1
00:00:03,710 --> 00:00:01,850
is Mission Control Houston bringing you

2
00:00:06,110 --> 00:00:03,720
live coverage today of the launch of

3
00:00:07,550 --> 00:00:06,120
Northrop grumman's 16th cargo resupply

4
00:00:09,830 --> 00:00:07,560
mission to the International Space

5
00:00:11,810 --> 00:00:09,840
Station you are looking live at the

6
00:00:13,430 --> 00:00:11,820
Mid-Atlantic Regional Spaceport at

7
00:00:15,770 --> 00:00:13,440
NASA's Wallops Flight Facility in

8
00:00:17,870 --> 00:00:15,780
Wallops Island Virginia where an Antares

9
00:00:20,090 --> 00:00:17,880
rocket stands ready to launch a cygnus

10
00:00:22,910 --> 00:00:20,100
cargo spacecraft carrying more than 8

11
00:00:24,470 --> 00:00:22,920
200 pounds of research crew Supplies and

12
00:00:27,109 --> 00:00:24,480
Hardware to the International Space

13
00:00:28,849 --> 00:00:27,119

Station the launch time today was moved

14
00:00:30,650 --> 00:00:28,859
to the back of the launch window after

15
00:00:32,690 --> 00:00:30,660
teams detected an apparent helium

16
00:00:34,610 --> 00:00:32,700
pressurization valve leak on the vehicle

17
00:00:36,410 --> 00:00:34,620
the issue was quickly resolved and

18
00:00:39,650 --> 00:00:36,420
everything is on track for a launch

19
00:00:44,630 --> 00:00:39,660
today at 501 and 5 Seconds PM Central

20
00:00:47,869 --> 00:00:44,640
Time 601 in 5 seconds PM Eastern Time

21
00:00:50,150 --> 00:00:47,879
fueling for Antares began at 3 45 PM

22
00:00:51,410 --> 00:00:50,160
central time today and now stands ready

23
00:00:52,910 --> 00:00:51,420
to send cygnus to the International

24
00:00:54,650 --> 00:00:52,920
Space Station

25
00:00:56,689 --> 00:00:54,660
currently favorable weather conditions

26
00:00:57,950 --> 00:00:56,699
today for launch with mostly sunny skies

27
00:01:03,529 --> 00:00:57,960
and the temperature at the launch site

28
00:01:08,929 --> 00:01:06,670
each cygnus spacecraft is named after

29
00:01:11,030 --> 00:01:08,939
influential individuals in the world of

30
00:01:12,830 --> 00:01:11,040
space flight and the cygnus spacecraft

31
00:01:14,870 --> 00:01:12,840
for this space station resupply mission

32
00:01:17,570 --> 00:01:14,880
is dedicated to former NASA astronaut

33
00:01:19,310 --> 00:01:17,580
Ellison onizuka who they selected in

34
00:01:22,550 --> 00:01:19,320
honor of his prominence as the first

35
00:01:24,890 --> 00:01:22,560
Asian American astronaut onizuka was

36
00:01:27,289 --> 00:01:24,900
hired in 1978 in the first class of

37
00:01:28,850 --> 00:01:27,299
diverse astronauts and his first space

38
00:01:33,710 --> 00:01:28,860

flight was aboard Space Shuttle

39
00:01:35,330 --> 00:01:33,720
Discovery in January 1985 for sts-51c he

40
00:01:38,210 --> 00:01:35,340
lost his life aboard the space shuttle

41
00:01:39,950 --> 00:01:38,220
Challenger in 1986 along with six other

42
00:01:42,649 --> 00:01:39,960
crew members

43
00:01:46,130 --> 00:01:42,659
external power on and ftsp external

44
00:01:51,590 --> 00:01:48,889
fgs external power nominal and a copy

45
00:01:52,969 --> 00:01:51,600
all check 367 368.

46
00:01:55,249 --> 00:01:52,979
cygnus will arrive to the International

47
00:01:57,469 --> 00:01:55,259
Space Station after a two-day Journey on

48
00:01:59,389 --> 00:01:57,479
Thursday August 12th where it will be

49
00:02:01,969 --> 00:01:59,399
installed to the the Space Station's

50
00:02:03,950 --> 00:02:01,979
Unity module NASA astronaut Megan

51
00:02:05,929 --> 00:02:03,960
MacArthur will use the Canada arm 2

52
00:02:08,449 --> 00:02:05,939
robotic arm to capture the cygnus

53
00:02:11,330 --> 00:02:08,459
spacecraft backed up by Tomah pasque of

54
00:02:12,949 --> 00:02:11,340
the European Space Agency after cigna's

55
00:02:14,270 --> 00:02:12,959
capture controls will be turned over to

56
00:02:16,070 --> 00:02:14,280
Mission Control Houston where ground

57
00:02:18,470 --> 00:02:16,080
controllers will send ground commands

58
00:02:20,150 --> 00:02:18,480
for the station's arm to rotate and

59
00:02:22,550 --> 00:02:20,160
install the cargo spacecraft on the

60
00:02:24,190 --> 00:02:22,560
earth-facing port of the station's Unity

61
00:02:26,510 --> 00:02:24,200
module

62
00:02:27,710 --> 00:02:26,520
the cygnus spacecraft is scheduled to

63
00:02:29,570 --> 00:02:27,720

remain at the space station until

64
00:02:31,550 --> 00:02:29,580
November well when it will depart the

65
00:02:34,009 --> 00:02:31,560
station disposing of several tons of

66
00:02:36,530 --> 00:02:34,019
trash during a fiery re-entry into the

67
00:02:38,449 --> 00:02:36,540
Earth's atmosphere and fso you go to

68
00:02:40,550 --> 00:02:38,459
send FTS receiver arm command for two

69
00:02:42,290 --> 00:02:40,560
seconds then remove continue check

70
00:02:46,190 --> 00:02:42,300
Channel One function removed

71
00:02:50,089 --> 00:02:46,200
this is fso arm on my mark three two one

72
00:02:53,110 --> 00:02:50,099
Mark plus one plus two arm removed check

73
00:02:56,990 --> 00:02:55,910
lclr2 FPS arm indication receipt teams

74
00:02:59,270 --> 00:02:57,000
around the country are working together

75
00:03:01,670 --> 00:02:59,280
today to ensure various systems are a go

76
00:03:03,649 --> 00:03:01,680
for launch North upcoming teams in the

77
00:03:05,449 --> 00:03:03,659
Antares launch control center in Wallops

78
00:03:08,690 --> 00:03:05,459
Island Virginia are monitoring systems

79
00:03:10,369 --> 00:03:08,700
on the Antares rocket and once cygnus

80
00:03:12,170 --> 00:03:10,379
separates from the Antares rocket today

81
00:03:13,729 --> 00:03:12,180
and reaches its preliminary orbit

82
00:03:15,589 --> 00:03:13,739
controls of the vehicle will be handed

83
00:03:17,030 --> 00:03:15,599
over to teams at Northrop grumman's

84
00:03:19,369 --> 00:03:17,040
Mission Control Center in Dulles

85
00:03:23,990 --> 00:03:19,379
Virginia teams there are being led by

86
00:03:27,110 --> 00:03:25,550
and back in the International Space

87
00:03:28,850 --> 00:03:27,120
Station flight control room in Houston

88
00:03:31,190 --> 00:03:28,860

Texas flight control teams are being led

89
00:03:32,570 --> 00:03:31,200
by flight director Greg Whitney teams

90
00:03:34,369 --> 00:03:32,580
here are monitoring systems on the

91
00:03:36,289 --> 00:03:34,379
International Space Station ensuring all

92
00:03:38,330 --> 00:03:36,299
systems are a go for cygnus launch today

93
00:03:41,210 --> 00:03:38,340
and arrival to the International Space

94
00:03:44,149 --> 00:03:41,220
Station and so far all teams are a go

95
00:03:46,910 --> 00:03:44,159
for launch today at 501 and 5 Seconds PM

96
00:04:46,670 --> 00:03:46,920
Central Time 601 and 5 Seconds PM

97
00:04:50,689 --> 00:04:49,010
and joining us for today's launch

98
00:04:52,610 --> 00:04:50,699
broadcast from Northrop Grumman is

99
00:04:54,950 --> 00:04:52,620
Antares system engineering program

100
00:04:56,689 --> 00:04:54,960
manager Christina helona and she'll be

101
00:04:58,430 --> 00:04:56,699
walking us through some of the features

102
00:05:00,650 --> 00:04:58,440
and milestones for today's launch

103
00:05:02,210 --> 00:05:00,660
Christina the launch was moved to the

104
00:05:04,070 --> 00:05:02,220
back of the launch window today can you

105
00:05:07,249 --> 00:05:04,080
explain what the teams detected on the

106
00:05:09,650 --> 00:05:07,259
ground and how it was resolved

107
00:05:11,810 --> 00:05:09,660
hi Courtney sure so during our

108
00:05:14,150 --> 00:05:11,820
pre-launch checkouts we detected an

109
00:05:16,189 --> 00:05:14,160
anomalous reading at the pad so our

110
00:05:17,749 --> 00:05:16,199
Mid-Atlantic range today support and

111
00:05:19,969 --> 00:05:17,759
Norfolk government teams had to

112
00:05:22,310 --> 00:05:19,979
troubleshoot the issue out at the pads

113
00:05:25,670 --> 00:05:22,320

which are actually required our teams to

114
00:05:27,650 --> 00:05:25,680
physically inspect the pad so after we

115
00:05:30,469 --> 00:05:27,660
had it previously already cleared out of

116
00:05:32,510 --> 00:05:30,479
the pad for safety issues obviously so

117
00:05:34,550 --> 00:05:32,520
we had to get back out there and check

118
00:05:36,529 --> 00:05:34,560
out and make sure everything was up and

119
00:05:37,909 --> 00:05:36,539
running and everything was good and so

120
00:05:40,490 --> 00:05:37,919
that actually took a little bit longer

121
00:05:43,129 --> 00:05:40,500
than expected so it took it to sell into

122
00:05:45,469 --> 00:05:43,139
our launch window so uh everything

123
00:05:47,950 --> 00:05:45,479
looked good and we're ready to go go so

124
00:05:52,490 --> 00:05:50,629
yes and we're looking live now at the

125
00:05:54,590 --> 00:05:52,500
Antares rocket standing ready to launch

126
00:05:57,230 --> 00:05:54,600
a cygnus cargo spacecraft carrying more

127
00:05:59,029 --> 00:05:57,240
than 8 200 pounds of research crew

128
00:06:00,469 --> 00:05:59,039
Supplies and Hardware to the

129
00:06:02,510 --> 00:06:00,479
International Space Station Christina

130
00:06:06,170 --> 00:06:02,520
can you tell us more about this Antares

131
00:06:11,210 --> 00:06:08,990
sure so the Antares 230 plus vehicle

132
00:06:13,909 --> 00:06:11,220
provides substantial payload performance

133
00:06:16,010 --> 00:06:13,919
into a variety of low inclination low

134
00:06:18,590 --> 00:06:16,020
Earth and Sun to goodness orbits and

135
00:06:20,629 --> 00:06:18,600
interplanetary trajectories so our

136
00:06:22,730 --> 00:06:20,639
Ontario has actually been upgraded our

137
00:06:24,590 --> 00:06:22,740
stage run core which has a lighter

138
00:06:27,110 --> 00:06:24,600

composite structure and an optimized

139
00:06:28,969 --> 00:06:27,120
second stage mortar the upgraded stage

140
00:06:30,950 --> 00:06:28,979
one core allows the interior's engines

141
00:06:33,409 --> 00:06:30,960
to perform at full thrust throughout

142
00:06:35,330 --> 00:06:33,419
most of the first stage profile the 230

143
00:06:37,070 --> 00:06:35,340
plus vehicle also has a cargo Mass

144
00:06:38,809 --> 00:06:37,080
flexibility in which the thickness mask

145
00:06:41,689 --> 00:06:38,819
can be defined in later than 24 hours

146
00:06:43,370 --> 00:06:41,699
prior to launch the Antares 230 plus

147
00:06:45,409 --> 00:06:43,380
vehicle also has the ability to perform

148
00:06:47,210 --> 00:06:45,419
late load operations by the unique pot

149
00:06:49,430 --> 00:06:47,220
top fairing of the nose of the vehicle

150
00:06:53,330 --> 00:06:49,440
is able to remove for the late cargo

151
00:06:56,809 --> 00:06:53,340
load opening valve 8021 on my marks

152
00:06:58,909 --> 00:06:56,819
three two and the vehicle rolled out to

153
00:07:01,070 --> 00:06:58,919
the pad Friday August 6th it was then

154
00:07:02,870 --> 00:07:01,080
rotated horizontal for some late cargo

155
00:07:04,670 --> 00:07:02,880
like you're saying now and then it was

156
00:07:07,550 --> 00:07:04,680
returned to its vertical position where

157
00:07:09,589 --> 00:07:07,560
it sits now yesterday so Christina can

158
00:07:11,089 --> 00:07:09,599
you walk us through the cargo late

159
00:07:12,490 --> 00:07:11,099
loading process and late load

160
00:07:15,110 --> 00:07:12,500
capabilities

161
00:07:17,150 --> 00:07:15,120
yeah sure so as I mentioned before one

162
00:07:18,890 --> 00:07:17,160
of the unique features of the series 230

163
00:07:21,050 --> 00:07:18,900

plus vehicle is that there is the

164
00:07:23,990 --> 00:07:21,060
ability to do a late cargo low 24 hours

165
00:07:25,610 --> 00:07:24,000
before launch the vehicle has a pop-top

166
00:07:27,950 --> 00:07:25,620
earring with a nose of the rocket is

167
00:07:29,749 --> 00:07:27,960
able to be removed North program has

168
00:07:31,490 --> 00:07:29,759
also built a new specialized ground

169
00:07:33,469 --> 00:07:31,500
support equipment that allows us to take

170
00:07:35,270 --> 00:07:33,479
the vehicle from vertical like you see

171
00:07:38,450 --> 00:07:35,280
it out the pad and take it back

172
00:07:41,330 --> 00:07:38,460
horizontal which we did previously

173
00:07:43,189 --> 00:07:41,340
actually last night so this allows us to

174
00:07:44,869 --> 00:07:43,199
drive what we call a mobile clean room

175
00:07:46,610 --> 00:07:44,879
right up to the people deferring where

176
00:07:48,529 --> 00:07:46,620
we are able to remove the pop top

177
00:07:51,589 --> 00:07:48,539
bearing and load times consider research

178
00:07:53,450 --> 00:07:51,599
experiments and other perishable items

179
00:07:54,950 --> 00:07:53,460
that National used to provide 24 hours

180
00:07:56,930 --> 00:07:54,960
before launch

181
00:07:58,309 --> 00:07:56,940
and so with all this talk about cargo

182
00:08:00,650 --> 00:07:58,319
the interior of the vehicle is carrying

183
00:08:02,809 --> 00:08:00,660
approximately a little over 8 200 pounds

184
00:08:04,790 --> 00:08:02,819
of cargo to the space station aboard the

185
00:08:06,890 --> 00:08:04,800
sigma spacecraft today which is actually

186
00:08:09,290 --> 00:08:06,900
our largest resupply to date so we're

187
00:08:10,969 --> 00:08:09,300
very excited about that and we are

188
00:08:13,189 --> 00:08:10,979

Northrop grammar we're we're really

189
00:08:15,710 --> 00:08:13,199
proud of our entry 230 plus rocket and

190
00:08:17,510 --> 00:08:15,720
the Cigna spacecraft and we're dedicated

191
00:08:19,189 --> 00:08:17,520
to to continue to providing the best

192
00:08:21,650 --> 00:08:19,199
value for a customer in support of the

193
00:08:23,629 --> 00:08:21,660
critical mission

194
00:08:25,309 --> 00:08:23,639
and just going off of that Antares in

195
00:08:26,930 --> 00:08:25,319
cygnus have now been part of the chain

196
00:08:28,969 --> 00:08:26,940
of resupply for the International Space

197
00:08:30,830 --> 00:08:28,979
Station for several years now how

198
00:08:33,589 --> 00:08:30,840
crucial has Northrop grumman's role been

199
00:08:35,389 --> 00:08:33,599
in contributing to that

200
00:08:37,009 --> 00:08:35,399
so Northrop Grumman has played a

201
00:08:38,810 --> 00:08:37,019
critical role in keeping the

202
00:08:41,750 --> 00:08:38,820
International Space Station operational

203
00:08:43,730 --> 00:08:41,760
since 2013 and this was apparent with

204
00:08:45,350 --> 00:08:43,740
NASA awarding our program in two

205
00:08:48,050 --> 00:08:45,360
additional commercial resupply missions

206
00:08:50,750 --> 00:08:48,060
to continue to deliver cargo is such a

207
00:08:53,509 --> 00:08:50,760
food Hardware science experiments and

208
00:08:55,490 --> 00:08:53,519
other necessities and samus's unique and

209
00:08:57,230 --> 00:08:55,500
affidability carry away large amounts of

210
00:09:00,050 --> 00:08:57,240
pressurized cargo and critical function

211
00:09:02,090 --> 00:09:00,060
for NASA and the crew aboard the ISS

212
00:09:04,070 --> 00:09:02,100
with these additional awarded flights to

213
00:09:06,650 --> 00:09:04,080

the orbiting laboratory you know nothing

214
00:09:08,449 --> 00:09:06,660
from local provides services both NASA

215
00:09:10,310 --> 00:09:08,459
and our commercial Partners to continue

216
00:09:12,650 --> 00:09:10,320
to use cignos not as just the cargo

217
00:09:14,509 --> 00:09:12,660
delivery and disposable vehicle but also

218
00:09:16,790 --> 00:09:14,519
as a platform for Science and Technology

219
00:09:19,310 --> 00:09:16,800
research and development opportunities

220
00:09:21,170 --> 00:09:19,320
nothing and since 2013 Northrop Grumman

221
00:09:23,210 --> 00:09:21,180
has been accepted and reliable partner

222
00:09:25,310 --> 00:09:23,220
to NASA and we look forward to this

223
00:09:27,650 --> 00:09:25,320
continued partnership into the future so

224
00:09:29,269 --> 00:09:27,660
when you go to activate arm enable

225
00:09:31,389 --> 00:09:29,279
and now teams have been running through

226
00:09:33,889 --> 00:09:31,399
some pre-launch Milestones today and

227
00:09:35,630 --> 00:09:33,899
they'll continue to run through those

228
00:09:38,889 --> 00:09:35,640
through launch can you tell us a little

229
00:09:40,910 --> 00:09:38,899
bit more about the fueling process

230
00:09:42,170 --> 00:09:40,920
yeah so

231
00:09:45,290 --> 00:09:42,180
um

232
00:09:48,710 --> 00:09:45,300
assets actually

233
00:09:50,509 --> 00:09:48,720
um so when Ontario will have a stage of

234
00:09:53,389 --> 00:09:50,519
recognition at q0 and we'll lift off

235
00:09:55,850 --> 00:09:53,399
shortly after the main engines will burn

236
00:09:57,769 --> 00:09:55,860
off for approximately 200 seconds and

237
00:10:00,290 --> 00:09:57,779
that will get us to main engine cutoff

238
00:10:01,970 --> 00:10:00,300

which we call Mikko and then once we get

239
00:10:04,009 --> 00:10:01,980
to Mikko we'll go into a short coach

240
00:10:06,110 --> 00:10:04,019
right before we separate stage one from

241
00:10:08,150 --> 00:10:06,120
stage two which we call the upper stack

242
00:10:10,069 --> 00:10:08,160
portion of it carries

243
00:10:12,050 --> 00:10:10,079
um we'll continue to close a little bit

244
00:10:13,490 --> 00:10:12,060
longer about 30 seconds before fairing

245
00:10:16,009 --> 00:10:13,500
separation and then we'll have an

246
00:10:18,230 --> 00:10:16,019
internal separation for the stage two

247
00:10:19,970 --> 00:10:18,240
flies out of the external upper stack so

248
00:10:22,250 --> 00:10:19,980
once stage two is completed the upper

249
00:10:23,509 --> 00:10:22,260
stack the stage two ignites for a two

250
00:10:25,670 --> 00:10:23,519
and a half minute burn that puts the

251
00:10:27,829 --> 00:10:25,680
initial close to their orbit and then

252
00:10:28,730 --> 00:10:27,839
we'll close the and then stimulus will

253
00:10:30,829 --> 00:10:28,740
close a little bit to ensure

254
00:10:32,569 --> 00:10:30,839
everything's stable and then too much

255
00:10:34,790 --> 00:10:32,579
will be released into the desired orbit

256
00:10:36,230 --> 00:10:34,800
so after your service is really so go

257
00:10:38,030 --> 00:10:36,240
through comp checks and then about an

258
00:10:39,650 --> 00:10:38,040
hour or so after we separate signals

259
00:10:41,810 --> 00:10:39,660
will release a solar arrays and be on

260
00:10:43,970 --> 00:10:41,820
its way to a National Space Station and

261
00:10:45,230 --> 00:10:43,980
I believe you at Nasa you guys also

262
00:10:46,850 --> 00:10:45,240
showed the solar wind deployment

263
00:10:48,470 --> 00:10:46,860

sometimes so you guys all might get to

264
00:10:50,329 --> 00:10:48,480
see it again later

265
00:10:52,970 --> 00:10:50,339
um but in summary it takes approximating

266
00:10:55,550 --> 00:10:52,980
this nine minutes to get to orbit so

267
00:10:57,530 --> 00:10:55,560
it's a it takes some time but it is

268
00:10:59,329 --> 00:10:57,540
pretty fast

269
00:11:00,769 --> 00:10:59,339
well Christina we're looking forward to

270
00:11:02,210 --> 00:11:00,779
welcoming cygnus aboard the

271
00:11:03,590 --> 00:11:02,220
International Space Station and of

272
00:11:05,269 --> 00:11:03,600
course we'll have you back to join us

273
00:11:08,210 --> 00:11:05,279
after launch as well so do you have any

274
00:11:10,310 --> 00:11:08,220
final words before launch today

275
00:11:12,590 --> 00:11:10,320
uh no I don't go and Terry you can go

276
00:11:14,569 --> 00:11:12,600
cygnus

277
00:11:16,370 --> 00:11:14,579
all right thanks Christina you just

278
00:11:18,650 --> 00:11:16,380
heard from Northrop Grumman

279
00:11:21,230 --> 00:11:18,660
our Antares system engineering program

280
00:11:22,910 --> 00:11:21,240
manager Christina halona stay tuned

281
00:11:24,889 --> 00:11:22,920
after launch for a post-launch interview

282
00:11:27,110 --> 00:11:24,899
with Christina again and an interview

283
00:11:30,590 --> 00:11:27,120
with Jeff Aaron NASA's systems

284
00:11:32,509 --> 00:11:30,600
engineering integration office manager

285
00:11:34,490 --> 00:11:32,519
again mostly sunny skies for launch

286
00:11:36,230 --> 00:11:34,500
today back at the Mid-Atlantic Regional

287
00:11:37,970 --> 00:11:36,240
Spaceport and NASA's Wallops Flight

288
00:11:40,310 --> 00:11:37,980

Facility in Virginia and temperatures

289
00:12:13,190 --> 00:11:40,320
are now about 83 degrees Fahrenheit at

290
00:12:13,200 --> 00:12:24,889
foreign

291
00:12:29,810 --> 00:12:27,050
again going up on sickness today is more

292
00:12:32,150 --> 00:12:29,820
than 8 200 pounds of research crew

293
00:12:34,970 --> 00:12:32,160
Supplies and Hardware which is cygnus's

294
00:12:38,990 --> 00:12:34,980
heaviest load to date within that cargo

295
00:12:41,750 --> 00:12:39,000
is 3078 pounds of crew supplies 2 346

296
00:12:43,810 --> 00:12:41,760
pounds of science investigations 33

297
00:12:47,210 --> 00:12:43,820
pounds of spacewalk equipment

298
00:12:50,150 --> 00:12:47,220
2286 pounds of vehicle hardware and 98

299
00:12:51,829 --> 00:12:50,160
pounds of Computer Resources cygnus will

300
00:12:53,629 --> 00:12:51,839
also carry a new mounting bracket that

301
00:12:55,670 --> 00:12:53,639
astronauts will attach to the port side

302
00:12:57,350 --> 00:12:55,680
of the station's backbone trust during a

303
00:12:59,389 --> 00:12:57,360
spacewalk planned for later this month

304
00:13:02,329 --> 00:12:59,399
the mounting bracket will enable the

305
00:13:04,670 --> 00:13:02,339
installation of the next pair of irosa

306
00:13:05,990 --> 00:13:04,680
solar arrays at a later date now let's

307
00:13:07,790 --> 00:13:06,000
take a quick look at some of the

308
00:13:10,190 --> 00:13:07,800
scientific investigations traveling to

309
00:13:11,450 --> 00:13:10,200
the space station on this mission

310
00:13:32,780 --> 00:13:11,460
foreign

311
00:13:48,770 --> 00:13:46,189
[Music]

312
00:14:55,610 --> 00:13:48,780
foreign

313
00:14:57,470 --> 00:14:55,620

[Music]

314
00:14:59,150 --> 00:14:57,480
for that 3D and of course it's always

315
00:15:00,769 --> 00:14:59,160
exciting for the crew to receive new

316
00:15:02,930 --> 00:15:00,779
experiments but they'll also have some

317
00:15:04,490 --> 00:15:02,940
extra goodies arriving also flying on

318
00:15:06,650 --> 00:15:04,500
cygnus today are some treats for the

319
00:15:09,110 --> 00:15:06,660
crew just to name a few the crew will be

320
00:15:23,329 --> 00:15:09,120
receiving apples Tomatoes kiwis Pizza

321
00:15:27,949 --> 00:15:25,730
coming up on 15 minutes from launch

322
00:15:30,949 --> 00:15:27,959
today all systems are still on track for

323
00:15:34,009 --> 00:15:30,959
an on-time launch today at 501 and 5

324
00:15:37,009 --> 00:15:34,019
Seconds PM Central Time 601 in 5 seconds

325
00:15:43,910 --> 00:15:37,019
PM Eastern Time status of trajectory

326
00:15:48,710 --> 00:15:47,269
LC TNC one trajectory files does not

327
00:15:51,230 --> 00:15:48,720
require an update

328
00:15:55,610 --> 00:15:51,240
copy that we'll check 403

329
00:16:02,030 --> 00:15:55,620
and Ops 1 404 not required today 405 not

330
00:16:08,269 --> 00:16:05,810
and core 1lc countdown one yeah LCL uh

331
00:16:09,829 --> 00:16:08,279
step 394 for you fuel level does not

332
00:16:14,749 --> 00:16:09,839
require adjustment

333
00:16:16,890 --> 00:16:14,759
Roger that prop 2 Step 395 arm OCC occs

334
00:16:22,009 --> 00:16:16,900
for no adjustment at your level

335
00:16:22,019 --> 00:16:29,030
if you see confirmed copy check 395 396.

336
00:16:34,610 --> 00:16:31,550
and OCC has configured for no adjustment

337
00:16:37,449 --> 00:16:34,620
to fuel level check 397 admin be advised

338
00:16:40,740 --> 00:16:37,459

up 38 398 not required

339
00:16:46,370 --> 00:16:40,750
step 399 not required

340
00:16:50,810 --> 00:16:48,230
and launch team we're coming up on

341
00:16:52,670 --> 00:16:50,820
T-minus 14 minutes we'll be polling for

342
00:16:55,140 --> 00:16:52,680
our final countdown in about a minute

343
00:17:10,610 --> 00:17:09,230
[Music]

344
00:17:12,829 --> 00:17:10,620
just to highlight some upcoming

345
00:17:14,630 --> 00:17:12,839
Milestones about 12 minutes from launch

346
00:17:16,130 --> 00:17:14,640
flight controllers will conduct a poll

347
00:17:18,409 --> 00:17:16,140
to proceed with the final launch

348
00:17:19,789 --> 00:17:18,419
countdown in about five minutes from

349
00:17:22,370 --> 00:17:19,799
launch the vehicle will switch to

350
00:17:24,289 --> 00:17:22,380
internal power then just about 3 minutes

351
00:17:26,329 --> 00:17:24,299
and 30 seconds before launch Auto

352
00:17:27,949 --> 00:17:26,339
sequence handoff for terminal countdown

353
00:17:30,169 --> 00:17:27,959
will be initiated and that will Mark the

354
00:17:37,930 --> 00:17:30,179
time the computers take over for the

355
00:17:41,330 --> 00:17:40,130
high pressure

356
00:17:42,650 --> 00:17:41,340
stand by CMD

357
00:17:45,650 --> 00:17:42,660
[Music]

358
00:17:52,730 --> 00:17:45,660
the constraints will be waived

359
00:17:57,650 --> 00:17:55,789
and go ahead to CMD

360
00:17:59,690 --> 00:17:57,660
yeah CNBC this isn't launch voted

361
00:18:10,130 --> 00:17:59,700
nominal all right yeah we'll check 407

362
00:18:20,210 --> 00:18:13,430
and loss team LC on countdown one with

363
00:18:20,220 --> 00:18:24,409

RSL

364
00:18:28,970 --> 00:18:27,529
all right so let's go TV TV's go

365
00:18:31,000 --> 00:18:28,980
probably

366
00:18:34,070 --> 00:18:31,010
still stage one

367
00:18:36,169 --> 00:18:34,080
[Music]

368
00:18:44,870 --> 00:18:36,179
stand by you'll see

369
00:18:44,880 --> 00:18:48,470
s go all right

370
00:18:52,970 --> 00:18:50,510
Aces go

371
00:18:56,029 --> 00:18:52,980
Mars Mars let's go

372
00:18:57,350 --> 00:18:56,039
CMD CMD is go

373
00:18:58,909 --> 00:18:57,360
nld

374
00:19:00,250 --> 00:18:58,919
I'd like to hear from stage one first

375
00:19:05,390 --> 00:19:00,260
yeah

376
00:19:07,310 --> 00:19:05,400
stage one let's go LDS go Ng

377
00:19:09,590 --> 00:19:07,320
Northrop Grumman is proud to honor

378
00:19:13,430 --> 00:19:09,600
accomplished NASA astronaut in the first

379
00:19:15,470 --> 00:19:13,440
Asian American space Ellison onuzuka in

380
00:19:17,390 --> 00:19:15,480
our current challenging times reflect on

381
00:19:19,549 --> 00:19:17,400
Ellison's inspirational words

382
00:19:21,110 --> 00:19:19,559
the people that make the world run whose

383
00:19:22,909 --> 00:19:21,120
names will go down in the history books

384
00:19:25,070 --> 00:19:22,919
are not the cynics the critics or the

385
00:19:27,409 --> 00:19:25,080
armchair quarterbacks they are the

386
00:19:29,510 --> 00:19:27,419
adventurists the explorers and the doers

387
00:19:31,070 --> 00:19:29,520
of the World when they see a wrong word

388
00:19:32,270 --> 00:19:31,080

problem they do something about it when

389
00:19:35,090 --> 00:19:32,280
they see it they can place in our

390
00:19:37,010 --> 00:19:35,100
knowledge they work to fill the void and

391
00:19:40,850 --> 00:19:37,020
today we will do just that

392
00:19:44,150 --> 00:19:40,860
Aloha to the SS Ellison onazuka Northrop

393
00:19:46,010 --> 00:19:44,160
Grumman is go for launch in a copy or go

394
00:19:49,130 --> 00:19:46,020
to proceed with Final Countdown check

395
00:19:51,770 --> 00:19:49,140
407 fly high Ethan

396
00:19:54,310 --> 00:19:51,780
Ops 2 Step 408 you're going to start

397
00:19:59,450 --> 00:19:54,320
engine evacuation

398
00:20:01,310 --> 00:19:59,460
and you just heard the poll to proceed

399
00:20:03,649 --> 00:20:01,320
with The Final Countdown to launch and

400
00:20:06,169 --> 00:20:03,659
all teams are polling a go and of course

401
00:20:17,590 --> 00:20:06,179
a tribute to Ellison onizuka who this

402
00:20:17,600 --> 00:20:22,950
thank you

403
00:20:22,960 --> 00:20:29,110
[Music]

404
00:20:33,049 --> 00:20:31,970
now coming up on 10 minutes away from

405
00:20:35,510 --> 00:20:33,059
launch and everything is still

406
00:20:39,169 --> 00:20:35,520
proceeding smoothly for launch at 501

407
00:20:43,669 --> 00:20:39,179
and 5 Seconds PM Central Time 601 and 5

408
00:20:59,090 --> 00:20:45,370
foreign

409
00:21:02,510 --> 00:21:00,770
once we get to that launch time today

410
00:21:04,730 --> 00:21:02,520
the first thing that will occur is the

411
00:21:06,590 --> 00:21:04,740
stage one ignition and you'll see lift

412
00:21:08,330 --> 00:21:06,600
off just a few seconds after that and

413
00:21:10,310 --> 00:21:08,340

those main two engines will burn for

414
00:21:12,649 --> 00:21:10,320
about 3 minutes and 18 seconds before

415
00:21:14,810 --> 00:21:12,659
cutting off and stage one will separate

416
00:21:16,490 --> 00:21:14,820
cygnus will Coast for a bit until

417
00:21:17,990 --> 00:21:16,500
fearing separation when the external

418
00:21:20,149 --> 00:21:18,000
cover that protects the spacecraft

419
00:21:21,649 --> 00:21:20,159
during launch will separate the

420
00:21:23,750 --> 00:21:21,659
interstage adapter that connects the

421
00:21:26,510 --> 00:21:23,760
first and second stages will separate at

422
00:21:28,610 --> 00:21:26,520
about four minutes into flight and then

423
00:21:30,529 --> 00:21:28,620
stage two ignition which is that solid

424
00:21:34,029 --> 00:21:30,539
rocket solid rocket fuel that will burn

425
00:21:36,590 --> 00:21:34,039
for 2 minutes and 45 seconds

426
00:21:37,850 --> 00:21:36,600
once the second stage burns out we'll be

427
00:21:39,950 --> 00:21:37,860
listening for a call of orbital

428
00:21:42,289 --> 00:21:39,960
insertion at 6 minutes and 52 seconds

429
00:21:44,149 --> 00:21:42,299
after launch the vehicle will cost for

430
00:21:46,250 --> 00:21:44,159
two minutes before cygnus separation at

431
00:21:48,049 --> 00:21:46,260
9 minutes and 9 seconds after liftoff

432
00:21:49,370 --> 00:21:48,059
and at the time of launch the

433
00:21:52,430 --> 00:21:49,380
International Space Station will be

434
00:21:56,590 --> 00:21:52,440
flying 260 statute miles over the

435
00:22:02,930 --> 00:21:59,390
command complete and a copy all check

436
00:22:08,690 --> 00:22:02,940
410 and check 411 still 412 not required

437
00:22:08,700 --> 00:22:14,350
foreign

438
00:22:18,950 --> 00:22:17,450

just about 8 minutes and 30 seconds to

439
00:22:20,690 --> 00:22:18,960
launch again that next Milestone we'll

440
00:22:22,850 --> 00:22:20,700
hear will be for the vehicle to be

441
00:22:46,909 --> 00:22:22,860
turned to internal power at five minutes

442
00:22:46,919 --> 00:22:52,560
and we're at K minus eight minutes

443
00:22:52,570 --> 00:22:56,590
[Applause]

444
00:23:05,830 --> 00:22:59,090
you can choose conditioning initiated

445
00:23:45,310 --> 00:23:15,720
[Music]

446
00:23:45,320 --> 00:23:51,050
passing T minus seven minutes

447
00:23:51,060 --> 00:23:54,529
[Music]

448
00:23:57,830 --> 00:23:56,450
now inside seven minutes you've been

449
00:23:59,690 --> 00:23:57,840
hearing teams running through some of

450
00:24:02,210 --> 00:23:59,700
these final milestones and the internal

451
00:24:03,950 --> 00:24:02,220
power has been activated again it'll be

452
00:24:06,350 --> 00:24:03,960
switched over to internal power at the

453
00:24:08,450 --> 00:24:06,360
five minute Mark and when you come back

454
00:24:11,470 --> 00:24:08,460
up in four minutes will you be uh ready

455
00:24:16,070 --> 00:24:13,310
standby

456
00:24:19,250 --> 00:24:16,080
okay copy that

457
00:24:22,070 --> 00:24:19,260
LC prop lead cpso activation verified

458
00:24:25,730 --> 00:24:22,080
Roger that check 414 Ops 2 initialize

459
00:24:30,649 --> 00:24:27,769
healthy altitude ground ordinance power

460
00:24:33,169 --> 00:24:30,659
supplies in each life

461
00:25:05,870 --> 00:24:33,179
got another Fire Supplies

462
00:25:11,630 --> 00:25:09,529
LC fight control FBA ECS transfer to gn2

463
00:25:46,310 --> 00:25:11,640

confirmed copy that side control check

464
00:25:51,230 --> 00:25:49,130
T minus five minutes up to you go to

465
00:25:53,990 --> 00:25:51,240
initiate engine priming

466
00:25:56,149 --> 00:25:54,000
engine priming started

467
00:25:57,710 --> 00:25:56,159
apps one transfer avionics to internal

468
00:26:12,590 --> 00:25:57,720
power

469
00:26:17,029 --> 00:26:15,710
intern fire is nominal Ops one open FPS

470
00:26:23,330 --> 00:26:17,039
zombie Loop

471
00:26:26,870 --> 00:26:25,070
you just heard those calls to initiate

472
00:26:29,930 --> 00:26:26,880
internal power for the vehicle so

473
00:26:31,909 --> 00:26:29,940
internal power is now on and all systems

474
00:26:35,090 --> 00:26:31,919
are still proceeding on track for launch

475
00:26:35,930 --> 00:26:35,100
just four minutes from now three two one

476
00:26:37,789 --> 00:26:35,940
mark

477
00:26:40,430 --> 00:26:37,799
command sent

478
00:26:47,210 --> 00:26:40,440
SMS odn's alarm

479
00:26:47,220 --> 00:27:00,350
T minus four minutes

480
00:27:13,010 --> 00:27:04,370
lcmes One Step 426 priming verify copy

481
00:27:20,450 --> 00:27:17,210
and TV at Wayfair report on rain status

482
00:27:23,029 --> 00:27:20,460
of ctd we are Green Copy range green

483
00:27:25,730 --> 00:27:23,039
check 425

484
00:27:28,370 --> 00:27:25,740
step 427 not required

485
00:27:40,130 --> 00:27:28,380
phase three Dynamic limits uh will be

486
00:27:50,029 --> 00:27:42,529
if the commanded deflate mode

487
00:27:50,039 --> 00:27:55,310
Auto sequence start

488
00:28:00,169 --> 00:27:58,130

lctd we're agreed for all sets of green

489
00:28:03,350 --> 00:28:00,179
for all sodium bus voltages and currents

490
00:28:06,350 --> 00:28:03,360
nominal copy electron and I copy TD will

491
00:28:09,590 --> 00:28:06,360
check for 34 31 G and C1

492
00:28:11,630 --> 00:28:09,600
verify ready for nav mode LC GNC one

493
00:28:14,830 --> 00:28:11,640
we're never ready for now

494
00:28:17,930 --> 00:28:14,840
cops two step 433 switch to nav

495
00:28:19,669 --> 00:28:17,940
lcl2 Ford Mass push to navigate two

496
00:28:21,649 --> 00:28:19,679
minutes and 30 seconds to launch still

497
00:28:25,010 --> 00:28:21,659
counting down to that exact liftoff time

498
00:28:28,010 --> 00:28:25,020
at 501 and 5 Seconds PM Central Time 601

499
00:28:30,049 --> 00:28:28,020
in 5 seconds PM Eastern Time tanks will

500
00:28:31,909 --> 00:28:30,059
be pressurized at about the T minus 40

501
00:28:46,250 --> 00:28:31,919
seconds until liftoff and will be

502
00:29:17,450 --> 00:28:49,070
T minus two minutes

503
00:29:27,289 --> 00:29:20,149
passing through T minus one minute 30

504
00:29:27,299 --> 00:29:47,269
foreign

505
00:30:07,730 --> 00:29:49,190
minus one minute

506
00:30:07,740 --> 00:30:16,610
40 seconds until liftoff

507
00:30:26,570 --> 00:30:19,250
10 minus 30 seconds

508
00:30:26,580 --> 00:30:38,870
20 seconds to lift off

509
00:30:38,880 --> 00:30:44,210
T minus 10.

510
00:30:44,220 --> 00:30:53,269
five four three two one

511
00:30:57,889 --> 00:30:55,370
eight engine start

512
00:31:01,690 --> 00:30:57,899
and we have liftoff of the seven carries

513
00:31:07,970 --> 00:31:01,700

for 10g60s Missions Flight Facility

514
00:31:12,649 --> 00:31:11,090
the SS Ellison onizuka now on its way to

515
00:31:15,409 --> 00:31:12,659
the International Space Station to

516
00:31:22,490 --> 00:31:15,419
deliver more than 8 200 pounds of cargo

517
00:31:22,500 --> 00:31:28,290
and power substances are normal

518
00:31:39,350 --> 00:31:36,049
[Music]

519
00:31:45,810 --> 00:31:39,360
g16 all systems are nominal

520
00:31:45,820 --> 00:31:50,630
[Music]

521
00:31:54,049 --> 00:31:52,549
duration of stage one burn is

522
00:31:55,490 --> 00:31:54,059
approximately three minutes and 18

523
00:31:56,930 --> 00:31:55,500
seconds

524
00:31:58,310 --> 00:31:56,940
currently at

525
00:32:06,830 --> 00:31:58,320
65 seconds

526
00:32:11,029 --> 00:32:10,009
passing through 40 000 feet passing Max

527
00:32:12,830 --> 00:32:11,039
Q

528
00:32:18,830 --> 00:32:12,840
first stage now passing through the area

529
00:32:22,250 --> 00:32:20,509
again this first stage will burn for

530
00:32:24,169 --> 00:32:22,260
about 3 minutes and 18 seconds until

531
00:32:26,450 --> 00:32:24,179
main engine cut off

532
00:32:27,830 --> 00:32:26,460
all subsystems continue to perform as

533
00:32:37,250 --> 00:32:27,840
expected

534
00:32:37,260 --> 00:32:53,389
Mission time plus 110 seconds

535
00:32:58,430 --> 00:32:56,389
engines continue at 100 percent core

536
00:33:00,169 --> 00:32:58,440
pressure is nominal all vehicle

537
00:33:06,049 --> 00:33:00,179
subsystems nominal

538
00:33:22,269 --> 00:33:07,789

two minutes 20 seconds into flight

539
00:33:35,810 --> 00:33:25,430
attitude nominal all GNC performance as

540
00:33:44,169 --> 00:33:37,850
and Terry's performance continues

541
00:33:44,179 --> 00:33:48,529
Throttle Down to 80 percent

542
00:33:56,149 --> 00:33:50,029
throttling down three minutes into

543
00:33:56,159 --> 00:34:03,110
throttle down to 55 percent

544
00:34:03,120 --> 00:34:12,530
all systems nominal

545
00:34:12,540 --> 00:34:16,970
stage one Mikko

546
00:34:21,530 --> 00:34:19,490
we have main engine cutoff and Terry's

547
00:34:25,010 --> 00:34:21,540
entering into a co-stage standing by for

548
00:34:25,020 --> 00:34:38,629
stage one separation confirmed

549
00:34:47,510 --> 00:34:41,270
and Terriers is in Coast phase attitude

550
00:34:58,010 --> 00:34:49,369
fairing separation

551
00:34:58,020 --> 00:35:02,810
and we have stage two ignition

552
00:35:07,849 --> 00:35:04,970
stage two will burn for roughly two

553
00:35:15,170 --> 00:35:07,859
minutes and 30 seconds all systems

554
00:35:19,910 --> 00:35:17,930
stage two ignition is confirmed stage

555
00:35:21,910 --> 00:35:19,920
two is that solid rocket fuel that will

556
00:35:24,829 --> 00:35:21,920
burn for about 2 minutes and 45 seconds

557
00:35:29,210 --> 00:35:24,839
burnout will come at 6 minutes and 52

558
00:35:34,010 --> 00:35:31,190
and as we lose sight of the vehicle

559
00:35:35,930 --> 00:35:34,020
we're now switching to animation

560
00:35:51,650 --> 00:35:35,940
kilometers per second

561
00:35:55,970 --> 00:35:53,390
now five minutes into flight everything

562
00:35:59,650 --> 00:35:55,980
proceeding smoothly

563
00:36:21,410 --> 00:35:59,660

Steve earn continues all systems nominal

564
00:36:21,420 --> 00:36:38,510
stage two all systems are nominal

565
00:36:50,170 --> 00:36:40,609
approximately one minute the stage two

566
00:37:09,069 --> 00:36:54,050
altitude 170 kilometers all systems

567
00:37:37,430 --> 00:37:11,690
approximately 30 seconds to Stage 2

568
00:37:44,450 --> 00:37:41,569
stage 2 Burnout all systems nominal

569
00:37:46,430 --> 00:37:44,460
and Stage 2 Burnout is confirmed Coast

570
00:37:52,730 --> 00:37:46,440
for approximately two minutes till

571
00:38:06,410 --> 00:37:56,530
and teres is in orbit altitude nearly

572
00:38:29,329 --> 00:38:25,190
attitude nominal

573
00:38:31,730 --> 00:38:29,339
orient and prepare for spacecraft

574
00:38:45,770 --> 00:38:31,740
separation in a little more than one

575
00:38:45,780 --> 00:39:01,069
all subsystems nominal

576
00:39:01,079 --> 00:39:09,050
altitude 179 kilometers

577
00:39:14,030 --> 00:39:11,750
roughly 30 seconds to spacecraft

578
00:39:25,670 --> 00:39:14,040
separation

579
00:39:25,680 --> 00:39:45,109
attitude nominal

580
00:39:49,490 --> 00:39:48,230
and we have spacecraft separation go

581
00:39:51,710 --> 00:39:49,500
signals

582
00:39:53,690 --> 00:39:51,720
spacecraft separation confirmed and

583
00:39:56,150 --> 00:39:53,700
cygnus has separated from the second

584
00:39:57,650 --> 00:39:56,160
stage and Northrop Grumman teams now

585
00:40:01,250 --> 00:39:57,660
celebrating the confirmation of

586
00:40:03,890 --> 00:40:01,260
spacecraft spacecraft separation

587
00:40:06,410 --> 00:40:03,900
no fly-out calls are completed copy that

588
00:40:09,829 --> 00:40:06,420

uh Ace

589
00:40:12,170 --> 00:40:09,839
okay launch Team uh let's maintain uh

590
00:40:14,690 --> 00:40:12,180
protocol on station here we're in our

591
00:40:16,910 --> 00:40:14,700
post-launch checklist uh prop 1's

592
00:40:20,089 --> 00:40:16,920
already given us a step 444 false

593
00:40:23,089 --> 00:40:20,099
purging is in progress

594
00:40:28,730 --> 00:40:23,099
and GNC one I'll wait for your call on

595
00:40:28,740 --> 00:40:32,210
and a copy and work

596
00:40:37,490 --> 00:40:34,790
and site control step 446 you can remove

597
00:40:40,970 --> 00:40:37,500
app pay gn2 flow and reconfigure ECS to

598
00:40:45,410 --> 00:40:42,650
core one LC

599
00:40:48,230 --> 00:40:45,420
step 447 direct Personnel to power off

600
00:40:50,750 --> 00:40:48,240
the MS ground equipment and Report 1.0

601
00:40:52,130 --> 00:40:50,760
when complete yeah crocodile LC we'll

602
00:40:55,130 --> 00:40:52,140
get that in work once Personnel can

603
00:41:16,069 --> 00:40:55,140
return to the Lev yep copy that and uh

604
00:41:20,510 --> 00:41:18,290
with that confirmation of successful

605
00:41:21,770 --> 00:41:20,520
orbital insertion sickness is now on its

606
00:41:23,809 --> 00:41:21,780
way to the International Space Station

607
00:41:26,030 --> 00:41:23,819
where it will arrive in two days on

608
00:41:29,150 --> 00:41:26,040
Thursday August 12th to deliver more

609
00:41:30,890 --> 00:41:29,160
than 8 200 pounds of cargo back with us

610
00:41:32,569 --> 00:41:30,900
now from Northrop Grumman is Antares

611
00:41:35,089 --> 00:41:32,579
system engineering program manager

612
00:41:37,069 --> 00:41:35,099
Christina halona Christina what will the

613
00:41:39,349 --> 00:41:37,079

Northrop Grumman teams in Dulles do here

614
00:41:42,130 --> 00:41:39,359
on the ground between now until cygnus

615
00:41:44,809 --> 00:41:42,140
arrives to the space station

616
00:41:46,670 --> 00:41:44,819
yeah so the most recruitment teams in

617
00:41:48,170 --> 00:41:46,680
Dallas has a quite a few things that

618
00:41:50,750 --> 00:41:48,180
they'll be doing

619
00:41:53,150 --> 00:41:50,760
um so they operate the Cigna space graph

620
00:41:56,150 --> 00:41:53,160
um basically now now that we have been

621
00:41:57,530 --> 00:41:56,160
released from in Terry's rocket so from

622
00:42:00,050 --> 00:41:57,540
separation

623
00:42:01,849 --> 00:42:00,060
um to reach from basically from

624
00:42:03,290 --> 00:42:01,859
separation to destructive re-entry at

625
00:42:04,790 --> 00:42:03,300
the end of the mission

626
00:42:06,109 --> 00:42:04,800
um the doors team performs various

627
00:42:08,030 --> 00:42:06,119
operations

628
00:42:10,190 --> 00:42:08,040
um including you know initial vehicle

629
00:42:12,530 --> 00:42:10,200
configuration Towing assertion orbit

630
00:42:15,470 --> 00:42:12,540
which include priming the propulsion

631
00:42:17,089 --> 00:42:15,480
system they'll also have the solar array

632
00:42:19,550 --> 00:42:17,099
deployment as well that will be

633
00:42:22,130 --> 00:42:19,560
happening here with you soon here in

634
00:42:23,809 --> 00:42:22,140
about an hour hour and a half and then

635
00:42:26,089 --> 00:42:23,819
they'll be planning and executing

636
00:42:28,210 --> 00:42:26,099
various Maneuvers to change cygnus's

637
00:42:30,829 --> 00:42:28,220
orbit to Rendezvous to the ISS so

638
00:42:33,950 --> 00:42:30,839

that'll be continually changing um

639
00:42:36,050 --> 00:42:33,960
throughout their Maneuvers to get to the

640
00:42:38,329 --> 00:42:36,060
um laboratory and then there's also

641
00:42:40,550 --> 00:42:38,339
vehicle system checkout so will continue

642
00:42:43,010 --> 00:42:40,560
to monitor the spacecraft as well to

643
00:42:45,050 --> 00:42:43,020
make sure it's healthy and everything is

644
00:42:47,030 --> 00:42:45,060
looking great onto on the on the

645
00:42:48,650 --> 00:42:47,040
spacecraft and then at the end I'll

646
00:42:50,630 --> 00:42:48,660
finally perform vehicle configurations

647
00:42:53,030 --> 00:42:50,640
to perform the final Rendezvous as they

648
00:42:56,450 --> 00:42:53,040
arrive to the ISS

649
00:42:58,309 --> 00:42:56,460
a again looking forward to cygnus

650
00:43:00,230 --> 00:42:58,319
departure in November cygnus will

651
00:43:02,270 --> 00:43:00,240
perform some secondary operations can

652
00:43:05,030 --> 00:43:02,280
you go over some of those

653
00:43:07,190 --> 00:43:05,040
yeah so cygnus actually has two

654
00:43:10,490 --> 00:43:07,200
secondary mission objectives for this

655
00:43:12,430 --> 00:43:10,500
ng-16 mission after it departs from the

656
00:43:15,050 --> 00:43:12,440
International Space Station

657
00:43:18,170 --> 00:43:15,060
there's one that is a passive payload

658
00:43:20,510 --> 00:43:18,180
from NASA called crippy and it stands

659
00:43:22,550 --> 00:43:20,520
for Kentucky Kentucky re-entry probe

660
00:43:24,230 --> 00:43:22,560
experiment and the payload will be

661
00:43:26,210 --> 00:43:24,240
loaded into the pressurized volume of

662
00:43:29,030 --> 00:43:26,220
the signals with the Disposable cargo

663
00:43:31,069 --> 00:43:29,040

items and then the other payload is

664
00:43:33,650 --> 00:43:31,079
purple which is short for Prototype

665
00:43:35,510 --> 00:43:33,660
referred payload purple is a Norfolk

666
00:43:37,790 --> 00:43:35,520
women built payload and will be tested

667
00:43:41,150 --> 00:43:37,800
and calibrated on while cignus's birth

668
00:43:43,069 --> 00:43:41,160
to the ISS and uh the purple payload

669
00:43:44,870 --> 00:43:43,079
actually requires 23 days of operations

670
00:43:47,510 --> 00:43:44,880
following departure to perform data

671
00:43:49,609 --> 00:43:47,520
Collections and data downlinks so we

672
00:43:51,770 --> 00:43:49,619
still have those two missions to

673
00:43:54,170 --> 00:43:51,780
complete um after we are on birth from

674
00:43:57,829 --> 00:43:54,180
the ISS so cygnus has a lot of work of

675
00:43:59,870 --> 00:43:57,839
it and head and tell here in November

676
00:44:02,089 --> 00:43:59,880
thanks Christina again we are looking

677
00:44:03,710 --> 00:44:02,099
forward to welcoming cygnus to the

678
00:44:07,849 --> 00:44:03,720
International Space Station and thanks

679
00:44:07,859 --> 00:44:12,109
of course thank you

680
00:44:16,069 --> 00:44:14,390
and now joining us is NASA systems

681
00:44:18,530 --> 00:44:16,079
engineering integration office manager

682
00:44:20,450 --> 00:44:18,540
Jeff Aaron Jeff how important are these

683
00:44:23,210 --> 00:44:20,460
resupply missions in terms of the

684
00:44:24,890 --> 00:44:23,220
continuing resupply of this station and

685
00:44:26,270 --> 00:44:24,900
the science they deliver to the crew on

686
00:44:28,910 --> 00:44:26,280
board

687
00:44:31,010 --> 00:44:28,920
uh these uh so I guess first off hi

688
00:44:32,930 --> 00:44:31,020

Courtney but these uh commercial

689
00:44:35,150 --> 00:44:32,940
resupply missions are very important to

690
00:44:38,690 --> 00:44:35,160
continue the advancing science on board

691
00:44:40,069 --> 00:44:38,700
the station over 3 000 experiments have

692
00:44:42,530 --> 00:44:40,079
been conducted during the station's

693
00:44:45,290 --> 00:44:42,540
lifetime which we're now coming up on 21

694
00:44:47,930 --> 00:44:45,300
years of continuous human presence

695
00:44:50,329 --> 00:44:47,940
on this flight cygnus is packed with

696
00:44:52,550 --> 00:44:50,339
more than 3 700 kilos of supplies

697
00:44:53,630 --> 00:44:52,560
research technology demonstrations and

698
00:44:56,030 --> 00:44:53,640
Hardware

699
00:44:58,069 --> 00:44:56,040
in the tech demo category

700
00:45:00,589 --> 00:44:58,079
um we're really excited to add the four

701
00:45:02,510 --> 00:45:00,599
bed CO2 scrubber it's an upgraded

702
00:45:05,210 --> 00:45:02,520
version of Seadra which is our primary

703
00:45:07,430 --> 00:45:05,220
CO2 removal system on board

704
00:45:09,650 --> 00:45:07,440
and for Hardware upgrades we're equally

705
00:45:11,870 --> 00:45:09,660
excited to be flying the third irosa mod

706
00:45:16,910 --> 00:45:11,880
kit which will enable a future Solar Ray

707
00:45:21,589 --> 00:45:19,309
all right and what's ahead for the crew

708
00:45:25,490 --> 00:45:21,599
on station one cygnus arrives in terms

709
00:45:28,250 --> 00:45:25,500
of capture cargo operations and science

710
00:45:29,990 --> 00:45:28,260
so the cygnus price craft will arrive at

711
00:45:32,630 --> 00:45:30,000
space station in a couple days Thursday

712
00:45:34,309 --> 00:45:32,640
August 12th at approximately 5 10

713
00:45:36,829 --> 00:45:34,319

Central Time

714
00:45:38,690 --> 00:45:36,839
NASA astronaut Megan MacArthur will be

715
00:45:41,210 --> 00:45:38,700
primed to capture the spacecraft with

716
00:45:43,849 --> 00:45:41,220
the Canada arm 2 and she's backed up by

717
00:45:45,109 --> 00:45:43,859
Issa astronaut Tomah peskay

718
00:45:46,790 --> 00:45:45,119
the following capture the flight

719
00:45:48,349 --> 00:45:46,800
controllers in Houston will command the

720
00:45:50,510 --> 00:45:48,359
installation of cygnus on the

721
00:45:53,329 --> 00:45:50,520
earth-facing side of the unity module

722
00:45:54,290 --> 00:45:53,339
will it remain for about about three

723
00:45:56,809 --> 00:45:54,300
months

724
00:45:58,970 --> 00:45:56,819
the crew will stay busy unpacking and

725
00:46:00,950 --> 00:45:58,980
conducting these research activities

726
00:46:03,530 --> 00:46:00,960
uh with uh

727
00:46:05,630 --> 00:46:03,540
with the first cell of the first several

728
00:46:08,210 --> 00:46:05,640
days being extremely critical for

729
00:46:09,730 --> 00:46:08,220
several experiments uh the ones in

730
00:46:12,770 --> 00:46:09,740
particular are cardinal muscle

731
00:46:14,450 --> 00:46:12,780
anti-atrophy and cell gravisen

732
00:46:16,670 --> 00:46:14,460
the crew will also be preparing for a

733
00:46:19,250 --> 00:46:16,680
future spacewalk to install the mod kit

734
00:46:21,770 --> 00:46:19,260
on the P4 truss to prepare the station

735
00:46:22,970 --> 00:46:21,780
for that future Solar Ray upgrade that I

736
00:46:25,130 --> 00:46:22,980
mentioned earlier

737
00:46:27,230 --> 00:46:25,140
in addition to upgrading the ISS power

738
00:46:29,630 --> 00:46:27,240

these arrays are also helping us prove

739
00:46:31,550 --> 00:46:29,640
the solar rate technology that will be

740
00:46:34,190 --> 00:46:31,560
used on the Gateway around the Moon with

741
00:46:37,569 --> 00:46:34,200
the Artemis program so overall very very

742
00:46:41,630 --> 00:46:40,250
exciting indeed Jeff as always thanks

743
00:46:43,490 --> 00:46:41,640
for your time and thanks for joining us

744
00:47:26,109 --> 00:46:43,500
today yeah appreciate it Courtney thank

745
00:47:31,309 --> 00:47:28,790
recapping some Milestones today the

746
00:47:32,870 --> 00:47:31,319
launch time today was moved to the back

747
00:47:34,069 --> 00:47:32,880
of the launch window after teams

748
00:47:36,170 --> 00:47:34,079
detected an apparent helium

749
00:47:38,089 --> 00:47:36,180
pressurization valve leak on the vehicle

750
00:47:40,010 --> 00:47:38,099
the issue was quickly resolved and

751
00:47:41,210 --> 00:47:40,020
cygnus lifted off from NASA's Wallops

752
00:47:43,609 --> 00:47:41,220
Flight Facility in Wallops Island

753
00:47:47,569 --> 00:47:43,619
Virginia at the Mid-Atlantic Regional

754
00:47:50,329 --> 00:47:47,579
Spaceport pad 0a on time at 501 and 5

755
00:47:52,730 --> 00:47:50,339
Seconds PM Central Time 6 01 in 5

756
00:47:53,870 --> 00:47:52,740
seconds PM eastern time to begin its

757
00:47:55,370 --> 00:47:53,880
Journey to the International Space

758
00:47:58,190 --> 00:47:55,380
Station where it will deliver more than

759
00:47:59,510 --> 00:47:58,200
8 200 pounds of research crew Supplies

760
00:48:00,829 --> 00:47:59,520
and Hardware

761
00:48:03,589 --> 00:48:00,839
at the time of launch the International

762
00:48:08,329 --> 00:48:03,599
Space Station was flying 260 statute

763
00:48:13,490 --> 00:48:10,430

Solar Ray deploy is expected to occur

764
00:48:16,130 --> 00:48:13,500
about 1 hour and 14 minutes after launch

765
00:48:17,930 --> 00:48:16,140
So within the next hour if all goes as

766
00:48:19,309 --> 00:48:17,940
planned cygnus will complete its solar

767
00:48:21,589 --> 00:48:19,319
array deployment which will take about

768
00:48:23,329 --> 00:48:21,599
30 minutes we will not be on air for

769
00:48:24,770 --> 00:48:23,339
that Milestone but once that activity is

770
00:48:29,690 --> 00:48:24,780
complete we will update the station

771
00:48:33,109 --> 00:48:31,790
with cygnus now on its way to the

772
00:48:35,150 --> 00:48:33,119
International Space Station we hope

773
00:48:36,650 --> 00:48:35,160
you'll join us back on air when cygnus

774
00:48:39,049 --> 00:48:36,660
arrives to the station in the early

775
00:48:40,609 --> 00:48:39,059
morning on Thursday August 12th NASA

776
00:48:43,010 --> 00:48:40,619
Television coverage for cygnus arrival

777
00:48:46,549 --> 00:48:43,020
and capture will begin at 3 45 a.m

778
00:48:49,430 --> 00:48:46,559
Central Time 4 45 a.m eastern time for

779
00:48:51,890 --> 00:48:49,440
capture around 5 10 a.m Central Time 6

780
00:48:54,290 --> 00:48:51,900
10 a.m eastern time and then we'll be

781
00:48:55,910 --> 00:48:54,300
back on air at 7 A.M Central 8 A.M

782
00:48:58,730 --> 00:48:55,920
Eastern for cygnus installation

783
00:49:01,309 --> 00:48:58,740
operations coverage

784
00:49:02,809 --> 00:49:01,319
with cygnus now on its way to the

785
00:49:05,390 --> 00:49:02,819
International Space Station to deliver

786
00:49:07,309 --> 00:49:05,400
more than 8 200 pounds of cargo that'll