



1
00:00:19,390 --> 00:00:06,710

[Music]

2
00:00:24,229 --> 00:00:21,859

this report on the saturn v launch

3
00:00:26,420 --> 00:00:24,239

vehicle the vehicle which will provide

4
00:00:28,510 --> 00:00:26,430

the power to establish and maintain this

5
00:00:31,940 --> 00:00:28,520

country's clear superiority in space

6
00:00:39,440 --> 00:00:31,950

covers the period from december 1st 1966

7
00:00:41,330 --> 00:00:39,450

through february 28 1967 the saturn v is

8
00:00:45,350 --> 00:00:41,340

the free worlds largest launch vehicle

9
00:00:47,180 --> 00:00:45,360

it was started in January 1962 when NASA

10
00:00:50,060 --> 00:00:47,190

authorized Marshall Space Flight Center

11
00:00:53,180 --> 00:00:50,070

to design and develop a very large and

12
00:00:55,010 --> 00:00:53,190

powerful launch vehicle the Saturn 5 is

13
00:00:59,330 --> 00:00:55,020

designed to place in Earth orbit a

14

00:01:01,670 --> 00:00:59,340

payload of 250,000 pounds or sent a 98

15

00:01:06,100 --> 00:01:01,680

thousand pound payload to the moon it

16

00:01:09,260 --> 00:01:06,110

stands 365 feet high ways when fueled

17

00:01:13,960 --> 00:01:09,270

3,100 tons and consists of three

18

00:01:19,460 --> 00:01:16,430

development of the Saturn 5 first stage

19

00:01:22,610 --> 00:01:19,470

is being accomplished by MSFC and the

20

00:01:24,710 --> 00:01:22,620

prime contractor The Boeing Company the

21

00:01:27,460 --> 00:01:24,720

first successful acceptance test of a

22

00:01:31,550 --> 00:01:27,470

flight stage was performed at MSFC in

23

00:01:33,800 --> 00:01:31,560

February of 1966 the stage is a

24

00:01:36,080 --> 00:01:33,810

cylindrical booster 33 feet in diameter

25

00:01:39,230 --> 00:01:36,090

and a hundred and thirty-eight feet in

26
00:01:41,780 --> 00:01:39,240
height the stage is powered by five f-1

27
00:01:44,480 --> 00:01:41,790
engines built by Rocketdyne division of

28
00:01:46,430 --> 00:01:44,490
North American Aviation and generates a

29
00:01:49,250 --> 00:01:46,440
total of seven million six hundred ten

30
00:01:52,070 --> 00:01:49,260
thousand pounds of thrust the f-1

31
00:01:55,399 --> 00:01:52,080
engines utilize liquid oxygen and rp1

32
00:01:58,039 --> 00:01:55,409
kerosene as propellants the stage has a

33
00:02:00,560 --> 00:01:58,049
dry weight of about 300 thousand pounds

34
00:02:02,690 --> 00:02:00,570
and a propellant capacity of four

35
00:02:06,870 --> 00:02:02,700
million four hundred thousand pounds of

36
00:02:09,970 --> 00:02:06,880
liquid oxygen and rp1

37
00:02:11,650 --> 00:02:09,980
the second Saturn 5 stage is designed

38
00:02:13,930 --> 00:02:11,660

and manufactured by the space &

39

00:02:17,170 --> 00:02:13,940

Information Systems Division of North

40

00:02:20,650 --> 00:02:17,180

American Aviation it measures 33 feet in

41

00:02:22,480 --> 00:02:20,660

diameter and is 81 feet tall initial

42

00:02:25,960 --> 00:02:22,490

acceptance testing of the first flight

43

00:02:29,230 --> 00:02:25,970

stage was performed in November 1966 at

44

00:02:31,690 --> 00:02:29,240

the Mississippi test facility the second

45

00:02:34,570 --> 00:02:31,700

stage is powered by five Rocketdyne j2

46

00:02:37,450 --> 00:02:34,580

liquid oxygen liquid hydrogen engines

47

00:02:41,110 --> 00:02:37,460

with a continued combined thrust have 1

48

00:02:42,700 --> 00:02:41,120

million 25,000 pounds early second stage

49

00:02:45,040 --> 00:02:42,710

flights will carry nine hundred and

50

00:02:47,250 --> 00:02:45,050

thirty thousand pounds of super cold

51

00:02:50,140 --> 00:02:47,260

propellant

52

00:02:52,479 --> 00:02:50,150

the third-stage prime contractor is

53

00:02:54,580 --> 00:02:52,489

Douglas Aircraft Company and the first

54

00:02:58,629 --> 00:02:54,590

flight stage was acceptance tested in

55

00:03:02,140 --> 00:02:58,639

May 1966 the third stage is 22 feet in

56

00:03:04,390 --> 00:03:02,150

diameter stands 59 feet tall and is

57

00:03:07,270 --> 00:03:04,400

propelled by a single Rocketdyne j2

58

00:03:09,879 --> 00:03:07,280

engine engine propellants are liquid

59

00:03:13,000 --> 00:03:09,889

oxygen and liquid hydrogen that burned

60

00:03:15,759 --> 00:03:13,010

for a thrust of 225,000 pounds

61

00:03:18,069 --> 00:03:15,769

the Saturn 5 third stage has engine

62

00:03:20,470 --> 00:03:18,079

restart capability which will be used

63

00:03:25,539 --> 00:03:20,480

for Earth orbit escape and to establish

64

00:03:27,580 --> 00:03:25,549

a lunar trajectory the instrument unit

65

00:03:29,559 --> 00:03:27,590

which contains the Astronautic equipment

66

00:03:32,559 --> 00:03:29,569

that guides and controls the Saturn 5

67

00:03:36,069 --> 00:03:32,569

was developed by MSFC and is

68

00:03:38,770 --> 00:03:36,079

manufactured by IBM the instrument unit

69

00:03:41,729 --> 00:03:38,780

is 22 feet in diameter and 3 feet high

70

00:03:44,979 --> 00:03:41,739

and consists of six basic systems

71

00:03:50,709 --> 00:03:44,989

structural telemetry radio frequency

72

00:03:52,809 --> 00:03:50,719

guidance control and electrical the

73

00:03:54,699 --> 00:03:52,819

first Saturn 5 flight vehicle was

74

00:03:57,330 --> 00:03:54,709

erected at Kennedy Space Center last

75

00:03:59,830 --> 00:03:57,340

quarter except for the second stage a

76

00:04:01,749 --> 00:03:59,840

simulator substituted for the actual

77

00:04:03,999 --> 00:04:01,759

stage which was still undergoing

78

00:04:08,740 --> 00:04:04,009

acceptance testing at the Mississippi

79

00:04:11,860 --> 00:04:08,750

test facility the second stage arrived

80

00:04:16,539 --> 00:04:11,870

at KSC in January after successful

81

00:04:18,610 --> 00:04:16,549

completion of acceptance tests the upper

82

00:04:21,819 --> 00:04:18,620

portion of the Saturn 5 flight vehicle

83

00:04:23,529 --> 00:04:21,829

was directed in mid-february in order to

84

00:04:26,860 --> 00:04:23,539

permit removal of the second stage

85

00:04:29,770 --> 00:04:26,870

simulator and its replacement with the

86

00:04:31,870 --> 00:04:29,780

actual stage use of the simulator had

87

00:04:33,909 --> 00:04:31,880

allowed checkout of the available stages

88

00:04:36,490 --> 00:04:33,919

and ground support equipment before

89

00:04:38,439 --> 00:04:36,500

arrival of the second stage the third

90

00:04:40,899 --> 00:04:38,449

stage and instrument unit were installed

91

00:04:43,360 --> 00:04:40,909

and the first Saturn 5 flight launch

92

00:04:46,270 --> 00:04:43,370

vehicle stood fully erected on February

93

00:04:48,459 --> 00:04:46,280

24th culminating over six years of

94

00:04:51,459 --> 00:04:48,469

research and development manufacturing

95

00:04:54,219 --> 00:04:51,469

and ground testing rollout to pate is

96

00:04:56,350 --> 00:04:54,229

due in late June meanwhile high-bay

97

00:04:58,810 --> 00:04:56,360

checkout operations including vehicle

98

00:05:00,550 --> 00:04:58,820

electrical mating swingarm tests and

99

00:05:02,560 --> 00:05:00,560

flight simulation tests

100

00:05:07,900 --> 00:05:02,570

will be performed in preparation for

101
00:05:10,150 --> 00:05:07,910
launch in mid 1967 at the Marshall Space

102
00:05:12,879 --> 00:05:10,160
Flight Center stacking of the Saturn 5

103
00:05:14,379 --> 00:05:12,889
dynamic test vehicle was completed early

104
00:05:16,659 --> 00:05:14,389
this quarter with addition of the

105
00:05:21,730 --> 00:05:16,669
instrument unit spacecraft adapter and

106
00:05:23,830 --> 00:05:21,740
Apollo spacecraft this artist concept

107
00:05:26,290 --> 00:05:23,840
illustrates how the Saturn 5 dynamic

108
00:05:30,870 --> 00:05:26,300
test vehicle appears when fully erected

109
00:05:36,460 --> 00:05:33,550
configuration 1 or full vehicle testing

110
00:05:38,680 --> 00:05:36,470
began after completion of stacking the

111
00:05:40,450 --> 00:05:38,690
vehicle was vibrated by electrodynamic

112
00:05:42,850 --> 00:05:40,460
shakers to determine the bending and

113
00:05:46,000 --> 00:05:42,860

vibration characteristics the vehicle

114

00:05:48,010 --> 00:05:46,010

will be subjected to during flight this

115

00:05:50,320 --> 00:05:48,020

bending and vibration data is required

116

00:05:53,440 --> 00:05:50,330

to verify the adequacy of guidance and

117

00:05:55,270 --> 00:05:53,450

control systems design several minor

118

00:05:57,700 --> 00:05:55,280

irregularities indicating the need for

119

00:05:59,590 --> 00:05:57,710

possible engineering changes were

120

00:06:01,500 --> 00:05:59,600

discovered as a result of configuration

121

00:06:03,850 --> 00:06:01,510

1 testing during this period and

122

00:06:07,210 --> 00:06:03,860

additional tests in these areas will be

123

00:06:08,860 --> 00:06:07,220

conducted next quarter configuration 2

124

00:06:11,890 --> 00:06:08,870

testing which includes testing the

125

00:06:14,230 --> 00:06:11,900

entire vehicle - the first stage will

126
00:06:16,360 --> 00:06:14,240
then begin the purpose of this test

127
00:06:18,670 --> 00:06:16,370
series is to verify guidance and control

128
00:06:23,040 --> 00:06:18,680
design for conditions which will be

129
00:06:27,310 --> 00:06:25,750
coast static firing modification and

130
00:06:29,890 --> 00:06:27,320
check out of the second flight stage

131
00:06:31,950 --> 00:06:29,900
continued at the Marshall Center the

132
00:06:37,060 --> 00:06:31,960
stage is scheduled for shipment to KSC

133
00:06:39,040 --> 00:06:37,070
early next quarter third flight stage

134
00:06:41,230 --> 00:06:39,050
post static checkout and refurbishment

135
00:06:43,540 --> 00:06:41,240
such as the replacement of static

136
00:06:44,710 --> 00:06:43,550
testing heat shields were performed

137
00:06:47,560 --> 00:06:44,720
during the quarter by the prime

138
00:06:50,920 --> 00:06:47,570

contractor Boeing at Marshall's Mishu

139

00:06:52,600 --> 00:06:50,930

assembly facility at New Orleans the

140

00:06:54,550 --> 00:06:52,610

stage had been successfully static

141

00:06:57,760 --> 00:06:54,560

tested at Marshall during the last

142

00:07:00,340 --> 00:06:57,770

report period delivery of the stage to

143

00:07:02,730 --> 00:07:00,350

KSC is due in the latter part of next

144

00:07:06,400 --> 00:07:04,630

following completion of post

145

00:07:08,590 --> 00:07:06,410

manufacturing checkout of the fourth

146

00:07:10,900 --> 00:07:08,600

flight stage at Massu late last quarter

147

00:07:13,060 --> 00:07:10,910

the stage was removed from the stage

148

00:07:15,400 --> 00:07:13,070

test building and returned to the

149

00:07:18,430 --> 00:07:15,410

manufacturing plant for incorporation of

150

00:07:20,380 --> 00:07:18,440

modifications and storage until shipment

151
00:07:24,480 --> 00:07:20,390
to the mississippi test facility for

152
00:07:28,540 --> 00:07:26,650
horizontal installation work on the

153
00:07:31,060 --> 00:07:28,550
fifth flight stage was completed early

154
00:07:32,950 --> 00:07:31,070
this report period and the stage was

155
00:07:35,950 --> 00:07:32,960
transferred to the stage test building

156
00:07:38,170 --> 00:07:35,960
for post manufacturing checkout the

157
00:07:42,550 --> 00:07:38,180
stage will be shipped to MTF next

158
00:07:44,250 --> 00:07:42,560
quarter vertical assembly of the 6:00

159
00:07:46,420 --> 00:07:44,260
flight stage has been finished and

160
00:07:51,400 --> 00:07:46,430
horizontal installation is in progress

161
00:07:53,350 --> 00:07:51,410
with completion due next quarter the

162
00:07:55,720 --> 00:07:53,360
seventh flight stage is now undergoing

163
00:08:00,250 --> 00:07:55,730

vertical assembly expected to be

164

00:08:02,410 --> 00:08:00,260

finished late next quarter structural

165

00:08:05,020 --> 00:08:02,420

assembly of major components such as

166

00:08:08,290 --> 00:08:05,030

this lower fuel bulkhead for the 8th and

167

00:08:10,180 --> 00:08:08,300

9th flight stages is underway and minor

168

00:08:14,920 --> 00:08:10,190

fabrication works such as milling of

169

00:08:16,780 --> 00:08:14,930

bulkhead gore segments continued the

170

00:08:19,300 --> 00:08:16,790

first flight stage which had undergone

171

00:08:22,360 --> 00:08:19,310

initial acceptance testing at MTF during

172

00:08:24,760 --> 00:08:22,370

the last report period completed the

173

00:08:27,160 --> 00:08:24,770

test series by being successfully static

174

00:08:29,980 --> 00:08:27,170

fired for the second time on December

175

00:08:33,940 --> 00:08:29,990

30th the firing was for a full duration

176
00:08:36,969 --> 00:08:33,950
of 364 seconds with engine cutoff by LOX

177
00:08:39,339 --> 00:08:36,979
depletion the pressurization system

178
00:08:42,400 --> 00:08:39,349
performed satisfactorily and programmed

179
00:08:45,040 --> 00:08:42,410
engine gimbal was successful the stage

180
00:08:47,110 --> 00:08:45,050
was shipped in mid quarter to KSC where

181
00:08:49,330 --> 00:08:47,120
post static checkout was completed and

182
00:08:52,140 --> 00:08:49,340
the stage was installed as part of the

183
00:08:54,250 --> 00:08:52,150
first Saturn 5 flight vehicle

184
00:08:56,590 --> 00:08:54,260
modifications and engineering changes

185
00:09:01,540 --> 00:08:56,600
not incorporated into the stage at MTF

186
00:09:03,830 --> 00:09:01,550
will be completed prior to launch at KSC

187
00:09:05,600 --> 00:09:03,840
due to problems encountered with the

188
00:09:07,640 --> 00:09:05,610

first flight stage the second flight

189

00:09:10,400 --> 00:09:07,650

stage was held for modification and

190

00:09:12,590 --> 00:09:10,410

rework at the seal Beach facility of

191

00:09:15,200 --> 00:09:12,600

North American Aviation's space and

192

00:09:17,060 --> 00:09:15,210

information systems division these

193

00:09:19,730 --> 00:09:17,070

modifications were completed late this

194

00:09:22,340 --> 00:09:19,740

quarter and the stage was delivered to

195

00:09:24,560 --> 00:09:22,350

the Mississippi test facility here the

196

00:09:26,840 --> 00:09:24,570

stage was installed in the a2 static

197

00:09:31,580 --> 00:09:26,850

test stand where the first acceptance

198

00:09:33,710 --> 00:09:31,590

test will be performed next quarter upon

199

00:09:38,110 --> 00:09:33,720

completion of a second acceptance firing

200

00:09:43,220 --> 00:09:40,820

the third flight stage liquid hydrogen

201
00:09:45,560 --> 00:09:43,230
tank forward bulkhead damaged last

202
00:09:47,210 --> 00:09:45,570
quarter by a falling letter has been

203
00:09:48,860 --> 00:09:47,220
replaced with the bulkhead originally

204
00:09:51,950 --> 00:09:48,870
scheduled for use on the fifth flight

205
00:09:53,660 --> 00:09:51,960
stage systems installation under white

206
00:09:56,480 --> 00:09:53,670
when the bulkhead accident occurred is

207
00:09:59,300 --> 00:09:56,490
now nearly finished and systems check

208
00:10:01,790 --> 00:09:59,310
out will begin shortly the stage is

209
00:10:06,710 --> 00:10:01,800
expected to be shipped to MTF late next

210
00:10:08,780 --> 00:10:06,720
quarter for acceptance testing vertical

211
00:10:10,310 --> 00:10:08,790
assembly operations on flight stages

212
00:10:12,890 --> 00:10:10,320
number four and five have been

213
00:10:17,450 --> 00:10:12,900

accomplished and systems installation is

214

00:10:19,520 --> 00:10:17,460

underway the sixth flight stage is in

215

00:10:23,170 --> 00:10:19,530

the process of vertical assembly with

216

00:10:26,420 --> 00:10:23,180

completion due late next quarter

217

00:10:28,519 --> 00:10:26,430

in the continuing component test program

218

00:10:30,440 --> 00:10:28,529

a common bulkhead test tank was

219

00:10:33,220 --> 00:10:30,450

subjected to an ultimate pressure test

220

00:10:36,080 --> 00:10:33,230

at the contractors Santa Susana facility

221

00:10:39,350 --> 00:10:36,090

the liquid hydrogen tank portion of the

222

00:10:41,329 --> 00:10:39,360

test article was under 38.4 psi

223

00:10:45,380 --> 00:10:41,339

hydrostatic pressure when the

224

00:10:47,269 --> 00:10:45,390

anticipated failure occurred this is a

225

00:10:53,269 --> 00:10:47,279

slow-motion sequence on the destruct

226

00:10:54,890 --> 00:10:53,279

test the common bulkhead and liquid

227

00:10:59,690 --> 00:10:54,900

oxygen portion of the test article

228

00:11:01,519 --> 00:10:59,700

remained intact the hydrogen tank

229

00:11:03,710 --> 00:11:01,529

portion was removed from the test stand

230

00:11:06,500 --> 00:11:03,720

and some sections were taken to the

231

00:11:09,230 --> 00:11:06,510

metallurgy laboratory at SNA ADIZ Downey

232

00:11:15,110 --> 00:11:09,240

California plant for detailed study and

233

00:11:16,880 --> 00:11:15,120

analysis post static firing checkout and

234

00:11:18,650 --> 00:11:16,890

modification work on the second flight

235

00:11:20,450 --> 00:11:18,660

stage were completed on schedule

236

00:11:23,240 --> 00:11:20,460

at the Douglas Aircraft Company

237

00:11:27,829 --> 00:11:23,250

Sacramento test site and the stage was

238

00:11:29,720 --> 00:11:27,839

delivered to KSC the terminal countdown

239

00:11:32,360 --> 00:11:29,730

for acceptance firing of the third

240

00:11:35,870 --> 00:11:32,370

flight stage was begun on January 20th

241

00:11:38,030 --> 00:11:35,880

in beta 3 test and 11 seconds before

242

00:11:40,040 --> 00:11:38,040

simulated launch vehicle liftoff was

243

00:11:43,250 --> 00:11:40,050

reached and with all systems showing

244

00:11:45,950 --> 00:11:43,260

normal operation the stage exploded and

245

00:11:47,900 --> 00:11:45,960

was completely destroyed no personnel

246

00:11:50,710 --> 00:11:47,910

were injured damage to the test stand

247

00:11:52,970 --> 00:11:50,720

was substantial but is repairable an

248

00:11:55,579 --> 00:11:52,980

investigating board composed of Marshall

249

00:11:57,260 --> 00:11:55,589

and DAC personnel determined that the

250

00:11:59,510 --> 00:11:57,270

explosion was caused by the complete

251
00:12:01,910 --> 00:11:59,520
failure of one of the titanium high

252
00:12:04,130 --> 00:12:01,920
pressure helium spheres mounted on the

253
00:12:06,440 --> 00:12:04,140
thrust structure the sphere failed

254
00:12:08,750 --> 00:12:06,450
because of weld deficiencies due to the

255
00:12:11,510 --> 00:12:08,760
wrong type of filler wire being used

256
00:12:13,370 --> 00:12:11,520
during pressure sphere welding Marshall

257
00:12:15,680 --> 00:12:13,380
has taken appropriate steps to ensure

258
00:12:18,740 --> 00:12:15,690
that a similar situation will not occur

259
00:12:21,050 --> 00:12:18,750
again in addition all titanium spheres

260
00:12:23,660 --> 00:12:21,060
presently assigned to the Saturn 5 and

261
00:12:25,670 --> 00:12:23,670
operated Saturn 1 programs are

262
00:12:30,100 --> 00:12:25,680
undergoing Rhian spec ssin and testing

263
00:12:34,910 --> 00:12:32,750

under a schedule recovery plan the

264

00:12:37,220 --> 00:12:34,920

fourth flight stage has been substituted

265

00:12:39,470 --> 00:12:37,230

for the damaged third flight stage and

266

00:12:41,780 --> 00:12:39,480

all subsequent stages through the sixth

267

00:12:44,720 --> 00:12:41,790

flight stage have been moved up andrey

268

00:12:46,250 --> 00:12:44,730

designated a new sixth flight stage will

269

00:12:49,160 --> 00:12:46,260

be inserted into the manufacturing

270

00:12:50,689 --> 00:12:49,170

schedule the new third flight stage was

271

00:12:52,970 --> 00:12:50,699

shipped from the Douglas huntington

272

00:12:55,550 --> 00:12:52,980

beach facility to the sacramento test

273

00:12:58,610 --> 00:12:55,560

site late last quarter and installed in

274

00:13:00,590 --> 00:12:58,620

beta one test and accept inspiring is

275

00:13:04,480 --> 00:13:00,600

scheduled for next quarter three weeks

276

00:13:08,540 --> 00:13:06,740

structural assembly operations were

277

00:13:11,090 --> 00:13:08,550

completed on the fifth flight stage at

278

00:13:13,730 --> 00:13:11,100

Huntington Beach and systems checkout is

279

00:13:18,379 --> 00:13:13,740

in progress with completion scheduled in

280

00:13:24,110 --> 00:13:18,389

April structural fabrication continues

281

00:13:25,759 --> 00:13:24,120

on the 6th and 7th flight stages 7 f1

282

00:13:28,269 --> 00:13:25,769

engines were delivered this quarter by

283

00:13:30,680 --> 00:13:28,279

the prime contractor Rocketdyne

284

00:13:32,930 --> 00:13:30,690

instrumented to allow study of vibration

285

00:13:35,360 --> 00:13:32,940

levels one of the engines was used to

286

00:13:37,430 --> 00:13:35,370

further substantiate the feasibility of

287

00:13:40,759 --> 00:13:37,440

cross-country truck transportation for

288

00:13:42,620 --> 00:13:40,769

f1 s instead of air transportation the

289

00:13:44,269 --> 00:13:42,630

truck transported engine arrived at the

290

00:13:46,550 --> 00:13:44,279

Marshall Center in excellent condition

291

00:13:48,800 --> 00:13:46,560

after its two-week trip from the

292

00:13:52,490 --> 00:13:48,810

Rocketdyne Canoga Park California plant

293

00:13:54,680 --> 00:13:52,500

a total of 56 f1 engines have now been

294

00:13:56,809 --> 00:13:54,690

delivered to NASA including those for

295

00:14:02,120 --> 00:13:56,819

the first seven Saturn five flight

296

00:14:04,220 --> 00:14:02,130

vehicles Rocketdyne j2 engine component

297

00:14:07,720 --> 00:14:04,230

qualification test program which began

298

00:14:10,220 --> 00:14:07,730

in April 1965 is now virtually complete

299

00:14:12,680 --> 00:14:10,230

components such as this main oxidizer

300

00:14:16,040 --> 00:14:12,690

valve were tested during this report

301
00:14:18,410 --> 00:14:16,050
period only one of the 36 items selected

302
00:14:20,720 --> 00:14:18,420
for the component test program remains

303
00:14:25,939 --> 00:14:20,730
to be tested this will be accomplished

304
00:14:28,160 --> 00:14:25,949
early next quarter rocket Dynes new j2

305
00:14:30,860 --> 00:14:28,170
component installer assembly device

306
00:14:33,129 --> 00:14:30,870
designed for use on Saturn 5 second and

307
00:14:35,780 --> 00:14:33,139
third stages when in a stacked position

308
00:14:37,939 --> 00:14:35,790
underwent testing this quarter the

309
00:14:41,150 --> 00:14:37,949
device can be used to install or remove

310
00:14:42,889 --> 00:14:41,160
all components of the j2 engine except

311
00:14:46,939 --> 00:14:42,899
the thrust chamber after the

312
00:14:48,109 --> 00:14:46,949
engine has been installed in a stage at

313
00:14:50,119 --> 00:14:48,119

the airforce

314

00:14:53,119 --> 00:14:50,129

Arnold engineering development center at

315

00:14:55,040 --> 00:14:53,129

tella home Atena see a total of 18 j2

316

00:14:57,049 --> 00:14:55,050

engine Environmental's restart

317

00:14:59,269 --> 00:14:57,059

verification tests were conducted this

318

00:15:01,790 --> 00:14:59,279

quarter the test simulated conditions

319

00:15:03,980 --> 00:15:01,800

such as orbit Coast time and thermal

320

00:15:06,619 --> 00:15:03,990

environment of the first Saturn five

321

00:15:08,299 --> 00:15:06,629

flight vehicle during flight tests for

322

00:15:12,739 --> 00:15:08,309

the initial flight vehicle will be

323

00:15:14,629 --> 00:15:12,749

completed next quarter work on the

324

00:15:16,879 --> 00:15:14,639

second Saturn five flight instrument

325

00:15:18,949 --> 00:15:16,889

unit continued on schedule during the

326
00:15:22,030 --> 00:15:18,959
report period by the prime contractor

327
00:15:24,410 --> 00:15:22,040
IBM at its Huntsville facility after

328
00:15:27,139 --> 00:15:24,420
installation of modification kits and

329
00:15:31,900 --> 00:15:27,149
partial retest the second flight IU will

330
00:15:36,949 --> 00:15:34,429
assembly operations on the third flight

331
00:15:38,660 --> 00:15:36,959
IU were completed early this quarter and

332
00:15:40,999 --> 00:15:38,670
check-out is in progress

333
00:15:43,160 --> 00:15:41,009
check out operations were interrupted in

334
00:15:45,309 --> 00:15:43,170
mid-february because of the partial

335
00:15:47,509 --> 00:15:45,319
retest of the second flight IU

336
00:15:48,079 --> 00:15:47,519
completion of checkout and shipment to

337
00:15:50,449 --> 00:15:48,089
KSC

338
00:15:54,679 --> 00:15:50,459

is expected during the next report

339

00:15:56,660 --> 00:15:54,689

period structural fabrication of the

340

00:15:59,329 --> 00:15:56,670

fourth flight iu has been finished and

341

00:16:03,980 --> 00:15:59,339

component assembly is in process with

342

00:16:06,110 --> 00:16:03,990

completion due next quarter at Marshalls

343

00:16:08,629 --> 00:16:06,120

Mississippi test facility construction

344

00:16:10,879 --> 00:16:08,639

activity is nearly complete early in the

345

00:16:13,249 --> 00:16:10,889

quarter a test first stage was placed in

346

00:16:15,889 --> 00:16:13,259

the first stage test and to prove the

347

00:16:18,230 --> 00:16:15,899

operational readiness of the stand stage

348

00:16:20,210 --> 00:16:18,240

ground support equipment and facility

349

00:16:22,489 --> 00:16:20,220

systems check out have been completed

350

00:16:24,739 --> 00:16:22,499

and the first firing is slated for early

351

00:16:26,900 --> 00:16:24,749

next quarter the stand is scheduled to

352

00:16:31,280 --> 00:16:26,910

be completely operational by the middle

353

00:16:33,470 --> 00:16:31,290

of the year with second stage static

354

00:16:36,530 --> 00:16:33,480

firings already underway and first stage

355

00:16:38,389 --> 00:16:36,540

firings about to begin with construction

356

00:16:40,549 --> 00:16:38,399

virtually complete and test site

357

00:16:43,039 --> 00:16:40,559

facilities including data processing

358

00:16:45,739 --> 00:16:43,049

propellant handling laboratories and

359

00:16:48,139 --> 00:16:45,749

shops fully operational the Mississippi

360

00:16:50,629 --> 00:16:48,149

test facility has started to assume its

361

00:16:53,540 --> 00:16:50,639

full role as a major resource in this

362

00:16:56,670 --> 00:16:53,550

nation's space program

363

00:16:59,010 --> 00:16:56,680

in summary despite the explosion and

364

00:17:02,130 --> 00:16:59,020

lost this quarter of a third stage due

365

00:17:04,470 --> 00:17:02,140

to helium spear weld deficiencies major

366

00:17:06,840 --> 00:17:04,480

milestones in the overall Saturn 5

367

00:17:09,449 --> 00:17:06,850

program were achieved during the report

368

00:17:11,910 --> 00:17:09,459

period with the first Saturn 5 flight

369

00:17:14,540 --> 00:17:11,920

vehicle now fully erected and pre

370

00:17:17,400 --> 00:17:14,550

launched check out operations underway

371

00:17:20,579 --> 00:17:17,410

full vehicle dynamic testing nearing

372

00:17:22,590 --> 00:17:20,589

completion and final acceptance testing

373

00:17:25,319 --> 00:17:22,600

of the initial flight second stage at

374

00:17:28,120 --> 00:17:25,329

the almost fully activated Mississippi