1
00:00:03,429 --> 00:00:02,310
five

2
00:00:04,630 --> 00:00:03,439
four

3
00:00:05,670 --> 00:00:04,640
three

4
00:00:09,509 --> 00:00:05,680
two

5
00:00:14,629 --> 00:00:11,350
liftoff

6
00:00:18,230 --> 00:00:14,639
on the shoulders of atlas the ss deke

7
00:00:20,150 --> 00:00:18,240
slayton ii orbital atk cygnus spacecraft

8
00:00:29,349 --> 00:00:20,160
soars toward the international space

9
00:00:32,709 --> 00:00:30,870
good evening and welcome to nasa's

10
00:00:35,350 --> 00:00:32,719
kennedy space center in florida where we

11
00:00:39,270 --> 00:00:35,360
are pleased to be here for the orbital

12
00:00:41,430 --> 00:00:39,280
atk crs4 post launch news conference

13
00:00:43,030 --> 00:00:41,440

it took us a few days to get here but it

14
00:00:44,630 --> 00:00:43,040
was worth every minute of it it was a

15
00:00:46,950 --> 00:00:44,640
fabulous launch and the mission is

16
00:00:49,190 --> 00:00:46,960
underway and here to fill us in on the

17
00:00:51,510 --> 00:00:49,200
progress of this mission already

18
00:00:53,830 --> 00:00:51,520
we're pleased to be joined by

19
00:00:56,229 --> 00:00:53,840
ven fenn manager of the international

20
00:00:58,549 --> 00:00:56,239
space station transportation integration

21
00:01:00,790 --> 00:00:58,559
office

22
00:01:06,230 --> 00:01:00,800
frank culbertson president

23
00:01:11,670 --> 00:01:08,789
and vern thorpe program manager for nasa

24
00:01:13,350 --> 00:01:11,680
missions for united launch alliance

25
00:01:15,030 --> 00:01:13,360
everyone is represented here it's a

26
00:01:16,469 --> 00:01:15,040
great day we'd like to start off with

27
00:01:18,310 --> 00:01:16,479
opening comments and then we'll be happy

28
00:01:20,310 --> 00:01:18,320
to take your questions ben

29
00:01:21,990 --> 00:01:20,320
well thanks mike and um good evening

30
00:01:24,070 --> 00:01:22,000
everybody let's see it's a real pleasure

31
00:01:26,070 --> 00:01:24,080
to be here right after a spectacular

32
00:01:27,109 --> 00:01:26,080
launch i wanted to congratulate and

33
00:01:30,789 --> 00:01:27,119
thank our

34
00:01:36,069 --> 00:01:34,710
orbital atk at ula as well as the range

35
00:01:38,149 --> 00:01:36,079
for the spectacular launch tonight at

36
00:01:39,429 --> 00:01:38,159
the oa4 cygnus the teams did a

37
00:01:41,270 --> 00:01:39,439
tremendous job processing and

38
00:01:43,190 --> 00:01:41,280

integrating over the last year

39
00:01:44,789 --> 00:01:43,200
and especially over the last week and

40
00:01:47,590 --> 00:01:44,799
keeping the vehicle in a very high state

41
00:01:49,670 --> 00:01:47,600
of readiness leading to today's launch

42
00:01:51,670 --> 00:01:49,680
the iss on orbit is in a very good

43
00:01:53,590 --> 00:01:51,680
configuration we're ready for grapple by

44
00:01:54,950 --> 00:01:53,600
the canadian arm and birthing to the

45
00:01:57,990 --> 00:01:54,960
node 1 nader

46
00:01:59,030 --> 00:01:58,000
on wednesday around 6 000 and 6 10 a.m

47
00:02:01,109 --> 00:01:59,040
eastern

48
00:02:02,469 --> 00:02:01,119
the on-board crew is ready and trained

49
00:02:04,069 --> 00:02:02,479
shel lindgren is going to be the prime

50
00:02:04,950 --> 00:02:04,079
robotics operator

51
00:02:06,469 --> 00:02:04,960
um

52
00:02:07,830 --> 00:02:06,479
scott kelly the one-year mission crew

53
00:02:10,389 --> 00:02:07,840
member is going to be the mission

54
00:02:12,470 --> 00:02:10,399
supports robotic support officer and

55
00:02:14,550 --> 00:02:12,480
he's also ready to go as are the mission

56
00:02:17,430 --> 00:02:14,560
control teams in houston as well as our

57
00:02:19,190 --> 00:02:17,440
payload ops team in huntsville

58
00:02:21,190 --> 00:02:19,200
oa4 marks the beginning of a very busy

59
00:02:23,670 --> 00:02:21,200
month at the space station

60
00:02:25,589 --> 00:02:23,680
cygnus arrival on december 9th is going

61
00:02:27,430 --> 00:02:25,599
to be quickly followed by a departure

62
00:02:30,309 --> 00:02:27,440
just two days later of 43 soyuz on

63
00:02:32,869 --> 00:02:30,319

december 11th then four days later we'll

64
00:02:33,910 --> 00:02:32,879
have a rival of 45 soyuz on december

65
00:02:35,910 --> 00:02:33,920
15th

66
00:02:38,949 --> 00:02:35,920
four days later we'll have undocking of

67
00:02:41,750 --> 00:02:38,959
60p on december 19th and then we'll have

68
00:02:43,830 --> 00:02:41,760
a rival of 62p on december 23rd and then

69
00:02:45,430 --> 00:02:43,840
thankfully we go into a high beta period

70
00:02:48,150 --> 00:02:45,440
we'll have no more

71
00:02:51,670 --> 00:02:48,160
dockings or undockings or evas until at

72
00:02:54,390 --> 00:02:51,680
least january 3rd so uh so onboard oa4

73
00:02:56,470 --> 00:02:54,400
we've got over 3 500 kilograms of

74
00:02:58,550 --> 00:02:56,480
hardware that includes spare parts

75
00:02:59,589 --> 00:02:58,560
consumables research hardware and

76
00:03:01,509 --> 00:02:59,599
samples

77
00:03:04,149 --> 00:03:01,519
that are going to enable over 300

78
00:03:05,830 --> 00:03:04,159
experiments during this increment pair

79
00:03:07,910 --> 00:03:05,840
all this resupply is going to get our

80
00:03:09,509 --> 00:03:07,920
food and other consumable supplies out

81
00:03:10,470 --> 00:03:09,519
there into the april may and beyond time

82
00:03:12,149 --> 00:03:10,480
frame

83
00:03:13,750 --> 00:03:12,159
so uh so again we're very excited to see

84
00:03:15,589 --> 00:03:13,760
sigma's back in orbit it's a great day

85
00:03:17,589 --> 00:03:15,599
for the space station and for commercial

86
00:03:20,149 --> 00:03:17,599
space flight and thanks very much the

87
00:03:22,869 --> 00:03:20,159
very capable and professional teams at

88
00:03:24,309 --> 00:03:22,879

orbital atk ula in the range with that

89
00:03:26,710 --> 00:03:24,319
i'll hand it off to frank

90
00:03:29,670 --> 00:03:26,720
thanks very much vin and it is a great

91
00:03:31,030 --> 00:03:29,680
day for us we as a company and speaking

92
00:03:33,190 --> 00:03:31,040
on behalf of dave thompson and the

93
00:03:35,190 --> 00:03:33,200
entire orbital atk team we are very

94
00:03:37,270 --> 00:03:35,200
proud to be back in space again

95
00:03:39,350 --> 00:03:37,280
uh very proud of what it of the work

96
00:03:42,309 --> 00:03:39,360
that everyone has done not just in our

97
00:03:44,470 --> 00:03:42,319
company but in our partners at ula nasa

98
00:03:46,470 --> 00:03:44,480
the range sticking with it all week to

99
00:03:48,470 --> 00:03:46,480
get us off the ground but it's very

100
00:03:50,869 --> 00:03:48,480
exciting to finally be headed to the

101
00:03:52,470 --> 00:03:50,879
international space station again

102
00:03:54,949 --> 00:03:52,480
we do have some more work ahead of us of

103
00:03:57,750 --> 00:03:54,959
course to arrive at the station safely

104
00:03:59,589 --> 00:03:57,760
approach and and be grappled by the arm

105
00:04:00,949 --> 00:03:59,599
and birth to the station

106
00:04:03,030 --> 00:04:00,959
but we're very optimistic that's going

107
00:04:05,110 --> 00:04:03,040
to go very well and looking forward to

108
00:04:07,830 --> 00:04:05,120
the next few days operations

109
00:04:09,670 --> 00:04:07,840
um we are carrying over 3 500 kilograms

110
00:04:11,509 --> 00:04:09,680
of cargo which is almost as much as we

111
00:04:12,869 --> 00:04:11,519
carried on the prior three missions to

112
00:04:15,270 --> 00:04:12,879
the station

113
00:04:17,349 --> 00:04:15,280

so this is uh the beginning of a new era

114
00:04:18,870 --> 00:04:17,359
in carrying large quantities to the

115
00:04:22,150 --> 00:04:18,880
station to keep the crew supplied and

116
00:04:23,830 --> 00:04:22,160
keep the experiments going

117
00:04:25,749 --> 00:04:23,840
so far things have gone very well the

118
00:04:27,670 --> 00:04:25,759
solar arrays have been deployed the prop

119
00:04:30,230 --> 00:04:27,680
system is working well guidance

120
00:04:31,990 --> 00:04:30,240
navigation and control are working and

121
00:04:34,390 --> 00:04:32,000
and everything is basically nominal on

122
00:04:37,670 --> 00:04:34,400
board the uh the d slayton ii

123
00:04:40,950 --> 00:04:37,680
uh team is uh doing a handover about as

124
00:04:43,110 --> 00:04:40,960
we speak to the next team and uh for on

125
00:04:44,710 --> 00:04:43,120
orbit ops and we'll continue to monitor

126
00:04:45,830 --> 00:04:44,720
the spacecraft as we approach the

127
00:04:48,390 --> 00:04:45,840
station

128
00:04:50,070 --> 00:04:48,400
um we do have another mission expected

129
00:04:51,990 --> 00:04:50,080
in march of next year and another one

130
00:04:54,550 --> 00:04:52,000
later in the spring so we have already

131
00:04:56,390 --> 00:04:54,560
begun preparations for that and

132
00:04:58,469 --> 00:04:56,400
and looking forward to additional work

133
00:05:00,710 --> 00:04:58,479
but right now we're focused on the the

134
00:05:02,390 --> 00:05:00,720
great ride that we had from ula vern and

135
00:05:04,390 --> 00:05:02,400
company thank you very much

136
00:05:06,070 --> 00:05:04,400
uh everything was about as good as it

137
00:05:07,590 --> 00:05:06,080
could get and i'll blow his horn for a

138
00:05:10,710 --> 00:05:07,600

second we were within

139
00:05:12,390 --> 00:05:10,720
100 meters of the apogee and perigee we

140
00:05:15,430 --> 00:05:12,400
we needed in order to get into orbit

141
00:05:17,110 --> 00:05:15,440
safely that's pretty darn close so good

142
00:05:20,150 --> 00:05:17,120
job

143
00:05:20,870 --> 00:05:20,160
working through the

144
00:05:23,029 --> 00:05:20,880
the

145
00:05:25,350 --> 00:05:23,039
launch countdown attempts and and

146
00:05:27,029 --> 00:05:25,360
staying on track and staying focused and

147
00:05:28,629 --> 00:05:27,039
and it paid off today

148
00:05:30,070 --> 00:05:28,639
so i'm looking forward to your questions

149
00:05:32,070 --> 00:05:30,080
be happy to

150
00:05:35,749 --> 00:05:32,080
elaborate on any of this but in the

151
00:05:37,830 --> 00:05:35,759
meantime go d slayton 2 go oa4

152
00:05:39,350 --> 00:05:37,840
and uh we're real happy to be back in

153
00:05:42,150 --> 00:05:39,360
space thank you

154
00:05:44,390 --> 00:05:42,160
and now over to vern hey thanks frank

155
00:05:46,469 --> 00:05:44,400
uh well that was an incredible launch

156
00:05:48,310 --> 00:05:46,479
and it took us less than a year to get

157
00:05:50,390 --> 00:05:48,320
from the kickoff of this program to

158
00:05:51,430 --> 00:05:50,400
launch tonight uh for a few days there i

159
00:05:52,469 --> 00:05:51,440
was wondering if i was going to be able

160
00:05:54,070 --> 00:05:52,479
to say that

161
00:05:55,749 --> 00:05:54,080
we had to

162
00:05:58,230 --> 00:05:55,759
wait a few days for the weather when you

163
00:06:00,070 --> 00:05:58,240

saw the vehicle lift off tonight

164
00:06:01,670 --> 00:06:00,080
you can see why wind drift was a bit of

165
00:06:02,629 --> 00:06:01,680
a concern

166
00:06:06,390 --> 00:06:02,639
it

167
00:06:07,749 --> 00:06:06,400
the word majestic but

168
00:06:09,029 --> 00:06:07,759
that's that's what slowed us down the

169
00:06:11,749 --> 00:06:09,039
last few days

170
00:06:13,270 --> 00:06:11,759
i want to say congratulations to nasa to

171
00:06:15,510 --> 00:06:13,280
orbital atk

172
00:06:16,950 --> 00:06:15,520
to the ula teams and to all of our

173
00:06:18,230 --> 00:06:16,960
families who support us through every

174
00:06:20,070 --> 00:06:18,240
one of these launch campaigns we

175
00:06:21,830 --> 00:06:20,080
couldn't do it without them i would also

176
00:06:24,469 --> 00:06:21,840
like to give a big thank you to the air

177
00:06:25,990 --> 00:06:24,479
force's 45th space wing and to the faa

178
00:06:27,670 --> 00:06:26,000
who were with us every step of the way

179
00:06:30,870 --> 00:06:27,680
on this we need their support as well

180
00:06:32,150 --> 00:06:30,880
and we really appreciate that

181
00:06:33,830 --> 00:06:32,160
ula is

182
00:06:36,550 --> 00:06:33,840
especially proud of this launch this is

183
00:06:38,629 --> 00:06:36,560
our first mission to the iss

184
00:06:40,469 --> 00:06:38,639
and we put the cygnus module into a low

185
00:06:43,350 --> 00:06:40,479
earth orbit loaded with almost eight

186
00:06:44,469 --> 00:06:43,360
thousand pounds of cargo as frank said

187
00:06:45,749 --> 00:06:44,479
and uh

188
00:06:48,790 --> 00:06:45,759

some interesting numbers here we

189
00:06:51,589 --> 00:06:48,800
launched oa4 on our fourth attempt at

190
00:06:53,990 --> 00:06:51,599
444 local time so i guess the numbers

191
00:06:56,390 --> 00:06:54,000
just all lined up right today

192
00:06:57,029 --> 00:06:56,400
orbit insertion was very accurate we put

193
00:07:18,150 --> 00:06:57,039
it

194
00:07:20,390 --> 00:07:18,160
research right after the launch this is

195
00:07:22,230 --> 00:07:20,400
uh we usually don't uh have to have this

196
00:07:23,830 --> 00:07:22,240
many attempts to launch the last time it

197
00:07:26,309 --> 00:07:23,840
took four attempts to get it off an

198
00:07:28,550 --> 00:07:26,319
atlas off the pad was in august to 2004.

199
00:07:30,390 --> 00:07:28,560
that one actually took five

200
00:07:32,550 --> 00:07:30,400
i am happy to say though that the the

201
00:07:34,390 --> 00:07:32,560
vehicle the atlas vehicle and the cygnus

202
00:07:36,150 --> 00:07:34,400
vehicle were healthy and ready to go

203
00:07:37,909 --> 00:07:36,160
every time we just had to wait for uh

204
00:07:40,230 --> 00:07:37,919
the weather conditions to to be right

205
00:07:43,350 --> 00:07:40,240
and that finally happened tonight

206
00:07:46,469 --> 00:07:43,360
uh we delivered cygnus uh after a

207
00:07:48,790 --> 00:07:46,479
flawless mission of the atlas v vehicle

208
00:07:51,990 --> 00:07:48,800
and that caps off a perfect year of 12

209
00:07:53,990 --> 00:07:52,000
launches for ula and that really speaks

210
00:07:55,430 --> 00:07:54,000
to the amazing people we have at ula and

211
00:07:57,670 --> 00:07:55,440
our strong relationships with our

212
00:07:59,749 --> 00:07:57,680
partners and customers

213
00:08:02,550 --> 00:07:59,759

sustained mission success and by the way

214
00:08:04,629 --> 00:08:02,560
this is our 103rd ula launch is only

215
00:08:06,790 --> 00:08:04,639
possible when our customer and the

216
00:08:08,150 --> 00:08:06,800
entire industry team

217
00:08:10,710 --> 00:08:08,160
that includes ula and all of our

218
00:08:12,950 --> 00:08:10,720
suppliers are seamlessly integrated and

219
00:08:14,469 --> 00:08:12,960
focused on safely and reliably

220
00:08:15,430 --> 00:08:14,479
delivering these critical payloads to

221
00:08:17,749 --> 00:08:15,440
orbit

222
00:08:19,749 --> 00:08:17,759
and you've heard us say this before ula

223
00:08:20,629 --> 00:08:19,759
is committed to success one launch at a

224
00:08:22,469 --> 00:08:20,639
time

225
00:08:24,950 --> 00:08:22,479
and we do that for this and every

226
00:08:26,629 --> 00:08:24,960
mission for our customers so thanks

227
00:08:29,189 --> 00:08:26,639
again to all of our mission partners who

228
00:08:31,029 --> 00:08:29,199
worked with us to make this oa4 atlas v

229
00:08:32,230 --> 00:08:31,039
mission a success i can hardly wait to

230
00:08:35,430 --> 00:08:32,240
be back here in three months we're going

231
00:08:38,070 --> 00:08:35,440
to do it again for oa6 in march

232
00:08:39,350 --> 00:08:38,080
and uh we've got 16 missions on our

233
00:08:41,350 --> 00:08:39,360
manifest

234
00:08:42,550 --> 00:08:41,360
next year and ula is looking forward to

235
00:08:43,909 --> 00:08:42,560
another great year

236
00:08:45,910 --> 00:08:43,919
thanks

237
00:08:47,350 --> 00:08:45,920
all right thank you gentlemen before we

238
00:08:48,710 --> 00:08:47,360

take your questions there is a launch

239
00:08:51,030 --> 00:08:48,720
picture that we would like to show to

240
00:08:55,910 --> 00:08:54,389
this is a picture taken by

241
00:08:57,590 --> 00:08:55,920
commander scott kelly from the

242
00:09:00,470 --> 00:08:57,600
international space station as it was

243
00:09:02,870 --> 00:09:00,480
flying over near the bot the bahamas

244
00:09:05,110 --> 00:09:02,880
showing launch of the atlas v rocket

245
00:09:06,829 --> 00:09:05,120
with cygnus headed it

246
00:09:09,430 --> 00:09:06,839
headed his

247
00:09:10,790 --> 00:09:09,440
way through the uh dot at the bottom of

248
00:09:12,150 --> 00:09:10,800
the picture the little dot at the bottom

249
00:09:14,550 --> 00:09:12,160
of the picture is

250
00:09:17,910 --> 00:09:14,560
is the rocket with the plume

251
00:09:20,230 --> 00:09:17,920
through the uh amazing social media

252
00:09:21,590 --> 00:09:20,240
we have a picture of the international

253
00:09:22,710 --> 00:09:21,600
from the international space station of

254
00:09:24,630 --> 00:09:22,720
the vehicle headed toward the

255
00:09:26,389 --> 00:09:24,640
international space station so now we

256
00:09:27,590 --> 00:09:26,399
would like to take your questions um

257
00:09:30,230 --> 00:09:27,600
here in the room please wait for the

258
00:09:31,990 --> 00:09:30,240
microphone um state your name and

259
00:09:33,990 --> 00:09:32,000
affiliation and to whom you're

260
00:09:35,750 --> 00:09:34,000
addressing your question and also i

261
00:09:37,670 --> 00:09:35,760
wanted to let you know that it's been a

262
00:09:38,949 --> 00:09:37,680
long day and a long several days for

263
00:09:40,389 --> 00:09:38,959

these folks so we want to try to keep it

264
00:09:41,750 --> 00:09:40,399
short this evening

265
00:09:43,750 --> 00:09:41,760
let's start things off over here with

266
00:09:47,590 --> 00:09:43,760
jason

267
00:09:49,269 --> 00:09:47,600
this one goes to frank real quick we

268
00:09:51,030 --> 00:09:49,279
heard a lot about atlas performance

269
00:09:53,350 --> 00:09:51,040
allowing so much to be

270
00:09:55,030 --> 00:09:53,360
hoisted off to the iss but we know that

271
00:09:57,030 --> 00:09:55,040
the enhanced antares is also going to

272
00:09:58,470 --> 00:09:57,040
have quite a punch to it can you maybe

273
00:10:00,310 --> 00:09:58,480
not giving up too much of the secret

274
00:10:02,710 --> 00:10:00,320
sauce talk about a comparison between

275
00:10:04,230 --> 00:10:02,720
what atlas 5 is capable of as as well as

276
00:10:06,230 --> 00:10:04,240
the new antares we're looking forward to

277
00:10:07,670 --> 00:10:06,240
seeing with launch with oa5

278
00:10:12,710 --> 00:10:07,680
they're basically in the same ballpark

279
00:10:16,069 --> 00:10:14,949
james oh thanks james d in florida today

280
00:10:19,190 --> 00:10:16,079
i was actually going to ask about that

281
00:10:20,470 --> 00:10:19,200
scott kelly photo i was just curious if

282
00:10:23,190 --> 00:10:20,480
any of you guys had a chance to speak

283
00:10:25,350 --> 00:10:23,200
directly with the crew you know after uh

284
00:10:27,030 --> 00:10:25,360
after launch and i've exchanged emails

285
00:10:28,870 --> 00:10:27,040
with scott and he's real happy to see

286
00:10:30,470 --> 00:10:28,880
that coming his way

287
00:10:33,030 --> 00:10:30,480
emails okay thanks i was also just

288
00:10:34,790 --> 00:10:33,040

curious um if

289
00:10:36,389 --> 00:10:34,800
you had not been able to get off today

290
00:10:38,550 --> 00:10:36,399
would that have made things really

291
00:10:39,990 --> 00:10:38,560
difficult complicated would you have

292
00:10:42,710 --> 00:10:40,000
been in a situation where you loitered

293
00:10:44,230 --> 00:10:42,720
for weeks potentially or any idea when

294
00:10:45,670 --> 00:10:44,240
you could have got to the station if you

295
00:10:47,110 --> 00:10:45,680
hadn't made it by today

296
00:10:49,269 --> 00:10:47,120
actually we've been working very closely

297
00:10:51,590 --> 00:10:49,279
with ben and his team looking at options

298
00:10:53,190 --> 00:10:51,600
if we were not able to launch today

299
00:10:54,470 --> 00:10:53,200
as it stands now we'll be able to

300
00:10:56,870 --> 00:10:54,480
approach the station on the morning of

301
00:10:58,870 --> 00:10:56,880
the 9th the morning of the 10th was the

302
00:11:01,350 --> 00:10:58,880
cut-off for actually being able to birth

303
00:11:02,790 --> 00:11:01,360
the cygnus with the station

304
00:11:03,670 --> 00:11:02,800
excuse me the ninth was to cut off the

305
00:11:05,509 --> 00:11:03,680
10th

306
00:11:07,670 --> 00:11:05,519
we really wouldn't have time to birth

307
00:11:09,030 --> 00:11:07,680
because of crew operations however we

308
00:11:10,389 --> 00:11:09,040
had reached an agreement where we would

309
00:11:12,790 --> 00:11:10,399
be able to

310
00:11:14,949 --> 00:11:12,800
approach the station

311
00:11:17,110 --> 00:11:14,959
reach the uh birthing point or the

312
00:11:19,750 --> 00:11:17,120
grapple point be grappled and then just

313
00:11:21,990 --> 00:11:19,760

remain on the arm until um uh they could

314
00:11:23,990 --> 00:11:22,000
uh open that the um

315
00:11:25,910 --> 00:11:24,000
or uh open up enough time in the cruise

316
00:11:27,509 --> 00:11:25,920
schedule to to birth us to the uh to

317
00:11:29,590 --> 00:11:27,519
note too

318
00:11:31,190 --> 00:11:29,600
if we had gone later than that then we

319
00:11:32,310 --> 00:11:31,200
may have had to loiter for a week or so

320
00:11:34,389 --> 00:11:32,320
before we could have approached the

321
00:11:36,310 --> 00:11:34,399
station but we had sufficient fuel for

322
00:11:37,910 --> 00:11:36,320
that

323
00:11:40,389 --> 00:11:37,920
hi ken kramer universe today in

324
00:11:42,550 --> 00:11:40,399
northeast astronomy form a quick one for

325
00:11:44,630 --> 00:11:42,560
frank and vern frank is this the most

326
00:11:46,550 --> 00:11:44,640
thrilling exciting cygnus launch you've

327
00:11:48,389 --> 00:11:46,560
ever seen given the mishap and the

328
00:11:50,470 --> 00:11:48,399
recovery and vern

329
00:11:52,790 --> 00:11:50,480
i'm wondering okay this is the first iss

330
00:11:55,269 --> 00:11:52,800
launch so did this give you a nice jump

331
00:11:57,190 --> 00:11:55,279
on launches for commercial crude did it

332
00:11:58,470 --> 00:11:57,200
provide some good good lessons learned

333
00:12:00,949 --> 00:11:58,480
thanks

334
00:12:02,470 --> 00:12:00,959
they're all exciting ken and uh every

335
00:12:03,990 --> 00:12:02,480
single one of them and uh yeah it's

336
00:12:06,150 --> 00:12:04,000
great to be back in space and have

337
00:12:07,990 --> 00:12:06,160
cygnus up there have the team working on

338
00:12:09,030 --> 00:12:08,000

what we uh what we are committed to

339
00:12:12,150 --> 00:12:09,040
doing

340
00:12:13,269 --> 00:12:12,160
but they're all very exciting

341
00:12:15,110 --> 00:12:13,279
yeah and

342
00:12:16,790 --> 00:12:15,120
you know we were looking forward to

343
00:12:18,550 --> 00:12:16,800
flying cargo missions in a few years

344
00:12:20,150 --> 00:12:18,560
this mission definitely gave us a head

345
00:12:22,389 --> 00:12:20,160
start on that through our partnership

346
00:12:23,430 --> 00:12:22,399
with orbital atk we're starting to do

347
00:12:25,030 --> 00:12:23,440
that

348
00:12:27,269 --> 00:12:25,040
i guess roughly about a year and a half

349
00:12:28,310 --> 00:12:27,279
two years earlier than we otherwise

350
00:12:29,590 --> 00:12:28,320
might have

351
00:12:31,829 --> 00:12:29,600
lessons learned

352
00:12:33,990 --> 00:12:31,839
certainly if we fly additional cargo

353
00:12:35,750 --> 00:12:34,000
missions for orbital atk those would

354
00:12:37,590 --> 00:12:35,760
essentially be reflights so lots of

355
00:12:39,430 --> 00:12:37,600
lessons learned that would apply there

356
00:12:41,590 --> 00:12:39,440
and lessons learned in general yeah a

357
00:12:43,670 --> 00:12:41,600
few of those too um

358
00:12:46,230 --> 00:12:43,680
probably the biggest one is

359
00:12:48,710 --> 00:12:46,240
an understanding of uh the scheduling

360
00:12:50,550 --> 00:12:48,720
and manifesting of activities at the iss

361
00:12:52,150 --> 00:12:50,560
we got a lot of insight into that which

362
00:12:54,150 --> 00:12:52,160
was necessary for us to you know

363
00:12:56,069 --> 00:12:54,160

coordinate our launch date with uh with

364
00:12:56,949 --> 00:12:56,079
iss operations

365
00:12:58,790 --> 00:12:56,959
um

366
00:13:00,150 --> 00:12:58,800
they have a manifesting process it's

367
00:13:02,550 --> 00:13:00,160
kind of similar to ours but they're

368
00:13:03,990 --> 00:13:02,560
driven by totally different uh

369
00:13:05,430 --> 00:13:04,000
different issues

370
00:13:07,990 --> 00:13:05,440
but that'll help us in the future as

371
00:13:11,750 --> 00:13:09,990
take a question here uh phillips loss

372
00:13:13,910 --> 00:13:11,760
with nasaspaceflight.com for mr

373
00:13:15,190 --> 00:13:13,920
culverson um can you talk about the uh

374
00:13:16,550 --> 00:13:15,200
the far field rendezvous orange you're

375
00:13:18,710 --> 00:13:16,560
going to be doing over the next couple

376
00:13:21,350 --> 00:13:18,720
of days to get you set up to do the

377
00:13:22,949 --> 00:13:21,360
wednesday rendezvous

378
00:13:24,629 --> 00:13:22,959
i don't know how much detail you want we

379
00:13:26,870 --> 00:13:24,639
will be going through the the normal

380
00:13:28,069 --> 00:13:26,880
process of approaching the station from

381
00:13:30,389 --> 00:13:28,079
below

382
00:13:32,230 --> 00:13:30,399
we'll arrive at a point about 250 meters

383
00:13:33,829 --> 00:13:32,240
from the station

384
00:13:36,069 --> 00:13:33,839
early on the morning of the night after

385
00:13:37,509 --> 00:13:36,079
going through several phasing burns uh

386
00:13:40,069 --> 00:13:37,519
we'll of course be monitoring the

387
00:13:41,670 --> 00:13:40,079
systems on board as we do that and then

388
00:13:43,910 --> 00:13:41,680

of course once we get in range we'll

389
00:13:46,150 --> 00:13:43,920
pick up the communications directly from

390
00:13:47,350 --> 00:13:46,160
the station so that the crew has insight

391
00:13:48,550 --> 00:13:47,360
into what we're doing and of course

392
00:13:51,509 --> 00:13:48,560
houston will be watching what we're

393
00:13:53,670 --> 00:13:51,519
doing once we receive the go from from

394
00:13:55,269 --> 00:13:53,680
mission control in houston to continue

395
00:13:58,150 --> 00:13:55,279
the approach to the station we'll we

396
00:14:00,069 --> 00:13:58,160
will do that autonomously and uh until

397
00:14:03,030 --> 00:14:00,079
we hit a couple of pause points on the

398
00:14:05,509 --> 00:14:03,040
way in and then uh continue all the way

399
00:14:07,110 --> 00:14:05,519
into about 10 meters where the crew will

400
00:14:10,150 --> 00:14:07,120
then be able to grapple us and and put

401
00:14:11,590 --> 00:14:10,160
us in position for birthing

402
00:14:15,350 --> 00:14:11,600
jason

403
00:14:17,269 --> 00:14:15,360
this one goes to vern um you guys are

404
00:14:19,430 --> 00:14:17,279
working with boeing to launch starliner

405
00:14:21,110 --> 00:14:19,440
pretty soon to the iss was tonight's

406
00:14:23,030 --> 00:14:21,120
flight anyway like a precursor or a

407
00:14:26,150 --> 00:14:23,040
little maybe a little chance to get a

408
00:14:27,750 --> 00:14:26,160
little your feet wet on that effort

409
00:14:28,790 --> 00:14:27,760
um i think it kind of goes to what i

410
00:14:32,470 --> 00:14:28,800
said before

411
00:14:34,629 --> 00:14:32,480
getting that that insight into how nasa

412
00:14:35,829 --> 00:14:34,639
uh develops their schedule and manage it

413
00:14:38,389 --> 00:14:35,839

manages their schedule and their

414
00:14:40,870 --> 00:14:38,399
manifest at the iss was very insightful

415
00:14:42,710 --> 00:14:40,880
for us all that all that will apply

416
00:14:44,949 --> 00:14:42,720
uh whether we're flying cargo or crude

417
00:14:48,710 --> 00:14:44,959
missions to the station in the future

418
00:14:50,389 --> 00:14:48,720
um so in some sense this was a

419
00:14:51,750 --> 00:14:50,399
very unique mission for us on the other

420
00:14:53,910 --> 00:14:51,760
hand you know we've flown plenty of low

421
00:14:56,470 --> 00:14:53,920
earth orbit missions in the past so from

422
00:14:59,189 --> 00:14:56,480
a from a technical standpoint

423
00:15:00,870 --> 00:14:59,199
it was not uh too far outside of our

424
00:15:02,550 --> 00:15:00,880
experience but from a programmatic

425
00:15:03,990 --> 00:15:02,560
standpoint and working with this

426
00:15:06,150 --> 00:15:04,000
particular set of customers it was a

427
00:15:07,350 --> 00:15:06,160
good learning experience

428
00:15:13,030 --> 00:15:07,360
james

429
00:15:14,870 --> 00:15:13,040
any idea when the next cygnus

430
00:15:16,629 --> 00:15:14,880
any cygnus modules will be delivered

431
00:15:18,150 --> 00:15:16,639
down here to ksc for the next flight and

432
00:15:20,870 --> 00:15:18,160
for then

433
00:15:21,990 --> 00:15:20,880
i want to ask you if assuming cygnus

434
00:15:24,310 --> 00:15:22,000
reaches

435
00:15:25,350 --> 00:15:24,320
iss successfully as planned does that

436
00:15:27,110 --> 00:15:25,360
change

437
00:15:28,470 --> 00:15:27,120
you're thinking about when you want the

438
00:15:30,470 --> 00:15:28,480

next spacex

439
00:15:32,230 --> 00:15:30,480
mission to launch

440
00:15:33,670 --> 00:15:32,240
we expect both components of the

441
00:15:35,509 --> 00:15:33,680
spacecraft to be here sometime in

442
00:15:37,509 --> 00:15:35,519
january and we'll begin the process

443
00:15:39,509 --> 00:15:37,519
again of integrating them loading the

444
00:15:42,230 --> 00:15:39,519
cargo and going through the same process

445
00:15:44,230 --> 00:15:42,240
we did leading up to this one

446
00:15:45,350 --> 00:15:44,240
yeah in regards to uh spacex yeah we're

447
00:15:47,110 --> 00:15:45,360
looking forward to having them whenever

448
00:15:48,389 --> 00:15:47,120
they're ready to come to station they've

449
00:15:49,829 --> 00:15:48,399
got some

450
00:15:51,430 --> 00:15:49,839
external

451
00:15:52,949 --> 00:15:51,440
the beam

452
00:15:54,949 --> 00:15:52,959
payload on that flight as well as we've

453
00:15:56,389 --> 00:15:54,959
got some rodent research so

454
00:15:57,829 --> 00:15:56,399
because of their return capability and

455
00:15:59,749 --> 00:15:57,839
external capability we'd be looking

456
00:16:02,150 --> 00:15:59,759
forward to having them at station as

457
00:16:04,069 --> 00:16:02,160
soon as they're ready

458
00:16:06,790 --> 00:16:04,079
james one other thing to add it's been a

459
00:16:08,389 --> 00:16:06,800
learning process for us in terms of

460
00:16:09,829 --> 00:16:08,399
integrating the cargo and the spacecraft

461
00:16:11,749 --> 00:16:09,839
here and i want to thank the kennedy

462
00:16:13,509 --> 00:16:11,759
space center bob cabana and his

463
00:16:15,509 --> 00:16:13,519

leadership in in providing the

464
00:16:16,870 --> 00:16:15,519
facilities and the people to help us

465
00:16:19,269 --> 00:16:16,880
with that i think they were excited to

466
00:16:21,910 --> 00:16:19,279
have space station components here again

467
00:16:23,350 --> 00:16:21,920
and loading cargo but we were also

468
00:16:24,790 --> 00:16:23,360
excited to work with them and learn from

469
00:16:26,550 --> 00:16:24,800
them and and it's gone very very

470
00:16:28,230 --> 00:16:26,560
smoothly in the space station processing

471
00:16:31,430 --> 00:16:28,240
facility

472
00:16:32,470 --> 00:16:31,440
tom rothmel with the nasa social um

473
00:16:34,870 --> 00:16:32,480
we saw

474
00:16:36,550 --> 00:16:34,880
the picture from commander kelly of it

475
00:16:38,230 --> 00:16:36,560
and there's been some reports online of

476
00:16:40,710 --> 00:16:38,240
people having seen the two vehicles

477
00:16:42,470 --> 00:16:40,720
together how far is cygnus away from the

478
00:16:44,389 --> 00:16:42,480
space station at the moment

479
00:16:46,389 --> 00:16:44,399
it's thousands of kilometers away so i

480
00:16:49,670 --> 00:16:46,399
doubt they saw them together

481
00:16:50,949 --> 00:16:49,680
they very well could have seen cygnus

482
00:16:52,550 --> 00:16:50,959
or the the

483
00:16:54,230 --> 00:16:52,560
launch vehicle as it went up the east

484
00:16:55,749 --> 00:16:54,240
coast of the united states

485
00:16:58,470 --> 00:16:55,759
don't know whether it would have been

486
00:17:00,870 --> 00:16:58,480
seen over europe once they had separated

487
00:17:03,670 --> 00:17:00,880
because you had the centaur uh doing its

488
00:17:05,590 --> 00:17:03,680

thing for re-entry and cygnus can doing

489
00:17:07,510 --> 00:17:05,600
his thing to continue its uh its

490
00:17:09,350 --> 00:17:07,520
rendezvous with the station so they may

491
00:17:12,549 --> 00:17:09,360
have seen two spacecraft uh if the

492
00:17:14,390 --> 00:17:12,559
lighting was right over over europe

493
00:17:16,870 --> 00:17:14,400
hi ken kramer universe today again for

494
00:17:18,949 --> 00:17:16,880
frank um curious if we hadn't launched

495
00:17:21,350 --> 00:17:18,959
today and you had to loiter a while in

496
00:17:23,110 --> 00:17:21,360
space perhaps up to a month

497
00:17:25,750 --> 00:17:23,120
actually i'm wondering how comfortable

498
00:17:27,029 --> 00:17:25,760
do you feel with the cygnus loitering in

499
00:17:28,069 --> 00:17:27,039
space

500
00:17:30,310 --> 00:17:28,079
um

501
00:17:32,390 --> 00:17:30,320
as far as its systems i mean this that

502
00:17:33,990 --> 00:17:32,400
obviously brings a little bit of

503
00:17:36,310 --> 00:17:34,000
you know a possibility that something

504
00:17:38,549 --> 00:17:36,320
could go awry i wonder how so talk a

505
00:17:40,070 --> 00:17:38,559
little bit about about that please

506
00:17:41,830 --> 00:17:40,080
actually the spacecraft is designed to

507
00:17:44,630 --> 00:17:41,840
last a long long time in orbit it's

508
00:17:46,070 --> 00:17:44,640
based on our heritage uh spacecraft

509
00:17:48,630 --> 00:17:46,080
components that are designed for up to

510
00:17:50,230 --> 00:17:48,640
15 years of operation in space so we're

511
00:17:51,990 --> 00:17:50,240
very comfortable with with loitering if

512
00:17:53,510 --> 00:17:52,000
we need to do that this particular

513
00:17:55,510 --> 00:17:53,520

mission we have plenty of fuel to do

514
00:17:57,110 --> 00:17:55,520
that and we are looking forward on

515
00:17:59,029 --> 00:17:57,120
future missions to

516
00:18:02,390 --> 00:17:59,039
staying in space for anywhere from a

517
00:18:04,549 --> 00:18:02,400
week to six months if necessary on some

518
00:18:07,270 --> 00:18:04,559
missions to conduct other experiments

519
00:18:09,510 --> 00:18:07,280
post birthing with the uh with the iss

520
00:18:11,510 --> 00:18:09,520
so the spacecraft is designed to stay in

521
00:18:13,190 --> 00:18:11,520
in space for a long time and we're very

522
00:18:15,190 --> 00:18:13,200
comfortable doing that

523
00:18:17,510 --> 00:18:15,200
but i understand post

524
00:18:20,310 --> 00:18:17,520
post departure but more i'm interested

525
00:18:21,990 --> 00:18:20,320
in before arrival you still feel very

526
00:18:23,830 --> 00:18:22,000
comfortable if you would have to loiter

527
00:18:25,590 --> 00:18:23,840
for a month in orbit well you have to

528
00:18:28,549 --> 00:18:25,600
balance a lot of different factors here

529
00:18:31,990 --> 00:18:28,559
in terms of launch vehicle

530
00:18:35,350 --> 00:18:32,000
availability launch window availability

531
00:18:37,270 --> 00:18:35,360
the future schedule coming down the line

532
00:18:39,110 --> 00:18:37,280
getting off the pad is generally a

533
00:18:40,870 --> 00:18:39,120
really good thing even if you have to

534
00:18:43,029 --> 00:18:40,880
stay in space for a while and we're in a

535
00:18:44,470 --> 00:18:43,039
pretty um

536
00:18:46,630 --> 00:18:44,480
uh

537
00:18:49,110 --> 00:18:46,640
pretty calm situation when we're in

538
00:18:50,390 --> 00:18:49,120

space uh waiting for for the rendezvous

539
00:18:52,789 --> 00:18:50,400
we've got plenty of power and plenty of

540
00:18:54,710 --> 00:18:52,799
fuel we don't use very much per day

541
00:18:56,549 --> 00:18:54,720
it's just a matter of maintaining the

542
00:18:58,470 --> 00:18:56,559
station keeping with the station at a

543
00:18:59,909 --> 00:18:58,480
fairly long distance and then being

544
00:19:01,669 --> 00:18:59,919
ready to come in when they say they're

545
00:19:03,830 --> 00:19:01,679
they're ready for us so we're pretty

546
00:19:06,390 --> 00:19:03,840
comfortable doing that and um

547
00:19:07,669 --> 00:19:06,400
in in most most situations i'd rather go

548
00:19:09,430 --> 00:19:07,679
ahead and get off the pad when we've got

549
00:19:11,750 --> 00:19:09,440
the opportunity

550
00:19:13,510 --> 00:19:11,760
all things being equal

551
00:19:15,270 --> 00:19:13,520
okay we're going to uh

552
00:19:16,710 --> 00:19:15,280
going to end things here really

553
00:19:18,390 --> 00:19:16,720
appreciate you coming over and uh

554
00:19:20,630 --> 00:19:18,400
congratulations once again on a very

555
00:19:22,070 --> 00:19:20,640
successful launch and beginning of the

556
00:19:24,870 --> 00:19:22,080
orbital atk

557
00:19:27,430 --> 00:19:24,880
crs4 mission thank you all for coming as

558
00:19:29,909 --> 00:19:27,440
well the next major event related to the

559
00:19:31,990 --> 00:19:29,919
mission will be the grapple on wednesday

560
00:19:34,230 --> 00:19:32,000
december 9th by chell lindgren using the

561
00:19:35,669 --> 00:19:34,240
space station arm and nasa television

562
00:19:37,830 --> 00:19:35,679
will provide live coverage of the

563
00:19:40,789 --> 00:19:37,840

grapple the grapple should occur at

564
00:19:42,470 --> 00:19:40,799
approximately 6 10 a.m eastern time

565
00:19:43,990 --> 00:19:42,480
between now and then you can keep track

566
00:19:48,070 --> 00:19:44,000
of mission developments by going to the