1
00:00:02,550 --> 00:00:01,270
doing there we'll let you go look and

2
00:00:04,630 --> 00:00:02,560
see what they're doing thanks ken thank

3
00:00:05,829 --> 00:00:04,640
you laura

4
00:00:07,670 --> 00:00:05,839
i'm here now at the space station

5
00:00:09,430 --> 00:00:07,680
processing facility with tom erdmann who

6
00:00:11,030 --> 00:00:09,440
is marshall's resident manager here and

7
00:00:12,709 --> 00:00:11,040
tom you manage all of the marshall

8
00:00:14,150 --> 00:00:12,719
hardware in this building right that is

9
00:00:15,589 --> 00:00:14,160
correct the space station processing

10
00:00:17,670 --> 00:00:15,599
facility at kennedy space center is a

11
00:00:19,590 --> 00:00:17,680
unique location where all the hardware

12
00:00:21,429 --> 00:00:19,600
from all over the world comes together

13
00:00:23,269 --> 00:00:21,439

and marshall's had an integral role in

14
00:00:26,630 --> 00:00:23,279
processing the space station which

15
00:00:28,310 --> 00:00:26,640
includes the us lab the airlock node one

16
00:00:30,710 --> 00:00:28,320
the express racks and the microgravity

17
00:00:31,830 --> 00:00:30,720
science glove box currently on orbit

18
00:00:33,430 --> 00:00:31,840
you've done a lot of work but a lot of

19
00:00:35,190 --> 00:00:33,440
work's still going on that's actually no

20
00:00:37,190 --> 00:00:35,200
two behind us being worked on right now

21
00:00:39,510 --> 00:00:37,200
that is correct no two marshall provides

22
00:00:41,430 --> 00:00:39,520
the design engineering work for that we

23
00:00:43,350 --> 00:00:41,440
have the mplm there's three missions

24
00:00:44,950 --> 00:00:43,360
left that marshall provides design

25
00:00:47,029 --> 00:00:44,960
engineering for that we have numerous

26
00:00:48,549 --> 00:00:47,039
payloads that are scheduled to fly

27
00:00:50,790 --> 00:00:48,559
inside the express racks and the

28
00:00:51,990 --> 00:00:50,800
microgravity science glove box and it's

29
00:00:54,389 --> 00:00:52,000
not just getting ready for launch you

30
00:00:56,150 --> 00:00:54,399
have to re-prepare those mplms when they

31
00:00:57,990 --> 00:00:56,160
come back from launch right yes after

32
00:00:59,910 --> 00:00:58,000
every mission we have a design we have a

33
00:01:01,750 --> 00:00:59,920
set of requirements for maintenance on

34
00:01:03,910 --> 00:01:01,760
them and after missions we have

35
00:01:05,350 --> 00:01:03,920
experiments coming down that we have to

36
00:01:07,109 --> 00:01:05,360
retrieve the samples and get them

37
00:01:08,310 --> 00:01:07,119
processed for the scientists and then

38
00:01:10,230 --> 00:01:08,320

it's right back to the launch pad after

39
00:01:11,510 --> 00:01:10,240
you get it all ready again right yes all

40
00:01:13,109 --> 00:01:11,520
right thanks for showing us around thank

41
00:01:14,710 --> 00:01:13,119
you

42
00:01:15,990 --> 00:01:14,720
i'm here now with benny davis and he is

43
00:01:17,510 --> 00:01:16,000
the marshall representative for the

44
00:01:19,109 --> 00:01:17,520
space shuttle main engines and we're in

45
00:01:21,109 --> 00:01:19,119
the engine shop but benny this is no

46
00:01:23,030 --> 00:01:21,119
ordinary garage no it's not this is a

47
00:01:24,550 --> 00:01:23,040
high-tech engine shop and in here we

48
00:01:26,469 --> 00:01:24,560
process the spatial domain engines

49
00:01:27,910 --> 00:01:26,479
between each of the flights we start

50
00:01:29,270 --> 00:01:27,920
right here with our hyster we use this

51
00:01:31,350 --> 00:01:29,280
to go over to the orbiters and pull the

52
00:01:32,630 --> 00:01:31,360
three engines off after it lands

53
00:01:34,069 --> 00:01:32,640
then we can bring them down here and we

54
00:01:35,590 --> 00:01:34,079
can do some preliminary checkouts here

55
00:01:37,190 --> 00:01:35,600
in this room and then you tell me you

56
00:01:39,350 --> 00:01:37,200
have an oven in here that's right we

57
00:01:41,429 --> 00:01:39,360
have an oven here and we use this to dry

58
00:01:42,710 --> 00:01:41,439
the engines out uh our by-products are

59
00:01:45,270 --> 00:01:42,720
water so we have to get that water out

60
00:01:46,469 --> 00:01:45,280
of those before we go fly them again so

61
00:01:47,749 --> 00:01:46,479
how long of a process does that just

62
00:01:48,950 --> 00:01:47,759
takes about eight hours or so to get all

63
00:01:50,870 --> 00:01:48,960

the water out all right let's put

64
00:01:52,550 --> 00:01:50,880
something in to bake all right what else

65
00:01:53,670 --> 00:01:52,560
happens after that well after that then

66
00:01:55,429 --> 00:01:53,680
we can bring them out and start doing

67
00:01:56,789 --> 00:01:55,439
some checkouts and inspections and

68
00:01:57,830 --> 00:01:56,799
things like that we can bring them into

69
00:01:59,749 --> 00:01:57,840
this area

70
00:02:01,109 --> 00:01:59,759
and then we can either horizontally or

71
00:02:03,270 --> 00:02:01,119
we can rotate them vertically and put

72
00:02:04,789 --> 00:02:03,280
them on one of these pedestals and when

73
00:02:06,789 --> 00:02:04,799
we do that then we can get up top and we

74
00:02:08,550 --> 00:02:06,799
can go work on the turbo machinery or we

75
00:02:10,070 --> 00:02:08,560
can work on the power head and do other

76
00:02:11,990 --> 00:02:10,080
inspections we need we can also get down

77
00:02:13,589 --> 00:02:12,000
below and look at the nozzle actually

78
00:02:15,510 --> 00:02:13,599
crawl up inside the nozzle and do any

79
00:02:17,030 --> 00:02:15,520
kind of inspections there we need to do

80
00:02:19,350 --> 00:02:17,040
once that's done we can do some final

81
00:02:21,670 --> 00:02:19,360
checkouts and we can check them out on

82
00:02:23,670 --> 00:02:21,680
the stands then we rotate them back down

83
00:02:25,030 --> 00:02:23,680
uh horizontally like this one here and

84
00:02:27,750 --> 00:02:25,040
then we start doing some final walk

85
00:02:29,430 --> 00:02:27,760
downs uh to get ready for installation

86
00:02:30,869 --> 00:02:29,440
of the engines once we're done here we

87
00:02:32,550 --> 00:02:30,879
can bring them into this final room over

88
00:02:34,390 --> 00:02:32,560

there we do final leak checks to make

89
00:02:35,670 --> 00:02:34,400
sure everything's sealed up tight and

90
00:02:36,949 --> 00:02:35,680
then we're ready to start the process

91
00:02:38,790 --> 00:02:36,959
and go put them back on the river and go

92
00:02:40,550 --> 00:02:38,800
fly again go fly again then they come

93
00:02:41,670 --> 00:02:40,560
back and you start all over this all

94
00:02:42,790 --> 00:02:41,680
over again that's correct all right

95
00:02:44,390 --> 00:02:42,800
thanks for showing us around you're

96
00:02:45,670 --> 00:02:44,400
welcome

97
00:02:47,270 --> 00:02:45,680
we're here in the launch control center

98
00:02:48,949 --> 00:02:47,280
now with tony smith the solid rocket

99
00:02:50,630 --> 00:02:48,959
booster project representative from

100
00:02:52,229 --> 00:02:50,640
marshall and tony we're in firing room

101
00:02:54,070 --> 00:02:52,239
four tell me what goes on here we

102
00:02:56,229 --> 00:02:54,080
launched the space shuttle from here the

103
00:02:58,470 --> 00:02:56,239
shuttle senior managers sit in this room

104
00:03:00,390 --> 00:02:58,480
including the marshall center director

105
00:03:02,949 --> 00:03:00,400
across the way mr robert lightfoot the

106
00:03:05,190 --> 00:03:02,959
deputy propulsion manager sits with his

107
00:03:07,430 --> 00:03:05,200
team of project managers who look after

108
00:03:09,110 --> 00:03:07,440
each propulsion system as we come

109
00:03:11,509 --> 00:03:09,120
together for launch so they make

110
00:03:14,149 --> 00:03:11,519
critical decisions from this room during

111
00:03:15,910 --> 00:03:14,159
countdown absolutely they do they

112
00:03:17,670 --> 00:03:15,920
monitor what's going on here they

113
00:03:20,229 --> 00:03:17,680

communicate with the operations center

114
00:03:21,910 --> 00:03:20,239
back in huntsville and they they're sure

115
00:03:23,589 --> 00:03:21,920
to have a good safe launch as we

116
00:03:25,430 --> 00:03:23,599
progress through and you also do some

117
00:03:26,869 --> 00:03:25,440
testing prior to launch from this room

118
00:03:27,990 --> 00:03:26,879
right yes we do

119
00:03:30,229 --> 00:03:28,000
as the

120
00:03:32,390 --> 00:03:30,239
the shuttle comes together the parts

121
00:03:33,830 --> 00:03:32,400
come together and they are tested and

122
00:03:34,949 --> 00:03:33,840
measured and when those measurements go

123
00:03:36,949 --> 00:03:34,959
a little bit outside of where they

124
00:03:38,229 --> 00:03:36,959
should be we have some special tests and

125
00:03:40,869 --> 00:03:38,239
that's when the marshall team gets

126
00:03:43,990 --> 00:03:40,879
involved we we plug into this firing

127
00:03:45,430 --> 00:03:44,000
room we monitor and we look at the data

128
00:03:47,030 --> 00:03:45,440
that's all prior to launch day but on

129
00:03:48,949 --> 00:03:47,040
launch day as you said all the important

130
00:03:51,190 --> 00:03:48,959
people sit in this room right so i i

131
00:03:52,149 --> 00:03:51,200
haven't found my chair yet

132
00:03:53,910 --> 00:03:52,159
well

133
00:03:57,750 --> 00:03:53,920
mr dave king sits over here i'm sure he

134
00:03:59,270 --> 00:03:57,760
won't oh yeah i'm sure he wouldn't mind

135
00:04:00,710 --> 00:03:59,280
so this is where all of that hard work

136
00:04:02,710 --> 00:04:00,720
comes together we're actually standing

137
00:04:05,110 --> 00:04:02,720
on a launch pad with a vehicle ready to

138
00:04:07,270 --> 00:04:05,120

go yeah i get really excited seeing that

139
00:04:09,270 --> 00:04:07,280
vehicle out there on the launch pad

140
00:04:11,270 --> 00:04:09,280
ready to go that's what we're here for

141
00:04:12,949 --> 00:04:11,280
we're here to launch rockets i have to

142
00:04:14,149 --> 00:04:12,959
say i'm a little excited like a kid in a

143
00:04:15,670 --> 00:04:14,159
candy store being this close to the

144
00:04:17,590 --> 00:04:15,680
vehicle and it doesn't matter whether

145
00:04:19,189 --> 00:04:17,600
you're a marshall employee ksc employee

146
00:04:20,469 --> 00:04:19,199
whatever nasa employee you are when

147
00:04:22,629 --> 00:04:20,479
you're out there and you're looking at

148
00:04:23,909 --> 00:04:22,639
that vehicle you'll get a thrill thank

149
00:04:26,390 --> 00:04:23,919
you so much for showing us around today

150
00:04:28,390 --> 00:04:26,400
jolene you're welcome

151
00:04:32,710 --> 00:04:28,400
lori come on hurry up you're going to

152
00:04:35,909 --> 00:04:34,310
well i didn't know that marshall had

153
00:04:37,189 --> 00:04:35,919
such a presence down there at kennedy

154
00:04:39,030 --> 00:04:37,199
yeah it was exciting to see how much to

155
00:04:40,070 --> 00:04:39,040
do to make that happen look at that that

156
00:04:42,870 --> 00:04:40,080
must have been beautiful to see in

157
00:04:45,510 --> 00:04:42,880
person it was amazing find out where we

158
00:04:47,590 --> 00:04:45,520
turn up next as we focus on marshall