



1
00:00:32,630 --> 00:00:28,250
April 30 1970 the mood could only be

2
00:00:35,630 --> 00:00:32,640
described as relaxed Apollo 13 man's v

3
00:00:38,090 --> 00:00:35,640
Lulu mission the third scheduled to land

4
00:00:58,040 --> 00:00:38,100
on the moon continuing its tranquil

5
00:00:59,569 --> 00:00:58,050
Coast Thursday we've got one more item

6
00:01:02,930 --> 00:00:59,579
for you when you get a chance we might

7
00:01:05,630 --> 00:01:02,940
get there stir up your cryo things in

8
00:01:07,330 --> 00:01:05,640
addition our chef and onions okay for

9
00:01:21,070 --> 00:01:07,340
look at the common Bennet if you needed

10
00:01:26,179 --> 00:01:24,200
remain beautiful okay stand by Thursday

11
00:01:28,490 --> 00:01:26,189
and we're looking at it if we had a

12
00:01:31,819 --> 00:01:28,500
pretty large batch of the ranges with

13
00:01:35,450 --> 00:01:31,829

the brush warning there I'm gonna call

14

00:01:41,060 --> 00:01:35,460

BP with one that said error and spike on

15

00:01:48,469 --> 00:01:41,070

it was before any area but the battle

16

00:01:50,380 --> 00:01:48,479

against April 11 1970 launch day the

17

00:01:52,690 --> 00:01:50,390

crew of Apollo 13

18

00:01:55,090 --> 00:01:52,700

jim lovell commander and veteran approve

19

00:02:00,070 --> 00:01:55,100

devious measurements he had orbited the

20

00:02:04,560 --> 00:02:00,080

moon Christmas 1968 on Apollo 8 fred a's

21

00:02:08,410 --> 00:02:04,570

his first time up lunar module pilot

22

00:02:11,050 --> 00:02:08,420

Jack Swigert command module pilot three

23

00:02:13,780 --> 00:02:11,060

days ago he was on the backup crew now

24

00:02:15,280 --> 00:02:13,790

he replaced Ken Mattingly Mattingly had

25

00:02:17,890 --> 00:02:15,290

been dropped from the mission because he

26
00:02:19,360 --> 00:02:17,900
had been explored to German measles he

27
00:02:22,720 --> 00:02:19,370
would launch the launch from Houston

28
00:02:29,020 --> 00:02:22,730
Mission Control auto-sync listening to

29
00:02:31,479 --> 00:02:29,030
the flame for the first impression by

30
00:02:33,820 --> 00:02:31,489
Buster as one team prepares company for

31
00:02:36,630 --> 00:02:33,830
an entire hour ago Roger has a low-key

32
00:03:35,830 --> 00:02:36,640
conjugates favorite oil King

33
00:03:43,180 --> 00:03:38,480
why product rejected confirm stationing

34
00:03:48,410 --> 00:03:43,190
driving price listed \$84 layering okay

35
00:03:50,750 --> 00:03:48,420
I'd like to confer first feel senior

36
00:03:52,280 --> 00:03:50,760
problem I got those days when I get my

37
00:03:55,490 --> 00:03:52,290
right now flying all day or anything you

38
00:03:57,590 --> 00:03:55,500

go the next step in the routine and

39

00:04:00,500 --> 00:03:57,600

lunar flight was to burn out of Earth

40

00:04:02,900 --> 00:04:00,510

orbit toward the moon then full three of

41

00:04:06,560 --> 00:04:02,910

the third stage and dock with the lunar

42

00:04:18,469 --> 00:04:06,570

module Aquarius at the controls of the

43

00:04:20,659 --> 00:04:18,479

command module Odyssey Jack Swagger they

44

00:04:31,070 --> 00:04:20,669

pull Aquarius away from the Saturn third

45

00:04:34,040 --> 00:04:31,080

stage the s4 be honest thing and

46

00:04:46,070 --> 00:04:34,050

Aquarius moved away from Earth toward

47

00:04:53,449 --> 00:04:49,040

so then we've had a hardware ring-spun

48

00:04:54,689 --> 00:04:53,459

learning more in are you not at all

49

00:04:56,879 --> 00:04:54,699

wonderful

50

00:05:02,399 --> 00:04:56,889

you see an AC bus undervolt they're dead

51
00:05:04,649 --> 00:05:02,409
for eco- I believe the crew reported for

52
00:05:07,439 --> 00:05:04,659
your Ramsey internal we leave that in

53
00:05:09,719 --> 00:05:07,449
imitation fell by brunch and we had a

54
00:05:14,209 --> 00:05:09,729
pretty large bearing from rotated with

55
00:05:17,999 --> 00:05:14,219
the project warning the sensation I had

56
00:05:21,329 --> 00:05:18,009
that I had felt a vibration accompanying

57
00:05:24,329 --> 00:05:21,339
the bang not a large vibration or

58
00:05:25,529 --> 00:05:24,339
shredder running kind of lazily remember

59
00:05:27,299 --> 00:05:25,539
when you're looking at instrumentation

60
00:05:29,670 --> 00:05:27,309
we had a real problem for lunch we're

61
00:05:34,339 --> 00:05:29,680
eating everyone to pressure and fuel

62
00:05:36,839 --> 00:05:34,349
cell 113 psi on fuel cell 302 pressure

63
00:05:41,639 --> 00:05:36,849

what do you want to do open circuit fuel

64

00:05:45,209 --> 00:05:41,649

so on a trip a trip down and reactants

65

00:05:46,649 --> 00:05:45,219

found and I ask for confirmation since

66

00:05:48,359 --> 00:05:46,659

when you do that it's sort of

67

00:05:53,159 --> 00:05:48,369

irreversible if you shot one these

68

00:05:59,129 --> 00:05:53,169

things down can be restarted from ground

69

00:06:07,290 --> 00:05:59,139

support equipment looking off the so we

70

00:06:09,059 --> 00:06:07,300

are everybody think of the kind of

71

00:06:10,529 --> 00:06:09,069

things we keep setting you can see you

72

00:06:14,339 --> 00:06:10,539

get an earring that looks abnormal in

73

00:06:16,739 --> 00:06:14,349

here so all about shoes we can't see

74

00:06:19,009 --> 00:06:16,749

anything good when still a baby they've

75

00:06:21,179 --> 00:06:19,019

got this representing its firm flight

76
00:06:25,049 --> 00:06:21,189
when you look at the system for those

77
00:06:27,749 --> 00:06:25,059
events effect okay Darren here is a

78
00:06:29,999 --> 00:06:27,759
bulletin from ABC News the Apollo 13

79
00:06:32,369 --> 00:06:30,009
spacecraft is not a serious power supply

80
00:06:33,250 --> 00:06:32,379
malfunction that could cause the lunar

81
00:06:35,650 --> 00:06:33,260
landing mission

82
00:06:38,350 --> 00:06:35,660
literally I assume you've called in your

83
00:06:39,970 --> 00:06:38,360
backup becomes right there again it's

84
00:06:43,510 --> 00:06:39,980
all in your backup become a surrogate

85
00:06:45,310 --> 00:06:43,520
small brain Carmen Taiwan your body at

86
00:06:46,990 --> 00:06:45,320
the moment the astronauts are continuing

87
00:06:49,060 --> 00:06:47,000
to try to isolate their trouble a label

88
00:06:51,280 --> 00:06:49,070

closes the spacecraft mal is operating

89

00:06:55,150 --> 00:06:51,290

on battery power alone all unnecessary

90

00:06:57,790 --> 00:06:55,160

equipment is being turned off okay now

91

00:06:59,800 --> 00:06:57,800

let's everybody keep girl we got legs

92

00:07:03,100 --> 00:06:59,810

still attached well in a spacecrafts

93

00:07:04,690 --> 00:07:03,110

good so we need to get back home we've

94

00:07:07,570 --> 00:07:04,700

gotta learn to do a good course of it

95

00:07:10,140 --> 00:07:07,580

with okay let's make sure we don't do

96

00:07:12,640 --> 00:07:10,150

anything that's going to blow our CSM

97

00:07:15,070 --> 00:07:12,650

electrical power with the batteries or

98

00:07:18,880 --> 00:07:15,080

it will cause us to lose the main or the

99

00:07:20,380 --> 00:07:18,890

fuel cell number two okay we want to

100

00:07:22,300 --> 00:07:20,390

keep the o2 and that kind of stuff

101
00:07:25,540 --> 00:07:22,310
working with right there of RCS but we

102
00:07:27,070 --> 00:07:25,550
get the command module system so we're

103
00:07:28,750 --> 00:07:27,080
in good shape if we need to get home

104
00:07:31,750 --> 00:07:28,760
we'll install the problem but let's not

105
00:07:33,880 --> 00:07:31,760
make it any worse by Jessie my concern

106
00:07:36,130 --> 00:07:33,890
was increasing all the time it's going

107
00:07:40,660 --> 00:07:36,140
from I want to look this is going to be

108
00:07:46,960 --> 00:07:40,670
to the landing so I wonder if we can get

109
00:07:49,240 --> 00:07:46,970
back home again okay a local Electrike

110
00:07:51,640 --> 00:07:49,250
go ahead I think the best thing to do

111
00:07:54,070 --> 00:07:51,650
right now to start our day right if I

112
00:07:56,050 --> 00:07:54,080
daniel said it was quite apparent to me

113
00:07:57,930 --> 00:07:56,060

that it was just a question of time if

114

00:08:00,250 --> 00:07:57,940

the command module was going to be when

115

00:08:02,590 --> 00:08:00,260

you don't want to people show up uncle

116

00:08:04,960 --> 00:08:02,600

do you we can do that future number one

117

00:08:09,640 --> 00:08:04,970

fine okay well let's make sure we don't

118

00:08:11,950 --> 00:08:09,650

blow elision okay it concerns me it is

119

00:08:13,750 --> 00:08:11,960

hurting his phone equipment we had a

120

00:08:15,400 --> 00:08:13,760

probably don't know the cause of the

121

00:08:18,520 --> 00:08:15,410

problem but right I have got a feeling

122

00:08:22,640 --> 00:08:18,530

we've lost you to yourself I hate to put

123

00:08:24,920 --> 00:08:22,650

it that way but I don't know why Rossum

124

00:08:27,290 --> 00:08:24,930

this is an old tag of networks for

125

00:08:29,300 --> 00:08:27,300

Blanke right now are bring me up another

126
00:08:32,540 --> 00:08:29,310
computer in the RTCC William

127
00:08:34,550 --> 00:08:32,550
we got spell what machine on Caucasian

128
00:08:36,409 --> 00:08:34,560
feel that's dual safety national ok I

129
00:08:37,820 --> 00:08:36,419
want another machine up there at PCC I

130
00:08:39,760 --> 00:08:37,830
want to put the guys people are running

131
00:08:42,140 --> 00:08:39,770
D logs down there

132
00:08:43,339 --> 00:08:42,150
what all this means is only speculation

133
00:08:45,320 --> 00:08:43,349
at this point

134
00:08:46,970 --> 00:08:45,330
first builder has been so many tumbling

135
00:08:48,470 --> 00:08:46,980
or rotation of the spacecraft we have

136
00:08:52,340 --> 00:08:48,480
pronounced do not a clear to be in any

137
00:08:54,680 --> 00:08:52,350
immediate danger I'll tell you what can

138
00:08:56,510 --> 00:08:54,690

sing can you get somebody in the back

139

00:08:59,750 --> 00:08:56,520

room to try to figure out what the photo

140

00:09:02,329 --> 00:08:59,760

itself as he is we're getting the lead

141

00:09:04,940 --> 00:09:02,339

and see if we can backtrack to see we

142

00:09:07,730 --> 00:09:04,950

can figure out what's Betty Roger there

143

00:09:10,760 --> 00:09:07,740

to translate okay when I looked up and

144

00:09:12,760 --> 00:09:10,770

saw boo I'm thinking pleasures one

145

00:09:16,640 --> 00:09:12,770

athlete is zero another one going down

146

00:09:19,130 --> 00:09:16,650

is burn on me I'm sure dejected but

147

00:09:21,380 --> 00:09:19,140

about the same time but we were indeed

148

00:09:24,610 --> 00:09:21,390

in a serious trouble the only way to

149

00:09:29,690 --> 00:09:24,620

survive the situation were to transfer

150

00:09:32,150 --> 00:09:29,700

to be 120 count regarding the pressure

151
00:09:33,949 --> 00:09:32,160
no triptank water all the way down a 297

152
00:09:35,150 --> 00:09:33,959
either think about getting in the lab or

153
00:09:38,750 --> 00:09:35,160
you go on system

154
00:09:40,760 --> 00:09:38,760
I'd say this is a serious of situations

155
00:09:42,560 --> 00:09:40,770
we have ever had an mainstage point

156
00:09:45,410 --> 00:09:42,570
we've always call around hundred

157
00:09:47,660 --> 00:09:45,420
lifeboat under those circumstances if at

158
00:09:50,120 --> 00:09:47,670
any time when admission however when I

159
00:09:55,430 --> 00:09:50,130
had separated and we've gotten ourselves

160
00:09:57,920 --> 00:09:55,440
into a rondelay situation or the command

161
00:10:00,920 --> 00:09:57,930
module ring around the moon then what

162
00:10:02,320 --> 00:10:00,930
you say is absolutely true it would be a

163
00:10:06,620 --> 00:10:02,330

fatal situation

164

00:10:08,900 --> 00:10:06,630

tell me it'll fly I want you to get some

165

00:10:10,910 --> 00:10:08,910

guys figuring out their own power in the

166

00:10:14,269 --> 00:10:10,920

lemon to stay alive

167

00:10:15,829 --> 00:10:14,279

the accident had occurred 200,000 miles

168

00:10:17,569 --> 00:10:15,839

from her levels

169

00:10:20,269 --> 00:10:17,579

rygart and Hayes Road in the lunar

170

00:10:22,999 --> 00:10:20,279

module attached to a lifeless command

171

00:10:25,939 --> 00:10:23,009

module Apollo 13 had started as a

172

00:10:30,519 --> 00:10:25,949

mission of scientific exploration it was

173

00:10:35,329 --> 00:10:33,349

since the command module was dead except

174

00:10:37,999 --> 00:10:35,339

for the oxygen and power awarded for

175

00:10:39,949 --> 00:10:38,009

reentry a guidance platform of Aquarius

176

00:10:43,280 --> 00:10:39,959

designed to land on and take off from

177

00:10:45,949 --> 00:10:43,290

the moon would have to be used the first

178

00:10:48,319 --> 00:10:45,959

milestone and I consider exactly

179

00:10:51,710 --> 00:10:48,329

actually I guess more or less the two

180

00:10:54,699 --> 00:10:51,720

widely now the first milestone was to

181

00:10:56,900 --> 00:10:54,709

get alignment on a level platform

182

00:10:59,869 --> 00:10:56,910

alignments are important you know

183

00:11:01,759 --> 00:10:59,879

because without knowing exactly which

184

00:11:04,579 --> 00:11:01,769

way the attitude of the spacecraft in

185

00:11:06,559 --> 00:11:04,589

space is he'll learn how to learn or how

186

00:11:08,329 --> 00:11:06,569

goodness use the engines of that space

187

00:11:11,090 --> 00:11:08,339

back to get the propulsive proper

188

00:11:13,789 --> 00:11:11,100

exactly needs to come home the position

189

00:11:18,409 --> 00:11:13,799

we are in our green plane we have to go

190

00:11:19,840 --> 00:11:18,419

around the familiar to get back to the

191

00:11:22,519 --> 00:11:19,850

balloon to defend him

192

00:11:24,799 --> 00:11:22,529

we haven't had enough capability with

193

00:11:28,100 --> 00:11:24,809

the SPS engine they forgot where you

194

00:11:31,159 --> 00:11:28,110

said man but we have to go for the back

195

00:11:32,809 --> 00:11:31,169

side of the road and come down to get

196

00:11:34,729 --> 00:11:32,819

into the correct orbit around the moon

197

00:11:36,739 --> 00:11:34,739

the crew had burned out of a trajectory

198

00:11:38,539 --> 00:11:36,749

that would automatically bring them back

199

00:11:42,590 --> 00:11:38,549

to earth they would have to get back

200

00:11:44,859 --> 00:11:42,600

onto a safe course toward Earth he needs

201
00:11:48,049 --> 00:11:44,869
to produce a bottle to man also like

202
00:11:48,889 --> 00:11:48,059
travel to mere point after that

203
00:11:51,590 --> 00:11:48,899
everything

204
00:11:53,419 --> 00:11:51,600
this maneuver again was completed on

205
00:11:55,909 --> 00:11:53,429
time and because it was a manual burn we

206
00:11:57,979 --> 00:11:55,919
had a feeling that operation Jack good

207
00:11:59,299 --> 00:11:57,989
day take care of the climb you tell us

208
00:11:59,900 --> 00:11:59,309
them to light off the engine when we

209
00:12:02,689 --> 00:11:59,910
stopped it

210
00:12:04,249 --> 00:12:02,699
red handle girl which maneuver I handled

211
00:12:05,949 --> 00:12:04,259
the world globally when I push the

212
00:12:17,300 --> 00:12:05,959
button to start and stop the engines

213
00:12:28,260 --> 00:12:25,650

okay query she's looking good the first

214

00:12:30,960 --> 00:12:28,270

problem was solved they were back on the

215

00:12:33,870 --> 00:12:30,970

path to work but there were many other

216

00:12:35,540 --> 00:12:33,880

problems we saw from a building at

217

00:12:38,010 --> 00:12:35,550

Houston's manned spacecraft Center

218

00:12:38,790 --> 00:12:38,020

systems experts coordinating the

219

00:12:43,620 --> 00:12:38,800

coast-to-coast

220

00:12:46,650 --> 00:12:43,630

effort to get the crew back one of the

221

00:12:49,200 --> 00:12:46,660

big problems was consumables there will

222

00:12:52,020 --> 00:12:49,210

be enough to eat and drink but in space

223

00:12:54,090 --> 00:12:52,030

there are other factors oxygen to

224

00:12:56,520 --> 00:12:54,100

breathe electrical power to keep the

225

00:12:59,280 --> 00:12:56,530

spacecraft alive water to clean the

226

00:13:01,050 --> 00:12:59,290

equipment and keep it operating but

227

00:13:03,390 --> 00:13:01,060

we'll be doing till we get them back on

228

00:13:05,820 --> 00:13:03,400

the water is concentrating on everything

229

00:13:07,350 --> 00:13:05,830

that is their lives and dependent upon

230

00:13:08,790 --> 00:13:07,360

at the moment rather than worrying about

231

00:13:11,340 --> 00:13:08,800

the accident because there's nothing we

232

00:13:13,770 --> 00:13:11,350

can do about that now as it appears its

233

00:13:14,220 --> 00:13:13,780

presence and on it everything is under

234

00:13:17,460 --> 00:13:14,230

control

235

00:13:25,710 --> 00:13:17,470

and that we have a safe situation at the

236

00:13:31,380 --> 00:13:25,720

moment are you guys okay we are about 17

237

00:13:34,640 --> 00:13:31,390

hours from home and we think we have the

238

00:13:38,040 --> 00:13:34,650

situation in control we've checked the

239

00:13:40,170 --> 00:13:38,050

consumables as I've described and we

240

00:13:43,410 --> 00:13:40,180

have a plan for carrying out the rest of

241

00:13:46,170 --> 00:13:43,420

the mission but there is going to be no

242

00:13:49,560 --> 00:13:46,180

relaxation at all as far as that goes

243

00:13:52,260 --> 00:13:49,570

fanatical splash there was a key

244

00:13:55,740 --> 00:13:52,270

decision to be made before Apollo 13

245

00:13:58,770 --> 00:13:55,750

went behind the moon where we bring

246

00:14:00,540 --> 00:13:58,780

down there present course was taken to

247

00:14:02,850 --> 00:14:00,550

the Indian Ocean where recovery would be

248

00:14:04,320 --> 00:14:02,860

difficult a burn to bring home quicker

249

00:14:07,320 --> 00:14:04,330

would take them to the Pacific Ocean

250

00:14:09,090 --> 00:14:07,330

near the recovery forces bringing them

251
00:14:10,500 --> 00:14:09,100
home even fast to replace them in the

252
00:14:13,260 --> 00:14:10,510
South Atlantic again

253
00:14:20,190 --> 00:14:13,270
away from recovery forces it was decided

254
00:14:23,390 --> 00:14:20,200
to take them to the Pacific soon ladies

255
00:14:27,020 --> 00:14:23,400
culture and educate the conscious

256
00:14:30,930 --> 00:14:27,030
continuously ever since left last night

257
00:14:33,870 --> 00:14:30,940
we tried to simulate virtually anything

258
00:14:38,730 --> 00:14:33,880
we've had the cool to do that is not

259
00:14:42,360 --> 00:14:38,740
normal they didn't prove the most fair

260
00:14:44,250 --> 00:14:42,370
thing that we've been able to run on the

261
00:14:46,260 --> 00:14:44,260
simulator part of pants me up there may

262
00:14:48,150 --> 00:14:46,270
be some detailing of them but basically

263
00:14:50,330 --> 00:14:48,160

we've checked the feasibility everything

264

00:14:55,020 --> 00:14:50,340

we've been and will continue to be Bay

265

00:14:56,940 --> 00:14:55,030

they past 137 miles from the moon for

266

00:14:59,790 --> 00:14:56,950

level it was the second time that he had

267

00:15:00,990 --> 00:14:59,800

seen the moon so near but there was no

268

00:15:04,240 --> 00:15:01,000

time for contemplation

269

00:15:10,520 --> 00:15:04,250

there was another critical burn coming

270

00:15:23,520 --> 00:15:14,190

and in Houston the news men poured him

271

00:15:28,840 --> 00:15:26,440

shortly after Apollo 13 had separated

272

00:15:30,880 --> 00:15:28,850

from the Saturn third stage the states

273

00:15:33,550 --> 00:15:30,890

have been sent on to a trajectory toward

274

00:15:37,240 --> 00:15:33,560

the moon its impact would be recorded by

275

00:15:42,780 --> 00:15:37,250

the seismometer left by Apollo 12 by the

276

00:15:45,930 --> 00:15:42,790

way the plan 3c resulting from pro

277

00:15:49,810 --> 00:15:45,940

seismometer that's like your booster

278

00:15:53,530 --> 00:15:49,820

just hit the moon and it's rocking it a

279

00:15:56,770 --> 00:15:53,540

little bit while these cook for work the

280

00:15:59,770 --> 00:15:56,780

perfect answer glad we didn't have any

281

00:16:01,710 --> 00:15:59,780

I'll live impact to Jim you are go for

282

00:16:05,590 --> 00:16:01,720

the burn go for the burn

283

00:16:09,430 --> 00:16:05,600

Roger our current global firm guidance

284

00:16:10,390 --> 00:16:09,440

okay put your trust in Charles okay okay

285

00:16:13,900 --> 00:16:10,400

five down

286

00:16:17,640 --> 00:16:13,910

let's go fight take their okay we're

287

00:16:22,240 --> 00:16:17,650

dirtfoot ground confirmed recognition

288

00:16:24,890 --> 00:16:22,250

for burning 44s or a houston you're

289

00:16:37,170 --> 00:16:33,720

Roger shut down Roger shut down potatoes

290

00:16:40,050 --> 00:16:37,180

a dead bird charges I want to borrow

291

00:16:41,910 --> 00:16:40,060

dollars any possible literature to

292

00:16:44,790 --> 00:16:41,920

conserve the electric power and cooling

293

00:16:47,760 --> 00:16:44,800

water the crews shut down all over the

294

00:16:48,120 --> 00:16:47,770

vital life-sustaining systems of the

295

00:16:50,100 --> 00:16:48,130

length

296

00:16:52,980 --> 00:16:50,110

I think the blend spacecrafts in

297

00:16:56,400 --> 00:16:52,990

excellent shape and I think it's fully

298

00:16:57,960 --> 00:16:56,410

capable of getting the clear dr. I think

299

00:16:59,970 --> 00:16:57,970

as we get found before we turn and we

300

00:17:02,250 --> 00:16:59,980

put the limb spacecraft to a test

301

00:17:03,720 --> 00:17:02,260

it's always done much more than was

302

00:17:06,780 --> 00:17:03,730

guaranteed be doing I think this is a

303

00:17:10,500 --> 00:17:06,790

good case in point from sort of the

304

00:17:14,310 --> 00:17:10,510

consumables cooling water electric power

305

00:17:17,280 --> 00:17:14,320

they when water gun was leaking and when

306

00:17:20,640 --> 00:17:17,290

we set that off I guess it makes about a

307

00:17:22,860 --> 00:17:20,650

quart of water or destiny but it took me

308

00:17:24,660 --> 00:17:22,870

about two days to get my feet dry and of

309

00:17:26,250 --> 00:17:24,670

course it is I think we're all aware

310

00:17:29,550 --> 00:17:26,260

that the temperatures were going down

311

00:18:27,280 --> 00:17:29,560

and the both vehicles in and that made

312

00:18:35,900 --> 00:18:32,750

Lord your astronauts will come back see

313

00:18:42,530 --> 00:18:35,910

if I may be serious for one moment and

314

00:18:48,740 --> 00:18:42,540

ask the entire audience for a moment of

315

00:18:53,480 --> 00:18:48,750

prayer for the two men of the Apollo 13

316

00:18:53,490 --> 00:19:23,530

a standard 52 percent and 2 percent

317

00:19:30,700 --> 00:19:25,970

going down in temperature but I think

318

00:19:34,669 --> 00:19:30,710

fundamentally we found about 38 degrees

319

00:19:37,520 --> 00:19:34,679

along a path below sort of chilling for

320

00:19:40,040 --> 00:19:37,530

those three roles of perspiring but when

321

00:19:43,520 --> 00:19:40,050

they get completely wet because it

322

00:19:45,610 --> 00:19:43,530

wasn't too healthy inequality hot dogs

323

00:19:59,799 --> 00:19:45,620

when they were puppies into the food or

324

00:20:03,500 --> 00:20:02,150

handle the situation what happened we

325

00:20:07,190 --> 00:20:03,510

haven't exactly I would expect

326

00:20:07,940 --> 00:20:07,200

completely everybody's well on top of it

327

00:20:09,770 --> 00:20:07,950

as anybody could be

328

00:20:12,110 --> 00:20:09,780

when we were here which isn't very much

329

00:20:14,660 --> 00:20:12,120

like to admit presence they did

330

00:20:16,880 --> 00:20:14,670

everything right within the college it

331

00:20:18,680 --> 00:20:16,890

was available tuition of the time the

332

00:20:22,090 --> 00:20:18,690

fashion which is that's two always

333

00:20:24,500 --> 00:20:22,100

threatening to get a beautiful job

334

00:20:27,080 --> 00:20:24,510

that's the one I wrote little Sophie's

335

00:20:28,549 --> 00:20:27,090

language president put on and come off a

336

00:20:30,970 --> 00:20:28,559

little bit warm

337

00:20:34,880 --> 00:20:30,980

the astronauts faced another problem

338

00:20:36,980 --> 00:20:34,890

their own exhaled breath the lithium

339

00:20:39,110 --> 00:20:36,990

hydroxide chemical to take carbon

340

00:20:41,870 --> 00:20:39,120

dioxide out of the air was not

341

00:20:43,700 --> 00:20:41,880

sufficient in the lunar module they

342

00:20:46,370 --> 00:20:43,710

would have to adapt the canisters from

343

00:20:49,549 --> 00:20:46,380

the command module to fit the hoses in

344

00:20:51,440 --> 00:20:49,559

the LEM on the ground an adapter was

345

00:20:54,169 --> 00:20:51,450

fashioned from materials that crew have

346

00:20:58,070 --> 00:20:54,179

had available in the lab cardboard from

347

00:21:00,710 --> 00:20:58,080

a checklist plastic bags and tape after

348

00:21:03,320 --> 00:21:00,720

checkout in an environmental chamber the

349

00:21:07,220 --> 00:21:03,330

directions for construction were sent up

350

00:21:08,930 --> 00:21:07,230

to Aquarius at this point I'm I think

351
00:21:11,480 --> 00:21:08,940
the particle pressure of carbon dioxide

352
00:21:14,090 --> 00:21:11,490
was reading about fifteen millimeters

353
00:21:15,740 --> 00:21:14,100
and we constructed two of these things

354
00:21:18,710 --> 00:21:15,750
and put them on a line and I think

355
00:21:22,400 --> 00:21:18,720
within an hour the partial pressure of

356
00:21:25,840 --> 00:21:22,410
co2 was down to two tenths but isn't it

357
00:21:29,570 --> 00:21:25,850
their survival rod now began one OPA of

358
00:21:32,510 --> 00:21:29,580
emotionalism ingenuity there was one was

359
00:21:34,010 --> 00:21:32,520
the ground continually helpless

360
00:21:35,870 --> 00:21:34,020
there are all kinds of people on the

361
00:21:37,930 --> 00:21:35,880
ground trying to think of ways of

362
00:21:40,580 --> 00:21:37,940
extending our lifetime

363
00:21:42,950 --> 00:21:40,590

there would be still another brownie

364

00:21:45,380 --> 00:21:42,960

I'll get close correction we get Apollo

365

00:21:48,370 --> 00:21:45,390

13 into the narrow corridor through the

366

00:21:57,310 --> 00:21:48,380

atmosphere for a safe return to work

367

00:21:57,320 --> 00:22:01,120

dress looks good

368

00:22:07,250 --> 00:22:05,020

shut down hang an era won't be long

369

00:22:09,590 --> 00:22:07,260

there are moments when I didn't know how

370

00:22:12,860 --> 00:22:09,600

much jingles had where we can make you

371

00:22:13,910 --> 00:22:12,870

guys come out but this is always why I

372

00:22:17,150 --> 00:22:13,920

thought there's only one thing you can

373

00:22:18,470 --> 00:22:17,160

do we'll just keep going and you just

374

00:22:22,340 --> 00:22:18,480

keep thinking up the way you can get

375

00:22:26,870 --> 00:22:22,350

more continue and so that's exactly what

376

00:22:31,190 --> 00:22:26,880

we did on April 17th they prepared for

377

00:22:46,260 --> 00:22:33,890

after the small course collecting burn

378

00:22:58,140 --> 00:22:46,270

begins in the damaged service module is

379

00:23:00,810 --> 00:22:58,150

that right next they got back into

380

00:23:12,660 --> 00:23:00,820

Odyssey to jettison Aquarius prior to

381

00:23:16,980 --> 00:23:12,670

entering into the atmosphere healthcare

382

00:23:58,979 --> 00:23:16,990

yellow s and a half entry attitude we

383

00:23:58,989 --> 00:26:06,240

Odyssey Houston standing by

384

00:26:14,669 --> 00:26:12,000

I recall getting the van I spoke to you

385

00:26:17,100 --> 00:26:14,679

on the phone you said that you regretted

386

00:26:17,820 --> 00:26:17,110

that you were unable to complete your

387

00:26:20,460 --> 00:26:17,830

mission

388

00:26:25,110 --> 00:26:20,470

I hereby declare that this was a

389

00:26:27,450 --> 00:26:25,120

successful mission from the start the

390

00:26:31,350 --> 00:26:27,460

exploration of space has been positive

391

00:26:37,080 --> 00:26:31,360

Spencer the voyage of Apollo 13 drama

392

00:26:39,480 --> 00:26:37,090

tile is to twist the men of Apollo 13 by

393

00:26:43,020 --> 00:26:39,490

their poise and skills under the most

394

00:26:46,220 --> 00:26:43,030

intense kind of pressure it minimize the

395

00:26:52,140 --> 00:26:46,230

character that accepts danger and

396

00:26:53,840 --> 00:26:52,150

surmounted there is the spirit that

397

00:26:57,480 --> 00:26:53,850

built America

398

00:27:00,270 --> 00:26:57,490

your missions serve your country it

399

00:27:03,060 --> 00:27:00,280

serve to remind us all of our poverty of

400

00:27:08,039 --> 00:27:03,070

a nation to remind us that in this age

401

00:27:12,630 --> 00:27:08,049

of technicians and scientific marvels

402

00:27:17,070 --> 00:27:12,640

that the individual still counts that in

403

00:27:25,490 --> 00:27:17,080

a crisis the character of America or of

404

00:27:29,690 --> 00:27:25,500

men will make fit gets a certain

405

00:27:36,659 --> 00:27:29,700

procedures on telly FDL flexible

406

00:27:39,630 --> 00:27:36,669

go-getter so Artie see you on any