1
00:00:37,270 --> 00:00:27,320
Oh

2
00:00:41,660 --> 00:00:39,740
July twentieth marks the 25th

3
00:00:44,180 --> 00:00:41,670
anniversary of the first time a human

4
00:00:45,860 --> 00:00:44,190
stepped upon the moment historians call

5
00:00:49,549 --> 00:00:45,870
the event the most significant science

6
00:00:51,470 --> 00:00:49,559
achievement of all time to prepare for

7
00:00:52,910 --> 00:00:51,480
the Apollo flights astronaut training

8
00:00:55,130 --> 00:00:52,920
included flights and many types of

9
00:00:56,479 --> 00:00:55,140
vehicles including a very unusual one

10
00:00:59,869 --> 00:00:56,489
developed by NASA's Dryden Flight

11
00:01:01,610 --> 00:00:59,879
Research Center in California Dryden

12
00:01:03,530 --> 00:01:01,620
engineers created a vehicle that allowed

13
00:01:05,930 --> 00:01:03,540

astronauts to develop techniques for an

14
00:01:07,880 --> 00:01:05,940
actual landing on the lunar surface this

15
00:01:13,190 --> 00:01:07,890
vehicle was called the lunar landing

16
00:01:14,570 --> 00:01:13,200
research vehicle or ll RV to simulate

17
00:01:16,400 --> 00:01:14,580
conditions on the moon where there's

18
00:01:18,800 --> 00:01:16,410
practically no atmosphere and the

19
00:01:20,540 --> 00:01:18,810
gravity is 116 out of the earth the

20
00:01:22,760 --> 00:01:20,550
vehicle utilized a very efficient

21
00:01:24,469 --> 00:01:22,770
tubular steel construction and an

22
00:01:27,279 --> 00:01:24,479
automatically control jet engine the

23
00:01:29,990 --> 00:01:27,289
counterbalance 56 of the vehicles wait

24
00:01:34,249 --> 00:01:30,000
NASA pilot Joe Walker was the first to

25
00:01:36,560 --> 00:01:34,259
fly in the LRV in October 1964 after the

26
00:01:38,539 --> 00:01:36,570
first LRV concept was thoroughly tested

27
00:01:40,789 --> 00:01:38,549
by Dryden and accepted as a training

28
00:01:42,740 --> 00:01:40,799
device three modified versions were

29
00:01:46,100 --> 00:01:42,750
built these were the lunar landing

30
00:01:48,530 --> 00:01:46,110
training vehicle zor-el TVs like the

31
00:01:51,999 --> 00:01:48,540
earlier ll RVs they were also built by

32
00:01:54,740 --> 00:01:52,009
bell aerosystems of Buffalo New York a

33
00:01:56,330 --> 00:01:54,750
conventional jet engine producing 4,200

34
00:01:58,670 --> 00:01:56,340
pounds of thrust was used for takeoff

35
00:02:00,499 --> 00:01:58,680
then the pilot switch to hydrogen

36
00:02:02,389 --> 00:02:00,509
peroxide thrusters to control the rate

37
00:02:05,179 --> 00:02:02,399
of descent while simulating a moon

38
00:02:07,190 --> 00:02:05,189

landing because of the lack of lunar

39
00:02:11,600 --> 00:02:07,200
atmosphere steep angles were required to

40
00:02:13,759 --> 00:02:11,610
turn the vehicle here with the vehicle

41
00:02:15,650 --> 00:02:13,769
operating on our lunar conditions NASA

42
00:02:17,780 --> 00:02:15,660
pilot Joe Walker regulates the lift

43
00:02:24,240 --> 00:02:17,790
Rockets too so the rate of descent and

44
00:02:28,569 --> 00:02:26,949
he also had eight small rocket motors

45
00:02:30,789 --> 00:02:28,579
mounted on the side of the craft that

46
00:02:32,410 --> 00:02:30,799
maneuvered the vehicle in flight this

47
00:02:34,809 --> 00:02:32,420
movement allowed the pilot to move

48
00:02:37,420 --> 00:02:34,819
horizontally and simulate the selection

49
00:02:38,920 --> 00:02:37,430
of possible landing sites you can also

50
00:02:47,500 --> 00:02:38,930
simulate the initial portion on the

51
00:02:51,500 --> 00:02:50,000
drains lunar landing research vehicles

52
00:02:53,480 --> 00:02:51,510
may have looked more like giant insects

53
00:02:55,100 --> 00:02:53,490
then device style moon flight and

54
00:02:56,780 --> 00:02:55,110
landing techniques but their

55
00:02:59,300 --> 00:02:56,790
contributions the Apollo program were

56
00:03:01,430 --> 00:02:59,310
extremely significant the first person

57
00:03:03,800 --> 00:03:01,440
to walk on the moon Apollo of an

58
00:03:05,390 --> 00:03:03,810
astronaut Neil Armstrong said later the

59
00:03:06,590 --> 00:03:05,400
project would not have been successful

60
00:03:08,780 --> 00:03:06,600
without the type of training and

61
00:03:12,290 --> 00:03:08,790
simulation developed on drains lunar