



1  
00:00:18,859 --> 00:00:16,000

[Music]

2  
00:00:20,840 --> 00:00:18,869

Saturn five quarterly film report number

3  
00:00:23,410 --> 00:00:20,850

sixteen covers progress during the

4  
00:00:29,760 --> 00:00:23,420

period September October and November at

5  
00:00:34,930 --> 00:00:32,890

at launch complex 39 of the Kennedy

6  
00:00:37,450 --> 00:00:34,940

Space Center Assembly of the first

7  
00:00:40,450 --> 00:00:37,460

Saturn 5 flight vehicle scheduled for

8  
00:00:42,850 --> 00:00:40,460

launch next year began on October 27th

9  
00:00:47,530 --> 00:00:42,860

with direction of the first stage in LC

10  
00:00:49,869 --> 00:00:47,540

39 s vertical assembly building a second

11  
00:00:51,820 --> 00:00:49,879

stage simulator or spacer stage was

12  
00:00:55,000 --> 00:00:51,830

stacked atop the first stage October

13  
00:00:58,780 --> 00:00:55,010

31st the actual second stage is due to

14

00:01:00,670 --> 00:00:58,790

arrive at KSC in January 1967 from

15

00:01:02,710 --> 00:01:00,680

Marshalls Mississippi test facility

16

00:01:05,469 --> 00:01:02,720

after completion of acceptance firing

17

00:01:07,450 --> 00:01:05,479

there the stage will then replace the

18

00:01:09,190 --> 00:01:07,460

simulator which meanwhile will have

19

00:01:13,630 --> 00:01:09,200

provided for checkout of interface

20

00:01:15,730 --> 00:01:13,640

capabilities with other stages the third

21

00:01:18,160 --> 00:01:15,740

stage for the first Saturn 5 flight

22

00:01:20,620 --> 00:01:18,170

vehicle was erected on November 1st and

23

00:01:22,830 --> 00:01:20,630

the instrument unit was added the

24

00:01:25,359 --> 00:01:22,840

following day the Apollo spacecraft

25

00:01:27,850 --> 00:01:25,369

completing the vehicle will be attached

26  
00:01:37,779 --> 00:01:27,860  
after the actual second stage replaces

27  
00:01:40,149 --> 00:01:37,789  
the second stage simulator also at LC 39

28  
00:01:42,069 --> 00:01:40,159  
the mission of the Saturn 5 facility's

29  
00:01:43,870 --> 00:01:42,079  
checkout vehicle in checking out pair

30  
00:01:45,849 --> 00:01:43,880  
days launch facilities and ground

31  
00:01:48,819 --> 00:01:45,859  
support equipment was completed during

32  
00:01:53,410 --> 00:01:48,829  
this report period check-out operations

33  
00:01:55,419 --> 00:01:53,420  
had begun last June following repair

34  
00:01:57,940 --> 00:01:55,429  
this quarter of a rupture which occurred

35  
00:02:01,569 --> 00:01:57,950  
in August in pair days liquid oxygen

36  
00:02:03,489 --> 00:02:01,579  
feed line a series of tanking tests of

37  
00:02:05,260 --> 00:02:03,499  
all three stages of the facility's

38  
00:02:06,700 --> 00:02:05,270

checkout vehicle was successfully

39

00:02:09,609 --> 00:02:06,710

completed in mid-october

40

00:02:12,309 --> 00:02:09,619

during the final tanking liquid oxygen

41

00:02:14,380 --> 00:02:12,319

was pumped into the first stage and lox

42

00:02:18,580 --> 00:02:14,390

and liquid hydrogen filled the second

43

00:02:20,800 --> 00:02:18,590

and third stages upon completion of

44

00:02:23,080 --> 00:02:20,810

tanking tests the facility's checkout

45

00:02:25,809 --> 00:02:23,090

vehicle mounted on mobile launcher one

46

00:02:30,610 --> 00:02:25,819

was transferred back into the VAB on

47

00:02:32,530 --> 00:02:30,620

October 14th to be de erected the Apollo

48

00:02:35,440 --> 00:02:32,540

spacecraft and instrument unit were

49

00:02:37,480 --> 00:02:35,450

directed on October 15th the Apollo

50

00:02:40,000 --> 00:02:37,490

command and service modules were shipped

51  
00:02:42,370 --> 00:02:40,010  
to MSFC for use in the dynamic test

52  
00:02:45,070 --> 00:02:42,380  
program the IU were

53  
00:02:48,880 --> 00:02:45,080  
at KSC for use in pet be checkout

54  
00:02:51,340 --> 00:02:48,890  
scheduled to begin in July the third

55  
00:02:52,630 --> 00:02:51,350  
stage and second stage were directed on

56  
00:02:54,970 --> 00:02:52,640  
October 16th

57  
00:02:57,400 --> 00:02:54,980  
the third stage will stay for a pad be

58  
00:03:00,100 --> 00:02:57,410  
checkout the second stage was modified

59  
00:03:02,410 --> 00:03:00,110  
at KSC to the dynamic test configuration

60  
00:03:05,080 --> 00:03:02,420  
and was shipped on October 29th to

61  
00:03:07,570 --> 00:03:05,090  
Marshall after dynamic testing it will

62  
00:03:11,920 --> 00:03:07,580  
later be returned to KSC for a pad be

63  
00:03:14,050 --> 00:03:11,930

checkout the first stage directed

64

00:03:16,180 --> 00:03:14,060

October 21st will be shipped to

65

00:03:18,460 --> 00:03:16,190

Marshalls Michoud assembly facility at

66

00:03:22,960 --> 00:03:18,470

New Orleans for storage until needed at

67

00:03:25,000 --> 00:03:22,970

pad B next summer at the Marshall Center

68

00:03:26,980 --> 00:03:25,010

the second stage of the facility's

69

00:03:30,130 --> 00:03:26,990

checkout vehicle arrived on November

70

00:03:34,330 --> 00:03:30,140

10th from KSC for further use as part of

71

00:03:36,190 --> 00:03:34,340

the dynamic test vehicle after receiving

72

00:03:38,050 --> 00:03:36,200

inspection the second stage was

73

00:03:40,930 --> 00:03:38,060

transferred to Marshalls test laboratory

74

00:03:41,920 --> 00:03:40,940

for installation in the saturn v dynamic

75

00:03:44,020 --> 00:03:41,930

test stand

76

00:03:48,430 --> 00:03:44,030

the stage was stacked atop the first

77

00:03:50,560 --> 00:03:48,440

stage on November 23rd the third stage

78

00:03:52,540 --> 00:03:50,570

was installed on November 30th the

79

00:03:54,460 --> 00:03:52,550

remaining units including the instrument

80

00:03:56,830 --> 00:03:54,470

unit the spacecraft adapter and the

81

00:03:58,600 --> 00:03:56,840

Apollo spacecraft are scheduled to be

82

00:04:01,330 --> 00:03:58,610

stacked in December to complete the

83

00:04:03,610 --> 00:04:01,340

dynamic test vehicle configuration one

84

00:04:05,680 --> 00:04:03,620

or full vehicle testing to determine

85

00:04:07,930 --> 00:04:05,690

bending and vibration characteristics

86

00:04:10,320 --> 00:04:07,940

the vehicle will be subjected to in

87

00:04:12,820 --> 00:04:10,330

flight is scheduled to start in January

88

00:04:16,270 --> 00:04:12,830

test completion is expected by late

89

00:04:18,550 --> 00:04:16,280

February later for configuration to

90

00:04:20,380 --> 00:04:18,560

testing the first stage will be removed

91

00:04:22,360 --> 00:04:20,390

from the stand and the remainder of the

92

00:04:24,670 --> 00:04:22,370

vehicle will be tested to determine its

93

00:04:32,300 --> 00:04:24,680

behavior in flight after first stage

94

00:04:36,839 --> 00:04:34,860

host firing checkout of the second

95

00:04:39,089 --> 00:04:36,849

flight stage which was static tested at

96

00:04:41,309 --> 00:04:39,099

Marshall last quarter continued during

97

00:04:43,050 --> 00:04:41,319

this report period completion of

98

00:04:46,399 --> 00:04:43,060

checkout and shipment to the Kennedy

99

00:04:49,649 --> 00:04:46,409

Space Center are scheduled in January

100

00:04:52,290 --> 00:04:49,659

the third flight stage arrived at MSFC

101  
00:04:54,420 --> 00:04:52,300  
on October 1st from Michou where it had

102  
00:04:56,640 --> 00:04:54,430  
undergone post manufacturing checkout

103  
00:05:00,600 --> 00:04:56,650  
last quarter by the contractor the

104  
00:05:02,820 --> 00:05:00,610  
Boeing Company the stage was installed

105  
00:05:05,580 --> 00:05:02,830  
in Marshall static test and on October

106  
00:05:07,980 --> 00:05:05,590  
3rd for acceptance firing during routine

107  
00:05:10,260 --> 00:05:07,990  
maintenance a portion of a small hole

108  
00:05:13,019 --> 00:05:10,270  
ring was lost in the turbopump of the

109  
00:05:14,820 --> 00:05:13,029  
Center f1 engine when efforts to remove

110  
00:05:17,279 --> 00:05:14,830  
it by flushing and mechanical means

111  
00:05:26,969 --> 00:05:17,289  
failed the engine was removed and

112  
00:05:29,100 --> 00:05:26,979  
replaced by a spare the third flight

113  
00:05:32,040 --> 00:05:29,110

stage was successfully static fired on

114

00:05:34,920 --> 00:05:32,050

November 15th for a 125 seconds duration

115

00:05:37,230 --> 00:05:34,930

the time lost during engine change out

116

00:05:39,869 --> 00:05:37,240

was recovered and the stage was shipped

117

00:05:42,179 --> 00:05:39,879

from MSFC to miss you in late November

118

00:05:44,159 --> 00:05:42,189

after refurbishment and post static

119

00:05:48,540 --> 00:05:44,169

check out the stage will be shipped to

120

00:05:50,579 --> 00:05:48,550

KSC and April post manufacturing

121

00:05:52,769 --> 00:05:50,589

checkout of the fourth flight stage was

122

00:05:57,089 --> 00:05:52,779

completed by Boeing at me shoe in late

123

00:05:59,100 --> 00:05:57,099

November vertical Assembly of the fifth

124

00:06:01,379 --> 00:05:59,110

flight stage was finished on September

125

00:06:03,149 --> 00:06:01,389

13th and the stage was moved from issues

126  
00:06:05,490 --> 00:06:03,159  
vertical assembly building into the

127  
00:06:07,709 --> 00:06:05,500  
manufacturing building for horizontal

128  
00:06:12,450 --> 00:06:07,719  
installation scheduled for completion in

129  
00:06:14,969 --> 00:06:12,460  
January the sixth flight stage has been

130  
00:06:16,920 --> 00:06:14,979  
moved into the VAB and is now undergoing

131  
00:06:21,059 --> 00:06:16,930  
vertical assembly with completion

132  
00:06:23,070 --> 00:06:21,069  
scheduled next quarter structural

133  
00:06:25,290 --> 00:06:23,080  
assembly of major components for the

134  
00:06:28,889 --> 00:06:25,300  
seventh and eighth flight stages is in

135  
00:06:31,409 --> 00:06:28,899  
progress at Michou minor assembly of 9th

136  
00:06:40,610 --> 00:06:31,419  
and 10th flight stage components is also

137  
00:06:45,059 --> 00:06:43,439  
the initial static firing of the first

138  
00:06:46,890 --> 00:06:45,069

flight stage was successfully

139

00:06:49,620 --> 00:06:46,900

accomplished this quarter at Marshalls

140

00:06:52,670 --> 00:06:49,630

Mississippi test facility the firing was

141

00:06:55,140 --> 00:06:52,680

for full duration of 384 seconds

142

00:06:57,150 --> 00:06:55,150

originally scheduled for late September

143

00:06:59,370 --> 00:06:57,160

the firing had been delayed until the

144

00:07:01,740 --> 00:06:59,380

night of November 30th due to the

145

00:07:03,659 --> 00:07:01,750

modification work necessitated by cracks

146

00:07:08,610 --> 00:07:03,669

in the liquid oxygen and liquid hydrogen

147

00:07:10,439 --> 00:07:08,620

tanks the cracks were discovered when

148

00:07:12,719 --> 00:07:10,449

re-inspection of the stage was deemed

149

00:07:15,420 --> 00:07:12,729

mandatory following engineering

150

00:07:17,700 --> 00:07:15,430

evaluations of tests and inspections of

151  
00:07:20,430 --> 00:07:17,710  
the second and third flight stages by

152  
00:07:22,350 --> 00:07:20,440  
MSFC and the contractor the space and

153  
00:07:24,570 --> 00:07:22,360  
Information Systems Division of North

154  
00:07:28,670 --> 00:07:24,580  
American Aviation at its seal Beach

155  
00:07:31,350 --> 00:07:28,680  
California manufacturing facility

156  
00:07:34,320 --> 00:07:31,360  
principle problem areas were in the LH

157  
00:07:36,870 --> 00:07:34,330  
to feed line duct outlets the feed line

158  
00:07:39,719 --> 00:07:36,880  
elbows and the LH to tank stringers and

159  
00:07:42,180 --> 00:07:39,729  
ribbons while the cause of the cracks is

160  
00:07:44,790 --> 00:07:42,190  
under intensive investigation temporary

161  
00:07:47,159 --> 00:07:44,800  
fixes by means of routing furnishing and

162  
00:07:51,390 --> 00:07:47,169  
application of doublers were affected to

163  
00:07:53,700 --> 00:07:51,400

minimize scheduled impact leakage

164

00:07:55,800 --> 00:07:53,710

through the aft locks bulkhead Dollar

165

00:07:58,219 --> 00:07:55,810

Welch doubler sealed presented another

166

00:08:00,749 --> 00:07:58,229

serious problem

167

00:08:02,719 --> 00:08:00,759

leakage discovered in an aluminum foil

168

00:08:05,040 --> 00:08:02,729

seal on the dollar welds doubler

169

00:08:07,260 --> 00:08:05,050

necessitated removal of the seal and

170

00:08:09,659 --> 00:08:07,270

replacing it with five coats total

171

00:08:11,850 --> 00:08:09,669

thickness 18 millimeters a velox

172

00:08:14,040 --> 00:08:11,860

compatible Dyna therm liquid sealant

173

00:08:16,050 --> 00:08:14,050

which had previously been utilized by

174

00:08:18,149 --> 00:08:16,060

Douglas Aircraft Company for a similar

175

00:08:22,379 --> 00:08:18,159

problem in the Saturn fives third stage

176

00:08:24,450 --> 00:08:22,389

the second of the two static firings

177

00:08:26,610 --> 00:08:24,460

required for acceptance of the first

178

00:08:29,520 --> 00:08:26,620

flight stage is due to be conducted in

179

00:08:31,770 --> 00:08:29,530

December the delay at Mt F in first

180

00:08:33,300 --> 00:08:31,780

flight stage static firings occasioned

181

00:08:36,089 --> 00:08:33,310

by the several problem area

182

00:08:37,829 --> 00:08:36,099

modifications will in turn impact the

183

00:08:43,170 --> 00:08:37,839

scheduled launch date for the first

184

00:08:45,120 --> 00:08:43,180

Saturn 5 flight vehicle at KSC systems

185

00:08:47,730 --> 00:08:45,130

check out of the second flight stage was

186

00:08:49,199 --> 00:08:47,740

completed by essent ID at seal beach on

187

00:08:51,210 --> 00:08:49,209

October 2nd

188

00:08:53,639 --> 00:08:51,220

the stage will be shipped to MTF for

189

00:08:55,619 --> 00:08:53,649

acceptance barring when the a to static

190

00:08:57,960 --> 00:08:55,629

test stand becomes available following

191

00:09:01,019 --> 00:08:57,970

completion of first flight stage firings

192

00:09:02,850 --> 00:09:01,029

during this time modification work will

193

00:09:05,489 --> 00:09:02,860

be accomplished which will minimize the

194

00:09:09,900 --> 00:09:05,499

amount of work transferred to MTF with

195

00:09:12,090 --> 00:09:09,910

the stage during systems installation on

196

00:09:14,639 --> 00:09:12,100

the third flight stage on November 29th

197

00:09:16,980 --> 00:09:14,649

the inert liquid hydrogen bulkhead was

198

00:09:19,410 --> 00:09:16,990

damaged as workmen were removing a work

199

00:09:21,150 --> 00:09:19,420

ladder from the interior due to a

200

00:09:24,090 --> 00:09:21,160

failure of a weld in the latter

201  
00:09:26,429 --> 00:09:24,100  
retracting mechanism a 10 foot section

202  
00:09:28,530 --> 00:09:26,439  
of ladder dropped striking the bulkhead

203  
00:09:32,009 --> 00:09:28,540  
and causing cracks in three separate

204  
00:09:34,439 --> 00:09:32,019  
areas the cracks measured 810 and 52

205  
00:09:37,139 --> 00:09:34,449  
inches in length action is now being

206  
00:09:38,850 --> 00:09:37,149  
planned to correct the problem impact on

207  
00:09:43,829 --> 00:09:38,860  
the scheduled for delivery of the stage

208  
00:09:45,929 --> 00:09:43,839  
2 MTF is undetermined the fourth flight

209  
00:09:48,030 --> 00:09:45,939  
stage is undergoing vertical assembly

210  
00:09:50,910 --> 00:09:48,040  
operations scheduled for completion in

211  
00:09:52,799 --> 00:09:50,920  
early December systems installation and

212  
00:09:55,139 --> 00:09:52,809  
check-out are scheduled to be completed

213  
00:10:00,239 --> 00:09:55,149

and the stage delivered to MTF in the

214

00:10:02,340 --> 00:10:00,249

second quarter of 1967 fabrication and

215

00:10:04,230 --> 00:10:02,350

sub assembly of structural components

216

00:10:06,509 --> 00:10:04,240

for the fifth flight stage were finished

217

00:10:08,759 --> 00:10:06,519

this quarter and vertical assembly got

218

00:10:17,160 --> 00:10:08,769

underway completion is scheduled the

219

00:10:22,259 --> 00:10:19,530

post-fire checkout of the second flight

220

00:10:24,090 --> 00:10:22,269

stage which began last quarter continued

221

00:10:26,129 --> 00:10:24,100

during this report period and Douglas

222

00:10:28,650 --> 00:10:26,139

Aircraft Company Sacramento California

223

00:10:31,049 --> 00:10:28,660

test site completion of checkout

224

00:10:33,059 --> 00:10:31,059

modification work and shipment of the

225

00:10:37,139 --> 00:10:33,069

stage to the Kennedy Space Center are

226

00:10:39,359 --> 00:10:37,149

scheduled for next quarter the third

227

00:10:42,780 --> 00:10:39,369

flight stage was installed in sac DOS

228

00:10:44,639 --> 00:10:42,790

beta three stand on October 13th and pre

229

00:10:46,499 --> 00:10:44,649

firing checkout is underway in

230

00:10:49,199 --> 00:10:46,509

preparation for acceptance testing

231

00:10:50,699 --> 00:10:49,209

scheduled for early January factory

232

00:10:52,710 --> 00:10:50,709

check out of the stage had been

233

00:10:54,150 --> 00:10:52,720

completed in early September at

234

00:10:59,099 --> 00:10:54,160

Douglass's huntington beach california

235

00:11:01,049 --> 00:10:59,109

of manufacturing facility factory check

236

00:11:03,119 --> 00:11:01,059

out of the fourth flight stage was

237

00:11:05,249 --> 00:11:03,129

started in early October at Huntington

238

00:11:09,179 --> 00:11:05,259

Beach with completion and shipment to

239

00:11:11,069 --> 00:11:09,189

sacto due next quarter structural

240

00:11:13,470 --> 00:11:11,079

fabrication and assembly of the fifth

241

00:11:15,840 --> 00:11:13,480

and sixth flight stages are underway at

242

00:11:19,710 --> 00:11:15,850

Huntington Beach and a DA sees Santa

243

00:11:22,019 --> 00:11:19,720

Monica plant a series of hydrostatic

244

00:11:24,389 --> 00:11:22,029

test was conducted this quarter in order

245

00:11:26,340 --> 00:11:24,399

to prove the structural integrity of a

246

00:11:28,859 --> 00:11:26,350

main propellant tank assembly under

247

00:11:31,859 --> 00:11:28,869

simulated design ultimate load and

248

00:11:35,220 --> 00:11:31,869

pressurization conditions on September

249

00:11:37,109 --> 00:11:35,230

21st the lh2 tank successfully completed

250

00:11:41,009 --> 00:11:37,119

testing to the design ultimate pressure

251  
00:11:42,900 --> 00:11:41,019  
of 140 percent the LOX tank seal weld

252  
00:11:45,059 --> 00:11:42,910  
area had previously been tested

253  
00:11:47,549 --> 00:11:45,069  
successfully to the design ultimate

254  
00:11:49,590 --> 00:11:47,559  
pressure five days later in order to

255  
00:11:51,749 --> 00:11:49,600  
determine LH to tank ultimate

256  
00:11:54,600 --> 00:11:51,759  
capabilities it was hydrostatically

257  
00:11:56,309 --> 00:11:54,610  
tested to destruction preliminary data

258  
00:11:58,559 --> 00:11:56,319  
indicated that the margin of safety

259  
00:12:02,189 --> 00:11:58,569  
obtained for ultimate design pressures

260  
00:12:10,400 --> 00:12:02,199  
will be between 2% and 21 percent above

261  
00:12:15,960 --> 00:12:13,200  
the qual to test series for the f1

262  
00:12:18,150 --> 00:12:15,970  
engine which began August 1st was

263  
00:12:20,280 --> 00:12:18,160

completed on September 6th at the rocket

264

00:12:23,820 --> 00:12:20,290

engine test site at Edwards California

265

00:12:25,860 --> 00:12:23,830

the f1 contractor Rocketdyne finished

266

00:12:27,480 --> 00:12:25,870

the qualification test program four

267

00:12:30,600 --> 00:12:27,490

months ahead of schedule under an

268

00:12:33,420 --> 00:12:30,610

incentivized contract one engine used

269

00:12:36,870 --> 00:12:33,430

for safety limits testing was fired 18

270

00:12:39,690 --> 00:12:36,880

times for a total of 1275 seconds

271

00:12:43,590 --> 00:12:39,700

another engine used for duration testing

272

00:12:46,470 --> 00:12:43,600

reached 2250 six seconds firing time in

273

00:12:48,720 --> 00:12:46,480

twenty tests all tests were completed

274

00:12:52,460 --> 00:12:48,730

with only minor discrepancies which will

275

00:12:55,230 --> 00:12:52,470

be resolved without scheduled impact a

276

00:12:57,990 --> 00:12:55,240

teardown inspection of the qual to test

277

00:13:00,450 --> 00:12:58,000

engines was held in November 28 at rocky

278

00:13:04,980 --> 00:13:00,460

tines Canoga Park California plant and

279

00:13:06,990 --> 00:13:04,990

results are being evaluated during the

280

00:13:09,390 --> 00:13:07,000

quarter Rocketdyne was awarded a

281

00:13:11,940 --> 00:13:09,400

contract to supply the f1 engines for

282

00:13:14,730 --> 00:13:11,950

saturn v flight vehicles 11 through 15

283

00:13:23,369 --> 00:13:14,740

and for the production support necessary

284

00:13:28,769 --> 00:13:25,679

a teardown inspection of rocky Dynes

285

00:13:31,559 --> 00:13:28,779

operated 230 thousand pound thrust j2

286

00:13:34,319 --> 00:13:31,569

engine was held in early October at the

287

00:13:36,569 --> 00:13:34,329

contractors Canoga Park plant following

288

00:13:39,479 --> 00:13:36,579

completion of the quad 2 qualification

289

00:13:41,909 --> 00:13:39,489

test firing series during the series of

290

00:13:44,519 --> 00:13:41,919

30 tests which began in early August at

291

00:13:47,460 --> 00:13:44,529

the santa susana test site slightly more

292

00:13:50,399 --> 00:13:47,470

than 3800 seconds of firing time were

293

00:13:51,899 --> 00:13:50,409

accumulated data evaluation showed the

294

00:13:56,210 --> 00:13:51,909

test series to be one of the most

295

00:13:58,979 --> 00:13:56,220

successful ever conducted by rocky dive

296

00:14:01,289 --> 00:13:58,989

rocket Dynes j2 engine component

297

00:14:04,289 --> 00:14:01,299

qualification test program which began

298

00:14:06,599 --> 00:14:04,299

in April 1965 neared completion this

299

00:14:09,119 --> 00:14:06,609

quarter in this electrical control

300

00:14:12,419 --> 00:14:09,129

assembly test helium is sprayed around

301  
00:14:14,279 --> 00:14:12,429  
the seals a vacuum is then drawn and any

302  
00:14:18,749 --> 00:14:14,289  
helium that enters the component is

303  
00:14:20,609 --> 00:14:18,759  
measured and recorded at the Air Force's

304  
00:14:23,009 --> 00:14:20,619  
Arnold engineering Development Center in

305  
00:14:25,439 --> 00:14:23,019  
Tullahoma Tennessee the series of j2

306  
00:14:27,119 --> 00:14:25,449  
engine environmental verification test

307  
00:14:29,699 --> 00:14:27,129  
firings which started in August

308  
00:14:32,279 --> 00:14:29,709  
continued this quarter with a total of

309  
00:14:36,539 --> 00:14:32,289  
nine firings including to start to

310  
00:14:38,699 --> 00:14:36,549  
restart tests during November the huge

311  
00:14:41,399 --> 00:14:38,709  
test cell shown in this cutaway drawing

312  
00:14:43,679 --> 00:14:41,409  
has the engine mounted 81 feet above

313  
00:14:46,309 --> 00:14:43,689

ground with its exhaust blasting into a

314

00:14:51,090 --> 00:14:46,319

cooling chamber 100 feet in diameter and

315

00:14:54,090 --> 00:14:51,100

250 feet below ground level altitude and

316

00:15:02,090 --> 00:14:54,100

thermal conditions of 110,000 feet can

317

00:15:06,930 --> 00:15:05,040

ground testing of seven five instrument

318

00:15:08,970 --> 00:15:06,940

units was virtually concluded with

319

00:15:11,340 --> 00:15:08,980

successful completion this quarter of

320

00:15:14,670 --> 00:15:11,350

testing on the third structural test I

321

00:15:17,220 --> 00:15:14,680

you at the Marshall Center plans are to

322

00:15:20,670 --> 00:15:17,230

use this unit next to validate redesign

323

00:15:24,810 --> 00:15:20,680

of the IU's st 124 inertial platform

324

00:15:26,400 --> 00:15:24,820

mount work on saturn v flight IU's

325

00:15:28,019 --> 00:15:26,410

continued during the quarter by the

326

00:15:30,390 --> 00:15:28,029

contractor International Business

327

00:15:32,400 --> 00:15:30,400

Machines at its plentiful Alabama

328

00:15:35,340 --> 00:15:32,410

facility with checkout of the second

329

00:15:37,500 --> 00:15:35,350

flight unit completed November 4th after

330

00:15:39,390 --> 00:15:37,510

modification the unit will be stored

331

00:15:43,890 --> 00:15:39,400

until it's scheduled shipment to Kennedy

332

00:15:45,600 --> 00:15:43,900

Space Center in January the third flight

333

00:15:48,390 --> 00:15:45,610

IU underwent component assembly

334

00:15:50,640 --> 00:15:48,400

operations at IBM Huntsville throughout

335

00:15:54,750 --> 00:15:50,650

the report period with check-out slated

336

00:15:56,460 --> 00:15:54,760

to begin in mid-december structural

337

00:15:59,430 --> 00:15:56,470

fabrication on the fourth flight I you

338

00:16:07,590 --> 00:15:59,440

got underway September 19th completion

339

00:16:09,920 --> 00:16:07,600

is scheduled in late January at

340

00:16:12,329 --> 00:16:09,930

Marshalls Mississippi test facility

341

00:16:14,490 --> 00:16:12,339

activity on the dual position first

342

00:16:16,790 --> 00:16:14,500

stage static test and has begun to

343

00:16:19,980 --> 00:16:16,800

change from construction to activation

344

00:16:22,470 --> 00:16:19,990

major construction of the b2 position is

345

00:16:24,630 --> 00:16:22,480

nearing completion and activation is

346

00:16:26,970 --> 00:16:24,640

phasing in rapidly in preparation for

347

00:16:31,040 --> 00:16:26,980

installation of the all systems ground

348

00:16:34,350 --> 00:16:31,050

test stage scheduled for late December

349

00:16:36,840 --> 00:16:34,360

in October a test fixture called a

350

00:16:39,270 --> 00:16:36,850

spider was installed in the stand to

351  
00:16:41,910 --> 00:16:39,280  
verify capability of the four hold down

352  
00:16:44,400 --> 00:16:41,920  
arms with application of pressure two

353  
00:16:46,740 --> 00:16:44,410  
hydraulic jacks the spider simulated

354  
00:16:49,410 --> 00:16:46,750  
various types of loads including full

355  
00:16:51,630 --> 00:16:49,420  
stage thrust engine gimbal and stage

356  
00:16:56,160 --> 00:16:51,640  
dead weight which will be imparted to

357  
00:16:58,019 --> 00:16:56,170  
the hold-down arms and load frame also

358  
00:17:00,240 --> 00:16:58,029  
in October the main derrick was

359  
00:17:02,610 --> 00:17:00,250  
installed atop the stands center pier

360  
00:17:04,949 --> 00:17:02,620  
this Derrick will be used to install

361  
00:17:07,500 --> 00:17:04,959  
Saturn five first stages in the stand

362  
00:17:10,620 --> 00:17:07,510  
the derrick was successfully load tested

363  
00:17:13,440 --> 00:17:10,630

with weights of 400,000 pounds 50 tons

364

00:17:16,960 --> 00:17:13,450

in excess of design requirements

365

00:17:19,060 --> 00:17:16,970

on October 23rd the all system's ground

366

00:17:20,800 --> 00:17:19,070

test stage arrived at MTF from the

367

00:17:23,350 --> 00:17:20,810

Marshall Center where it had undergone

368

00:17:25,330 --> 00:17:23,360

extensive testing the stage will be

369

00:17:27,670 --> 00:17:25,340

installed in the b2 position of the duo

370

00:17:29,950 --> 00:17:27,680

test and for use in checkout and

371

00:17:33,730 --> 00:17:29,960

verification of the stand Technical

372

00:17:34,540 --> 00:17:33,740

Systems and ground support equipment at

373

00:17:36,550 --> 00:17:34,550

MTF

374

00:17:38,950 --> 00:17:36,560

second stage test and number two

375

00:17:41,440 --> 00:17:38,960

designated a1 brick-and-mortar

376

00:17:43,840 --> 00:17:41,450

construction is over 90 percent complete

377

00:17:46,030 --> 00:17:43,850

the flame deflector has been installed

378

00:17:48,640 --> 00:17:46,040

and the high pressure industrial water

379

00:17:50,830 --> 00:17:48,650

pipng has been laid steel work on the

380

00:17:53,530 --> 00:17:50,840

engine removal and engine access levels

381

00:17:55,690 --> 00:17:53,540

is finished the auxiliary derrick is in

382

00:17:59,830 --> 00:17:55,700

operation and work on the main derrick

383

00:18:01,600 --> 00:17:59,840

is underway the second stage vehicle

384

00:18:04,720 --> 00:18:01,610

checkout building was accepted for

385

00:18:06,670 --> 00:18:04,730

beneficial occupancy September 27th the

386

00:18:09,250 --> 00:18:06,680

second stage now undergoing static

387

00:18:11,110 --> 00:18:09,260

testing at MTF will be refurbished in

388

00:18:15,070 --> 00:18:11,120

this building prior to shipment to the

389

00:18:17,470 --> 00:18:15,080

Kennedy Space Center final beneficial

390

00:18:19,290 --> 00:18:17,480

occupancy of MTFs component Services

391

00:18:21,700 --> 00:18:19,300

Building is view in mid-december

392

00:18:23,860 --> 00:18:21,710

technical systems installation is in

393

00:18:26,790 --> 00:18:23,870

progress with completion due in early

394

00:18:31,660 --> 00:18:30,070

in summary despite delays occasion to

395

00:18:34,840 --> 00:18:31,670

this quarter due to the necessity for

396

00:18:38,200 --> 00:18:34,850

second stage modifications September

397

00:18:40,510 --> 00:18:38,210

October and November 1966 marked the

398

00:18:42,730 --> 00:18:40,520

accomplishment of major milestones in

399

00:18:44,890 --> 00:18:42,740

the Saturn 5 program with the first

400

00:18:48,370 --> 00:18:44,900

static firing of the initial second

401

00:18:51,520 --> 00:18:48,380

stage flight stage partial erection of

402

00:18:53,230 --> 00:18:51,530

the first flight vehicle completion of

403

00:18:55,540 --> 00:18:53,240

the facilities checkout vehicle's

404

00:18:59,530 --> 00:18:55,550

mission in checkout of launch complex 39

405

00:19:01,630 --> 00:18:59,540

spared a stacking of the dynamic test

406

00:19:05,110 --> 00:19:01,640

vehicle in preparation for the upcoming

407

00:19:07,210 --> 00:19:05,120

dynamic test program and continuing

408

00:19:09,940 --> 00:19:07,220

progress in the manufacture and ground

409

00:19:10,970 --> 00:19:09,950

testing of subsequent Saturn 5 flight