

JONATHAN PAHED

COMPONENT PRODUCT ENGINEER FOR RS-25



SLS
SPACE LAUNCH SYSTEM



1
00:00:00,000 --> 00:00:05,230
Hi, I'm Jonathan Pahed. I'm a component product engineer for Aerojet Rocketdyne

2
00:00:05,230 --> 00:00:08,440
supporting the RS-25 engine program for NASA's Space Launch System.

3
00:00:08,440 --> 00:00:11,190
And this is Rocket Science in Sixty Seconds.

4
00:00:11,190 --> 00:00:14,860
■■■■■

5
00:00:14,860 --> 00:00:18,240
Four RS-25 engines provide over two million pounds of thrust during lift-off

6
00:00:18,240 --> 00:00:19,830
of the SLS.

7
00:00:19,830 --> 00:00:22,960
■■■■■

8
00:00:22,960 --> 00:00:25,290
The jacket of the nozzle used to be a welded assembly of

9
00:00:25,290 --> 00:00:28,380
thirty-five pieces. We now make it from four cone sections

10
00:00:28,380 --> 00:00:30,710
which results in a bell that will significantly improve

11
00:00:30,710 --> 00:00:32,010
the assembly process.

12

00:00:32,010 --> 00:00:36,090



13

00:00:36,090 --> 00:00:38,800

Hot gases exit the engine nozzle
at thirteen times the speed

14

00:00:38,800 --> 00:00:41,930

of sound. Fast enough to travel
from Los Angeles to New York in

15

00:00:41,930 --> 00:00:42,890

fifteen minutes

16

00:00:42,890 --> 00:00:46,810



17

00:00:46,810 --> 00:00:50,070

3D printing or additive
manufacturing is new technology

18

00:00:50,070 --> 00:00:51,230

that saves time and money.

19

00:00:51,230 --> 00:00:53,610

We've identified thirty-five
component candidates on

20

00:00:53,610 --> 00:00:55,280

the engine that are ideal for
3D printing.