1
00:00:02,730 --> 00:00:16,420
5-4-3-2-1- Lift Off…

2
00:00:16,420 --> 00:00:17,830
Aurora Seven.\h

3
00:00:17,830 --> 00:00:24,070
A capsule named by its pilot, Astronaut Scott
Carpenter, leaves earth for the vastness of

4
00:00:24,070 --> 00:00:25,070
space.

5
00:00:25,070 --> 00:00:27,519
\h
It is the second time the United States will

6
00:00:27,519 --> 00:00:31,759
send an American into orbit around the Earth.\h

7
00:00:31,759 --> 00:00:35,329
\h
The first orbiting astronaut, John Glenn,

8
00:00:35,329 --> 00:00:39,800
launched a few months earlier and proved the
United States could indeed successfully send

9
00:00:39,800 --> 00:00:47,890
a human being into space, navigate his ship
in orbit, and come home to a pre-determined

10
00:00:47,890 --> 00:00:50,330
spot on the planet.\h

11
00:00:50,330 --> 00:00:51,579
\h
However…

12
00:00:51,579 --> 00:00:53,920
could NASA do it again?\h

13
00:00:53,920 --> 00:00:59,219
And if so, what difficulties might an astronaut
face with a more rigorous experiment schedule

14
00:00:59,219 --> 00:01:00,719
on board.\h

15
00:01:00,719 --> 00:01:10,320
These and other questions await answers from
Aurora 7.

16
00:01:10,320 --> 00:01:13,060
\h
For months, the second Mercury capsule planned

17
00:01:13,060 --> 00:01:20,140
to take an Astronaut into orbit has steadily
been readied on Launch Pad LC-14.

18
00:01:20,140 --> 00:01:22,770
\h
Spacecraft No. 18, fresh from McDonnell’s

19
00:01:22,770 --> 00:01:29,540
assembly line in St. Louis Missouri, has been
placed above an Atlas D rocket and painstakingly

20
00:01:29,540 --> 00:01:33,090
readied for the next opportunity to leave
earth.

21
00:01:33,090 --> 00:01:36,160
\h
The official mission objective is simple:

22
00:01:36,160 --> 00:01:39,250

“Corroborate man-in-orbit.”

23
00:01:39,250 --> 00:01:42,640
The task however, was anything but.\h

24
00:01:42,640 --> 00:01:51,820
It would be complex, sophisticated and potentially dangerous.

25
00:01:51,820 --> 00:01:57,820
Project Mercury, named for the mythical speedy messenger of ancient Roman gods, was selected

26
00:01:57,820 --> 00:02:04,590
as the program name to take American astronauts likewise speeding into the heavens.\h

27
00:02:04,590 --> 00:02:10,300
The mission would be to study the physiological and psychological affects of space travel

28
00:02:10,300 --> 00:02:11,330
on the human body.\h

29
00:02:11,330 --> 00:02:15,920
\h
In total, twenty Mercury vehicles were built

30
00:02:15,920 --> 00:02:25,180
and delivered to NASA at Cape Canaveral Florida between January 12, 1959 and May 16, 1963.\h

31
00:02:25,180 --> 00:02:33,250
Of the twenty, six carry astronauts for a total 54 hours of flight time in space; a

32
00:02:33,250 --> 00:02:40,069
huge feat for space ship the size of a Volkswagen Beatle.

33
00:02:40,069 --> 00:02:44,310
\h
Starting in 1959, a total of 508 volunteer

34
00:02:44,310 --> 00:02:50,939
military service records are screened and
whittled down to 110 active duty military

35
00:02:50,939 --> 00:02:52,059
pilot candidates.\h

36
00:02:52,059 --> 00:02:55,260
\h
From there, the number was finally reduced

37
00:02:55,260 --> 00:02:58,579
to seven, the Mercury Seven, as they would
be known.

38
00:02:58,579 --> 00:02:59,579
The word Astronaut (beat) would still need
to be invented.

39
00:02:59,579 --> 00:03:01,230
\h
Over a year of training would follow for newly

40
00:03:01,230 --> 00:03:02,230
minted Astronaut Scott Carpenter.

41
00:03:02,230 --> 00:03:03,230
Both he and his equally new Aurora Seven capsule
would help take the fledgling NASA onto a

42
00:03:03,230 --> 00:03:04,230
journey with the odds slightly in favor of
success.

43
00:03:04,230 --> 00:03:05,230

\h
While John Glenn’s’ first orbital mission

44
00:03:05,230 --> 00:03:06,230
was focused on the effects of microgravity
on the astronaut and his control of the capsule,

45
00:03:06,230 --> 00:03:07,230
Carpenters mission is more narrowly focused
on observing the happenings of his spacecraft

46
00:03:07,230 --> 00:03:08,230
and the experiments taking place outside the
capsule.

47
00:03:08,230 --> 00:03:09,230
\h
The early morning launch of the Atlas D rocket

48
00:03:09,230 --> 00:03:16,239
was near perfect (beat) however trouble soon
arrived as Aurora 7 slipped into orbit.

49
00:03:16,239 --> 00:03:19,519
\h
As was experienced by John Glenn in the Friendship

50
00:03:19,519 --> 00:03:25,159
7 capsule, the spacecrafts’ pitch horizon
scanner, an important navigation device for

51
00:03:25,159 --> 00:03:31,790
properly aligning the spacecrafts orientation
to the planet had malfunctioned.

52
00:03:31,790 --> 00:03:34,749
\h
Upon discovery of the malfunctioning scanner,

53
00:03:34,749 --> 00:03:38,120

steps are taken to manually correct the flight
path.

54
00:03:38,120 --> 00:03:41,219
\h
However, the adjustments only address a few

55
00:03:41,219 --> 00:03:45,469
of the problems that will plague the mission.

56
00:03:45,469 --> 00:03:48,020
\h
During the first dark side pass, Carpenter

57
00:03:48,020 --> 00:03:52,150
maneuvers his craft to observe ground flare
experiments in Australia.\h

58
00:03:52,150 --> 00:03:57,700
By too eagerly pulsing the maneuvering jets
to rotate the capsule from side to side, (beat)

59
00:03:57,700 --> 00:03:59,120
as apposed to a much slower method of a controlled
“rotate and wait method,” the limited

60
00:03:59,120 --> 00:04:17,310
hydrogen peroxide fuel supply is depleted
faster than ground controllers anticipate.

61
00:04:17,310 --> 00:04:20,160
\h
With the aggressive rotations comes an excessive

62
00:04:20,160 --> 00:04:23,500
heat build up inside the capsule.\h

63
00:04:23,500 --> 00:04:28,260
Carpenter reports that sweat is interfering
with his vision and making course adjustments

64
00:04:28,260 --> 00:04:29,410
much more difficult.\h

65
00:04:29,410 --> 00:04:52,380
\h

66
00:04:52,380 --> 00:05:03,190
NASA Flight Doctors note a spike in Carpenters
body temperature to 102 degrees which may

67
00:05:03,190 --> 00:05:09,660
explain the slowed speech pattern in various
reports the astronaut has made to ground control.\h

68
00:05:09,660 --> 00:05:10,660
\h
\h

69
00:05:10,660 --> 00:05:15,790
Engineers meet to plan an abort, however a
discussion with ground technicians and flight

70
00:05:15,790 --> 00:05:19,500
controllers resolve to continue the mission.

71
00:05:19,500 --> 00:05:22,320
\h
Soon, planned observations of weightless liquid

72
00:05:22,320 --> 00:05:28,000
and orbital targeting balloons, photography
of terrestrial features and other meteorological

73
00:05:28,000 --> 00:05:30,110
phenomena are carried out.

74
00:05:30,110 --> 00:05:33,030
\h

All the while, ground control stations around

75
00:05:33,030 --> 00:05:38,490
the globe maintain a watchful eye on the slowly
depleting fuel supply.\h

76
00:05:38,490 --> 00:05:40,820
\h
Unknown to Carpenter or anyone on else the

77
00:05:40,820 --> 00:05:43,900
ground, another malfunction awaits.

78
00:05:43,900 --> 00:05:47,270
\h
A timing mechanism for the retro rockets attached

79
00:05:47,270 --> 00:05:58,160
over the ablative heat shield and key to slowing
the capsule for reentry, is not working properly.

80
00:05:58,160 --> 00:05:59,750
\h
As the time to fire the rockets automatically

81
00:05:59,750 --> 00:06:07,190
fire comes and goes, Carpenter must manually
flip the trigger switch within a second.\h

82
00:06:07,190 --> 00:06:23,300
Two seconds later, the light of the three
rockets illuminate the night.

83
00:06:23,300 --> 00:06:26,500
\h
Although three seconds may not appear critical,

84
00:06:26,500 --> 00:06:30,920
when one is travelling over seventeen thousand
- five hundred miles an hour or literally

85
00:06:30,920 --> 00:06:36,890
five miles per second, three seconds equates
to fifteen miles back on the ground.

86
00:06:36,890 --> 00:06:37,890
\h
The incorrect angle of reentry puts the Aurora

87
00:06:37,890 --> 00:06:38,890
Seven spacecraft nearly two hundred and fifty
miles off course and further away from the

88
00:06:38,890 --> 00:06:39,890
US east coast.\h

89
00:06:39,890 --> 00:06:40,890
\h\h
To survive his decent back into the thick

90
00:06:40,890 --> 00:06:46,290
atmosphere of earth, Carpenter would need
to gingerly coax what little fuel remained

91
00:06:46,290 --> 00:06:52,550
and make minor reentry angle adjustments to
control his falling capsule by manually steering

92
00:06:52,550 --> 00:06:59,370
the capsule and keeping the horizon in view
through his one and only window.

93
00:06:59,370 --> 00:07:02,300
\h
G forces last longer than originally expected

94
00:07:02,300 --> 00:07:07,670
on the descent but they are welcome as it
means aerodynamic pressure is being exerted

95
00:07:07,670 --> 00:07:13,650
against the capsule and helping to keep an
even trajectory on the way down.

96
00:07:13,650 --> 00:07:19,960
At 120,000 feet, Carpenter exhausts the very
last of his fuel controlling the plummeting

97
00:07:19,960 --> 00:07:21,490
capsule.\h

98
00:07:21,490 --> 00:07:28,420
If he failed to do so, the capsule might have
toppled completely 180 degrees and face topside

99
00:07:28,420 --> 00:07:29,420
down.\h

100
00:07:29,420 --> 00:07:34,490
Such an occurrence would point the drogue
parachute in the wrong direction and snap

101
00:07:34,490 --> 00:07:40,370
the capsule back around so violently that
the chute could be destroyed or severely injure

102
00:07:40,370 --> 00:07:43,800
Carpenter.

103
00:07:43,800 --> 00:07:49,900
Oscillations become worse and the capsule
begins to sway through a 270 degrees arc;

104
00:07:49,900 --> 00:07:51,750
almost a full circle.\h

105
00:07:51,750 --> 00:07:57,800
Carpenter has no choice but to manually deploy
the drogue chute early at 26,000 feet, 5,000

106
00:07:57,800 --> 00:08:03,680
feet higher than anticipated, to stabilize
the craft.

107
00:08:03,680 --> 00:08:10,060
He holds his breath as the six-foot drogue
comes out (beat) in good shape, and the descent

108
00:08:10,060 --> 00:08:12,430
comes back into control.

109
00:08:12,430 --> 00:08:16,770
\h
Soon, the altimeter shows 10,000 feet, Carpenter

110
00:08:16,770 --> 00:08:21,650
manually deploys the chute and slows the craft
before splashdown.\h

111
00:08:21,650 --> 00:08:27,560
Back on the ground, Gus Grissom, the second
American in space and now capsule communicator

112
00:08:27,560 --> 00:08:33,779
or CAPCOM at Cape Canaveral Control Center
advises Carpenter he had indeed overshot his

113
00:08:33,779 --> 00:08:38,690
target area and that recovery teams were on
their way.\h\h

114
00:08:38,690 --> 00:08:46,749
Approximately 45 minutes after his splashdown,
1000 miles southeast of the Cape, planes from

115
00:08:46,749 --> 00:08:48,830
the USS Intrepid spot his location.\h\h

116

00:08:48,830 --> 00:08:55,610
Two rescue swimmers soon leap from orbiting
helicopters to ensure Carpenter is safe and

117
00:08:55,610 --> 00:08:59,670
then proceed to secure a flotation collar
to the bobbing capsule.

118
00:08:59,670 --> 00:09:01,550
With the capsule secured from sinking, Carpenter
offers the rescue swimmers food and water

119
00:09:01,550 --> 00:09:02,660
from his survival kit thankful for a safe
return.

120
00:09:02,660 --> 00:09:04,820
\h
A few hours later, the second American astronaut

121
00:09:04,820 --> 00:09:13,200
to orbit the earth arrives aboard Intrepid
and then to Grand Turk Island for debriefing.

122
00:09:13,200 --> 00:09:15,749
\h
Carpenter is later awarded the NASA Distinguished

123
00:09:15,749 --> 00:09:21,610
Service Medal by Administrator James Webb
during a ceremony held at Cape Canaveral on

124
00:09:21,610 --> 00:09:27,839
May 27, 1962 on behalf of a grateful nation.

125
00:09:27,839 --> 00:09:30,390
\h
His successful mission to carryout important

126
00:09:30,390 --> 00:09:35,990

tests and experiments will ultimately show
the Mercury spacecraft system can be improved

127
00:09:35,990 --> 00:09:42,850
and become a stable and safe capsule for other
manned orbital missions to follow.

128
00:09:42,850 --> 00:09:49,190
\h
From Mercury to Gemini.\h

129
00:09:49,190 --> 00:09:56,769
From Apollo to the Space Shuttle and eventually,
Orion.\h

130
00:09:56,769 --> 00:10:01,439
The contribution of Scott Carpenter and the
thousands of men and women who helped get

131
00:10:01,439 --> 00:10:08,289
him to orbit and safely home, started a legacy
that continues to this day.\h

132
00:10:08,289 --> 00:10:11,949
\h
A uniquely American legacy to learn and create

133
00:10:11,949 --> 00:10:18,800
a safe, durable and reliable method for our
Astronauts to explore our world and those

134
00:10:18,800 --> 00:10:20,560
beyond the solar system.

135
00:10:20,560 --> 00:10:24,810
\h
But it is only a part in the larger effort

136
00:10:24,810 --> 00:10:32,009
to pioneer the future in space exploration,

to lead scientific discovery and pursue aeronautic

137
00:10:32,009 --> 00:10:35,300
research here at home.

138
00:10:35,300 --> 00:10:37,670
\h
Aurora Seven.\h