



1
00:00:00,240 --> 00:00:12,629
get a little bit of an echo

2
00:00:17,670 --> 00:00:14,629
this track will carry atlantis just to

3
00:00:20,150 --> 00:00:17,680
the west of lake okeechobee

4
00:00:23,990 --> 00:00:20,160
24 miles in altitude 200 miles to the

5
00:00:31,269 --> 00:00:25,670
now traveling less than six times the

6
00:00:34,470 --> 00:00:33,350
descending at a rate of 200 feet per

7
00:01:30,469 --> 00:00:34,480
second

8
00:01:35,510 --> 00:01:33,590
the air data probes have been deployed

9
00:01:38,550 --> 00:01:35,520
these are probes on either side of

10
00:01:40,710 --> 00:01:38,560
atlantis nose that provide

11
00:01:42,310 --> 00:01:40,720
pressure altitude airspeed mach numbers

12
00:01:43,670 --> 00:01:42,320
angle of attack and rate of descent

13
00:01:45,990 --> 00:01:43,680

information for the general purpose

14

00:01:48,469 --> 00:01:46,000

computers

15

00:01:50,469 --> 00:01:48,479

time to touch down eight minutes

16

00:02:33,750 --> 00:01:50,479

atlanta's traveling four times the speed

17

00:02:33,760 --> 00:03:13,509

atlantis take air data

18

00:03:17,270 --> 00:03:15,670

six and a half minutes from touchdown

19

00:03:19,190 --> 00:03:17,280

the international space station just

20

00:03:22,070 --> 00:03:19,200

passed directly over the kennedy space

21

00:03:23,910 --> 00:03:22,080

center in advance of atlantis landing

22

00:03:25,830 --> 00:03:23,920

atlantis currently traveling two and a

23

00:03:39,190 --> 00:03:25,840

half times the speed of sound ranged to

24

00:03:44,830 --> 00:03:41,750

and his own energy approaching the hack

25

00:03:47,270 --> 00:03:44,840

no changes to windsor weather nominal

26
00:04:27,270 --> 00:03:47,280
shoot don't change the winds and weather

27
00:04:31,189 --> 00:04:29,350
now looking over the shoulder of pilot

28
00:04:33,990 --> 00:04:31,199
doug hurley on the flight deck of

29
00:04:36,390 --> 00:04:34,000
atlantis this pilot point of view camera

30
00:04:47,189 --> 00:04:36,400
five minutes till touchdown atlanta soon

31
00:06:06,230 --> 00:04:49,189
our first view through infrared cameras

32
00:06:09,990 --> 00:06:07,909
commander chris ferguson now flying

33
00:06:17,749 --> 00:06:10,000
atlantis

34
00:06:21,110 --> 00:06:19,510
piercing the pre-dawn sky as the space

35
00:06:22,950 --> 00:06:21,120
shuttle announces its arrival at the

36
00:06:25,270 --> 00:06:22,960
launch site with its signature sound of

37
00:07:04,070 --> 00:06:25,280
twin sonic booms having gone subsonic

38
00:07:04,080 --> 00:07:11,029

atlantis on at the 180.

39

00:07:15,670 --> 00:07:12,790
pilot doug hurley now taking a few

40

00:07:17,350 --> 00:07:15,680
seconds of stick time on atlantis

41

00:07:19,350 --> 00:07:17,360
with a fitting elegance for its final

42

00:07:43,589 --> 00:07:19,360
moments of flight atlantis takes one

43

00:07:43,599 --> 00:07:51,110
atlantis on at the 90.

44

00:07:55,350 --> 00:07:53,110
commander chris ferguson now back on the

45

00:07:57,430 --> 00:07:55,360
stick

46

00:07:59,110 --> 00:07:57,440
atlantis descending at an angle seven

47

00:08:22,790 --> 00:07:59,120
times steeper than that of a commercial

48

00:08:26,390 --> 00:08:24,550
as it approaches the runway commander

49

00:08:28,710 --> 00:08:26,400
chris ferguson will flare up atlantis

50

00:08:30,550 --> 00:08:28,720
nose to burn off excess speed

51
00:08:49,590 --> 00:08:30,560
prior to the landing gear deployment by

52
00:09:27,190 --> 00:08:51,190
once again the view from the pilot point

53
00:09:27,200 --> 00:09:42,870
the pre-flare maneuver executed

54
00:09:42,880 --> 00:09:52,630
landing gear down and locked

55
00:09:59,509 --> 00:09:55,190
main gear touchdown

56
00:10:07,750 --> 00:10:01,350
ferguson rotating the nose gear down to

57
00:10:07,760 --> 00:10:11,030
nose gear touchdown

58
00:10:15,350 --> 00:10:12,949
having fired the imagination of a

59
00:10:17,350 --> 00:10:15,360
generation a ship like no other its

60
00:10:19,670 --> 00:10:17,360
place in history secured

61
00:10:21,030 --> 00:10:19,680
the space shuttle pulls into port for

62
00:10:22,550 --> 00:10:21,040
the last time

63
00:10:52,230 --> 00:10:22,560

its voyage

64

00:10:56,230 --> 00:10:54,310

i'm missing complete houston

65

00:10:57,670 --> 00:10:56,240

after uh serving the world for over 30

66

00:10:59,829 --> 00:10:57,680

years the space shuttle's earned its

67

00:11:02,630 --> 00:10:59,839

place in history and to come to a final

68

00:11:06,310 --> 00:11:04,389

we copy your will stop and we'll take

69

00:11:08,630 --> 00:11:06,320

this opportunity to congratulate you

70

00:11:11,110 --> 00:11:08,640

atlantis as well as the thousands of

71

00:11:13,750 --> 00:11:11,120

passionate individuals across this great

72

00:11:15,910 --> 00:11:13,760

space faring nation who truly empowered

73

00:11:17,910 --> 00:11:15,920

this incredible spacecraft

74

00:11:20,230 --> 00:11:17,920

which for three decades has inspired

75

00:11:24,069 --> 00:11:20,240

millions around the globe

76
00:11:28,630 --> 00:11:27,350
hey thanks butch great words great words

77
00:11:31,030 --> 00:11:28,640
you know the space shuttle's changed the

78
00:11:32,949 --> 00:11:31,040
way we view the world and to change the

79
00:11:34,150 --> 00:11:32,959
way we view our universe there's a lot

80
00:11:35,910 --> 00:11:34,160
of emotion today but one thing's

81
00:11:37,829 --> 00:11:35,920
indisputable america is not going to

82
00:11:40,630 --> 00:11:37,839
stop exploring

83
00:11:41,590 --> 00:11:40,640
thank you columbia challenger discovery

84
00:11:43,670 --> 00:11:41,600
endeavor

85
00:11:44,949 --> 00:11:43,680
and our ship atlantis thank you for

86
00:11:46,389 --> 00:11:44,959
protecting us

87
00:11:48,150 --> 00:11:46,399
and bringing this program to such a

88
00:11:51,509 --> 00:11:48,160

fitting end god bless all of you god

89

00:11:57,509 --> 00:11:53,990

inspiring comments atlantis

90

00:12:26,790 --> 00:11:57,519

we'll meet you on 5-3

91

00:12:33,430 --> 00:12:28,870

on 5-8

92

00:12:36,389 --> 00:12:34,230

okay

93

00:12:42,550 --> 00:12:36,399

rad reconfigured this time

94

00:12:47,430 --> 00:12:44,389

atlantis is home

95

00:13:02,790 --> 00:12:47,440

its journey complete

96

00:13:29,190 --> 00:13:04,470

linus when you get there

97

00:13:29,200 --> 00:13:41,590

is

98

00:13:45,829 --> 00:13:42,949

yep well we'll be ready for that when

99

00:13:47,430 --> 00:13:45,839

you get above 55.

100

00:13:50,470 --> 00:13:47,440

okay very good if you give us a call

101
00:13:57,110 --> 00:13:50,480
we're going to go back and start on 5-3

102
00:14:00,550 --> 00:13:58,310
as you can see

103
00:14:03,430 --> 00:14:00,560
the normal venting of the auxiliary

104
00:14:06,150 --> 00:14:03,440
power units on atlantis the convoy team

105
00:14:08,069 --> 00:14:06,160
will be around the vehicle before long

106
00:14:09,670 --> 00:14:08,079
and mission control here under the

107
00:14:11,829 --> 00:14:09,680
direction of entry flight director tony

108
00:14:12,870 --> 00:14:11,839
soccer will give the crew a green light

109
00:14:14,790 --> 00:14:12,880
to

110
00:14:18,230 --> 00:14:14,800
shut down the auxiliary power units for

111
00:14:18,240 --> 00:14:26,870
hey convoy commander this is atlantis

112
00:14:30,629 --> 00:14:29,030
hey tim o'brien it's great to be home

113
00:14:49,750 --> 00:14:30,639

and it's healthy it's awesome to hear

114

00:14:49,760 --> 00:15:01,189

so

115

00:15:10,150 --> 00:15:02,790

spanish we're ready for ammonia

116

00:15:17,829 --> 00:15:12,550

ammonia act on 5 here we go

117

00:15:17,839 --> 00:15:53,749

thanks

118

00:15:53,759 --> 00:16:21,269

you

119

00:16:21,279 --> 00:16:48,790

it

120

00:16:48,800 --> 00:16:53,030

mission control houston

121

00:16:53,040 --> 00:16:56,389

ready and watching chunky

122

00:16:56,399 --> 00:16:59,509

okay they're coming up

123

00:17:03,269 --> 00:17:01,509

the external tank umbilical doors are

124

00:17:05,189 --> 00:17:03,279

currently being opened space shuttle

125

00:17:06,710 --> 00:17:05,199

main engines being repositioned part of

126
00:17:11,350 --> 00:17:06,720
the initial

127
00:17:15,669 --> 00:17:13,750
atlantis with its landing

128
00:17:18,470 --> 00:17:15,679
seven and a half minutes ago

129
00:17:21,029 --> 00:17:18,480
wrapping up its 33rd and final mission

130
00:17:23,429 --> 00:17:21,039
over a 26-year career

131
00:17:25,189 --> 00:17:23,439
on this flight it logged five million

132
00:17:27,189 --> 00:17:25,199
two hundred eighty four thousand eight

133
00:17:28,870 --> 00:17:27,199
hundred sixty two miles

134
00:17:30,630 --> 00:17:28,880
in service to the international space

135
00:17:33,230 --> 00:17:30,640
station

136
00:17:37,630 --> 00:17:33,240
for thirty 33 flights atlantis traveled

137
00:17:39,990 --> 00:17:37,640
125 million 935

138
00:17:43,270 --> 00:17:40,000

769 miles

139

00:17:59,990 --> 00:17:43,280
in 307 days in orbit

140

00:18:00,000 --> 00:19:03,350
hmm

141

00:19:03,360 --> 00:19:23,830
so

142

00:19:23,840 --> 00:20:05,190
you

143

00:20:05,200 --> 00:20:09,350
shoot landing gear are saved

144

00:20:14,710 --> 00:20:11,270
we copy that atlantis one switch check

145

00:20:17,430 --> 00:20:14,720
on o14 the bottom row fourth switch from

146

00:20:23,110 --> 00:20:17,440
the right the f1 logic will take that to

147

00:20:26,310 --> 00:20:25,029
okay good catch butch thanks it's off

148

00:20:28,149 --> 00:20:26,320
now

149

00:20:30,070 --> 00:20:28,159
okay thanks and i'm not sure if i told

150

00:20:40,149 --> 00:20:30,080
you or not before but the hydraulic load

151
00:20:44,070 --> 00:20:41,990
as you heard commander chris ferguson

152
00:20:46,070 --> 00:20:44,080
reporting that uh atlantis's landing

153
00:20:46,830 --> 00:20:46,080
gear now saved

154
00:20:49,909 --> 00:20:46,840
page

155
00:20:51,830 --> 00:20:49,919
5-6 standing by for the go-ahead to shut

156
00:20:53,430 --> 00:20:51,840
down the auxiliary power units the first

157
00:21:29,270 --> 00:20:53,440
glimmer of daylight falling on the

158
00:21:33,669 --> 00:21:31,270
atlantis we are go for ops nine when you

159
00:21:45,270 --> 00:21:33,679
get there

160
00:21:50,549 --> 00:21:47,110
actually atlantic stand by on the ops 9

161
00:21:50,559 --> 00:21:59,590
okay

162
00:21:59,600 --> 00:22:39,750
hmm

163
00:22:44,549 --> 00:22:41,909

we wait for the auxiliary power units to

164

00:22:47,909 --> 00:22:44,559

shut down we now have unofficial landing

165

00:22:51,110 --> 00:22:49,909

for atlantis final landing the

166

00:22:53,430 --> 00:22:51,120

unofficial

167

00:22:56,710 --> 00:22:53,440

time for nose gear touchdown

168

00:22:58,390 --> 00:22:56,720

was a mission elapsed time of 12 days

169

00:23:00,470 --> 00:22:58,400

18 hours

170

00:23:02,789 --> 00:23:00,480

27 minutes

171

00:23:06,549 --> 00:23:02,799

53 seconds

172

00:23:11,990 --> 00:23:06,559

which equates to 4 56

173

00:23:17,270 --> 00:23:14,470

all right main gear touchdown

174

00:23:19,430 --> 00:23:17,280

followed 21 seconds later

175

00:23:21,029 --> 00:23:19,440

at 12 days

176
00:23:22,789 --> 00:23:21,039
18 hours

177
00:23:25,590 --> 00:23:22,799
28 minutes

178
00:23:31,510 --> 00:23:25,600
and 14 seconds

179
00:23:33,270 --> 00:23:31,520
or 4 57 and 18 seconds am central time

180
00:23:36,710 --> 00:23:33,280
and wheel stop

181
00:23:38,710 --> 00:23:36,720
marked here in mission control

182
00:23:39,990 --> 00:23:38,720
the final wheel stop the final motion of

183
00:23:41,750 --> 00:23:40,000
a space shuttle

184
00:23:43,029 --> 00:23:41,760
in program history

185
00:23:44,870 --> 00:23:43,039
12 days

186
00:23:46,630 --> 00:23:44,880
18 hours

187
00:23:49,190 --> 00:23:46,640
28 minutes

188
00:24:16,390 --> 00:23:49,200

57 seconds

189

00:24:16,400 --> 00:24:37,350

we are indeed ready atlantis

190

00:24:37,360 --> 00:24:46,230

then we're ready for ssme repo

191

00:24:46,240 --> 00:24:53,029

stand by one second chucky

192

00:24:53,039 --> 00:25:01,110

okay chunky we're ready for ssme report

193

00:25:01,120 --> 00:25:41,830

and

194

00:25:41,840 --> 00:25:59,190

you

195

00:26:04,310 --> 00:26:01,029

this is mission control houston with

196

00:26:07,590 --> 00:26:04,320

more updated landing times that are now

197

00:26:09,590 --> 00:26:07,600

official from the nasa test director

198

00:26:10,470 --> 00:26:09,600

the official landing times that we have

199

00:26:13,430 --> 00:26:10,480

received

200

00:26:16,789 --> 00:26:13,440

here in mission control now show

201
00:26:19,510 --> 00:26:16,799
main gear touchdown at 12 days

202
00:26:21,430 --> 00:26:19,520
18 hours 27 minutes

203
00:26:25,350 --> 00:26:21,440
56 seconds

204
00:26:28,230 --> 00:26:25,360
that equates to 4 57 am sharp

205
00:26:35,350 --> 00:26:32,070
nose gear touchdown 12 days 18 hours

206
00:26:40,710 --> 00:26:35,360
28 minutes 16 seconds

207
00:26:41,990 --> 00:26:40,720
or 457 and 20 seconds a.m central time

208
00:26:43,510 --> 00:26:42,000
will stop

209
00:26:46,549 --> 00:26:43,520
12 days

210
00:26:49,510 --> 00:26:46,559
18 hours 28 minutes

211
00:26:56,549 --> 00:26:49,520
55 00 seconds

212
00:27:02,070 --> 00:26:58,870
once again main gear touchdown mission

213
00:27:05,029 --> 00:27:02,080

elapsed time 12 days 18 hours

214

00:27:08,710 --> 00:27:05,039

27 minutes 56 seconds

215

00:27:10,950 --> 00:27:08,720

or 4 57 a.m central time if you so

216

00:27:13,510 --> 00:27:10,960

desire you can doff suits

217

00:27:15,269 --> 00:27:13,520

and fergie we're with you in pcs diac on

218

00:27:17,110 --> 00:27:15,279

page 5-10

219

00:27:19,110 --> 00:27:17,120

once you complete that and gps power

220

00:27:21,350 --> 00:27:19,120

down will be with you for extended power

221

00:27:23,590 --> 00:27:21,360

up

222

00:27:25,669 --> 00:27:23,600

okay go to suits and we'll see on page

223

00:27:27,750 --> 00:27:25,679

5-10

224

00:27:31,430 --> 00:27:27,760

nosegear touchdown now marked officially

225

00:27:33,029 --> 00:27:31,440

at 12 days 18 hours 28 minutes 16

226
00:27:39,510 --> 00:27:33,039
seconds

227
00:27:40,789 --> 00:27:39,520
and wheel stop officially marked now at

228
00:27:42,230 --> 00:27:40,799
12 days

229
00:27:43,750 --> 00:27:42,240
18 hours

230
00:27:45,350 --> 00:27:43,760
28 minutes

231
00:27:46,870 --> 00:27:45,360
50 seconds

232
00:28:18,470 --> 00:27:46,880
457

233
00:28:18,480 --> 00:28:35,430
uh

234
00:28:35,440 --> 00:28:56,950
so

235
00:29:01,430 --> 00:28:58,710
waiting on your go for apu height

236
00:29:21,750 --> 00:29:04,149
we are ready for that atlanta

237
00:29:28,230 --> 00:29:24,230
pilot doug hurley now in the process of

238
00:29:29,430 --> 00:29:28,240

shutting down the auxiliary power units

239

00:29:32,630 --> 00:29:29,440

the initial

240

00:29:35,269 --> 00:29:32,640

team of convoy engineers now gathering

241

00:29:38,630 --> 00:29:35,279

around the shuttle atlantis

242

00:29:41,110 --> 00:29:38,640

which landed at 4 57 a.m central time 5

243

00:29:43,830 --> 00:29:41,120

57 a.m eastern time

244

00:29:45,350 --> 00:29:43,840

to wrap up its 33rd and final mission