 00:04:18,400

installed a second generation wide field

101
00:04:23,110 --> 00:04:21,199
planetary camera

102
00:04:26,710 --> 00:04:23,120
look how stable you left that

103
00:04:29,510 --> 00:04:26,720
almost like a bird look at it

104
00:04:35,350 --> 00:04:29,520
and replaced hubble's solar arrays the

105
00:04:40,310 --> 00:04:37,189
endeavour further pushed the boundaries

106
00:04:43,189 --> 00:04:40,320
of shuttle missions in march 1995.

107
00:04:44,950 --> 00:04:43,199
on sts-67 it flew an astronomy mission

108
00:04:48,469 --> 00:04:44,960
that became the longest shuttle flight

109
00:04:50,790 --> 00:04:48,479
to date amassing over 16 days 15 hours

110
00:04:53,030 --> 00:04:50,800
in orbit conducting its studies with the

111
00:04:54,710 --> 00:04:53,040
suite of astro-1 science instruments in

112
00:04:56,790 --> 00:04:54,720
the payload bay

113
00:04:59,189 --> 00:04:56,800

the mission showcased the capabilities

114

00:05:00,790 --> 00:04:59,199

of the shuttle's fine steering jets a

115

00:05:03,270 --> 00:05:00,800

system used to hold the instruments

116

00:05:05,990 --> 00:05:03,280

stable enough to focus on the stars and

117

00:05:08,790 --> 00:05:06,000

celestial phenomena as endeavors circled

118

00:05:10,710 --> 00:05:08,800

the earth at more than 17 000 miles per

119

00:05:12,390 --> 00:05:10,720

hour

120

00:05:14,550 --> 00:05:12,400

two later missions for endeavor

121

00:05:16,310 --> 00:05:14,560

continued the spacecraft's expansion of

122

00:05:19,990 --> 00:05:16,320

shuttle capabilities

123

00:05:21,830 --> 00:05:20,000

on sts-69 in september 1995

124

00:05:24,310 --> 00:05:21,840

endeavour became the first shuttle to

125

00:05:25,990 --> 00:05:24,320

release and recapture two satellites

126

00:05:30,469 --> 00:05:26,000

during a single mission

127

00:05:32,070 --> 00:05:30,479

and later on mission sts-77 in may 1996

128

00:05:34,469 --> 00:05:32,080

endeavour completed a record four

129

00:05:36,830 --> 00:05:34,479

rendezvous in orbit with a research

130

00:05:40,390 --> 00:05:36,840

platform called

131

00:05:43,430 --> 00:05:40,400

spartan and ready to fly

132

00:05:45,830 --> 00:05:43,440

two years later in december 1998

133

00:05:48,430 --> 00:05:45,840

endeavor was used to christen a new era

134

00:05:51,189 --> 00:05:48,440

in world space exploration

135

00:05:54,469 --> 00:05:51,199

sts-88 would be the first international

136

00:05:56,710 --> 00:05:54,479

space station assembly mission

137

00:05:59,749 --> 00:05:56,720

in endeavour's payload bay was the node

138

00:06:01,670 --> 00:05:59,759

1 unity module the first u.s component

139

00:06:04,390 --> 00:06:01,680

of the space station

140

00:06:06,309 --> 00:06:04,400

zarya the russian functional cargo block

141

00:06:09,029 --> 00:06:06,319

module had been flown to orbit a few

142

00:06:10,710 --> 00:06:09,039

weeks earlier on a russian proton rocket

143

00:06:13,430 --> 00:06:10,720

from kazakhstan

144

00:06:15,590 --> 00:06:13,440

after endeavour's rendezvous with zarya

145

00:06:18,309 --> 00:06:15,600

mission specialist nancy curry used the

146

00:06:20,870 --> 00:06:18,319

shuttle's robotic arm to capture zarya

147

00:06:24,150 --> 00:06:20,880

and mated it to unity completing the

148

00:06:27,670 --> 00:06:24,160

very first iss assembly operation here's

149

00:06:32,790 --> 00:06:30,150

weak copy congratulations to the crew of

150

00:06:34,710 --> 00:06:32,800

the good ship endeavor that's terrific

151
00:06:36,710 --> 00:06:34,720
several days later endeavour's crew

152
00:06:38,870 --> 00:06:36,720
became the first to board the new

153
00:06:41,430 --> 00:06:38,880
international space station

154
00:06:43,749 --> 00:06:41,440
mission commander bob cabana and russian

155
00:06:45,350 --> 00:06:43,759
cosmonaut sergey krikalov opened the

156
00:06:48,230 --> 00:06:45,360
hatches and entered the new

157
00:06:51,029 --> 00:06:48,240
international outpost together

158
00:06:52,710 --> 00:06:51,039
uh we are so pleased and excited and

159
00:06:55,270 --> 00:06:52,720
proud to be

160
00:06:57,270 --> 00:06:55,280
a part of the team that made this happen

161
00:07:00,070 --> 00:06:57,280
and our special thanks to

162
00:07:02,629 --> 00:07:00,080
all the iss folks all their hard work we

163
00:07:03,510 --> 00:07:02,639

remember when unity was just an aluminum

164

00:07:07,749 --> 00:07:03,520

shell

165

00:07:09,670 --> 00:07:07,759

and it is a truly fine piece of hardware

166

00:07:12,710 --> 00:07:09,680

when endeavour made its next trip to the

167

00:07:15,670 --> 00:07:12,720

international space station on sts-97 in

168

00:07:18,629 --> 00:07:15,680

late november 2000 the space station was

169

00:07:20,390 --> 00:07:18,639

occupied by the expedition 1 crew and

170

00:07:23,189 --> 00:07:20,400

endeavour became the first shuttle to

171

00:07:26,230 --> 00:07:23,199

visit a crew aboard the station

172

00:07:28,469 --> 00:07:26,240

during sts-97 endeavor was used to

173

00:07:31,510 --> 00:07:28,479

deliver and install the first set of u.s

174

00:07:33,350 --> 00:07:31,520

solar arrays the hatches stayed closed

175

00:07:35,830 --> 00:07:33,360

between endeavour and the station for

176

00:07:37,510 --> 00:07:35,840

five days to allow the shuttle crew to

177

00:07:39,270 --> 00:07:37,520

conduct three spacewalks from

178

00:07:41,589 --> 00:07:39,280

endeavour's airlock

179

00:07:43,510 --> 00:07:41,599

after the evas were completed the

180

00:07:46,710 --> 00:07:43,520

hatches were opened and the crew of

181

00:07:57,350 --> 00:07:46,720

expedition 1 welcomed its visitors the

182

00:08:03,270 --> 00:08:00,790

on april 19th 2001 endeavour headed to

183

00:08:05,670 --> 00:08:03,280

orbit on sts-100

184

00:08:08,869 --> 00:08:05,680

the mission delivered a new era in space

185

00:08:11,029 --> 00:08:08,879

robotics to the station the 58-foot long

186

00:08:12,790 --> 00:08:11,039

canadarm2

187

00:08:15,110 --> 00:08:12,800

endeavour's crew performed the first

188

00:08:17,589 --> 00:08:15,120

operations in history using two robotic

189

00:08:20,070 --> 00:08:17,599

arms in space working together

190

00:08:22,950 --> 00:08:20,080

endeavour's robotic arm plus the new

191

00:08:25,189 --> 00:08:22,960

station arm to complete the mission

192

00:08:28,309 --> 00:08:25,199

dual robotics operations would become a

193

00:08:30,150 --> 00:08:28,319

mainstay of future station construction

194

00:08:32,149 --> 00:08:30,160

near the end of the mission as the big

195

00:08:34,870 --> 00:08:32,159

arm handed its carrier to endeavour's

196

00:08:37,350 --> 00:08:34,880

robotic arm it marked the first robotic

197

00:08:41,350 --> 00:08:37,360

handshake in space

198

00:08:43,190 --> 00:08:41,360

between 2003 and 2006 endeavour received

199

00:08:44,949 --> 00:08:43,200

a series of upgrades and safety

200

00:08:46,949 --> 00:08:44,959

modifications

201
00:08:51,030 --> 00:08:46,959
its first flight after those upgrades

202
00:08:52,710 --> 00:08:51,040
was sts-118 in august 2007.

203
00:08:55,030 --> 00:08:52,720
the mission was a fitting one for

204
00:08:57,030 --> 00:08:55,040
endeavor as the crew included mission

205
00:08:59,750 --> 00:08:57,040
specialist and educator astronaut

206
00:09:02,070 --> 00:08:59,760
barbara morgan who served as the backup

207
00:09:05,030 --> 00:09:02,080
teacher in space to christa mcauliffe

208
00:09:07,030 --> 00:09:05,040
who was lost in the challenger accident

209
00:09:10,630 --> 00:09:07,040
morgan made her historic flight aboard

210
00:09:12,070 --> 00:09:10,640
endeavour to fulfill mcauliffe's legacy

211
00:09:13,990 --> 00:09:12,080
some of my

212
00:09:15,430 --> 00:09:14,000
mentors that have meant more than

213
00:09:17,509 --> 00:09:15,440

anything to me

214

00:09:19,910 --> 00:09:17,519

are seven very special people who i

215

00:09:22,310 --> 00:09:19,920

believe are mentors to you too and that

216

00:09:24,870 --> 00:09:22,320

was the challenger crew they were my

217

00:09:26,470 --> 00:09:24,880

teachers and i believe they are teaching

218

00:09:28,150 --> 00:09:26,480

us today still

219

00:09:30,110 --> 00:09:28,160

when endeavor completes its final

220

00:09:33,590 --> 00:09:30,120

mission it will have traveled more than

221

00:09:34,790 --> 00:09:33,600

115 million miles during 25 trips to

222

00:09:37,110 --> 00:09:34,800

space

223

00:09:38,949 --> 00:09:37,120

it will have carried 139 different

224

00:09:40,870 --> 00:09:38,959

people into orbit

225

00:09:43,269 --> 00:09:40,880

although endeavour was the final space

226

00:09:44,710 --> 00:09:43,279

shuttle to be built its career has been

227

00:09:46,790 --> 00:09:44,720

one of firsts

228

00:09:49,590 --> 00:09:46,800

and its legacy will be one of opening

229

00:09:51,910 --> 00:09:49,600

humanity's greatest eye on the universe

230

00:09:54,070 --> 00:09:51,920

and expanding the space frontier for

231

00:09:55,829 --> 00:09:54,080

nations around the world

232

00:10:03,509 --> 00:09:55,839

for an out of this world space