1
00:00:00,000 --> 00:00:07,010
MUSIC

2
00:00:07,010 --> 00:00:07,047
NARRATOR: The

3
00:00:07,047 --> 00:00:09,000
Constellation launch

4
00:00:09,000 --> 00:00:09,063
vehicle that will carry

5
00:00:09,063 --> 00:00:10,097
the crew into space is

6
00:00:10,097 --> 00:00:12,057
called Ares I.

7
00:00:12,057 --> 00:00:14,043
Ares I consists of a

8
00:00:14,043 --> 00:00:15,043
Shuttle-derived solid

9
00:00:15,043 --> 00:00:16,083
rocket booster for a lower

10
00:00:16,083 --> 00:00:18,053
stage and a liquid fuel

11
00:00:18,053 --> 00:00:22,080
rocket for an upper stage.

12
00:00:22,080 --> 00:00:24,013
Sitting on top of Ares I

13
00:00:24,013 --> 00:00:25,057

is the Orion Crew

14
00:00:25,057 --> 00:00:26,093
Exploration Vehicle.

15
00:00:26,093 --> 00:00:28,067
Orion is similar in shape

16
00:00:28,067 --> 00:00:30,013
to the Apollo spacecraft

17
00:00:30,013 --> 00:00:32,017
but is larger and features

18
00:00:32,017 --> 00:00:33,027
state of the art

19
00:00:33,027 --> 00:00:34,020
equipment.

20
00:00:34,020 --> 00:00:35,040
Orion can dock with the

21
00:00:35,040 --> 00:00:37,020
space station...rendezvous

22
00:00:37,020 --> 00:00:38,020
with other components for

23
00:00:38,020 --> 00:00:39,050
a lunar mission...and even

24
00:00:39,050 --> 00:00:41,007
be modified to play a part

25
00:00:41,007 --> 00:00:42,093
in a mission to Mars

26
00:00:43,097 --> 00:00:44,087
All of these potential

27
00:00:44,087 --> 00:00:46,003
journeys depend upon the

28
00:00:46,003 --> 00:00:47,077
Ares I launch vehicle

29
00:00:47,077 --> 00:00:51,033
getting Orion into orbit.

30
00:00:51,033 --> 00:00:52,070
Like past NASA spacecraft,

31
00:00:52,070 --> 00:00:54,047
engineers are applying the

32
00:00:54,047 --> 00:00:56,003
"test as you go" method to

33
00:00:56,003 --> 00:00:57,053
Ares I.

34
00:00:57,053 --> 00:00:58,047
Computer analysis and

35
00:00:58,047 --> 00:01:00,010
early development tests

36
00:01:00,010 --> 00:01:03,000
begin the process.

37
00:01:03,000 --> 00:01:04,010
On the hardware side,

38
00:01:04,010 --> 00:01:05,037

parts of the rocket have

39
00:01:05,037 --> 00:01:06,023
been tried out

40
00:01:06,023 --> 00:01:07,017
individually.

41
00:01:07,067 --> 00:01:08,053
In the test as you go

42
00:01:08,053 --> 00:01:10,033
world, it is time to fly,

43
00:01:10,033 --> 00:01:12,023
and the first flight test

44
00:01:12,023 --> 00:01:14,010
for Ares I is a vehicle

45
00:01:14,010 --> 00:01:16,037
called Ares 1-X.

46
00:01:16,037 --> 00:01:17,097
It is an unmanned test and

47
00:01:17,097 --> 00:01:19,023
will focus on the first

48
00:01:19,023 --> 00:01:20,033
stage of flight.

49
00:01:21,030 --> 00:01:22,010
Bob Ess-: "Ares I-X is the

50
00:01:22,010 --> 00:01:24,040
same length as Ares I, the

51
00:01:24,040 --> 00:01:25,077
same diameter, it has a

52
00:01:25,077 --> 00:01:26,083
similar rocket on the

53
00:01:26,083 --> 00:01:28,060
bottom end, and its goal

54
00:01:28,060 --> 00:01:29,080
is to simulate the flight

55
00:01:29,080 --> 00:01:31,013
and test out the flight

56
00:01:31,013 --> 00:01:32,030
control to make sure the

57
00:01:32,030 --> 00:01:33,083
engineers have enough data

58
00:01:33,083 --> 00:01:35,007
in order to finish

59
00:01:35,007 --> 00:01:36,040
designing and building the

60
00:01:36,040 --> 00:01:37,023
Ares I ."

61
00:01:38,060 --> 00:01:39,053
Components for the Ares

62
00:01:39,053 --> 00:01:41,013
1-X have come from around

63
00:01:41,013 --> 00:01:45,000

the country.

64
00:01:45,000 --> 00:01:45,077
The rocket is being

65
00:01:45,077 --> 00:01:46,053
assembled at the Kennedy

66
00:01:46,053 --> 00:01:47,057
Space Center in

67
00:01:47,057 --> 00:01:49,000
Florida...the first new

68
00:01:49,000 --> 00:01:50,027
space vehicle in almost

69
00:01:50,027 --> 00:01:52,093
three decades.

70
00:01:52,093 --> 00:01:54,007
Ares 1-X features a four

71
00:01:54,007 --> 00:01:55,053
segment solid rocket

72
00:01:55,053 --> 00:01:56,080
booster which will lift

73
00:01:56,080 --> 00:01:57,093
the vehicle during its two

74
00:01:57,093 --> 00:02:00,030
minutes of powered flight.

75
00:02:00,030 --> 00:02:01,037
The real Ares I rocket

76
00:02:01,037 --> 00:02:02,060
will actually have a fifth

77
00:02:02,060 --> 00:02:03,083
segment to help push it

78
00:02:03,083 --> 00:02:05,000
into space.

79
00:02:05,000 --> 00:02:06,030
For this early test

80
00:02:06,030 --> 00:02:07,030
however, the fifth segment

81
00:02:07,030 --> 00:02:09,027
is an inactive mockup, as

82
00:02:09,027 --> 00:02:11,007
is the rest of the upper

83
00:02:11,007 --> 00:02:12,057
stage, crew module and

84
00:02:12,057 --> 00:02:15,053
launch abort system.

85
00:02:15,053 --> 00:02:16,083
The Ares 1-X test will

86
00:02:16,083 --> 00:02:18,020
climb 25 miles in

87
00:02:18,020 --> 00:02:20,093
altitude.

88
00:02:20,093 --> 00:02:21,070

The first and second stage

89
00:02:21,070 --> 00:02:23,040
will separate.

90
00:02:23,040 --> 00:02:25,023
The test continues as the

91
00:02:25,023 --> 00:02:26,030
parachute system is

92
00:02:26,030 --> 00:02:27,027
deployed for the solid

93
00:02:27,027 --> 00:02:28,070
rocket booster, which will

94
00:02:28,070 --> 00:02:30,057
gently descend to the sea.

95
00:02:30,057 --> 00:02:31,097
From flight dynamics, to

96
00:02:31,097 --> 00:02:33,063
control, to stage

97
00:02:33,063 --> 00:02:34,097
recovery, the data

98
00:02:34,097 --> 00:02:36,013
gathered as a result of

99
00:02:36,013 --> 00:02:37,033
this flight will give

100
00:02:37,033 --> 00:02:38,053
engineers the early look

101
00:02:38,053 --> 00:02:40,003
they need to see how the

102
00:02:40,003 --> 00:02:41,097
design is progressing...

103
00:02:41,097 --> 00:02:42,067
Jon Cowart: "We have

104
00:02:42,067 --> 00:02:43,053
somewhere in the

105
00:02:43,053 --> 00:02:44,060
neighborhood of 700

106
00:02:44,060 --> 00:02:46,027
special sensors on this

107
00:02:46,027 --> 00:02:47,033
rocket that we'll use to

108
00:02:47,033 --> 00:02:48,067
collect data on the rocket

109
00:02:48,067 --> 00:02:49,073
as it launches, and

110
00:02:49,073 --> 00:02:51,007
ascends, and separates and

111
00:02:51,007 --> 00:02:52,060
comes back down. The

112
00:02:52,060 --> 00:02:54,013
sensors are looking at

113
00:02:54,013 --> 00:02:54,023

pressures and

114
00:02:54,023 --> 00:02:55,047
temperatures, stresses and

115
00:02:55,047 --> 00:02:56,027
strains and

116
00:02:56,027 --> 00:02:57,027
vibrations...and all kinds

117
00:02:57,027 --> 00:02:58,060
of things.

118
00:02:58,060 --> 00:03:00,023
These are the clues that

119
00:03:00,023 --> 00:03:01,003
we have to what's

120
00:03:01,003 --> 00:03:02,027
happening at various

121
00:03:02,027 --> 00:03:03,027
locations along the

122
00:03:03,027 --> 00:03:04,030
rocket.

123
00:03:04,030 --> 00:03:05,027
This mission is all about,

124
00:03:05,027 --> 00:03:06,047
besides being cheap and

125
00:03:06,047 --> 00:03:07,067
quick, we're all about

126
00:03:07,067 --> 00:03:08,040
gathering data for the

127
00:03:08,040 --> 00:03:09,050
Ares 1 folks for their

128
00:03:09,050 --> 00:03:10,050
critical design review so

129
00:03:10,050 --> 00:03:11,060
they can use it.

130
00:03:11,060 --> 00:03:12,087
Once we have that data,

131
00:03:12,087 --> 00:03:14,040
the Ares folks have other

132
00:03:14,040 --> 00:03:15,033
tests that they plan to

133
00:03:15,033 --> 00:03:16,053
take them higher into the

134
00:03:16,053 --> 00:03:17,050
atmosphere and collect

135
00:03:17,050 --> 00:03:18,090
more data down that way."

136
00:03:18,090 --> 00:03:19,040
Bob Ess- "When we actually

137
00:03:19,040 --> 00:03:20,080
fly, we expect to have

138
00:03:20,080 --> 00:03:21,063

things that don't go

139
00:03:21,063 --> 00:03:22,037
perfectly...in fact we

140
00:03:22,037 --> 00:03:23,023
hope they do.

141
00:03:23,023 --> 00:03:23,087
You learn a lot when

142
00:03:23,087 --> 00:03:25,080
everything goes right; you

143
00:03:25,080 --> 00:03:27,000
learn a tremendous amount

144
00:03:27,000 --> 00:03:27,057
when something doesn't go

145
00:03:27,057 --> 00:03:28,047
quite as right, because

146
00:03:28,047 --> 00:03:29,013
then you have something to

147
00:03:29,013 --> 00:03:29,090
go fix, to go look at, go