1
00:00:42,360 --> 00:00:46,620
highlighting this report period was the
launch of the fifth Saturn flight

2
00:00:46,620 --> 00:00:52,350
vehicle SA-5. SA 5 was scheduled for
launch in December but was rescheduled

3
00:00:52,350 --> 00:00:57,300
for late January due to a problem with
cracked sleeves in pneumatic lines of

4
00:00:57,300 --> 00:01:05,820
the s1 stage and instrument unit late
January 28 the final countdown began the

5
00:01:05,820 --> 00:01:10,950
only hold was called at t-minus 13
minutes because of RF interference on

6
00:01:10,950 --> 00:01:16,590
the c-band radar and command destruct
frequencies the count was picked up 73

7
00:01:16,590 --> 00:01:21,320
minutes later when rain safety gave
clearance

8
00:01:42,920 --> 00:01:54,570
at 11:25 a.m. on January 29th the
vehicle lifted off sa five was the first

9
00:01:54,570 --> 00:02:00,270
Saturn one vehicle carrying alive s or
stage and an active instrument unit it

10
00:02:00,270 --> 00:02:04,229
was the first flight of a block to
booster and the first flight from Launch

11
00:02:04,229 --> 00:02:10,200
Complex 37 B the payload was a Jupiter
nose cone with 9 and 1/2 tons of

12
00:02:10,200 --> 00:02:17,569
balanced throughout the flight the
vehicle performed satisfactorily

13
00:02:17,569 --> 00:02:23,549
selected critical areas were monitored
by onboard cameras fuel consumption

14
00:02:23,549 --> 00:02:29,989
which was recorded inside LOX tank
number three occurred at a normal rate

15
00:02:31,340 --> 00:02:37,110
chill down of second stage engines prior
to stage separation was also recorded

16
00:02:37,110 --> 00:02:42,900
final booster engine cutoff occurred at
147 seconds of flight with stage

17
00:02:42,900 --> 00:02:48,090
separation four tenths of a second later
approximately two seconds after

18
00:02:48,090 --> 00:02:55,829
separation s four engines ignited and
burned for eight minutes the payload and

19
00:02:55,829 --> 00:03:01,350
the burned out s for stage weighing
almost 19 tons was the heaviest weight

20
00:03:01,350 --> 00:03:10,709
ever orbited on February 7th the booster
and the instrument unit for the sixth

21
00:03:10,709 --> 00:03:15,299
Saturn one flight vehicle si six were
barged from the Marshall Space Flight

22
00:03:15,299 --> 00:03:22,769
Center they arrived at Cape Kennedy on
February 18th s16 direction on the

23
00:03:22,769 --> 00:03:26,989
launch pad began the following day on

24
00:03:29,299 --> 00:03:36,630
February 22nd s 4-6 was flown from da
C's sacto facility to Cape Kennedy the

25
00:03:36,630 --> 00:03:41,790
stage was moved to the hangar where the
lh2 and lox tanks were entered leak

26
00:03:41,790 --> 00:03:45,810
tests revealed several faulty welds on
the left side of the common bulkhead

27
00:03:45,810 --> 00:03:51,000
following repair the stage was erected
on the booster during early March on

28
00:03:51,000 --> 00:03:54,020
March 11th the instrument unit was
erected

29
00:03:54,020 --> 00:03:58,160
the apollo boilerplate spacecraft the
first scheduled for flight will be

30
00:03:58,160 --> 00:04:05,180
placed atop the launch vehicle early
next quarter at marshall replacement of

31

00:04:05,180 --> 00:04:10,280
critical tubing assemblies under booster
for the seventh flight vehicle sa-7 was

32
00:04:10,280 --> 00:04:15,170
completed by February 11th post static
check out which resumed after tubing

33
00:04:15,170 --> 00:04:19,550
replacement neared completion by the end
of the quarter the stage is scheduled to

34
00:04:19,550 --> 00:04:23,560
arrive at Cape Kennedy in early June

35
00:04:23,710 --> 00:04:27,500
replacement of critical tubing
assemblies and pre static checkout of

36
00:04:27,500 --> 00:04:32,450
the booster for the eighth flight
vehicle sa9 was completed early this

37
00:04:32,450 --> 00:04:39,140
quarter the stage was moved to the
static test stand in mid-february and

38
00:04:39,140 --> 00:04:53,120
prepared for static testing on March 13
the booster was successfully fired for a

39
00:04:53,120 --> 00:04:59,180
duration of 35 seconds later on March
24th a successful long duration firing

40
00:04:59,180 --> 00:05:05,270
of 145 seconds was accomplished test
data is being evaluated post static

41
00:05:05,270 --> 00:05:16,010

check out of the stage is scheduled to
begin in early May at Marshalls Michou

42
00:05:16,010 --> 00:05:19,550
Operations replacement of critical
tubing assemblies and check out

43
00:05:19,550 --> 00:05:24,710
operations for s18 are complete at the
end of the quarter the Chrysler built

44
00:05:24,710 --> 00:05:33,260
stage was being prepared for shipment to
Marshall for static testing Chrysler

45
00:05:33,260 --> 00:05:38,270
Assembly of s110 continued throughout
the quarter at Michou fabrication and

46
00:05:38,270 --> 00:05:41,780
installation of critical tubing
assemblies was completed during the

47
00:05:41,780 --> 00:05:47,840
quarter installation of the h1 inboard
and outboard engines was completed in

48
00:05:47,840 --> 00:05:52,700
March suction lines for the locks and
fuel containers were attached to the

49
00:05:52,700 --> 00:05:58,130
engines also installation of the invoice
suction lines forward of the engine area

50
00:05:58,130 --> 00:06:03,970
was accomplished checkout is scheduled
to start next quarter

51
00:06:05,900 --> 00:06:11,510

the Douglas built s4 seven-stage was
shipped from Santa Monica to Sacto early

52
00:06:11,510 --> 00:06:15,290
in February the stage was placed in the
stand and is being prepared for

53
00:06:15,290 --> 00:06:21,650
acceptance testing scheduled for early
next quarter at Santa Monica

54
00:06:21,650 --> 00:06:27,320
TAC completed s4 at 9:00 assembly in
February and stage checkout was underway

55
00:06:27,320 --> 00:06:33,980
completion of checkout was scheduled for
early next quarter meanwhile s4 eight

56
00:06:33,980 --> 00:06:37,400
assembly was in progress with
installation of the forward and aft

57
00:06:37,400 --> 00:06:41,600
telemetry underway completion of
assembly and initiation of stage

58
00:06:41,600 --> 00:06:46,940
checkout are scheduled for April also at
Santa Monica

59
00:06:46,940 --> 00:06:51,830
the s410 stage has been installed in the
hydrostatic tower for necessary leak

60
00:06:51,830 --> 00:06:58,000
checks completion of assembly for this
stage is scheduled for late this summer

61
00:06:58,000 --> 00:07:02,990

during this quarter at Douglass's Sacto
test facility attempts were made to

62
00:07:02,990 --> 00:07:08,450
static fire the all systems vehicle for
the first time minor difficulties caused

63
00:07:08,450 --> 00:07:14,710
delay of firing on the first two
attempts on the third attempt an

64
00:07:14,710 --> 00:07:20,810
explosion occurred caused by over
pressurizing the LOX tank the explosion

65
00:07:20,810 --> 00:07:25,400
resulted in the complete loss of the
vehicle plus moderate damage to the test

66
00:07:25,400 --> 00:07:30,830
facility NASA and DAC committees are
investigating and will prepare a report

67
00:07:30,830 --> 00:07:36,740
under circumstances related to the
incident meanwhile Douglas has performed

68
00:07:36,740 --> 00:07:40,760
a general cleanup of the area and
restored and repainted the stand

69
00:07:40,760 --> 00:07:47,810
structure further activity understand
has been discontinued at Marshalls

70
00:07:47,810 --> 00:07:52,370
manufacturing engineering laboratory
Assembly of the instrument unit for the

71
00:07:52,370 --> 00:07:58,010

seventh flight vehicle sa-7 was
completed early in February checkout

72
00:07:58,010 --> 00:08:05,420
began in February and is scheduled to be
completed in May testing of the SIU 9

73
00:08:05,420 --> 00:08:09,800
vibration test unit began at Wiley
laboratories Huntsville Alabama on

74
00:08:09,800 --> 00:08:17,300
January 20th and is on schedule assembly
of the flight unit SIU 9 began March 2nd

75
00:08:17,300 --> 00:08:21,830
and was proceeding satisfactorily
completion of unit assembly is scheduled

76
00:08:21,830 --> 00:08:29,000
for next quarter structural fabrication
of the SIU 8 shell was completed at

77
00:08:29,000 --> 00:08:33,589
Marshall in February the unit will be
stored until late next quarter when

78
00:08:33,589 --> 00:08:39,320
assembly is expected to begin at
Marshalls P and V II laboratory

79
00:08:39,320 --> 00:08:44,270
separation testing of the boiler plate
service module adapter was completed

80
00:08:44,270 --> 00:08:48,320
during this report period the test
objectives were to determine if the

81
00:08:48,320 --> 00:08:52,430

system provided a reliable and
compatible separation and ejection

82
00:08:52,430 --> 00:08:58,130
between the adapter module and the
Apollo service module final analysis of

83
00:08:58,130 --> 00:09:02,899
the test program indicated that the
present system using explosive nuts and

84
00:09:02,899 --> 00:09:08,570
high force Springs is highly reliable
test results also enabled engineers to

85
00:09:08,570 --> 00:09:13,279
record the relative velocity during
separation of the service module from

86
00:09:13,279 --> 00:09:20,480
the adapter module at Marshall's test
laboratory dynamic testing began in

87
00:09:20,480 --> 00:09:26,630
March using the SI 9 configuration upper
stage instrument unit Apollo boilerplate

88
00:09:26,630 --> 00:09:32,360
and a water ballasted dummy
micrometeoroid capsule the start of si 9

89
00:09:32,360 --> 00:09:37,310
dynamic vehicle testing was delayed to
complete micrometeoroid service module

90
00:09:37,310 --> 00:09:44,380
separation tests dynamic testing is
scheduled for completion in July

91
00:09:53,139 --> 00:09:57,850

at Marshall's manufacturing engineering
laboratory fabrication is in progress on

92
00:09:57,850 --> 00:10:04,600
a Saturn 1b and Saturn 5 iu structural
test unit also fabrication is in

93
00:10:04,600 --> 00:10:10,600
progress on a Saturn 1b IU vibration
test unit assembly for both units is

94
00:10:10,600 --> 00:10:16,029
scheduled for next quarter on March 18th
at Chrysler Michou work was begun on

95
00:10:16,029 --> 00:10:21,249
fabrication of the first s 1b stage with
pre drilling of the spider beam Center

96
00:10:21,249 --> 00:10:26,470
hub hub fittings and spline plates
assembly of spider beam parts started

97
00:10:26,470 --> 00:10:30,970
within a week with qualification testing
of the beam to be completed early next

98
00:10:30,970 --> 00:10:37,779
quarter on February 24th Chrysler began
Outrigger modification of s1 111 and 112

99
00:10:37,779 --> 00:10:44,499
tail sections to the s-1 B configuration
the 105 inch locks propellant tank were

100
00:10:44,499 --> 00:10:48,519
shipped from the shoe to the
subcontractor for modification to s1 B

101
00:10:48,519 --> 00:10:52,509

configuration outriggers and propellant
tanks were made available through

102
00:10:52,509 --> 00:10:59,529
cancellation of Saturn one production
vehicles at Marshall installation of

103
00:10:59,529 --> 00:11:04,360
installation of the liquid hydrogen
tests tank is underway the tank would be

104
00:11:04,360 --> 00:11:10,059
used in Marshalls j2 engine test program
a plastic shroud was placed over the

105
00:11:10,059 --> 00:11:15,069
horizontally positioned stage to allow
work to continue regardless of the

106
00:11:15,069 --> 00:11:20,139
weather
fabrication continued on the first s4 of

107
00:11:20,139 --> 00:11:25,569
b1 B flight stage at Douglass's Santa
Monica facility the common bulkhead

108
00:11:25,569 --> 00:11:30,519
bonding operation was completed also
fabrication of the second flight stage

109
00:11:30,519 --> 00:11:37,269
began on the 1st of March at Huntington
Beach s4b structural test stage assembly

110
00:11:37,269 --> 00:11:43,899
began in February the lh2 forward dome
mating was delayed due to a faulty weld

111
00:11:43,899 --> 00:11:49,359

repair area the s4b dynamics test stage
forward dome was substituted and

112
00:11:49,359 --> 00:11:54,309
assembly completed the stage was moved
to tower number 2 for additional aft

113
00:11:54,309 --> 00:11:59,379
skirt machining the original structural
test stage dome has been repaired and

114
00:11:59,379 --> 00:12:06,610
will be used on the dynamics test stage
now in assembly at Sacto work continued

115
00:12:06,610 --> 00:12:09,910
on the s
or be battleship test sage with

116
00:12:09,910 --> 00:12:14,740
installation of instrumentation fill-ins
drain valves that assemblies and other

117
00:12:14,740 --> 00:12:21,329
related components cold flow testing is
scheduled for late next quarter also

118
00:12:21,329 --> 00:12:26,980
x-acto construction is well underway at
the beta test complex supporting

119
00:12:26,980 --> 00:12:30,939
facilities power supplies
instrumentation tunneling and evacuation

120
00:12:30,939 --> 00:12:35,829
systems are complete data reduction
support equipment is being installed in

121
00:12:35,829 --> 00:12:40,540

the test control center components and
instrumentation under Bator one stand

122
00:12:40,540 --> 00:12:44,860
continued during the quarter and check
out of the various systems is in

123
00:12:44,860 --> 00:12:48,519
progress
meanwhile construction of the old

124
00:12:48,519 --> 00:12:53,410
systems tests and Vader three continued
during this period with installation of

125
00:12:53,410 --> 00:12:59,139
structural steel and building of
propellant storage tanks battleship

126
00:12:59,139 --> 00:13:03,879
ground support equipment for the beta
control center arrived during the report

127
00:13:03,879 --> 00:13:09,819
period and was installed completion of
gse installation is scheduled next

128
00:13:09,819 --> 00:13:13,749
quarter
this manual gse will be converted to

129
00:13:13,749 --> 00:13:21,160
automatic for acceptance firing of s4b
stages early next year at Canoga Park in

130
00:13:21,160 --> 00:13:25,689
Rocketdyne structural laboratory a
hydraulic gimbal test fixture has been

131
00:13:25,689 --> 00:13:30,189

placed in use to test the j2 engine
gimbal bearing assembly in cycling

132
00:13:30,189 --> 00:13:38,110
operations testing of the j2 thrusts
chamber assembly determines thrust

133
00:13:38,110 --> 00:13:44,529
chamber and component deflection under
given load condition in rocky dean's

134
00:13:44,529 --> 00:13:49,509
vertical alignment stand j2 thrust
chamber alignment is calibrated through

135
00:13:49,509 --> 00:13:55,629
a series of optical and circumferential
measuring guides also during this

136
00:13:55,629 --> 00:14:00,670
quarter at Rocketdyne ground support
equipment personnel proof load tested a

137
00:14:00,670 --> 00:14:06,129
prototype j2 vertical install the unit
will be used to facilitate the

138
00:14:06,129 --> 00:14:11,709
installation of the j2 engine into a
test facility or vehicle stage the

139
00:14:11,709 --> 00:14:16,389
vertical assembler is controlled by a
remote electrical panel and is self

140
00:14:16,389 --> 00:14:21,389
propelled in both the vertical and
horizontal position

141
00:14:28,570 --> 00:14:33,710

static barring tests of the j2 engine
were continued by Rocketdyne and in

142
00:14:33,710 --> 00:14:38,420
santa susana test area during this
quarter test objectives included

143
00:14:38,420 --> 00:14:43,820
evaluation of a new pressure control
valve used to close the main locks valve