

1

00:00:00,000 --> 00:00:04,000

Remember, don't try this at home.

2

00:00:04,000 --> 00:00:10,560

We've got years of experience that keeps us safe.

3

00:00:10,560 --> 00:00:11,880

Coming up on MythBusters.

4

00:00:11,880 --> 00:00:15,840

It's Myths Revisited, where we take you on.

5

00:00:15,840 --> 00:00:17,840

There's crashes.

6

00:00:17,840 --> 00:00:18,840

Whoa!

7

00:00:18,840 --> 00:00:19,840

Bangs.

8

00:00:19,840 --> 00:00:20,840

And wallah.

9

00:00:20,840 --> 00:00:29,000

In a Myths Revisited special, Ken Salami really work as a rocket fuel.

10

00:00:29,000 --> 00:00:31,880

Stand back and come and get some rocket fuel out of the fridge.

11

00:00:31,880 --> 00:00:36,520

Tori and Grant see if a hand-braised on a windshield will stop it from shattering.

12

00:00:36,520 --> 00:00:38,160

I'll miss you, buddy.

13

00:00:38,160 --> 00:00:42,760

Then Adam and Jamie revisit the best way to drive a pickup truck.

14

00:00:42,760 --> 00:00:46,040

This test is tailgate up, just like old times.

15

00:00:46,040 --> 00:00:49,280

And finally, there's a battle of the blades.

16

00:00:49,280 --> 00:00:53,760

Can a sword slice through a machine gun?

17

00:00:53,760 --> 00:00:54,760

Whoa!

18

00:00:54,760 --> 00:00:59,520

Who are the Mythbusters?

19

00:00:59,520 --> 00:01:03,520

Adam Savage.

20

00:01:03,520 --> 00:01:04,520

And Jamie Heineman.

21

00:01:04,520 --> 00:01:08,000

Aren't Tracer rounds illegal?

22

00:01:08,000 --> 00:01:11,360

Between them, over 30 years special effects experience.

23

00:01:11,360 --> 00:01:13,440

That's what I'm jogging about.

24

00:01:13,440 --> 00:01:15,880

Joining them, Tori Belleggi.

25

00:01:15,880 --> 00:01:16,880

What could go wrong?

26

00:01:16,880 --> 00:01:17,880

Carrie Byron.

27

00:01:17,880 --> 00:01:19,680

We're going for total annihilation.

28

00:01:19,680 --> 00:01:20,680

And Grant Imahara.

29

00:01:20,680 --> 00:01:22,880

I'm pooping as fast as I can.

30

00:01:22,880 --> 00:01:25,800

They don't just tell the Myths.

31

00:01:25,800 --> 00:01:40,080

They put them to the test.

32

00:01:40,080 --> 00:01:45,640

The more we do this show, the more I think really committed we are to trying to get at

33

00:01:45,640 --> 00:01:49,320

least some kind of scientific approach to what we're doing.

34

00:01:49,320 --> 00:01:54,080

But I get a lot of angry emails from fans complaining that you screwed this up or you

35

00:01:54,080 --> 00:01:56,800

messed that up or you guys have no idea what you're doing.

36

00:01:56,800 --> 00:02:00,400

Are you going to say anything but yep?

37

00:02:00,400 --> 00:02:05,480

Well, this is another Myths Revisited episode.

38

00:02:05,480 --> 00:02:09,920

We're going to take another stab at some Myths that viewers found incredibly controversial.

39

00:02:09,920 --> 00:02:12,920

And the first one is Salami Rocket.

40

00:02:12,920 --> 00:02:13,920

Yep.

41

00:02:13,920 --> 00:02:26,800

In Salami Rocket, Adam and Jamie wanted to find out if Lunch and Meat could get launched.

42

00:02:26,800 --> 00:02:32,040

Three, two, one.

43

00:02:32,040 --> 00:02:33,040

Hey!

44

00:02:33,040 --> 00:02:36,040

Look at that!

45

00:02:36,040 --> 00:02:38,200

Twenty feet, man!

46

00:02:38,200 --> 00:02:39,520

What did I tell you?

47

00:02:39,520 --> 00:02:43,360

But according to some fans, with this rocket, it's Houston.

48

00:02:43,360 --> 00:02:45,000

We have a problem.

49

00:02:45,000 --> 00:02:48,240

Well, I don't know what more of the viewers want.

50

00:02:48,240 --> 00:02:50,160

We got the rocket off the ground.

51

00:02:50,160 --> 00:02:55,320

Yes, but the viewers are saying that we did not get a bonafide ignition.

52

00:02:55,320 --> 00:02:56,640

It flew.

53

00:02:56,640 --> 00:03:03,200

Yeah, they claim that all we got was the release of nitrous oxide propelling that rocket.

54

00:03:03,200 --> 00:03:07,680

There was no actual ignition, just the gas alone and its pressure gave our rocket that

55

00:03:07,680 --> 00:03:08,680

launch.

56

00:03:09,160 --> 00:03:13,240

I think now would be a good time for a graphic.

57

00:03:13,240 --> 00:03:16,800

Their original rocket was a two-tank hybrid rocket.

58

00:03:16,800 --> 00:03:22,440

The bottom half contained the Salami Rocket fuel and the top, the fuel oxidizer, liquid

59

00:03:22,440 --> 00:03:25,200

nitrous oxide or NOx.

60

00:03:25,200 --> 00:03:31,240

The theory was that on ignition, the Salami gently smoldered until the NOx was released

61

00:03:31,240 --> 00:03:33,480

with explosive results.

62

00:03:33,480 --> 00:03:39,560

But some fans think that the Salami was never actually a light, so the thrust they got was

63

00:03:39,560 --> 00:03:42,280

thanks only to the release of the NOx.

64

00:03:42,280 --> 00:03:44,000

So we have to retest it.

65

00:03:44,000 --> 00:03:49,200

This is just a total proof of concept, just to see if we can get ignition between the

66

00:03:49,200 --> 00:03:53,560

NOx and the Salami and to see if that ignition produces real thrust.

67

00:03:53,560 --> 00:03:54,560

Huh.

68

00:03:55,560 --> 00:04:01,680

To find out if their rocket was a NOx no-hopper or a Salami sizzler, the mythbusters have

69

00:04:01,720 --> 00:04:04,040

dusted off their original plans.

70

00:04:04,040 --> 00:04:06,040

Rocket fuel.

71

00:04:06,040 --> 00:04:12,520

So, first things first, it's back to the butcher's board.

72

00:04:12,520 --> 00:04:18,120

Remember the bandsaw was invented for cutting meat.

73

00:04:18,120 --> 00:04:23,320

Just like last time, Adam's starting by shaping the Salamis so that they'll fit snugly into

74

00:04:23,320 --> 00:04:24,320

the rocket.

75

00:04:24,320 --> 00:04:26,320

Uh, disgusting.

76

00:04:26,760 --> 00:04:36,760

And just like last time, Adam's suffering from innuendo overload to many jokes.

77

00:04:36,760 --> 00:04:42,760

With Adam showing the restraint of a saint, he heads on to tackle another viewer complaint,

78

00:04:42,760 --> 00:04:45,000

the graphite exhaust nozzle.

79

00:04:45,000 --> 00:04:50,640

Despite Adam's silky skills, there were some fans who thought his original nozzles were

80

00:04:50,640 --> 00:04:52,040

not strong enough.

81

00:04:52,200 --> 00:04:58,120

So, I've made the new ones with a much thicker lip, should provide a lot more material and

82

00:04:58,120 --> 00:05:00,120

provide a lot more strength.

83

00:05:00,120 --> 00:05:03,960

Come launch time, these reinforced nozzles should do the business.

84

00:05:03,960 --> 00:05:08,920

But for this experiment, the term launch is not entirely accurate, because they're going

85

00:05:08,920 --> 00:05:12,760

to do these tests locked down.

86

00:05:12,760 --> 00:05:18,640

We're going to do the Salami Rocket Revisit Bench Tests right here outside the shop, but

87

00:05:18,640 --> 00:05:19,960

inside the bunker.

88

00:05:19,960 --> 00:05:26,080

Now, this bunker is specifically designed to be able to contain things like flame and

89

00:05:26,080 --> 00:05:30,080

explosions and projectiles that we don't want to expose ourselves to.

90

00:05:30,080 --> 00:05:35,400

And to get some data without a launch into the sky, Jamie's built a special clamp that

91

00:05:35,400 --> 00:05:37,880

will hold the rocket in place.

92

00:05:37,880 --> 00:05:40,200

That looks pretty nifty.

93

00:05:40,200 --> 00:05:44,760

At each end of the clamp, he's putting force meters that should measure the amount of thrust

94

00:05:44,760 --> 00:05:48,680

the locked down rocket gives off on ignition.

95

00:05:48,720 --> 00:05:55,320

And with countdown approaching, Jamie puts the finishing touches to the rocket fuel,

96

00:05:55,320 --> 00:05:58,560

an inner coating of gunpowder.

97

00:05:58,560 --> 00:06:02,920

This is an invention of mine that's called self cooking meat.

98

00:06:02,920 --> 00:06:08,920

So while there won't be a vertical launch with Salamis, rockets and gunpowder, there'll

99

00:06:08,920 --> 00:06:11,920

still be some fireworks.

100

00:06:12,920 --> 00:06:18,920

Now it's time for things to get rough.

101

00:06:18,920 --> 00:06:26,920

Good to go for run number one, 15 miles per hour.

102

00:06:26,920 --> 00:06:33,040

When the team tested the myth about driving on rough roads, paramedics are nowhere to

103

00:06:33,040 --> 00:06:34,040

be found.

104

00:06:34,040 --> 00:06:38,160

They found that for a smoother ride, the faster you go, the better.

105

00:06:38,160 --> 00:06:41,160

But now, fans want to know something new.

106

00:06:42,160 --> 00:06:46,160

Well, Grant, I understand you have an interesting side myth here.

107

00:06:46,160 --> 00:06:48,520

Yep, and it has to do with rocks on the road.

108

00:06:48,520 --> 00:06:52,880

And if you have a vehicle approaching you, or if you're following one that might kick

109

00:06:52,880 --> 00:06:57,920

up a rock into your windshield, you put your hand up on it and apply pressure.

110

00:06:57,920 --> 00:07:02,400

And doing this will save your windshield if a rock hits it.

111

00:07:02,400 --> 00:07:04,320

It's another car caper.

112

00:07:04,320 --> 00:07:09,480

Can racing your hand against a windshield really prevent it from being shattered by roadside

113

00:07:09,480 --> 00:07:10,480

shrapnel?

114

00:07:11,480 --> 00:07:18,040

To test this driver's dilemma, rather than using Jamie's hammer, Grant and Tori are actually

115

00:07:18,040 --> 00:07:23,040

going to fire rocks at windshields with that childhood favorite, the slingshot.

116

00:07:23,040 --> 00:07:25,040

One, two, three.

117

00:07:29,040 --> 00:07:31,040

Did you guys see where that went?

118

00:07:34,040 --> 00:07:37,440

But of course, they're not just going to release rocks at random.

119

00:07:37,440 --> 00:07:42,440

Instead, Tori's built a rig that should fire with pinpoint accuracy.

120

00:07:44,440 --> 00:07:45,440

I think that's going to work.

121

00:07:45,440 --> 00:07:46,440

Just fine.

122

00:07:47,440 --> 00:07:50,440

But it's not just the aim that's important for this shootout.

123

00:07:51,440 --> 00:07:57,680

Well, I'm setting up the chronograph so that we can get an idea how fast Tori's slingshot

124

00:07:57,680 --> 00:07:59,560

is throwing those rocks.

125

00:07:59,560 --> 00:08:04,040

Our target velocity is somewhere in the order of 70 miles per hour.

126

00:08:04,040 --> 00:08:10,640

With the chronograph up and running and Tori's focused, everything's set for a speed test.

127

00:08:10,640 --> 00:08:12,640

I'm going to stand behind you.

128

00:08:12,640 --> 00:08:14,640

Why, Grant?

129

00:08:14,640 --> 00:08:17,640

Remember, they're looking to hit 70 miles an hour.

130

00:08:17,640 --> 00:08:19,640

Three, two, one.

131

00:08:21,640 --> 00:08:22,640

There you go.

132

00:08:22,640 --> 00:08:29,640

Okay, 67 feet per second, 45.7 miles per hour.

133

00:08:29,640 --> 00:08:31,140

45 miles an hour.

134

00:08:31,140 --> 00:08:33,640

So we need another at least 25 miles.

135

00:08:34,240 --> 00:08:35,240

Faster.

136

00:08:35,240 --> 00:08:36,240

Okay.

137

00:08:36,240 --> 00:08:41,240

To crank up the speed, Tori yanks the elastic eight inches further back.

138

00:08:44,240 --> 00:08:45,240

You can hit the chrono, man.

139

00:08:45,240 --> 00:08:47,240

It went right through the box.

140

00:08:48,240 --> 00:08:49,240

Perfect.

141

00:08:49,240 --> 00:08:50,240

76 miles per hour.

142

00:08:50,240 --> 00:08:51,240

Okay.

143

00:08:51,240 --> 00:08:53,240

Now they just need a car.

144

00:08:53,240 --> 00:08:58,640

Check, a handful of stones, check, and a blanket to catch any ricochets.

145

00:08:58,640 --> 00:08:59,640

Check.

146

00:09:00,240 --> 00:09:05,040

And with the list checked off, they're finally ready to fire at the windshield, both with

147

00:09:05,040 --> 00:09:08,040

and without Grant racing it with his hand.

148

00:09:08,040 --> 00:09:11,440

All right, Grant, I'm ready to start breaking windows with rocks, but before I stick you

149

00:09:11,440 --> 00:09:16,240

in that car to shoot it, I want to make sure we can actually break a windshield with the

150

00:09:16,240 --> 00:09:17,240

rock.

151

00:09:17,240 --> 00:09:18,240

Okay.

152

00:09:18,240 --> 00:09:20,240

Don't let that thing go.

153

00:09:20,240 --> 00:09:21,240

Okay.

154

00:09:21,240 --> 00:09:23,240

Three, two, one.

155

00:09:23,240 --> 00:09:25,240

Perfect shot.

156

00:09:25,240 --> 00:09:27,240

That's a pretty good hit.

157

00:09:27,240 --> 00:09:28,240

Okay.

158

00:09:28,240 --> 00:09:29,240

No shattered windshield.

159

00:09:29,240 --> 00:09:35,040

At 70 miles an hour, there's no broken glass, even without the hand.

160

00:09:35,040 --> 00:09:39,740

They try again, but this windshield is a tough nut to crack.

161

00:09:39,740 --> 00:09:42,640

So next they decide to go for broke.

162

00:09:42,640 --> 00:09:47,240

Well, since Jamie passed this kidney stone, we figured it'd be soon to shoot it through

163

00:09:47,240 --> 00:09:48,240

the windshield.

164

00:09:48,240 --> 00:09:49,240

This is 150-gram stone.

165

00:09:49,240 --> 00:09:52,240

We're going to see what kind of damage it does.

166

00:09:52,240 --> 00:09:55,240

Surely this monster will get the result thereafter.

167

00:09:55,240 --> 00:09:56,240

Okay.

168

00:09:56,240 --> 00:09:57,240

Here we go.

169

00:09:57,240 --> 00:09:58,240

Three, two, one.

170

00:09:59,240 --> 00:10:00,740

But no.

171

00:10:00,740 --> 00:10:06,340

There's a spider web crack, but no full-on shatter, which means it's back to the drawing

172

00:10:06,340 --> 00:10:07,340

board.

173

00:10:07,340 --> 00:10:08,980

Still to come.

174

00:10:08,980 --> 00:10:10,840

Will the baloney go ballistic?

175

00:10:10,840 --> 00:10:12,840

One, go.

176

00:10:12,840 --> 00:10:15,920

That sounded like a hell of a thug.

177

00:10:15,920 --> 00:10:18,160

But next, talk to the hand.

178

00:10:18,160 --> 00:10:20,040

Will the windshield get shattered?

179

00:10:20,040 --> 00:10:23,040

Three, two, one.

180

00:10:23,040 --> 00:10:36,920

You can protect that schoolgirl complexion with DuPlate Safety Glass.

181

00:10:36,920 --> 00:10:41,760

There are a whole host of ways to strengthen a car's windows, but is it true that your

182

00:10:41,760 --> 00:10:46,040

hand, braced up on the glass, can make it unbreakable?

183

00:10:46,040 --> 00:10:51,640

Well, Tori and Grant are on the case, but so far they're struggling to even shatter

184

00:10:51,640 --> 00:10:53,200

a windshield in the first place.

185

00:10:53,200 --> 00:10:54,200

Okay, here we go.

186

00:10:54,200 --> 00:10:57,200

Three, two, one.

187

00:10:57,200 --> 00:10:59,200

Whoa.

188

00:10:59,200 --> 00:11:01,600

Add after a quick research break.

189

00:11:01,600 --> 00:11:02,600

Grant discovers why.

190

00:11:02,600 --> 00:11:07,880

I think we've been having such difficulty with this windshield myth because we've been

191

00:11:07,880 --> 00:11:09,920

using laminated windshields.

192

00:11:09,920 --> 00:11:14,880

And here in America, it's been common practice to use those since the 1920s.

193

00:11:14,880 --> 00:11:19,360

Well, what I think is that this myth comes from other countries, but they've been using

194

00:11:19,360 --> 00:11:23,800

tempered glass windshields up until 1994.

195

00:11:23,800 --> 00:11:26,560

Tempered glass should be much easier to break.

196

00:11:26,560 --> 00:11:31,680

So to kickstart this myth, they're removing the laminated windshield.

197

00:11:31,680 --> 00:11:34,040

This job just keeps getting better and better.

198

00:11:34,040 --> 00:11:40,680

The mythbuster way.

199

00:11:40,680 --> 00:11:44,880

After Tori has flipped out on the car, Grant flips her around.

200

00:11:44,880 --> 00:11:51,600

What turns out on this model, the rear window is tempered and not laminated.

201

00:11:51,600 --> 00:11:53,880

And they're also going to make another change.

202

00:11:53,880 --> 00:12:01,800

Man, if I had a nickel for every window I shot out with a BB gun, I wouldn't be working.

203

00:12:01,800 --> 00:12:06,680

They're abandoning the slingshot, and instead they're going to use a BB gun, which should

204

00:12:06,680 --> 00:12:11,200

be easier to aim, easier to reload, and that's not all.

205

00:12:11,200 --> 00:12:14,840

The good thing about the BB gun, the BBs are all uniform.

206

00:12:14,960 --> 00:12:18,120

They're exactly the same, so that takes out any variability that we might have with the

207

00:12:18,120 --> 00:12:19,120

stone.

208

00:12:19,120 --> 00:12:23,640

That's the theory, but will the BB be powerful enough to shatter the shield?

209

00:12:23,640 --> 00:12:25,640

What's your prediction?

210

00:12:25,640 --> 00:12:28,520

He's going to take a BB in the nuts.

211

00:12:28,520 --> 00:12:32,520

Here we go in three, two, one.

212

00:12:32,520 --> 00:12:33,520

Okay.

213

00:12:33,520 --> 00:12:38,520

Looks like that breaks the windshield.

214

00:12:38,520 --> 00:12:42,480

At last, they get the break thereafter.

215

00:12:42,480 --> 00:12:46,640

So now they can put this myth to the test.

216

00:12:46,640 --> 00:12:50,280

With a replacement window in place, here we go.

217

00:12:50,280 --> 00:12:56,040

Tari's going to fire an identical BB, and Grant will brace his hand against the glass.

218

00:12:56,040 --> 00:12:58,280

Will the windshield still shatter?

219

00:12:58,280 --> 00:13:00,840

I'll miss you, buddy.

220

00:13:00,840 --> 00:13:02,280

I'm going to catch it in my teeth.

221

00:13:02,280 --> 00:13:08,200

All right, so this is BB shot onto tempered glass, Grant bracing the windshield.

222

00:13:08,200 --> 00:13:11,480

In three, two, one.

223

00:13:11,680 --> 00:13:14,120

Oh, that went.

224

00:13:14,120 --> 00:13:16,520

You holding the windshield didn't seem to help much.

225

00:13:16,520 --> 00:13:18,920

No, not at all.

226

00:13:18,920 --> 00:13:23,800

The windshield was definitely not protected by the hand, but the team isn't quite ready

227

00:13:23,800 --> 00:13:26,080

to call it myth-busted yet.

228

00:13:26,080 --> 00:13:31,880

What we didn't do in the previous test is dial in at what point the windshield will

229

00:13:31,880 --> 00:13:32,880

shatter.

230

00:13:32,880 --> 00:13:36,720

So what we're going to do, I have a BB gun, and I'm going to take a shot, pump it up,

231

00:13:36,720 --> 00:13:40,920

take a shot, pump it up twice, take a shot, and I'm going to keep pumping it up, taking

232

00:13:40,920 --> 00:13:45,800

a shot until we find at the exact point it'll take to crack this windshield.

233

00:13:45,800 --> 00:13:46,800

Here we go.

234

00:13:46,800 --> 00:13:48,720

Three, two, one.

235

00:13:48,720 --> 00:13:53,960

Tari's worried that in the last test, the BB was fired so fast that it was always going

236

00:13:53,960 --> 00:13:55,400

to shatter the windshield.

237

00:13:55,400 --> 00:13:59,040

One, two, three, four.

238

00:13:59,040 --> 00:14:03,840

So for the next test, he's calibrating the BB so that it fires at a speed which only

239

00:14:03,840 --> 00:14:06,640

just smashes the unbraced glass.

240

00:14:06,640 --> 00:14:10,400

One, two, three, four, five, six.

241

00:14:10,520 --> 00:14:11,520

Okay.

242

00:14:13,520 --> 00:14:14,520

Okay.

243

00:14:14,520 --> 00:14:19,920

Six pumps at this angle seems to be the winning number.

244

00:14:19,920 --> 00:14:25,240

With the BB dialed in, it's time to talk to the hand.

245

00:14:25,240 --> 00:14:32,560

So now we're going to do another test with me inside of the car holding the glass to

246

00:14:32,560 --> 00:14:39,200

see if this is going to prevent it from breaking or if it's just going to break anyway.

247

00:14:39,200 --> 00:14:40,960

It's the moment of truth.

248

00:14:40,960 --> 00:14:45,120

Grant assumes the position and Tari pumps to six.

249

00:14:45,120 --> 00:14:49,840

If the new windshield doesn't bust now, the myth is confirmed.

250

00:14:49,840 --> 00:14:53,320

Three, two, one.

251

00:14:53,320 --> 00:14:59,560

Well, it doesn't look like putting your hand up against the windshield really does much,

252

00:14:59,560 --> 00:15:00,560

does it?

253

00:15:00,560 --> 00:15:04,200

Tari's got it right on.

254

00:15:04,200 --> 00:15:09,360

Grant gave the windshield a hand, but it was still smashed to smithereens.

255

00:15:09,360 --> 00:15:12,960

My feeling is it doesn't matter whether or not you put your hand up against the windshield,

256

00:15:12,960 --> 00:15:13,960

it's going to break.

257

00:15:13,960 --> 00:15:15,840

Okay, fair enough.

258

00:15:15,840 --> 00:15:17,440

You're so over this one, huh?

259

00:15:17,440 --> 00:15:21,920

You tried getting BBs and rocks shot at you about a dozen times.

260

00:15:21,920 --> 00:15:23,760

We'll see how you feel.

261

00:15:23,760 --> 00:15:25,240

So that's it.

262

00:15:27,000 --> 00:15:30,560

Grant's patience is shattered and this myth is busted.

263

00:15:34,640 --> 00:15:38,080

Later, Tari, Kari and Grant chop down another myth.

264

00:15:41,080 --> 00:15:42,880

Sounds like some rabbit.

265

00:15:42,880 --> 00:15:46,120

But next, will the Salami Sky Rocket.

266

00:15:46,120 --> 00:15:48,960

Three, two, one.

267

00:15:56,840 --> 00:16:01,640

Cotto Salami, mortadella, rocket fuel, rocket fuel, who needs a rocket fuel?

268

00:16:01,640 --> 00:16:07,320

When the Salami Rocket revisit, the boys are all set to see if Baloti can go ballistic,

269

00:16:07,320 --> 00:16:11,080

because fans weren't convinced.

270

00:16:11,080 --> 00:16:17,360

We're having a revisit of this because there was a concern that the lift off that we got

271

00:16:17,360 --> 00:16:23,840

in a previous experiment might have been just the nitrous oxide coming out of the tank.

272

00:16:23,840 --> 00:16:28,120

And if, obviously, if there was enough of it, if it was energetic enough of it, we might

273

00:16:28,120 --> 00:16:33,360

have gotten some kind of burst from that, but not actually achieved ignition.

274

00:16:33,360 --> 00:16:38,720

To find an answer once and for all, the mythbusters have made some new meat missiles.

275

00:16:38,720 --> 00:16:41,200

But how do they work again?

276

00:16:41,200 --> 00:16:44,520

It's a bench stand test for Salami Rocket.

277

00:16:44,520 --> 00:16:47,080

This right here is the Salami Rocket.

278

00:16:47,080 --> 00:16:48,880

Nitrous oxide goes in here.

279

00:16:48,880 --> 00:16:52,960

This is an electrically actuated valve that releases it into the ignition chamber where

280

00:16:52,960 --> 00:16:56,080

we put the Salami and a nozzle.

281

00:16:56,080 --> 00:16:59,960

This rocket will be pushing this way, and we've got a force meter right here to test

282

00:16:59,960 --> 00:17:03,320

how much force it is pushing this way.

283

00:17:03,320 --> 00:17:08,000

We also have an analog force meter right here, a plate of steel, that the rocket exhaust

284

00:17:08,000 --> 00:17:13,760

will push against and actually give us a different relative measurement of exactly how much force

285

00:17:13,760 --> 00:17:15,560

the rockets are putting out.

286

00:17:15,560 --> 00:17:19,840

The mythbusters are going to run a bunch of tests and compare the thrust levels recorded

287

00:17:19,840 --> 00:17:21,120

on the force gauges.

288

00:17:21,120 --> 00:17:25,560

And for test one, they're going to address the fans' main complaint by measuring the

289

00:17:25,560 --> 00:17:27,680

force put out by the NOx alone.

290

00:17:27,680 --> 00:17:32,120

No Salami, no ignition, just escaping gas.

291

00:17:32,120 --> 00:17:34,720

Okay, this is NO2 only.

292

00:17:34,720 --> 00:17:35,720

Yeah.

293

00:17:35,720 --> 00:17:38,720

And three, two, one.

294

00:17:38,720 --> 00:17:44,720

That sounded like a hell of a thug.

295

00:17:44,720 --> 00:17:48,400

Well, let's see what the force gauge said.

296

00:17:48,400 --> 00:17:51,520

I believe that would be a pretty good one.

297

00:17:51,520 --> 00:17:56,120

Okay, the force gauge says 78 pounds of force.

298

00:17:56,120 --> 00:18:01,760

78 pounds of thrust sounds a lot, and it sure looks violent.

299

00:18:01,760 --> 00:18:08,120

But would this alone have been enough to propel their original Salami rocket to the sky?

300

00:18:08,120 --> 00:18:15,000

Adam and Jamie do the math, calibrating the force and weight, and wait for it.

301

00:18:15,000 --> 00:18:19,120

Okay, I will give it to the viewers.

302

00:18:19,120 --> 00:18:20,760

They may actually be right.

303

00:18:20,760 --> 00:18:25,160

The evidence supports it here that just the pure release of nitrous oxide from that top

304

00:18:25,160 --> 00:18:29,440

tank would be enough to get the rocket off the rocket stand.

305

00:18:29,440 --> 00:18:35,320

So it's looking like viewers won mythbusters zero.

306

00:18:35,320 --> 00:18:39,960

And if the escaping NO<sub>x</sub> was enough to launch the original rocket, then the mythbusters

307

00:18:39,960 --> 00:18:42,480

need to head back to square one.

308

00:18:42,480 --> 00:18:46,600

Can Salami add anything to the reaction?

309

00:18:46,600 --> 00:18:51,160

Come back and come and get some rocket fuel out of the fridge.

310

00:18:51,160 --> 00:18:54,920

For test two, they're loading the rocket up to the max.

311

00:18:54,920 --> 00:18:58,120

Salami is the fuel, and NO<sub>x</sub> is the oxidizer.

312

00:18:58,120 --> 00:19:02,560

And they're also adding an igniter to make sure that the Salami, with its black powder

313

00:19:02,560 --> 00:19:06,720

filling, is smoldering when the NOx is released.

314

00:19:06,720 --> 00:19:13,840

We're guiding them with little model rocket engines like this, and the new mythbusters

315

00:19:13,840 --> 00:19:15,640

launch button.

316

00:19:15,640 --> 00:19:20,560

The rocket's ready, but the question is, will this setup produce any more thrust on the

317

00:19:20,560 --> 00:19:22,760

force gauge?

318

00:19:22,760 --> 00:19:30,840

In three, two, one, go.

319

00:19:30,840 --> 00:19:32,880

Now that sounds more like it should.

320

00:19:32,880 --> 00:19:36,280

It's the moment of truth.

321

00:19:36,280 --> 00:19:41,200

Mythbuster pride is on the line.

322

00:19:41,200 --> 00:19:43,200

I get 19.6.

323

00:19:43,200 --> 00:19:44,200

Pounds?

324

00:19:44,200 --> 00:19:45,200

Yeah.

325

00:19:45,880 --> 00:19:51,760

Remember on test one, with just the escaping NOx powering it, the rocket generated 78 pounds

326

00:19:51,760 --> 00:19:55,400

of force, which means something's gone wrong.

327

00:19:55,400 --> 00:19:56,400

Pull this out.

328

00:19:56,400 --> 00:19:57,400

I've just got to look right now.

329

00:19:57,400 --> 00:19:58,400

Nothing.

330

00:19:58,400 --> 00:20:01,400

Salami didn't ignite.

331

00:20:01,400 --> 00:20:02,680

Uh-oh.

332

00:20:02,680 --> 00:20:06,640

It's looking like it's viewers two, mythbusters zero.

333

00:20:06,640 --> 00:20:11,640

The Salami didn't burn, so it's not added any more thrust, which is leaving Adam and

334

00:20:11,640 --> 00:20:15,600

Jamie rather embarrassed.

335

00:20:15,600 --> 00:20:20,640

Coming right up, the boys hit the road for a fuel efficiency revisit.

336

00:20:20,640 --> 00:20:31,320

This test is tailgate up, just like gold time, except we don't have to drive for 600 miles.

337

00:20:31,320 --> 00:20:35,200

Please don't try anything that you're about to see us do at home, ever.

338

00:20:42,640 --> 00:20:47,440

So, tailgate up versus tailgate down, are you serious?

339

00:20:47,440 --> 00:20:48,440

Are we revisiting that?

340

00:20:48,440 --> 00:20:49,440

I thought we nailed that.

341

00:20:49,440 --> 00:20:50,440

Yeah, we did nail it.

342

00:20:50,440 --> 00:20:54,200

I think we nailed it, you think we nailed it, and I believe the general consensus is

343

00:20:54,200 --> 00:20:55,200

that we nailed it.

344

00:20:55,200 --> 00:20:59,120

But when it comes to fuel efficiency, the fans just want more.

345

00:20:59,120 --> 00:21:01,120

They want more tests.

346

00:21:01,120 --> 00:21:02,120

Huh.

347

00:21:02,120 --> 00:21:08,640

The tailgate up versus down dilemma first spawned a driving marathon.

348

00:21:08,640 --> 00:21:11,120

Yeah, it's definitely out.

349

00:21:11,120 --> 00:21:13,320

I'm keying it off over.

350

00:21:13,320 --> 00:21:16,000

Then a water vortex test.

351

00:21:16,000 --> 00:21:18,000

Okay.

352

00:21:18,000 --> 00:21:22,280

Both of which prove that tailgate up is a more fuel efficient way to drive.

353

00:21:22,280 --> 00:21:23,680

And it's right about here.

354

00:21:23,680 --> 00:21:27,720

They're hitting this critical point where I can see them kind of falling off and joining

355

00:21:27,720 --> 00:21:29,880

in with their friends.

356

00:21:29,880 --> 00:21:32,280

But viewers want more.

357

00:21:32,280 --> 00:21:36,720

So the basic gist of it is that the fans feel like there are several tests we did not try

358

00:21:36,720 --> 00:21:40,360

that can potentially improve your mileage on your pickup truck.

359

00:21:40,720 --> 00:21:45,200

Yeah, my inbox is full of them, like driving your pickup with that hard roof cover on it.

360

00:21:45,200 --> 00:21:46,200

Yeah, that's one of them.

361

00:21:46,200 --> 00:21:51,360

There's also, I've been suggested, the mesh in place of your tailgate is supposed to work.

362

00:21:51,360 --> 00:21:55,320

And some of them are suggesting that you even take your tailgate entirely off.

363

00:21:55,320 --> 00:21:57,800

Okay, so that's three tests.

364

00:21:57,800 --> 00:21:59,480

That's enough for us to work with.

365

00:21:59,480 --> 00:22:00,480

I think we should do it.

366

00:22:00,480 --> 00:22:01,840

Sounds like a plan.

367

00:22:01,840 --> 00:22:08,000

The boys are going to test the different tailgate setups at 25 and 55 miles an hour.

368

00:22:08,000 --> 00:22:14,920

To find out once and for all the most fuel efficient way of driving a pickup.

369

00:22:14,920 --> 00:22:17,800

Or more precisely, Jamie's pickup.

370

00:22:17,800 --> 00:22:21,520

The way this works is it's got a flow meter, an electronic flow meter that we've hooked

371

00:22:21,520 --> 00:22:23,560

directly into the fuel line of the car.

372

00:22:23,560 --> 00:22:28,040

So it knows it's not estimating, it's not calculating or extrapolating, it's reading

373

00:22:28,040 --> 00:22:32,280

precisely how much fuel is moving into the engine of the car under each condition we're

374

00:22:32,280 --> 00:22:33,280

going to test it under.

375

00:22:33,400 --> 00:22:38,080

It's a foolproof system and once more it has been pretested.

376

00:22:38,080 --> 00:22:41,960

For anyone out there who wants to email me telling me that we screwed up this test, we

377

00:22:41,960 --> 00:22:47,400

have already calibrated this thing to this car.

378

00:22:47,400 --> 00:22:49,880

So it's going to be perfect.

379

00:22:49,880 --> 00:22:54,600

With the perfect gauge in place, it's time to hit the road.

380

00:22:54,600 --> 00:22:58,560

So for each of these, I think this stretch that you're driving on is perfect.

381

00:22:58,680 --> 00:23:02,960

It's like five miles of straight, flat road when you get all of our speed readings and

382

00:23:02,960 --> 00:23:07,120

fuel efficiency readings on here to start back and forth, back and forth.

383

00:23:07,120 --> 00:23:12,000

And they're going to start by trying to confirm their original results with the tailgate down.

384

00:23:12,000 --> 00:23:18,240

Okay, I'm working my way up to 55.

385

00:23:18,240 --> 00:23:21,640

It should be pretty stable right now.

386

00:23:21,640 --> 00:23:26,320

5.3, 5.2.

387

00:23:26,320 --> 00:23:28,280

I'm real stable.

388

00:23:28,480 --> 00:23:30,000

It's not moving.

389

00:23:30,000 --> 00:23:31,000

5.2, 5.2.

390

00:23:31,000 --> 00:23:34,120

5.2 gallons per hour at 55.

391

00:23:34,120 --> 00:23:40,480

From 55, Jamie slams on their brakes and repeats the circuit at 25 miles an hour.

392

00:23:40,480 --> 00:23:44,080

Okay, 1.2 gallons per hour at 25.

393

00:23:44,080 --> 00:23:45,080

Okay.

394

00:23:45,080 --> 00:23:50,280

A quick pit stop later and it's all changed with the tailgate.

395

00:23:50,280 --> 00:23:56,480

This test is tailgate up just like old times, because I've been on a drive for 600 miles.

396

00:23:56,480 --> 00:24:00,240

They run the circuit once more at 55.

397

00:24:00,240 --> 00:24:05,000

Stable reading of 5 gallons per hour at 55.

398

00:24:05,000 --> 00:24:07,720

Then again at 25 miles an hour.

399

00:24:07,720 --> 00:24:13,440

Well, that seems to confirm our previous results that having the tailgate up is more fuel efficient

400

00:24:13,440 --> 00:24:15,560

than having the tailgate down.

401

00:24:15,560 --> 00:24:18,240

Well, that's encouraging.

402

00:24:18,240 --> 00:24:22,000

So, what's next?

403

00:24:22,000 --> 00:24:26,240

Now that their original results are upheld, the new tests can begin.

404

00:24:26,240 --> 00:24:30,560

And first up, it's on with the pickup cover.

405

00:24:30,560 --> 00:24:33,560

Putting a hard cover on your pickup truck is supposed to be the best thing you could do

406

00:24:33,560 --> 00:24:37,160

to make it aerodynamic and that's supposed to lead to the best fuel efficiency.

407

00:24:37,160 --> 00:24:42,760

A nearly endless number of fans wrote Jamie and I to explain this very point, so that's

408

00:24:42,760 --> 00:24:44,920

why we're doing it.

409

00:24:44,920 --> 00:24:49,200

Once the cover's in place, they drive around in circles some more.

410

00:24:49,400 --> 00:24:53,800

1.2 gallons per hour at 25.

411

00:24:53,800 --> 00:24:55,800

Let's go up to 55.

412

00:24:55,800 --> 00:24:57,800

Okay, and steadying up.

413

00:24:57,800 --> 00:24:58,800

Not moving.

414

00:24:58,800 --> 00:25:04,800

Okay, I get a reading of 5 gallons per hour at 55.

415

00:25:04,800 --> 00:25:09,920

The stats are in, so they head back to mission control, where it's off with the roof as the

416

00:25:09,920 --> 00:25:12,040

cover is uncovered.

417

00:25:12,040 --> 00:25:13,960

And there you have it.

418

00:25:13,960 --> 00:25:15,960

One nice fallout shelter.

419

00:25:16,720 --> 00:25:21,720

Hello honey, there's a tornado coming.

420

00:25:21,720 --> 00:25:25,400

Hold on sweetie, let's go down.

421

00:25:25,400 --> 00:25:29,120

While Adam seeks shelter, what's next?

422

00:25:29,120 --> 00:25:33,000

Next is actually a truck tailgate mesh.

423

00:25:33,000 --> 00:25:36,240

Requires removing this and putting the mesh on.

424

00:25:36,240 --> 00:25:38,400

Well, this thing weighs a bit.

425

00:25:38,400 --> 00:25:42,560

I guess that'd save mileage if it's not on the truck, right?

426

00:25:42,560 --> 00:25:46,480

Well, the fans emailed us and said if we're testing tailgate up and down, we should test

427

00:25:46,480 --> 00:25:48,920

this because this is supposed to be the least aerodynamic.

428

00:25:48,920 --> 00:25:51,440

It's supposed to use the most fuel.

429

00:25:51,440 --> 00:25:55,080

And on the box it actually says it improves the gas mileage.

430

00:25:55,080 --> 00:25:56,840

So we're going to investigate that.

431

00:25:56,840 --> 00:26:00,040

There's a mishmash of information about the mesh.

432

00:26:00,040 --> 00:26:04,920

The manufacturer claims it improves mileage, but the fans disagree.

433

00:26:04,920 --> 00:26:09,560

Luckily, the myth busters are going to put an end to this controversy.

434

00:26:10,560 --> 00:26:15,560

So this is the test for the mesh installed with the tailgate removed.

435

00:26:15,560 --> 00:26:18,560

And two laps later, the info's in.

436

00:26:18,560 --> 00:26:22,560

And that leaves just one final configuration.

437

00:26:23,560 --> 00:26:25,560

Okay, we're good to go.

438

00:26:25,560 --> 00:26:27,560

Well, let's go.

439

00:26:27,560 --> 00:26:30,560

The last test is no tailgate and no mesh.

440

00:26:30,560 --> 00:26:36,560

And after another bout of driving, they have all the data they could ever need.

441

00:26:36,560 --> 00:26:37,560

So where are we now?

442

00:26:37,560 --> 00:26:43,560

Well, now I'm tired of driving and I think we should go back to the shop and crunch all these numbers,

443

00:26:43,560 --> 00:26:47,560

compare them to each other and see what kind of data we actually achieved today.

444

00:26:47,560 --> 00:26:49,560

Okay.

445

00:26:49,560 --> 00:26:53,560

So Adam, we're back at base and you're looking a little confused with that calculator.

446

00:26:53,560 --> 00:26:54,560

I'm not confused.

447

00:26:54,560 --> 00:26:55,560

Hold on.

448

00:26:55,560 --> 00:26:57,560

All right, the results are in.

449

00:26:57,560 --> 00:27:01,560

The most fuel efficient thing you can do to drive your pickup truck is...

450

00:27:03,560 --> 00:27:04,560

Mesh.

451

00:27:05,560 --> 00:27:06,560

Really?

452

00:27:06,560 --> 00:27:11,560

Yeah, actually it was an improvement of almost 5%, which exceeds most of the other things we tried.

453

00:27:11,560 --> 00:27:12,560

Wow.

454

00:27:12,560 --> 00:27:13,560

What about the other combinations?

455

00:27:13,560 --> 00:27:19,560

Well, no tailgate, tailgate up and hard cover were all about the same and tailgate down was again

the worst.

456

00:27:19,560 --> 00:27:21,560

Well, there you go.

457

00:27:21,560 --> 00:27:27,560

Yeah, I really, really hope and I'm asking you, sitting at your computer, not to email me about this.

458

00:27:27,560 --> 00:27:29,560

I don't want to do any more fuel efficiency myths.

459

00:27:29,560 --> 00:27:33,560

Yeah, if you don't believe us, go right ahead and drive the way you want.

460

00:27:37,560 --> 00:27:39,560

Two, one.

461

00:27:39,560 --> 00:27:42,560

Later, the Salami rocket backfires.

462

00:27:42,560 --> 00:27:45,560

The Salami everywhere.

463

00:27:45,560 --> 00:27:49,560

But next, it's a barbecue myth buster style.

464

00:27:49,560 --> 00:27:53,560

Always remember, use plenty of lighter fluid.

465

00:27:53,560 --> 00:28:00,560

Now, Carrie, Grant and Tori are going to slice another myth wide open.

466

00:28:00,560 --> 00:28:02,560

So, sword cuts a sword.

467

00:28:02,560 --> 00:28:04,560

Did you guys screw up or what?

468

00:28:04,560 --> 00:28:08,560

No, we actually got it right this time.

469

00:28:08,560 --> 00:28:10,560

Cut to flashback.

470

00:28:10,560 --> 00:28:15,560

In the mega movie special, the team tried to chop a sword.

471

00:28:15,560 --> 00:28:18,560

We go in three, two, one.

472

00:28:18,560 --> 00:28:20,560

Yeah.

473

00:28:20,560 --> 00:28:21,560

Whoa.

474

00:28:21,560 --> 00:28:22,560

Nice.

475

00:28:22,560 --> 00:28:28,560

But no matter what combination of blades they used, they could never get a clean cut.

476

00:28:28,560 --> 00:28:30,560

At first, I was so impressed.

477

00:28:30,560 --> 00:28:34,560

I thought we might have had a slice, but comes down to it, we had another snap.

478

00:28:34,560 --> 00:28:36,560

But the fifth one, we had a slice.

479

00:28:36,560 --> 00:28:38,560

We had a slice.

480

00:28:38,560 --> 00:28:40,560

At first, I was so impressed.

481

00:28:40,560 --> 00:28:44,560

I thought we might have had a slice, but comes down to it, we had another snap.

482

00:28:44,560 --> 00:28:49,560

But the fans now want them to shoot down another sword chopping myth.

483

00:28:49,560 --> 00:28:52,560

So, we actually got a letter from a fan that said during World War II,

484

00:28:52,560 --> 00:28:57,560

Japanese soldiers were cutting through American soldiers' hot machine gun barrels with their swords.

485

00:28:57,560 --> 00:28:59,560

I'll be darned.

486

00:28:59,560 --> 00:29:00,560

All right.

487

00:29:00,560 --> 00:29:03,560

Well, it sounds like we need to dust off the cutting rig and I'll go get a machine gun.

488

00:29:03,560 --> 00:29:07,560

Sounds like you got your work cut out for you, don't you?

489

00:29:07,560 --> 00:29:11,560

Machine guns are the foundation of today's military units.

490

00:29:11,560 --> 00:29:18,560

But could this mandate of modern warfare really be cut down by the humble sword?

491

00:29:18,560 --> 00:29:25,560

To carve out an answer, Grant is first making some modifications to the original sword-swinging robot.

492

00:29:25,560 --> 00:29:30,560

Before, this was just able to match what a human could do.

493

00:29:30,560 --> 00:29:35,560

But for this one, we're actually going to amp it up and make it something superhuman.

494

00:29:35,560 --> 00:29:39,560

Because shearing through a machine gun is a tough task,

495

00:29:39,560 --> 00:29:42,560

Grant's maximizing the robot's cutting power.

496

00:29:42,560 --> 00:29:46,560

With a new pressure cylinder, it'll be packing twice the punch,

497

00:29:46,560 --> 00:29:52,560

which makes it so dangerous that for a preliminary test, the team must retreat to the bunker.

498

00:29:52,560 --> 00:29:53,560

Here we go.

499

00:29:53,560 --> 00:29:59,560

Three, two, one.

500

00:29:59,560 --> 00:30:00,560

Yeah, all right.

501

00:30:00,560 --> 00:30:05,560

That's only at a third of the maximum pressure, a quarter of the maximum pressure.

502

00:30:05,560 --> 00:30:11,560

With the rigs swinging like Babe Ruth, it's time to bring in the World War II weaponry.

503

00:30:11,560 --> 00:30:15,560

What we've got here is a browning 30-caliber machine gun.

504

00:30:15,560 --> 00:30:20,560

And it's got the outside guard, but more importantly, the barrel.

505

00:30:20,560 --> 00:30:24,560

And as you can see, it's pretty thick.

506

00:30:24,560 --> 00:30:29,560

With such a thick barrel, it's looking like the sword will have its work cut out.

507

00:30:29,560 --> 00:30:33,560

But then, Grant offers this myth a lifeline.

508

00:30:33,560 --> 00:30:37,560

Well, supposedly, the reason that they were able to cut through the barrel is because

509

00:30:37,560 --> 00:30:43,560

as these guns were being fired, they would heat up almost to the point of being red or even white hot.

510

00:30:43,560 --> 00:30:44,560

Now let's get this straight.

511

00:30:44,560 --> 00:30:50,560

When a bullet is fired, the gases expelled can reach temperatures of 5,000 degrees.

512

00:30:50,560 --> 00:30:56,560

So it's no surprise that with a rapid-fire weapon, the barrel can become red hot,

513

00:30:56,560 --> 00:31:00,560

making a slice and dice much more likely.

514

00:31:02,560 --> 00:31:06,560

Of course, it's too dangerous to actually shoot the browning to heat it up.

515

00:31:06,560 --> 00:31:09,560

So instead, they're having a barbecue.

516

00:31:09,560 --> 00:31:15,560

The reason why we're starting a fire is we need to get these machine gun barrels at an even temperature.

517

00:31:15,560 --> 00:31:19,560

Run it over to the sword machine and try to cut it in half.

518

00:31:19,560 --> 00:31:25,560

But with Tori in charge of the fire, this method could be just as dangerous as the shooting.

519

00:31:25,560 --> 00:31:29,560

Always remember, use plenty of lighter fluid.

520

00:31:29,560 --> 00:31:32,560

Who put you in charge of the fire?

521

00:31:32,560 --> 00:31:35,560

I don't know, but I'm glad they did.

522

00:31:35,560 --> 00:31:37,560

Where there's smoke, there's fire.

523

00:31:37,560 --> 00:31:40,560

And this little shin dig is no exception.

524

00:31:40,560 --> 00:31:47,560

With a little help from the shop fan and a few more calls, he's hoping to reach 600 degrees.

525

00:31:47,560 --> 00:31:50,560

Does this all seem incredibly dangerous?

526

00:31:50,560 --> 00:31:51,560

Yes, it seems very dangerous.

527

00:31:51,560 --> 00:31:55,560

Just as long as everyone's aware of that.

528

00:31:55,560 --> 00:32:03,560

With everyone aware of the danger, Tori adds the gun barrel to the flames, which is making Carrie even more nervous.

529

00:32:03,560 --> 00:32:10,560

Worst case scenario would be that as the samurai sword comes whipping around, hits the gun barrel,

530

00:32:10,560 --> 00:32:15,560

one or the other, both shatter into a million pieces, and they go into every part of the shop.

531

00:32:15,560 --> 00:32:19,560

Shop catches on fire, burns down. I don't have a job.

532

00:32:20,560 --> 00:32:24,560

Carrie may yet be fired, but it's too late to back out because...

533

00:32:24,560 --> 00:32:26,560

It's done.

534

00:32:26,560 --> 00:32:28,560

Let's heat the gun barrel up to about 600 degrees.

535

00:32:28,560 --> 00:32:30,560

We're going to bring it inside.

536

00:32:30,560 --> 00:32:37,560

We've got our samurai sword swinging rig already to try to give it a cut and see if this revisit has any truth to it.

537

00:32:39,560 --> 00:32:43,560

Three, two, one.

538

00:32:46,560 --> 00:32:47,560

It sounded like something happened.

539

00:32:47,560 --> 00:32:50,560

It was a clean strike, but what's the result?

540

00:32:50,560 --> 00:32:51,560

Wow.

541

00:32:51,560 --> 00:32:53,560

That is a slice.

542

00:32:53,560 --> 00:32:55,560

Yeah, it's definitely a cut.

543

00:32:55,560 --> 00:32:57,560

That's a lot better than I would have thought.

544

00:32:57,560 --> 00:32:58,560

Me too.

545

00:32:58,560 --> 00:32:59,560

Given the thickness of this material.

546

00:32:59,560 --> 00:33:01,560

But it didn't cut through it.

547

00:33:01,560 --> 00:33:02,560

Or it's a slice.

548

00:33:02,560 --> 00:33:05,560

It didn't cut in half, but that's a gash.

549

00:33:05,560 --> 00:33:12,560

The gun may be gashed, but in a complete reverse of the myth, it's the blade that's been broken in half.

550

00:33:12,560 --> 00:33:17,560

So the next step is we're going to stick this back in the fire, try to get it up to a maximum temperature,

551

00:33:17,560 --> 00:33:20,560

and then we're going to go and try to cut it in half again.

552

00:33:21,560 --> 00:33:24,560

Last time they got the barrel to 600 degrees.

553

00:33:24,560 --> 00:33:26,560

Oh, I bet that's over a thousand.

554

00:33:26,560 --> 00:33:30,560

But this time they're cranking the heat up to the maximum.

555

00:33:30,560 --> 00:33:32,560

Oh, it's well over a thousand.

556

00:33:32,560 --> 00:33:33,560

Wow, the 14...

557

00:33:33,560 --> 00:33:34,560

1500.

558

00:33:34,560 --> 00:33:36,560

1600 degrees.

559

00:33:36,560 --> 00:33:38,560

Okay, it looks like it's holding there.

560

00:33:38,560 --> 00:33:39,560

And...

561

00:33:39,560 --> 00:33:40,560

Alright.

562

00:33:41,560 --> 00:33:47,560

With the temperature at 1600, the barrel starts to resemble something out of a sci-fi movie.

563

00:33:48,560 --> 00:33:50,560

Oh my God, it looks like a lightsaber.

564

00:33:50,560 --> 00:33:52,560

So cool.

565

00:33:52,560 --> 00:33:54,560

Alright, let's get this thing cut.

566

00:33:54,560 --> 00:33:55,560

Okay.

567

00:33:55,560 --> 00:33:56,560

We are hot.

568

00:33:56,560 --> 00:33:57,560

No pun intended.

569

00:33:57,560 --> 00:33:58,560

Get in here.

570

00:34:00,560 --> 00:34:03,560

Three, two, one.

571

00:34:03,560 --> 00:34:08,560

Okay, well...

572

00:34:08,560 --> 00:34:09,560

There, here.

573

00:34:09,560 --> 00:34:11,560

The barrel is still intact.

574

00:34:11,560 --> 00:34:13,560

It's got a deep slice.

575

00:34:13,560 --> 00:34:14,560

It's good?

576

00:34:14,560 --> 00:34:15,560

Yeah, it's deeper, but...

577

00:34:15,560 --> 00:34:17,560

It's still not cutting it in half, huh?

578

00:34:17,560 --> 00:34:21,560

Okay, I think just straight heat is not doing it because it's still red.

579

00:34:21,560 --> 00:34:26,560

And if it couldn't cut it at this point when it's soft and malleable and 1600 degrees...

580

00:34:26,560 --> 00:34:28,560

It wouldn't cut it ever.

581

00:34:29,560 --> 00:34:34,560

With the gun still standing strong, this myth is surely looking busted.

582

00:34:34,560 --> 00:34:39,560

On the other side of the break, will the gun get sliced and diced?

583

00:34:43,560 --> 00:34:47,560

And will the Salami rocket shoot for the moon?

584

00:34:47,560 --> 00:34:50,560

In three, two, one.

585

00:34:59,560 --> 00:35:10,560

The Mythbusters have been testing hot barrel against chiseled blade to see whether a sword can really cut through a machine gun.

586

00:35:10,560 --> 00:35:16,560

But so far, it's gun two, sword zero.

587

00:35:16,560 --> 00:35:18,560

So like something happened.

588

00:35:18,560 --> 00:35:24,560

But all is not lost because Grant's just had a moment of imahara ingenuity.

589

00:35:24,560 --> 00:35:32,560

One possibility for another way this might have happened is to heat up the barrel just like you're shooting it and then quench it rapidly.

590

00:35:32,560 --> 00:35:39,560

And if you do this over a succession of times, it will make the metal harder and in some cases, more brittle.

591

00:35:39,560 --> 00:35:45,560

Which would make it easier for someone to cut it or break it somehow.

592

00:35:45,560 --> 00:35:52,560

To put Grant's theory to the test, Tari first reheats the barrel before plunging it into some cold water.

593

00:35:55,560 --> 00:35:57,560

There she blows.

594

00:35:57,560 --> 00:36:02,560

And once chilled, the barrel jumps back from the freezing pan into the fire.

595

00:36:02,560 --> 00:36:04,560

Back into the fire.

596

00:36:06,560 --> 00:36:14,560

After five more repetitions, the barrels all set for test three, for which Carrie has lined up one more change.

597

00:36:14,560 --> 00:36:18,560

I've finally convinced Grant and Tori that we are going to have to give this our best shot.

598

00:36:18,560 --> 00:36:24,560

So we've gone through our inventory and pulled out the strongest best sword we have.

599

00:36:24,560 --> 00:36:26,560

I think it's going to give us our best shot.

600

00:36:26,560 --> 00:36:31,560

It's a souped up sword versus a bruised up barrel.

601

00:36:31,560 --> 00:36:37,560

Alright, brittle barrel, strong sword in three, two, one.

602

00:36:39,560 --> 00:36:41,560

Whoa!

603

00:36:41,560 --> 00:36:43,560

There's a drop of metal.

604

00:36:43,560 --> 00:36:45,560

Kicking, kicking, kicking.

605

00:36:45,560 --> 00:36:46,560

Yeah!

606

00:36:46,560 --> 00:36:48,560

Look it right there, right there, right there.

607

00:36:48,560 --> 00:36:51,560

At last, they've hit pay dirt.

608

00:36:51,560 --> 00:36:54,560

The barrel has broken into four pieces.

609

00:36:54,560 --> 00:36:57,560

But according to Grant, it's not myth confirmed.

610

00:36:57,560 --> 00:36:59,560

And there's three reasons why.

611

00:36:59,560 --> 00:37:02,560

The first reason is that this is not a slice.

612

00:37:02,560 --> 00:37:04,560

The myth is about slicing through a barrel.

613

00:37:04,560 --> 00:37:07,560

This is hitting it and the barrel shattered.

614

00:37:07,560 --> 00:37:11,560

The second reason is under normal operation, this machine gun would have an outside guard,

615

00:37:11,560 --> 00:37:14,560

which we weren't using for our tests.

616

00:37:14,560 --> 00:37:17,560

And the third reason is that I've really amped up this rig.

617

00:37:17,560 --> 00:37:18,560

It is superhuman.

618

00:37:18,560 --> 00:37:24,560

So that amount of force could not be delivered by even an expert swordsman.

619

00:37:24,560 --> 00:37:28,560

So on the Browning machine gun, it's myth busted.

620

00:37:28,560 --> 00:37:31,560

But Carrie wants to try one more thing.

621

00:37:31,560 --> 00:37:33,560

I think we should actually move on though.

622

00:37:33,560 --> 00:37:34,560

I think we should go on to something.

623

00:37:34,560 --> 00:37:38,560

Is there some sort of machine gun or something from the same era that would have smaller barrel

624

00:37:38,560 --> 00:37:39,560

or thinner walls or something?

625

00:37:39,560 --> 00:37:42,560

Well technically it wouldn't be a machine gun, it would be a submachine gun.

626

00:37:42,560 --> 00:37:45,560

But there are smaller barrels like a Tommy gun, which we have.

627

00:37:45,560 --> 00:37:46,560

Okay.

628

00:37:46,560 --> 00:37:47,560

We should try that.

629

00:37:47,560 --> 00:37:49,560

Yeah, let's ruin another gun.

630

00:37:49,560 --> 00:37:50,560

Alright.

631

00:37:51,560 --> 00:37:53,560

It's the last chance for this myth.

632

00:37:53,560 --> 00:37:57,560

Armed with a thin walled Tommy gun, it's back to the barbecue.

633

00:37:57,560 --> 00:37:59,560

It ain't gonna lie, that's hot.

634

00:37:59,560 --> 00:38:10,560

Alright, I'm watching it go up 1200, 1300, 1400, 1500, 1617, 1740, 17...

635

00:38:10,560 --> 00:38:12,560

Topping at 1750.

636

00:38:12,560 --> 00:38:13,560

Alright, cool.

637

00:38:13,560 --> 00:38:14,560

Let's do it.

638

00:38:14,560 --> 00:38:20,560

With the temperature red hot, can this shooter get slashed by the super strong sword?

639

00:38:20,560 --> 00:38:28,560

Okay, here we're going with a modern alloy blade, Tommy gun barrel in three, two, one.

640

00:38:28,560 --> 00:38:33,560

Oh, no way!

641

00:38:33,560 --> 00:38:35,560

It bent it.

642

00:38:35,560 --> 00:38:37,560

No freaking way.

643

00:38:37,560 --> 00:38:38,560

Huh.

644

00:38:38,560 --> 00:38:45,560

The barrel's more crooked than a politician, but even at almost 2000 degrees, there's still no cut.

645

00:38:45,560 --> 00:38:51,560

You know what my feeling is, it is that hot, it's hot enough to bend it by hitting it, and it's still not cutting it.

646

00:38:51,560 --> 00:38:54,560

I don't think you'll ever be able to cut it no matter how hot the barrel gets.

647

00:38:54,560 --> 00:39:00,560

No, I agree. I mean, here you see that, that deflection, it should have been able to.

648

00:39:00,560 --> 00:39:03,560

If it was going to, this is the softest state you're gonna find it in.

649

00:39:03,560 --> 00:39:05,560

It bent the barrel.

650

00:39:05,560 --> 00:39:12,560

And let's not forget that those are the thinnest walls on the smallest barrel using a modern sword with modern alloys.

651

00:39:12,560 --> 00:39:16,560

What they're trying to say is that it's miffed completely and utterly busted.

652

00:39:16,560 --> 00:39:18,560

So, let's cue the wrap up.

653

00:39:18,560 --> 00:39:21,560

So, what were the results you guys came up with?

654

00:39:21,560 --> 00:39:26,560

Totally busted. You can't cut a World War II-era machine gun barrel with a sword.

655

00:39:26,560 --> 00:39:28,560

It's just too thick.

656

00:39:28,560 --> 00:39:32,560

But we do think we found a reasonable explanation for why people thought maybe that you could cut them in half,

657

00:39:32,560 --> 00:39:37,560

and that is under certain conditions. The heating of the machine gun barrel through firing can make it kind of brittle,

658

00:39:37,560 --> 00:39:40,560

and it can shatter on impact with a sword, but it doesn't slice.

659

00:39:40,560 --> 00:39:44,560

So it's totally busted. Nice work. Well done.

660

00:39:47,560 --> 00:39:50,560

The Salami Rocket Revisit is not going well.

661

00:39:50,560 --> 00:39:56,560

So far, it's looking like the fans are right. Salami may be tasty, but Rocket Fuel it ain't.

662

00:39:58,560 --> 00:40:00,560

Nothing. Salami didn't ignite.

663

00:40:01,560 --> 00:40:05,560

But Jamie, bright spark that he is, has had a bright idea.

664

00:40:05,560 --> 00:40:09,560

Our ignition system worked perfectly this last run.

665

00:40:09,560 --> 00:40:14,560

However, we didn't get the reaction with the fuel grain and the gnaws.

666

00:40:14,560 --> 00:40:19,560

That means everything was burning, but it wasn't carried through into the fuel.

667

00:40:19,560 --> 00:40:26,560

What we figure that we need to do to make that happen is actually choke down the nozzle considerably more,

668

00:40:26,560 --> 00:40:32,560

because increasing the pressure in that engine is part of the formula of how rocket engines work.

669

00:40:32,560 --> 00:40:35,560

And on the off chance, you are not a rocket scientist.

670

00:40:35,560 --> 00:40:41,560

All that means is that on the next test, they're going to use an exhaust nozzle with a smaller hole.

671

00:40:41,560 --> 00:40:48,560

Nitrous oxide with a 5-16 inch nozzle and 3, 2, 1.

672

00:40:51,560 --> 00:40:53,560

That's more like it.

673

00:40:56,560 --> 00:41:03,560

More like it indeed, the reinforced nozzle blew out, but there's no doubt they got the ignition they wanted.

674

00:41:05,560 --> 00:41:08,560

There's Salami everywhere. Dude, it blew out the nozzle.

675

00:41:09,560 --> 00:41:14,560

The nozzle gave way, so there's Florida's ceiling Salami shrapnel,

676

00:41:14,560 --> 00:41:19,560

but it did hang in long enough for the rocket to thrust its way into the force meter.

677

00:41:21,560 --> 00:41:22,560

Oh yeah.

678

00:41:23,560 --> 00:41:29,560

That's a hell of a lot of pressure. 218 pounds of thrust.

679

00:41:33,560 --> 00:41:34,560

That's a lot.

680

00:41:34,560 --> 00:41:39,560

218 pounds of thrust. That's three times the force of the Noxolone,

681

00:41:39,560 --> 00:41:44,560

proving that yes, Salami can act as rocket fuel.

682

00:41:44,560 --> 00:41:49,560

But with another tweak to the nozzle size, the boys think they can go better still.

683

00:41:50,560 --> 00:41:56,560

This is Nos Hybrid Salami rocket with a 3-8s nozzle.

684

00:41:57,560 --> 00:42:01,560

In 3, 2, 1. Go!

685

00:42:05,560 --> 00:42:08,560

I think we got more thrust.

686

00:42:08,560 --> 00:42:09,560

I bet we got more.

687

00:42:09,560 --> 00:42:11,560

Let's go see what it reads.

688

00:42:13,560 --> 00:42:16,560

880 pounds of thrust.

689

00:42:17,560 --> 00:42:23,560

It's a heck of a lot of force for such a little Salami, but is it enough to have launched a rocket?

690

00:42:27,560 --> 00:42:32,560

This thing would have taken off like nobody's business if we had had this launched.

691

00:42:32,560 --> 00:42:36,560

It would have exploded mid-air at some point and stopped going,

692

00:42:36,560 --> 00:42:44,560

but with 500 pounds worth of I'm going up, something that weighs under 20 pounds is going up.

693

00:42:45,560 --> 00:42:50,560

So in other words, the Salami rocket rocks. It's myth should accomplish it.

694

00:42:51,560 --> 00:42:53,560

Well, I am really pleased with those results.

695

00:42:53,560 --> 00:42:59,560

The thrust we got from the Noxolone reaction and ignition vastly exceeded the thrust we got

696

00:42:59,560 --> 00:43:02,560

from just the release of the Noxolone.

697

00:43:02,560 --> 00:43:08,560

Yeah, in fact, the results were so good that we maxed out the force gauge and even ruined it.

698

00:43:08,560 --> 00:43:11,560

I'm also pleased to note that I did not screw up the nozzle design.

699

00:43:11,560 --> 00:43:15,560

That the reaction is so energetic, it's more like an explosion than anything else,

700

00:43:15,560 --> 00:43:18,560

and it blew up even our new much stronger nozzles.

701

00:43:18,560 --> 00:43:22,560

I mean, this stuff is confirmed. It's just not an ideal rocket fuel.

702

00:43:22,560 --> 00:43:27,560

Maybe someday when science unlocks the secret, we'll be traveling to Mars on pure mortadella.

703

00:43:27,560 --> 00:43:29,560

But not now.