



1
00:00:16,470 --> 00:00:14,390
saturn 1 1b quarterly film reports

2
00:00:22,230 --> 00:00:16,480
number 23 covers progress during the

3
00:00:24,150 --> 00:00:22,240
period january february march 1965.

4
00:00:25,750 --> 00:00:24,160
highlighting this report period was the

5
00:00:28,550 --> 00:00:25,760
successful launch and flight of the

6
00:00:30,790 --> 00:00:28,560
eight saturn sa-9 and the equally

7
00:00:33,670 --> 00:00:30,800
successful orbiting of the first pegasus

8
00:00:36,389 --> 00:00:33,680
meteoroid technology satellite in early

9
00:00:39,350 --> 00:00:36,399
january pegasus underwent systems tests

10
00:00:42,470 --> 00:00:39,360
at cape kennedy tests included unfolding

11
00:00:44,790 --> 00:00:42,480
and folding the 96-foot wings following

12
00:00:47,430 --> 00:00:44,800
testing the satellite was placed inside

13
00:00:49,590 --> 00:00:47,440

the apollo boilerplate module and both

14

00:00:51,830 --> 00:00:49,600

items were then moved to the launch pad

15

00:00:54,470 --> 00:00:51,840

and directed atop the vehicle

16

00:00:56,310 --> 00:00:54,480

the major objective of sa-9 was

17

00:00:59,110 --> 00:00:56,320

inserting the pegasus meteoroid

18

00:01:01,270 --> 00:00:59,120

technology satellite into earth orbit

19

00:01:03,510 --> 00:01:01,280

other objectives included testing a

20

00:01:06,310 --> 00:01:03,520

completely closed loop guidance system

21

00:01:09,830 --> 00:01:06,320

for the second time and an iterative

22

00:01:11,429 --> 00:01:09,840

guidance mode for the first time

23

00:01:13,270 --> 00:01:11,439

pre-launch checkout progressed

24

00:01:15,830 --> 00:01:13,280

satisfactorily culminating with a

25

00:01:17,830 --> 00:01:15,840

successful countdown demonstration test

26

00:01:20,149 --> 00:01:17,840

on february 12th

27

00:01:23,030 --> 00:01:20,159

vehicle countdown activities began three

28

00:01:28,710 --> 00:01:23,040

days later liftoff occurred on february

29

00:01:32,789 --> 00:01:30,950

the sa-9 launch marked the eighth

30

00:01:34,789 --> 00:01:32,799

successful flight of the marshall-built

31

00:01:37,109 --> 00:01:34,799

boosters and the fourth straight

32

00:01:38,230 --> 00:01:37,119

successful flight of the douglas s4

33

00:01:40,550 --> 00:01:38,240

stages

34

00:01:42,710 --> 00:01:40,560

the sa-9 booster was the last to be

35

00:01:44,469 --> 00:01:42,720

built at marshall the two remaining

36

00:01:46,149 --> 00:01:44,479

saturn one boosters were built by

37

00:01:48,870 --> 00:01:46,159

chrysler at marshall's michoud

38

00:01:51,910 --> 00:01:48,880

operations the first stage burned for

39

00:01:54,389 --> 00:01:51,920

145 seconds and separation occurred

40

00:01:58,069 --> 00:01:54,399

satisfactorily

41

00:02:00,550 --> 00:01:58,079

the s4 stage burned about 474 seconds at

42

00:02:01,910 --> 00:02:00,560

which time the program's cutoff velocity

43

00:02:04,789 --> 00:02:01,920

was obtained

44

00:02:06,550 --> 00:02:04,799

s4 stage flight was satisfactory the

45

00:02:09,109 --> 00:02:06,560

first flight of an operational

46

00:02:11,670 --> 00:02:09,119

unpressurized type instrument unit was

47

00:02:13,910 --> 00:02:11,680

also successful

48

00:02:16,070 --> 00:02:13,920

the apollo command and service module

49

00:02:18,550 --> 00:02:16,080

was jettisoned from the second stage by

50

00:02:21,190 --> 00:02:18,560

spring mechanisms leaving the pegasus

51
00:02:24,070 --> 00:02:21,200
wings free to unfold as revealed by

52
00:02:26,470 --> 00:02:24,080
onboard tv cameras the wings

53
00:02:29,030 --> 00:02:26,480
successfully deployed to the full open

54
00:02:30,790 --> 00:02:29,040
position pegasus a is presently

55
00:02:34,070 --> 00:02:30,800
obtaining information concerning

56
00:02:36,630 --> 00:02:34,080
quantity size and velocity of meteoroids

57
00:02:39,670 --> 00:02:36,640
in the near earth space

58
00:02:42,229 --> 00:02:39,680
sa-8 and sa-10 will also launch pegasus

59
00:02:44,470 --> 00:02:42,239
satellites work has progressed steadily

60
00:02:46,630 --> 00:02:44,480
on these vehicles

61
00:02:49,589 --> 00:02:46,640
at michoud following completion of

62
00:02:52,470 --> 00:02:49,599
post-static checkout s18 was shipped to

63
00:02:55,589 --> 00:02:52,480

ksc by chrysler arriving at the cape

64

00:02:57,990 --> 00:02:55,599

february 28th it was erected on the pad

65

00:03:00,550 --> 00:02:58,000

march 2.

66

00:03:03,030 --> 00:03:00,560

during pre-launch checkout one defective

67

00:03:06,229 --> 00:03:03,040

engine gas generator was discovered and

68

00:03:08,470 --> 00:03:06,239

all eight were replaced

69

00:03:11,110 --> 00:03:08,480

s 4 8 was flown from the west coast

70

00:03:13,750 --> 00:03:11,120

february 23rd and arrived at the cape

71

00:03:15,509 --> 00:03:13,760

february 25th

72

00:03:18,550 --> 00:03:15,519

checkout and painting of the stage with

73

00:03:21,350 --> 00:03:18,560

a special paint was completed march 11th

74

00:03:23,509 --> 00:03:21,360

the stage was erected atop s18 march

75

00:03:26,070 --> 00:03:23,519

17th

76
00:03:28,949 --> 00:03:26,080
siu8 was delivered to the cape on march

77
00:03:30,309 --> 00:03:28,959
8 by guppy the unit was transported to

78
00:03:32,550 --> 00:03:30,319
hangar af

79
00:03:35,430 --> 00:03:32,560
checkout and alignment were completed

80
00:03:39,030 --> 00:03:35,440
then the unit was painted on march 18

81
00:03:40,710 --> 00:03:39,040
erection of the iu was completed

82
00:03:42,789 --> 00:03:40,720
meanwhile at marshall's michoud

83
00:03:45,750 --> 00:03:42,799
operations chrysler completed

84
00:03:46,550 --> 00:03:45,760
post-static checkout of s110 on march

85
00:03:48,949 --> 00:03:46,560
5th

86
00:03:51,110 --> 00:03:48,959
preparations for shipment to ksc are in

87
00:03:53,830 --> 00:03:51,120
progress

88
00:03:56,710 --> 00:03:53,840

at sacto s410 static firing was

89

00:03:58,869 --> 00:03:56,720

successfully completed january 21st

90

00:04:02,229 --> 00:03:58,879

this firing marks the completion of the

91

00:04:04,710 --> 00:04:02,239

s4 stage static firing program the stage

92

00:04:07,270 --> 00:04:04,720

is in storage at sacto awaiting shipment

93

00:04:10,149 --> 00:04:07,280

to ksc

94

00:04:12,149 --> 00:04:10,159

checkout of siu 10 located at marshall's

95

00:04:14,949 --> 00:04:12,159

quality and reliability assurance

96

00:04:18,310 --> 00:04:14,959

laboratory started in january and is

97

00:04:20,390 --> 00:04:18,320

scheduled to end in early april

98

00:04:22,790 --> 00:04:20,400

satisfactory progress is being made by

99

00:04:25,270 --> 00:04:22,800

the contractor fairchild hiller on

100

00:04:29,030 --> 00:04:25,280

pegasus b and c which will be used for

101
00:04:31,510 --> 00:04:29,040
sa-8 and sa-10 flights

102
00:04:33,510 --> 00:04:31,520
final assembly and checkout on pegasus b

103
00:04:35,590 --> 00:04:33,520
has begun at hagerstown

104
00:04:37,749 --> 00:04:35,600
after vibration testing at general

105
00:04:40,230 --> 00:04:37,759
electric valley forge pennsylvania which

106
00:04:42,950 --> 00:04:40,240
is scheduled for early april the unit

107
00:04:45,430 --> 00:04:42,960
will be flown to the cape

108
00:04:47,909 --> 00:04:45,440
pegasus c structural fabrication is

109
00:04:49,990 --> 00:04:47,919
complete black boxes for the satellite

110
00:04:52,070 --> 00:04:50,000
were still being assembled at the end of

111
00:04:54,310 --> 00:04:52,080
march

112
00:04:56,870 --> 00:04:54,320
the pegasus prototype is being held at

113
00:04:59,510 --> 00:04:56,880

fairchild hillier's hagerstown facility

114

00:05:00,950 --> 00:04:59,520

as a test bed for pegasus b and c

115

00:05:02,790 --> 00:05:00,960

modifications

116

00:05:05,110 --> 00:05:02,800

possible deletion of prototype

117

00:05:10,870 --> 00:05:05,120

environmental tests at general electric

118

00:05:15,749 --> 00:05:13,430

the saturn 1b dynamic test stages were

119

00:05:18,070 --> 00:05:15,759

received at marshall january 4th

120

00:05:19,909 --> 00:05:18,080

arriving on the same barge tone

121

00:05:22,150 --> 00:05:19,919

following receiving inspection of the

122

00:05:24,150 --> 00:05:22,160

chrysler built first stage and the

123

00:05:26,070 --> 00:05:24,160

douglas built second stage they were

124

00:05:27,990 --> 00:05:26,080

erected in the stand

125

00:05:30,230 --> 00:05:28,000

assembly of the dynamic test instrument

126
00:05:31,189 --> 00:05:30,240
unit was completed in early february at

127
00:05:33,189 --> 00:05:31,199
marshall

128
00:05:35,670 --> 00:05:33,199
following installation of simulated

129
00:05:38,390 --> 00:05:35,680
components the unit was installed atop

130
00:05:40,790 --> 00:05:38,400
the s4b dynamic test stage

131
00:05:43,510 --> 00:05:40,800
on january 19th the helicopter

132
00:05:46,310 --> 00:05:43,520
transported spacecraft adapter arrived

133
00:05:49,110 --> 00:05:46,320
at msfc and was subsequently installed

134
00:05:54,790 --> 00:05:52,230
testing of the sa-203 configuration

135
00:05:57,029 --> 00:05:54,800
began february 18th and was completed

136
00:05:59,510 --> 00:05:57,039
march second this configuration

137
00:06:01,510 --> 00:05:59,520
consisted of the first and second stages

138
00:06:03,110 --> 00:06:01,520

the instrument unit and a shroud

139

00:06:05,189 --> 00:06:03,120

simulator

140

00:06:07,749 --> 00:06:05,199

upon completion of the sa-203

141

00:06:10,350 --> 00:06:07,759

configuration testing a spacecraft was

142

00:06:13,670 --> 00:06:10,360

installed atop the test vehicle and the

143

00:06:14,870 --> 00:06:13,680

sa-201 and 202 configuration testing

144

00:06:17,350 --> 00:06:14,880

began

145

00:06:19,749 --> 00:06:17,360

saturn 1b dynamic testing will continue

146

00:06:22,390 --> 00:06:19,759

through next quarter

147

00:06:24,550 --> 00:06:22,400

a major saturn 1b milestone was reached

148

00:06:26,710 --> 00:06:24,560

when the first 1b booster was static

149

00:06:28,950 --> 00:06:26,720

fired at msfc

150

00:06:31,990 --> 00:06:28,960

chrysler completed stage pre-static

151
00:06:34,469 --> 00:06:32,000
checkout at michoud on february 2nd the

152
00:06:35,590 --> 00:06:34,479
stage arrived at marshall by barge march

153
00:06:37,510 --> 00:06:35,600
14th

154
00:06:39,990 --> 00:06:37,520
following installation into the test

155
00:06:42,550 --> 00:06:40,000
stand and preparation for tests the

156
00:06:43,590 --> 00:06:42,560
booster was successfully fired for 35

157
00:06:46,070 --> 00:06:43,600
seconds

158
00:06:48,870 --> 00:06:46,080
a long duration firing is scheduled for

159
00:06:51,830 --> 00:06:48,880
april 13th

160
00:06:54,150 --> 00:06:51,840
at chrysler michoud s1b2 stage assembly

161
00:06:56,469 --> 00:06:54,160
was completed march 1st booster

162
00:06:58,950 --> 00:06:56,479
pre-static checkout began and continued

163
00:07:01,589 --> 00:06:58,960

throughout the quarter

164

00:07:04,550 --> 00:07:01,599

tank clustering for s13 was also

165

00:07:06,870 --> 00:07:04,560

completed their s1v3 assembly operations

166

00:07:08,870 --> 00:07:06,880

continued on schedule and assembly is

167

00:07:10,790 --> 00:07:08,880

expected to be completed early next

168

00:07:12,950 --> 00:07:10,800

quarter

169

00:07:15,909 --> 00:07:12,960

fabrication operations continued for

170

00:07:18,469 --> 00:07:15,919

s1b4 tank clustering is scheduled to

171

00:07:23,189 --> 00:07:18,479

begin early next quarter fabrication

172

00:07:25,589 --> 00:07:23,199

operations are also underway for s1b5

173

00:07:28,150 --> 00:07:25,599

at douglas's sacramento test area the

174

00:07:30,390 --> 00:07:28,160

non-flight j2 engine was removed from

175

00:07:32,710 --> 00:07:30,400

the battleship test stage and replaced

176
00:07:34,710 --> 00:07:32,720
with a flight configuration engine

177
00:07:36,710 --> 00:07:34,720
the new engine has the capacity to

178
00:07:37,670 --> 00:07:36,720
gimbal which is needed for the remaining

179
00:07:39,990 --> 00:07:37,680
tests

180
00:07:42,390 --> 00:07:40,000
engine chill down propellant utilization

181
00:07:44,950 --> 00:07:42,400
tests and hot firings were conducted by

182
00:07:47,350 --> 00:07:44,960
the end of march

183
00:07:50,550 --> 00:07:47,360
a full duration firing was cut off after

184
00:07:53,270 --> 00:07:50,560
29 seconds on march 19th due to a gas

185
00:07:55,350 --> 00:07:53,280
generator body exceeding safe value

186
00:07:57,749 --> 00:07:55,360
a second full duration firing set for

187
00:08:03,270 --> 00:07:57,759
march 25th was rescheduled for early

188
00:08:08,309 --> 00:08:05,430

at huntington beach douglas's structural

189

00:08:10,629 --> 00:08:08,319

test program involving various s4b

190

00:08:14,309 --> 00:08:10,639

components such as this static test

191

00:08:16,230 --> 00:08:14,319

thrust structure was well underway

192

00:08:18,150 --> 00:08:16,240

other items undergoing qualification

193

00:08:21,110 --> 00:08:18,160

testing were the liquid oxygen tank

194

00:08:23,110 --> 00:08:21,120

assembly and an s4b forward skirt which

195

00:08:26,390 --> 00:08:23,120

was tested to failure to determine

196

00:08:28,629 --> 00:08:26,400

maximum load conditions

197

00:08:30,710 --> 00:08:28,639

also at sacto douglas completed

198

00:08:32,389 --> 00:08:30,720

installation of ground support equipment

199

00:08:34,790 --> 00:08:32,399

and instrumentation required for

200

00:08:36,949 --> 00:08:34,800

facilities checkout stage tests on beta

201

00:08:38,949 --> 00:08:36,959

test stand number three

202

00:08:40,790 --> 00:08:38,959

facilities checkout tests were started

203

00:08:44,710 --> 00:08:40,800

in mid-march with propellant loading

204

00:08:46,550 --> 00:08:44,720

tests to be performed early next quarter

205

00:08:49,030 --> 00:08:46,560

checkout of the first flight second

206

00:08:51,110 --> 00:08:49,040

stage s4b1b1

207

00:08:53,829 --> 00:08:51,120

was stopped march 30th

208

00:08:56,230 --> 00:08:53,839

lh2 tanks modifications and installation

209

00:08:58,470 --> 00:08:56,240

of late parts are scheduled prior to

210

00:09:00,470 --> 00:08:58,480

shipping to sacto in april

211

00:09:03,590 --> 00:09:00,480

checkout will be resumed and completed

212

00:09:04,590 --> 00:09:03,600

at sacto after final parts installation

213

00:09:07,750 --> 00:09:04,600

work on

214

00:09:10,550 --> 00:09:07,760

s4b1b2 included welding segments of the

215

00:09:13,190 --> 00:09:10,560

forward and aft common dome and joining

216

00:09:15,269 --> 00:09:13,200

the propellant tanks and skirts systems

217

00:09:17,430 --> 00:09:15,279

checkout for this stage is scheduled for

218

00:09:21,670 --> 00:09:17,440

next quarter

219

00:09:24,310 --> 00:09:21,680

tank insulation of s4b 1b3 and 1v4 was

220

00:09:26,470 --> 00:09:24,320

completed installation of electrical and

221

00:09:28,230 --> 00:09:26,480

mechanical systems on these stages is

222

00:09:31,509 --> 00:09:28,240

underway

223

00:09:33,590 --> 00:09:31,519

at rocketdyne santa susana facility 200k

224

00:09:36,710 --> 00:09:33,600

engine qualification testing started

225

00:09:38,790 --> 00:09:36,720

march 1st is progressing satisfactorily

226
00:09:40,750 --> 00:09:38,800
the first engine has completed 11

227
00:09:43,910 --> 00:09:40,760
calibration tests for

228
00:09:46,949 --> 00:09:43,920
1560 seconds and is currently undergoing

229
00:09:48,470 --> 00:09:46,959
safety limits and malfunction testing

230
00:09:51,509 --> 00:09:48,480
seven calibration tests have been

231
00:09:53,829 --> 00:09:51,519
completed on the second engine for 1085

232
00:09:56,790 --> 00:09:53,839
seconds all tests are scheduled for

233
00:09:58,550 --> 00:09:56,800
completion in early may

234
00:10:00,790 --> 00:09:58,560
following successful completion of

235
00:10:03,350 --> 00:10:00,800
rocketdyne's j2 engine preliminary

236
00:10:05,910 --> 00:10:03,360
flight rating tests last quarter the

237
00:10:07,990 --> 00:10:05,920
test engine was removed from the stand

238
00:10:10,470 --> 00:10:08,000

it was completely disassembled then

239

00:10:12,389 --> 00:10:10,480

inspected at the canoga park facility to

240

00:10:15,509 --> 00:10:12,399

determine the extent of engine wear

241

00:10:17,910 --> 00:10:15,519

after repeated firings

242

00:10:20,230 --> 00:10:17,920

at santa susana acceptance testing of

243

00:10:23,190 --> 00:10:20,240

the first j-2 flight configuration

244

00:10:25,190 --> 00:10:23,200

engine was conducted january 22nd the

245

00:10:28,069 --> 00:10:25,200

following day the engine was delivered

246

00:10:32,069 --> 00:10:28,079

to douglas for use in its s4b battleship

247

00:10:36,310 --> 00:10:34,389

at santa susana major modifications on

248

00:10:39,030 --> 00:10:36,320

vertical test stance number three are

249

00:10:41,509 --> 00:10:39,040

now complete the stand reactivated in

250

00:10:43,350 --> 00:10:41,519

january will provide improved propellant

251
00:10:45,350 --> 00:10:43,360
conditioning and increased overall

252
00:10:48,310 --> 00:10:45,360
utility

253
00:10:50,310 --> 00:10:48,320
at msfc beneficial occupancy of the j-2

254
00:10:51,430 --> 00:10:50,320
engine test facility came about in

255
00:10:52,949 --> 00:10:51,440
january

256
00:10:54,550 --> 00:10:52,959
the propellant tanks for the test

257
00:10:56,949 --> 00:10:54,560
facility have been installed in the

258
00:10:58,790 --> 00:10:56,959
stand with testing scheduled for next

259
00:11:00,550 --> 00:10:58,800
quarter

260
00:11:02,630 --> 00:11:00,560
meanwhile at wiley laboratories

261
00:11:05,509 --> 00:11:02,640
huntsville instrument unit vibration

262
00:11:07,509 --> 00:11:05,519
testing got underway in february testing

263
00:11:09,509 --> 00:11:07,519

will determine the ability of the iu

264

00:11:11,110 --> 00:11:09,519
structure to withstand anticipated

265

00:11:12,790 --> 00:11:11,120
flight environment

266

00:11:15,910 --> 00:11:12,800
assembly of the structural test

267

00:11:18,310 --> 00:11:15,920
instrument unit was finished

268

00:11:20,310 --> 00:11:18,320
a breadboard version of the iu's launch

269

00:11:21,670 --> 00:11:20,320
vehicle digital computer has been

270

00:11:23,590 --> 00:11:21,680
delivered to marshall by the

271

00:11:25,990 --> 00:11:23,600
manufacturer international business

272

00:11:28,310 --> 00:11:26,000
machines owigo new york

273

00:11:31,030 --> 00:11:28,320
the unit used in guidance operations is

274

00:11:33,030 --> 00:11:31,040
now being checked out and evaluated the

275

00:11:35,829 --> 00:11:33,040
first prototype computer will be

276

00:11:37,910 --> 00:11:35,839

delivered next quarter

277

00:11:40,150 --> 00:11:37,920

at ibm's huntsville facility a

278

00:11:42,069 --> 00:11:40,160

structural assembly fixture a major

279

00:11:44,470 --> 00:11:42,079

piece of hard tooling for use in the

280

00:11:47,030 --> 00:11:44,480

instrument unit assembly was received

281

00:11:48,710 --> 00:11:47,040

and installed

282

00:11:50,870 --> 00:11:48,720

assembly of structural segments

283

00:11:52,870 --> 00:11:50,880

manufactured by general dynamics fort

284

00:11:55,910 --> 00:11:52,880

worth texas for the first flight

285

00:11:58,389 --> 00:11:55,920

instrument unit was completed march 23rd

286

00:12:01,750 --> 00:11:58,399

component assembly started march 24th

287

00:12:04,389 --> 00:12:01,760

and will continue into the next quarter

288

00:12:06,389 --> 00:12:04,399

at ibm space guidance center orwego

289

00:12:07,829 --> 00:12:06,399

radiographic inspection was accomplished

290

00:12:08,870 --> 00:12:07,839

on the first piece of production

291

00:12:11,590 --> 00:12:08,880

hardware

292

00:12:13,150 --> 00:12:11,600

the unit a magnesium casting forms the

293

00:12:15,750 --> 00:12:13,160

base assembly for

294

00:12:18,310 --> 00:12:15,760

siu-201's emergency detector system

295

00:12:20,230 --> 00:12:18,320

distributor machining operations were

296

00:12:22,470 --> 00:12:20,240

also performed on a component of the

297

00:12:25,829 --> 00:12:22,480

guidance and control system for use in

298

00:12:28,389 --> 00:12:25,839

the launch vehicle data adapter

299

00:12:30,629 --> 00:12:28,399

meanwhile at msfc installation of

300

00:12:33,110 --> 00:12:30,639

computer equipment for the saturn 1v

301

00:12:35,350 --> 00:12:33,120

development breadboard continued

302

00:12:37,190 --> 00:12:35,360

some saturn 1b testing with this unit

303

00:12:40,470 --> 00:12:37,200

has already been accomplished with

304

00:12:42,389 --> 00:12:40,480

additional tests scheduled

305

00:12:45,350 --> 00:12:42,399

in summary accomplishments during

306

00:12:47,430 --> 00:12:45,360

january february and march strengthened

307

00:12:50,470 --> 00:12:47,440

the overall enviable record of the

308

00:12:52,629 --> 00:12:50,480

saturn 1 and 1b programs the near

309

00:12:54,550 --> 00:12:52,639

perfect flight of sa-9

310

00:12:58,710 --> 00:12:54,560

preparations for the operational flight

311

00:13:01,110 --> 00:12:58,720

of sa-8 saturn 1b dynamic testing major

312

00:13:03,590 --> 00:13:01,120

buildup of ground support equipment and