



1
00:00:06,950 --> 00:00:05,030
good evening from nasa's goddard space

2
00:00:09,750 --> 00:00:06,960
flight center located just outside

3
00:00:11,270 --> 00:00:09,760
washington dc and greenbelt maryland you

4
00:00:13,190 --> 00:00:11,280
are currently looking at a live view of

5
00:00:15,749 --> 00:00:13,200
the space telescope operations control

6
00:00:17,910 --> 00:00:15,759
center located here at goddard the space

7
00:00:20,550 --> 00:00:17,920
telescope operations control center also

8
00:00:24,310 --> 00:00:20,560
referred to as the stock is responsible

9
00:00:26,710 --> 00:00:24,320
24 7 365 days a year for monitoring all

10
00:00:29,669 --> 00:00:26,720
hubble systems and facilitating all of

11
00:00:31,429 --> 00:00:29,679
the telescope science observations

12
00:00:32,950 --> 00:00:31,439
as a way of setting the stage for what

13
00:00:35,750 --> 00:00:32,960

will be happening over the coming week

14

00:00:37,830 --> 00:00:35,760

during the sts-125 flight we will now

15

00:00:52,709 --> 00:00:37,840

show a short video feature package about

16

00:00:56,869 --> 00:00:54,950

the stock is the space telescope

17

00:00:58,790 --> 00:00:56,879

operations control center

18

00:01:00,709 --> 00:00:58,800

and in the stock is where we control

19

00:01:04,070 --> 00:01:00,719

hubble we control it on a day-to-day

20

00:01:05,590 --> 00:01:04,080

basis so all the activities we do the

21

00:01:07,270 --> 00:01:05,600

pointing the telescope at the different

22

00:01:09,670 --> 00:01:07,280

targets the different stars different

23

00:01:11,109 --> 00:01:09,680

galaxies getting the data back down

24

00:01:12,630 --> 00:01:11,119

sending commands up to tell a word to

25

00:01:14,710 --> 00:01:12,640

point moving at orington different

26

00:01:17,270 --> 00:01:14,720

positions all that originates in the

27

00:01:18,469 --> 00:01:17,280

stock we have a crew that's there 24

28

00:01:22,630 --> 00:01:18,479

hours a day seven days a week

29

00:01:26,710 --> 00:01:24,870

in normal day to day operations we don't

30

00:01:28,870 --> 00:01:26,720

perform the science activities here

31

00:01:30,069 --> 00:01:28,880

we're really running the telescope the

32

00:01:31,990 --> 00:01:30,079

scientists are up at the science

33

00:01:34,069 --> 00:01:32,000

institute in baltimore so the data is

34

00:01:35,429 --> 00:01:34,079

going to come back down through us and

35

00:01:36,469 --> 00:01:35,439

then get sent up to the scientists in

36

00:01:38,390 --> 00:01:36,479

baltimore and then they're going to

37

00:01:42,149 --> 00:01:38,400

decode the data and understand what

38

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

it's a different operational atmosphere

39

00:01:48,710 --> 00:01:46,560

for servicing mission versus novel

40

00:01:51,030 --> 00:01:48,720

operations for a regular day to day we

41

00:01:52,870 --> 00:01:51,040

only have about three or so people

42

00:01:54,630 --> 00:01:52,880

really watching the telescope

43

00:01:56,469 --> 00:01:54,640

and telescopes are built very robustly

44

00:01:58,389 --> 00:01:56,479

if they have a problem they take care of

45

00:02:00,469 --> 00:01:58,399

themselves they put themselves in a safe

46

00:02:01,830 --> 00:02:00,479

state then you go back and you isolate

47

00:02:03,190 --> 00:02:01,840

the problem and fix to see what happens

48

00:02:05,749 --> 00:02:03,200

later on

49

00:02:07,670 --> 00:02:05,759

the difference is during a servicing

50

00:02:09,430 --> 00:02:07,680

mission the astronauts can only be out

51
00:02:10,869 --> 00:02:09,440
for six hours roughly at a time and

52
00:02:13,350 --> 00:02:10,879
that's because of a limit on how much

53
00:02:15,750 --> 00:02:13,360
oxygen water they carry on board so if a

54
00:02:17,430 --> 00:02:15,760
problem occurs we don't have the luxury

55
00:02:19,670 --> 00:02:17,440
of talking about it and debating what

56
00:02:21,830 --> 00:02:19,680
the right course of action is we have to

57
00:02:24,710 --> 00:02:21,840
take action right away so we have a team

58
00:02:26,949 --> 00:02:24,720
of experts who are on console somebody's

59
00:02:29,110 --> 00:02:26,959
watching the power somebody's watching

60
00:02:30,790 --> 00:02:29,120
the communications somebody's watching

61
00:02:32,949 --> 00:02:30,800
how the telescope will point and if they

62
00:02:34,470 --> 00:02:32,959
see a problem in one of those subsystems

63
00:02:36,710 --> 00:02:34,480

they alert the rest of the team and we

64

00:02:38,229 --> 00:02:36,720

have to quickly diagnose that problem

65

00:02:40,150 --> 00:02:38,239

and come up with a resolution because

66

00:02:41,670 --> 00:02:40,160

the astronauts they can't stand around

67

00:02:44,790 --> 00:02:41,680

if they're standing around and

68

00:02:47,270 --> 00:02:44,800

something's not going to get done

69

00:02:48,710 --> 00:02:47,280

so after we get released from the

70

00:02:50,390 --> 00:02:48,720

shuttle we're going to go through a

71

00:02:51,830 --> 00:02:50,400

series of commissioning exercises to

72

00:02:53,110 --> 00:02:51,840

make sure each of these cameras is

73

00:02:54,229 --> 00:02:53,120

working correctly each of these

74

00:02:55,589 --> 00:02:54,239

instruments

75

00:02:57,830 --> 00:02:55,599

so we're going to test them out over a

76

00:02:59,350 --> 00:02:57,840

series of months to make sure that the

77

00:03:01,270 --> 00:02:59,360

picture that we hope to get is really

78

00:03:03,190 --> 00:03:01,280

there and just like learning how to use

79

00:03:04,869 --> 00:03:03,200

any new camera you have to

80

00:03:07,110 --> 00:03:04,879

play with a little bit to try to get the

81

00:03:08,949 --> 00:03:07,120

exact focus exact orientation so it's

82

00:03:10,630 --> 00:03:08,959

working correctly so it really takes

83

00:03:12,949 --> 00:03:10,640

about four to five months after we

84

00:03:15,350 --> 00:03:12,959

release from the shuttle before the

85

00:03:19,190 --> 00:03:15,360

telescope is completely back and working

86

00:03:23,990 --> 00:03:21,430

back now with live mission coverage

87

00:03:25,509 --> 00:03:24,000

during sts-125 there will be two teams

88

00:03:26,470 --> 00:03:25,519

of flight controllers supporting the

89

00:03:28,390 --> 00:03:26,480

stock

90

00:03:30,390 --> 00:03:28,400

currently on duty is the planning team

91

00:03:32,949 --> 00:03:30,400

who have been on console since about 6

92

00:03:34,630 --> 00:03:32,959

pm this evening the other group of stock

93

00:03:36,869 --> 00:03:34,640

flight controllers known as the orbit

94

00:03:39,430 --> 00:03:36,879

team finished their first active mission

95

00:03:40,789 --> 00:03:39,440

shift about three and a half hours ago

96

00:03:42,789 --> 00:03:40,799

earlier this evening we had an

97

00:03:45,030 --> 00:03:42,799

opportunity to talk with the lead of the

98

00:03:47,270 --> 00:03:45,040

orbit team mission operations manager

99

00:03:48,309 --> 00:03:47,280

keith wallias just after he came off

100

00:03:50,309 --> 00:03:48,319

console

101
00:03:52,149 --> 00:03:50,319
we first asked keith about what it was

102
00:03:55,110 --> 00:03:52,159
like in the stock during the launch of

103
00:03:59,030 --> 00:03:57,670
it was great it was a feeling that we've

104
00:04:00,470 --> 00:03:59,040
been here for seven years we've been

105
00:04:02,390 --> 00:04:00,480
great getting ready for the mission to

106
00:04:04,309 --> 00:04:02,400
go and it's finally happened it's just

107
00:04:06,229 --> 00:04:04,319
like again ready for the big game we've

108
00:04:08,949 --> 00:04:06,239
been practicing for years the game is on

109
00:04:12,789 --> 00:04:10,869
we then asked keith to summarize the

110
00:04:18,949 --> 00:04:12,799
activities that took place in the stock

111
00:04:23,110 --> 00:04:21,110
the main big event for today was the

112
00:04:25,510 --> 00:04:23,120
onboard inspection for the crew and that

113
00:04:27,270 --> 00:04:25,520

was taken on most of the day here we

114

00:04:29,110 --> 00:04:27,280

weren't as busy we were just doing some

115

00:04:30,469 --> 00:04:29,120

minor preparations but the real activity

116

00:04:32,230 --> 00:04:30,479

is going to begin in about a half an

117

00:04:34,150 --> 00:04:32,240

hour we're going to close the aperture

118

00:04:36,150 --> 00:04:34,160

door that's the door that hasn't been

119

00:04:37,270 --> 00:04:36,160

closed since 2007. of course we need

120

00:04:39,189 --> 00:04:37,280

that door open if we're going to be

121

00:04:40,469 --> 00:04:39,199

taking pictures but as you get close to

122

00:04:42,710 --> 00:04:40,479

the orbiter you worry about

123

00:04:44,390 --> 00:04:42,720

contamination on our mirror and hst is

124

00:04:46,230 --> 00:04:44,400

so sensitive you can't have any

125

00:04:47,749 --> 00:04:46,240

contamination so in about a half an hour

126
00:04:48,950 --> 00:04:47,759
from now we're going to shut that door

127
00:04:50,469 --> 00:04:48,960
it's going to stay closed for the

128
00:04:51,749 --> 00:04:50,479
duration of the mission and we're not

129
00:04:53,670 --> 00:04:51,759
going to open it until just before they

130
00:04:55,030 --> 00:04:53,680
release us the other big activity that's

131
00:04:56,390 --> 00:04:55,040
going to occur tonight

132
00:04:58,150 --> 00:04:56,400
is we have these large high gain

133
00:04:59,670 --> 00:04:58,160
antennas that we use to communicate with

134
00:05:01,430 --> 00:04:59,680
the telescope all the time center

135
00:05:03,189 --> 00:05:01,440
science data down while our science

136
00:05:04,469 --> 00:05:03,199
instruments are now in a safe state so

137
00:05:06,150 --> 00:05:04,479
we're going to retract those high gain

138
00:05:07,270 --> 00:05:06,160

antennas we're going to pull them in and

139

00:05:08,870 --> 00:05:07,280

they're going to be nested for the

140

00:05:10,870 --> 00:05:08,880

entire mission and we're going to open

141

00:05:12,310 --> 00:05:10,880

them up again shortly before we release

142

00:05:14,550 --> 00:05:12,320

so those are the big activities for

143

00:05:16,070 --> 00:05:14,560

tonight getting the high gain antennas

144

00:05:18,310 --> 00:05:16,080

pulled in and also getting our aperture

145

00:05:20,469 --> 00:05:18,320

door closed

146

00:05:21,830 --> 00:05:20,479

it's a pretty busy day tomorrow we're

147

00:05:24,390 --> 00:05:21,840

going to start off early we're getting

148

00:05:26,629 --> 00:05:24,400

the telescope in a state so that it can

149

00:05:28,150 --> 00:05:26,639

be serviced and just as if you were

150

00:05:29,510 --> 00:05:28,160

doing some work around your house if

151
00:05:31,110 --> 00:05:29,520
you're going to do some electrical work

152
00:05:33,430 --> 00:05:31,120
you want to turn things off that don't

153
00:05:34,710 --> 00:05:33,440
need to be on so we're going to turn off

154
00:05:36,550 --> 00:05:34,720
some of our critical electronic

155
00:05:38,310 --> 00:05:36,560
equipment because you don't want things

156
00:05:40,390 --> 00:05:38,320
to be on and jostled as you're getting

157
00:05:41,749 --> 00:05:40,400
ready to be birthed and grappled so

158
00:05:43,749 --> 00:05:41,759
we're going to start turning some things

159
00:05:45,350 --> 00:05:43,759
off we're going to do some tests make

160
00:05:48,070 --> 00:05:45,360
sure our safe mode test everything is

161
00:05:49,590 --> 00:05:48,080
working correctly we have to turn the

162
00:05:51,590 --> 00:05:49,600
telescope so that the orbiter can

163
00:05:53,110 --> 00:05:51,600

grapple us it's not in a position right

164

00:05:54,469 --> 00:05:53,120

now where it can be grappled so we're

165

00:05:56,390 --> 00:05:54,479

going to send some commands to put it in

166

00:05:58,469 --> 00:05:56,400

the right position so that it can be

167

00:06:00,390 --> 00:05:58,479

grabbed by the orbiter and then finally

168

00:06:01,749 --> 00:06:00,400

just before they grapple with us

169

00:06:03,590 --> 00:06:01,759

we're going to essentially put ourselves

170

00:06:04,870 --> 00:06:03,600

in a drifting state we're not going to

171

00:06:07,029 --> 00:06:04,880

have any control to point anyway

172

00:06:09,029 --> 00:06:07,039

whatsoever so when the orbiter grabs us

173

00:06:10,870 --> 00:06:09,039

it's going to get us and put us into the

174

00:06:12,950 --> 00:06:10,880

back of the bay once we're in the back

175

00:06:15,029 --> 00:06:12,960

of the bay then we start turning things

176
00:06:16,469 --> 00:06:15,039
on again we start applying power to the

177
00:06:18,070 --> 00:06:16,479
vehicle and we're going to start to get

178
00:06:19,830 --> 00:06:18,080
power not only going to charge our

179
00:06:21,590 --> 00:06:19,840
batteries up one more time with the

180
00:06:23,189 --> 00:06:21,600
solar rays but then we're going to go to

181
00:06:24,150 --> 00:06:23,199
internal power from the orbiter and

182
00:06:27,749 --> 00:06:24,160
we're going to get power from the

183
00:06:31,510 --> 00:06:29,830
in an effort to maximize science data

184
00:06:33,350 --> 00:06:31,520
gathering the stock continued with

185
00:06:35,110 --> 00:06:33,360
hubble science operations right up until

186
00:06:36,390 --> 00:06:35,120
the launch of shuttle atlantis yesterday

187
00:06:37,990 --> 00:06:36,400
afternoon

188
00:06:40,070 --> 00:06:38,000

when the call came from mission control

189

00:06:42,230 --> 00:06:40,080

in houston the crew was go for on-orbit

190

00:06:44,629 --> 00:06:42,240

operations the stock team began

191

00:06:46,710 --> 00:06:44,639

transitioning hubble out of science ops

192

00:06:49,350 --> 00:06:46,720

and preparing the observatory for the

193

00:06:51,029 --> 00:06:49,360

shuttle's arrival on wednesday afternoon

194

00:06:52,950 --> 00:06:51,039

as keith mentioned

195

00:06:55,110 --> 00:06:52,960

early tomorrow morning the two large

196

00:06:57,510 --> 00:06:55,120

high gain antenna mast on the telescope

197

00:06:59,589 --> 00:06:57,520

will be retracted that activity should

198

00:07:00,790 --> 00:06:59,599

happen somewhere around 2 am eastern

199

00:07:02,469 --> 00:07:00,800

time

200

00:07:04,390 --> 00:07:02,479

the change in the position of hubble

201

00:07:07,589 --> 00:07:04,400

solar rays that keith talked about

202

00:07:09,430 --> 00:07:07,599

should take place at about 7 45 a.m

203

00:07:11,749 --> 00:07:09,440

and as keith also described the stock

204

00:07:13,510 --> 00:07:11,759

team will be sending commands to reduce

205

00:07:16,230 --> 00:07:13,520

electrical power load demands on the

206

00:07:19,990 --> 00:07:16,240

telescope tomorrow that activity should

207

00:07:21,830 --> 00:07:20,000

happen just before 9 30 a.m eastern time

208

00:07:24,230 --> 00:07:21,840

on wednesday the stock team will also be

209

00:07:26,469 --> 00:07:24,240

turning off some built-in safing systems

210

00:07:28,550 --> 00:07:26,479

on hubble to prevent the observatory

211

00:07:30,390 --> 00:07:28,560

from going into a safe mode condition

212

00:07:31,749 --> 00:07:30,400

just before grapple of the telescope

213

00:07:34,469 --> 00:07:31,759

happens

214

00:07:36,629 --> 00:07:34,479

at about 10 40 am eastern on wednesday

215

00:07:38,550 --> 00:07:36,639

the terminal initiation or ti burn will

216

00:07:40,950 --> 00:07:38,560

take place which will put atlantis on a

217

00:07:42,629 --> 00:07:40,960

final intercept course with hubble

218

00:07:44,629 --> 00:07:42,639

when hubble is within about seven miles

219

00:07:46,710 --> 00:07:44,639

of atlantis commanding by the stock to

220

00:07:48,950 --> 00:07:46,720

the telescope will transition from the

221

00:07:50,790 --> 00:07:48,960

tdrs system to the space shuttle's

222

00:07:52,309 --> 00:07:50,800

s-band communications

223

00:07:53,830 --> 00:07:52,319

use of s-band communication will

224

00:07:55,189 --> 00:07:53,840

continue until after hubble is

225

00:07:56,710 --> 00:07:55,199

redeployed

226

00:07:58,390 --> 00:07:56,720

and the shuttle is greater than seven

227

00:07:59,909 --> 00:07:58,400

miles in distance

228

00:08:01,749 --> 00:07:59,919

when the shuttle is in close proximity

229

00:08:03,430 --> 00:08:01,759

to hubble on wednesday megan macarthur

230

00:08:05,430 --> 00:08:03,440

will use the shuttle's robot arm to grab

231

00:08:07,270 --> 00:08:05,440

hold of hubble she will then maneuver

232

00:08:10,150 --> 00:08:07,280

the telescope onto the flight support

233

00:08:13,749 --> 00:08:10,160

system or fss platform in atlantis's

234

00:08:15,589 --> 00:08:13,759

payload bay after hubble is on the fss

235

00:08:17,830 --> 00:08:15,599

the first activity will be to orient the

236

00:08:19,990 --> 00:08:17,840

shuttle and telescope so that hubble's

237

00:08:21,350 --> 00:08:20,000

solar arrays can face the sun and

238

00:08:22,950 --> 00:08:21,360

hubble's batteries can get a full

239

00:08:24,950 --> 00:08:22,960

recharge

240

00:08:26,790 --> 00:08:24,960

shortly after that

241

00:08:28,469 --> 00:08:26,800

an external connection from the flight

242

00:08:29,350 --> 00:08:28,479

support system to the telescope will

243

00:08:31,029 --> 00:08:29,360

happen

244

00:08:33,190 --> 00:08:31,039

at that point the telescope's batteries

245

00:08:35,190 --> 00:08:33,200

will be taken offline and hubble will

246

00:08:36,949 --> 00:08:35,200

receive all of its electrical power from

247

00:08:40,469 --> 00:08:36,959

shuttle until just before it is

248

00:08:42,550 --> 00:08:40,479

redeployed on flight day nine so here at

249

00:08:44,790 --> 00:08:42,560

goddard the entire service emission four

250

00:08:46,630 --> 00:08:44,800

team will be anxiously standing by for

251

00:08:48,389 --> 00:08:46,640

their first close-up look at hubble

252

00:08:51,110 --> 00:08:48,399

since the telescope was deployed at the

253

00:08:53,190 --> 00:08:51,120

end of the sts-109 servicing mission in

254

00:08:54,949 --> 00:08:53,200

march two thousand two

255

00:08:57,110 --> 00:08:54,959

we will now return to mission control in

256

00:08:58,630 --> 00:08:57,120

houston for continuing nasa television