

1

00:00:00,000 --> 00:00:05,840

In this episode, struck by lightning.

2

00:00:05,840 --> 00:00:08,480

Where's your tongue? Let's see it.

3

00:00:08,480 --> 00:00:11,280

The Mythbusters tempt fate.

4

00:00:11,280 --> 00:00:12,680

This won't hurt you at all.

5

00:00:12,680 --> 00:00:15,440

Feels like I got a barbell stuck in my tongue.

6

00:00:15,440 --> 00:00:18,640

Will body jewelry get you struck by lightning?

7

00:00:18,640 --> 00:00:22,280

Testing a mini-voltry cannon.

8

00:00:22,280 --> 00:00:24,320

I need somebody with a whip and a drum.

9

00:00:24,320 --> 00:00:26,960

It's a blast from the past.

10

00:00:27,960 --> 00:00:31,960

And man versus machine.

11

00:00:31,960 --> 00:00:34,960

Adam, the police officer, said you need to drink more.

12

00:00:34,960 --> 00:00:38,960

In the battle of the breathalyzer.

13

00:00:38,960 --> 00:00:42,960

Who are the Mythbusters?

14

00:00:42,960 --> 00:00:44,960

Am I missing an eyebrow?

15

00:00:44,960 --> 00:00:46,960

Adam Savage.

16

00:00:46,960 --> 00:00:49,960

I always enjoyed seeing Adam in pain.

17

00:00:49,960 --> 00:00:50,960

Oh!

18

00:00:50,960 --> 00:00:51,960

And Jamie Heineman.

19

00:00:51,960 --> 00:00:53,960

Jamie wants a big bone.

20

00:00:54,960 --> 00:00:58,960

Between them, more than 30 years special effects experience.

21

00:00:58,960 --> 00:00:59,960

You're kind of sexy.

22

00:00:59,960 --> 00:01:02,960

They don't just tell the Myth.

23

00:01:02,960 --> 00:01:04,960

They're well cruel, well.

24

00:01:04,960 --> 00:01:06,960

They put them to the test.

25

00:01:13,960 --> 00:01:14,960

Come on, we'll...

26

00:01:14,960 --> 00:01:15,960

Sir, please help me out.

27

00:01:15,960 --> 00:01:16,960

Yes, we'll carry you.

28

00:01:16,960 --> 00:01:18,960

Hold on.

29

00:01:18,960 --> 00:01:20,960

I got struck by lightning.

30

00:01:20,960 --> 00:01:21,960

Yes.

31

00:01:21,960 --> 00:01:22,960

Help me.

32

00:01:22,960 --> 00:01:23,960

That's how I come through.

33

00:01:23,960 --> 00:01:24,960

Thank you.

34

00:01:24,960 --> 00:01:25,960

It's much.

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00:01:25,960 --> 00:01:31,960

In August 2003, Matt Thompson was hit by lightning in the hills outside Keystone, Colorado.

36

00:01:31,960 --> 00:01:36,960

A bolt of lightning taken straight in the chest.

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00:01:36,960 --> 00:01:38,960

It just came out of nowhere.

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00:01:38,960 --> 00:01:42,960

The direct hit traveled all the way through Matt's body.

39

00:01:42,960 --> 00:01:44,960

I had no clue what happened.

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00:01:44,960 --> 00:01:46,960

Matt's story was big news.

41

00:01:46,960 --> 00:01:49,960

On websites worldwide, the issue was raging.

42

00:01:49,960 --> 00:01:50,960

Matt, you almost died.

43

00:01:50,960 --> 00:01:53,960

It was Matt's metal tongue stud, the reason he was struck.

44

00:01:53,960 --> 00:01:55,960

I got some of my tongue ring.

45

00:01:55,960 --> 00:01:57,960

No, dude, you might have swallowed it.

46

00:01:57,960 --> 00:01:58,960

Let me see, where's your tongue?

47

00:01:58,960 --> 00:01:59,960

Let's see.

48

00:01:59,960 --> 00:02:02,960

Oh, it's broken off in there, it looks like.

49

00:02:02,960 --> 00:02:03,960

Let me see.

50

00:02:03,960 --> 00:02:06,960

Body jewelry attracting lightning strikes?

51

00:02:06,960 --> 00:02:09,960

This looks like a job for the Mythbusters.

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00:02:09,960 --> 00:02:19,960

The myth is that wearing a tongue stud increases your chances of being struck by lightning.

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00:02:19,960 --> 00:02:22,960

So what kind of cockamamie theory is this?

54

00:02:22,960 --> 00:02:28,960

Well, this cockamamie theory says that the lightning bolt is being attracted directly to it.

55

00:02:28,960 --> 00:02:30,960

Like a lightning rod.

56

00:02:30,960 --> 00:02:32,960

Yeah, exactly.

57

00:02:32,960 --> 00:02:34,960

It sounds kind of silly.

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00:02:34,960 --> 00:02:40,960

Being loaded into an ambulance with a fried tongue, you can bet Matt Thompson didn't think it was a silly myth.

59

00:02:40,960 --> 00:02:42,960

Still, the boys are skeptical.

60

00:02:42,960 --> 00:02:49,960

It's obvious that jewelry does affect your body if you get struck by lightning, but the question still remains.

61

00:02:49,960 --> 00:02:51,960

Does it increase your chances of being struck by lightning?

62

00:02:51,960 --> 00:02:59,960

For the tongue stud lightning test, two heads made from ballistics gel will be mounted near a lightning generator.

63

00:02:59,960 --> 00:03:02,960

One of the heads will be pierced with metal studs.

64

00:03:02,960 --> 00:03:06,960

Adam and Jamie want to know which head the charge jumps to.

65

00:03:06,960 --> 00:03:07,960

That'll be fun.

66

00:03:07,960 --> 00:03:09,960

Well, that's definitely why we're doing this.

67

00:03:09,960 --> 00:03:13,960

The first job is to build a rig that will attract lightning.

68

00:03:13,960 --> 00:03:17,960

They need something big, metal and round.

69

00:03:17,960 --> 00:03:18,960

Here we are.

70

00:03:18,960 --> 00:03:19,960

That's them.

71

00:03:19,960 --> 00:03:20,960

What, these?

72

00:03:20,960 --> 00:03:21,960

Yeah.

73

00:03:21,960 --> 00:03:22,960

Oh, okay.

74

00:03:22,960 --> 00:03:27,960

Well, we're using walks because the round surface of a walk is a perfect thing to test in an electrical field around

75

00:03:27,960 --> 00:03:31,960

because it doesn't have any point that can gather the electricity to a single point.

76

00:03:31,960 --> 00:03:33,960

Seven, eight.

77

00:03:33,960 --> 00:03:35,960

It's like they knew we were coming.

78

00:03:35,960 --> 00:03:36,960

Imagine that.

79

00:03:36,960 --> 00:03:45,960

Normally, you'd probably put the heads on a spike, but that would not give us an accurate test as to the conductivity of the piercing as it relates to the whole head.

80

00:03:50,960 --> 00:03:53,960

Oh, hell, I'm not going to get those out of there.

81

00:03:53,960 --> 00:04:00,960

Back at the workshop, while Jamie grapples with removing the walk handles, Adam is going into reproduction mode.

82

00:04:00,960 --> 00:04:15,960

I am going to take this casting of my head, and it is me, I swear, and I'm going to fill it with some rigid foam so I can cut it in half and turn it into a vacuum form mold to make a bunch of ballistic gel heads.

83

00:04:18,960 --> 00:04:21,960

This is where things start to happen kind of fast.

84

00:04:23,960 --> 00:04:25,960

There's a point at which it gets clear again.

85

00:04:25,960 --> 00:04:26,960

There, see?

86

00:04:26,960 --> 00:04:27,960

Now it turns dark.

87

00:04:27,960 --> 00:04:28,960

Now it's just about to bubble.

88

00:04:28,960 --> 00:04:29,960

That's the trick.

89

00:04:31,960 --> 00:04:33,960

If you look in here, we can watch it.

90

00:04:33,960 --> 00:04:35,960

It's going to blow all the way up.

91

00:04:35,960 --> 00:04:37,960

Isn't that amazing?

92

00:04:37,960 --> 00:04:38,960

Oh, look at this.

93

00:04:38,960 --> 00:04:39,960

Here it comes.

94

00:04:42,960 --> 00:04:44,960

All right, so I mixed too much.

95

00:04:44,960 --> 00:04:48,960

Jamie, ahead of schedule, has found time for art.

96

00:04:48,960 --> 00:04:50,960

I don't know what it is, but it's pretty.

97

00:04:50,960 --> 00:04:52,960

It's like a big steel tulip.

98

00:04:53,960 --> 00:04:58,960

Adam, meanwhile, has a solid base for his mold.

99

00:04:58,960 --> 00:05:01,960

There is something strangely satisfying about that.

100

00:05:01,960 --> 00:05:05,960

But getting the plastic shell to form is proving to be a headache.

101

00:05:05,960 --> 00:05:07,960

No, no, come on.

102

00:05:10,960 --> 00:05:12,960

Adam is really hard on my tools.

103

00:05:12,960 --> 00:05:15,960

He'll tend to plow through things without thinking.

104

00:05:22,960 --> 00:05:23,960

I hate this frame.

105

00:05:23,960 --> 00:05:26,960

It's ripping my fingers to shreds.

106

00:05:26,960 --> 00:05:29,960

A little more comfort in your design.

107

00:05:29,960 --> 00:05:31,960

That's all I want.

108

00:05:31,960 --> 00:05:32,960

I'll toughen your fingers up.

109

00:05:32,960 --> 00:05:33,960

It's good for you.

110

00:05:33,960 --> 00:05:35,960

You, my fingers, don't need toughening.

111

00:05:37,960 --> 00:05:39,960

Here, let's see if it still fits.

112

00:05:40,960 --> 00:05:41,960

Ew.

113

00:05:41,960 --> 00:05:42,960

No, that doesn't fit.

114

00:05:42,960 --> 00:05:45,960

My head's gotten fatter in the intervening years.

115

00:05:45,960 --> 00:05:47,960

As if nobody knew that.

116

00:05:47,960 --> 00:05:52,960

All right, let's go do another nine.

117

00:05:55,960 --> 00:05:59,960

Jamie is attaching inverted walks to the tops of metal rods.

118

00:05:59,960 --> 00:06:06,960

A non-conductive plexiglass spike will protrude above each walk to hold the dummy's head.

119

00:06:06,960 --> 00:06:11,960

It has to be something that's not going to attract electricity on its own in any specific way.

120

00:06:11,960 --> 00:06:14,960

So this is a mount for the head.

121

00:06:14,960 --> 00:06:19,960

And when the electrical current, when the lightning bolt is attracted to the head,

122

00:06:19,960 --> 00:06:22,960

it'll go to wherever it wants to go on the head,

123

00:06:22,960 --> 00:06:26,960

not because of the configuration of this.

124

00:06:26,960 --> 00:06:29,960

Adam has finally created ten head molds.

125

00:06:29,960 --> 00:06:35,960

They need more than two in case the high-voltage strike blows them apart.

126

00:06:35,960 --> 00:06:41,960

They'll be filled with ballistic gel and will mimic the electrical conductivity of the human head.

127

00:06:41,960 --> 00:06:43,960

Smart work.

128

00:06:43,960 --> 00:06:47,960

But Adam's about to do something not so bright.

129

00:06:50,960 --> 00:06:56,960

To get into the spirit of this myth, he's volunteered to get his own tongue pierced.

130

00:06:56,960 --> 00:06:58,960

Hi, are you Joey?

131

00:06:58,960 --> 00:06:59,960

Yeah, hi.

132

00:06:59,960 --> 00:07:00,960

I'm Adam.

133

00:07:00,960 --> 00:07:01,960

Nice to meet you, Adam.

134

00:07:01,960 --> 00:07:02,960

Jamie.

135

00:07:02,960 --> 00:07:03,960

Hey, Jamie, how you doing?

136

00:07:03,960 --> 00:07:04,960

Good.

137

00:07:04,960 --> 00:07:05,960

I'm here to get a tongue piercing.

138

00:07:05,960 --> 00:07:06,960

Let's see your tongue.

139

00:07:06,960 --> 00:07:09,960

Yeah, we can put some jewelry in there for you.

140

00:07:09,960 --> 00:07:13,960

All right, have you ever heard any myths about tongue piercings?

141

00:07:13,960 --> 00:07:16,960

No, for some realities about tongue piercings.

142

00:07:16,960 --> 00:07:17,960

I don't know about any myths.

143

00:07:17,960 --> 00:07:18,960

What do you have in mind?

144

00:07:18,960 --> 00:07:23,960

Well, there's a story going around about a woman in Britain who apparently was struck by lightning.

145

00:07:23,960 --> 00:07:27,960

And she said it was because she had a tongue piercing.

146

00:07:27,960 --> 00:07:28,960

Never heard that one.

147

00:07:28,960 --> 00:07:29,960

You never heard that one?

148

00:07:29,960 --> 00:07:30,960

Never heard that one.

149

00:07:30,960 --> 00:07:32,960

You ever had any complaints of anyone struck by lightning?

150

00:07:32,960 --> 00:07:35,960

None of my clients have ever been struck by lightning.

151

00:07:35,960 --> 00:07:40,960

So these are some of the basic beads that I have for you to choose from.

152

00:07:40,960 --> 00:07:44,960

Probably the most comfortable size to start with this is this one right here.

153

00:07:44,960 --> 00:07:49,960

If you want to go with something a little fancier, it's possible to wear gemstones for it as well.

154

00:07:49,960 --> 00:07:53,960

So if you want to get really flash, you can wear something like that.

155

00:07:53,960 --> 00:07:54,960

What do you think, Jamie?

156

00:07:54,960 --> 00:07:55,960

Should I go flash or play?

157

00:07:55,960 --> 00:07:59,960

I think you should go for maximum conductivity, actually.

158

00:07:59,960 --> 00:08:01,960

Yeah, I suppose you're right.

159

00:08:01,960 --> 00:08:04,960

Do you have anything shaped like a little lightning rod?

160

00:08:04,960 --> 00:08:06,960

No lightning rods, and we don't have any copper.

161

00:08:06,960 --> 00:08:09,960

I think you're going to have to go with the stainless steel.

162

00:08:09,960 --> 00:08:12,960

All right, the stainless steel ball about the size is exactly what I was thinking about.

163

00:08:12,960 --> 00:08:14,960

Okay, that should be great.

164

00:08:14,960 --> 00:08:16,960

So why don't you come on in here.

165

00:08:16,960 --> 00:08:20,960

Have a seat on the dinosaur chair there.

166

00:08:20,960 --> 00:08:22,960

Do I get a lollipop when this is done?

167

00:08:22,960 --> 00:08:26,960

You do get a lollipop when this is done, but only if you earn it.

168

00:08:26,960 --> 00:08:29,960

He's just seen the needle.

169

00:08:29,960 --> 00:08:35,960

For once, atoms have a loss for words.

170

00:08:35,960 --> 00:08:40,960

All right, so you ready?

171

00:08:40,960 --> 00:08:43,960

It's very, very quick and very, very easy.

172

00:08:43,960 --> 00:08:45,960

You can set your glasses right there.

173

00:08:45,960 --> 00:08:49,960

What I want you to do is swallow one last time.

174

00:08:49,960 --> 00:08:51,960

Breathe easy.

175

00:08:51,960 --> 00:08:52,960

Give me your tongue.

176

00:08:52,960 --> 00:08:53,960

There you go.

177

00:08:53,960 --> 00:08:55,960

This won't hurt you at all.

178

00:08:55,960 --> 00:08:56,960

I'm not going to pull on you.

179

00:08:56,960 --> 00:09:00,960

I just want to make sure I got you right where I need you.

180

00:09:00,960 --> 00:09:02,960

Piercing is real quick.

181

00:09:02,960 --> 00:09:04,960

I'm just getting lined up.

182

00:09:04,960 --> 00:09:05,960

Here you go.

183

00:09:05,960 --> 00:09:07,960

Give me a breath in and out.

184

00:09:07,960 --> 00:09:08,960

You're done.

185

00:09:08,960 --> 00:09:10,960

The jewelry's in.

186

00:09:10,960 --> 00:09:13,960

I'm going to take the clamp off and screw the bead on the bottom,

187

00:09:13,960 --> 00:09:14,960

but it won't hurt you.

188

00:09:14,960 --> 00:09:16,960

You're absolutely done.

189

00:09:16,960 --> 00:09:18,960

Let me just make sure the beads are tight.

190

00:09:18,960 --> 00:09:20,960

You can have your tongue back.

191

00:09:20,960 --> 00:09:21,960

There you go.

192

00:09:21,960 --> 00:09:23,960

You're done.

193

00:09:23,960 --> 00:09:26,960

All right.

194

00:09:26,960 --> 00:09:28,960

That was not so bad.

195

00:09:28,960 --> 00:09:31,960

Oh, but now I'm talking all funny.

196

00:09:31,960 --> 00:09:36,960

It feels like I got a barbell stuck in my tongue, man.

197

00:09:36,960 --> 00:09:40,960

Ah, ah, how about that?

198

00:09:40,960 --> 00:09:44,960

Sea shells, seashells by the sea shore.

199

00:09:44,960 --> 00:09:57,960

In August 2003, Matt Thompson was struck by lightning in Colorado.

200

00:09:57,960 --> 00:09:59,960

It's my tongue ring.

201

00:09:59,960 --> 00:10:00,960

Oh, no, dude.

202

00:10:00,960 --> 00:10:03,960

Was the lightning attracted to his metal tongue piercing?

203

00:10:03,960 --> 00:10:06,960

Oh, it's broken off in there, it looks like.

204

00:10:06,960 --> 00:10:10,960

To test the myth that body jewelry increases your chance of being struck,

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00:10:10,960 --> 00:10:14,960

Adam and Jamie have enlisted the help of Delta Star West.

206

00:10:14,960 --> 00:10:18,960

They manufacture industrial grade electrical machinery.

207

00:10:18,960 --> 00:10:21,960

They still feel nice and cool.

208

00:10:21,960 --> 00:10:25,960

Adam's freshly made gelatin heads are the focal points.

209

00:10:25,960 --> 00:10:28,960

He has to suffer as much as I have.

210

00:10:28,960 --> 00:10:32,960

A metal stud expertly fitted to one dummy's lower lip.

211

00:10:32,960 --> 00:10:35,960

I should have been a surgeon.

212

00:10:35,960 --> 00:10:39,960

All right, let's see how it does.

213

00:10:40,960 --> 00:10:43,960

We have this gigantic bank of capacitors,

214

00:10:43,960 --> 00:10:47,960

which creates over a million volts at something like a thousand amps.

215

00:10:47,960 --> 00:10:52,960

And it's sending electricity across this wire through this electrode.

216

00:10:52,960 --> 00:10:59,960

And these heads, which are grounded, will complete the circuit.

217

00:10:59,960 --> 00:11:04,960

Essentially, they're making mini lightning at the flick of a switch.

218

00:11:04,960 --> 00:11:09,960

A million volts stored in a capacitor will discharge down a wire

219

00:11:09,960 --> 00:11:12,960

jumping to the ground through one of the two heads.

220

00:11:12,960 --> 00:11:17,960

We're hoping to find that it shows a preference to go to one head or the other.

221

00:11:17,960 --> 00:11:21,960

And if it shows a preference to go to the one with the barbell,

222

00:11:21,960 --> 00:11:24,960

then we'll know that you're more likely to get struck by lightning.

223

00:11:24,960 --> 00:11:29,960

If it doesn't, if it goes for this head, then the myth is busted.

224

00:11:30,960 --> 00:11:34,960

Real lightning can be over a hundred million volts.

225

00:11:34,960 --> 00:11:37,960

It kills about 100 Americans a year.

226

00:11:37,960 --> 00:11:42,960

This million volt jolt would still turn you into toast.

227

00:11:42,960 --> 00:11:45,960

Everyone's keeping a safe distance.

228

00:11:45,960 --> 00:11:47,960

We're good.

229

00:11:47,960 --> 00:11:51,960

The lightning will discharge into one of the heads.

230

00:11:51,960 --> 00:11:54,960

It takes just a fraction of a second.

231

00:11:55,960 --> 00:11:59,960

It's hit the head on the right. You can see it in freeze frame.

232

00:12:03,960 --> 00:12:07,960

Here it is again on high-speed camera.

233

00:12:08,960 --> 00:12:11,960

Well, it went to the one without the barbell in it.

234

00:12:11,960 --> 00:12:12,960

It did.

235

00:12:12,960 --> 00:12:16,960

We learned a couple of really important things from the first test.

236

00:12:16,960 --> 00:12:21,960

And the first thing was that the lightning bolt went to the top of the head

237

00:12:21,960 --> 00:12:24,960

and there was no place else on the electrode,

238

00:12:24,960 --> 00:12:27,960

which tells us that our rig is nicely set up.

239

00:12:27,960 --> 00:12:29,960

It's pretty neutral.

240

00:12:29,960 --> 00:12:33,960

And we are getting current to go through the head itself and not through the steel.

241

00:12:33,960 --> 00:12:37,960

The second most important thing that we learned about this was that the discharge

242

00:12:37,960 --> 00:12:40,960

actually went to the head without the piercing.

243

00:12:40,960 --> 00:12:43,960

So this is not looking too good right now.

244

00:12:44,960 --> 00:12:47,960

But the testing has just started.

245

00:12:47,960 --> 00:12:52,960

With the interests of accuracy, they move each head to the opposite spike.

246

00:12:52,960 --> 00:12:56,960

We're just doing a control by swapping the heads on the rig

247

00:12:56,960 --> 00:13:00,960

and making sure that the rig doesn't refer one direction or the other.

248

00:13:06,960 --> 00:13:09,960

This time it hit the stud head.

249

00:13:10,960 --> 00:13:14,960

Well, you know, one, I think, really important thing that I just saw was,

250

00:13:14,960 --> 00:13:17,960

I guess I was focusing in the right place at the right time.

251

00:13:17,960 --> 00:13:23,960

I saw the lightning bolt travel down like this and it went right along this pathway.

252

00:13:23,960 --> 00:13:25,960

It did not go to that.

253

00:13:25,960 --> 00:13:30,960

So even in the head, if this wasn't a track thing for the lightning bolt,

254

00:13:30,960 --> 00:13:33,960

it would have gone there and down or something like that.

255

00:13:33,960 --> 00:13:34,960

It didn't.

256

00:13:34,960 --> 00:13:37,960

I clearly saw it take a pathway right down to the top of this.

257

00:13:37,960 --> 00:13:39,960

We're good to go in another shot.

258

00:13:39,960 --> 00:13:43,960

So the lightning hit the head, but not the stud.

259

00:13:45,960 --> 00:13:47,960

Same thing.

260

00:13:47,960 --> 00:13:49,960

Yeah, I saw that too.

261

00:13:49,960 --> 00:13:53,960

Interesting that it really doesn't do anything to the gelatin that we can see.

262

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

Truly.

263

00:13:56,960 --> 00:14:00,960

So that's two strikes to the pierced head, one to the control head.

264

00:14:00,960 --> 00:14:03,960

We'll swapping them back make a difference.

265

00:14:08,960 --> 00:14:13,960

It's the pierced head again, but a confusing pattern is emerging.

266

00:14:13,960 --> 00:14:19,960

The charge often goes to the piercing side, but it never seems to touch the metal.

267

00:14:19,960 --> 00:14:24,960

The mythbusters won't be satisfied until they can see the lightning hit the stud directly.

268

00:14:24,960 --> 00:14:27,960

You know, Jamie, we've now run this a dozen times or more.

269

00:14:27,960 --> 00:14:29,960

The heads are working perfectly.

270

00:14:29,960 --> 00:14:30,960

The rig is working great.

271

00:14:30,960 --> 00:14:34,960

We're getting consistent strikes always to the top of the head.

272

00:14:34,960 --> 00:14:37,960

Not once has the lightning gone right for the stud.

273

00:14:37,960 --> 00:14:42,960

Yeah, you know, I mean, all we've got left to do is put a bunch of studs in there.

274

00:14:42,960 --> 00:14:46,960

Really big ones, maybe see what happens, see if we can get something to react to them.

275

00:14:46,960 --> 00:14:48,960

Like nuts and bolts and knives and forks.

276

00:14:48,960 --> 00:14:50,960

Yeah.

277

00:14:50,960 --> 00:14:54,960

Adam has apparently read the Hannibal Lecter style guide.

278

00:14:57,960 --> 00:14:59,960

All right, I think that's a pretty good look there, Jamie.

279

00:14:59,960 --> 00:15:01,960

What do you think?

280

00:15:01,960 --> 00:15:04,960

Well, maybe more is better.

281

00:15:04,960 --> 00:15:06,960

Let's fire it up.

282

00:15:06,960 --> 00:15:08,960

Okay.

283

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

I mean, it went to the head with the studs in it.

284

00:15:15,960 --> 00:15:17,960

Still didn't touch the studs.

285

00:15:17,960 --> 00:15:19,960

Went right down through the metal.

286

00:15:21,960 --> 00:15:23,960

Maybe even more metal.

287

00:15:23,960 --> 00:15:29,960

Of course, if your tongue piercing is this big, lightning is the least of your worries.

288

00:15:35,960 --> 00:15:39,960

I saw it go into the top of the head and go out to the bolt and back in.

289

00:15:39,960 --> 00:15:44,960

It just goes to show, you know, don't put any really big bolts in your mouth throwing a thunderstorm.

290

00:15:47,960 --> 00:15:51,960

Finally, a test for the mother of all studs.

291

00:15:51,960 --> 00:15:53,960

Oh, cheek piercing there.

292

00:15:53,960 --> 00:15:59,960

It's unlikely to catch on at many nightclubs, though it might just help you get in the door.

293

00:16:01,960 --> 00:16:04,960

Will it attract lightning?

294

00:16:09,960 --> 00:16:12,960

At last, a direct hit.

295

00:16:15,960 --> 00:16:18,960

Well, that knocked the doorknob right out of his face.

296

00:16:18,960 --> 00:16:22,960

The mythbusters are unconvinced that studs attract lightning.

297

00:16:22,960 --> 00:16:26,960

While the zap did seem to prefer the head with the piercing,

298

00:16:26,960 --> 00:16:33,960

a lack of consistent direct hits suggests some other unknown factor was involved.

299

00:16:34,960 --> 00:16:39,960

We could have done this a thousand times and still not gotten that same result.

300

00:16:39,960 --> 00:16:42,960

You know, lightning is just really unpredictable.

301

00:16:42,960 --> 00:16:46,960

You know, that might be the case, Jimmy, but we do know that metal does have an effect,

302

00:16:46,960 --> 00:16:50,960

you know, depending on how much of it there is and where it is on the body.

303

00:16:50,960 --> 00:16:55,960

And we did get a strike right to the doorknob, but come on, who wears a doorknob?

304

00:16:55,960 --> 00:17:01,960

The only thing this myth has shown the guys for sure is that Adam's wild days are over.

305

00:17:04,960 --> 00:17:07,960

Ah.

306

00:17:07,960 --> 00:17:09,960

Ah.

307

00:17:09,960 --> 00:17:12,960

Heaven.

308

00:17:12,960 --> 00:17:14,960

Oh, God.

309

00:17:14,960 --> 00:17:16,960

That was horrible.

310

00:17:16,960 --> 00:17:18,960

Ah.

311

00:17:18,960 --> 00:17:21,960

There we go. My tongue is free.

312

00:17:25,960 --> 00:17:28,960

The mythbusters get medieval.

313

00:17:28,960 --> 00:17:32,960

Can they turn a log into a lethal weapon?

314

00:17:32,960 --> 00:17:35,960

Fire in the hole.

315

00:17:47,960 --> 00:17:54,960

This myth is from medieval times, actually, and it involves a Hungarian town called Pákš,

316

00:17:54,960 --> 00:17:57,960

that was being threatened by their neighbors.

317

00:17:57,960 --> 00:18:03,960

So the entire town got together and one night they apparently made a cannon out of a tree.

318

00:18:03,960 --> 00:18:07,960

And they put some gunpowder in there and they shoot off this cannon.

319

00:18:07,960 --> 00:18:12,960

The entire body of the cannon exploded, killing half the town's people.

320

00:18:12,960 --> 00:18:16,960

And the mayor, in his infinite wisdom, looks up and said,

321

00:18:16,960 --> 00:18:21,960

if we have so many dead, how many left of the enemy can there be?

322

00:18:21,960 --> 00:18:24,960

That's the earliest known record of spin, I think.

323

00:18:25,960 --> 00:18:33,960

To test this myth, Jamie and Adam will try to build a tree cannon and see if it explodes when fired.

324

00:18:33,960 --> 00:18:39,960

To do it like the villagers, they need to drill a hole into a log using medieval-style tools.

325

00:18:39,960 --> 00:18:44,960

They'll have to fashion a cannonball and make some medieval gunpowder.

326

00:18:48,960 --> 00:18:52,960

John, have you ever heard of a tree cannon or a cannon made out of a tree?

327

00:18:52,960 --> 00:18:55,960

No, Adam, I frankly have not.

328

00:18:55,960 --> 00:18:59,960

If anyone can help with this myth, John Morris can.

329

00:18:59,960 --> 00:19:07,960

He lives safe and very secure in West Virginia, with his collection of more than 100 cannons.

330

00:19:07,960 --> 00:19:13,960

Wisely or not, he's agreed to show Adam and Jamie the safe way to fire one.

331

00:19:13,960 --> 00:19:16,960

That hurts just thinking about it.

332

00:19:16,960 --> 00:19:22,960

So we'll use a pre-measured charge of powder in aluminum foil.

333

00:19:22,960 --> 00:19:24,960

We'll make up a small cartridge.

334

00:19:24,960 --> 00:19:27,960

Cannon firing 101.

335

00:19:27,960 --> 00:19:29,960

Are we ready to load?

336

00:19:29,960 --> 00:19:31,960

I think we're ready to load. Are you ready?

337

00:19:31,960 --> 00:19:33,960

I'm ready.

338

00:19:33,960 --> 00:19:37,960

John's neighbors have learned to love the sound of cannons in the morning.

339

00:19:37,960 --> 00:19:41,960

It's only a blank, but this is still dangerous business.

340

00:19:41,960 --> 00:19:44,960

From now on, it's going to be loaded and nobody gets in front of the model.

341

00:19:44,960 --> 00:19:47,960

Is that okay? We're going to load.

342

00:19:50,960 --> 00:19:54,960

Then we'll take the fuse and hopefully it'll touch the powder inside.

343

00:19:55,960 --> 00:19:57,960

Ready to proceed?

344

00:19:57,960 --> 00:19:59,960

You bet.

345

00:20:07,960 --> 00:20:09,960

I knew that was going to happen.

346

00:20:09,960 --> 00:20:11,960

You did.

347

00:20:12,960 --> 00:20:17,960

They've seen how it's done. Now it's the guy's turn.

348

00:20:17,960 --> 00:20:20,960

Is it possible to put too much powder in a cannon?

349

00:20:20,960 --> 00:20:23,960

Certainly. What will happen?

350

00:20:23,960 --> 00:20:28,960

Well, it will overstress the cannon and the cannon could blow up.

351

00:20:28,960 --> 00:20:30,960

You shouldn't be in front of the piece.

352

00:20:30,960 --> 00:20:32,960

Exploding cannons.

353

00:20:32,960 --> 00:20:35,960

Food for thought for two first-time fireers.

354

00:20:35,960 --> 00:20:37,960

Fire in the hole.

355

00:20:41,960 --> 00:20:43,960

Excellent.

356

00:20:44,960 --> 00:20:47,960

Very good. You're not qualified.

357

00:20:47,960 --> 00:20:49,960

That's very exciting. Thank you so much.

358

00:20:49,960 --> 00:20:52,960

Yes, sir. That was really cool.

359

00:20:56,960 --> 00:21:03,960

Tree cannons were used in 14th century England and just a hundred years ago in Eastern Europe.

360

00:21:03,960 --> 00:21:09,960

To make theirs, Adam and Jamie need a European hardwood lawn, a big lawn.

361

00:21:09,960 --> 00:21:12,960

This is a piece of English Elm here that we took out.

362

00:21:12,960 --> 00:21:15,960

It's a tree that actually died from Dutch Elm disease.

363

00:21:15,960 --> 00:21:17,960

This weighs several hundred pounds.

364

00:21:17,960 --> 00:21:19,960

This piece here.

365

00:21:19,960 --> 00:21:22,960

If I can do that with it, we can get it on the truck.

366

00:21:23,960 --> 00:21:25,960

Jamie, you're doing such a good job.

367

00:21:25,960 --> 00:21:27,960

Get it on my wife.

368

00:21:27,960 --> 00:21:40,960

This was done in medieval Hungary. They didn't have power tools.

369

00:21:40,960 --> 00:21:44,960

There would have been a lot of things that would be different about what we're doing.

370

00:21:44,960 --> 00:21:51,960

They learned how differently by examining pictures of a thousand-year-old toolbox found in Sweden.

371

00:21:51,960 --> 00:21:55,960

For authenticity, they want to make similar equipment.

372

00:21:55,960 --> 00:21:58,960

Jamie's starting with an axe to strip the log.

373

00:22:06,960 --> 00:22:08,960

Getting a little workout this morning.

374

00:22:13,960 --> 00:22:15,960

Adam's having a workout of his own.

375

00:22:15,960 --> 00:22:19,960

He's making a medieval saw out of a forklift pallet.

376

00:22:26,960 --> 00:22:28,960

Come on.

377

00:22:29,960 --> 00:22:32,960

Now there's some medieval workmanship.

378

00:22:33,960 --> 00:22:37,960

I'm going to heat this piece of metal up until it gets red hot.

379

00:22:37,960 --> 00:22:44,960

Hopefully I'll make something that resembles a spoon drill, which is one of the first drills that they used.

380

00:22:44,960 --> 00:22:51,960

It's the best medieval drill Jamie's made all day.

381

00:22:51,960 --> 00:22:56,960

Now there's just one more job before they get started on the barrel.

382

00:22:56,960 --> 00:23:02,960

San Francisco has a community art center that specializes in old-style forging.

383

00:23:02,960 --> 00:23:06,960

Instructor Chris Neamer specializes in keeping his cool.

384

00:23:06,960 --> 00:23:08,960

Chris, you're doing great.

385

00:23:08,960 --> 00:23:10,960

I'm going to get you a new one.

386

00:23:10,960 --> 00:23:13,960

Neamer specializes in keeping his cool.

387

00:23:13,960 --> 00:23:17,960

Chris, we need some iron bands around this light.

388

00:23:17,960 --> 00:23:19,960

Okay.

389

00:23:19,960 --> 00:23:22,960

We're making a cannon.

390

00:23:22,960 --> 00:23:24,960

But if you don't hear from us again, you'll know why.

391

00:23:24,960 --> 00:23:26,960

You'll know what happened.

392

00:23:26,960 --> 00:23:30,960

The steel bands around the log will help it absorb the blast.

393

00:23:30,960 --> 00:23:34,960

They'll be heated in a furnace, then hammered into place.

394

00:23:34,960 --> 00:23:39,960

When we start wrapping this, I think I'm probably going to have one of you two with a hammer.

395

00:23:39,960 --> 00:23:42,960

I'm trying to tap in behind me.

396

00:23:42,960 --> 00:23:45,960

Test run number one.

397

00:23:45,960 --> 00:23:51,960

They've got to pull the band tight while it's red hot, then rivet it in place.

398

00:23:51,960 --> 00:23:54,960

That's the ticket.

399

00:23:57,960 --> 00:23:59,960

Oh, it's so close.

400

00:23:59,960 --> 00:24:01,960

Oh, it's good.

401

00:24:01,960 --> 00:24:03,960

Rimmits.

402

00:24:04,960 --> 00:24:10,960

The band is cooling and shrinking before they can hammer the rivets home.

403

00:24:10,960 --> 00:24:13,960

Somebody else grab this one up here. You got it.

404

00:24:13,960 --> 00:24:15,960

Come on.

405

00:24:15,960 --> 00:24:17,960

Wait, wait, wait.

406

00:24:23,960 --> 00:24:25,960

Yeah, it's beautiful.

407

00:24:25,960 --> 00:24:27,960

Yeah, that's it.

408

00:24:27,960 --> 00:24:29,960

That's it.

409

00:24:29,960 --> 00:24:31,960

We got it.

410

00:24:31,960 --> 00:24:35,960

With water, the band will shrink tighter onto the log.

411

00:24:35,960 --> 00:24:37,960

Just four more to go.

412

00:24:37,960 --> 00:24:43,960

You know, it's funny how ye old techniques take ye old sweet time to get done.

413

00:24:43,960 --> 00:24:49,960

Medieval techniques take some mastering, but each band is going on easier than the last.

414

00:24:49,960 --> 00:24:52,960

Oh, but the vibration feels really good.

415

00:24:54,960 --> 00:24:56,960

Beautiful.

416

00:24:56,960 --> 00:24:58,960

Yeah, good job guys.

417

00:24:58,960 --> 00:25:00,960

Very nice.

418

00:25:00,960 --> 00:25:02,960

Excellent.

419

00:25:05,960 --> 00:25:10,960

It's looking more like a cannon, but there's still no barrel.

420

00:25:10,960 --> 00:25:13,960

Will Jamie's medieval drill do the job?

421

00:25:13,960 --> 00:25:21,960

Drill's nice and sharp, and I flatten this out so that I can grab this like that to crank it.

422

00:25:21,960 --> 00:25:29,960

Remember, according to the myth, the tribe made their cannon overnight, but this is slow work.

423

00:25:31,960 --> 00:25:36,960

We're about half an inch in.

424

00:25:38,960 --> 00:25:41,960

I need somebody with a whip and a drum.

425

00:25:41,960 --> 00:25:45,960

They've got to drill through about five feet.

426

00:25:47,960 --> 00:25:50,960

You know, we're just moving more, I guess.

427

00:25:50,960 --> 00:25:52,960

Let's see.

428

00:25:52,960 --> 00:25:56,960

Medieval tools just weren't built with myth-busting in mind.

429

00:25:56,960 --> 00:26:02,960

Based on what I'm seeing here now, I'm thinking it'd probably take a couple of days to get through it.

430

00:26:02,960 --> 00:26:09,960

The myth says that overnight they'd be able to drill a cannon, and I would say that that is unlikely.

431

00:26:09,960 --> 00:26:12,960

I would say that the myth is busted because of that.

432

00:26:12,960 --> 00:26:15,960

They've come too far to stop now.

433

00:26:15,960 --> 00:26:22,960

Adam and Jamie resolve to test the rest of this explosive myth, and that means building the cannon their way.

434

00:26:22,960 --> 00:26:26,960

I'm not doing anything that the package wouldn't have done if they had had a chance.

435

00:26:38,960 --> 00:26:45,960

While Adam is bowing to the 21st century, Jamie is staying well in the Middle Ages.

436

00:26:46,960 --> 00:26:51,960

I'm making a cannonball out of granite, or a mess.

437

00:26:52,960 --> 00:26:56,960

He plans to hand-chisel a perfectly round cannonball.

438

00:26:56,960 --> 00:27:00,960

It's precision versus power.

439

00:27:22,960 --> 00:27:26,960

That is a tree cannon.

440

00:27:26,960 --> 00:27:29,960

Jamie hasn't done a bad job himself.

441

00:27:29,960 --> 00:27:34,960

It's so far beyond anybody's experience that we're all kind of blown away.

442

00:27:34,960 --> 00:27:36,960

And don't think he didn't know it.

443

00:27:36,960 --> 00:27:43,960

So they've made the tree cannon, made the cannonball, now they need to make medieval gunpowder.

444

00:27:43,960 --> 00:27:49,960

They've called an expert in the field, and they've made a cannonball out of granite.

445

00:27:50,960 --> 00:27:55,960

They've called an expert pyrotechnician, Jack Morocco, to help.

446

00:27:55,960 --> 00:28:02,960

What we need to do here is something a little bit different in mimicking a medieval gunpowder formula.

447

00:28:02,960 --> 00:28:09,960

Jack knows what ingredients existed around the time of the myth, so they can make up a crude gunpowder.

448

00:28:10,960 --> 00:28:13,960

But how well will it work?

449

00:28:13,960 --> 00:28:18,960

For safety reasons, they'll light the fuse electronically from a distance.

450

00:28:18,960 --> 00:28:20,960

Ready?

451

00:28:27,960 --> 00:28:29,960

Go, wow!

452

00:28:29,960 --> 00:28:30,960

Nicely done.

453

00:28:30,960 --> 00:28:32,960

I think that's very respectable.

454

00:28:32,960 --> 00:28:33,960

Okay.

455

00:28:33,960 --> 00:28:35,960

I think that'll do.

456

00:28:35,960 --> 00:28:37,960

I think that's gonna work quite well, yes.

457

00:28:39,960 --> 00:28:42,960

I personally don't think we'll be able to blow this thing up.

458

00:28:42,960 --> 00:28:45,960

I think you could put a stick of dynamite in it and it still might not blow up.

459

00:28:45,960 --> 00:28:48,960

Of course we're gonna try to blow it up. That's what we do.

460

00:28:49,960 --> 00:28:58,960

Once more, in the name of myth-busting, Jamie and Adam head into the world, armed, dangerous, and set on destruction.

461

00:29:06,960 --> 00:29:08,960

It's a normal day out for the myth-busters.

462

00:29:08,960 --> 00:29:14,960

They're driving through San Francisco with a medieval tree cannon in the back of their pickup.

463

00:29:16,960 --> 00:29:21,960

Their destination? The abandoned runway at the Alameda Naval Base.

464

00:29:23,960 --> 00:29:31,960

The cannon is a replica of one built by medieval Hungarian villagers. Which myth has it blew up when fired?

465

00:29:36,960 --> 00:29:42,960

With expert pyrotechnician Jack Morocco, they've made up a load of medieval-style gunpowder.

466

00:29:42,960 --> 00:29:44,960

We don't want to drop this, do we?

467

00:29:44,960 --> 00:29:46,960

No, we definitely don't.

468

00:29:48,960 --> 00:29:50,960

You ready to load some powder there, Jamie?

469

00:29:50,960 --> 00:29:52,960

Yeah, let's do it.

470

00:29:53,960 --> 00:29:57,960

They're starting with two three-ounce cartridges of gunpowder.

471

00:29:57,960 --> 00:29:58,960

All right.

472

00:29:59,960 --> 00:30:06,960

The cartridges are forced to the bottom of the barrel and a hole poked in the side for the fuse.

473

00:30:07,960 --> 00:30:10,960

Ah, we are in the load.

474

00:30:10,960 --> 00:30:11,960

To this ball?

475

00:30:11,960 --> 00:30:12,960

Okay.

476

00:30:15,960 --> 00:30:17,960

Well, did you bring your tennis racket?

477

00:30:17,960 --> 00:30:21,960

I could stand out there with this, you know, and try to get a good hit on it.

478

00:30:24,960 --> 00:30:29,960

The tennis ball will squeeze down on the blast, increasing the pressure in the barrel.

479

00:30:31,960 --> 00:30:35,960

An electric igniter is taped into place. They're ready to go.

480

00:30:37,960 --> 00:30:38,960

There he's standing by.

481

00:30:38,960 --> 00:30:43,960

For safety, the myth-busters are behind lexan blast screens.

482

00:30:43,960 --> 00:30:45,960

Ready?

483

00:30:47,960 --> 00:30:49,960

Fire in the hole!

484

00:30:49,960 --> 00:30:53,960

Three, two, one, out set!

485

00:30:54,960 --> 00:30:55,960

Ooh!

486

00:30:56,960 --> 00:30:58,960

Wow, it's still going.

487

00:31:00,960 --> 00:31:02,960

Is that a flaming tennis ball?

488

00:31:02,960 --> 00:31:03,960

I don't think so.

489

00:31:03,960 --> 00:31:05,960

That was a good bang.

490

00:31:05,960 --> 00:31:06,960

Yeah.

491

00:31:06,960 --> 00:31:08,960

Did anyone see the ball?

492

00:31:08,960 --> 00:31:10,960

I'm going to take the bicycle out there.

493

00:31:11,960 --> 00:31:13,960

Is that where the paper cup lighted?

494

00:31:13,960 --> 00:31:14,960

Yep.

495

00:31:14,960 --> 00:31:17,960

It seems their tree cannon has quite a serve.

496

00:31:26,960 --> 00:31:28,960

A little singed.

497

00:31:28,960 --> 00:31:29,960

You found it?

498

00:31:29,960 --> 00:31:31,960

Wow, that looks great.

499

00:31:31,960 --> 00:31:33,960

Doesn't look very much the worst for wear.

500

00:31:33,960 --> 00:31:35,960

No, just lost some fuzz.

501

00:31:35,960 --> 00:31:41,960

Well, the tennis ball went a little more than a football field in length, which for a tennis ball is a lot.

502

00:31:41,960 --> 00:31:45,960

And I think that, you know, when we put the stone in there, it's really going to take off.

503

00:31:46,960 --> 00:31:48,960

Next up, the real thing.

504

00:31:48,960 --> 00:31:51,960

Jamie's hand-carved cannonball.

505

00:31:51,960 --> 00:31:56,960

We're debating whether or not to put a single or double load, either three or six ounces of powder behind it.

506

00:31:57,960 --> 00:32:03,960

The extra weight of the cannonball will further compress the blast, increasing the force up the barrel.

507

00:32:04,960 --> 00:32:08,960

The guys know the safe way to go is a single three-ounce load.

508

00:32:09,960 --> 00:32:11,960

You comfortable with six ounces, Jack?

509

00:32:11,960 --> 00:32:12,960

Yeah.

510

00:32:12,960 --> 00:32:13,960

All right.

511

00:32:13,960 --> 00:32:15,960

Loading the cartridge.

512

00:32:15,960 --> 00:32:16,960

It's double or nothing.

513

00:32:16,960 --> 00:32:19,960

Twice the powder, twice the danger.

514

00:32:23,960 --> 00:32:25,960

At this point, no one crosses the front.

515

00:32:25,960 --> 00:32:29,960

And be careful with that, because that's going to roll down there fairly quickly.

516

00:32:29,960 --> 00:32:30,960

Yeah, so I gather.

517

00:32:30,960 --> 00:32:31,960

I shock it.

518

00:32:31,960 --> 00:32:35,960

Jamie's great creation is headed for a great adventure.

519

00:32:37,960 --> 00:32:39,960

Satisfying a little funk.

520

00:32:39,960 --> 00:32:41,960

You think we'll be able to find it?

521

00:32:41,960 --> 00:32:49,960

You know, I'm feeling pretty certain that it's going to launch that thing a fair ways, but I don't have a clue how far.

522

00:32:49,960 --> 00:32:51,960

Are we ready, Jack?

523

00:32:51,960 --> 00:32:53,960

Fire in the hole.

524

00:33:02,960 --> 00:33:05,960

I don't have a clue where that went.

525

00:33:05,960 --> 00:33:07,960

I didn't see a darn thing.

526

00:33:07,960 --> 00:33:09,960

Did you see anything?

527

00:33:09,960 --> 00:33:10,960

Wow.

528

00:33:10,960 --> 00:33:15,960

What everyone did see was a remarkably successful tree cannon.

529

00:33:22,960 --> 00:33:25,960

They proved you can make a cannon out of a tree.

530

00:33:25,960 --> 00:33:27,960

Long way.

531

00:33:27,960 --> 00:33:28,960

Really?

532

00:33:28,960 --> 00:33:29,960

Yeah.

533

00:33:29,960 --> 00:33:32,960

Jamie's cannon ball is long gone.

534

00:33:32,960 --> 00:33:35,960

A little bummed out not to find the ball, you know.

535

00:33:35,960 --> 00:33:37,960

I put a lot of work into that thing.

536

00:33:37,960 --> 00:33:39,960

It's a rough thing trying to find it.

537

00:33:39,960 --> 00:33:43,960

We've got a runway that's a mile and a quarter deep.

538

00:33:43,960 --> 00:33:48,960

I didn't think we were going to find it, and I don't think it's unreasonable that we didn't find it.

539

00:33:48,960 --> 00:33:52,960

The ball might be gone, but the myth-busting continues.

540

00:33:52,960 --> 00:33:57,960

Remember, the cannon in the story is said to have exploded.

541

00:33:57,960 --> 00:34:03,960

We're going to take all the powder we have left, which is about 12 ounces, 14 ounces of powder left.

542

00:34:03,960 --> 00:34:07,960

We're going to dump it all in here to see what happens.

543

00:34:07,960 --> 00:34:13,960

Remember, children, myth-busters is hired a licensed pyrotechnician to help us blow stuff up.

544

00:34:13,960 --> 00:34:18,960

You should never try anything like this unless you have your own television show.

545

00:34:18,960 --> 00:34:20,960

I wish I had my rock back.

546

00:34:20,960 --> 00:34:24,960

This is twice the amount of powder they've tried before.

547

00:34:24,960 --> 00:34:31,960

They're jamming everything they can find down the barrel to clog it up and increase the chance of exploding.

548

00:34:31,960 --> 00:34:33,960

Do you have one other thing you want to add to this, Jamie?

549

00:34:33,960 --> 00:34:35,960

I want to see this thing blow up.

550

00:34:35,960 --> 00:34:39,960

You know, it keeps working. What are you going to do?

551

00:34:39,960 --> 00:34:42,960

So I'm going to jam a can of soda down this.

552

00:34:42,960 --> 00:34:46,960

It's a tight fit, maybe too tight.

553

00:34:48,960 --> 00:34:50,960

Oh, ladies and gentlemen.

554

00:34:50,960 --> 00:34:53,960

That's not good.

555

00:34:54,960 --> 00:34:56,960

I just squirted out of the hole.

556

00:34:56,960 --> 00:34:58,960

The water squirted out of the hole?

557

00:34:58,960 --> 00:34:59,960

Uh-huh.

558

00:34:59,960 --> 00:35:01,960

Whoops.

559

00:35:01,960 --> 00:35:06,960

You could have done something worse, but I can't for the life of me think of what that might have been.

560

00:35:10,960 --> 00:35:13,960

Okay, here comes the golf ball.

561

00:35:13,960 --> 00:35:15,960

Oh, there's a lot of soda.

562

00:35:15,960 --> 00:35:19,960

Oh, it's definitely been contaminated by the powder.

563

00:35:19,960 --> 00:35:24,960

Their chances of blowing up the cannon seem to have been washed away in a flood of soda,

564

00:35:24,960 --> 00:35:28,960

but the mythbusters won't take a setback lying down.

565

00:35:28,960 --> 00:35:32,960

Undeterred, they re-rig, calling in another pyrotechnician.

566

00:35:32,960 --> 00:35:38,960

He's got a jumbo-sized bag of gunpowder, and he's not afraid to use it.

567

00:35:38,960 --> 00:35:42,960

Well, we put six ounces of powder in last time. What are we going to put in this time?

568

00:35:42,960 --> 00:35:43,960

Five pounds.

569

00:35:43,960 --> 00:35:44,960

Whoa.

570

00:35:44,960 --> 00:35:45,960

Yeah.

571

00:35:50,960 --> 00:35:53,960

Five pounds of gunpowder.

572

00:35:53,960 --> 00:35:58,960

On a danger scale of one to ten, this rate's about nine.

573

00:35:58,960 --> 00:36:00,960

Now, it's a ten.

574

00:36:00,960 --> 00:36:04,960

They're sealing the end with an aluminum plug.

575

00:36:05,960 --> 00:36:08,960

If this isn't blown up this cannon, I don't know what will.

576

00:36:08,960 --> 00:36:12,960

This is basically going to be a bomb, and there's going to be splinters going everywhere.

577

00:36:12,960 --> 00:36:14,960

So it's not a question just of hard hats.

578

00:36:14,960 --> 00:36:19,960

It's a question of you have to have something like a shield or an automobile

579

00:36:19,960 --> 00:36:23,960

or something like that between you and the cannon.

580

00:36:23,960 --> 00:36:28,960

I'm going to get back about probably 150 feet on the field there, just in case.

581

00:36:28,960 --> 00:36:31,960

The rest of the team is even further back.

582

00:36:31,960 --> 00:36:34,960

They're hoping that'll be far enough.

583

00:36:44,960 --> 00:36:46,960

Oh, my God.

584

00:36:54,960 --> 00:36:56,960

Oh, my God.

585

00:36:56,960 --> 00:36:58,960

Everybody all right?

586

00:36:58,960 --> 00:37:02,960

I mean, like, the heaviest parts go farther than the fence.

587

00:37:02,960 --> 00:37:04,960

There's a piece of log way back there, really.

588

00:37:04,960 --> 00:37:06,960

Oh, my God.

589

00:37:06,960 --> 00:37:12,960

It seems tree cannons can explode with even more force than anyone imagined.

590

00:37:14,960 --> 00:37:16,960

The cannon went away.

591

00:37:18,960 --> 00:37:23,960

There's a little black on the ground around where the cannon was, and that's all that's left.

592

00:37:23,960 --> 00:37:27,960

I'd say it's a very efficient way to split wood.

593

00:37:27,960 --> 00:37:30,960

No, we don't have to lug that damn thing around anymore.

594

00:37:30,960 --> 00:37:32,960

My God.

595

00:37:32,960 --> 00:37:38,960

Adam and Jamie have busted a cannon, but proved two myths.

596

00:37:38,960 --> 00:37:41,960

80 pounds or something like that.

597

00:37:41,960 --> 00:37:44,960

They've proved you can make a cannon out of a tree,

598

00:37:44,960 --> 00:37:50,960

and they've also shown the Hungarian townsfolk could have been wiped out when it exploded.

599

00:37:52,960 --> 00:37:56,960

Sometimes myth-busting is dangerous work.

600

00:38:02,960 --> 00:38:05,960

One for the road, as they say.

601

00:38:05,960 --> 00:38:08,960

But they bit off more than they could chew.

602

00:38:08,960 --> 00:38:10,960

Cheers.

603

00:38:10,960 --> 00:38:12,960

The breath test.

604

00:38:12,960 --> 00:38:15,960

This is definitely going to be a strange day.

605

00:38:22,960 --> 00:38:26,960

Here we are at the San Francisco Police Department crime lab,

606

00:38:26,960 --> 00:38:32,960

and we've got the breath tester, and we're going to get drunk today, I think,

607

00:38:32,960 --> 00:38:36,960

and see whether we can get around the breath test.

608

00:38:36,960 --> 00:38:39,960

Well, there's a lot of myths out there that are really kind of strange

609

00:38:39,960 --> 00:38:43,960

about all these substances you can use to potentially beat the breath test.

610

00:38:43,960 --> 00:38:46,960

You know, Adam, I don't think any of this stuff is going to work.

611

00:38:46,960 --> 00:38:48,960

I don't think any of things are going to work either,

612

00:38:48,960 --> 00:38:55,960

but it's up to us to imbibe and then further imbibe all of these things to show this.

613

00:38:56,960 --> 00:39:01,960

So the idea is to get drunk, then put different products in their mouth

614

00:39:01,960 --> 00:39:05,960

to try to fool the breath test machine into giving a lower reading.

615

00:39:06,960 --> 00:39:11,960

The San Francisco Police Department generously offered its crime lab for the day.

616

00:39:11,960 --> 00:39:16,960

Officer Bruce Gendron will be watching over Adam and Jamie.

617

00:39:17,960 --> 00:39:20,960

Adam's drink of choice is Scotch, neat.

618

00:39:20,960 --> 00:39:23,960

Jamie's mixing vodka with cranberry juice.

619

00:39:25,960 --> 00:39:28,960

I don't know if I've ever had a drink this early in the day.

620

00:39:29,960 --> 00:39:33,960

The Strovya Campany Prost.

621

00:39:34,960 --> 00:39:36,960

Right there with you, buddy.

622

00:39:36,960 --> 00:39:39,960

In California, you're considered legally intoxicated

623

00:39:39,960 --> 00:39:43,960

with a blood alcohol concentration of .08.

624

00:39:43,960 --> 00:39:46,960

Spirits are about 40% alcohol.

625

00:39:46,960 --> 00:39:51,960

How many the guys need to reach the limit depends largely on their weight

626

00:39:51,960 --> 00:39:53,960

and how fast they drink.

627

00:39:53,960 --> 00:39:55,960

A little bit of food to cut the alcohol.

628

00:39:58,960 --> 00:40:00,960

I'm lit. It's like one in the afternoon and I'm lit.

629

00:40:00,960 --> 00:40:04,960

Food does slow alcohol's absorption into the bloodstream,

630

00:40:04,960 --> 00:40:07,960

but their livers can only metabolize one drink an hour,

631

00:40:07,960 --> 00:40:11,960

and just 5% of alcohol is expelled through urine.

632

00:40:11,960 --> 00:40:14,960

But simply, their bodies can't keep up.

633

00:40:16,960 --> 00:40:18,960

So I've had four drinks, right?

634

00:40:18,960 --> 00:40:20,960

Yes, this is number five.

635

00:40:21,960 --> 00:40:23,960

Let's try control.

636

00:40:23,960 --> 00:40:24,960

There you go.

637

00:40:26,960 --> 00:40:27,960

You want to try one?

638

00:40:27,960 --> 00:40:29,960

Yeah, let's try one.

639

00:40:29,960 --> 00:40:31,960

Go ahead.

640

00:40:31,960 --> 00:40:33,960

Very good. That's very good. Thank you.

641

00:40:33,960 --> 00:40:35,960

He's an O3.

642

00:40:36,960 --> 00:40:38,960

That's an O3.

643

00:40:40,960 --> 00:40:41,960

It's an O3.

644

00:40:41,960 --> 00:40:42,960

Wow.

645

00:40:43,960 --> 00:40:45,960

I swear, I'm a cheap date.

646

00:40:47,960 --> 00:40:50,960

Adam, the police officer said you need to drink more.

647

00:40:51,960 --> 00:40:55,960

You know, my doctor was also telling me that I'm not getting enough tar,

648

00:40:55,960 --> 00:40:57,960

so I need to start smoking again.

649

00:40:59,960 --> 00:41:00,960

Making it double.

650

00:41:00,960 --> 00:41:06,960

The guys have to drink up for science far more than either would normally imbibe.

651

00:41:17,960 --> 00:41:20,960

So we've had 13 drinks over three hours.

652

00:41:20,960 --> 00:41:23,960

I know I'm drunk, but I can't even remotely tell that you're drunk.

653

00:41:23,960 --> 00:41:25,960

It's kind of annoying.

654

00:41:25,960 --> 00:41:28,960

I want to see you like lampshade on your head or something.

655

00:41:28,960 --> 00:41:29,960

Sorry, Bob.

656

00:41:30,960 --> 00:41:32,960

All right, let's go.

657

00:41:32,960 --> 00:41:34,960

I feel totally fine.

658

00:41:34,960 --> 00:41:38,960

Allow me to place this on your breath-testing machine, and I'll be happy to be tested.

659

00:41:40,960 --> 00:41:42,960

You are pretty smelly.

660

00:41:43,960 --> 00:41:44,960

That's it. Keep it up.

661

00:41:44,960 --> 00:41:48,960

Listen to the music, and that's what we're trying to do, is keep that sound going.

662

00:41:49,960 --> 00:41:52,960

Very, very good.

663

00:41:54,960 --> 00:41:55,960

That's good.

664

00:41:55,960 --> 00:41:56,960

That's good.

665

00:41:57,960 --> 00:41:58,960

One-one.

666

00:41:58,960 --> 00:41:59,960

All right, finally.

667

00:41:59,960 --> 00:42:02,960

We're at one-one. We're over the limit.

668

00:42:02,960 --> 00:42:04,960

I'm guessing Jamie goes to point nine.

669

00:42:04,960 --> 00:42:11,960

I think the extreme difference in muscle mass will make Jamie process alcohol a lot more efficiently than I do, apparently.

670

00:42:11,960 --> 00:42:12,960

He's doing fine.

671

00:42:12,960 --> 00:42:14,960

You just sit over there and be quiet.

672

00:42:14,960 --> 00:42:18,960

It's rough enough having one of you here, but having two.

673

00:42:18,960 --> 00:42:20,960

Of course I'm causing trouble.

674

00:42:20,960 --> 00:42:22,960

Yep, O-Nite.

675

00:42:22,960 --> 00:42:24,960

O-Nite, legally drunk.

676

00:42:25,960 --> 00:42:29,960

Legally drunk and illegal behind the wheel.

677

00:42:29,960 --> 00:42:36,960

Strangely enough, the first refuge of a driver pulled over in this condition seems to be breath mints.

678

00:42:36,960 --> 00:42:45,960

Right after you get stopped, and we're making it up to the vehicle, and you can see them rushing around in the car trying to find mints or trying to find anything to put in their mouth.

679

00:42:45,960 --> 00:42:51,960

In America, if it looks like a rose and it smells like a rose, it's a rose.

680

00:42:51,960 --> 00:43:00,960

And if you have your certs and your mouth is fresh and you feel fresh, then perhaps you just aren't drunk anymore.

681

00:43:00,960 --> 00:43:02,960

Unfortunately, you are.

682

00:43:02,960 --> 00:43:06,960

A roadside sobriety test quickly reveals that.

683

00:43:06,960 --> 00:43:08,960

Okay, now stop.

684

00:43:08,960 --> 00:43:13,960

I want you to turn around just on the balls of your feet.

685

00:43:13,960 --> 00:43:16,960

With your right index finger, touch your nose.

686

00:43:22,960 --> 00:43:24,960

I think he just fell asleep.

687

00:43:24,960 --> 00:43:27,960

40% of American road deaths involve alcohol.

688

00:43:27,960 --> 00:43:31,960

Nearly 17,000 people killed each year.

689

00:43:31,960 --> 00:43:36,960

To prove a driver was drunk, police usually rely on a breath test.

690

00:43:36,960 --> 00:43:42,960

This man had already had five single whiskies, which he took some little time ago.

691

00:43:42,960 --> 00:43:50,960

The breathalyzer was invented back in the 50s, where drinking whiskey often happened while wearing a nice suit.

692

00:43:50,960 --> 00:43:56,960

Right, that's enough. He is at about point one three.

693

00:43:56,960 --> 00:44:03,960

Breath tests work because alcohol is carried by the blood into the lungs and exhaled.

694

00:44:03,960 --> 00:44:09,960

The amount of alcohol on the person's breath is proportional to the amount in their bloodstream.

695

00:44:09,960 --> 00:44:18,960

Over the limit, the guys will now try to beat the breath test using products that urban legend has it will confuse the machine.

696

00:44:21,960 --> 00:44:28,960

First up, those mints. Will getting rid of the smell get rid of the alcohol?

697

00:44:36,960 --> 00:44:38,960

Okay, that's minty.

698

00:44:42,960 --> 00:44:43,960

One-O.

699

00:44:43,960 --> 00:44:44,960

One-O.

700

00:44:45,960 --> 00:44:47,960

Fat lot of good that did me.

701

00:44:47,960 --> 00:44:53,960

He's still blowing over O8. Maybe something with a stronger smell.

702

00:44:53,960 --> 00:44:59,960

Your best bet is probably to hold your nose, literally, and just take a big bite out of this onion.

703

00:45:04,960 --> 00:45:06,960

My eyes are watering here.

704

00:45:08,960 --> 00:45:11,960

Let's try and see if you were able to fool us.

705

00:45:12,960 --> 00:45:15,960

Nice and steady. Keep going.

706

00:45:15,960 --> 00:45:17,960

Keep going.

707

00:45:17,960 --> 00:45:19,960

That's good.

708

00:45:20,960 --> 00:45:25,960

Jamie, that was an O8. The onion didn't do anything.

709

00:45:26,960 --> 00:45:34,960

Some breath testing machines act like a fuel cell. The more alcohol blown in, the higher the electrical current produced.

710

00:45:34,960 --> 00:45:39,960

That could well have sparked the myth keeping a battery in your mouth would beat the test.

711

00:45:39,960 --> 00:45:41,960

You want to suck on the battery now?

712

00:45:41,960 --> 00:45:42,960

You get the battery.

713

00:45:42,960 --> 00:45:44,960

Yeah, I'm letting you off easy, baby.

714

00:45:46,960 --> 00:45:55,960

Being able to put a battery in your mouth and keeping it there without me knowing that it's there would be very, very difficult.

715

00:45:55,960 --> 00:46:01,960

I would agree with him that it was difficult to talk with a battery in my mouth.

716

00:46:06,960 --> 00:46:08,960

I'd say you're charged.

717

00:46:12,960 --> 00:46:13,960

It's a one-O.

718

00:46:13,960 --> 00:46:21,960

Another kind of tester relies on a chemical reaction. Perhaps throwing a little extra copper into the mix will fool it.

719

00:46:21,960 --> 00:46:22,960

You ready?

720

00:46:25,960 --> 00:46:28,960

Nice, steady blow. That's it.

721

00:46:29,960 --> 00:46:30,960

Very good, thank you.

722

00:46:31,960 --> 00:46:32,960

.09.

723

00:46:32,960 --> 00:46:33,960

Pennies don't work.

724

00:46:35,960 --> 00:46:37,960

Oh, ladies and gentlemen.

725

00:46:37,960 --> 00:46:45,960

A third kind of machine uses infrared light to find alcohol molecules. Adam's going to throw in some denture cream, too.

726

00:46:45,960 --> 00:46:46,960

Okay.

727

00:46:52,960 --> 00:46:53,960

Adam, you did a great job.

728

00:46:53,960 --> 00:46:55,960

Oh, that was nothing, baby.

729

00:46:57,960 --> 00:46:58,960

.11.

730

00:46:58,960 --> 00:46:59,960

.11.

731

00:46:59,960 --> 00:47:02,960

So, denture cream, a no-go.

732

00:47:03,960 --> 00:47:04,960

.11.

733

00:47:04,960 --> 00:47:05,960

.11.

734

00:47:05,960 --> 00:47:06,960

.11.

735

00:47:06,960 --> 00:47:15,960

Another pseudo-scientific mythology suggests hyperventilating might cleanse the lungs of alcohol for just long enough to pass.

736

00:47:15,960 --> 00:47:16,960

All right.

737

00:47:17,960 --> 00:47:18,960

.11.

738

00:47:19,960 --> 00:47:21,960

That doesn't work either.

739

00:47:24,960 --> 00:47:30,960

In fact, the myths are running dry. One last contender. Mouthwash.

740

00:47:30,960 --> 00:47:36,960

One wonders where you do this in a car while the police are like coming around to your window, but nonetheless, we'll try it.

741

00:47:38,960 --> 00:47:39,960

Just nice to stare at you.

742

00:47:41,960 --> 00:47:42,960

.43.

743

00:47:42,960 --> 00:47:43,960

.43.

744

00:47:43,960 --> 00:47:44,960

Really?

745

00:47:44,960 --> 00:47:45,960

Yeah.

746

00:47:45,960 --> 00:47:48,960

Oh, .43. Yeah, that's way, way, way, way, way gone.

747

00:47:49,960 --> 00:47:59,960

Some things causing a false reading. A little higher at .5 is lethal. To iron out glitches like that, police always test you twice.

748

00:47:59,960 --> 00:48:00,960

Very good.

749

00:48:09,960 --> 00:48:22,960

So, it would have been sure that mouthwash doesn't work at all. I mean, even if they got two readings that were grossly out of sync, all they do is take your blood test, and your blood test would tell them exactly how much alcohol you have in your system.

750

00:48:22,960 --> 00:48:24,960

It would seem that nothing works.

751

00:48:24,960 --> 00:48:39,960

On MythBusters, they do what it takes. 13 drinks, a mouthful of onion, and batteries, and pennies, and denture cream. It appears to be a sobering warning for any potential drunk driver.

752

00:48:39,960 --> 00:48:41,960

Using the machine, you will be busted.

753

00:48:41,960 --> 00:48:43,960

So, what do you think? Is this myth busted?

