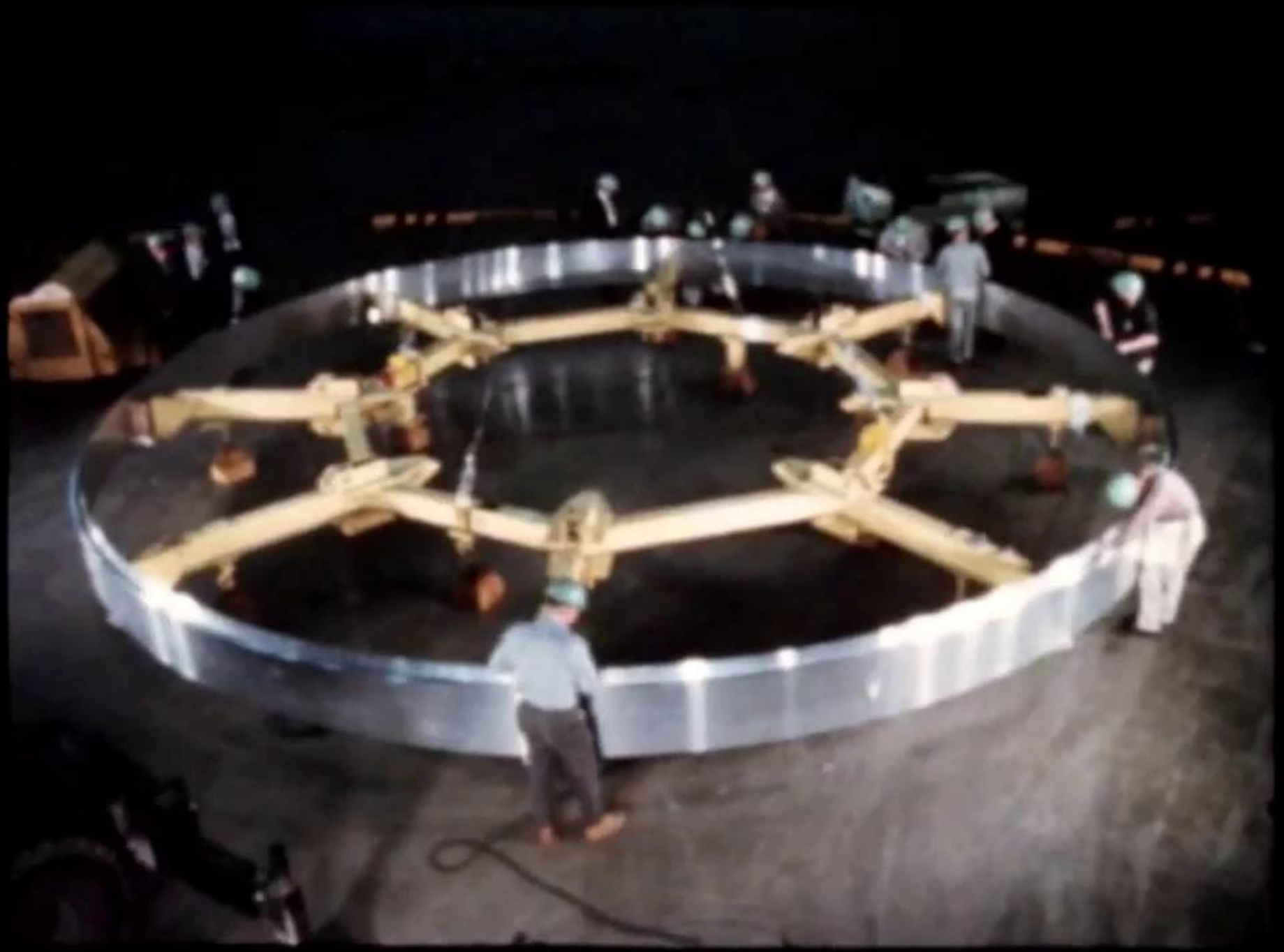

1
00:00:12,169 --> 00:00:10,549
three heavy space vehicles are being

2
00:00:15,499 --> 00:00:12,179
developed by the National Aeronautics

3
00:00:19,910 --> 00:00:15,509
and Space Administration under the

4
00:00:23,900 --> 00:00:19,920
project name Saturn the largest Saturn

5
00:00:31,880 --> 00:00:23,910
vehicle designated Saturn five consists

6
00:00:37,840 --> 00:00:31,890
of three stages the s 1 C using 5 f 1

7
00:00:43,459 --> 00:00:37,850
engines the s 2 with 5 J 2 engines and

8
00:00:47,299 --> 00:00:43,469
the S 4 be using a single j2 engine plus

9
00:00:50,150 --> 00:00:47,309
the vehicle instrument unit and the

10
00:00:54,439 --> 00:00:50,160
Apollo spacecraft which saturn v will

11
00:00:56,569 --> 00:00:54,449
carry this second quarterly film report

12
00:00:59,740 --> 00:00:56,579
will cover progress on the Saturn 5

13
00:01:03,009 --> 00:00:59,750

vehicle during February March and April

14
00:01:05,630 --> 00:01:03,019
1963 highlighting major effort

15
00:01:07,700 --> 00:01:05,640
concentrated in areas of final tooling

16
00:01:11,539 --> 00:01:07,710
preparation and initiation of

17
00:01:14,830 --> 00:01:11,549
fabrication an important step in

18
00:01:17,450 --> 00:01:14,840
development of saturn v s/s 1c stage

19
00:01:19,640 --> 00:01:17,460
represented here by a 120th scale

20
00:01:22,429 --> 00:01:19,650
cutaway model was work during this

21
00:01:24,469 --> 00:01:22,439
report period on fabrication of bulkhead

22
00:01:29,749 --> 00:01:24,479
components for the liquid oxygen and

23
00:01:32,240 --> 00:01:29,759
fuel tanks the initial bulkhead core

24
00:01:34,399 --> 00:01:32,250
segments were formed in early february

25
00:01:36,260 --> 00:01:34,409
by the military aircraft systems

26
00:01:38,990 --> 00:01:36,270
division of the boeing company at

27
00:01:41,090 --> 00:01:39,000
wichita kansas heavy rollers first

28
00:01:43,460 --> 00:01:41,100
pressed sheets of aluminum alloy to the

29
00:01:45,950 --> 00:01:43,470
approximate required contour gore

30
00:01:50,749 --> 00:01:45,960
segments are made in two sections base

31
00:01:52,670 --> 00:01:50,759
and apex later welded together the

32
00:01:56,060 --> 00:01:52,680
rolled sections are then placed in this

33
00:01:58,160 --> 00:01:56,070
large bulge form die or final precision

34
00:02:01,069 --> 00:01:58,170
shaping through use of liquid pressure

35
00:02:03,289 --> 00:02:01,079
in a rubber bladder water is forced into

36
00:02:06,350 --> 00:02:03,299
the bladder by a pump as the bladder

37
00:02:09,290 --> 00:02:06,360
expands it forms the aluminum against a

38
00:02:14,710 --> 00:02:09,300

plastic liner at a maximum of 1,500

39
00:02:19,580 --> 00:02:16,940
upon delivery to the Marshall Center

40
00:02:23,630 --> 00:02:19,590
Gore segments our first heat treated or

41
00:02:25,910 --> 00:02:23,640
aged in a large oven for 24 hours at 325

42
00:02:27,979 --> 00:02:25,920
degrees Fahrenheit to increase their

43
00:02:29,630 --> 00:02:27,989
strength and hardness before they

44
00:02:31,970 --> 00:02:29,640
undergo the fabrication and assembly

45
00:02:35,839 --> 00:02:31,980
processes which will result in a

46
00:02:37,729 --> 00:02:35,849
finished bulkhead Marshalls bulkhead

47
00:02:39,830 --> 00:02:37,739
fabrication and assembly tooling

48
00:02:41,780 --> 00:02:39,840
underwent continued buildup in

49
00:02:44,210 --> 00:02:41,790
qualification during the report period

50
00:02:46,190 --> 00:02:44,220
with work also underway on the first

51
00:02:49,009 --> 00:02:46,200
bulkhead which will be part of a

52
00:02:50,660 --> 00:02:49,019
structural test fuel tank this initial

53
00:02:53,030 --> 00:02:50,670
station in the bulkhead assembly line

54
00:03:00,440 --> 00:02:53,040
performs routing and welding for all

55
00:03:03,289 --> 00:03:00,450
ghor fittings the second tooling fixture

56
00:03:05,449 --> 00:03:03,299
trims the top edge of the base and the

57
00:03:08,360 --> 00:03:05,459
bottom edge of the apex of each core

58
00:03:15,020 --> 00:03:08,370
segment in order to make a joint to weld

59
00:03:17,780 --> 00:03:15,030
the two pieces together at the third

60
00:03:20,420 --> 00:03:17,790
station this Gore welding fixture is

61
00:03:23,390 --> 00:03:20,430
used to join the Gore's base and apex

62
00:03:26,300 --> 00:03:23,400
portions mounted over a pit the welding

63
00:03:28,610 --> 00:03:26,310

platform can be tilted 30 degrees since

64
00:03:36,410 --> 00:03:28,620
it is desirable to weld uphill at all

65
00:03:38,930 --> 00:03:36,420
times at the fourth station a Meridian

66
00:03:41,180 --> 00:03:38,940
edge Gore trim fixture is employed to

67
00:03:45,410 --> 00:03:41,190
perform the job of trimming the gore

68
00:03:48,470 --> 00:03:45,420
segments lengthwise at station number

69
00:03:50,330 --> 00:03:48,480
five Gore's are installed on the

70
00:03:52,720 --> 00:03:50,340
bulkhead welding and assembly fixture

71
00:03:56,020 --> 00:03:52,730
where four operations take place

72
00:03:59,809 --> 00:03:56,030
Meridian weld bulkhead base trim

73
00:04:02,420 --> 00:03:59,819
bulkhead to Y ring weld and Y ring to

74
00:04:04,340 --> 00:04:02,430
skin weld to gore segments have been

75
00:04:06,740 --> 00:04:04,350
successfully welded together in the

76
00:04:08,539 --> 00:04:06,750
qualification operation eight gore

77
00:04:13,069 --> 00:04:08,549
welding for the first bulkhead is

78
00:04:15,349 --> 00:04:13,079
scheduled next quarter installation of

79
00:04:17,750 --> 00:04:15,359
the final station number six was

80
00:04:19,879 --> 00:04:17,760
completed during the report period check

81
00:04:24,219 --> 00:04:19,889
out of the fixture which will weld in

82
00:04:29,480 --> 00:04:27,440
the s-1 sea stage partial tails

83
00:04:31,160 --> 00:04:29,490
section mock-up has been moved into

84
00:04:33,260 --> 00:04:31,170
Marshalls newly completed mock-up

85
00:04:39,320 --> 00:04:33,270
building from the adjoining shop where

86
00:04:41,660 --> 00:04:39,330
it was fabricated after further build-up

87
00:04:43,880 --> 00:04:41,670
the unit will be installed on his for

88
00:04:46,910 --> 00:04:43,890

support costs during the next report

89
00:04:49,880 --> 00:04:46,920
period and the full-scale f1 engine

90
00:04:52,190 --> 00:04:49,890
mock-up will be attached manual gimbal

91
00:04:54,770 --> 00:04:52,200
in tests of the f1 mock-up have been

92
00:04:57,320 --> 00:04:54,780
performed to evaluate design of flame

93
00:05:05,420 --> 00:04:57,330
curtains compression compensation and

94
00:05:08,150 --> 00:05:05,430
cable installation a 1/8 scale model s1

95
00:05:10,280 --> 00:05:08,160
C liquid oxygen tank is being used at

96
00:05:12,980 --> 00:05:10,290
Marshall to study LOX flow

97
00:05:15,620 --> 00:05:12,990
characteristics and to develop efficient

98
00:05:19,340 --> 00:05:15,630
anti vortex devices such as baffles

99
00:05:22,100 --> 00:05:19,350
screens and stand pipes for testing the

100
00:05:24,490 --> 00:05:22,110
tank is filled with water with dye added

101
00:05:26,800 --> 00:05:24,500
to enhance engineering photography a

102
00:05:29,330 --> 00:05:26,810
rotating paddle is used to simulate

103
00:05:31,580 --> 00:05:29,340
vortexing which might be caused by

104
00:05:33,650 --> 00:05:31,590
vehicle movements in flight thus

105
00:05:36,040 --> 00:05:33,660
preventing sufficient LOX supply to

106
00:05:39,050 --> 00:05:36,050
engines

107
00:05:41,810 --> 00:05:39,060
construction of Marshalls Saturn 5 test

108
00:05:45,740 --> 00:05:41,820
facilities such as this hydrostatic test

109
00:05:47,570 --> 00:05:45,750
and vertical Assembly Building basic

110
00:05:51,140 --> 00:05:47,580
construction of the reinforced concrete

111
00:05:53,450 --> 00:05:51,150
block house or control center some 250

112
00:05:56,810 --> 00:05:53,460
yards from the stand has been completed

113
00:05:58,490 --> 00:05:56,820

and interior work is progressing to

114
00:06:01,570 --> 00:05:58,500
accommodate the electronic test

115
00:06:04,370 --> 00:06:01,580
equipment which will later be installed

116
00:06:06,320 --> 00:06:04,380
the instrumentation tunnel running

117
00:06:08,720 --> 00:06:06,330
between the block house and test stand

118
00:06:12,860 --> 00:06:08,730
is complete and ready for installation

119
00:06:15,530 --> 00:06:12,870
of cables a 40 foot deep excavation for

120
00:06:18,050 --> 00:06:15,540
Marshalls f1 single-engine static test

121
00:06:20,290 --> 00:06:18,060
stand has been finished and preparations

122
00:06:22,940 --> 00:06:20,300
have begun for pouring the foundation a

123
00:06:25,190 --> 00:06:22,950
contract was awarded in February for

124
00:06:29,840 --> 00:06:25,200
construction of the 105 foot tall

125
00:06:32,930 --> 00:06:29,850
concrete superstructure the west side of

126
00:06:35,930 --> 00:06:32,940
Marshalls s1 stage static test stand is

127
00:06:38,480 --> 00:06:35,940
now being modified to test f-1 engines

128
00:06:40,640 --> 00:06:38,490
this will allow start of f1 tests in

129
00:06:41,189 --> 00:06:40,650
November several months earlier than

130
00:06:43,409 --> 00:06:41,199
scheduled

131
00:06:46,709 --> 00:06:43,419
the position will be converted back to

132
00:06:53,189 --> 00:06:46,719
s1 testing after completion of marshals

133
00:06:56,070 --> 00:06:53,199
f1 tests tan a new series of experiments

134
00:06:58,999 --> 00:06:56,080
in rocket sounds was begun at Marshall

135
00:07:01,019 --> 00:06:59,009
this quarter using a new and larger horn

136
00:07:02,939 --> 00:07:01,029
replacing one which was moved to

137
00:07:05,820 --> 00:07:02,949
Marshalls Mississippi test operations

138
00:07:08,670 --> 00:07:05,830

the huge horn which simulates the noise

139
00:07:10,529 --> 00:07:08,680
of a Saturn static firing is being used

140
00:07:12,629 --> 00:07:10,539
to learn more about the transmission of

141
00:07:13,860 --> 00:07:12,639
this low-frequency sound and to

142
00:07:17,010 --> 00:07:13,870
determine the most advantageous

143
00:07:21,320 --> 00:07:17,020
conditions for conducting static firings

144
00:07:26,700 --> 00:07:24,029
experiments in partially suppressing the

145
00:07:29,040 --> 00:07:26,710
noise of Saturn firings are also being

146
00:07:31,050 --> 00:07:29,050
conducted at the centre by firing a

147
00:07:37,050 --> 00:07:31,060
small engine into a specially

148
00:07:39,749 --> 00:07:37,060
constructed water tank microphones set

149
00:07:42,149 --> 00:07:39,759
up on a semicircle of sixteen poles near

150
00:07:50,279 --> 00:07:42,159
the tank record sound levels during

151
00:07:53,070 --> 00:07:50,289
firing various deflector calm and baffle

152
00:07:55,260 --> 00:07:53,080
devices inside the water tank help to

153
00:07:59,159 --> 00:07:55,270
dissipate the energy which creates the

154
00:08:02,040 --> 00:07:59,169
noise the tape recorded sound is later

155
00:08:08,869 --> 00:08:02,050
analyzed by technicians to determine the

156
00:08:11,670 --> 00:08:08,879
effectiveness of suppression a new jet

157
00:08:13,829 --> 00:08:11,680
impingement test facility was placed in

158
00:08:15,959 --> 00:08:13,839
operation this quarter to study the

159
00:08:17,959 --> 00:08:15,969
feasibility of launching space vehicles

160
00:08:20,489 --> 00:08:17,969
directly over a large body of water

161
00:08:23,700 --> 00:08:20,499
small solid propellant motors are

162
00:08:26,219 --> 00:08:23,710
presently being used in tests later f1

163
00:08:29,369 --> 00:08:26,229

models will be fired singly and in

164
00:08:32,759 --> 00:08:29,379
clusters the stand is designed for up to

165
00:08:35,309 --> 00:08:32,769
50,000 pounds thrust its platform can be

166
00:08:40,290 --> 00:08:35,319
varied from 0 to 10 feet above water

167
00:08:43,170 --> 00:08:40,300
surface portholes in the tank allow for

168
00:08:46,019 --> 00:08:43,180
photographic instrumentation the tank is

169
00:08:54,440 --> 00:08:46,029
51 feet in diameter 24 feet deep and

170
00:08:59,100 --> 00:08:57,420
splash effects jet penetration depths

171
00:09:03,630 --> 00:08:59,110
and effects of underwater deflectors

172
00:09:05,970 --> 00:09:03,640
will be study at the Boeing Company

173
00:09:08,460 --> 00:09:05,980
plant in Seattle Washington dynamic

174
00:09:10,950 --> 00:09:08,470
calibration tests using a three 100

175
00:09:13,470 --> 00:09:10,960
scale Saturn 5 model were performed this

176
00:09:15,780 --> 00:09:13,480
quarter an electrical shaker device with

177
00:09:17,990 --> 00:09:15,790
rod attachment induced vibration under

178
00:09:21,150 --> 00:09:18,000
controlled frequencies and amplitudes

179
00:09:23,550 --> 00:09:21,160
the same model with weight suspended to

180
00:09:25,800 --> 00:09:23,560
introduce linear deflection was also

181
00:09:30,570 --> 00:09:25,810
used in static calibration tests to

182
00:09:32,640 --> 00:09:30,580
measure vehicle bending moments a 120th

183
00:09:35,250 --> 00:09:32,650
scale model equipped with two receiving

184
00:09:37,140 --> 00:09:35,260
antennas was used in command destruct

185
00:09:39,810 --> 00:09:37,150
antenna pattern measurements to

186
00:09:41,310 --> 00:09:39,820
determine vehicle aspect angles over

187
00:09:44,280 --> 00:09:41,320
which the destruct signal can be

188
00:09:45,900 --> 00:09:44,290

received at Marshall's miss shoe

189
00:09:48,840 --> 00:09:45,910
operations in New Orleans

190
00:09:50,990 --> 00:09:48,850
the first s1 C stage Y ring was

191
00:09:53,820 --> 00:09:51,000
completed by Boeing in mid-february

192
00:09:56,070 --> 00:09:53,830
using the recently installed 42 foot

193
00:09:59,130 --> 00:09:56,080
boring mill to machine the ring to

194
00:10:01,380 --> 00:09:59,140
precise measurements machining of the

195
00:10:04,800 --> 00:10:01,390
second y ring has now also been

196
00:10:06,870 --> 00:10:04,810
completed the initial ring was removed

197
00:10:08,730 --> 00:10:06,880
from the boring mill for shipment to the

198
00:10:13,890 --> 00:10:08,740
Marshall Center where it will become

199
00:10:16,590 --> 00:10:13,900
part of the structural test tank machine

200
00:10:18,870 --> 00:10:16,600
marks in the open V cut on the top of

201
00:10:21,750 --> 00:10:18,880
the ring were removed by hand grinding

202
00:10:27,270 --> 00:10:21,760
the V forms the junction of the bulkhead

203
00:10:29,550 --> 00:10:27,280
and the inter tank or inter stage the

204
00:10:31,650 --> 00:10:29,560
two-ton ring was carefully wrapped and

205
00:10:36,390 --> 00:10:31,660
sealed to provide protection during

206
00:10:39,390 --> 00:10:36,400
handling and shipping the ring was

207
00:10:41,850 --> 00:10:39,400
shipped by barge from Mishu on February

208
00:10:47,970 --> 00:10:41,860
22nd and arrived at the Marshall Center

209
00:10:50,280 --> 00:10:47,980
ten days later work on misuse s1c

210
00:10:52,470 --> 00:10:50,290
vertical assembly building continued

211
00:10:54,600 --> 00:10:52,480
this quarter with relocation and

212
00:10:57,720 --> 00:10:54,610
installation of underground pipe and

213
00:10:59,730 --> 00:10:57,730

electric cables accomplished the

214
00:11:01,680 --> 00:10:59,740
foundation for the hydrostatic testing

215
00:11:04,500 --> 00:11:01,690
and cleaning pad was also under

216
00:11:06,689 --> 00:11:04,510
construction this is the last station

217
00:11:09,360 --> 00:11:06,699
the booster before it is returned to the

218
00:11:16,590 --> 00:11:09,370
final stage preparation area in the main

219
00:11:19,500 --> 00:11:16,600
plant for outfitting the VAB will have

220
00:11:21,720 --> 00:11:19,510
three turntables with the pits housing

221
00:11:26,790 --> 00:11:21,730
the turntable gears recessed in the

222
00:11:28,680 --> 00:11:26,800
foundation when the building is

223
00:11:31,740 --> 00:11:28,690
completed it will consist of two

224
00:11:34,079 --> 00:11:31,750
sections one for booster assembly and

225
00:11:41,970 --> 00:11:34,089
the other for hydrostatic testing and

226
00:11:44,009 --> 00:11:41,980
cleaning at Rocketdyne f1 engine work

227
00:11:46,639 --> 00:11:44,019
this quarter included assembly of an

228
00:11:49,530 --> 00:11:46,649
experimental concentric tube injector

229
00:11:51,540 --> 00:11:49,540
prior to installing the faceplate the

230
00:11:53,519 --> 00:11:51,550
igniter tubes are placed in the body of

231
00:11:55,920 --> 00:11:53,529
the injector there are 21 of these

232
00:12:03,449 --> 00:11:55,930
elements one for each compartment in the

233
00:12:05,850 --> 00:12:03,459
baffle locks tubes are inserted through

234
00:12:07,710 --> 00:12:05,860
the back of the injector the concentric

235
00:12:10,079 --> 00:12:07,720
fuel tubes and the baffles are then

236
00:12:12,720 --> 00:12:10,089
installed on the face in operation

237
00:12:15,780 --> 00:12:12,730
oxidizer is swirled in the center tube

238
00:12:18,449 --> 00:12:15,790

to form a cone of spray the fuel in the

239
00:12:21,420 --> 00:12:18,459
annular element is impinged on this cone

240
00:12:23,220 --> 00:12:21,430
and mixing occurs since injector

241
00:12:25,769 --> 00:12:23,230
elements are eight different lengths

242
00:12:28,079 --> 00:12:25,779
eight flame fronts are propagated in the

243
00:12:30,449 --> 00:12:28,089
combustion zone it is believed that this

244
00:12:32,699 --> 00:12:30,459
multiple flame front and concentric

245
00:12:38,340 --> 00:12:32,709
injection will increase dynamic

246
00:12:40,379 --> 00:12:38,350
stability testing of model mark 10

247
00:12:42,680 --> 00:12:40,389
inducers was conducted in a water tunnel

248
00:12:44,819 --> 00:12:42,690
under various operating conditions

249
00:12:46,220 --> 00:12:44,829
instrumentation photography permitted

250
00:12:48,870 --> 00:12:46,230
observance of such phenomena as

251
00:12:54,930 --> 00:12:48,880
cavitation backflow and blade tip

252
00:12:57,300 --> 00:12:54,940
vortexing at North American space and

253
00:13:00,120 --> 00:12:57,310
Information Systems Division contractor

254
00:13:01,980 --> 00:13:00,130
for the S two-stage bulkhead tooling was

255
00:13:04,740 --> 00:13:01,990
being installed this quarter in the new

256
00:13:07,050 --> 00:13:04,750
seal Beach California facility including

257
00:13:10,829 --> 00:13:07,060
the bulkhead Gore segment welding tool

258
00:13:12,420 --> 00:13:10,839
dollar weld tool the autoclave which

259
00:13:16,769 --> 00:13:12,430
will provide heat and pressure for

260
00:13:18,060 --> 00:13:16,779
bonding insulation to bulkheads and the

261
00:13:22,140 --> 00:13:18,070
acid bath tank

262
00:13:24,570 --> 00:13:22,150
for the etching Rome the s2

263
00:13:26,820 --> 00:13:24,580

electromechanical mock-up scheduled for

264
00:13:29,640 --> 00:13:26,830
first use in July is being fabricated

265
00:13:32,510 --> 00:13:29,650
and assembled at s and IDs County plan

266
00:13:34,890 --> 00:13:32,520
the mock-up will be used in three areas

267
00:13:36,960 --> 00:13:34,900
manufacturing to check placement of

268
00:13:39,960 --> 00:13:36,970
lines components and engines for

269
00:13:42,120 --> 00:13:39,970
interference and accessibility testing

270
00:13:44,780 --> 00:13:42,130
to check out compatibility of flight

271
00:13:47,910 --> 00:13:44,790
systems as units and with each other and

272
00:13:51,000 --> 00:13:47,920
GSE development to check out automatic

273
00:13:59,760 --> 00:13:51,010
GSE and make check out computer tapes to

274
00:14:02,790 --> 00:13:59,770
be used with flight stages fabrication

275
00:14:04,980 --> 00:14:02,800
of the s2 battleship test stage depicted

276
00:14:07,290 --> 00:14:04,990
here in model form is proceeding on

277
00:14:10,170 --> 00:14:07,300
schedule initial use is set for the

278
00:14:12,660 --> 00:14:10,180
first quarter of 1964 marking the first

279
00:14:15,630 --> 00:14:12,670
time for j2 engines to be fired in

280
00:14:18,390 --> 00:14:15,640
cluster fabrication of the s2 structural

281
00:14:26,610 --> 00:14:18,400
stage for use in checking entire vehicle

282
00:14:29,520 --> 00:14:26,620
structures is also underway at s and IDs

283
00:14:31,860 --> 00:14:29,530
el Toro facility activated this quarter

284
00:14:33,750 --> 00:14:31,870
high energy forming tests have been

285
00:14:36,600 --> 00:14:33,760
successfully performed on waffle

286
00:14:39,690 --> 00:14:36,610
sections of the s2 s common bulkhead the

287
00:14:42,900 --> 00:14:39,700
part to be formed is embedded in a

288
00:14:45,240 --> 00:14:42,910

castable epoxy urethane an explosive

289
00:14:50,070 --> 00:14:45,250
charge of primer cord is used to provide

290
00:14:52,410 --> 00:14:50,080
the shockwave for forming at SATA suzana

291
00:14:54,990 --> 00:14:52,420
roughed site preparation of the coca

292
00:14:57,840 --> 00:14:55,000
area of rocket dean's propulsion field

293
00:14:59,670 --> 00:14:57,850
laboratory has been completed the s2

294
00:15:02,700 --> 00:14:59,680
battleship will be installed in test

295
00:15:05,100 --> 00:15:02,710
stand number one test stand number four

296
00:15:07,590 --> 00:15:05,110
is being prepared for installation of

297
00:15:12,990 --> 00:15:07,600
the all system stage the first flight

298
00:15:16,140 --> 00:15:13,000
wait s to test vehicle at Rocketdyne

299
00:15:19,200 --> 00:15:16,150
contractor for the j2 engine common to

300
00:15:21,420 --> 00:15:19,210
s2 and s4 b stages a relatively new

301
00:15:24,060 --> 00:15:21,430
metal forming technique electrolytic

302
00:15:27,270 --> 00:15:24,070
erosion is being used in manufacture of

303
00:15:29,910 --> 00:15:27,280
j2 injectors the forming die made of

304
00:15:31,890 --> 00:15:29,920
compressed graphite acts as an electrode

305
00:15:37,350 --> 00:15:31,900
and a non conductive

306
00:15:39,210 --> 00:15:37,360
removes the eroded material built up

307
00:15:41,940 --> 00:15:39,220
with facilities for the j2 engine

308
00:15:44,400 --> 00:15:41,950
program at Propulsion Laboratory at

309
00:15:46,560 --> 00:15:44,410
Santa Susana continued during the report

310
00:15:49,680 --> 00:15:46,570
period with work on the liquid hydrogen

311
00:15:55,320 --> 00:15:49,690
storage area run tanks and horizontal

312
00:15:57,740 --> 00:15:55,330
and vertical static test stands at

313
00:15:59,940 --> 00:15:57,750

Douglas Aircraft Company santa monica

314
00:16:02,450 --> 00:15:59,950
fabrication of production tooling

315
00:16:03,750 --> 00:16:02,460
fixtures for Saturn fives third stage

316
00:16:06,300 --> 00:16:03,760
s4b

317
00:16:08,370 --> 00:16:06,310
was well underway this quarter the first

318
00:16:11,370 --> 00:16:08,380
vehicle manufactured will be used for

319
00:16:12,840 --> 00:16:11,380
hydrostatic testing a full scale

320
00:16:15,420 --> 00:16:12,850
engineering mock-up is under

321
00:16:17,910 --> 00:16:15,430
construction or use in verifying flight

322
00:16:22,170 --> 00:16:17,920
type system compatibility with ground

323
00:16:24,600 --> 00:16:22,180
support equipment both tank domes have

324
00:16:27,300 --> 00:16:24,610
been completed and installed in handling

325
00:16:29,550 --> 00:16:27,310
jigs the forward interstate structure

326
00:16:36,240 --> 00:16:29,560
was attached to the forward dome and the

327
00:16:38,040 --> 00:16:36,250
aft skirt to the apt dome work is

328
00:16:39,840 --> 00:16:38,050
proceeding on design and layout of

329
00:16:42,660 --> 00:16:39,850
automatic check out ground support

330
00:16:44,340 --> 00:16:42,670
equipment and its housing facilities for

331
00:16:46,800 --> 00:16:44,350
complete sets of ground support

332
00:16:49,740 --> 00:16:46,810
equipment will be fabricated the testing

333
00:16:51,750 --> 00:16:49,750
program in progress for s4b includes

334
00:16:54,450 --> 00:16:51,760
research development qualification

335
00:16:58,710 --> 00:16:54,460
production and reliability verification

336
00:17:01,320 --> 00:16:58,720
testing construction of the s4 be static

337
00:17:03,330 --> 00:17:01,330
firing test facility complex beta at

338
00:17:06,540 --> 00:17:03,340

Sacramento is progressing satisfactorily

339
00:17:08,970 --> 00:17:06,550
a contract for the battleship tank for

340
00:17:12,990 --> 00:17:08,980
test stand number one was awarded this

341
00:17:14,910 --> 00:17:13,000
quarter at Huntington Beach construction

342
00:17:18,300 --> 00:17:14,920
of the Douglas Space Science Center is

343
00:17:21,360 --> 00:17:18,310
also underway this facility will include

344
00:17:24,270 --> 00:17:21,370
an assembly and hydrostatic test our

345
00:17:26,190 --> 00:17:24,280
mock-up and fabrication building space

346
00:17:30,270 --> 00:17:26,200
simulator and s4b

347
00:17:32,880 --> 00:17:30,280
systems integration area structural

348
00:17:34,950 --> 00:17:32,890
design layout of the Saturn 5 instrument

349
00:17:38,010 --> 00:17:34,960
unit which will be located between the

350
00:17:40,880 --> 00:17:38,020
s4b stage and the Apollo spacecraft is

351
00:17:43,740 --> 00:17:40,890
in process at the Marshall Center

352
00:17:45,560 --> 00:17:43,750
guidance and control tracking and

353
00:17:47,779 --> 00:17:45,570
telemetry equipment will be

354
00:17:50,299 --> 00:17:47,789
around the periphery of the unit which

355
00:17:52,820 --> 00:17:50,309
is three feet high and 21 feet eight

356
00:17:54,919 --> 00:17:52,830
inches in diameter circulation of a

357
00:17:58,669 --> 00:17:54,929
coolant through panels will provide

358
00:18:00,649 --> 00:17:58,679
temperature control the unused volume in

359
00:18:03,320 --> 00:18:00,659
the center will allow the legs of the

360
00:18:05,570 --> 00:18:03,330
Apollo's lunar excursion module to