
COLLINS

1
00:00:02,860 --> 00:00:03,379
ARMSTRONG

2
00:00:03,379 --> 00:00:10,379
Good evening. This is the Commander of Apollo
11. A hundred years ago, Jules Verne wrote

3
00:00:11,230 --> 00:00:18,230
a book about a voyage to the moon. His spaceship,
Columbia, took off from Florida and landed

4
00:00:18,770 --> 00:00:25,770
in the Pacific Ocean after completing a trip
to the moon. It seems appropriate to us to

5
00:00:39,280 --> 00:00:46,280
share with you some of the reflections of
the crew as the modern day Columbia completes

6
00:00:47,220 --> 00:00:54,220
its rendezvous with the planet Earth in the
same Pacific Ocean tomorrow. First, Mike Collins.

7
00:00:57,130 --> 00:00:57,970
COLLINS

8
00:00:57,970 --> 00:01:04,970
Roger. This trip of ours to the moon may have
looked to you simple or easy. I'd like to

9
00:01:07,960 --> 00:01:14,960
say that that has not been a game. The Saturn
V rocket which put us into orbit is an incredibly

10
00:01:17,180 --> 00:01:23,700
complicated piece of machinery, every piece
of which worked flawlessly. This computer

11
00:01:23,700 --> 00:01:30,700

up above my head has a 38,000 word vocabulary,
each word of which has been very carefully

12
00:01:34,159 --> 00:01:41,159
chosen to be of the utmost value to us, the
crew. This switch which I have in my hand

13
00:01:42,450 --> 00:01:48,520
now has over 300 counterparts in the command
module alone. There is one single switch designed.

14
00:01:48,520 --> 00:01:55,520
In addition to that, there are myriads of
circuit breakers, levers, rods, and other

15
00:01:56,080 --> 00:02:03,080
associated controls. The SPS engine, our large
rocket engine on the AFT end of our service

16
00:02:03,460 --> 00:02:09,659
module, must have performed flawlessly or
we would have been stranded in lunar orbit.

17
00:02:09,659 --> 00:02:14,470
The parachutes up above my head must work
perfectly tomorrow or we will plummet into

18
00:02:14,470 --> 00:02:21,470
the ocean. We have always had confidence that
all this equipment will work and work properly,

19
00:02:21,489 --> 00:02:28,489
and we continue to have confidence that it
will do so for the remainder of the flight.

20
00:02:29,220 --> 00:02:35,890
All this is possible only through the blood,
sweat, and tears of a number of people. First

21
00:02:35,890 --> 00:02:39,870

the American workmen, who put these pieces
of machinery together in the factory. Second,

22
00:02:39,870 --> 00:02:46,870
the painstaking work done by the various test
teams during the assembly and retest after

23
00:02:50,670 --> 00:02:57,670
assembly. And finally, the people at the Manned
Spacecraft Center, both in management, in

24
00:02:59,020 --> 00:03:06,020
mission planning, in flight control, and last,
but not least in crew training. This operation

25
00:03:06,870 --> 00:03:12,319
is somewhat like the periscope of a submarine.
Ail you see is the three of us, but beneath

26
00:03:12,319 --> 00:03:19,319
the surface are thousands and thousands of
others. To all those, I would like to say

27
00:03:29,700 --> 00:03:30,230
thank you very much.

28
00:03:30,230 --> 00:03:37,230
CAPCOM 11, this is Houston. We're getting
a good picture of Buzz now, but no voice modulation.

29
00:03:38,629 --> 00:03:45,629
And would you open up the F-stop on the TV
camera, try 22, please? That appears to be

30
00:03:49,560 --> 00:03:55,730
a lot better now. We're still not receiving
Buzz's audio.

31
00:03:55,730 --> 00:03:56,409
ALDRIN

32
00:03:56,409 --> 00:04:02,620
Good evening. I'd like to discuss with you
a few of the more symbolic aspects of the

33
00:04:02,620 --> 00:04:09,620
flight of our mission, Apollo 11. As we've
been discussing the events that have taken

34
00:04:12,409 --> 00:04:19,409
place in the past 2 or 3 days here on board
our spacecraft, we've come to the conclusion

35
00:04:21,029 --> 00:04:26,219
that this has been far more than 3 men on
a voyage to the moon, more still than the

36
00:04:26,219 --> 00:04:31,800
efforts of a government and industry team,
more even than the efforts of one nation.

37
00:04:31,800 --> 00:04:38,059
We feel that this stands as a symbol of the
insatiable curiosity of all mankind to explore

38
00:04:38,059 --> 00:04:45,059
the unknown. Neil's statement the other day
upon first setting foot on the surface of

39
00:04:46,550 --> 00:04:53,550
the moon, "this is a small step for
a man, but a great leap for mankind," I believe
sums up these feelings very nicely. We accepted

40
00:05:05,509 --> 00:05:09,689
the challenge of going to the moon. The acceptance
of this challenge was inevitable. The relative

41
00:05:09,689 --> 00:05:12,119
ease with which we carried out our mission,

I believe, is a tribute to the timeliness

42
00:05:12,119 --> 00:05:16,860
of that acceptance. Today, I feel we're fully
capable of accepting expanded roles in the

43
00:05:16,860 --> 00:05:23,860
exploration of space. In retrospect, we have
all been particularly pleased with the call

44
00:05:24,139 --> 00:05:31,139
signs that we very laboriously chose for our
spacecraft, Columbia and Eagle. We've been

45
00:05:31,169 --> 00:05:37,999
particularly pleased with the emblem of our
flight. Depicting the US eagle, bringing the

46
00:05:37,999 --> 00:05:44,999
universal symbol of peace from the Earth,
from the planet Earth to the moon, that symbol

47
00:05:47,199 --> 00:05:53,550
being the olive branch. It was our overall
crew choice to deposit a replica of this symbol

48
00:05:53,550 --> 00:06:00,379
on the moon. Personally, in reflecting the
events of the past several days, a verse from

49
00:06:00,379 --> 00:06:06,830
Psalms comes to mind to me. "When I considered
the heavens, the work of Thy fingers, the

50
00:06:06,830 --> 00:06:13,830
moon and the stars which Thou hast ordained,
what is man that Thou art mindful of Him."

51
00:06:26,219 --> 00:06:33,219
ARMSTRONG

52
00:06:35,689 --> 00:06:42,689
The
responsibility for this flight lies first
with, history and with the giants of science

53
00:06:49,199 --> 00:06:56,199
who have preceded this effort. Next to the
American people, who have through their will,

54
00:06:59,330 --> 00:07:06,330
indicated their desire. Next to four administrations
and their congresses, for implementing that

55
00:07:09,569 --> 00:07:16,149
will, and then to the agency and industry
teams that built our spacecraft, the Saturn,

56
00:07:16,149 --> 00:07:23,149
the Columbia, the Eagle, and the little EMU,
the spacesuit and back pack that was our small

57
00:07:28,649 --> 00:07:35,649
spacecraft out on the lunar surface. We would
like to give a special thanks to all those

58
00:07:38,879 --> 00:07:45,879
Americans who built those spacecrafts, did
the construction, the design, the tests, and

59
00:07:45,929 --> 00:07:52,929
put their, their hearts and all their abilities
into those crafts. To those people, tonight

60
00:07:59,539 --> 00:08:06,539
we give a special thank you, and to all the
other people that are listening and watching

61
00:08:06,959 --> 00:08:13,629
tonight, God Bless you. Good night from Apollo

11.

62
00:08:13,629 --> 00:08:16,509
PAO

63
00:08:16,509 --> 00:08:23,349
This is Apollo Control, 179 hours 9 minutes
Ground Elapsed Time. During the past half

64
00:08:23,349 --> 00:08:28,319
hour there have been some exchanges between
the spacecraft communicator Bruce McCandless

65
00:08:28,319 --> 00:08:34,680
here in Mission Control and the crew of Apollo
11. One item they're trying to sort out and

66
00:08:34,680 --> 00:08:41,680
troubleshoot some difficulties with the biomedical
sensors attached to the chest of Command Module

67
00:08:41,750 --> 00:08:48,750
Pilot Mike Collins. Let's play back
the accumulated tape and hopefully by the

68
00:08:50,120 --> 00:08:55,720
time it's ended, we will have picked up communications
again and we'll rejoin the conversation live.

69
00:08:55,720 --> 00:08:56,750
Roll tape please.

70
00:08:56,750 --> 00:08:58,879
Houston, Apollo 11.

71
00:08:58,879 --> 00:09:03,129
Apollo 11, this is Houston. Over.

72
00:09:03,129 --> 00:09:10,129

SC Roger, I was in a thruster firing activity.
We're about ready to crank up PTC if you are.

73
00:09:24,240 --> 00:09:31,240
CAPCOM Roger, go ahead.

74
00:09:32,860 --> 00:09:39,860
SC Okay, thank you.

75
00:09:41,490 --> 00:09:47,959
COMMTECH Go ahead.

76
00:09:47,959 --> 00:09:51,600
Apollo 11, this is Houston. Over.

77
00:09:51,600 --> 00:09:53,440
Go ahead, Houston.

78
00:09:53,440 --> 00:09:59,290
CAPCOM 11, we'd like you to shift to an OMNI
antenna configuration at the present time.

79
00:09:59,290 --> 00:10:06,290
We're requesting the S-band antenna OMNI switch
to Bravo and S-band antenna OMNI switch to

80
00:10:07,199 --> 00:10:14,199
OMNI. The high gain antenna track in MANUAL,
pitch minus 50, yaw 270. Over.

81
00:10:15,300 --> 00:10:19,800
SC Roger. I'll do that right now.

82
00:10:19,800 --> 00:10:26,800
CAPCOM Roger, and if Mike has a minute, we'd
like to do a little bit of troubleshooting.

83
00:10:29,110 --> 00:10:35,079
It seems that he's either flat-chested or

something because we've lost respiration rate

84
00:10:35,079 --> 00:10:38,029
on the biomed telemetry. That is, the ZPN
trace down here is flat.

85
00:10:38,029 --> 00:10:45,029
SC He was shaving a little bit ago. He might
not be finished. Hold on one.

86
00:10:50,420 --> 00:10:56,550
SC The whole blasted wires are connected is
all I know.

87
00:10:56,550 --> 00:11:03,360
CAPCOM Okay, Mike. We had a request that you
disconnect the yellow connector from the signal

88
00:11:03,360 --> 00:11:09,259
conditioner and verify that it looks okay,
reconnect it and then if you would check the

89
00:11:09,259 --> 00:11:14,459
two electrodes that is placed one on each
side of your lower ribcage. Over.

90
00:11:14,459 --> 00:11:20,490
SC Okay, there's a smile on Charles Worth's
face now.

91
00:11:20,490 --> 00:11:27,490
CAPCOM Cliff is not on right now. Gene Kranz
just relieved him a few minutes ago.

92
00:11:29,060 --> 00:11:30,470
SC Roger that.

93
00:11:30,470 --> 00:11:35,139
SC All those wires and things look all right
here.

94
00:11:35,139 --> 00:11:40,060
CAPCOM Roger, Mike. We could see variations
on our traces. You've connected and disconnected,

95
00:11:40,060 --> 00:11:47,060
but the medics still don't have a signal.
Looks like you're sending us a message of

96
00:11:48,040 --> 00:11:49,279
some sort.

97
00:11:49,279 --> 00:11:54,689
SC Well, I promise to let you know if I stop
breathing.

98
00:11:54,689 --> 00:12:00,749
Apollo 11, Apollo 11, this is Houston broadcasting
in the blind. Request OMNI BRAVO. Request

99
00:12:00,749 --> 00:12:07,699
OMNI BRAVO. Over.

100
00:12:07,699 --> 00:12:10,649
Apollo 11, this is Houston. Communication
reestablished.

101
00:12:10,649 --> 00:12:11,449
SC (Garbled)

102
00:12:11,449 --> 00:12:17,050
CAPCOM Apollo 11, this is Houston. Will you
confirm you're in OMNI BRAVO? Over.

103
00:12:17,050 --> 00:12:24,050
SC Okay, that ought to give it to you.

104
00:12:26,449 --> 00:12:32,220
CAPCOM Roger. Out.

105
00:12:32,220 --> 00:12:39,220
CAPCOM Apollo 11, this is Houston. Mike, we're still getting a flat trace on you for the

106
00:12:49,420 --> 00:12:52,769
impedance anemograph. Before you turn in this evening you might try putting some

107
00:12:52,769 --> 00:12:58,689
fresh paste in the sensors and if that doesn't work the medics have agreed to forget about

108
00:12:58,689 --> 00:12:59,639
it. Over.

109
00:12:59,639 --> 00:13:06,300
SC Mike is out of the loop right now. I'll convey him the message.

110
00:13:06,300 --> 00:13:08,290
CAPCOM Okay, thank you.

111
00:13:08,290 --> 00:13:13,459
Houston, Apollo 11. Say again.

112
00:13:13,459 --> 00:13:20,459
CAPCOM Roger, Mike. The trace on your respiration rate is still flat. If you have time this

113
00:13:24,230 --> 00:13:30,620
evening before turning in, we would suggest that you try putting some fresh paste in the

114
00:13:30,620 --> 00:13:37,620
two electrodes that go on the side of your lower rib cage, and if that doesn't work just

115
00:13:41,160 --> 00:13:44,040

give up on it.

116
00:13:44,040 --> 00:13:48,769
SC Out.

117
00:13:48,769 --> 00:13:55,769
This is Apollo Control. Columbia now 85,198
nautical miles out from earth, approaching

118
00:13:59,439 --> 00:14:06,439
earth at a velocity of 6443 feet per second.
Still standing by for resumption of air to

119
00:14:09,399 --> 00:14:16,399
ground communications

120
00:14:20,639 --> 00:14:27,639
which may be difficult in as much as CAPCOM
is leaving the room. We'll continue to monitor

121
00:14:36,139 --> 00:14:43,139
air to ground as the crew prepares for their
pre-sleep checklists, sets up the passive

122
00:14:44,339 --> 00:14:51,339
thermal control mode and sacks out for about
a 10-hour rest period in preparation for tomorrow's

123
00:14:53,939 --> 00:15:00,939
entry and subsequent recovery in the mid-Pacific
aboard the carrier Hornet now hove-to on the

124
00:15:03,319 --> 00:15:10,319
aiming point or near the aiming point. Standing
by at 179 hours, 27 minutes Ground Elapsed

125
00:15:20,809 --> 00:15:26,579
Time, this is Apollo Control.

126

00:15:26,579 --> 00:15:33,579
PAO This is Apollo Control. 180 hours 25 minutes ground elapsed time. We have some 4 minutes

127
00:15:38,850 --> 00:15:45,850
accumulated tape in recent transmission between Columbia and the ground. We'll roll these

128
00:15:46,220 --> 00:15:49,869
tapes at this time.

129
00:15:49,869 --> 00:15:56,869
SC (sound of train)

130
00:16:01,910 --> 00:16:08,910
CAPCOM Hey 11, this is Houston. You might tell Buzz not to exercise quite so strenuously.

131
00:16:29,220 --> 00:16:30,029
Over.

132
00:16:30,029 --> 00:16:33,269
SC What's the problem?

133
00:16:33,269 --> 00:16:35,709
CAPCOM Say again.

134
00:16:35,709 --> 00:16:38,949
SC What's the problem?

135
00:16:38,949 --> 00:16:45,949
CAPCOM Okay, that's one on us. 11, Houston. Seriously, that comment was just aimed at

136
00:16:53,410 --> 00:16:59,759
your musical selection.

137
00:16:59,759 --> 00:17:06,759
SC Okay. (sound of train) Come on, Neil, not

so fast. (sound of train) You have an ergometer

138
00:17:34,309 --> 00:17:37,100
up here.

139
00:17:37,100 --> 00:17:44,100
CAPCOM What was that? Realtime exercise?

140
00:17:45,470 --> 00:17:52,470
SC Just trying to be your ergometer.

141
00:17:55,230 --> 00:17:58,020
CAPCOM Roger.

142
00:17:58,020 --> 00:18:02,809
CAPCOM Apollo 11, this is Houston. Over.

143
00:18:02,809 --> 00:18:05,120
SC Go ahead, Houston.

144
00:18:05,120 --> 00:18:10,149
CAPCOM We'd like to know what your plans are
as far as turning in this evening. In our

145
00:18:10,149 --> 00:18:16,640
flight plan we show you coming up to a rest
period at about 182 hours and what are you

146
00:18:16,640 --> 00:18:22,770
planning to do on that? We're going to be
watching the weather here and we expect to

147
00:18:22,770 --> 00:18:27,110
have an update on the weather, I guess, in
about half hour or 45 minutes to pass to you.

148
00:18:27,110 --> 00:18:27,159
Over.

149
00:18:27,159 --> 00:18:34,159
SC We’re going to probably stick with the
flight plan pretty much. We are going to check

150
00:18:35,929 --> 00:18:42,929
the flights in the northwest corner of the
US and southwest corner of Canada, if we can

151
00:18:46,429 --> 00:18:52,309
see up that high in the northern hemisphere.
Other than that, we'll be on the flight plan.

152
00:18:52,309 --> 00:18:59,309
CAPCOM Roger. For your information, the laser
from McDonald Observatory in West Texas will

153
00:19:01,159 --> 00:19:08,159
be up from about 181 hours and 30 minutes,
on for 1 hour. You should be able to spot

154
00:19:09,700 --> 00:19:16,700
the Earth out of the number 1 window every
time you pass roll 357 degrees and I add,

155
00:19:18,220 --> 00:19:23,549
of course, you're in West Texas. Over.

156
00:19:23,549 --> 00:19:29,580
SC Okay, thank you. How about the number 5
window?

157
00:19:29,580 --> 00:19:31,549
CAPCOM Stand by a minute.

158
00:19:31,549 --> 00:19:35,409
CAPCOM Roger. For the number 5 window. That'll
be every time you pass 2230 degrees in roll.

159
00:19:35,409 --> 00:19:35,659

Over.

160
00:19:35,659 --> 00:19:38,760
SC Beautiful. Thank you. You guys are on your toes down there.

161
00:19:38,760 --> 00:19:39,279
CAPCOM Roger.

162
00:19:39,279 --> 00:19:46,279
SC You have a new, new star chart. You must have a new, new star chart, huh?

163
00:19:52,850 --> 00:19:58,980
CAPCOM Oh, we got a fresh, fresh FAO, here.

164
00:19:58,980 --> 00:20:02,190
CAPCOM Honeysuckle, Houston. Contact net 1 voice check.

165
00:20:02,190 --> 00:20:06,460
HSK Honeysuckle, read you loud and clear.

166
00:20:06,460 --> 00:20:10,130
CAPCOM Roger. Read you the same.

167
00:20:10,130 --> 00:20:17,130
SC Houston, Apollo 11. How much longer do you want to keep charging battery B?

168
00:20:19,419 --> 00:20:26,419
CAPCOM 11, this is Houston. Nominally we're looking for about another hour and a half,

169
00:20:27,350 --> 00:20:34,350
but what we'd like to do is continue charging until shortly before you turn in for the night.

170
00:20:39,010 --> 00:20:39,460

Over.

171
00:20:39,460 --> 00:20:46,460
SC That'll be fine. Are you going to want
to charge A again at all?

172
00:20:49,460 --> 00:20:51,880
CAPCOM Negative, 11.

173
00:20:51,880 --> 00:20:53,490
SC Okay.

174
00:20:53,490 --> 00:21:00,490
CAPCOM Eleven, this is Houston. About 180:45,
we'll be handing over from Goldstone to Honeysuckle

175
00:21:03,200 --> 00:21:07,490
and I’m handing over to Charlie. See you
when you get back, over.

176
00:21:07,490 --> 00:21:09,690
SC Okay, Bruce, good night, thank you.

177
00:21:09,690 --> 00:21:14,880
SC Thank you very much, Bruce, it's been a
pleasure working with you.

178
00:21:14,880 --> 00:21:21,880
CAPCOM Have a nice trip down.

179
00:21:24,750 --> 00:21:31,750
PAO This is Apollo Control. The weird noise
has been reported by network controllers as

180
00:21:39,320 --> 00:21:46,320
not being on the downlink from the spacecraft.
Now it's stopped. Let’s leave the circuit

181
00:21:50,750 --> 00:21:57,750

open here in the period prior to the time
the crew goes to sleep and monitor the air

182
00:21:58,390 --> 00:22:05,390
ground circuit.

183
00:22:26,580 --> 00:22:33,580
PAO This is Apollo Control. We've been standing
by now for quite some time for resumption

184
00:23:01,149 --> 00:23:08,149
of communications but apparently no one is
saying anything tonight. Apollo 11 now 78,134

185
00:23:11,850 --> 00:23:18,850
nautical miles out from Earth approaching
at 6785 feet per second. And at 181 hours

186
00:23:23,100 --> 00:23:30,100
17 minutes Ground Elapsed Time. This is Apollo
Control.

187
00:23:34,600 --> 00:23:41,600
FAO This is Apollo Control. We've had one
brief communication from Apollo 11. Spacecraft

188
00:23:51,240 --> 00:23:55,590
Communicator Bruce McCandless is out of the
room. The Assistant Flight Director Chuck

189
00:23:55,590 --> 00:24:02,200
Lewis went down to the console to talk. Let's
play that tape back and rejoin live when the

190
00:24:02,200 --> 00:24:03,330
conversation picks up again.

191
00:24:03,330 --> 00:24:08,809
SC Roger, Houston. For retro I have the anticipated
location of all the entries stowage and I

192
00:24:08,809 --> 00:24:15,809
suggest you pull out the entry checklist and
we'll go through those maps in the front of

193
00:24:30,279 --> 00:24:30,510
it.

194
00:24:30,510 --> 00:24:35,269
CAPCOM Apollo 11, Houston. Could you stand
by just a few minutes? Charlie and flight

195
00:24:35,269 --> 00:24:40,260
are out getting a weather briefing. They're
be back shortly.

196
00:24:40,260 --> 00:24:42,529
SC Say again?

197
00:24:42,529 --> 00:24:44,799
CAPCOM Say again?

198
00:24:44,799 --> 00:24:47,830
SC Is this Owen?

199
00:24:47,830 --> 00:24:53,940
CAPCOM No, It’s Chuck Lewis. Charlie Duke
is out with flight getting a weather briefing

200
00:24:53,940 --> 00:24:54,980
right now.

201
00:24:54,980 --> 00:24:59,880
SC Okay. They’re out drinking coffee, I
know.

202
00:24:59,880 --> 00:25:02,779
CAPCOM They'll be back momentarily.

203
00:25:02,779 --> 00:25:09,779
PAO I stand corrected. That's Charlie Duke
on the CAPCOM slot. Bruce McCandless in the

204
00:25:12,029 --> 00:25:17,850
last half hour has been relieved. Charlie
is likely to respond. Now he's putting on

205
00:25:17,850 --> 00:25:21,370
his headset. We'll listen in.

206
00:25:21,370 --> 00:25:28,370
CAPCOM Hello Apollo 11, Houston. Over.

207
00:25:32,889 --> 00:25:39,889
SC Roger, Houston, Apollo 11. Did you get
the word on the entry checklist?

208
00:25:58,340 --> 00:26:05,340
CAPCOM Roger, Mike. We sure did. We're ready
to talk about it, if you are. Over.

209
00:26:32,480 --> 00:26:39,480
SC I think the quickest thing is go through
page by page, the first part of the entry

210
00:26:46,880 --> 00:26:53,880
checklist where it has a map. Starting on
the page with compartment

211
00:27:08,830 --> 00:27:15,830
L2 and L3. Are you with me?

212
00:27:30,049 --> 00:27:37,049
CAPCOM Roger. With you.

213
00:27:42,169 --> 00:27:49,169
SC Okay. L2 is as shown. L3 is as shown, there
is about half the food remaining in L3.

214
00:28:39,769 --> 00:28:45,830
CAPCOM Roger.

215
00:28:45,830 --> 00:28:52,830
SC Where it says "and note" the CMP PGA is
located in the L-shaped bag with the other

216
00:29:40,389 --> 00:29:47,389
2 PGAs. The LM shield was jettisoned with
the, correction, the CMP's helmet shield was

217
00:29:49,549 --> 00:29:56,549
jettisoned with the LM and his helmet and
gloves instead of being in the sleep restraint

218
00:29:56,880 --> 00:29:59,610
are in the hatch bags.

219
00:29:59,610 --> 00:30:06,210
CAPCOM Okay. Let's see now. Your PGA is in
the L-shape bag with the other two PGAs and

220
00:30:06,210 --> 00:30:12,490
your helmet and gloves are in the L-shape
bag instead of the sleep restraint.

221
00:30:12,490 --> 00:30:19,490
SC The helmet and gloves are in the hatch
bag, the great big bag that's underneath the

222
00:30:27,620 --> 00:30:34,620
left hand couch that you put the hatch in.

223
00:30:36,080 --> 00:30:41,029
CAPCOM Rog. I thought I, that's what I copied.
Okay. Go ahead.

224
00:30:41,029 --> 00:30:48,029

SC Okay, the next page is identical except
nitpicking point. At R 1 we got the entry

225
00:30:48,600 --> 00:30:55,600
check list. Other than that it is identical
and the third page has got some

226
00:30:57,230 --> 00:30:57,669
changes.

227
00:30:57,669 --> 00:30:58,980
CAPCOM Go ahead.

228
00:30:58,980 --> 00:31:05,309
SC In A 1, are you with me? I'm over there
in compartment A 1.

229
00:31:05,309 --> 00:31:07,580
CAPCOM Go ahead, Mike, over.

230
00:31:07,580 --> 00:31:14,580
SC In compartment A 1, the 16 millimeter magazine
will be located in window number 04 instead

231
00:31:14,690 --> 00:31:21,690
of 05. Tissue dispensers, there’s only one
of them left. In compartment U 3 the 16 millimeter

232
00:31:22,250 --> 00:31:29,250
bracket is on window 04 and the PGA bag add
the CMPs PGA plus add 2 LPGs. In compartment

233
00:31:34,500 --> 00:31:41,500
A 8, delete 2 LPGs, add 1 TPK making a total
of 4 and add 10 pounds of LM miscellaneous

234
00:31:47,570 --> 00:31:54,570
equipment. We told you 5 the other day. We
think 10 is probably closer. Over.

235
00:31:58,830 --> 00:32:00,149
CAPCOM Copy.

236
00:32:00,149 --> 00:32:07,149
SC That's all the changes on that page. Ready for the next page?

237
00:32:07,320 --> 00:32:10,700
CAPCOM Rog, go ahead, Mike.

238
00:32:10,700 --> 00:32:17,700
SC On your next page in compartment B 1, we estimate about 15 percent of that food is

239
00:32:22,240 --> 00:32:29,240
remaining. In B 2 we took PPK and put trash in it. In B 3 the 16 millimeter cable, the

240
00:32:35,850 --> 00:32:42,850
18 millimeter lens and the right angle mirror are on window number 04 and that's, that brings

241
00:32:47,049 --> 00:32:48,320
you all up-to-date.

242
00:32:48,320 --> 00:32:53,190
CAPCOM Roger, how about the levers, Mike? Where did you put those, over?

243
00:32:53,190 --> 00:32:54,970
SC They're in the hatch bag.

244
00:32:54,970 --> 00:32:59,490
CAPCOM Roger. Standby, our only concern, 11, is with the stuff you got in the hatch bag.

245
00:32:59,490 --> 00:33:06,490
That's pretty big bulk between you and AA and we'd like to talk about moving that over

246
00:33:06,519 --> 00:33:09,620
to the sleep restraint. If you will standby
I'll verify that, over.

247
00:33:09,620 --> 00:33:10,139
SC Okay.

248
00:33:10,139 --> 00:33:13,039
CAPCOM 11, Houston. Our recommendation on
the gear you got in the helmet bag, correction

249
00:33:13,039 --> 00:33:16,759
the hatch kit bag, would be to remove that
stuff and put it in the sleep restraint on

250
00:33:16,759 --> 00:33:20,210
the right couch. The reason is that the hatch
bag traps are only configured for zero g and

251
00:33:20,210 --> 00:33:27,210
it is a pretty difficult job getting it latched
down. With the gear in the sleep restraint,

252
00:33:28,879 --> 00:33:33,490
it's a pretty standard latch down procedure
and you could also use the beta cord that

253
00:33:33,490 --> 00:33:40,490
you have onboard. You concur? Over.

254
00:33:42,820 --> 00:33:49,820
SC Yah, we'll look at it Charlie, and let
you know.

255
00:34:06,360 --> 00:34:13,360
CAPCOM Roger, and I got a couple of other
things, Mike. We need to terminate battery

256

00:34:22,250 --> 00:34:29,250
B charge at this time and also the weather
is clobbering in at our targeted landing point

257
00:34:33,520 --> 00:34:40,520
due to scattered thunderstorms. We don't want
to tangle with one of those so we are going

258
00:34:50,980 --> 00:34:56,530
to move the - your aim point up-range, correction,
it will be downrange, to target for 1500 nautical

259
00:34:56,530 --> 00:35:01,240
mile entry so we can guarantee uplift control.
The new coordinates are 13 degrees, 19 minutes

260
00:35:01,240 --> 00:35:08,240
north, 169 10 minutes west. The weather in
that area is super. We got 2,000 scattered,

261
00:35:11,370 --> 00:35:18,370
8,000 scattered with 10 miles visibility and
6 foot seas and the Hornet is sitting in great

262
00:35:35,340 --> 00:35:42,340
position to get to that targeted position,
over.

263
00:36:12,820 --> 00:36:19,820
PAO This is Apollo Control. To recap briefly
the conversation a few moments ago between

264
00:36:23,470 --> 00:36:27,570
Charlie Duke and the crew of Columbia. Because
of forecast thunderstorms in the prime recovery

265
00:36:27,570 --> 00:36:34,570
area in the mid-pacific for tomorrow the Apollo
Spacecraft’s lifting capabilities will be

266

00:36:37,730 --> 00:36:44,730
used to stretch the entry path some 215 nautical miles farther down range toward Hawaii to

267
00:36:45,170 --> 00:36:47,320
a new landing point or aiming point with the very rough preliminary coordinates of 13 degrees

268
00:36:47,320 --> 00:36:47,750
19 minutes north by 169 degrees 10 minutes west. These numbers will be refined through

269
00:36:47,750 --> 00:36:48,170
the night as the retrofire officer exercises the computer and comes up with more definitive

270
00:36:48,170 --> 00:36:48,630
numbers. These will be passed on as they are available. Apollo 11 now 75,951 nautical miles

271
00:36:48,630 --> 00:36:49,080
out from Earth approaching at 6999 feet per second. At 181 hours 50 minutes and standing

272
00:36:49,080 --> 00:36:49,360
by on the air ground circuit this is Apollo Control.

273
00:36:49,360 --> 00:36:49,820
CAPCOM Apollo 11, Houston, some of the general last minute updates here. On the entry, we

274
00:36:49,820 --> 00:36:50,330
had told you on the camera to set it at 50 feet. It turns out the biggest number

275
00:36:50,330 --> 00:36:50,690
on the camera is 25 feet so just set it at infinity, over.

276

00:36:50,690 --> 00:36:51,200
CAPCOM Hello, Apollo 11, Houston. We're ready
to put you to bed and say good night if you

277
00:36:51,200 --> 00:36:51,680
give us your crew status report and verify
that you chased out the C02 canister a moment

278
00:36:51,680 --> 00:36:51,740
ago. Over.

279
00:36:51,740 --> 00:36:51,830
SC Stand by.

280
00:36:51,830 --> 00:36:52,220
SC Okay, Charlie. Crew status report follows.
CDR 11023, CMP 10025, LMP 09027. Canister

281
00:36:52,220 --> 00:36:52,280
change complete.

282
00:36:52,280 --> 00:36:52,480
CAPCOM Roger. Thank you very much there.

283
00:36:52,480 --> 00:36:52,560
SC No medication.

284
00:36:52,560 --> 00:36:52,930
CAPCOM Roger. Thank you. Could you give us
the onboard readout, please, sir?

285
00:36:52,930 --> 00:36:53,580
SC Stand by. Okay, Bat C 37, Pyro Bat A 37,
Bat B 37, RCS A 51, D 63, C 62, D 58.

286
00:36:53,580 --> 00:36:53,750
CAPCOM Roger. Copy. Thank you much.

287
00:36:53,750 --> 00:36:54,200

CAPCOM Apollo 11, Houston. It's good night from the white team for the last time. We'll

288
00:36:54,200 --> 00:36:54,710
be off when you wake up in the morning. It's been a pleasure working with you guys. It

289
00:36:54,710 --> 00:36:55,220
was a beautiful show from all three of you. We appreciate it very much and we'll see you

290
00:36:55,220 --> 00:36:55,450
when you get out of the LRL. Over.

291
00:36:55,450 --> 00:36:55,960
SC Okay, Charlie, thanks to you and all the white team for a great job done there all

292
00:36:55,960 --> 00:36:56,100
the way through. Thank you.

293
00:36:56,100 --> 00:36:56,160
SC Outstanding.

294
00:36:56,160 --> 00:36:56,360
SC Thank you very much, Charlie. Thanks.

295
00:36:56,360 --> 00:36:56,530
CAPCOM Thanks to you guys, too.

296
00:36:56,530 --> 00:36:56,920
CAPCOM 11, Houston. Mike, you get your chance at landing tomorrow. No go around.

297
00:36:56,920 --> 00:36:57,320
SC Roger. You're going to let me land closer to Hawaii, too, aren't you?

298
00:36:57,320 --> 00:36:57,430

CAPCOM That's right, sir.

299
00:36:57,430 --> 00:36:57,910
PAO This is Apollo Control. All good nights
having been said, the crew of Apollo 11 is

300
00:36:57,910 --> 00:36:58,420
now preparing to get their 10 hours rest and
their last night in space. Here in the Control

301
00:36:58,420 --> 00:36:58,880
Center one of the 10 by 10 Eidophor television
projectors, a drawing has been projected on

302
00:36:58,880 --> 00:36:59,290
the screen ribbing Capcom Charlie Duke for
his slight error yesterday on the television

303
00:36:59,290 --> 00:37:06,290
pass where he mistook the moon for Earth.
It has the spacecraft midway between the moon

304
00:37:07,790 --> 00:37:14,270
and Earth and it says, "Neil, I just spotted
a continent on the moon. Charlie, the camera's

305
00:37:14,270 --> 00:37:21,270
on the Earth now." Apollo 11 now 74,906 nautical
miles out from Earth approaching at 6954 feet

306
00:37:34,630 --> 00:37:41,630
per second. And at 182 hours, 6 minutes Ground
Elapsed Time, this is Apollo Control.

307
00:37:45,540 --> 00:37:52,540
PAO This is Apollo Control. 182 hours 10 minutes
ground elapsed time. We thought that was all

308
00:37:57,730 --> 00:38:01,890
the air-to-ground for tonight prior to the

crew going to sleep, but just a few moments

309
00:38:01,890 --> 00:38:08,890
ago, there was a brief exchange reporting
to Apollo 11 crew that the McDonald Observation

310
00:38:09,620 --> 00:38:16,620
in far West Texas had the spacecraft in their
telescope field of view. Let's roll that tape

311
00:38:17,670 --> 00:38:20,950
now and then shut it down again.

312
00:38:20,950 --> 00:38:25,650
CAPCOM 11, Houston. We got some word just
a moment ago that the McDonald Observatory

313
00:38:25,650 --> 00:38:30,110
is, said they had picked up the spacecraft
in their telescope. Over.

314
00:38:30,110 --> 00:38:37,110
SC Outstanding. We have been looking for their
laser for - but haven't had much luck yet.

315
00:38:39,950 --> 00:38:46,950
CAPCOM Roger. We'll pass it on to them, Neil.
Thank you.

316
00:38:48,880 --> 00:38:55,880
PAO This is Apollo Control. That completes
the very brief exchange of a few moments ago.

317
00:38:56,870 --> 00:39:03,870
At 182 hours 11 minutes Ground Elapsed Time,
this is Apollo Control.

318
00:39:06,100 --> 00:39:13,100
PAO This is Apollo Control, 183 hours, 25
minutes Ground Elapsed Time. Columbia spacecraft,

319
00:39:20,750 --> 00:39:27,750
now 69,520 nautical miles out from earth approaching
6-, as you were, 7,262 feet per second. Crew

320
00:39:36,160 --> 00:39:43,160
now in their rest period, started their sleep
period a little over an hour ago. To reiterate

321
00:39:50,320 --> 00:39:57,320
the change in landing point, this is a weather
avoidance situation where thunderstorms are

322
00:39:58,320 --> 00:40:05,320
forecast for the aiming point, the original
aiming point in the mid-Pacific. Therefore,

323
00:40:05,320 --> 00:40:10,330
after the normal entry interface the lifting
characteristics of the Apollo Command Module

324
00:40:10,330 --> 00:40:17,330
will be used to extend the entry range some
250 nautical miles farther down range toward

325
00:40:20,530 --> 00:40:27,530
Hawaii to a preliminary aiming point, that
is the aiming point may shift around between

326
00:40:29,880 --> 00:40:36,880
now and entry which is some 11 hours, 36 minutes
from now. But at any rate the aiming point

327
00:40:38,790 --> 00:40:45,790
as calculated now is some 13 degrees 19 minutes
north latitude by 169 degrees 10 minutes west

328
00:40:50,570 --> 00:40:57,570
longitude. The preliminary time of drogue
decline is 195 hours, 12 minutes. As you were,

329
00:41:08,200 --> 00:41:15,200
yes, 195 hours, I2 minutes, 4 seconds and
the net extension over the earlier splash

330
00:41:22,540 --> 00:41:29,540
time is something like 40 seconds. At 183
hours, 27 minutes Ground Elapsed Time. This

331
00:41:32,890 --> 00:41:39,890
is Apollo Control.

332
00:41:40,890 --> 00:41:47,890
PAO This is Apollo Control at 185 hours 29
minutes Ground Elapsed Time. 9 hours 33 minutes

333
00:42:01,530 --> 00:42:08,530
until entry. Crew is still asleep at this
time, scheduled to wake up at 189 hours Ground

334
00:42:09,640 --> 00:42:16,640
Elapsed Time, some 3? hours from now. We've
had no word from the crew since the scheduled

335
00:42:20,580 --> 00:42:27,580
sleep period began. Apollo 11 now 61,034 nautical
miles out from the Earth and velocity of 7815

336
00:42:38,560 --> 00:42:45,560
feet per second. At 185 hours 30 minutes Ground
Elapsed Time. This fs Apollo Control.

337
00:42:54,620 --> 00:43:01,620
PAO This is Apollo Control 186 hours 28 minutes
Ground Elapsed Time. 8 hours 35 minutes to

338
00:43:10,130 --> 00:43:17,130
entry. Crew of Columbia still asleep at this
time. Some 2? hours away from wakeup time

339
00:43:20,650 --> 00:43:27,650
at 189 hours Ground Elapsed Time. Because
of weather avoidance in the prime recovery

340
00:43:31,780 --> 00:43:38,780
zone in the mid-Pacific, southwest of Hawaii,
it has been decided some time ago to shift

341
00:43:39,740 --> 00:43:46,740
the landing point or aiming point some 215
nautical miles downrange from the pre-mission

342
00:43:48,610 --> 00:43:55,610
aiming point. And all the numbers concerned
with entry and post-entry events have been

343
00:43:59,960 --> 00:44:06,960
generated and we shall forward them at this
time. Pencils ready? Command Module-Service

344
00:44:14,680 --> 00:44:21,680
Module separation, 94:48:07 Ground Elapsed
Time, 11:20:08 Central Daylight Time; entry

345
00:44:36,570 --> 00:44:43,570
interphase, that's 400 000 feet above the
Earth's surface, Ground Elapsed Time 195:03:07,

346
00:44:51,410 --> 00:44:58,410
11:35:08 Central Daylight Time; begin blackout,
195:03:25 Ground Elapsed Time, 11:35:26 Central

347
00:45:23,650 --> 00:45:30,650
Daylight Time; 05G, 195:03:35 GET, 11:35:36
CDT; end of blackout, 195:06:56 GET, 11:38:57

348
00:45:54,640 --> 00:46:01,640
CDT; drogue parachutes deploy, 195:12:04 GET,
11:44:05 CDT; main chutes deploy, 195:12:52,

349
00:46:26,950 --> 00:46:33,950
11:44:53 CDT; touchdown, 195:17:49 GET, 11:49:50
CDT. Maximum G-loading to be pulled during

350
00:47:01,370 --> 00:47:08,370
the entry phase will be 6.12 Gs. Entry velocity,
that's at entry interphase of 400,000 feet,

351
00:47:15,620 --> 00:47:22,620
will be 36,194 feet per second. Flight path
angle, minus 6.5 degrees. Aiming point location,

352
00:47:34,840 --> 00:47:41,840
13 degrees 19 minutes north latitude, 169
degrees 09 minutes west longitude. At 186

353
00:47:53,630 --> 00:48:00,630
hours 32 minutes Ground Elapsed Time, this
is Apollo Control.

354
00:48:07,630 --> 00:48:14,630
PAO This is Apollo control 187 hours, 28 minutes
ground elapsed time. 7 hours, 34 minutes to

355
00:48:22,100 --> 00:48:29,100
entry. Flight surgeon Ken Beers reports that
all three crew members are sleeping soundly

356
00:48:35,040 --> 00:48:42,040
at this time. Their sleep period will and
probably at 189 hours although they may sleep

357
00:48:49,550 --> 00:48:56,550
an additional hour to 190 hours. Spacecraft
being tracked now through the Guam station.

358
00:49:09,680 --> 00:49:16,680
A line projected out from Earth to what is
called a sub-satellite point or a point directly

359
00:49:18,800 --> 00:49:25,800
under the spacecraft would put it over dead
center of Australia. At 187 hours, 29 minutes

360
00:49:35,030 --> 00:49:42,030
Ground Elapsed Time, this is Apollo control.

361
00:49:43,150 --> 00:49:50,150
PAO This is Apollo Control 188 hours, 28 minutes
Ground Elapse Time. Apollo 11 now 46,254 nautical

362
00:50:01,450 --> 00:50:08,450
miles out from Earth. Velocity continuing
to increase, now 9081 feet per second. There

363
00:50:13,170 --> 00:50:20,170
will be a dramatic increase in velocity as
the spacecraft gets closer in. Here in Mission

364
00:50:22,620 --> 00:50:29,620
Control Center the entry team headed up by
Flight Director Milt Windler is beginning

365
00:50:31,710 --> 00:50:38,710
to come aboard. Hand over in progress from
Gene Kranz white team. The crew is still asleep

366
00:50:42,600 --> 00:50:49,600
at this time. They're some 6 hours, 34 minutes
from entry interface. And at 188 hours, 29

367
00:50:55,460 --> 00:51:02,460
minutes Ground Elapse Time, this is Apollo
Control.

368
00:51:04,730 --> 00:51:11,730
PAO This is Apollo Control at 188 hours 43
minutes. Mid-course correction number 7 has

369

00:51:17,300 --> 00:51:24,300
been cancelled and we will add one hour of
rest time to the flight plan. Crew will be

370
00:51:26,170 --> 00:51:33,170
awakened at 190 hours elapsed time. To repeat,
we have cancelled midcourse correction number

371
00:51:34,600 --> 00:51:41,600
7 and we will allow the crew to sleep until
190 hours elapsed time. This is Mission Control

372
00:51:42,010 --> 00:51:49,010
Houston.

373
00:51:49,680 --> 00:51:56,680
PAO This is Apollo Control at 189 hours 28
minutes. Apollo 11 is 40,961 nautical miles

374
00:52:06,200 --> 00:52:13,200
from the Earth, approaching at a velocity
of 9,671 feet per second. Midcourse correction

375
00:52:15,170 --> 00:52:22,170
number 7 has been cancelled and as a result
we will let the crew sleep until an elapsed

376
00:52:22,830 --> 00:52:29,830
time of 190 hours. Weather in the recovery
area, well, we're getting a call from Apollo

377
00:52:35,030 --> 00:52:35,700
11, now. Let's listen to that.

378
00:52:35,700 --> 00:52:38,790
SC Roger. What's the status on midcourse 7?

379
00:52:45,400 --> 00:52:52,400
CAPCOM Roger. We were going to let you sleep
in until about 190 hours. Midcourse 7 is not

380
00:53:08,380 --> 00:53:12,210
required.

381
00:53:12,210 --> 00:53:19,210
SC Okay. Thank you.

382
00:53:27,570 --> 00:53:34,570
PAO The crew gave us a call at 189 hours,
29 minutes. We advised them of the cancellation

383
00:53:38,490 --> 00:53:45,490
of the midcourse correction. Weather in the
recovery area, skies will be partly cloudy.

384
00:53:48,310 --> 00:53:55,310
Cloud base is at 2000 feet scattered. Wind,
east northeast at 18 knots, 6 foot sea, temperature

385
00:54:04,860 --> 00:54:11,860
80 degrees. This landing area is 215 miles
to the northeast from the original landing

386
00:54:14,310 --> 00:54:21,310
area, moved because of thunder showers in
the original area. This new location should

387
00:54:23,440 --> 00:54:30,440
allow the recovery ship USS Hornet to arrive
in Hawaii 4 to 5 hours earlier than originally

388
00:54:34,850 --> 00:54:41,850
planned. We expect that it may be possible
for the carrier to arrive at Pearl Harbor

389
00:54:44,160 --> 00:54:51,160
somewhere between 8 and 9 o'clock on July
26. That's Saturday.

390

00:55:09,980 --> 00:55:16,980
PAO The crew is probably preparing breakfast
now and it's not likely we'll hear a lot from