
#NASASocial

1
00:00:09,110 --> 00:00:06,309
good evening welcome to the post-launch

2
00:00:11,110 --> 00:00:09,120
news conference for orbital atk's six

3
00:00:12,470 --> 00:00:11,120
resupply mission to the international

4
00:00:14,230 --> 00:00:12,480
space station

5
00:00:15,430 --> 00:00:14,240
under nasa's commercial resupply

6
00:00:17,910 --> 00:00:15,440
contract

7
00:00:19,830 --> 00:00:17,920
the cygnus spacecraft is on its way to

8
00:00:23,349 --> 00:00:19,840
the space station this evening the

9
00:00:25,910 --> 00:00:23,359
antares rocket lifted off today at 7 45

10
00:00:27,910 --> 00:00:25,920
pm eastern time from the mid-atlantic

11
00:00:30,870 --> 00:00:27,920
regional space port

12
00:00:33,030 --> 00:00:30,880
launch pad 0a here at nasa wallops

13
00:00:35,350 --> 00:00:33,040

flight facility in virginia

14
00:00:37,910 --> 00:00:35,360
the cygnus is scheduled to arrive at the

15
00:00:41,270 --> 00:00:37,920
space station on sunday october 23rd

16
00:00:44,310 --> 00:00:41,280
with about 5 100 pounds of scientific

17
00:00:45,830 --> 00:00:44,320
research and other cargo for the crew

18
00:00:48,150 --> 00:00:45,840
joining us here at wallops flight

19
00:00:50,790 --> 00:00:48,160
facility are two people who will give us

20
00:00:53,270 --> 00:00:50,800
the latest status update on the mission

21
00:00:55,189 --> 00:00:53,280
joe multibano deputy manager for the

22
00:00:58,310 --> 00:00:55,199
international space station program at

23
00:01:00,549 --> 00:00:58,320
nasa's johnson space center in houston

24
00:01:03,430 --> 00:01:00,559
and frank culbertson president of the

25
00:01:05,270 --> 00:01:03,440
space systems group for orbital atk

26
00:01:07,510 --> 00:01:05,280
after a few opening comments we'll take

27
00:01:09,350 --> 00:01:07,520
your questions for those on the phone if

28
00:01:11,670 --> 00:01:09,360
you have a question please press star

29
00:01:16,710 --> 00:01:11,680
one at any time for those following us

30
00:01:17,590 --> 00:01:16,720
online please use the hashtag asknasa

31
00:01:20,469 --> 00:01:17,600
joel

32
00:01:21,270 --> 00:01:20,479
well what a great launch just fantastic

33
00:01:38,230 --> 00:01:21,280
the

34
00:01:40,950 --> 00:01:38,240
bermuda

35
00:01:43,109 --> 00:01:40,960
hurricane and just just a fantastic team

36
00:01:45,749 --> 00:01:43,119
getting us to where we are today

37
00:01:47,990 --> 00:01:45,759
as you said just a little over 5000

38
00:01:49,749 --> 00:01:48,000

pounds of cargo going on board

39
00:01:51,749 --> 00:01:49,759
we're looking forward to seeing that new

40
00:01:53,270 --> 00:01:51,759
science and research hardware we have

41
00:01:56,149 --> 00:01:53,280
some life support hardware some crew

42
00:01:57,990 --> 00:01:56,159
provisions hardware just to name a few

43
00:02:00,389 --> 00:01:58,000
we've had to delay the birthing until

44
00:02:01,910 --> 00:02:00,399
sunday and that allows us time to get

45
00:02:03,990 --> 00:02:01,920
the soyuz spacecraft that's going to

46
00:02:05,270 --> 00:02:04,000
launch this wednesday that will launch

47
00:02:07,270 --> 00:02:05,280
this wednesday out of baikonur

48
00:02:09,910 --> 00:02:07,280
kazakhstan they'll have a docking on

49
00:02:11,510 --> 00:02:09,920
friday and then some crew time to get

50
00:02:14,790 --> 00:02:11,520
reconfigured and then we'll have a

51
00:02:17,350 --> 00:02:14,800
birthing early morning on sunday just

52
00:02:19,350 --> 00:02:17,360
after seven o'clock eastern time

53
00:02:21,910 --> 00:02:19,360
so once again on behalf of space station

54
00:02:24,630 --> 00:02:21,920
program thank you just awesome and

55
00:02:26,229 --> 00:02:24,640
congratulations everybody involved

56
00:02:28,790 --> 00:02:26,239
thank you very much joel it is a very

57
00:02:30,710 --> 00:02:28,800
exciting night um why don't we go ahead

58
00:02:31,910 --> 00:02:30,720
and show a video of the star of this

59
00:02:34,150 --> 00:02:31,920
evening show

60
00:02:36,390 --> 00:02:34,160
and uh we'll give you a

61
00:02:38,070 --> 00:02:36,400
chance to see what that looked like and

62
00:02:40,470 --> 00:02:38,080
then we could talk about more specifics

63
00:02:42,229 --> 00:02:40,480

so there's antares on the pad

64
00:02:44,390 --> 00:02:42,239
i'm not sure where we are in the count

65
00:02:46,470 --> 00:02:44,400
on this video but hopefully we're very

66
00:02:47,750 --> 00:02:46,480
close to liftoff

67
00:02:49,030 --> 00:02:47,760
because i've run out of things to say

68
00:02:52,070 --> 00:02:49,040
about it okay

69
00:02:54,309 --> 00:02:52,080
here we are ignition uh

70
00:02:56,229 --> 00:02:54,319
it came off the pad uh quicker actually

71
00:02:57,830 --> 00:02:56,239
than the previous version of antares we

72
00:03:00,470 --> 00:02:57,840
were happy to see that

73
00:03:02,149 --> 00:03:00,480
uh very bright overpowers the cameras

74
00:03:03,350 --> 00:03:02,159
but you could see it climbing into the

75
00:03:05,750 --> 00:03:03,360
night sky

76
00:03:07,190 --> 00:03:05,760
in launch control we can feel the rumble

77
00:03:08,710 --> 00:03:07,200
feel the roar

78
00:03:11,030 --> 00:03:08,720
coming through the building after a few

79
00:03:12,470 --> 00:03:11,040
seconds and that's always a good feeling

80
00:03:14,630 --> 00:03:12,480
and then of course watching it and

81
00:03:15,830 --> 00:03:14,640
watching the telemetry it was right on

82
00:03:17,990 --> 00:03:15,840
track

83
00:03:20,229 --> 00:03:18,000
it actually did follow the predicted

84
00:03:21,910 --> 00:03:20,239
track almost exactly

85
00:03:25,830 --> 00:03:21,920
it hit most of the milestones a little

86
00:03:30,390 --> 00:03:28,149
main engine cutoff was

87
00:03:32,710 --> 00:03:30,400
just about right on time

88
00:03:35,670 --> 00:03:32,720

coasted for a few seconds and then

89
00:03:37,509 --> 00:03:35,680
the second stage ignited and uh and took

90
00:03:40,070 --> 00:03:37,519
us into orbit

91
00:03:42,309 --> 00:03:40,080
our eventual orbit was actually a little

92
00:03:43,430 --> 00:03:42,319
bit higher than we expected again a very

93
00:03:45,350 --> 00:03:43,440
good thing

94
00:03:47,110 --> 00:03:45,360
no extra charge from the flight systems

95
00:03:52,070 --> 00:03:47,120
group i heard

96
00:03:54,710 --> 00:03:52,080
but we're at a about 368 by 213

97
00:03:56,710 --> 00:03:54,720
kilometer orbit to start with and then

98
00:03:58,869 --> 00:03:56,720
of course we'll do additional burns to

99
00:04:01,110 --> 00:03:58,879
circularize that and start the chase

100
00:04:02,789 --> 00:04:01,120
towards the international space station

101
00:04:05,350 --> 00:04:02,799
we have in fact deployed the solar

102
00:04:06,949 --> 00:04:05,360
arrays that's always a critical moment

103
00:04:08,869 --> 00:04:06,959
so that we can get power from the sun

104
00:04:10,789 --> 00:04:08,879
and keep our batteries charged

105
00:04:13,509 --> 00:04:10,799
the solar arrays come out in a somewhat

106
00:04:15,750 --> 00:04:13,519
complicated way but unfurl like a

107
00:04:17,830 --> 00:04:15,760
japanese fan and then rotate into

108
00:04:20,710 --> 00:04:17,840
position and then we can use them to

109
00:04:23,510 --> 00:04:20,720
to keep the the spacecraft powered

110
00:04:25,990 --> 00:04:23,520
we do have over 2 400 kilograms of cargo

111
00:04:28,790 --> 00:04:26,000
on board we're going to loiter for a

112
00:04:30,390 --> 00:04:28,800
couple of days and and and work the

113
00:04:32,390 --> 00:04:30,400

orbital mechanics to get close to the

114
00:04:34,310 --> 00:04:32,400
station so that when sunday morning

115
00:04:36,550 --> 00:04:34,320
arrives we're in the right position to

116
00:04:38,790 --> 00:04:36,560
make our final approach and

117
00:04:41,430 --> 00:04:38,800
we'll go to 250 meters from the station

118
00:04:43,990 --> 00:04:41,440
pause for a little while and then finish

119
00:04:46,070 --> 00:04:44,000
the approach autonomously and stop at 10

120
00:04:48,150 --> 00:04:46,080
meters where the crew will grapple us

121
00:04:50,870 --> 00:04:48,160
with the with the mechanical arm and

122
00:04:53,430 --> 00:04:50,880
then uh attaches to the to node one on

123
00:04:56,629 --> 00:04:53,440
the station the unity node uh so it's a

124
00:04:58,710 --> 00:04:56,639
very exciting time for us and i want to

125
00:05:01,670 --> 00:04:58,720
reiterate what joel said

126
00:05:03,990 --> 00:05:01,680
our sincere thanks to the entire team

127
00:05:05,590 --> 00:05:04,000
that made this this possible

128
00:05:07,749 --> 00:05:05,600
dave thompson spoke to the team after

129
00:05:08,950 --> 00:05:07,759
the launch tonight and he talked about

130
00:05:10,710 --> 00:05:08,960
how

131
00:05:12,230 --> 00:05:10,720
well actually first charlie spoke and

132
00:05:15,350 --> 00:05:12,240
talked about how

133
00:05:18,070 --> 00:05:15,360
the company had responded to the mishap

134
00:05:19,510 --> 00:05:18,080
two years ago and immediately said we're

135
00:05:20,870 --> 00:05:19,520
in the business of providing cargo

136
00:05:23,670 --> 00:05:20,880
service we're going to provide you with

137
00:05:25,830 --> 00:05:23,680
a service and so we flew twice uh

138
00:05:28,710 --> 00:05:25,840

sickness to on an atlas and now we've

139
00:05:31,510 --> 00:05:28,720
returned to wallops to our our home base

140
00:05:33,189 --> 00:05:31,520
basically and our home vehicle and we're

141
00:05:35,670 --> 00:05:33,199
going to continue to fly out of here on

142
00:05:36,830 --> 00:05:35,680
antares for the for the foreseeable

143
00:05:39,510 --> 00:05:36,840
future

144
00:05:40,950 --> 00:05:39,520
um it is great to be back it's great to

145
00:05:42,550 --> 00:05:40,960
see the way people came together and

146
00:05:44,310 --> 00:05:42,560
made this happen

147
00:05:45,909 --> 00:05:44,320
as dave said it took a little longer

148
00:05:47,430 --> 00:05:45,919
than we thought it would

149
00:05:49,749 --> 00:05:47,440
these things are always harder than you

150
00:05:51,510 --> 00:05:49,759
expect them to be in many ways but it

151
00:05:53,749 --> 00:05:51,520
was done right and that was the most

152
00:05:56,230 --> 00:05:53,759
important thing people don't remember so

153
00:05:58,070 --> 00:05:56,240
much when you launch as whether you

154
00:05:59,670 --> 00:05:58,080
launch and whether you get to your

155
00:06:01,909 --> 00:05:59,680
destination and that's what we did

156
00:06:03,990 --> 00:06:01,919
tonight we got to orbit and now we're on

157
00:06:06,070 --> 00:06:04,000
our way to fulfill the mission of

158
00:06:07,990 --> 00:06:06,080
delivering more cargo to the crew on the

159
00:06:09,830 --> 00:06:08,000
station and continuing the very

160
00:06:11,749 --> 00:06:09,840
important research that's going on on

161
00:06:14,070 --> 00:06:11,759
the station and that is something that

162
00:06:16,550 --> 00:06:14,080
we're very much focused on

163
00:06:18,309 --> 00:06:16,560

as a company as a space program and as a

164
00:06:20,309 --> 00:06:18,319
nation and that's expanding our

165
00:06:22,629 --> 00:06:20,319
knowledge of the universe we are very

166
00:06:24,790 --> 00:06:22,639
proud at orbital atk to be a part of

167
00:06:27,430 --> 00:06:24,800
that to be a part of human space flight

168
00:06:29,029 --> 00:06:27,440
to be a part of exploration and to be uh

169
00:06:31,670 --> 00:06:29,039
expanding the frontiers of human

170
00:06:35,350 --> 00:06:31,680
knowledge and we intend to intend to

171
00:06:38,469 --> 00:06:35,360
continue doing that forever so

172
00:06:40,070 --> 00:06:38,479
or at least as long as we have contracts

173
00:06:41,590 --> 00:06:40,080
so

174
00:06:43,670 --> 00:06:41,600
anyway it's been a great night my

175
00:06:45,749 --> 00:06:43,680
congratulations to the entire team mike

176
00:06:48,230 --> 00:06:45,759
pinkston the program manager scott lair

177
00:06:49,909 --> 00:06:48,240
the president of flight systems group

178
00:06:52,230 --> 00:06:49,919
provided the leadership

179
00:06:53,830 --> 00:06:52,240
a lot of hard work by a lot of people

180
00:06:55,749 --> 00:06:53,840
dale nash and the

181
00:06:57,749 --> 00:06:55,759
mid-atlantic regional space board the

182
00:06:59,670 --> 00:06:57,759
commonwealth of virginia and of course

183
00:07:01,350 --> 00:06:59,680
the nasa centers that all provided

184
00:07:03,110 --> 00:07:01,360
support to this

185
00:07:05,110 --> 00:07:03,120
but especially here at wallops we really

186
00:07:06,629 --> 00:07:05,120
appreciate the hospitality appreciate

187
00:07:08,950 --> 00:07:06,639
the hard work and appreciate you all

188
00:07:10,790 --> 00:07:08,960

helping us make this happen so

189
00:07:12,469 --> 00:07:10,800
happy to take your questions thank you

190
00:07:14,150 --> 00:07:12,479
all very much

191
00:07:16,230 --> 00:07:14,160
thank you we'll now take questions from

192
00:07:18,230 --> 00:07:16,240
folks here in the room as well as folks

193
00:07:19,749 --> 00:07:18,240
on the phone using star one to enter the

194
00:07:23,749 --> 00:07:19,759
queue at any time

195
00:07:25,510 --> 00:07:23,759
and uh using the hashtag ask nasa online

196
00:07:26,950 --> 00:07:25,520
go back here

197
00:07:28,629 --> 00:07:26,960
this one's most definitely for frank

198
00:07:31,189 --> 00:07:28,639
it's both technical and then there's a

199
00:07:33,029 --> 00:07:31,199
second emotional part um first of all

200
00:07:35,510 --> 00:07:33,039
congratulations on turning to service

201
00:07:38,390 --> 00:07:35,520
jason ryan space flight insider the

202
00:07:41,510 --> 00:07:38,400
technical part is there was a delay from

203
00:07:43,350 --> 00:07:41,520
six excuse me 740 to 745 can you provide

204
00:07:44,790 --> 00:07:43,360
us some information about that

205
00:07:46,070 --> 00:07:44,800
and i've been covering the space program

206
00:07:48,150 --> 00:07:46,080
for about 10 years and i don't think

207
00:07:50,710 --> 00:07:48,160
i've ever heard a nasa administrator say

208
00:07:52,869 --> 00:07:50,720
that he will go to his grave being

209
00:07:56,629 --> 00:07:52,879
thankful that he knew the ceo of a

210
00:07:59,350 --> 00:07:58,309
well actually that was a great feeling

211
00:08:01,589 --> 00:07:59,360
um

212
00:08:03,270 --> 00:08:01,599
as it turns out by coincidence uh

213
00:08:05,270 --> 00:08:03,280

charlie bolden dave thompson and myself

214
00:08:07,909 --> 00:08:05,280
are all from south carolina all from

215
00:08:10,869 --> 00:08:07,919
about the same era so it's a nice

216
00:08:13,830 --> 00:08:10,879
nice connection we have in that regard

217
00:08:15,029 --> 00:08:13,840
dave as the founder of orbital sciences

218
00:08:16,869 --> 00:08:15,039
one of the two companies that came

219
00:08:19,029 --> 00:08:16,879
together for orbital atk

220
00:08:20,550 --> 00:08:19,039
has known charlie for a long time uh

221
00:08:23,189 --> 00:08:20,560
we've got a lot of good business with

222
00:08:25,270 --> 00:08:23,199
nasa and charlie and all of nasa have

223
00:08:26,950 --> 00:08:25,280
been a big supporter of the things we do

224
00:08:29,110 --> 00:08:26,960
but i think they also see us as a big

225
00:08:30,950 --> 00:08:29,120
supporter of achieving their goals and

226
00:08:32,949 --> 00:08:30,960
so it's a great great partnership and so

227
00:08:35,029 --> 00:08:32,959
yeah that does feel good

228
00:08:38,230 --> 00:08:35,039
what was happening late in the count was

229
00:08:40,550 --> 00:08:38,240
a lot of things were going on and the

230
00:08:42,550 --> 00:08:40,560
launch conductor decided to make sure

231
00:08:45,110 --> 00:08:42,560
that we didn't miss anything in the in

232
00:08:47,670 --> 00:08:45,120
the checklist to add five minutes to the

233
00:08:50,230 --> 00:08:47,680
to the time that was certainly within

234
00:08:52,150 --> 00:08:50,240
our allowable window it made sure that

235
00:08:54,070 --> 00:08:52,160
nobody skipped anything and made sure

236
00:08:55,509 --> 00:08:54,080
that all the things that we were dealing

237
00:08:57,670 --> 00:08:55,519
with and this was the first time we'd

238
00:08:59,829 --> 00:08:57,680

flown in two years out of here and with

239
00:09:01,509 --> 00:08:59,839
this team was going to be done right and

240
00:09:04,630 --> 00:09:01,519
so i think it was a great call on his

241
00:09:07,190 --> 00:09:04,640
part the team reacted quickly readjusted

242
00:09:08,389 --> 00:09:07,200
got the clock changed and and just kept

243
00:09:10,870 --> 00:09:08,399
right on chugging

244
00:09:12,550 --> 00:09:10,880
and as you saw it worked out great so

245
00:09:14,230 --> 00:09:12,560
that's what a well-trained team does and

246
00:09:17,110 --> 00:09:14,240
i'm very proud of the folks to be able

247
00:09:20,150 --> 00:09:17,120
to to do that it was a great cooperation

248
00:09:22,470 --> 00:09:20,160
with the nasa range and the test

249
00:09:24,550 --> 00:09:22,480
director as well as the entire orbital

250
00:09:31,910 --> 00:09:24,560
atk team

251
00:09:34,710 --> 00:09:33,670
hi stephen clark

252
00:09:38,550 --> 00:09:34,720
you hear me

253
00:09:41,829 --> 00:09:39,590
okay

254
00:09:43,670 --> 00:09:41,839
stephen clark from space flight now um a

255
00:09:46,949 --> 00:09:43,680
couple of questions uh i think both for

256
00:09:48,550 --> 00:09:46,959
frank um first of all you mentioned you

257
00:09:49,990 --> 00:09:48,560
know maybe the rocket was a little hot

258
00:09:52,550 --> 00:09:50,000
getting into orbit

259
00:09:53,670 --> 00:09:52,560
a little higher orbit than you expected

260
00:09:55,430 --> 00:09:53,680
what does that tell you about the

261
00:09:56,870 --> 00:09:55,440
performance of the upgrade

262
00:09:59,269 --> 00:09:56,880
to the antares

263
00:10:00,389 --> 00:09:59,279

and do you have any results from your

264
00:10:01,990 --> 00:10:00,399
first look at telemetry you have the

265
00:10:04,790 --> 00:10:02,000
rd181s

266
00:10:06,949 --> 00:10:04,800
and my other question is um in the in

267
00:10:09,030 --> 00:10:06,959
the two years since the orb three uh

268
00:10:11,590 --> 00:10:09,040
mishap you know you ordered two atlas

269
00:10:14,230 --> 00:10:11,600
fives you bought new engines you helped

270
00:10:17,670 --> 00:10:14,240
pay for the repairs to the launch pad um

271
00:10:20,389 --> 00:10:17,680
can you give us any idea or or some some

272
00:10:22,630 --> 00:10:20,399
color on how much this actually cost uh

273
00:10:24,389 --> 00:10:22,640
your company in terms of money to get to

274
00:10:25,750 --> 00:10:24,399
this point thanks

275
00:10:27,269 --> 00:10:25,760
okay well i can't say much about the

276
00:10:29,509 --> 00:10:27,279
second one because we really don't talk

277
00:10:32,389 --> 00:10:29,519
about contract values unless uh unless

278
00:10:34,630 --> 00:10:32,399
we have to to auditors but um

279
00:10:36,949 --> 00:10:34,640
but in general it has been a worthwhile

280
00:10:38,870 --> 00:10:36,959
investment by the company and by all the

281
00:10:41,910 --> 00:10:38,880
parties involved in bringing this launch

282
00:10:43,110 --> 00:10:41,920
pad back to uh to operation

283
00:10:44,389 --> 00:10:43,120
and then of course the investment the

284
00:10:45,269 --> 00:10:44,399
company made

285
00:10:46,949 --> 00:10:45,279
was

286
00:10:48,630 --> 00:10:46,959
well over 500 million dollars just

287
00:10:51,430 --> 00:10:48,640
beginning this program

288
00:10:52,630 --> 00:10:51,440

uh to to begin delivering cargo to the

289
00:10:54,470 --> 00:10:52,640
space station

290
00:10:58,310 --> 00:10:54,480
um and i think it's worthwhile for the

291
00:11:00,550 --> 00:10:58,320
country for us to to do that um

292
00:11:03,190 --> 00:11:00,560
the um

293
00:11:05,430 --> 00:11:03,200
performance of the rocket was uh even

294
00:11:06,949 --> 00:11:05,440
better than we had expected since it was

295
00:11:08,790 --> 00:11:06,959
the first flight of this configuration

296
00:11:11,269 --> 00:11:08,800
we had fairly conservative estimates of

297
00:11:13,829 --> 00:11:11,279
what the results would be the first

298
00:11:16,069 --> 00:11:13,839
stage was a little bit above what we

299
00:11:17,910 --> 00:11:16,079
expected but i wasn't too surprised by

300
00:11:20,790 --> 00:11:17,920
that we we didn't have the heaviest

301
00:11:23,110 --> 00:11:20,800
possible load and uh and and the engines

302
00:11:24,630 --> 00:11:23,120
did perform very well

303
00:11:26,630 --> 00:11:24,640
and then the second stage was actually

304
00:11:29,670 --> 00:11:26,640
the first time we have used this

305
00:11:32,069 --> 00:11:29,680
particular configuration the caster 30xl

306
00:11:34,230 --> 00:11:32,079
so we had fairly conservative estimates

307
00:11:35,829 --> 00:11:34,240
of how it would perform

308
00:11:37,829 --> 00:11:35,839
as a solid rocket

309
00:11:39,269 --> 00:11:37,839
it's a little bit different in terms of

310
00:11:41,670 --> 00:11:39,279
we can't throttle it it's going to be

311
00:11:43,750 --> 00:11:41,680
what it is and it did do a good job and

312
00:11:45,750 --> 00:11:43,760
put us at a a little bit higher altitude

313
00:11:48,150 --> 00:11:45,760

than we had expected but again that's a

314
00:11:50,790 --> 00:11:48,160
really good thing and uh so we'll take

315
00:11:52,230 --> 00:11:50,800
advantage of that

316
00:11:54,790 --> 00:11:52,240
i believe we have some questions from

317
00:11:56,470 --> 00:11:54,800
social here yep uh we have two questions

318
00:11:58,470 --> 00:11:56,480
right now um the first one comes from

319
00:11:59,990 --> 00:11:58,480
matt camper and his question is what was

320
00:12:01,430 --> 00:12:00,000
the toughest challenge you guys had to

321
00:12:04,310 --> 00:12:01,440
overcome to get to the launch this

322
00:12:07,590 --> 00:12:05,910
um

323
00:12:09,509 --> 00:12:07,600
the toughest challenge to get to this

324
00:12:12,710 --> 00:12:09,519
evening

325
00:12:17,269 --> 00:12:14,230
that's hard to pin down because it's

326
00:12:19,110 --> 00:12:17,279
been two years of really hard work and

327
00:12:21,670 --> 00:12:19,120
i think just getting through all the the

328
00:12:24,550 --> 00:12:21,680
preparations rehearsals testing

329
00:12:26,790 --> 00:12:24,560
all of that takes a lot of time and

330
00:12:29,509 --> 00:12:26,800
and so working through the timeline of

331
00:12:31,269 --> 00:12:29,519
being ready to launch is probably the

332
00:12:33,590 --> 00:12:31,279
the toughest part of it because we had

333
00:12:35,910 --> 00:12:33,600
to be very very confident it was all

334
00:12:37,350 --> 00:12:35,920
going to work

335
00:12:39,030 --> 00:12:37,360
we had a lot of cooperation a lot of

336
00:12:41,430 --> 00:12:39,040
help from a lot of a lot of

337
00:12:43,350 --> 00:12:41,440
organizations who tried really hard not

338
00:12:44,629 --> 00:12:43,360

to be one of those challenges

339
00:12:46,310 --> 00:12:44,639
um

340
00:12:48,949 --> 00:12:46,320
occasionally trying to work together it

341
00:12:50,470 --> 00:12:48,959
is a challenge but uh but the team

342
00:12:53,430 --> 00:12:50,480
worked great and the communication was

343
00:12:54,870 --> 00:12:53,440
good and it just took a while to get

344
00:12:56,389 --> 00:12:54,880
here

345
00:12:58,389 --> 00:12:56,399
and the second question is from

346
00:13:00,389 --> 00:12:58,399
weatherboy on twitter and he asks how

347
00:13:02,069 --> 00:13:00,399
long can cygnus loiter in space while

348
00:13:04,230 --> 00:13:02,079
the soyuz capsule brings new crew to the

349
00:13:05,590 --> 00:13:04,240
space station the original estimate was

350
00:13:08,230 --> 00:13:05,600
if we had a nominal launch we could

351
00:13:09,990 --> 00:13:08,240
loiter for up to 42 days i'm guessing

352
00:13:11,990 --> 00:13:10,000
with the higher performance we had we

353
00:13:13,509 --> 00:13:12,000
could add something to that i don't know

354
00:13:16,790 --> 00:13:13,519
how much yet but i know we can make it

355
00:13:16,800 --> 00:13:21,990
great let's take one over here

356
00:13:25,910 --> 00:13:23,750
uh gene mcculloch talking space first

357
00:13:28,150 --> 00:13:25,920
off frank joel congratulations thank you

358
00:13:29,829 --> 00:13:28,160
you just went ahead and put the uh

359
00:13:31,190 --> 00:13:29,839
mid-atlantic region back in space again

360
00:13:32,150 --> 00:13:31,200
so thanks a bunch

361
00:13:34,389 --> 00:13:32,160
uh

362
00:13:37,030 --> 00:13:34,399
frank did you have any words for your

363
00:13:39,030 --> 00:13:37,040

team afterward as well we we didn't hear

364
00:13:41,030 --> 00:13:39,040
uh uh dave thompson's comments i was

365
00:13:42,790 --> 00:13:41,040
just wondering if you had any words for

366
00:13:44,870 --> 00:13:42,800
the team and what do you do for an

367
00:13:46,550 --> 00:13:44,880
encore what's next for uh for cygnus and

368
00:13:48,870 --> 00:13:46,560
antares thanks

369
00:13:51,110 --> 00:13:48,880
launch again um

370
00:13:53,750 --> 00:13:51,120
yeah we'll we'll keep flying uh yes i

371
00:13:55,430 --> 00:13:53,760
did have a few words you know me but um

372
00:13:57,430 --> 00:13:55,440
uh i basically just

373
00:13:59,269 --> 00:13:57,440
tried to recognize the hard work and and

374
00:14:00,629 --> 00:13:59,279
uh congratulate them on how well they

375
00:14:02,949 --> 00:14:00,639
all work together

376
00:14:04,710 --> 00:14:02,959
and the persistence the long hours a lot

377
00:14:06,230 --> 00:14:04,720
of travel for a lot of people

378
00:14:08,470 --> 00:14:06,240
and

379
00:14:10,150 --> 00:14:08,480
just the focus on

380
00:14:11,590 --> 00:14:10,160
and attention to details that allowed us

381
00:14:13,030 --> 00:14:11,600
to get to this point

382
00:14:15,030 --> 00:14:13,040
without that it wouldn't have been

383
00:14:17,350 --> 00:14:15,040
possible

384
00:14:19,110 --> 00:14:17,360
and birthing coming up on sunday so you

385
00:14:21,509 --> 00:14:19,120
know today is just the start of a great

386
00:14:24,069 --> 00:14:21,519
mission we'll have the cygnus up on

387
00:14:26,069 --> 00:14:24,079
orbit uh taking the hardware that the

388
00:14:28,710 --> 00:14:26,079

spacecraft has brought up it'll be up

389
00:14:30,230 --> 00:14:28,720
there until november and so we're

390
00:14:31,910 --> 00:14:30,240
looking forward to seeing that up there

391
00:14:33,670 --> 00:14:31,920
yep all right we'll take one over here

392
00:14:34,949 --> 00:14:33,680
and then we'll go back over here

393
00:14:37,350 --> 00:14:34,959
hi hanukkah whitering here with

394
00:14:39,110 --> 00:14:37,360
space.com i'm wondering um so with

395
00:14:40,790 --> 00:14:39,120
yesterday's launch being scrubbed what

396
00:14:43,269 --> 00:14:40,800
sort of steps did you have to take to

397
00:14:45,350 --> 00:14:43,279
reset everything and prepare for today

398
00:14:46,790 --> 00:14:45,360
and how long does this take and

399
00:14:48,629 --> 00:14:46,800
basically i'm wondering if people were

400
00:14:52,069 --> 00:14:48,639
up all night trying to prepare for today

401
00:14:54,949 --> 00:14:53,430
no they weren't really up all night in

402
00:14:57,189 --> 00:14:54,959
fact crew rest is a very important

403
00:14:58,629 --> 00:14:57,199
aspect of doing this job so we want to

404
00:15:00,389 --> 00:14:58,639
make sure people get a good nice rest

405
00:15:02,710 --> 00:15:00,399
before they come on console they came on

406
00:15:05,110 --> 00:15:02,720
console early this afternoon

407
00:15:06,470 --> 00:15:05,120
for the for the mission tonight

408
00:15:08,629 --> 00:15:06,480
the recycle

409
00:15:11,030 --> 00:15:08,639
really was not that difficult from a

410
00:15:12,949 --> 00:15:11,040
recycle standpoint because we didn't get

411
00:15:14,710 --> 00:15:12,959
very far actually anywhere into the

412
00:15:16,389 --> 00:15:14,720
count so we didn't have anything that

413
00:15:18,870 --> 00:15:16,399

had to be reversed all we had to do was

414
00:15:20,790 --> 00:15:18,880
fix the cable that uh that needed that

415
00:15:23,110 --> 00:15:20,800
had the short that needed to be fixed

416
00:15:24,949 --> 00:15:23,120
once that was done we were ready to to

417
00:15:26,629 --> 00:15:24,959
move forward and so we sent the team

418
00:15:27,910 --> 00:15:26,639
home

419
00:15:30,550 --> 00:15:27,920
except for the ones that had to be there

420
00:15:32,790 --> 00:15:30,560
overnight but we work in shifts so it

421
00:15:34,310 --> 00:15:32,800
was a fairly straightforward approach to

422
00:15:36,310 --> 00:15:34,320
our process rather

423
00:15:40,069 --> 00:15:36,320
to get to this point

424
00:15:44,790 --> 00:15:42,710
hi uh wayne rice with e-week

425
00:15:47,509 --> 00:15:44,800
i'm told this launch set the record for

426
00:15:49,590 --> 00:15:47,519
the heaviest launch heaviest load out of

427
00:15:51,749 --> 00:15:49,600
wallops ever

428
00:15:53,509 --> 00:15:51,759
the question i have is

429
00:15:55,829 --> 00:15:53,519
how much did this vehicle weigh at

430
00:15:57,670 --> 00:15:55,839
launch and how much more can you launch

431
00:16:00,389 --> 00:15:57,680
out of here with now that you have the

432
00:16:02,550 --> 00:16:00,399
upgraded antares

433
00:16:05,189 --> 00:16:02,560
i'm not sure about that uh

434
00:16:10,470 --> 00:16:07,670
well the payload liftoff mass was 6 200

435
00:16:12,790 --> 00:16:10,480
kilograms and um i'm not sure how that

436
00:16:15,430 --> 00:16:12,800
compares to to the previous one's frame

437
00:16:17,030 --> 00:16:15,440
it's the most car that we've flown

438
00:16:19,990 --> 00:16:17,040

a lot of wallops

439
00:16:21,670 --> 00:16:20,000
okay by a little bit right

440
00:16:23,829 --> 00:16:21,680
okay

441
00:16:27,030 --> 00:16:23,839
yeah but we can carry more now than we

442
00:16:28,150 --> 00:16:27,040
will in future flights

443
00:16:30,949 --> 00:16:28,160
over here

444
00:16:34,069 --> 00:16:30,959
hi ken cramer for universe today and

445
00:16:35,509 --> 00:16:34,079
northeast astronomy forum for uh frank

446
00:16:37,110 --> 00:16:35,519
um

447
00:16:38,870 --> 00:16:37,120
you concluded your remarks with a little

448
00:16:40,230 --> 00:16:38,880
bit about exploration in the future and

449
00:16:41,990 --> 00:16:40,240
we're going to be exploring so that's

450
00:16:44,629 --> 00:16:42,000
what i i want to ask you about you you

451
00:16:46,550 --> 00:16:44,639
guys are proposing a cis lunar habitat

452
00:16:48,230 --> 00:16:46,560
so i would like you to talk about that

453
00:16:49,910 --> 00:16:48,240
talk about some of the details why are

454
00:16:51,590 --> 00:16:49,920
you doing that and how this is going to

455
00:16:53,509 --> 00:16:51,600
enable the journey to mars what are we

456
00:16:55,910 --> 00:16:53,519
going to do with it in lunar orbit and

457
00:16:56,710 --> 00:16:55,920
then sending it to hopefully to mars one

458
00:16:58,389 --> 00:16:56,720
day

459
00:17:00,470 --> 00:16:58,399
well this will obviously be a joint

460
00:17:01,910 --> 00:17:00,480
activity with nasa they're asking for

461
00:17:04,230 --> 00:17:01,920
these designs

462
00:17:06,069 --> 00:17:04,240
we've been proposing and looking at this

463
00:17:08,470 --> 00:17:06,079

as a

464
00:17:09,750 --> 00:17:08,480
derivative of cygnus

465
00:17:11,590 --> 00:17:09,760
both the service module and the

466
00:17:12,949 --> 00:17:11,600
pressurized cargo module can be adapted

467
00:17:16,630 --> 00:17:12,959
for longer term

468
00:17:19,029 --> 00:17:16,640
of long flight long term flight in space

469
00:17:21,270 --> 00:17:19,039
it can be used as a control it can be

470
00:17:24,069 --> 00:17:21,280
used as an outpost can be used for

471
00:17:26,710 --> 00:17:24,079
carrying cargo or for crew habitation

472
00:17:29,590 --> 00:17:26,720
and so we're happy to see that nasa is

473
00:17:31,830 --> 00:17:29,600
moving towards developing a system that

474
00:17:32,710 --> 00:17:31,840
will allow crews to remain in in orbit

475
00:17:35,590 --> 00:17:32,720
or in

476
00:17:36,870 --> 00:17:35,600
in cis lunar space for longer periods of

477
00:17:38,070 --> 00:17:36,880
time because

478
00:17:39,669 --> 00:17:38,080
you think about it you're going to need

479
00:17:41,430 --> 00:17:39,679
to have supplies there when you get

480
00:17:43,590 --> 00:17:41,440
there it's like going to

481
00:17:45,510 --> 00:17:43,600
an expedition to antarctica it's nice

482
00:17:47,750 --> 00:17:45,520
that you arrive and find your supplies

483
00:17:50,070 --> 00:17:47,760
already there ready to to use and so

484
00:17:53,029 --> 00:17:50,080
that would be the original intent of

485
00:17:56,310 --> 00:17:53,039
that and then we hope uh frequent

486
00:17:59,510 --> 00:17:56,320
resupply and also the ability to expand

487
00:18:04,150 --> 00:18:01,669
development occurs in in cis lunar with

488
00:18:05,669 --> 00:18:04,160

additional modules so we think it's a

489
00:18:08,310 --> 00:18:05,679
perfect time to start thinking about

490
00:18:10,390 --> 00:18:08,320
that and uh and getting people out of

491
00:18:13,510 --> 00:18:10,400
low earth orbit and back to the vicinity

492
00:18:21,510 --> 00:18:16,070
other questions here in the room

493
00:18:25,909 --> 00:18:23,909
hi janet heaton part of the nasa social

494
00:18:27,029 --> 00:18:25,919
we actually had a question from robert

495
00:18:29,590 --> 00:18:27,039
strickland

496
00:18:32,789 --> 00:18:29,600
on twitter asking

497
00:18:37,510 --> 00:18:32,799
why no live on board cameras

498
00:18:41,909 --> 00:18:39,750
we just we didn't have any on the rocket

499
00:18:44,310 --> 00:18:41,919
itself we have them on the spacecraft so

500
00:18:46,310 --> 00:18:44,320
you'll see a video of that downloaded

501
00:18:48,470 --> 00:18:46,320
later but uh

502
00:18:49,590 --> 00:18:48,480
but no but and partly because it was a

503
00:18:50,870 --> 00:18:49,600
night launch you wouldn't have seen very

504
00:18:52,150 --> 00:18:50,880
much probably

505
00:18:57,669 --> 00:18:52,160
but

506
00:19:01,990 --> 00:19:00,549
any other questions here in the room

507
00:19:05,830 --> 00:19:02,000
again if you're on the phone with a

508
00:19:10,630 --> 00:19:08,390
one boy from ken uh ken kramer again for

509
00:19:12,630 --> 00:19:10,640
joel can you tell us just where we're at

510
00:19:14,470 --> 00:19:12,640
with the uh crew supplies of the space

511
00:19:16,630 --> 00:19:14,480
station how many months and supplies

512
00:19:19,270 --> 00:19:16,640
they have and how is this going to

513
00:19:20,950 --> 00:19:19,280

extend the the uh the provisions that

514
00:19:22,710 --> 00:19:20,960
the astronauts have

515
00:19:25,190 --> 00:19:22,720
so before

516
00:19:27,190 --> 00:19:25,200
this cygnus gets there we have

517
00:19:29,669 --> 00:19:27,200
probably our smallest supply is at least

518
00:19:32,070 --> 00:19:29,679
six months right now on orbit so we have

519
00:19:33,110 --> 00:19:32,080
six months of margin one cygnus gets

520
00:19:34,470 --> 00:19:33,120
there

521
00:19:36,390 --> 00:19:34,480
you know depending on the different

522
00:19:38,310 --> 00:19:36,400
commodities that it brings

523
00:19:40,549 --> 00:19:38,320
some commodities are extended a few

524
00:19:41,909 --> 00:19:40,559
weeks some are extended a month or so so

525
00:19:46,390 --> 00:19:41,919
but from right now we have plenty of

526
00:19:46,400 --> 00:19:49,590
one more question back here

527
00:19:55,029 --> 00:19:51,510
yes sir congratulations i think your

528
00:19:56,789 --> 00:19:55,039
contract was for about 65 000 pounds of

529
00:19:58,470 --> 00:19:56,799
merchandise sent to the space station

530
00:19:59,990 --> 00:19:58,480
i'm just curious how much more you have

531
00:20:02,149 --> 00:20:00,000
to deliver left

532
00:20:03,909 --> 00:20:02,159
under this current contract

533
00:20:05,669 --> 00:20:03,919
six more missions

534
00:20:07,270 --> 00:20:05,679
six missions yeah

535
00:20:09,190 --> 00:20:07,280
all of them here

536
00:20:12,070 --> 00:20:09,200
uh that's the current plan yeah right

537
00:20:16,470 --> 00:20:14,710
are there any other questions

538
00:20:18,230 --> 00:20:16,480

well thank you all very much for joining

539
00:20:20,070 --> 00:20:18,240
us

540
00:20:24,630 --> 00:20:20,080
and you can find out more about the