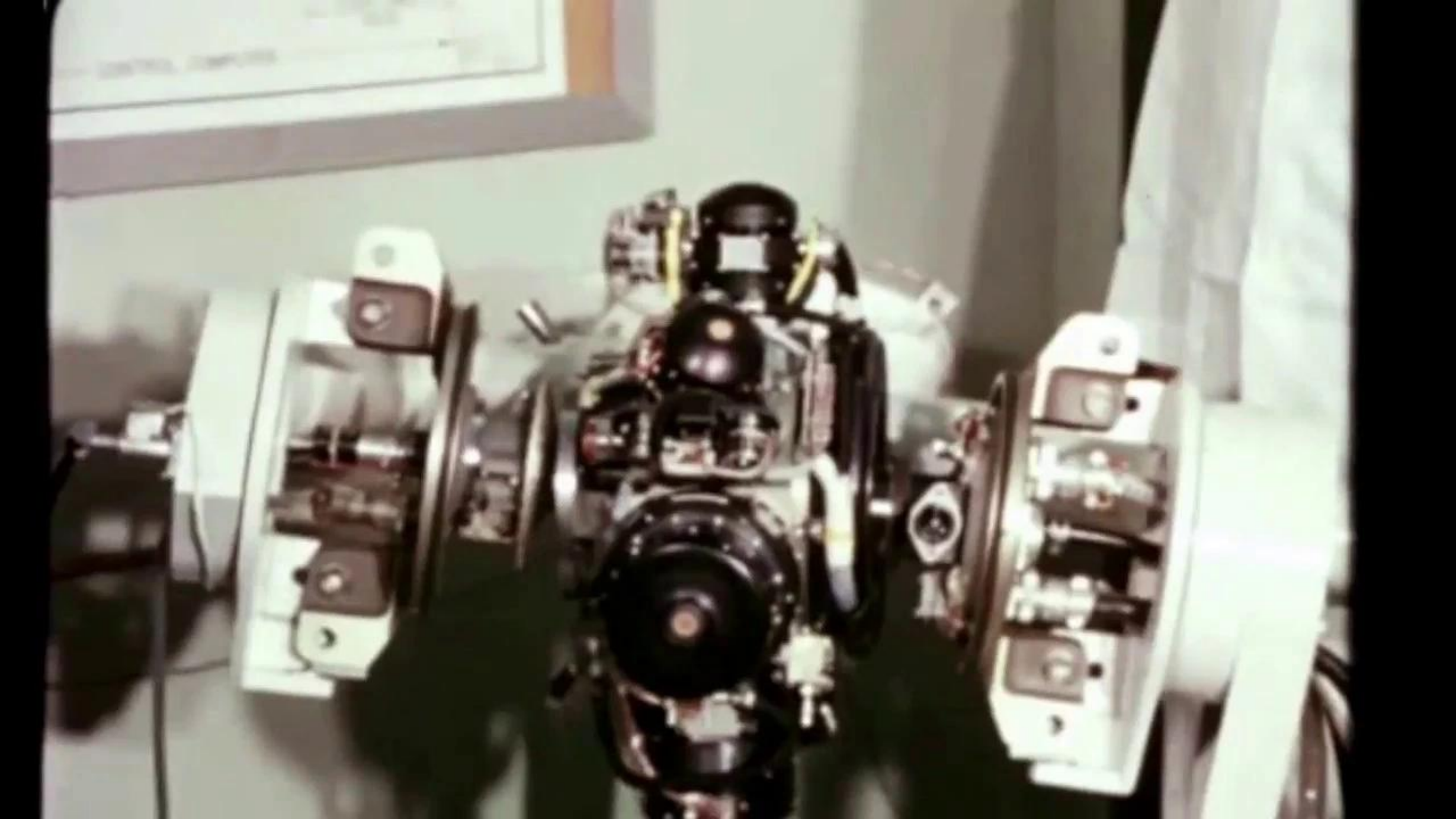

1
00:00:06,730 --> 00:00:12,590
From the dawn of history, man has dreamed
and planned of ways to get away from his Earth-bound

2
00:00:12,590 --> 00:00:15,780
existence, to travel among the stars.

3
00:00:15,780 --> 00:00:21,800
Now, for the first time, the way is open.

4
00:00:21,800 --> 00:00:28,720
We know how to travel to the Moon and beyond,
and in a short time, we will, using our largest

5
00:00:28,720 --> 00:00:42,989
and most advanced space rocket, the Saturn
Super Rocket.

6
00:00:42,989 --> 00:01:04,830
[Music Plays]

7
00:01:04,830 --> 00:01:11,000
With a successful firing of the Saturn, a
gigantic stride has been taken in the exploration

8
00:01:11,000 --> 00:01:13,180
of space.

9
00:01:13,180 --> 00:01:17,390
Many times I have been asked why we are exploring
beyond our Earth.

10
00:01:17,390 --> 00:01:22,590
I will give you a few of the many valid reasons.

11
00:01:22,590 --> 00:01:28,750
First of all, of course, is knowledge of Earth,
our solar system, and the universe.

12
00:01:28,750 --> 00:01:35,220
Throughout history, new knowledge has always improved the lot of the human race.

13
00:01:35,220 --> 00:01:42,250
From the tangible, practical standpoint, mankind will receive enormous economic benefits from

14
00:01:42,250 --> 00:01:43,740
the conquest of space.

15
00:01:43,740 --> 00:01:50,450
One important objective is to establish weather satellites to ease the enormous cost to society

16
00:01:50,450 --> 00:01:57,190
and lives, suffering, and property damage caused by storms and hurricanes.

17
00:01:57,190 --> 00:02:03,220
Communication s satellites can provide reliable television, radio, and telephone service to

18
00:02:03,220 --> 00:02:08,319
any point on Earth and produce a revenue to the nation.

19
00:02:08,319 --> 00:02:16,100
A navigation satellite will make transportation by ship and aircraft safer and faster.

20
00:02:16,100 --> 00:02:20,959
Achievement of our major goal of landing a man on the Moon and returning him safely to

21
00:02:20,959 --> 00:02:25,769
Earth within this decade will be of inestimable value.

22

00:02:25,769 --> 00:02:31,569
We have been given the scientific knowledge,
the technical ability, and the materials to

23
00:02:31,569 --> 00:02:33,799
pursue the exploration of the universe.

24
00:02:33,799 --> 00:02:42,170
To ignore these great resources would be a
corruption of a God-given ability.

25
00:02:42,170 --> 00:02:44,200
[Music Plays]

26
00:02:44,200 --> 00:02:49,439
Approval was given in November 1958 to start
construction of the first stage of this space

27
00:02:49,439 --> 00:02:53,709
booster, the largest rocket under development
in the United States.

28
00:02:53,709 --> 00:02:59,680
A team of scientists and technicians under
the leadership of Dr. Wernher von Braun planned

29
00:02:59,680 --> 00:03:01,000
the system.

30
00:03:01,000 --> 00:03:09,239
How to assemble, test, transport, service,
fuel, and erect the spaceship carrier, the

31
00:03:09,239 --> 00:03:13,150
unique rocket development facilities of the
Marshall Space Flight Center at Huntsville,

32
00:03:13,150 --> 00:03:19,260
Alabama were altered for the task ahead.

33
00:03:19,260 --> 00:03:25,110
In time, fabrication started at the center,
tanks were formed from huge sheets of metal,

34
00:03:25,110 --> 00:03:30,659
jigs and fixtures were developed for construction
and assembly.

35
00:03:30,659 --> 00:03:35,069
Special procedures were used to assure proper
alignment of the propellant tanks, and powerful

36
00:03:35,069 --> 00:03:40,299
engines and other complicated parts, so they
would perform properly and would withstand

37
00:03:40,299 --> 00:03:47,629
the almost unprecedented forced they would
encounter.

38
00:03:47,629 --> 00:03:52,480
At the same time, work was progressing on
the complicated guidance needed to direct

39
00:03:52,480 --> 00:03:58,629
and control this monster, delicate gyroscopes
and elaborate electrical equipment were miniaturized

40
00:03:58,629 --> 00:04:05,790
and tested to see if they would perform the
difficult job required.

41
00:04:05,790 --> 00:04:11,120
Thousands of mathematical problems associated
with rocketry and space travel had to be solved

42
00:04:11,120 --> 00:04:15,930
before final testing.

43

00:04:15,930 --> 00:04:21,060
A search for materials and structures to withstand
the rigorous abuse of space flight was conducted

44
00:04:21,060 --> 00:04:22,840
successfully.

45
00:04:22,840 --> 00:04:31,090
The rocket development would call for the
use of special metals and structural materials.

46
00:04:31,090 --> 00:04:36,100
Blueprints and plans were produced in quantities
that would stagger the imagination.

47
00:04:36,100 --> 00:04:38,560
Nothing could be left to chance.

48
00:04:38,560 --> 00:04:43,420
Exact specifications were required for production
of the complicated parts, down to the smallest

49
00:04:43,420 --> 00:04:48,750
nuts and bolts.

50
00:04:48,750 --> 00:04:54,130
Aeroballistic research, including wind tunnel
tests, continued throughout the development.

51
00:04:54,130 --> 00:04:58,160
Precise studies had to be made to determine
the type of upper stages to be added to the

52
00:04:58,160 --> 00:05:06,790
powerful first booster.

53
00:05:06,790 --> 00:05:12,380
By the spring of 1961, the first stage of
the first flight booster was assembled and

54
00:05:12,380 --> 00:05:15,350
ready for a captive firing.

55
00:05:15,350 --> 00:05:20,200
It was moved the short distance to the test
area by road and placed in a specially constructed

56
00:05:20,200 --> 00:05:28,250
static test tower for a captive firing.

57
00:05:28,250 --> 00:05:34,500
Giant clamps would hold the rocket in place
during this vital test.

58
00:05:34,500 --> 00:05:39,680
All eight powerful engines ignited to prove
that the preliminary planning an toil were

59
00:05:39,680 --> 00:05:49,590
worthwhile.

60
00:05:49,590 --> 00:06:29,210
[Sound of Engines Firing]

61
00:06:29,210 --> 00:06:49,020
[Music Plays]

62
00:06:49,020 --> 00:06:55,150
The first and later tests were completely
successful.

63
00:06:55,150 --> 00:07:00,060
While work was progressing on the rocket first
stage, contractor plants in other locations

64
00:07:00,060 --> 00:07:05,370
were working on the upper stages, which would
be added to make a complete space transportation

65
00:07:05,370 --> 00:07:07,770
vehicle.

66
00:07:07,770 --> 00:07:14,590
The same care and precision was used for this
work.

67
00:07:14,590 --> 00:07:19,120
With a booster now ready for an actual test,
it was rechecked and moved to another area

68
00:07:19,120 --> 00:07:21,810
to be prepared for shipment to Cape Canaveral.

69
00:07:21,810 --> 00:07:32,330
Here, it incidentally passed another Saturn
being moved to the Static Test Area.

70
00:07:32,330 --> 00:07:37,040
Exactly on schedule as previously planned,
the giant rocket was started on its journey

71
00:07:37,040 --> 00:07:44,750
to the firing site to meet its date with destiny.

72
00:07:44,750 --> 00:07:52,450
Enclosed in its enormous barge, it started
its long trip to the coast of Florida.

73
00:07:52,450 --> 00:07:57,360
A few months before the boat trip started,
trouble struck in the shape of a rupture of

74
00:07:57,360 --> 00:08:02,470
a Tennessee River dam, causing feverish planning
and work to enable this rocket to meet its

75
00:08:02,470 --> 00:08:04,180
scheduled firing.

76
00:08:04,180 --> 00:08:10,060
The barge could not get below the dam to continue
its trip.

77
00:08:10,060 --> 00:08:15,520
It was necessary to unload the heavy rocket,
transport it around the dam on a newly constructed

78
00:08:15,520 --> 00:08:23,150
road, and reload it on another barge.

79
00:08:23,150 --> 00:08:28,780
With this crisis solved, the new barge continued
down the river with its valuable cargo.

80
00:08:28,780 --> 00:08:34,400
The roundabout route followed inland rivers
for the 2,200 mile trip down the Tennessee

81
00:08:34,400 --> 00:08:43,289
and Ohio, down the Mississippi to the Gulf,
and then to Cape Canaveral.

82
00:08:43,289 --> 00:08:51,310
At the previously constructed launching site,
plans had been made to receive the space traveler.

83
00:08:51,310 --> 00:09:01,480
The special transportation equipment and the
protective weatherproofing cover were removed.

84
00:09:01,480 --> 00:09:05,990
The ponderous giant was lifted to its last
resting place on Earth.

85
00:09:05,990 --> 00:09:10,709
Huge cranes delicately raised the rocket and
placed it within the enfolding arms of the

86
00:09:10,709 --> 00:09:16,249
service structure.

87
00:09:16,249 --> 00:09:20,959
For the first experimental test flight, dummy
upper stages were added.

88
00:09:20,959 --> 00:09:32,610
Later firings would use live upper stages
for the Earth orbiting and other space missions.

89
00:09:32,610 --> 00:09:37,980
The launch control center, a blockhouse with
walls twelve feet thick, was instrumented

90
00:09:37,980 --> 00:09:43,140
to monitor and handle the complicated firing
procedure required to start the rocket on

91
00:09:43,140 --> 00:09:47,660
its way.

92
00:09:47,660 --> 00:09:51,850
Ton after ton of liquid oxygen and fuel were
added to the rocket.

93
00:09:51,850 --> 00:09:57,140
For this first test, the booster carried 600,000
pounds of propellant.

94
00:09:57,140 --> 00:10:01,660
The upper stages were weighted with water
for this firing.

95
00:10:01,660 --> 00:10:05,160
Last-minute checks were made of the complete
system.

96
00:10:05,160 --> 00:10:09,600

Everything must operate correctly in this
initial test of the rocket on which the United

97
00:10:09,600 --> 00:10:15,790
States and the whole free world is depending
to give a giant step toward manned exploration

98
00:10:15,790 --> 00:10:18,220
of space.

99
00:10:18,220 --> 00:10:21,649
The countdown started ten hours before the
firing time.

100
00:10:21,649 --> 00:10:24,430
Now, the time grew short.

101
00:10:24,430 --> 00:10:28,199
People throughout the world were entranced
as they stayed glued to their television and

102
00:10:28,199 --> 00:10:34,680
radios and read the newspapers.

103
00:10:34,680 --> 00:10:36,600
Tension mounted in the blockhouse.

104
00:10:36,600 --> 00:10:40,589
A successful firing would show that the Saturn
was on schedule.

105
00:10:40,589 --> 00:10:47,029
A failure would mean months of corrective
work.

106
00:10:47,029 --> 00:11:03,390
Five, four, three, two, one.

107
00:11:03,390 --> 00:11:06,660

Ignition.

108
00:11:06,660 --> 00:11:19,759
[Sound of Rocket Launching]

109
00:11:19,759 --> 00:11:27,420
Second by second, hope grew that everything
would go as planned.

110
00:11:27,420 --> 00:11:33,100
While this first firing was planned for a
trip of only 225 miles down the Atlantic Missile

111
00:11:33,100 --> 00:11:41,430
Range, later firings with live upper stages
would give the space rocket orbital capabilities.

112
00:11:41,430 --> 00:11:44,930
The guidance program was obviously working
as planned.

113
00:11:44,930 --> 00:11:47,689
The tilt program began ten seconds after liftoff.

114
00:11:47,689 --> 00:11:54,720
The rocket reached an altitude of ninety miles
on this trip.

115
00:11:54,720 --> 00:11:59,629
As the Saturn continued on its path, the scientists
and technicians knew that their dreams had

116
00:11:59,629 --> 00:12:01,689
not been in vain.

117
00:12:01,689 --> 00:12:05,360
Rocket technology had been extended by a considerable
margin.

118

00:12:05,360 --> 00:12:09,940
They could envision the later, more powerful
versions of Saturn that would take man on

119
00:12:09,940 --> 00:12:15,190
the first trips around the Moon.

120
00:12:15,190 --> 00:12:30,680
It was now definitely only a matter of time
until man would first set foot on the Moon,

121
00:12:30,680 --> 00:12:38,459
until he would unravel the mysteries of Mars,