1
00:00:04,360 --> 00:00:02,590
I don't really know what to say today

2
00:00:06,789 --> 00:00:04,370
except I really want to thank the

3
00:00:08,919 --> 00:00:06,799
discovery team for for doing just an

4
00:00:11,949 --> 00:00:08,929
amazing job with this flight in this

5
00:00:13,539 --> 00:00:11,959
vehicle when I think of the discovery

6
00:00:15,459 --> 00:00:13,549
team I think not only of the folks that

7
00:00:17,290 --> 00:00:15,469
did all the processing that made this

8
00:00:19,480 --> 00:00:17,300
last flight just as perfect as it could

9
00:00:20,680 --> 00:00:19,490
be but but all the folks that throughout

10
00:00:22,750 --> 00:00:20,690
the history of the vehicle have

11
00:00:24,190 --> 00:00:22,760
participated and made this vehicle what

12
00:00:26,590 --> 00:00:24,200
it is when I think back to the Downey

13
00:00:28,000 --> 00:00:26,600

and palmdale guys and the folks we've

14
00:00:29,500 --> 00:00:28,010
worked out worked with throughout the

15
00:00:31,570 --> 00:00:29,510
years they're all part of the big

16
00:00:33,340 --> 00:00:31,580
discovery team that pulled all this off

17
00:00:36,369 --> 00:00:33,350
and again gave us just a phenomenal

18
00:00:38,290 --> 00:00:36,379
flight a phenomenal way to to see the

19
00:00:40,599 --> 00:00:38,300
the end of the discovery vehicle but

20
00:00:42,579 --> 00:00:40,609
again I think its legacy will be the

21
00:00:44,559 --> 00:00:42,589
future if you take a look at what this

22
00:00:46,660 --> 00:00:44,569
crew did the extra two days on orbit

23
00:00:48,639 --> 00:00:46,670
they really got space station in a great

24
00:00:50,919 --> 00:00:48,649
configuration they did a ton of extra

25
00:00:52,540 --> 00:00:50,929
work on board space station and that was

26
00:00:55,090 --> 00:00:52,550
really only possible because the vehicle

27
00:00:57,040 --> 00:00:55,100
did such a great job on orbit there was

28
00:00:59,379 --> 00:00:57,050
really no anomalies on the vehicle it

29
00:01:00,969 --> 00:00:59,389
came down to the ground exactly the same

30
00:01:03,309 --> 00:01:00,979
way looked extremely clean underneath

31
00:01:04,960 --> 00:01:03,319
but but that extra work in to get

32
00:01:06,220 --> 00:01:04,970
station really prepared is really going

33
00:01:07,720 --> 00:01:06,230
to cite us well up for this next

34
00:01:09,280 --> 00:01:07,730
research period because there would have

35
00:01:12,330 --> 00:01:09,290
been a lot of work being left for the

36
00:01:15,670 --> 00:01:12,340
station crew to go work through with the

37
00:01:17,710 --> 00:01:15,680
HTV arriving and the ATV arriving and

38
00:01:20,500 --> 00:01:17,720

then also discovery leaving the pmm so

39
00:01:21,880 --> 00:01:20,510
they just did a phenomenal job you know

40
00:01:23,830 --> 00:01:21,890
we were going to see here in a couple

41
00:01:25,900 --> 00:01:23,840
days to roll back out to the pad and

42
00:01:28,000 --> 00:01:25,910
we've got two more flights we need to

43
00:01:29,620 --> 00:01:28,010
keep the focus on those flights and stay

44
00:01:32,400 --> 00:01:29,630
diligent and keep working those flights

45
00:01:34,660 --> 00:01:32,410
it just as hard as we did this flight

46
00:01:37,090 --> 00:01:34,670
spaceflight doesn't come easy as we all

47
00:01:39,100 --> 00:01:37,100
know I think last week we we got a

48
00:01:41,200 --> 00:01:39,110
chance to see that with the taurus XL

49
00:01:43,720 --> 00:01:41,210
and the glory mission the things that

50
00:01:45,430 --> 00:01:43,730
are even fairly simple to us and we

51
00:01:47,770 --> 00:01:45,440
think we fully understood we obviously

52
00:01:50,710 --> 00:01:47,780
didn't understand and we lost a glory

53
00:01:52,870 --> 00:01:50,720
spacecraft last week so that reemphasize

54
00:01:54,520 --> 00:01:52,880
'as to me we follow the same processes

55
00:01:56,530 --> 00:01:54,530
the systems are different but the same

56
00:01:58,270 --> 00:01:56,540
process as the same thought process is

57
00:02:01,000 --> 00:01:58,280
used in all our shuttle flights as well

58
00:02:02,740 --> 00:02:01,010
so we just need to stay focused keep our

59
00:02:05,620 --> 00:02:02,750
head down recognize that this is not

60
00:02:07,030 --> 00:02:05,630
easy keep the teams moving forward and i

61
00:02:08,320 --> 00:02:07,040
can tell you i'm sure that the folks

62
00:02:09,940 --> 00:02:08,330
here at Kennedy that work on the

63
00:02:11,320 --> 00:02:09,950

vehicles know that and they will do a

64
00:02:13,540 --> 00:02:11,330
great job of getting these vehicles

65
00:02:14,210 --> 00:02:13,550
ready to go fly and we'll close out the

66
00:02:15,830 --> 00:02:14,220
shuttle program

67
00:02:17,990 --> 00:02:15,840
the way it deserves to be closed out on

68
00:02:19,520 --> 00:02:18,000
an extremely high note but again I can't

69
00:02:20,720 --> 00:02:19,530
thank the discovery team enough for what

70
00:02:23,510 --> 00:02:20,730
they've done they just did a phenomenal

71
00:02:27,860 --> 00:02:23,520
job today the vehicle was just awesome

72
00:02:29,390 --> 00:02:27,870
so Mike thanks Bill yeah I'll echo that

73
00:02:31,010 --> 00:02:29,400
and say that it was really a triumph

74
00:02:33,380 --> 00:02:31,020
today for the whole entire discovery

75
00:02:36,350 --> 00:02:33,390
team the vehicle was in fantastic shape

76
00:02:37,970 --> 00:02:36,360
that flew the whole mission in in really

77
00:02:41,270 --> 00:02:37,980
great condition the thermal protection

78
00:02:43,390 --> 00:02:41,280
system looks fantastic and and you know

79
00:02:45,320 --> 00:02:43,400
it was beautiful we talked a little bit

80
00:02:48,170 --> 00:02:45,330
about the weather you know the winds

81
00:02:49,910 --> 00:02:48,180
were blowing crosswind for a little bit

82
00:02:51,290 --> 00:02:49,920
and they turned around as expected and

83
00:02:52,790 --> 00:02:51,300
pretty much headed straight down the

84
00:02:55,640 --> 00:02:52,800
runway I think we ended up with like a

85
00:02:57,590 --> 00:02:55,650
one not crosswind actual touchdown a

86
00:03:00,199 --> 00:02:57,600
nice little stiff headwind but nothing

87
00:03:02,060 --> 00:03:00,209
outside of limits at all and it made for

88
00:03:05,330 --> 00:03:02,070

a little nice cooling breeze out there

89
00:03:07,790 --> 00:03:05,340
on the runway after the crew got out but

90
00:03:09,949 --> 00:03:07,800
again no no issues at all we got to see

91
00:03:11,060 --> 00:03:09,959
that on the thermal protection system

92
00:03:13,100 --> 00:03:11,070
one of the things that was interesting

93
00:03:15,199 --> 00:03:13,110
to see is the little perturbed style

94
00:03:16,520 --> 00:03:15,209
that we fly a little bump that we put

95
00:03:17,720 --> 00:03:16,530
out on the edge of the wing to

96
00:03:20,690 --> 00:03:17,730
intentionally trip the boundary layer

97
00:03:23,600 --> 00:03:20,700
and learn about this hypersonic high

98
00:03:24,890 --> 00:03:23,610
speed reentry zone that really the

99
00:03:26,990 --> 00:03:24,900
shuttle is one of the few vehicles that

100
00:03:28,310 --> 00:03:27,000
flies in a way that we can truly gather

101
00:03:30,410 --> 00:03:28,320
data on it so in addition to all the

102
00:03:32,060 --> 00:03:30,420
great science and research going on in

103
00:03:34,220 --> 00:03:32,070
station the vehicle itself is a science

104
00:03:36,020 --> 00:03:34,230
platform and even here at the end of the

105
00:03:38,509 --> 00:03:36,030
program we're still progressing this was

106
00:03:41,240 --> 00:03:38,519
the first flight of the half-inch /

107
00:03:42,860 --> 00:03:41,250
truants the team's got really good data

108
00:03:44,810 --> 00:03:42,870
we think the thermocouple day it'll be

109
00:03:46,130 --> 00:03:44,820
great and then we also have a team of

110
00:03:48,050 --> 00:03:46,140
folks both on the ground and in the air

111
00:03:51,530 --> 00:03:48,060
doing what we call our high thermal

112
00:03:53,320 --> 00:03:51,540
imagery the cast glance p3 aircraft was

113
00:03:56,030 --> 00:03:53,330

down near Guatemala Honduras and

114
00:03:58,340 --> 00:03:56,040
captured Maquis teen photos and they

115
00:04:00,289 --> 00:03:58,350
believe they can see the cone where the

116
00:04:02,630 --> 00:04:00,299
this boundary layer was a symmetric and

117
00:04:04,160 --> 00:04:02,640
trip early at Mach 18 and then we had

118
00:04:05,990 --> 00:04:04,170
ground-based units over near st.

119
00:04:07,850 --> 00:04:06,000
Petersburg in Florida and they captured

120
00:04:09,800 --> 00:04:07,860
lower speed data around Mach 6 and again

121
00:04:11,060 --> 00:04:09,810
really good imagery and that's going to

122
00:04:14,509 --> 00:04:11,070
really advance our knowledge of

123
00:04:15,620 --> 00:04:14,519
high-speed entry aerodynamics we're

124
00:04:16,880 --> 00:04:15,630
going to continue that with endeavour

125
00:04:18,680 --> 00:04:16,890
it's also flying a half-inch

126
00:04:20,180 --> 00:04:18,690
protuberance although we were joking

127
00:04:21,650 --> 00:04:20,190
that this data looked good maybe we'll

128
00:04:23,390 --> 00:04:21,660
go and run out there and make it even

129
00:04:24,680 --> 00:04:23,400
bigger what's up

130
00:04:27,860 --> 00:04:24,690
but no I don't think we're gonna do that

131
00:04:29,180 --> 00:04:27,870
but we'll talk about it but anyway it

132
00:04:32,570 --> 00:04:29,190
shows some of the great stuff that we

133
00:04:34,520 --> 00:04:32,580
can do with the with the shuttle the the

134
00:04:35,870 --> 00:04:34,530
thing that leaves me the legacy

135
00:04:37,939 --> 00:04:35,880
discoveries leaving behind is the

136
00:04:39,650 --> 00:04:37,949
pictures from fly around and you look at

137
00:04:41,480 --> 00:04:39,660
the size of the space station and you

138
00:04:43,129 --> 00:04:41,490

look at the pictures when the crew was

139
00:04:45,080 --> 00:04:43,139
inside and you look at the volume and

140
00:04:47,420 --> 00:04:45,090
the amount of hardware that was carried

141
00:04:48,680 --> 00:04:47,430
into space by the by the shuttle and and

142
00:04:50,450 --> 00:04:48,690
the international partners and our

143
00:04:53,180 --> 00:04:50,460
Russian colleagues but but if you think

144
00:04:55,189 --> 00:04:53,190
about that all that hardware most of it

145
00:04:56,300 --> 00:04:55,199
on the US segment came through Florida

146
00:04:58,760 --> 00:04:56,310
was processed and carried up on a

147
00:05:01,520 --> 00:04:58,770
shuttle and put together and assembled

148
00:05:03,650 --> 00:05:01,530
and it without very many exceptions

149
00:05:06,110 --> 00:05:03,660
worked perfectly and it got assembled

150
00:05:07,879 --> 00:05:06,120
there were no big instances where we ran

151
00:05:10,370 --> 00:05:07,889
an umbilical cable and came up three

152
00:05:12,350 --> 00:05:10,380
feet short all that worked perfect and

153
00:05:13,939 --> 00:05:12,360
and it was it's a true testament not

154
00:05:16,010 --> 00:05:13,949
only to the the shuttle teams here in

155
00:05:18,529 --> 00:05:16,020
Florida but the station teams building

156
00:05:20,029 --> 00:05:18,539
their hardware the agency as a whole and

157
00:05:22,400 --> 00:05:20,039
the country that's behind us in in

158
00:05:24,740 --> 00:05:22,410
manned spaceflight so I'll end with just

159
00:05:27,320 --> 00:05:24,750
a fantastic mission a really fantastic

160
00:05:31,070 --> 00:05:27,330
vehicle and a great way for discovery to

161
00:05:33,770 --> 00:05:31,080
to end its career okay let's say I don't

162
00:05:35,300 --> 00:05:33,780
have a lot to add vehicle looks really

163
00:05:37,070 --> 00:05:35,310

good as we as we typically have been

164
00:05:40,100 --> 00:05:37,080
saying the last several missions very

165
00:05:41,839 --> 00:05:40,110
few dings on the tile the thing I'm

166
00:05:43,460 --> 00:05:41,849
going to take away from today was the

167
00:05:46,670 --> 00:05:43,470
attitude of the of the ground processing

168
00:05:48,620 --> 00:05:46,680
team with the vehicle out there soon as

169
00:05:50,210 --> 00:05:48,630
will stop and the convoy made its way up

170
00:05:52,250 --> 00:05:50,220
to the vehicle and then the ground crews

171
00:05:53,270 --> 00:05:52,260
made the way up to do the initial safing

172
00:05:55,640 --> 00:05:53,280
the purge and the cooling unit

173
00:05:57,860 --> 00:05:55,650
attachment and the assessment of the

174
00:06:00,649 --> 00:05:57,870
vehicle they did that today like they

175
00:06:02,750 --> 00:06:00,659
did it the last mission of discovery 10

176
00:06:04,760 --> 00:06:02,760
missions of discovery ago 20 missions of

177
00:06:07,010 --> 00:06:04,770
discovery ago they did not skip a beat

178
00:06:08,360 --> 00:06:07,020
today it's a true testament to the

179
00:06:11,450 --> 00:06:08,370
people who work on the ship and that

180
00:06:13,219 --> 00:06:11,460
love what they do again they treated

181
00:06:15,890 --> 00:06:13,229
this one as if we're going to fly on

182
00:06:17,689 --> 00:06:15,900
another dozen times with discovery so it

183
00:06:19,189 --> 00:06:17,699
was just really really heartwarming to

184
00:06:21,020 --> 00:06:19,199
me to see that in that amount of care

185
00:06:23,270 --> 00:06:21,030
and professionalism with the ground team

186
00:06:25,730 --> 00:06:23,280
today listening to the loops during

187
00:06:27,080 --> 00:06:25,740
during entry was was always fun but I'm

188
00:06:28,159 --> 00:06:27,090

going to my takeaway is going to be the

189
00:06:30,820 --> 00:06:28,169
ground crew and how they hit that

190
00:06:32,870 --> 00:06:30,830
machine today with all the the vigor and

191
00:06:35,300 --> 00:06:32,880
dedication that they've had for many

192
00:06:37,190 --> 00:06:35,310
many years so we'll get her back in the

193
00:06:39,680 --> 00:06:37,200
in the hope he F and

194
00:06:40,940 --> 00:06:39,690
a couple hours or so and begin the the

195
00:06:42,530 --> 00:06:40,950
real safe thing of the vehicle in the

196
00:06:45,380 --> 00:06:42,540
OPF and then we'll get into the

197
00:06:48,170 --> 00:06:45,390
transition of retirement to phase of her

198
00:06:50,540 --> 00:06:48,180
life meanwhile endeavor we were going to

199
00:06:52,070 --> 00:06:50,550
try to take endeavour out tonight we

200
00:06:54,620 --> 00:06:52,080
talked long and hard this morning about

201
00:06:56,450 --> 00:06:54,630
the weather forecast for tonight and had

202
00:06:58,420 --> 00:06:56,460
we had we made an attempt likely we

203
00:07:01,190 --> 00:06:58,430
would have violated our late I lightning

204
00:07:03,050 --> 00:07:01,200
criteria it's no but no more than ten

205
00:07:05,630 --> 00:07:03,060
percent within 20 nautical miles during

206
00:07:06,950 --> 00:07:05,640
the entire roll out and Kathy winters

207
00:07:08,570 --> 00:07:06,960
launch weather officer gave us a

208
00:07:10,670 --> 00:07:08,580
forecast would have violated that so

209
00:07:11,990 --> 00:07:10,680
rather than rather than messing around

210
00:07:13,220 --> 00:07:12,000
with that during the day to day and have

211
00:07:15,050 --> 00:07:13,230
crews come in and wonder if we were

212
00:07:16,070 --> 00:07:15,060
going to roll out we decided early this

213
00:07:18,470 --> 00:07:16,080

morning to go ahead and knock that off

214
00:07:19,550 --> 00:07:18,480
and we'll come in tomorrow morning take

215
00:07:21,290 --> 00:07:19,560
another look at the weather for tomorrow

216
00:07:23,990 --> 00:07:21,300
night's roll it would be the same time a

217
00:07:26,150 --> 00:07:24,000
four o'clock called stations in an 18

218
00:07:28,340 --> 00:07:26,160
and at 20 hundred eight o'clock p.m.

219
00:07:29,660 --> 00:07:28,350
local time first motion we'll take a

220
00:07:31,010 --> 00:07:29,670
look at that tomorrow morning and assess

221
00:07:32,810 --> 00:07:31,020
whether we think we have a shot at that

222
00:07:34,460 --> 00:07:32,820
or whether we may have to spot another

223
00:07:36,410 --> 00:07:34,470
day we'll cross that bridge tomorrow

224
00:07:37,580 --> 00:07:36,420
morning but we'll get endeavour out to

225
00:07:40,730 --> 00:07:37,590
the pad and get on with her pad

226
00:07:42,650 --> 00:07:40,740
processing for her final flight to sew a

227
00:07:44,270 --> 00:07:42,660
good day discoveries home safe the

228
00:07:45,650 --> 00:07:44,280
astronauts are down I was looking in

229
00:07:47,480 --> 00:07:45,660
their eyes as they were looking back at

230
00:07:49,640 --> 00:07:47,490
the ship and they had some special

231
00:07:51,710 --> 00:07:49,650
feelings I'm sure as well so you'll get