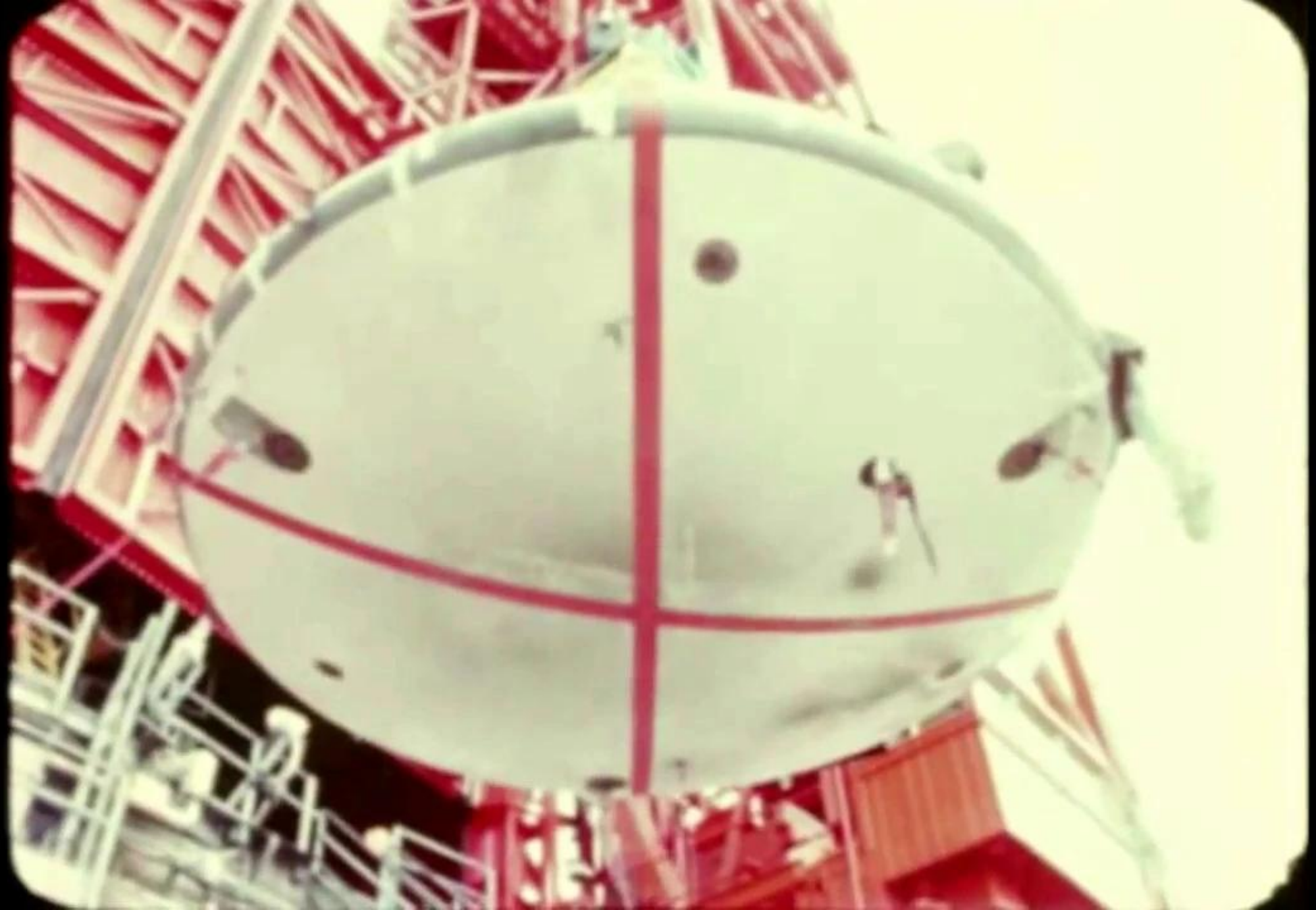

1
00:00:22,030 --> 00:00:26,830
This report on the uprated Saturn I, the vehicle
which will provide the power for the first

2
00:00:26,830 --> 00:00:32,450
manned Apollo flights and Apollo Applications
Program missions covers progress during January,

3
00:00:32,450 --> 00:00:37,860
February, and March 1967.

4
00:00:37,860 --> 00:00:43,810
At Cape Kennedy, tragedy struck the Apollo
Saturn Program when three astronauts, Virgil

5
00:00:43,810 --> 00:00:48,570
Grissom, Edward White, and Roger Chaffee,
lost their lives in a spacecraft fire while

6
00:00:48,570 --> 00:00:53,990
preparing for the AS-204 manned orbital flight.

7
00:00:53,990 --> 00:00:59,260
Although the January 27 fire destroyed the
spacecraft, shown here being removed for detailed

8
00:00:59,260 --> 00:01:03,530
examination, the launch vehicle was undamaged.

9
00:01:03,530 --> 00:01:07,970
The review board appointed immediately after
the incident determined the fire was probably

10
00:01:07,970 --> 00:01:11,110
caused by an electrical arch.

11
00:01:11,110 --> 00:01:15,470
The precise origin of the fire will probably
never be determined.

12
00:01:15,470 --> 00:01:20,360
As a result of the board's investigation,
several areas of the spacecraft are being

13
00:01:20,360 --> 00:01:21,950
redesigned.

14
00:01:21,950 --> 00:01:27,630
To maintain program momentum, NASA is revising
mission assignments and flight schedules.

15
00:01:27,630 --> 00:01:32,329
Marshall management is responding to these
changes and will provide flight ready launch

16
00:01:32,329 --> 00:01:38,140
vehicles as required to support the new mission
plans.

17
00:01:38,140 --> 00:01:43,280
Saturn 204 will now launch an unmanned lunar
module into Earth orbit for tests and checkout

18
00:01:43,280 --> 00:01:44,750
this fall.

19
00:01:44,750 --> 00:01:49,119
The changes required to the vehicle and ground
support equipment, although extensive for

20
00:01:49,119 --> 00:01:54,210
the available time, are well underway and
will be completed as scheduled.

21
00:01:54,210 --> 00:01:59,560
In conjunction with a new mission, the vehicle
is shown being moved in late March from KSC's

22

00:01:59,560 --> 00:02:06,149
Launch Complex 34 to Launch Complex 37, which
is equipped for lunar module launches.

23
00:02:06,149 --> 00:02:11,200
Saturn 204 was selected for the next mission
in order to take early advantage of the last

24
00:02:11,200 --> 00:02:13,970
full instrumented R&D vehicle.

25
00:02:13,970 --> 00:02:20,900
Saturn 205, 206, and 207 will be launched
in that order.

26
00:02:20,900 --> 00:02:26,210
Saturn 205, whose stages and instrument unit
are now ready and in storage at contractor

27
00:02:26,210 --> 00:02:31,900
plants, will now launch the first manned Apollo
command and service module into Earth orbit.

28
00:02:31,900 --> 00:02:36,319
It will also be the first flight of a Block
II Apollo spacecraft unit.

29
00:02:36,319 --> 00:02:41,680
Saturn 205 was originally slated to launch
the command and service module portion of

30
00:02:41,680 --> 00:02:46,640
the first Apollo due a launch mission, which
had been scheduled for late this year.

31
00:02:46,640 --> 00:02:53,379
Therefore, it will require only minimal modification
for this new mission.

32
00:02:53,379 --> 00:02:58,790

Saturn 206, which was originally slated to
launch a lunar module this summer, has been

33
00:02:58,790 --> 00:03:03,930
de-erected from LC 37, and its stages and
instrument unit will be placed in storage

34
00:03:03,930 --> 00:03:05,549
until needed.

35
00:03:05,549 --> 00:03:12,019
Saturn 206 will be used next year together
with 207, in a dual launch mission.

36
00:03:12,019 --> 00:03:18,610
This mission is scheduled as a backup to Apollo
Saturn 503.

37
00:03:18,610 --> 00:03:23,700
After replacement of two Rocketdyne H-1 engines
with defective turbine blades, the first stage

38
00:03:23,700 --> 00:03:30,590
for the Saturn 207 vehicle was placed in storage
by the prime contractor, the Chrysler Corporation,

39
00:03:30,590 --> 00:03:35,340
at the Marshall Space Flight Center’s Michoud
Assembly Facility at New Orleans.

40
00:03:35,340 --> 00:03:40,379
The stage will be removed temporarily from
storage next quarter to re-checkout the stage

41
00:03:40,379 --> 00:03:44,620
with the two new engines in place.

42
00:03:44,620 --> 00:03:49,720
Post static firing checkout of the first stage
for the Saturn 208 vehicle is being conducted

43
00:03:49,720 --> 00:03:51,940
by Chrysler Michoud.

44
00:03:51,940 --> 00:03:55,790
After testing is completed, the booster will
be stored until needed.

45
00:03:55,790 --> 00:04:02,840
The four engines with defective turbine blades
were replaced before checkout started.

46
00:04:02,840 --> 00:04:08,290
The Saturn 209 first stage was shipped to
the Marshall Center in January following completion

47
00:04:08,290 --> 00:04:19,820
of pre static checkout at Michoud.

48
00:04:19,820 --> 00:04:25,190
At Marshall, the stage underwent a successful
short duration static test, conducted by Chrysler

49
00:04:25,190 --> 00:04:29,460
personnel, followed by a successful long duration
firing.

50
00:04:29,460 --> 00:04:34,750
The stage was then returned to Michoud for
post static checkout, which is due to be completed

51
00:04:34,750 --> 00:04:37,930
next quarter.

52
00:04:37,930 --> 00:04:43,800
Pre static checkout of the first stage for
Saturn 210 has been finished by Chrysler-Michoud.

53
00:04:43,800 --> 00:04:48,400

The Stage is now being prepared for shipment
to Marshall early next quarter for static

54
00:04:48,400 --> 00:04:51,389
firing.

55
00:04:51,389 --> 00:04:56,919
Final assembly of the first stage for Saturn
211 is in progress at Michoud with completion

56
00:04:56,919 --> 00:05:01,550
scheduled early next quarter.

57
00:05:01,550 --> 00:05:06,540
Assembly of the Saturn 212, the final one
under the present contract, is underway and

58
00:05:06,540 --> 00:05:12,210
is scheduled to be finished during the nest
report period.

59
00:05:12,210 --> 00:05:17,080
The second stage for the Saturn 207 vehicle
has been placed in storage at the Douglas

60
00:05:17,080 --> 00:05:23,120
Aircraft Company’s Sacramento test center
following acceptance firing last quarter.

61
00:05:23,120 --> 00:05:29,880
Some modifications will be accomplished prior
to shipment to KSC.

62
00:05:29,880 --> 00:05:36,039
Post firing checkout of the Saturn 208 second
stage was completed at SACTO late in the quarter.

63
00:05:36,039 --> 00:05:40,240
A successful acceptance firing had been performed
in January.

64
00:05:40,240 --> 00:05:48,430
The stage had been accepted by NASA on March 22 and will be placed in storage until needed.

65
00:05:48,430 --> 00:05:53,860
The Saturn 209 second stage completed factory checkout early in the quarter and was shipped

66
00:05:53,860 --> 00:05:55,800
to the Sacramento test center.

67
00:05:55,800 --> 00:06:02,170
There, the stage is in storage awaiting completion of acceptance firing of a Saturn V stage.

68
00:06:02,170 --> 00:06:06,979
This is because stages from both Saturn programs will have to use the remaining test stand

69
00:06:06,979 --> 00:06:08,750
at the test center.

70
00:06:08,750 --> 00:06:13,949
The other stand being substantially damaged when a Saturn V stage exploded during testing

71
00:06:13,949 --> 00:06:15,319
early in the quarter.

72
00:06:15,319 --> 00:06:20,360
However, because of quick and thorough action by the board investigating the explosion and

73
00:06:20,360 --> 00:06:25,340
positive direction by Marshall and Douglas management, the requirements of both programs

74
00:06:25,340 --> 00:06:28,259

will be met.

75
00:06:28,259 --> 00:06:34,030
The second stage for the Saturn 210 vehicle
was in the final phases of factory checkout

76
00:06:34,030 --> 00:06:39,259
at Huntington Beach at the end of the quarter.

77
00:06:39,259 --> 00:06:44,610
Fabrication and assembly operations on Saturn
211 and 212 second stages, the last two under

78
00:06:44,610 --> 00:06:52,390
the present contract, were continued by Douglas
Aircraft throughout the report period.

79
00:06:52,390 --> 00:06:57,199
Assembly operations for the second stage of
Saturn 211 included installation of aluminum

80
00:06:57,199 --> 00:07:02,570
foil inside the stage’s liquid hydrogen
tank as a fire retardant.

81
00:07:02,570 --> 00:07:07,190
The material is being installed in this stage
since it is scheduled to be used in the Apollo

82
00:07:07,190 --> 00:07:11,120
Applications Program as an orbital workshop.

83
00:07:11,120 --> 00:07:16,550
In this role, the stage, after it had achieved
orbit, will be used as a laboratory and living

84
00:07:16,550 --> 00:07:22,770
quarters for astronauts during long duration
flights.

85
00:07:22,770 --> 00:07:28,629
Checkout of the instrument unit for the Saturn
207 vehicle was finished this quarter by IBM

86
00:07:28,629 --> 00:07:36,590
at its Huntsville, Alabama facility, and the
IU is now in storage until called for.

87
00:07:36,590 --> 00:07:41,949
On the Saturn 208 instrument unit, installation
of components such as these thermal conditioning

88
00:07:41,949 --> 00:07:51,120
panels, or cold plates, was competed during
the quarter and checkout of the unit is underway.

89
00:07:51,120 --> 00:07:56,449
Structural fabrication for the Saturn 209
instrument unit has been completed by IBM,

90
00:07:56,449 --> 00:07:59,750
and component assembly began in March.

91
00:07:59,750 --> 00:08:05,560
Structural fabrication for the 210 IU started
in February and is continuing.

92
00:08:05,560 --> 00:08:14,190
Structural members for the 211 IU and structural
fabrication is scheduled for next quarter.

93
00:08:14,190 --> 00:08:19,100
On March 1, NASA Headquarters authorized the
Marshall Center to request proposals from

94
00:08:19,100 --> 00:08:25,460
the uprated Saturn I prime contractors for
purchasing sixteen additional vehicles.

95

00:08:25,460 --> 00:08:29,990
The primary mission for these vehicles will
be Apollo Applications flights.

96
00:08:29,990 --> 00:08:34,630
The proposals will be based on the procurement
of four vehicles immediately, procurement

97
00:08:34,630 --> 00:08:40,380
of long lead time items for three more vehicles,
and an option to complete the sixteen vehicle

98
00:08:40,380 --> 00:08:44,110
order.

99
00:08:44,110 --> 00:08:50,220
In summary, despite the tragic AS-204 accident
witnessed by the period January, February,

100
00:08:50,220 --> 00:08:57,270
March 1967, NASA moved to maintain the momentum
in the program for which astronauts, Grissom,

101
00:08:57,270 --> 00:09:01,720
White, and Chaffee had given their lives.

102
00:09:01,720 --> 00:09:06,970
Marshall made the necessary changes to provide
launch vehicle support to the redefined missions

103
00:09:06,970 --> 00:09:10,120
without disruption of overall program goals.

104
00:09:10,120 --> 00:09:16,400
Assembly, checkout, and ground test operation
progressed steadily to provide the boosters,