



1
00:00:04,880 --> 00:00:29,280
[Music]

2
00:00:38,121 --> 00:00:29,820
>> When man journeys to the
moon, he will use a large

3
00:00:38,121 --> 00:00:41,374
and complex transportation
system.

4
00:00:41,374 --> 00:00:44,210
It's called Apollo Saturn.

5
00:00:44,961 --> 00:00:49,758
All told, the assembly is 363
feet high and at ignition weighs

6
00:00:49,758 --> 00:00:51,009
over 6 million pounds.

7
00:00:51,092 --> 00:00:53,094
[Music]

8
00:00:53,094 --> 00:00:55,221
Of this, the portion
that will make the trip

9
00:00:55,221 --> 00:00:57,015
to the moon is the top 53 feet.

10
00:00:57,557 --> 00:00:59,684
[Music]

11
00:01:00,185 --> 00:01:03,354
The slender device at the very
top is the launch escape system.

12

00:01:04,064 --> 00:01:05,398
[Music]

13

00:01:05,398 --> 00:01:08,359
If the launch is smooth and
all systems operate properly,

14

00:01:08,359 --> 00:01:10,361
it is discarded early
in the flight.

15

00:01:11,071 --> 00:01:13,073
[Music]

16

00:01:13,114 --> 00:01:15,617
The spacecraft consists
of the command module,

17

00:01:15,825 --> 00:01:19,954
the service module,
and the lunar module.

18

00:01:20,163 --> 00:01:22,165
[Music]

19

00:01:22,248 --> 00:01:25,418
The command module is
crew quarters, cockpit,

20

00:01:25,418 --> 00:01:27,378
and headquarters for
the eight-day voyage.

21

00:01:27,504 --> 00:01:32,300
This is the only
portion of the spacecraft

22

00:01:32,300 --> 00:01:33,843
that will return to earth.

23

00:01:35,053 --> 00:01:36,971

The atmosphere inside will be

24

00:01:36,971 --> 00:01:39,057

such that the astronauts
will not have

25

00:01:39,057 --> 00:01:41,434

to endure the discomfort
of wearing their bulky,

26

00:01:41,434 --> 00:01:43,478

pressure-type spacesuits
all the time.

27

00:01:43,561 --> 00:01:47,148

However, for safety
and emergency reasons,

28

00:01:47,357 --> 00:01:50,735

one crew member will be in
his spacesuit at all times.

29

00:01:51,569 --> 00:01:53,780

[Music]

30

00:01:54,280 --> 00:01:57,367

Directly below the command
module is the service module.

31

00:01:58,493 --> 00:02:00,870

In a sense, this is the
basement of the spacecraft.

32

00:02:01,996 --> 00:02:04,415

Here are the fuel cells

33

00:02:04,582 --> 00:02:06,709

that will generate the

electricity required

34

00:02:06,709 --> 00:02:10,213

for the spacecraft, radio
antennas, storage space

35

00:02:10,213 --> 00:02:14,968

for experimental equipment and
tools, fuel and oxidizer tanks,

36

00:02:14,968 --> 00:02:18,012

for the surface module also
contains the main propulsion

37

00:02:18,012 --> 00:02:19,931

engine for lunar
and earth travel.

38

00:02:19,931 --> 00:02:24,894

As Apollo approaches the earth,
the service module is abandoned,

39

00:02:25,103 --> 00:02:27,021

and the command module
returns alone.

40

00:02:27,564 --> 00:02:29,607

[Music]

41

00:02:30,108 --> 00:02:33,987

At launch, the lunar module
occupies the third position

42

00:02:33,987 --> 00:02:34,779

in the spacecraft.

43

00:02:35,280 --> 00:02:39,284

During the lunar
trajectory, the command module

44

00:02:39,284 --> 00:02:44,289
and the service module fly out
about 100 feet, turn around,

45

00:02:44,831 --> 00:02:47,041
and come back to dock
with the lunar module.

46

00:02:47,584 --> 00:02:57,594
[Music]

47

00:02:58,094 --> 00:03:01,848
As the spacecraft approaches
the moon, it looks like this.

48

00:03:02,557 --> 00:03:05,727
[Music]

49

00:03:06,227 --> 00:03:10,064
The lunar module actually
consists of two vehicles,

50

00:03:10,481 --> 00:03:14,527
the descent stage, which
is mainly the landing gear

51

00:03:14,527 --> 00:03:17,614
and an engine that is
gimbled and can be throttled,

52

00:03:18,198 --> 00:03:21,868
and the ascent stage,
consisting of yet another engine

53

00:03:21,868 --> 00:03:24,537
and cockpit or cabin portion.

54

00:03:24,537 --> 00:03:27,790
After the lunar exploration

period,

55

00:03:27,790 --> 00:03:32,086
the descent stage is left on the
moon, as the ascent stage lifts

56

00:03:32,128 --> 00:03:35,173
to rendezvous with
the command module.

57

00:03:35,381 --> 00:03:38,384
After the crewmen transfer
to the command module,

58

00:03:38,760 --> 00:03:40,970
the lunar module is
left in lunar orbit,

59

00:03:41,221 --> 00:03:43,973
as the command module is steered
into its homeward course.

60

00:03:44,557 --> 00:03:49,854
[Music]

61

00:03:50,355 --> 00:03:54,400
Command, service, and lunar
modules each performing an