
SATURN V
QUARTERLY FILM REPORT
NO. 7
JUNE - JULY - AUGUST, 1964

1
00:00:15,259 --> 00:00:12,650
Saturn five quarterly film report number

2
00:00:21,620 --> 00:00:15,269
seven covers progress during the period

3
00:00:23,990 --> 00:00:21,630
June July and August 1964 work on the s

4
00:00:28,089 --> 00:00:24,000
1c stage by Boeing and Marshall

5
00:00:33,200 --> 00:00:30,740
preparation for structural testing of

6
00:00:35,810 --> 00:00:33,210
the s 1c test fuel tank was completed

7
00:00:38,690 --> 00:00:35,820
and full pressure hydrostatic testing

8
00:00:41,090 --> 00:00:38,700
was begun by Boeing August 4th at the

9
00:00:43,069 --> 00:00:41,100
Marshall Space Flight Center but was

10
00:00:45,889 --> 00:00:43,079
interrupted when discrepancies in the

11
00:00:47,840 --> 00:00:45,899
test setup were encountered repair and

12
00:00:50,299 --> 00:00:47,850
rework of the test gear are in progress

13
00:00:54,500 --> 00:00:50,309

and resumption of testing is scheduled

14
00:00:56,720 --> 00:00:54,510
for mid September installation of the

15
00:00:59,810 --> 00:00:56,730
five locks tunnels on the fuel tank of

16
00:01:03,250 --> 00:00:59,820
the s 1 C T static firing stage was

17
00:01:06,410 --> 00:01:03,260
completed at Marshall on June 6th

18
00:01:09,649 --> 00:01:06,420
hydrostatic calibration and leak testing

19
00:01:14,870 --> 00:01:09,659
of the fuel tank began June 22nd and was

20
00:01:17,510 --> 00:01:14,880
completed July 20th on June 15th the S 1

21
00:01:17,980 --> 00:01:17,520
C T LOX tank half assemblies were welded

22
00:01:21,399 --> 00:01:17,990
together

23
00:01:23,359 --> 00:01:21,409
completing the LOX tank assembly

24
00:01:25,969 --> 00:01:23,369
hydrostatic testing of the LOX tank

25
00:01:28,550 --> 00:01:25,979
started August 6th and was successfully

26
00:01:32,929 --> 00:01:28,560
completed on August 15th with minor

27
00:01:35,569 --> 00:01:32,939
rework required installation of the heat

28
00:01:38,420 --> 00:01:35,579
shield for the s 1 CT thrust structure

29
00:01:39,950 --> 00:01:38,430
was started this quarter the framework

30
00:01:42,020 --> 00:01:39,960
of the shield was completed in August

31
00:01:43,580 --> 00:01:42,030
and was installed on the thrust

32
00:01:48,200 --> 00:01:43,590
structure with panel installation

33
00:01:50,600 --> 00:01:48,210
scheduled for next quarter cylindrical

34
00:01:52,969 --> 00:01:50,610
skin assembly and bulkhead fabrication

35
00:01:57,580 --> 00:01:52,979
work continued on the fuel tank for the

36
00:01:59,899 --> 00:01:57,590
s 1 C s structural test components

37
00:02:01,789 --> 00:01:59,909
assembly of components principally

38
00:02:04,490 --> 00:02:01,799

bulkheads or segments for the first

39
00:02:09,320 --> 00:02:04,500
flight stage s 1 C 1 got underway in

40
00:02:11,650 --> 00:02:09,330
June the S 1 C stage simulator has been

41
00:02:13,730 --> 00:02:11,660
cut into the forward and aft sections

42
00:02:15,290 --> 00:02:13,740
representing the LOX tank ascend

43
00:02:18,140 --> 00:02:15,300
li and the fuel tank assembly

44
00:02:20,360 --> 00:02:18,150
respectively and will be used next

45
00:02:22,580 --> 00:02:20,370
quarter in practice mating operations on

46
00:02:26,260 --> 00:02:22,590
the new horizontal assembly fixture

47
00:02:29,210 --> 00:02:26,270
scheduled for installation in September

48
00:02:31,280 --> 00:02:29,220
construction of Marshalls s1c static

49
00:02:33,770 --> 00:02:31,290
test stand is nearing completion with

50
00:02:37,310 --> 00:02:33,780
beneficial occupancy granted August

51
00:02:39,470 --> 00:02:37,320
first instrumentation equipment is now

52
00:02:41,390 --> 00:02:39,480
being installed in the control rooms of

53
00:02:45,230 --> 00:02:41,400
the block house which will serve both

54
00:02:48,850 --> 00:02:45,240
the s1c and the f1 engine static test

55
00:02:52,100 --> 00:02:48,860
stands at Marshalls mushy operations

56
00:02:54,650 --> 00:02:52,110
Boeing's first s1c production bulkhead

57
00:02:56,240 --> 00:02:54,660
neared completion it will be used on the

58
00:02:58,670 --> 00:02:56,250
locks tank of the structural test

59
00:03:02,210 --> 00:02:58,680
components vehicle being assembled at

60
00:03:04,240 --> 00:03:02,220
Marshall by the end of June Gore to Gore

61
00:03:06,800 --> 00:03:04,250
welding had been completed and

62
00:03:10,850 --> 00:03:06,810
instrumentation bracket spot welded into

63
00:03:13,040 --> 00:03:10,860

position bulkhead to Y ring trim and

64
00:03:15,260 --> 00:03:13,050
weld were accomplished during July and

65
00:03:19,730 --> 00:03:15,270
the unit was made ready for polar cap

66
00:03:22,850 --> 00:03:19,740
installation also at Massu Boeing

67
00:03:24,950 --> 00:03:22,860
assembled the first s-1 CD fuel tank

68
00:03:28,370 --> 00:03:24,960
ring by welding together its four

69
00:03:30,620 --> 00:03:28,380
sections and the ring was placed on this

70
00:03:35,750 --> 00:03:30,630
fixture for a D slash ring baffle

71
00:03:37,970 --> 00:03:35,760
installation Boeing s1 C component

72
00:03:41,390 --> 00:03:37,980
fabrication this quarter included

73
00:03:46,040 --> 00:03:41,400
emergency drain ducts for s1 c LOX and

74
00:03:53,930 --> 00:03:46,050
fuel tanks and LOX tank cylindrical skin

75
00:03:55,850 --> 00:03:53,940
panels at the seal Beach facility of

76
00:03:58,760 --> 00:03:55,860
North American Aviation space &

77
00:04:00,710 --> 00:03:58,770
Information Systems Division s2 stage

78
00:04:04,910 --> 00:04:00,720
manufacturing activities progressed

79
00:04:07,850 --> 00:04:04,920
steadily this quarter in June the s2 s

80
00:04:10,040 --> 00:04:07,860
structural test stage common bulkhead

81
00:04:13,010 --> 00:04:10,050
forward-facing sheet was installed on a

82
00:04:16,190 --> 00:04:13,020
tracing fixture and a vacuum Bell was

83
00:04:18,410 --> 00:04:16,200
installed over the facing sheet a vacuum

84
00:04:21,140 --> 00:04:18,420
was applied to draw the facing sheet to

85
00:04:23,060 --> 00:04:21,150
a smooth contour and the inner surface

86
00:04:25,580 --> 00:04:23,070
of the facing sheet was traced or

87
00:04:26,610 --> 00:04:25,590
measured the vacuum Bell was then

88
00:04:29,909 --> 00:04:26,620

removed

89
00:04:31,650 --> 00:04:29,919
based on the tracing data machining of

90
00:04:33,480 --> 00:04:31,660
the surface of the honeycomb core

91
00:04:37,980 --> 00:04:33,490
covered aft facing sheet was

92
00:04:40,290 --> 00:04:37,990
accomplished on July 30th a major

93
00:04:43,409 --> 00:04:40,300
milestone was reached when the final

94
00:04:46,110 --> 00:04:43,419
bond on the s2 s common bulkhead was

95
00:04:47,659 --> 00:04:46,120
completed before bonding to impression

96
00:04:50,280 --> 00:04:47,669
checks were made

97
00:04:53,010 --> 00:04:50,290
polyvinyl coating was applied over the

98
00:04:55,379 --> 00:04:53,020
honeycomb area the forward-facing sheet

99
00:04:58,140 --> 00:04:55,389
supported by the vacuum bail was lowered

100
00:05:00,800 --> 00:04:58,150
onto the assembly and a vacuum was

101
00:05:03,360 --> 00:05:00,810
applied between the two facing sheets

102
00:05:05,760 --> 00:05:03,370
prior to applying adhesive to the

103
00:05:08,070 --> 00:05:05,770
forward facing sheet vacuum was applied

104
00:05:10,650 --> 00:05:08,080
between the vacuum bail and the forward

105
00:05:15,120 --> 00:05:10,660
facing sheet in order to remove caning

106
00:05:16,620 --> 00:05:15,130
or indentations a TCO film was applied

107
00:05:19,080 --> 00:05:16,630
to the inner surface of the

108
00:05:21,900 --> 00:05:19,090
forward-facing sheet after cleaning and

109
00:05:24,379 --> 00:05:21,910
priming supported by the vacuum Bell it

110
00:05:27,629 --> 00:05:24,389
was lowered under the honeycomb core

111
00:05:30,270 --> 00:05:27,639
after fitting and applying a vacuum

112
00:05:32,760 --> 00:05:30,280
between facing sheets the vacuum bail

113
00:05:35,430 --> 00:05:32,770

was removed and the assembly placed in

114
00:05:38,540 --> 00:05:35,440
the autoclave for the bonding cycle to

115
00:05:40,830 --> 00:05:38,550
produce the first s2 common bulkhead

116
00:05:43,430 --> 00:05:40,840
welding of this bulkhead to cylinder

117
00:05:46,050 --> 00:05:43,440
number one and two sub assembly and

118
00:05:50,400 --> 00:05:46,060
hydrostatic testing of this unit will be

119
00:05:53,520 --> 00:05:50,410
accomplished next quarter the s2 s3

120
00:05:55,620 --> 00:05:53,530
structure and aft skirt assembly was

121
00:05:57,510 --> 00:05:55,630
transferred to station number three of

122
00:06:00,270 --> 00:05:57,520
the vertical Assembly Building in June

123
00:06:03,120 --> 00:06:00,280
and waiting to the static firing skirt

124
00:06:05,370 --> 00:06:03,130
was accomplished the liquid hydrogen

125
00:06:07,770 --> 00:06:05,380
forward bulkhead and liquid hydrogen

126
00:06:11,100 --> 00:06:07,780
tank cylinder number six assembly for

127
00:06:12,779 --> 00:06:11,110
the s2 s was moved out of station two

128
00:06:15,750 --> 00:06:12,789
in the vertical Assembly Building in

129
00:06:17,909 --> 00:06:15,760
early June and installed in station six

130
00:06:20,540 --> 00:06:17,919
where hydrostatic testing of the

131
00:06:23,159 --> 00:06:20,550
assembly was successfully performed

132
00:06:25,409 --> 00:06:23,169
following hydrostatic testing the mating

133
00:06:28,560 --> 00:06:25,419
of this assembly to the s2 s forward

134
00:06:30,690 --> 00:06:28,570
skirt was accomplished in July to attach

135
00:06:32,760 --> 00:06:30,700
the skirt a total of five hundred

136
00:06:37,980 --> 00:06:32,770
seventy two mating holes were located

137
00:06:40,050 --> 00:06:37,990
and drilled also during the quarter the

138
00:06:42,060 --> 00:06:40,060

insulated lh2 quarter

139
00:06:44,220 --> 00:06:42,070
paddles for the common bulkhead test

140
00:06:47,010 --> 00:06:44,230
tank were ultrasonically inspected for

141
00:06:50,640 --> 00:06:47,020
bonding deficiencies with all panels

142
00:06:52,740 --> 00:06:50,650
proving satisfactory at the s and ID

143
00:06:55,800 --> 00:06:52,750
cryogenic test facility at Downey

144
00:06:58,920 --> 00:06:55,810
California development qualification

145
00:07:02,070 --> 00:06:58,930
testing of the 1.6 inch thick helium

146
00:07:06,120 --> 00:07:02,080
purged foam filled insulation design for

147
00:07:07,909 --> 00:07:06,130
the s2 1 2 & 3 was successfully

148
00:07:10,820 --> 00:07:07,919
performed in July

149
00:07:13,650 --> 00:07:10,830
major sub assembly on the s2 f

150
00:07:15,570 --> 00:07:13,660
facilities checkout stage started in

151
00:07:18,629 --> 00:07:15,580
late June with the installation of a

152
00:07:23,280 --> 00:07:18,639
Gore segment on the common bulkhead aft

153
00:07:25,590 --> 00:07:23,290
facing sheet Meridian weld fixture at

154
00:07:28,080 --> 00:07:25,600
the Santa Susana static test facility

155
00:07:31,920 --> 00:07:28,090
activation of the s2 Battleship tests

156
00:07:34,290 --> 00:07:31,930
and continued on July 29th demonstration

157
00:07:41,610 --> 00:07:34,300
of the flame deflector water system was

158
00:07:43,290 --> 00:07:41,620
successfully accomplished at Douglas

159
00:07:46,020 --> 00:07:43,300
Aircraft company's Huntington Beach

160
00:07:48,330 --> 00:07:46,030
facility additional instrumentation was

161
00:07:50,790 --> 00:07:48,340
installed on the s4 be hydrostatic

162
00:07:52,980 --> 00:07:50,800
vehicle early this quarter at Marshall

163
00:07:55,820 --> 00:07:52,990

Center direction in order to provide

164
00:07:59,969 --> 00:07:55,830
more complete data an event of a rupture

165
00:08:02,279 --> 00:07:59,979
on July 14th structural damage occurred

166
00:08:05,610 --> 00:08:02,289
on the hydrostatic vehicle due to a weld

167
00:08:09,900 --> 00:08:05,620
failure during hydrostatic testing the

168
00:08:12,659 --> 00:08:09,910
rupture occurred at 34 psi g2 psig less

169
00:08:14,700 --> 00:08:12,669
than proof pressure the liquid hydrogen

170
00:08:17,100 --> 00:08:14,710
tank could not be salvaged

171
00:08:19,409 --> 00:08:17,110
but the LOX tank common bulkhead will be

172
00:08:21,300 --> 00:08:19,419
repaired and the LOX tank used in

173
00:08:24,629 --> 00:08:21,310
connection with structural testing of

174
00:08:27,270 --> 00:08:24,639
the thrust structure by reduction and

175
00:08:29,580 --> 00:08:27,280
analysis of test data obtained prior to

176
00:08:31,200 --> 00:08:29,590
rupture of the hydrostatic tank it was

177
00:08:33,540 --> 00:08:31,210
determined that it will not be necessary

178
00:08:37,769 --> 00:08:33,550
to resume hydrostatic testing on a

179
00:08:39,860 --> 00:08:37,779
future structural vehicle the s4 be

180
00:08:42,510 --> 00:08:39,870
dynamic vehicle was moved into

181
00:08:45,810 --> 00:08:42,520
insulation chamber number one in early

182
00:08:49,829 --> 00:08:45,820
June and insulation was installed by a

183
00:08:52,050 --> 00:08:49,839
mid July the all system stage tank

184
00:08:54,269 --> 00:08:52,060
assembly has been completed

185
00:08:58,230 --> 00:08:54,279
has been prepared for installation of

186
00:09:00,000 --> 00:08:58,240
cryogenic insulation assembly of the

187
00:09:03,750 --> 00:09:00,010
facilities checkout vehicle was

188
00:09:06,540 --> 00:09:03,760

completed in late August at Douglass's

189
00:09:10,079 --> 00:09:06,550
Sacramento test area work continued on

190
00:09:13,800 --> 00:09:10,089
the beta and gamma facilities in June

191
00:09:16,620 --> 00:09:13,810
the j2 engine was installed on the s4 be

192
00:09:19,110 --> 00:09:16,630
battleship tank as the report period

193
00:09:21,990 --> 00:09:19,120
ended preparations were being made for

194
00:09:25,079 --> 00:09:22,000
cold flow and hot firing tests next

195
00:09:27,000 --> 00:09:25,089
quarter checkout of battleship ground

196
00:09:31,200 --> 00:09:27,010
support equipment continued at the beta

197
00:09:33,720 --> 00:09:31,210
block house at the Gama facility the

198
00:09:36,060 --> 00:09:33,730
attitude control engines for the s4 be

199
00:09:39,300 --> 00:09:36,070
auxilary propulsion system were received

200
00:09:41,340 --> 00:09:39,310
from TEPCO in Los Angeles the engines

201
00:09:49,590 --> 00:09:41,350
are being installed and testing will

202
00:09:52,079 --> 00:09:49,600
start next quarter engine number 12:1

203
00:09:54,269 --> 00:09:52,089
this quarter became the first f1 engine

204
00:09:56,760 --> 00:09:54,279
to be equipped with the new rigid

205
00:09:58,590 --> 00:09:56,770
high-pressure propellant lines these

206
00:10:01,380 --> 00:09:58,600
offers several advantages over the

207
00:10:04,350 --> 00:10:01,390
former design being lighter more easily

208
00:10:06,870 --> 00:10:04,360
fabricated and providing a reduction in

209
00:10:09,480 --> 00:10:06,880
pressure drop by eliminating internal

210
00:10:12,030 --> 00:10:09,490
restrictions to reduce turbine back

211
00:10:13,800 --> 00:10:12,040
pressure a new turbine exhaust manifold

212
00:10:16,470 --> 00:10:13,810
Inlet has been designed and fabricated

213
00:10:18,900 --> 00:10:16,480

by Rocketdyne this configuration

214
00:10:21,120 --> 00:10:18,910
provides improved flow and pressure

215
00:10:24,960 --> 00:10:21,130
distribution to the manifold and nozzle

216
00:10:27,690 --> 00:10:24,970
extension the first block to heat

217
00:10:30,750 --> 00:10:27,700
exchanger has been received and will

218
00:10:33,180 --> 00:10:30,760
soon undergo testing the new unit has a

219
00:10:35,100 --> 00:10:33,190
shell configuration which eliminates the

220
00:10:39,660 --> 00:10:35,110
shroud formerly used while maintaining

221
00:10:43,560 --> 00:10:39,670
the required gas flow of velocity the f1

222
00:10:46,650 --> 00:10:43,570
engine o84 d-type injector is now

223
00:10:49,019 --> 00:10:46,660
undergoing development test this

224
00:10:51,300 --> 00:10:49,029
injector design appears to meet the

225
00:10:54,780 --> 00:10:51,310
flight rating test specific impulse and

226
00:10:57,420 --> 00:10:54,790
other required characteristics at the

227
00:11:00,030 --> 00:10:57,430
Edwards rocket engine test site f1

228
00:11:01,489 --> 00:11:00,040
engine tests and number one D was

229
00:11:04,460 --> 00:11:01,499
activated

230
00:11:06,739 --> 00:11:04,470
this is the first of three new stands

231
00:11:19,189 --> 00:11:06,749
which will be used for production engine

232
00:11:21,679 --> 00:11:19,199
acceptance testing at the Marshall

233
00:11:25,129 --> 00:11:21,689
Center propulsion testing on the second

234
00:11:27,859 --> 00:11:25,139
f1 production engine began on June 23rd

235
00:11:30,499 --> 00:11:27,869
and continued during the quarter in the

236
00:11:33,079 --> 00:11:30,509
modified s1 stage test and which

237
00:11:36,259 --> 00:11:33,089
includes a simulation of s1 sea tank

238
00:11:38,119 --> 00:11:36,269

each and ducting propulsion testing of

239
00:11:42,499 --> 00:11:38,129
the first production engine began last

240
00:11:44,780 --> 00:11:42,509
quarter also continued construction of

241
00:11:47,210 --> 00:11:44,790
the f1 engine static test and at

242
00:11:49,129 --> 00:11:47,220
Marshall is now virtually complete with

243
00:11:53,419 --> 00:11:49,139
beneficial occupancy scheduled in

244
00:11:55,699 --> 00:11:53,429
September water flow check out of the

245
00:12:00,109 --> 00:11:55,709
stands deflector plate was performed on

246
00:12:02,989 --> 00:12:00,119
August 20th maximum flow is 136 thousand

247
00:12:04,970 --> 00:12:02,999
gallons per minute the first f1 engine

248
00:12:09,470 --> 00:12:04,980
firing on the new stand is set for

249
00:12:12,230 --> 00:12:09,480
mid-november at Marshalls f1 turbo pump

250
00:12:15,079 --> 00:12:12,240
facility build-up and activation are in

251
00:12:17,929 --> 00:12:15,089
the final phases and checkout has begun

252
00:12:20,780 --> 00:12:17,939
the facility will provide a simulation

253
00:12:23,449 --> 00:12:20,790
of vehicle net positive suction head for

254
00:12:28,220 --> 00:12:23,459
both fuel and locks for turbo pump

255
00:12:30,590 --> 00:12:28,230
testing culminating a series of

256
00:12:33,739 --> 00:12:30,600
successful gimbal intest begun last

257
00:12:35,419 --> 00:12:33,749
order the Rocketdyne j2 engine has

258
00:12:37,280 --> 00:12:35,429
demonstrated its ability to meet

259
00:12:39,199 --> 00:12:37,290
preliminary flight rating test

260
00:12:43,309 --> 00:12:39,209
requirements for gambling during hot

261
00:12:45,679 --> 00:12:43,319
firing this latest model gimbal assembly

262
00:12:48,199 --> 00:12:45,689
has gambled the j2 system in tests at

263
00:12:52,489 --> 00:12:48,209

the rate of 30 degrees per second to a

264
00:12:55,189 --> 00:12:52,499
maximum of 10 degrees an initial

265
00:12:57,739 --> 00:12:55,199
altitude testing of the spark plug of

266
00:13:00,079 --> 00:12:57,749
the j2 engines augmented spark ignition

267
00:13:02,030 --> 00:13:00,089
system the plug was successfully

268
00:13:03,710 --> 00:13:02,040
operated in a vacuum environment to

269
00:13:06,859 --> 00:13:03,720
determine its characteristics in outer

270
00:13:09,319 --> 00:13:06,869
space a corona effect as apparent as the

271
00:13:13,639 --> 00:13:09,329
plug operates through a 100,000 to

272
00:13:14,240 --> 00:13:13,649
200,000 foot altitude range experimental

273
00:13:16,370 --> 00:13:14,250
studies

274
00:13:19,370 --> 00:13:16,380
to determine fuel flow uniformity of the

275
00:13:21,080 --> 00:13:19,380
j2 thrust chamber tubes were conducted

276
00:13:25,310 --> 00:13:21,090
by Rocketdyne this quarter in a high

277
00:13:27,500 --> 00:13:25,320
flow test chamber with 1125 to 2250

278
00:13:30,680 --> 00:13:27,510
gallons of water per minute being pumped

279
00:13:33,590 --> 00:13:30,690
through the chamber Rocketdyne assembly

280
00:13:35,540 --> 00:13:33,600
of flexible armored harnesses for all j2

281
00:13:37,310 --> 00:13:35,550
engine electrical control and

282
00:13:39,890 --> 00:13:37,320
instrumentation harness wiring is

283
00:13:42,230 --> 00:13:39,900
underway this will provide complete

284
00:13:44,960 --> 00:13:42,240
moisture protection handling and

285
00:13:47,690 --> 00:13:44,970
abrasion protection and short-term fire

286
00:13:51,080 --> 00:13:47,700
protection for the 14 individual harness

287
00:13:53,510 --> 00:13:51,090
assemblies in the j2 engine system at

288
00:13:56,330 --> 00:13:53,520

the Marshall Center construction of the

289
00:13:59,600 --> 00:13:56,340
j2 engine test facility is approximately

290
00:14:02,840 --> 00:13:59,610
85% complete with beneficial occupancy

291
00:14:05,690 --> 00:14:02,850
expected in November the facility will

292
00:14:08,270 --> 00:14:05,700
be used to static fire single hydrogen

293
00:14:11,060 --> 00:14:08,280
fueled engines with thrust ratings up to

294
00:14:18,950 --> 00:14:11,070
200 thousand pounds for test durations

295
00:14:21,440 --> 00:14:18,960
up to 500 seconds redesign of the Saturn

296
00:14:23,990 --> 00:14:21,450
5 instrument unit structure necessitated

297
00:14:26,810 --> 00:14:24,000
by revised vehicle loads was completed

298
00:14:28,610 --> 00:14:26,820
in August structural units such as the

299
00:14:31,430 --> 00:14:28,620
facilities checkout unit already

300
00:14:33,950 --> 00:14:31,440
delivered to the old design will be used

301
00:14:36,740 --> 00:14:33,960
for tests not involving structural

302
00:14:38,450 --> 00:14:36,750
testing delivery of the first new iu

303
00:14:40,700 --> 00:14:38,460
structure to Marshall is due next

304
00:14:41,560 --> 00:14:40,710
quarter from General Dynamics Fort Worth

305
00:14:45,260 --> 00:14:41,570
Texas

306
00:14:47,420 --> 00:14:45,270
at Marshall this quarter a prototype of

307
00:14:49,100 --> 00:14:47,430
the heat exchanger which will be used in

308
00:14:51,230 --> 00:14:49,110
the instrument unit environmental

309
00:14:54,350 --> 00:14:51,240
control system underwent successful

310
00:14:56,900 --> 00:14:54,360
testing the heat exchanger will provide

311
00:14:59,870 --> 00:14:56,910
temperature control for the IU equipment

312
00:15:03,590 --> 00:14:59,880
as well as for other instrumentation in

313
00:15:06,500 --> 00:15:03,600

the s4b stage just below by cooling a

314
00:15:08,450 --> 00:15:06,510
water methanol solution which circulates

315
00:15:10,550 --> 00:15:08,460
through the cold plates to which the

316
00:15:14,210 --> 00:15:10,560
various instrumentation devices are

317
00:15:17,690 --> 00:15:14,220
mounted around the eye you will be

318
00:15:20,110 --> 00:15:17,700
located 16 such cold plates one of which

319
00:15:23,230 --> 00:15:20,120
is depicted in this cutaway drawing

320
00:15:26,449 --> 00:15:23,240
similar panels will be used for the s4b

321
00:15:28,160 --> 00:15:26,459
instrumentation made of raised aluminum

322
00:15:30,560 --> 00:15:28,170
each panel is 30

323
00:15:34,340 --> 00:15:30,570
square and one in one quarter inches

324
00:15:36,230 --> 00:15:34,350
thick contract negotiations are still in

325
00:15:39,079 --> 00:15:36,240
progress with International Business

326
00:15:41,420 --> 00:15:39,089
Machines selected last quarter as prime

327
00:15:45,110 --> 00:15:41,430
contractor to take over development and

328
00:15:47,000 --> 00:15:45,120
fabrication of the IU meanwhile iBM has

329
00:15:49,040 --> 00:15:47,010
gone forward with its efforts in

330
00:15:57,889 --> 00:15:49,050
facilities and personnel build-up at

331
00:16:00,379 --> 00:15:57,899
Huntsville prototype ground support

332
00:16:02,740 --> 00:16:00,389
equipment for the s1c stage electrical

333
00:16:05,629 --> 00:16:02,750
and mechanical tests control stations

334
00:16:08,030 --> 00:16:05,639
underwent tests and check-out by Boeing

335
00:16:12,199 --> 00:16:08,040
at the Marshall Center during the report

336
00:16:14,360 --> 00:16:12,209
period ground support equipment systems

337
00:16:17,180 --> 00:16:14,370
measuring device tests consoles and

338
00:16:19,220 --> 00:16:17,190

electrical harnesses for s2 stages were

339
00:16:21,590 --> 00:16:19,230
being assembled and checked out during

340
00:16:24,290 --> 00:16:21,600
the quarter at SN I DS Compton

341
00:16:26,480 --> 00:16:24,300
California facility the remote power

342
00:16:29,780 --> 00:16:26,490
distribution rack the first major item

343
00:16:31,970 --> 00:16:29,790
of deliverable GSE was shipped to the

344
00:16:34,610 --> 00:16:31,980
Santa Susana static test facility on

345
00:16:37,970 --> 00:16:34,620
July 10th to support the Battleship test

346
00:16:39,800 --> 00:16:37,980
program at Douglas Aircraft company's

347
00:16:42,350 --> 00:16:39,810
Huntington Beach California systems

348
00:16:44,689 --> 00:16:42,360
integration laboratory checkout of the

349
00:16:48,410 --> 00:16:44,699
initial set of the s4b ground support

350
00:16:50,540 --> 00:16:48,420
equipment is nearing completion the

351
00:16:53,540 --> 00:16:50,550
systems integration lab vehicle

352
00:16:56,180 --> 00:16:53,550
simulator is also nearly finished the

353
00:16:58,430 --> 00:16:56,190
simulator which will include a j2 engine

354
00:17:02,180 --> 00:16:58,440
will be used to prepare checkout tapes

355
00:17:04,370 --> 00:17:02,190
for checkout of flight stages at

356
00:17:06,640 --> 00:17:04,380
Marshall Saturn five ground support

357
00:17:08,960 --> 00:17:06,650
equipment test facility brick-and-mortar

358
00:17:11,900 --> 00:17:08,970
construction is approximately 90%

359
00:17:13,610 --> 00:17:11,910
complete the control room has been

360
00:17:16,699 --> 00:17:13,620
finished with beneficial occupancy

361
00:17:18,439 --> 00:17:16,709
granted August 1st installation of

362
00:17:22,309 --> 00:17:18,449
technical systems is scheduled to begin

363
00:17:24,590 --> 00:17:22,319

in September testing of various ground

364
00:17:25,610 --> 00:17:24,600
support equipment such as this prototype

365
00:17:28,580 --> 00:17:25,620
s4b

366
00:17:30,169 --> 00:17:28,590
aft swing arm chip assembly is being

367
00:17:32,690 --> 00:17:30,179
conducted for the Kennedy Space Center

368
00:17:34,850 --> 00:17:32,700
in temporary facilities at Marshall

369
00:17:38,930 --> 00:17:34,860
while construction of the GSE test

370
00:17:41,520 --> 00:17:38,940
facility is underway this prototype s 1c

371
00:17:43,650 --> 00:17:41,530
tail service mast is another item

372
00:17:52,460 --> 00:17:43,660
tested at Marshall to prove the design

373
00:17:57,000 --> 00:17:54,720
construction work on the Saturn 5

374
00:17:59,880 --> 00:17:57,010
dynamic test and that the Marshall

375
00:18:02,570 --> 00:17:59,890
Center is now virtually finished with

376
00:18:05,640 --> 00:18:02,580
completion scheduled in September

377
00:18:07,680 --> 00:18:05,650
Marshalls 30 million pound capacity load

378
00:18:10,140 --> 00:18:07,690
test tower was practically completed

379
00:18:12,840 --> 00:18:10,150
this quarter with beneficial occupancy

380
00:18:14,820 --> 00:18:12,850
granted the last week in August initial

381
00:18:17,100 --> 00:18:14,830
use of the new facility for structural

382
00:18:20,820 --> 00:18:17,110
testing of an S 1 C inter tank is

383
00:18:22,830 --> 00:18:20,830
scheduled in September at Marshall

384
00:18:25,320 --> 00:18:22,840
Saturn five barge dock and loading

385
00:18:27,330 --> 00:18:25,330
facility on the Tennessee River dry

386
00:18:29,580 --> 00:18:27,340
excavation for the dock is complete

387
00:18:32,040 --> 00:18:29,590
pile-driving is about 90 percent

388
00:18:34,320 --> 00:18:32,050

finished and the concrete work and pier

389
00:18:37,130 --> 00:18:34,330
have been started overall construction

390
00:18:40,500 --> 00:18:37,140
is approximately forty percent complete

391
00:18:42,570 --> 00:18:40,510
at Marshalls Mississippi test facility

392
00:18:46,410 --> 00:18:42,580
construction continued this quarter at

393
00:18:48,900 --> 00:18:46,420
the three complexes at the test complex

394
00:18:51,320 --> 00:18:48,910
pouring of the foundation for the s1c

395
00:18:55,110 --> 00:18:51,330
dual position static test and is

396
00:18:58,500 --> 00:18:55,120
approximately 25 percent complete at the

397
00:19:01,730 --> 00:18:58,510
first s2 static test and foundation work

398
00:19:03,900 --> 00:19:01,740
is approximately 55 percent complete

399
00:19:06,750 --> 00:19:03,910
excavation has been completed at the

400
00:19:10,560 --> 00:19:06,760
second nest to stand and pile-driving is

401
00:19:12,810 --> 00:19:10,570
nearing completion at the laboratory and

402
00:19:14,310 --> 00:19:12,820
engineering complex construction

403
00:19:16,770 --> 00:19:14,320
continued on the office and

404
00:19:20,130 --> 00:19:16,780
administration building data handling

405
00:19:23,670 --> 00:19:20,140
Center and a telephone and terminal

406
00:19:26,100 --> 00:19:23,680
building and at the support services

407
00:19:28,230 --> 00:19:26,110
complex work progressed on such

408
00:19:32,220 --> 00:19:28,240
facilities as the emergency services

409
00:19:35,090 --> 00:19:32,230
building MTF warehouse site maintenance

410
00:19:39,540 --> 00:19:35,100
building central heating plant and

411
00:19:42,570 --> 00:19:39,550
electrical substation the design stage

412
00:19:44,960 --> 00:19:42,580
of the first phase of the MTF technical

413
00:19:46,680 --> 00:19:44,970

systems is essentially complete

414
00:19:48,920 --> 00:19:46,690
contracts have been awarded for

415
00:19:51,480 --> 00:19:48,930
procurement of cable trays

416
00:19:54,180 --> 00:19:51,490
instrumentation cables and control

417
00:19:55,379 --> 00:19:54,190
cables installation of the system is

418
00:19:59,399 --> 00:19:55,389
scheduled to begin

419
00:20:02,310 --> 00:19:59,409
this year work also progressed at

420
00:20:04,819 --> 00:20:02,320
Pascagoula Mississippi on modification

421
00:20:07,440 --> 00:20:04,829
of several government-owned barges and

422
00:20:10,259 --> 00:20:07,450
fitting them with barge tanks for

423
00:20:16,199 --> 00:20:10,269
transporting liquid cryogenics to be

424
00:20:18,869 --> 00:20:16,209
used at MTF in summary June July and

425
00:20:20,789 --> 00:20:18,879
August were months of substantial

426
00:20:24,479 --> 00:20:20,799
progress along a broad front of

427
00:20:27,810 --> 00:20:24,489
activities assembly of s1c stages gained

428
00:20:31,319 --> 00:20:27,820
momentum the first s to common bulkhead

429
00:20:34,409 --> 00:20:31,329
was completed s4b ground stage assembly

430
00:20:36,899 --> 00:20:34,419
continued and significant progress was

431
00:20:39,209 --> 00:20:36,909
achieved on the engine programs the