
NASA
SPACESTATION
LIVE

1
00:00:08,150 --> 00:00:06,389
the cygnus cargo ship now attached to

2
00:00:09,589 --> 00:00:08,160
the earth-facing side of the

3
00:00:11,589 --> 00:00:09,599
international space station's harmony

4
00:00:14,150 --> 00:00:11,599
module is due to be removed from that

5
00:00:15,509 --> 00:00:14,160
spot and sent on its way next week

6
00:00:18,070 --> 00:00:15,519
wrapping up a mission that delivered

7
00:00:20,950 --> 00:00:18,080
over 7 500 pounds of cargo and small

8
00:00:22,710 --> 00:00:20,960
satellites when it arrived in late march

9
00:00:24,950 --> 00:00:22,720
this ship will not only be hauling

10
00:00:26,950 --> 00:00:24,960
things off no longer needed on the

11
00:00:28,710 --> 00:00:26,960
station it will also host some science

12
00:00:31,029 --> 00:00:28,720
on its way down to a destructive

13
00:00:32,630 --> 00:00:31,039

re-entry into the atmosphere joining us

14
00:00:34,630 --> 00:00:32,640
this morning to talk about

15
00:00:36,630 --> 00:00:34,640
some of those things coming up is holly

16
00:00:38,790 --> 00:00:36,640
vavren the international space station

17
00:00:40,150 --> 00:00:38,800
uh program's flight lead of the cygnus

18
00:00:41,350 --> 00:00:40,160
mission thank you holly for being here

19
00:00:43,030 --> 00:00:41,360
happy to be here

20
00:00:44,310 --> 00:00:43,040
all right so tell me um would you say

21
00:00:46,869 --> 00:00:44,320
this mission has gone pretty much

22
00:00:48,869 --> 00:00:46,879
according to plan so far it's been

23
00:00:50,950 --> 00:00:48,879
essentially flawless all of the cygnus

24
00:00:53,270 --> 00:00:50,960
subsystems have performed not performed

25
00:00:54,630 --> 00:00:53,280
nominally this is the second flight of

26
00:00:56,229 --> 00:00:54,640
the enhanced

27
00:00:58,790 --> 00:00:56,239
cygnus spacecraft

28
00:01:00,229 --> 00:00:58,800
and so with the changes that have been

29
00:01:01,830 --> 00:01:00,239
made incrementally over time it just

30
00:01:03,349 --> 00:01:01,840
really proves how reliable the

31
00:01:05,270 --> 00:01:03,359
spacecraft design is where we're really

32
00:01:08,469 --> 00:01:05,280
happy with the performance so it's going

33
00:01:10,469 --> 00:01:08,479
to be taking about uh 4 400 pounds of of

34
00:01:11,830 --> 00:01:10,479
trash and other things away from station

35
00:01:13,270 --> 00:01:11,840
what kinds of trash is it going to be

36
00:01:15,429 --> 00:01:13,280
taking away well as you mentioned

37
00:01:17,270 --> 00:01:15,439
earlier cygnus undergoes a destructive

38
00:01:20,469 --> 00:01:17,280

reentry that means it burns up in the

39
00:01:23,109 --> 00:01:20,479
atmosphere and so that's a really

40
00:01:25,429 --> 00:01:23,119
effective way of getting rid of trash

41
00:01:28,230 --> 00:01:25,439
and broken or obsolete hardware that we

42
00:01:30,950 --> 00:01:28,240
no longer need on station and so we've

43
00:01:32,950 --> 00:01:30,960
got as i mentioned some some hardware

44
00:01:34,550 --> 00:01:32,960
broken hardware

45
00:01:37,350 --> 00:01:34,560
obsolete hardware

46
00:01:40,550 --> 00:01:37,360
we have dirty laundry

47
00:01:42,230 --> 00:01:40,560
food canisters and of course smelly

48
00:01:44,149 --> 00:01:42,240
waste items

49
00:01:46,950 --> 00:01:44,159
so we're basically a big garbage truck

50
00:01:48,389 --> 00:01:46,960
but it's a very important aspect to

51
00:01:49,990 --> 00:01:48,399
supporting station operations it's

52
00:01:52,149 --> 00:01:50,000
better than keeping it on the station

53
00:01:53,590 --> 00:01:52,159
absolutely for six months so on its way

54
00:01:54,950 --> 00:01:53,600
down is not only carrying trash is

55
00:01:57,270 --> 00:01:54,960
carrying some experiments it's going to

56
00:01:59,429 --> 00:01:57,280
be deploying some satellites and play

57
00:02:01,670 --> 00:01:59,439
host to what's described as i guess a

58
00:02:03,030 --> 00:02:01,680
large fire so tell me about these events

59
00:02:06,149 --> 00:02:03,040
and how you're going to get the data

60
00:02:08,550 --> 00:02:06,159
from the fire experiment sapphire okay

61
00:02:09,510 --> 00:02:08,560
so on tuesday the 14th uh cygnus will

62
00:02:11,510 --> 00:02:09,520
depart

63
00:02:14,229 --> 00:02:11,520

from space station and about four hours

64
00:02:16,630 --> 00:02:14,239
after departure will begin the sapphire

65
00:02:18,390 --> 00:02:16,640
operations that is the spacecraft fire

66
00:02:19,750 --> 00:02:18,400
experiment that is run out of the glenn

67
00:02:21,670 --> 00:02:19,760
research center

68
00:02:23,830 --> 00:02:21,680
and so the goal is to understand how

69
00:02:25,270 --> 00:02:23,840
fire propagates without the effects of

70
00:02:27,670 --> 00:02:25,280
gravity so we're going to answer

71
00:02:29,589 --> 00:02:27,680
questions like how large does a fire get

72
00:02:31,750 --> 00:02:29,599
how fast does it spread

73
00:02:33,670 --> 00:02:31,760
and this information will help us

74
00:02:35,750 --> 00:02:33,680
improve future spacecraft designs

75
00:02:37,030 --> 00:02:35,760
especially for long duration missions

76
00:02:39,509 --> 00:02:37,040
there have been previous combustion

77
00:02:41,270 --> 00:02:39,519
experiments performed in space and on on

78
00:02:43,190 --> 00:02:41,280
the space station but those experiments

79
00:02:45,350 --> 00:02:43,200
have been limited to samples that are

80
00:02:47,830 --> 00:02:45,360
four inches square or less so an

81
00:02:50,070 --> 00:02:47,840
unmanned cargo craft lake cygnus is

82
00:02:52,630 --> 00:02:50,080
ideal for large large-scale combustion

83
00:02:54,229 --> 00:02:52,640
experiments without posing any risk to

84
00:02:56,150 --> 00:02:54,239
iss or crew

85
00:02:56,949 --> 00:02:56,160
so in cygnus there's a one foot by three

86
00:02:59,509 --> 00:02:56,959
foot

87
00:03:00,630 --> 00:02:59,519
material sample it's a cotton fiberglass

88
00:03:03,750 --> 00:03:00,640

blend

89
00:03:05,509 --> 00:03:03,760
located inside a specially built

90
00:03:07,110 --> 00:03:05,519
enclosure that's inside the pressurized

91
00:03:09,990 --> 00:03:07,120
section of cygnus

92
00:03:11,589 --> 00:03:10,000
and so after departure the orbital atk

93
00:03:14,710 --> 00:03:11,599
flight controllers from their dulles

94
00:03:16,470 --> 00:03:14,720
facility dulles virginia facility will

95
00:03:18,390 --> 00:03:16,480
remotely ignite the sample

96
00:03:20,070 --> 00:03:18,400
we're going to get a lot of data

97
00:03:21,990 --> 00:03:20,080
from sensors that are placed throughout

98
00:03:24,070 --> 00:03:22,000
the vehicle and

99
00:03:25,990 --> 00:03:24,080
high def video that's what we're most

100
00:03:28,229 --> 00:03:26,000
excited to see how the fire behaves in

101
00:03:30,789 --> 00:03:28,239
space that'll be downlinked via ground

102
00:03:33,030 --> 00:03:30,799
station over the next few days

103
00:03:34,070 --> 00:03:33,040
so researchers can study it

104
00:03:36,309 --> 00:03:34,080
awesome

105
00:03:38,149 --> 00:03:36,319
in addition there will be some cubesat

106
00:03:40,789 --> 00:03:38,159
deployments this is the first use of the

107
00:03:42,789 --> 00:03:40,799
nanoracks cubesat deployer to deploy

108
00:03:44,789 --> 00:03:42,799
small satellites from cygnus

109
00:03:46,869 --> 00:03:44,799
historically we've used the japanese

110
00:03:48,630 --> 00:03:46,879
airlock on station to deploy satellites

111
00:03:51,110 --> 00:03:48,640
but now we have the ability to

112
00:03:54,149 --> 00:03:51,120
deploy from a free-flying vehicle so

113
00:03:55,509 --> 00:03:54,159

there are five spire lemur satellites on

114
00:03:58,070 --> 00:03:55,519
this vehicle they've got technology

115
00:03:59,750 --> 00:03:58,080
demonstrations and maritime and weather

116
00:04:01,670 --> 00:03:59,760
observation platforms and those will be

117
00:04:03,990 --> 00:04:01,680
deployed on wednesday morning and those

118
00:04:06,229 --> 00:04:04,000
cubes has the weather operations for uh

119
00:04:07,750 --> 00:04:06,239
ships and boats yes monitoring yes

120
00:04:09,509 --> 00:04:07,760
excellent so those are the two

121
00:04:11,670 --> 00:04:09,519
experiments we have uh the sapphire we

122
00:04:13,750 --> 00:04:11,680
have some of the cubesats we also have

123
00:04:15,589 --> 00:04:13,760
the rebirth the destructive re-entry is

124
00:04:17,830 --> 00:04:15,599
going to be uh it's going to be looking

125
00:04:19,509 --> 00:04:17,840
at some of that that data

126
00:04:20,710 --> 00:04:19,519
so tell me what would be measured and

127
00:04:22,710 --> 00:04:20,720
what's the value of knowing the

128
00:04:25,270 --> 00:04:22,720
specifics of how the vehicle is

129
00:04:28,629 --> 00:04:25,280
destroyed on re-entry okay so on june

130
00:04:30,790 --> 00:04:28,639
22nd cygnus will begin its fiery demise

131
00:04:32,070 --> 00:04:30,800
and so the re-entry breakup recorder is

132
00:04:33,990 --> 00:04:32,080
a payload that was designed by the

133
00:04:35,749 --> 00:04:34,000
aerospace corporation and flown under

134
00:04:37,749 --> 00:04:35,759
the direction of the dod space test

135
00:04:39,510 --> 00:04:37,759
program and that payload will record

136
00:04:41,749 --> 00:04:39,520
temperature and acoustic measurements

137
00:04:43,909 --> 00:04:41,759
from inside the spacecraft

138
00:04:47,110 --> 00:04:43,919

this data is collected sent to a mother

139
00:04:49,350 --> 00:04:47,120
unit also inside the vehicle and then as

140
00:04:50,390 --> 00:04:49,360
the cygnus vehicle is breaking up

141
00:04:53,030 --> 00:04:50,400
the

142
00:04:55,350 --> 00:04:53,040
reeber unit makes a satellite phone call

143
00:04:57,110 --> 00:04:55,360
through the iridium network to transmit

144
00:04:59,189 --> 00:04:57,120
that data to researchers on the ground

145
00:05:01,430 --> 00:04:59,199
and the data that we're obtaining is

146
00:05:02,710 --> 00:05:01,440
really crucial to understanding how

147
00:05:04,390 --> 00:05:02,720
spacecraft

148
00:05:06,310 --> 00:05:04,400
behave during re-entry and this will

149
00:05:07,350 --> 00:05:06,320
allow us to improve future spacecraft

150
00:05:08,870 --> 00:05:07,360
designs

151
00:05:11,749 --> 00:05:08,880
excellent so we have all these

152
00:05:14,230 --> 00:05:11,759
experiments and then it departs on june

153
00:05:17,029 --> 00:05:14,240
14th and then begins its destructive

154
00:05:18,629 --> 00:05:17,039
re-entry eight days later on june 22nd

155
00:05:19,830 --> 00:05:18,639
after that are there more cygnus cargo

156
00:05:22,150 --> 00:05:19,840
ships on the agenda for this year

157
00:05:24,469 --> 00:05:22,160
absolutely teams are busy

158
00:05:26,550 --> 00:05:24,479
the oa5 mission is coming up that'll be

159
00:05:29,189 --> 00:05:26,560
the antares launch vehicle return to

160
00:05:30,870 --> 00:05:29,199
flight uh orbital atk recently completed

161
00:05:33,430 --> 00:05:30,880
a very important milestone leading up to

162
00:05:36,070 --> 00:05:33,440
that to that launch it was a hot fire

163
00:05:37,189 --> 00:05:36,080

test of the first stage got a picture up

164
00:05:40,550 --> 00:05:37,199
looks like

165
00:05:42,469 --> 00:05:40,560
of how that went very successful

166
00:05:44,150 --> 00:05:42,479
specialists will be reviewing data over

167
00:05:45,830 --> 00:05:44,160
the next couple of weeks

168
00:05:47,590 --> 00:05:45,840
but in the meantime the cygnus vehicle

169
00:05:49,110 --> 00:05:47,600
for the oa5 mission is at the launch

170
00:05:50,629 --> 00:05:49,120
site and we're very much looking forward

171
00:05:54,310 --> 00:05:50,639
to launching from the wallops flight

172
00:05:56,150 --> 00:05:54,320
facility in addition there's another

173
00:05:59,510 --> 00:05:56,160
orbital atk mission planned for later

174
00:06:01,510 --> 00:05:59,520
this year called oa7 and preparation is

175
00:06:03,510 --> 00:06:01,520
underway for that mission as well plenty

176
00:06:05,749 --> 00:06:03,520
of cargo going up and down we're very

177
00:06:07,350 --> 00:06:05,759
excited for the return to flight and all

178
00:06:09,830 --> 00:06:07,360
uh holly thank you for being with us

179
00:06:11,189 --> 00:06:09,840
today again the on on june 14th the

180
00:06:13,749 --> 00:06:11,199
cygnus cargo vehicle is going to be

181
00:06:15,990 --> 00:06:13,759
departing uh from the station and we'll

182
00:06:18,629 --> 00:06:16,000
be providing some nasa tv coverage uh

183
00:06:21,430 --> 00:06:18,639
starting at eight am central time uh

184
00:06:23,590 --> 00:06:21,440
eighth and uh it'll depart at uh 8 30

185
00:06:25,430 --> 00:06:23,600
a.m central time so again holly thanks

186
00:06:27,430 --> 00:06:25,440
for being with us today my pleasure