
RCC #5
Test 1

1
00:00:04,999 --> 00:00:02,000
launch videos seemed to implicate the

2
00:00:07,099 --> 00:00:05,009
foam strike near panel 8l as the cause

3
00:00:09,799 --> 00:00:07,109
of the breach at the time of the

4
00:00:12,560 --> 00:00:09,809
Columbia accident it was unknown whether

5
00:00:16,430 --> 00:00:12,570
or not a foam impact could break an RCC

6
00:00:19,220 --> 00:00:16,440
panel to find out NASA began ballistic

7
00:00:22,880 --> 00:00:19,230
impact tests while the RCC panel was

8
00:00:24,920 --> 00:00:22,890
still being investigated NASA Glenn

9
00:00:28,099 --> 00:00:24,930
ballistics impact researchers

10
00:00:31,040 --> 00:00:28,109
constructed a unique gas gun for small

11
00:00:34,790 --> 00:00:31,050
scale ballistic testing of external tank

12
00:00:37,580 --> 00:00:34,800
foam impacting RCC the gun barrel was

13
00:00:40,280 --> 00:00:37,590

mounted to a vacuum chamber a critical

14
00:00:42,160 --> 00:00:40,290
capability enabling impact tests at low

15
00:00:44,779 --> 00:00:42,170
pressure low temperature conditions

16
00:00:47,779 --> 00:00:44,789
similar to those during the Columbia

17
00:00:50,420 --> 00:00:47,789
foam strike the small-scale tests proved

18
00:00:51,500 --> 00:00:50,430
a foam strike could indeed break the RCC

19
00:00:54,319 --> 00:00:51,510
material

20
00:00:56,840 --> 00:00:54,329
the ballistics impact facility was

21
00:00:59,990 --> 00:00:56,850
modified to run tests to support

22
00:01:02,860 --> 00:01:00,000
full-scale testing of an actual RCC

23
00:01:05,990 --> 00:01:02,870
panel 8l with similar flight history

24
00:01:08,149 --> 00:01:06,000
NASA Glenn personnel joined other NASA

25
00:01:11,510 --> 00:01:08,159
experts at the Southwest Research

26
00:01:13,429 --> 00:01:11,520
Institute near San Antonio Texas where

27
00:01:16,429 --> 00:01:13,439
the full-scale impact tests were

28
00:01:19,010 --> 00:01:16,439
conducted NASA Glenn provided extensive

29
00:01:21,170 --> 00:01:19,020
photographic instrumentation and data

30
00:01:24,260 --> 00:01:21,180
acquisition equipment as well as

31
00:01:26,749 --> 00:01:24,270
analysis expertise for the tests when

32
00:01:28,819 --> 00:01:26,759
the angles speed and size of the foam

33
00:01:38,910 --> 00:01:28,829
projectile were set to simulate

34
00:01:47,140 --> 00:01:43,270
the impact created a whole 16 by 17

35
00:01:49,420 --> 00:01:47,150
inches in RCC panel 8l confirming

36
00:01:52,150 --> 00:01:49,430
findings of other investigation teams