1
00:00:09,680 --> 00:00:08,179
calavius and everybody around here is

2
00:00:13,249 --> 00:00:09,690
looked at the bird and it looks real

3
00:00:17,000 --> 00:00:13,259
good right retch and you're being

4
00:00:18,380 --> 00:00:17,010
awaited by the USS Ticonderoga and we're

5
00:00:22,910 --> 00:00:18,390
waiting to see you back here in Houston

6
00:00:24,980 --> 00:00:22,920
- oh right you can relate to the Tyco

7
00:00:29,810 --> 00:00:24,990
we've got their Fox Corpening our hook

8
00:00:32,170 --> 00:00:29,820
is down Roger - this was Skylab on the

9
00:00:35,060 --> 00:00:32,180
final day of the first manned mission

10
00:00:36,709 --> 00:00:35,070
the crew had this last view as they made

11
00:00:39,049 --> 00:00:36,719
preparations for return to Earth

12
00:00:42,049 --> 00:00:39,059
everything here it had been a successful

13
00:00:44,990 --> 00:00:42,059

mission the large majority of scientific

14
00:00:47,630 --> 00:00:45,000
objectives were accomplished but the

15
00:00:50,420 --> 00:00:47,640
bright orange sunshade the single solar

16
00:00:51,920 --> 00:00:50,430
wing presented a striking reminder of a

17
00:00:54,470 --> 00:00:51,930
mission that was something more than

18
00:00:59,150 --> 00:00:54,480
routine a mission that gave new meaning

19
00:01:04,789 --> 00:00:59,160
to the term manned spaceflight - 13 12

20
00:01:23,010 --> 00:01:04,799
11 10 9 8 we have ignition sequence has

21
00:01:23,020 --> 00:01:40,980
these Skylab lifting on the

22
00:01:48,490 --> 00:01:45,910
it was the afternoon of May 14 1973 when

23
00:01:51,580 --> 00:01:48,500
the unmanned Skylab Saturn workshop was

24
00:01:54,730 --> 00:01:51,590
rolled along at Cape Kennedy on the way

25
00:01:58,300 --> 00:01:54,740
to its assigned orbit 236 nautical miles

26
00:02:00,219 --> 00:01:58,310
in space the cloud cover was heavy on

27
00:02:02,260 --> 00:02:00,229
launch day and prevented tracking

28
00:02:04,029 --> 00:02:02,270
cameras from seeing an event that

29
00:02:08,020 --> 00:02:04,039
occurred about one minute into the

30
00:02:10,779 --> 00:02:08,030
mission at the point of maximum

31
00:02:12,660 --> 00:02:10,789
vibration telemetry sensed premature

32
00:02:15,370 --> 00:02:12,670
deployment of the meteoroid shield

33
00:02:18,640 --> 00:02:15,380
followed by a weak electrical signal

34
00:02:21,280 --> 00:02:18,650
from the workshop solar arrays clearly

35
00:02:24,100 --> 00:02:21,290
there had been a problem but the exact

36
00:02:26,970 --> 00:02:24,110
nature wasn't known until after orbital

37
00:02:29,440 --> 00:02:26,980
insertion during the first revolution

38
00:02:32,470 --> 00:02:29,450

Skylab temperatures began to rise

39
00:02:35,650 --> 00:02:32,480
rapidly and pieces of the puzzle started

40
00:02:37,539 --> 00:02:35,660
to fall in place in NASA engineers

41
00:02:40,870 --> 00:02:37,549
surmised that the anomalies were most

42
00:02:43,120 --> 00:02:40,880
likely related it was felt that the

43
00:02:44,890 --> 00:02:43,130
meteoroids shield had been completely

44
00:02:48,490 --> 00:02:44,900
lost at deployment which accounted for

45
00:02:50,800 --> 00:02:48,500
the high heat levels also that fragments

46
00:02:52,900 --> 00:02:50,810
of the meteorite shield had jammed or

47
00:02:56,199 --> 00:02:52,910
otherwise hindered full deployment of

48
00:02:58,210 --> 00:02:56,209
the solar array panels failure of these

49
00:03:00,479 --> 00:02:58,220
panels which were designed to furnish

50
00:03:03,069 --> 00:03:00,489
about half of skylabs electrical power

51
00:03:05,229 --> 00:03:03,079
meant that the total power burden would

52
00:03:09,360 --> 00:03:05,239
have to be borne by solar panels of the

53
00:03:11,890 --> 00:03:09,370
Apollo telescope mount by early evening

54
00:03:14,949 --> 00:03:11,900
workshop temperatures had risen above

55
00:03:17,170 --> 00:03:14,959
the level of safety launching of the

56
00:03:19,840 --> 00:03:17,180
crew the following day received an

57
00:03:23,830 --> 00:03:19,850
indefinite hold pending satisfactory

58
00:03:25,960 --> 00:03:23,840
solutions flight support and engineering

59
00:03:29,380 --> 00:03:25,970
teams were immediately set in motion to

60
00:03:33,460 --> 00:03:29,390
find the answers at stake was the future

61
00:03:35,710 --> 00:03:33,470
of the entire Skylab program the most

62
00:03:37,080 --> 00:03:35,720
urgent need was to achieve a thermal

63
00:03:39,540 --> 00:03:37,090

electrical balance

64
00:03:41,580 --> 00:03:39,550
this meant maneuvering to an optimum

65
00:03:44,640 --> 00:03:41,590
flight attitude for solar requirements

66
00:03:47,009 --> 00:03:44,650
that were in direct conflict too much

67
00:03:48,839 --> 00:03:47,019
solar radiation would drive temperatures

68
00:03:52,140 --> 00:03:48,849
higher increasing the chances of

69
00:03:54,539 --> 00:03:52,150
component damage and food spoilage on

70
00:03:56,580 --> 00:03:54,549
the other hand generation of electrical

71
00:03:58,589 --> 00:03:56,590
power to drive heat exchangers and food

72
00:04:01,589 --> 00:03:58,599
freezers was wholly dependent on

73
00:04:03,360 --> 00:04:01,599
exposure to the Sun while flight

74
00:04:05,910 --> 00:04:03,370
controllers struggled to achieve this

75
00:04:08,309 --> 00:04:05,920
delicate balance other team had the

76
00:04:09,839 --> 00:04:08,319
major objective of designing a thermal

77
00:04:13,500 --> 00:04:09,849
shield that could be deployed on the

78
00:04:15,780 --> 00:04:13,510
workshop to make it habitable NASA

79
00:04:19,020 --> 00:04:15,790
centers and private industry responded

80
00:04:21,000 --> 00:04:19,030
with a variety of shield concepts the

81
00:04:29,430 --> 00:04:21,010
most promising designs were released for

82
00:04:34,710 --> 00:04:29,440
fabrication finally they were subjected

83
00:04:36,420 --> 00:04:34,720
to functional testing by the fifth day

84
00:04:41,270 --> 00:04:36,430
of the mission the choice had been

85
00:04:46,680 --> 00:04:44,580
it had good functional reliability and

86
00:04:48,600 --> 00:04:46,690
the crew would be able to deploy it from

87
00:04:53,580 --> 00:04:48,610
inside the workshop through a scientific

88
00:04:55,680 --> 00:04:53,590

airlock another shield the twin pole

89
00:04:59,670 --> 00:04:55,690
sunshade would also be carried on the

90
00:05:01,589 --> 00:04:59,680
mission as a backup here in the Skylab

91
00:05:03,900 --> 00:05:01,599
underwater simulator at the Marshall

92
00:05:05,730 --> 00:05:03,910
Space Flight Center crews practiced

93
00:05:08,070 --> 00:05:05,740
extra-vehicular installation of the

94
00:05:13,710 --> 00:05:08,080
sunshade and conditions approximating

95
00:05:16,860 --> 00:05:13,720
zero-g as for the solar wings simulation

96
00:05:18,540 --> 00:05:16,870
methods were mostly inconclusive little

97
00:05:20,879 --> 00:05:18,550
was known about the extent of wing

98
00:05:23,129 --> 00:05:20,889
damage at this point and the crew could

99
00:05:27,600 --> 00:05:23,139
only speculate on how best to make them

100
00:05:30,240 --> 00:05:27,610
deploy at Mission Control

101
00:05:32,900 --> 00:05:30,250
Solar orientation of the spacecraft had

102
00:05:35,400 --> 00:05:32,910
begun to yield positive results

103
00:05:37,640 --> 00:05:35,410
temperatures still too high for

104
00:05:39,870 --> 00:05:37,650
habitation were stabilized and

105
00:05:43,110 --> 00:05:39,880
electrical power was sufficient for

106
00:05:45,540 --> 00:05:43,120
operating vital systems and equipment

107
00:05:48,720 --> 00:05:45,550
though still precarious the situation

108
00:05:51,420 --> 00:05:48,730
had been checked there was reason to

109
00:05:53,370 --> 00:05:51,430
believe it would remain stable until the

110
00:05:54,390 --> 00:05:53,380
astronauts launched now scheduled for

111
00:06:00,110 --> 00:05:54,400
May 25th

112
00:06:03,390 --> 00:06:00,120
ten days behind the original schedule on

113
00:06:05,310 --> 00:06:03,400

the day before launch the parasol team

114
00:06:15,750 --> 00:06:05,320
raced the clock to deliver the flight

115
00:06:18,270 --> 00:06:15,760
article on time they were down to the

116
00:06:21,090 --> 00:06:18,280
last 30-minute extension as the parasol

117
00:06:30,760 --> 00:06:21,100
packed in the flight canister was loaded

118
00:06:36,940 --> 00:06:34,160
in spite of a rigid schedule hopes ran

119
00:06:39,290 --> 00:06:36,950
high that the parasol would do the job

120
00:06:46,600 --> 00:06:39,300
attention now turned to the astronaut

121
00:06:54,230 --> 00:06:51,410
in the early morning hours of May 25th

122
00:06:56,330 --> 00:06:54,240
Skylab - with both thermal shields

123
00:07:00,170 --> 00:06:56,340
stowed aboard was well along in the

124
00:07:03,530 --> 00:07:00,180
countdown the crew meanwhile made ready

125
00:07:06,170 --> 00:07:03,540
to embark on their historic mission this

126
00:07:09,050 --> 00:07:06,180
all Navy crew consisted of Captain

127
00:07:11,090 --> 00:07:09,060
Charles Pete Conrad Skylab commander a

128
00:07:12,700 --> 00:07:11,100
veteran of both the Gemini and Apollo

129
00:07:16,310 --> 00:07:12,710
programs

130
00:07:18,230 --> 00:07:16,320
commander Paul Weitz who would be Skylab

131
00:07:21,220 --> 00:07:18,240
pilot for the mission had been a member

132
00:07:24,500 --> 00:07:21,230
of the support crew of Apollo 12 and

133
00:07:26,210 --> 00:07:24,510
commander Joseph Kerwin scientists pilot

134
00:07:31,640 --> 00:07:26,220
who would be the first American

135
00:07:33,680 --> 00:07:31,650
physician in space the 10-day delay had

136
00:07:36,880 --> 00:07:33,690
been a giant cram course for all

137
00:07:39,940 --> 00:07:36,890
concerned especially for the crew and

138
00:07:42,980 --> 00:07:39,950

their job was only partially complete

139
00:08:05,080 --> 00:07:42,990
the execution of all the planning effort

140
00:08:10,010 --> 00:08:08,210
following a smooth launch Skylab to

141
00:08:13,750 --> 00:08:10,020
maneuver to the proper flight path

142
00:08:17,060 --> 00:08:13,760
attitude for its initial downrange orbit

143
00:08:19,580 --> 00:08:17,070
by mid-afternoon the crew had overtaken

144
00:08:21,860 --> 00:08:19,590
the workshop TV picture beginning to

145
00:08:23,900 --> 00:08:21,870
come in now to the control center Cali

146
00:08:27,760 --> 00:08:23,910
Houston where AOS at Guam for the next

147
00:08:36,080 --> 00:08:33,200
daylight 1.5 mile 29 feet per second

148
00:08:38,690 --> 00:08:36,090
Roger paid copy they effected rendezvous

149
00:08:46,780 --> 00:08:38,700
and performed a fly around to assess the

150
00:09:05,510 --> 00:09:00,890
Roger copy is gone completely off the

151
00:09:07,310 --> 00:09:05,520
bird Solar wait what is it that finally

152
00:09:09,800 --> 00:09:07,320
deployed into reason if you've got

153
00:09:12,050 --> 00:09:09,810
different readings that's the metric

154
00:09:14,180 --> 00:09:12,060
between your three solar panels as

155
00:09:16,880 --> 00:09:14,190
there's a bulge of meteorite shield

156
00:09:20,120 --> 00:09:16,890
underneath it in the middle and it looks

157
00:09:23,960 --> 00:09:20,130
to be holding again I project uh be okay

158
00:09:28,490 --> 00:09:23,970
it looks like to me right chill at the

159
00:09:32,060 --> 00:09:28,500
upper fence panel on the fan plank has

160
00:09:36,080 --> 00:09:32,070
wrapped around it just slightly early

161
00:09:40,040 --> 00:09:36,090
now my guess is that aren't easiest

162
00:09:42,500 --> 00:09:40,050
thing to do and just go to the end and

163
00:09:45,290 --> 00:09:42,510

try and deploy it Roger

164
00:09:46,850 --> 00:09:45,300
Pete Witt from which side of the says is

165
00:09:48,440 --> 00:09:46,860
the v-rod shield slightly wrapped around

166
00:09:51,020 --> 00:09:48,450
his on the side of the main tunnel

167
00:09:53,840 --> 00:09:51,030
before docking the PRU attempted to free

168
00:09:56,840 --> 00:09:53,850
the wing although the trial was

169
00:09:59,450 --> 00:09:56,850
unsuccessful the TV pictures seen here

170
00:10:03,280 --> 00:09:59,460
proved invaluable in devising the

171
00:10:08,000 --> 00:10:05,630
following a night sleep in the command

172
00:10:10,640 --> 00:10:08,010
module the crew spent the morning of

173
00:10:12,650 --> 00:10:10,650
Saturday the 26th activating and

174
00:10:18,770 --> 00:10:12,660
checking systems in the multiple docking

175
00:10:32,370 --> 00:10:22,110
later they were given a goal to enter

176
00:10:34,290 --> 00:10:32,380
the workshop by late afternoon the

177
00:10:36,600 --> 00:10:34,300
canister was positioned in the

178
00:10:40,290 --> 00:10:36,610
scientific airlock ready for parasol

179
00:11:00,960 --> 00:10:40,300
extension okay thank you

180
00:11:08,430 --> 00:11:00,970
we had a little dropout rate and so far

181
00:11:11,220 --> 00:11:08,440
the ride extension is some four hours

182
00:11:14,070 --> 00:11:11,230
after the operation began the thermal

183
00:11:27,980 --> 00:11:14,080
parasol was deployed it was then placed

184
00:11:33,500 --> 00:11:30,900
it took about two revolutions of Skylab

185
00:11:36,060 --> 00:11:33,510
before temperatures began to fall

186
00:11:38,670 --> 00:11:36,070
projections showed that if the present

187
00:11:42,150 --> 00:11:38,680
trend continued the workshop would be

188
00:11:43,410 --> 00:11:42,160

below 100 degrees the following day it

189
00:11:45,960 --> 00:11:43,420
wouldn't be the most comfortable

190
00:11:47,820 --> 00:11:45,970
environment but after a discussion with

191
00:11:50,070 --> 00:11:47,830
the crew the decision was made to

192
00:11:53,520 --> 00:11:50,080
proceed the next morning with the normal

193
00:11:56,030 --> 00:11:53,530
flight plan the crew put in a long

194
00:11:58,470 --> 00:11:56,040
trying day activating the workshop

195
00:12:01,340 --> 00:11:58,480
getting things organized and in the

196
00:12:03,750 --> 00:12:01,350
proper place was a chore in itself

197
00:12:06,090 --> 00:12:03,760
however they were discovering to their

198
00:12:08,340 --> 00:12:06,100
satisfaction that moving big pieces of

199
00:12:12,450 --> 00:12:08,350
gear presented no problem in the

200
00:12:15,060 --> 00:12:12,460
weightless environment by noon Monday

201
00:12:17,370 --> 00:12:15,070
the 28th with the workshop completely

202
00:12:19,140 --> 00:12:17,380
activated primary emphasis was on

203
00:12:22,350 --> 00:12:19,150
getting the biomedical experiment

204
00:12:24,420 --> 00:12:22,360
started this was the first in a series

205
00:12:27,720 --> 00:12:24,430
of lower body negative pressure and

206
00:12:29,220 --> 00:12:27,730
vector cardiogram experiments paul weitz

207
00:12:33,210 --> 00:12:29,230
the subject

208
00:12:35,340 --> 00:12:33,220
Gerwin the observer there followed a

209
00:12:37,740 --> 00:12:35,350
workout on the bicycle ergometer to

210
00:12:40,350 --> 00:12:37,750
check metabolic effectiveness and to

211
00:12:53,340 --> 00:12:40,360
evaluate the bicycle as an exerciser for

212
00:12:55,200 --> 00:12:53,350
long-duration mission other medical

213
00:12:57,870 --> 00:12:55,210

experiments conducted over the next few

214
00:13:00,060 --> 00:12:57,880
days included blood sampling from each

215
00:13:04,650 --> 00:13:00,070
crewmember to satisfy the five blood

216
00:13:06,780 --> 00:13:04,660
study experiments body mass measurement

217
00:13:09,030 --> 00:13:06,790
to determine each crewmen's daily weight

218
00:13:14,040 --> 00:13:09,040
and to validate the use of this device

219
00:13:16,440 --> 00:13:14,050
for weighing in zero-g a rotating litter

220
00:13:18,540 --> 00:13:16,450
chair a part of the human vestibular

221
00:13:22,290 --> 00:13:18,550
function experiment tested for motion

222
00:13:26,670 --> 00:13:22,300
sickness rotation perception and ability

223
00:13:28,380 --> 00:13:26,680
to determine orientation in addition to

224
00:13:30,870 --> 00:13:28,390
these and other medical experiments

225
00:13:33,930 --> 00:13:30,880
science experiments were simultaneously

226
00:13:36,120 --> 00:13:33,940
being performed here Pete Conrad

227
00:13:38,850 --> 00:13:36,130
operates the Apollo telescope mount

228
00:13:41,970 --> 00:13:38,860
control and display panel in preparation

229
00:13:44,790 --> 00:13:41,980
for the solar physics studies in

230
00:13:47,040 --> 00:13:44,800
subsequent operations data such as this

231
00:13:57,210 --> 00:13:47,050
active region of the Sun was recorded by

232
00:13:59,430 --> 00:13:57,220
the telescope the earth resources

233
00:14:01,650 --> 00:13:59,440
experiments also got underway after

234
00:14:16,500 --> 00:14:01,660
activation of the six remote sensing

235
00:14:18,810 --> 00:14:16,510
systems from a broad field of view

236
00:14:21,810 --> 00:14:18,820
provided by this large space platform

237
00:14:23,460 --> 00:14:21,820
the systems began photographing selected

238
00:14:25,680 --> 00:14:23,470

portions of the Earth's surface in

239
00:14:31,639 --> 00:14:25,690
visible and near-infrared spectral

240
00:14:35,119 --> 00:14:33,530
although the crew had earlier

241
00:14:36,920 --> 00:14:35,129
encountered a number of equipment

242
00:14:39,679 --> 00:14:36,930
problems the result of excessive

243
00:14:43,220 --> 00:14:39,689
temperatures the prospects now looked

244
00:14:45,019 --> 00:14:43,230
bright for a full 28-day mission the

245
00:14:48,919 --> 00:14:45,029
temperature had stabilized in the mid

246
00:14:52,850 --> 00:14:48,929
70s the food was good and so was morale

247
00:14:54,980 --> 00:14:52,860
and up to now the 4,700 watts of

248
00:14:57,139 --> 00:14:54,990
available power appeared to be adequate

249
00:15:02,269 --> 00:14:57,149
as long as high load experiments were

250
00:15:04,129 --> 00:15:02,279
staggered however by the fifth day some

251
00:15:07,160 --> 00:15:04,139
of the storage batteries had begun to

252
00:15:09,799 --> 00:15:07,170
perform in a degraded manner the power

253
00:15:11,419 --> 00:15:09,809
shortage grew critical and it became

254
00:15:13,999 --> 00:15:11,429
apparent that to carry out the mission

255
00:15:18,650 --> 00:15:14,009
the jammed solar panel would have to be

256
00:15:21,019 --> 00:15:18,660
deployed meanwhile at Marshall in the

257
00:15:23,269 --> 00:15:21,029
underwater simulator techniques were

258
00:15:26,809 --> 00:15:23,279
being developed based on TV coverage of

259
00:15:29,359 --> 00:15:26,819
the solar wing using only tools and

260
00:15:31,160 --> 00:15:29,369
equipment like those aboard Skylab the

261
00:15:36,639 --> 00:15:31,170
backup crew developed a set of

262
00:15:40,369 --> 00:15:36,649
procedures they felt would do the job on

263
00:15:42,619 --> 00:15:40,379

June 7th astronauts Conrad and Kerwin

264
00:15:50,360 --> 00:15:42,629
made their exit to put the plan into

265
00:15:53,150 --> 00:15:50,370
operation okay we're out there brilliant

266
00:15:59,329 --> 00:15:53,160
right there looks like enough grub to

267
00:16:02,059 --> 00:15:59,339
get the cutter help Joe stabilize as the

268
00:16:04,519 --> 00:16:02,069
simulations had shown access to the

269
00:16:07,879 --> 00:16:04,529
solar wing was the big problem what with

270
00:16:10,369 --> 00:16:07,889
few handholds or foot respring it was

271
00:16:13,309 --> 00:16:10,379
solved by joining pole sections of the

272
00:16:15,049 --> 00:16:13,319
twin pole sunshade anchoring it by

273
00:16:16,929 --> 00:16:15,059
hooking the pair of cutters onto the

274
00:16:20,090 --> 00:16:16,939
strap that held the wing

275
00:16:22,489 --> 00:16:20,100
thus a temporary handrail was fashioned

276
00:16:25,600 --> 00:16:22,499
that allowed Pete Conrad access to the

277
00:16:28,460 --> 00:16:25,610
solar wing where he attached a tether

278
00:16:30,679 --> 00:16:28,470
the cutters then severed the strap and

279
00:16:36,289 --> 00:16:30,689
the tether was pulled taut to free the

280
00:16:39,199 --> 00:16:36,299
wing actuator after the crew returned to

281
00:16:41,650 --> 00:16:39,209
Skylab an attitude change placed the

282
00:16:43,540 --> 00:16:41,660
solar array system into the Sun

283
00:16:46,330 --> 00:16:43,550
we're after a period of warming the

284
00:16:50,950 --> 00:16:46,340
hydraulic dampers the panel arrays fully

285
00:16:52,870 --> 00:16:50,960
deployed within hours the electrical

286
00:16:55,840 --> 00:16:52,880
power surged to almost double the

287
00:16:58,030 --> 00:16:55,850
previous level it meant that the power

288
00:17:00,460 --> 00:16:58,040

management scheme could be abandoned and

289
00:17:05,590 --> 00:17:00,470
the original flight plan could be

290
00:17:07,449 --> 00:17:05,600
resumed in the days that followed the

291
00:17:08,860 --> 00:17:07,459
nagging problems that had plagued the

292
00:17:12,130 --> 00:17:08,870
astronauts from the start

293
00:17:14,890 --> 00:17:12,140
began to resolve the mission began to

294
00:17:18,460 --> 00:17:14,900
sound much more routine more like a

295
00:17:20,920 --> 00:17:18,470
normal working day experiments were

296
00:17:24,990 --> 00:17:20,930
coming off like clockwork and a wealth

297
00:17:26,949 --> 00:17:25,000
of scientific data was being gathered

298
00:17:34,800 --> 00:17:26,959
experiments such as this one in

299
00:17:39,180 --> 00:17:37,320
with more leisure it was not uncommon

300
00:17:41,040 --> 00:17:39,190
for the men of Skylab to indulge

301
00:18:37,630 --> 00:17:41,050
themselves in the fluidity of movement

302
00:18:43,370 --> 00:18:40,640
the weightless condition also simplified

303
00:18:45,799 --> 00:18:43,380
sleep accommodations since there was

304
00:18:48,049 --> 00:18:45,809
really no up or down the only

305
00:18:52,640 --> 00:18:48,059
requirement was a sleeping bag type of

306
00:18:55,370 --> 00:18:52,650
restraint and as mentioned earlier heavy

307
00:19:00,169 --> 00:18:55,380
objects were easily handled it was the

308
00:19:02,090 --> 00:19:00,179
small pieces that sometimes got away but

309
00:19:03,980 --> 00:19:02,100
even when objects were lost they

310
00:19:06,560 --> 00:19:03,990
generally turned up sooner or later

311
00:19:12,110 --> 00:19:06,570
on the air-conditioning screen there to

312
00:19:13,789 --> 00:19:12,120
be reclaimed on day 29 after performing

313
00:19:16,850 --> 00:19:13,799

final closeout of the orbital workshop

314
00:19:21,710 --> 00:19:16,860
the crew Don spacesuits for the return

315
00:19:31,050 --> 00:19:21,720
leg of their mission scalloped Houston

316
00:19:38,090 --> 00:19:34,920
okay we're free we got four tenths of a

317
00:19:44,880 --> 00:19:38,100
foot per second Houston

318
00:19:47,220 --> 00:19:44,890
Sify Skylab after undocking they

319
00:19:54,540 --> 00:19:47,230
remained on station briefly to obtain

320
00:19:57,540 --> 00:19:54,550
photographic coverage following the

321
00:20:00,180 --> 00:19:57,550
orbit the command module its heat shield

322
00:20:03,990 --> 00:20:00,190
trailing of fiery plume reenters the

323
00:20:06,780 --> 00:20:04,000
atmosphere for the first time in about a

324
00:20:11,910 --> 00:20:06,790
month the crew experienced the forces of

325
00:20:16,260 --> 00:20:11,920
gravity that kind of overspending by a

326
00:20:52,610 --> 00:20:16,270
for sonic boom scallop Houston through

327
00:20:52,620 --> 00:21:07,510
Oh

328
00:21:12,799 --> 00:21:10,670
splashdown occurred some 700 miles off

329
00:21:19,400 --> 00:21:12,809
Southern California near the recovery

330
00:21:21,140 --> 00:21:19,410
ship the USS Ticonderoga after retrieval

331
00:21:28,160 --> 00:21:21,150
and positioning on the flight deck

332
00:21:30,799 --> 00:21:28,170
the command module hatch was open one by

333
00:21:33,590 --> 00:21:30,809
one the crewman stepped forth unassisted

334
00:21:36,450 --> 00:21:33,600
seemingly undaunted by their return to

335
00:21:48,090 --> 00:21:38,820
they accommodated to normal activity

336
00:21:50,250 --> 00:21:48,100
within several hours in San Diego

337
00:21:53,640 --> 00:21:50,260
the first Skylab crewmen were received

338
00:21:56,640 --> 00:21:53,650

by a local and officiating prom they had

339
00:21:58,680 --> 00:21:56,650
reason to be proud the large majority of

340
00:22:01,350 --> 00:21:58,690
scheduled experimental data was gathered

341
00:22:04,530 --> 00:22:01,360
and all subsystem operational test

342
00:22:06,480 --> 00:22:04,540
objectives were achieved all this in

343
00:22:12,700 --> 00:22:06,490
spite of the problems encountered from

344
00:22:18,460 --> 00:22:15,070
problems that in the final analysis

345
00:22:22,720 --> 00:22:18,470
required the presence of man to reason