



Kathryn Crowe *RS-25 Propulsion Engineer*

1
00:00:05,000 --> 00:00:10,510
The RS-25 is a very complicated engine system and it's more so than most

2
00:00:10,510 --> 00:00:12,250
rocket engines.

3
00:00:12,250 --> 00:00:15,970
The complexity is kind of defined in the fact that when we first started learning

4
00:00:15,970 --> 00:00:20,740
how to operate this engine we literally had to burn a few of them up before we

5
00:00:20,740 --> 00:00:25,859
could learn how to get it started.
The thing that starts you off in flowing

6
00:00:25,859 --> 00:00:31,170
fluid has to receive fluid from the team tied him said its feet into the

7
00:00:31,170 --> 00:00:37,130
timeliness of how you create something like that up is very curious environment

8
00:00:37,130 --> 00:00:41,540
quite some time in the beginning of the SSME programs to learn how to do this is

9
00:00:41,540 --> 00:00:45,120
still a very complicated change in the way to be very careful with and how we

10
00:00:45,120 --> 00:00:50,510
make changes to the engine as we proceed into test i 100% agree that it is the

11

00:00:50,510 --> 00:00:54,750
most complicated rocket engine out there
in the market but that's because it's

12
00:00:54,750 --> 00:00:59,449
the Ferrari of rocket engines was
designed to be highly efficient and

13
00:00:59,449 --> 00:01:02,460
there is when you're looking at
designing a rocket engine several

14
00:01:02,460 --> 00:01:05,899
different ways you can optimize it you
can optimize it through increasing its

15
00:01:05,899 --> 00:01:10,049
trust are increasing the weight to trust
ratio are increasing its overall

16
00:01:10,049 --> 00:01:14,450
efficiency in how it consumes your
propellants with this engine

17
00:01:14,450 --> 00:01:19,090
they maximized all three of those so
anytime you maximize a variety of

18
00:01:19,090 --> 00:01:23,520
categories increases the complexity
greatly so even though it's the most

19
00:01:23,520 --> 00:01:27,820
complex engine it's also the most
efficient engine that currently in use

20
00:01:27,820 --> 00:01:31,189
one of the main things that's different
about us or less is that it's an

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00:01:31,189 --> 00:01:36,630

expendable vehicle has that ever used
vehicle so i shud oh we would like the

22

00:01:36,630 --> 00:01:41,409

engines and take off they fly 48 happen
it's a fire and come back with the

23

00:01:41,409 --> 00:01:46,149

orbiter's offer SLs doesn't have wings
so it's not coming back to these are now

24

00:01:46,149 --> 00:01:50,080

expendable engines one of the things
that that allows us to do is we actually

25

00:01:50,080 --> 00:01:54,429

run them at slightly higher thrust than
we used to the higher power levels a

26

00:01:54,429 --> 00:01:58,819

little harder on the engine running it a
little closer to red line but it's safe