

1

00:00:00,000 --> 00:00:05,500

On this special episode of MythBusters...

2

00:00:05,500 --> 00:00:07,000

Fire in the hole!

3

00:00:07,000 --> 00:00:10,500

Excited, we're gonna blow some stuff up in the go-home.

4

00:00:10,500 --> 00:00:12,000

Danger at the gas pump.

5

00:00:12,000 --> 00:00:16,000

Our cell phones triggering deadly explosions.

6

00:00:16,000 --> 00:00:18,500

Plus, dummy and dumber.

7

00:00:18,500 --> 00:00:24,500

A MythBusters superstar chases a raccoon down the drain to test a myth.

8

00:00:24,500 --> 00:00:28,000

Ed blows a hole in the story.

9

00:00:28,000 --> 00:00:30,500

Testing a medieval tree cannon.

10

00:00:30,500 --> 00:00:32,500

I need somebody with a whip and a drum.

11

00:00:32,500 --> 00:00:36,500

It's a blast from the past.

12

00:00:36,500 --> 00:00:41,000

Then our new host gets a hazing, then a blazing.

13

00:00:41,000 --> 00:00:44,500

As we turn up the heat on the exploding toilet myth.

14

00:00:44,500 --> 00:00:46,500

He's still holding the thing.

15

00:00:46,500 --> 00:00:49,000

Who are the MythBusters?

16

00:00:49,000 --> 00:00:51,500

Am I missing an eyebrow?

17

00:00:52,500 --> 00:00:53,500

Adam Savage.

18

00:00:53,500 --> 00:00:56,500

I always enjoyed seeing Adam in pain.

19

00:00:56,500 --> 00:00:57,500

Oh!

20

00:00:57,500 --> 00:00:58,500

And Jamie Heineman.

21

00:00:58,500 --> 00:01:00,500

Jamie wants a big hole.

22

00:01:00,500 --> 00:01:05,000

Between them more than 30 years special effects experience.

23

00:01:05,000 --> 00:01:06,000

You're kind of sexy.

24

00:01:06,000 --> 00:01:09,000

They don't just tell the myths.

25

00:01:09,000 --> 00:01:12,000

They put them to the test.

26

00:01:12,000 --> 00:01:27,500

Hey, wake up, funboy.

27

00:01:27,500 --> 00:01:28,500

What?

28

00:01:28,500 --> 00:01:32,500

You helped me with directions to Antiong and lost.

29

00:01:36,500 --> 00:01:40,500

So what are we doing at the Stoke Gas and Oil Memorial, Billyottown in Santa Rosa, California?

30

00:01:40,500 --> 00:01:45,000

Well, we're here to see whether you can accidentally blow up a gas station with a cell phone.

31

00:01:45,000 --> 00:01:48,000

And even if we fail, do we still get to blow something up?

32

00:01:48,000 --> 00:01:49,000

Oh yeah, excellent.

33

00:01:49,000 --> 00:01:52,000

So what exactly is this myth?

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00:01:52,000 --> 00:01:58,000

Well, it's an email myth that says that the use of a cell phone near a gas station could cause an accidental explosion.

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00:01:58,000 --> 00:02:03,000

And in fact, people have bought into this on some gas stations near the gas pumps.

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00:02:03,000 --> 00:02:05,000

You can see a sign saying, please don't use your cell phone here.

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00:02:05,000 --> 00:02:07,000

But also it's a very good story.

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00:02:07,000 --> 00:02:10,500

And a very good story is very powerful and promotes belief.

39

00:02:10,500 --> 00:02:16,500

Heather Joseph Witham, resident folklorist, has another dramatic cell phone explosion story.

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00:02:16,500 --> 00:02:21,500

Well, the story goes that there's an executive speeding along on the freeway in Los Angeles.

41

00:02:21,500 --> 00:02:27,500

And all of a sudden he hears the ding, ding, ding and looks down and he sees that his car is just about out of gas.

42

00:02:27,500 --> 00:02:30,500

So cursing and frustrated, he gets off the freeway.

43

00:02:30,500 --> 00:02:36,500

He drives up to a gas station, gets out, starts pumping the gas, takes out his cell phone

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00:02:36,500 --> 00:02:38,000

and calls the office.

45

00:02:38,000 --> 00:02:45,000

At which point there's a tremendous fireball that engulfs the executive and then the entire gas station explodes.

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00:02:46,000 --> 00:02:53,000

There have been more than 150 gas station fires across the United States since the early 90s.

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00:02:53,000 --> 00:02:56,000

Could cell phones be the culprit?

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00:03:00,000 --> 00:03:06,000

The Stoke Gas and Oil memorabilia town is an ideal location for road testing the cell phone myth.

49

00:03:06,000 --> 00:03:12,000

We're going to need a big blast chamber, something large enough to contain a large explosion and protect us.

50

00:03:12,000 --> 00:03:18,000

And also to control environmental conditions like humidity and temperature and that kind of thing.

51

00:03:18,000 --> 00:03:22,500

We're going to need gas and a way to get it in there in a vapor form.

52

00:03:22,500 --> 00:03:26,500

And we're going to put a cell phone in there and call it and see what happens.

53

00:03:27,000 --> 00:03:38,000

The chamber will be constructed from Lexan, a polycarbonate product favored by racecar drivers and jet pilots.

54

00:03:38,000 --> 00:03:40,000

The pilots are very appealing.

55

00:03:42,000 --> 00:03:47,000

Polycarbonate is a plastic that is extremely tough. You can bolt it in half and it won't break.

56

00:03:47,000 --> 00:03:53,000

It'll stop a bullet, it'll stop all sorts of shrapnel and I just love this stuff.

57

00:03:54,000 --> 00:03:55,000

Love it.

58

00:03:56,000 --> 00:04:04,000

Anticipating a big bang, the guys are constructing the chamber with a failure point, the center of the two halves of the box.

59

00:04:04,000 --> 00:04:11,500

So that if the blast is too big instead of the Lexan failing or the aluminum welds failing, the box itself will just poof separate into two halves.

60

00:04:11,500 --> 00:04:12,500

Like a clamp.

61

00:04:12,500 --> 00:04:13,000

Yeah.

62

00:04:13,000 --> 00:04:22,000

The blast we might deal with might be a lot larger than we think and so building in a failure point for this that can fail safe seems like a good idea.

63

00:04:22,500 --> 00:04:29,500

Considering Americans pump gas around 12 billion times a year, there are plenty of opportunities for disaster.

64

00:04:29,500 --> 00:04:34,500

Electrical sparks and gasoline vapors are a potent mix.

65

00:04:36,500 --> 00:04:47,000

To investigate this second theory, static electricity, they'll also need to build a device that generates body to clothing friction and hopefully create a big spark.

66

00:04:47,000 --> 00:04:51,000

So the mythbusters are shopping for something shocking.

67

00:04:51,500 --> 00:04:54,500

So do you ever have customers come in and say could you sell me something different?

68

00:04:54,500 --> 00:04:57,500

This one causes too much static shock when I wear it.

69

00:04:57,500 --> 00:05:00,500

No, but they say this causes too much shock.

70

00:05:02,500 --> 00:05:05,500

Yeah, we have to define our terms here.

71

00:05:05,500 --> 00:05:07,500

Should we get two? Two of each?

72

00:05:07,500 --> 00:05:09,000

Why do we need two?

73

00:05:09,000 --> 00:05:10,500

One for each of us to wear.

74

00:05:13,500 --> 00:05:19,500

With the shocking garments in hand, they're off to the auto yard to find a suitable car seat.

75

00:05:21,500 --> 00:05:26,500

Do you think we could build some panty friction in the bed here?

76

00:05:26,500 --> 00:05:28,500

Well, that's what it's for, isn't it?

77

00:05:28,500 --> 00:05:30,500

Well, we won't be the first.

78

00:05:30,500 --> 00:05:34,500

Oh! These paintings had no idea what they were in for.

79

00:05:39,500 --> 00:05:42,500

I mean, I don't know which one to actually go with anymore.

80

00:05:42,500 --> 00:05:48,500

At this point it's just like a sea of rubbing and vinyl and wet car seats. It's like high school.

81

00:05:51,000 --> 00:05:55,500

That's actually good. I got more of a charge off of this than anything yet.

82

00:05:57,500 --> 00:06:01,500

They have the seat of choice, but will it provide the necessary charge?

83

00:06:01,500 --> 00:06:03,500

I don't see any sparks.

84

00:06:04,500 --> 00:06:06,500

Watch this.

85

00:06:09,500 --> 00:06:15,500

Back at Fred Stokes Gas Museum, the fire department has arrived to supervise the experiment.

86

00:06:15,500 --> 00:06:21,000

So, is it cell phones or static sparks that cause gas station fires?

87

00:06:21,000 --> 00:06:25,000

Well, let me see. We've got a crash test dummy with his legs removed.

88

00:06:25,000 --> 00:06:34,000

We've got a panty static generator with leopard fur and panties wrapped around it.

89

00:06:34,000 --> 00:06:36,000

It's not exactly hard science.

90

00:06:36,000 --> 00:06:40,000

Nonetheless, the firemen want a much smaller bag.

91

00:06:40,000 --> 00:06:42,000

Jamie wants big bones.

92

00:06:43,000 --> 00:06:45,000

Down boy, down boy!

93

00:06:45,000 --> 00:06:48,500

He's being a little conservative, which is his job, and I appreciate that.

94

00:06:48,500 --> 00:06:51,500

We will still try to get the biggest explosion we can.

95

00:06:53,500 --> 00:06:55,500

Time for the fire protection suit.

96

00:06:55,500 --> 00:06:59,500

Delivering the gasoline to the chamber is Jamie's responsibility.

97

00:06:59,500 --> 00:07:04,500

He will use an aerosol device to spray high concentrations of flammable fuel vapor

98

00:07:04,500 --> 00:07:07,500

directly inside the blast chamber.

99

00:07:08,500 --> 00:07:10,500

So, I rigged up the cell phone in there.

100

00:07:10,500 --> 00:07:11,500

OK.

101

00:07:12,000 --> 00:07:15,000

When I call it, it says, Detonate.

102

00:07:16,000 --> 00:07:18,000

Very cute.

103

00:07:18,000 --> 00:07:20,000

OK, we're going to start the fuel.

104

00:07:20,000 --> 00:07:22,000

You guys ready?

105

00:07:24,000 --> 00:07:28,000

For gas to explode, you need the right mix of fuel and air.

106

00:07:28,000 --> 00:07:34,000

As the concentration edges towards the flammable level, their gas meter emits a warning.

107

00:07:34,000 --> 00:07:35,000

OK.

108

00:07:35,000 --> 00:07:36,000

Still behind the thing?

109

00:07:36,000 --> 00:07:39,000

The chamber is primed and ready for the cell phone blast test.

110

00:07:39,000 --> 00:07:41,000

Calling now.

111

00:07:42,000 --> 00:07:45,000

Hello, explosion?

112

00:07:45,000 --> 00:07:46,000

Hello?

113

00:07:46,000 --> 00:07:47,000

Hello?

114

00:07:47,000 --> 00:07:49,000

He never answers his phone.

115

00:07:50,000 --> 00:07:54,000

Both Jamie and Adam are confident the cell phone won't cause an explosion.

116

00:07:54,000 --> 00:07:58,000

It creates heat, but not enough to cause ignition.

117

00:07:58,000 --> 00:08:01,000

Time to test the second theory.

118

00:08:01,000 --> 00:08:06,000

OK, guys, we're done with the cell phone and we're going to the panty static generator.

119

00:08:07,000 --> 00:08:09,000

Because many unnecessary people back.

120

00:08:09,000 --> 00:08:11,000

I really have some concerns about that thing.

121

00:08:11,000 --> 00:08:12,000

I really do.

122

00:08:12,000 --> 00:08:14,000

OK, all right, I will tell everybody.

123

00:08:14,000 --> 00:08:15,000

Thank you.

124

00:08:15,000 --> 00:08:19,000

You'll notice the firemen are all kind of standing a lot further back than we are.

125

00:08:19,000 --> 00:08:20,000

Yeah.

126

00:08:20,000 --> 00:08:22,000

So, this is not to be toyed around with.

127

00:08:22,000 --> 00:08:24,000

It is a bomb.

128

00:08:24,000 --> 00:08:25,000

OK.

129

00:08:25,000 --> 00:08:32,000

With the chamber saturated in gasoline, it's time now for Adam's panty static generator to spark an explosion.

130

00:08:33,000 --> 00:08:38,000

All right, we're going in five, four, three, two, one.

131

00:08:39,000 --> 00:08:44,000

We should have had a spark right about then.

132

00:08:44,000 --> 00:08:47,000

Come on, come on, maybe.

133

00:08:47,000 --> 00:08:52,000

OK, I've gone through what should have been at least three sparks so far.

134

00:08:52,000 --> 00:08:53,000

OK.

135

00:08:54,000 --> 00:09:00,000

Even with sparks and the heavy fuel load, the gas will only blow if conditions are absolutely optimal.

136

00:09:00,000 --> 00:09:03,000

So far, nothing is happening.

137

00:09:04,000 --> 00:09:09,000

How hard can it be to blow up a room full of gasoline?

138

00:09:09,000 --> 00:09:13,000

My guess is just the wrong mixture, just that simple.

139

00:09:13,000 --> 00:09:15,000

The wrong mixture.

140

00:09:15,000 --> 00:09:18,000

That's it, we're packing up and we're going to go home.

141

00:09:19,000 --> 00:09:21,000

With our tail between our legs.

142

00:09:22,000 --> 00:09:24,000

Don't press send just yet.

143

00:09:24,000 --> 00:09:28,000

Our cell phones and gas stations are a disaster waiting to happen.

144

00:09:28,000 --> 00:09:30,000

That's later in the show.

145

00:09:30,000 --> 00:09:32,000

Coming up on Mythbusters.

146

00:09:32,000 --> 00:09:35,000

Can a man be blown out of a culvert?

147

00:09:35,000 --> 00:09:38,000

Find out after this.

148

00:09:48,000 --> 00:09:51,000

Roll up for the greatest Mythbusters show on Earth.

149

00:09:51,000 --> 00:09:57,000

How could a rat up a drain pump, a roasted toy raccoon and a sharp dressed dummy

150

00:09:57,000 --> 00:10:00,000

turn into a disaster area?

151

00:10:03,000 --> 00:10:06,000

Take your seat as we ride the raccoon rocket.

152

00:10:06,000 --> 00:10:16,000

In 1998, in Carbon County, Pennsylvania, apparently some good old boys from the San's Oat were hanging out on their porch drinking beer

153

00:10:16,000 --> 00:10:20,000

and they saw a raccoon go by and so they all opened fire on it.

154

00:10:20,000 --> 00:10:24,000

So they noticed that the raccoons taken refuge in a drainage pipe.

155

00:10:24,000 --> 00:10:30,000

So one of these smart fellows goes over to the drainage pipe and he pours gasoline down there and he tries to light it.

156

00:10:30,000 --> 00:10:37,000

Unsuccessful at doing this, one of them decided to go down into the pipe to better light the gasoline and get the raccoon out

157

00:10:37,000 --> 00:10:45,000

at which point the gasoline actually did ignite and it shot this guy out the tube at a high rate of speed.

158

00:10:45,000 --> 00:10:50,000

He goes shooting straight out of this pipe and he flies about 200 feet right over the house and falls.

159

00:10:50,000 --> 00:10:53,000

Manages to get up relatively unharmed.

160

00:10:53,000 --> 00:10:58,000

Well, it sounds like we have all the information we need to proceed. What is the plan? Have you got a plan?

161

00:10:58,000 --> 00:11:05,000

Well, we need a big gas pipe. I guess a sewer pipe. It's got to be 20 feet long, 3 feet in diameter.

162

00:11:05,000 --> 00:11:11,000

We've got to have 5 gallons of gasoline. We have to have some means of igniting it safely from a distance.

163

00:11:11,000 --> 00:11:13,000

I have one more question about this.

164

00:11:13,000 --> 00:11:14,000

What's that?

165

00:11:14,000 --> 00:11:16,000

Which one of us is going to get launched from this pipe?

166

00:11:16,000 --> 00:11:18,000

Well, you, of course.

167

00:11:18,000 --> 00:11:22,000

You know, much as I'd like to do it, it sounds to me like it's a job for Buster.

168

00:11:22,000 --> 00:11:29,000

Well, what's next in line for Buster is to put him in a 3-foot pipe with a bunch of gasoline and maybe even gunpowder

169

00:11:29,000 --> 00:11:32,000

and see if we can launch him like a cannonball.

170

00:11:35,000 --> 00:11:41,000

Time to grab a \$25.98 toy raccoon and put this myth to the test.

171

00:11:41,000 --> 00:11:45,000

Our firing range is an abandoned airfield on the outskirts of San Francisco.

172

00:11:45,000 --> 00:11:49,000

Job number one, get that pipe into launch position.

173

00:11:49,000 --> 00:11:53,000

For this, our boys will need a nice new toy.

174

00:11:53,000 --> 00:11:57,000

I think this is the biggest thing we've driven yet.

175

00:11:57,000 --> 00:12:01,000

Very, very, very cool.

176

00:12:01,000 --> 00:12:05,000

Yeah, I think this is the biggest thing we've driven yet.

177

00:12:05,000 --> 00:12:08,000

Very, very, very cool.

178

00:12:09,000 --> 00:12:13,000

But does anyone know how to drive this thing?

179

00:12:13,000 --> 00:12:15,000

So did you get any instructions on it?

180

00:12:15,000 --> 00:12:16,000

I did not.

181

00:12:16,000 --> 00:12:22,000

A few quick tips from the Backhoe Delivery Man and Adam is an instant expert.

182

00:12:22,000 --> 00:12:26,000

This goes side to side.

183

00:12:26,000 --> 00:12:32,000

You can drop this pin in the center and it'll lock it from going like this.

184

00:12:39,000 --> 00:12:42,000

That was fun!

185

00:12:44,000 --> 00:12:46,000

He's taking an awful long time to do this.

186

00:12:46,000 --> 00:12:50,000

I think he's having just a bit too much fun.

187

00:12:51,000 --> 00:12:54,000

Finally, our cannon is in position.

188

00:12:54,000 --> 00:13:01,000

Well, we've just covered the pipe with dirt and so I guess we're going to pour some gasoline down there

189

00:13:01,000 --> 00:13:03,000

and light it with the dummy in the tube.

190

00:13:03,000 --> 00:13:05,000

We pretty well know that nothing's going to happen.

191

00:13:05,000 --> 00:13:10,000

We'll get a big whoosh of gasoline out of both sides of this tube, but besides that,

192

00:13:10,000 --> 00:13:13,000

it's not going to launch this dummy in any way.

193

00:13:13,000 --> 00:13:15,000

The stunt is ready.

194

00:13:15,000 --> 00:13:17,000

So where's the fall guy?

195

00:13:17,000 --> 00:13:23,000

For extra fireproofing, Buster gets a dressing down with a special flame retardant gel.

196

00:13:23,000 --> 00:13:26,000

Okay, so we're going to shove him about three feet up in there?

197

00:13:26,000 --> 00:13:30,000

Yeah, feet first because his head's got to be down like he

198

00:13:30,000 --> 00:13:35,000

skooched down the pipe where the lighter was like, you know, that kind of business.

199

00:13:38,000 --> 00:13:40,000

The scene is set exactly according to the myth.

200

00:13:40,000 --> 00:13:48,000

We have one not so smart man, Buster, who's crawled down a three foot wide drainage pipe chasing a raccoon.

201

00:13:48,000 --> 00:13:49,000

Like that.

202

00:13:49,000 --> 00:13:50,000

Like this?

203

00:13:50,000 --> 00:13:51,000

Yeah.

204

00:13:51,000 --> 00:13:55,000

The raccoon's probably all the way at the very end, you know, up against like a steel grate or something like that.

205

00:13:55,000 --> 00:13:58,000

So he's probably like right here.

206

00:13:58,000 --> 00:14:02,000

Trying to be as threatening as a raccoon soaked with gasoline can be.

207

00:14:02,000 --> 00:14:03,000

Okay.

208

00:14:03,000 --> 00:14:05,000

Let me get my automatic match.

209

00:14:07,000 --> 00:14:11,000

The MythBusters team gets ready for launch.

210

00:14:11,000 --> 00:14:12,000

Excited.

211

00:14:12,000 --> 00:14:13,000

We're going to blow some stuff up.

212

00:14:13,000 --> 00:14:14,000

Then we go home.

213

00:14:14,000 --> 00:14:19,000

Now, Jamie adds the final element, five gallons of gasoline.

214

00:14:19,000 --> 00:14:21,000

Okay, it's kind of a lot.

215

00:14:21,000 --> 00:14:23,000

Oh, it's kind of really a lot.

216

00:14:23,000 --> 00:14:26,000

It's a lot of gasoline pouring out of there.

217

00:14:26,000 --> 00:14:27,000

That's it.

218

00:14:27,000 --> 00:14:28,000

All right.

219

00:14:28,000 --> 00:14:29,000

Get out of there.

220

00:14:29,000 --> 00:14:30,000

Okay.

221

00:14:30,000 --> 00:14:31,000

Here we go.

222

00:14:31,000 --> 00:14:34,000

Standing over here with me, Jamie.

223

00:14:34,000 --> 00:14:35,000

Yeah.

224

00:14:35,000 --> 00:14:39,000

In three, two, one.

225

00:14:39,000 --> 00:14:41,000

We have ignition.

226

00:14:43,000 --> 00:14:44,000

Put it out now.

227

00:14:44,000 --> 00:14:45,000

Go.

228

00:14:50,000 --> 00:14:52,000

Well, that wasn't nothing at all.

229

00:14:52,000 --> 00:14:53,000

Nope.

230

00:14:53,000 --> 00:14:55,000

That was like a little campfire.

231

00:14:55,000 --> 00:14:59,000

Well, it probably would have set the whole tube on fire after a while.

232

00:14:59,000 --> 00:15:02,000

It's essentially a heck out of our raccoon.

233

00:15:02,000 --> 00:15:04,000

Let's see how our raccoon did.

234

00:15:04,000 --> 00:15:07,000

That's one piping hot toy raccoon all right.

235

00:15:07,000 --> 00:15:09,000

But not much else.

236

00:15:09,000 --> 00:15:15,000

And certainly not enough to satisfy the destructive desires of these two strange men.

237

00:15:15,000 --> 00:15:17,000

The myth is in fact busted.

238

00:15:17,000 --> 00:15:19,000

But there's always two parts to a MythBusters story.

239

00:15:19,000 --> 00:15:23,000

There's replicating the myth and then there's duplicating the result.

240

00:15:23,000 --> 00:15:25,000

And we replicated the myth, we got enough of it.

241

00:15:25,000 --> 00:15:28,000

Now it's time to see what it takes to launch him out of that tube.

242

00:15:28,000 --> 00:15:33,000

John McLeod normally creates pyrotechnics for Hollywood films.

243

00:15:33,000 --> 00:15:35,000

Q the bomb.

244

00:15:35,000 --> 00:15:37,000

So that's the 10 pounder, isn't it?

245

00:15:37,000 --> 00:15:38,000

It's a 10 pounder.

246

00:15:38,000 --> 00:15:40,000

It doesn't look like much.

247

00:15:40,000 --> 00:15:41,000

Not until it goes off.

248

00:15:41,000 --> 00:15:45,000

John will use an electric detonator to ignite the powder.

249

00:15:45,000 --> 00:15:49,000

With the wiring all checked, it's time to seal the end of the pipe.

250

00:15:49,000 --> 00:15:50,000

Look at that.

251

00:15:50,000 --> 00:15:51,000

That's perfect.

252

00:15:51,000 --> 00:15:53,000

All right, I'm going to bury it.

253

00:15:53,000 --> 00:15:57,000

The pipe must be plugged to direct the force from the blast towards Buster

254

00:15:57,000 --> 00:16:00,000

and send him out the other end of the tube.

255

00:16:00,000 --> 00:16:02,000

Will it work?

256

00:16:02,000 --> 00:16:05,000

That's in the lap of the gunpowder gods.

257

00:16:05,000 --> 00:16:08,000

I think if any of the worst thing that could happen was it would rupture the back end of the tube

258

00:16:08,000 --> 00:16:12,000

and maybe shoot dirt and sand and possibly little rocks.

259

00:16:12,000 --> 00:16:17,000

Jamie is so confident he's parking Buster's wheelchair right where he thinks he'll land.

260

00:16:17,000 --> 00:16:19,000

Jamie, you hoping to catch him?

261

00:16:19,000 --> 00:16:20,000

Yeah.

262

00:16:20,000 --> 00:16:23,000

That's about the most optimistic thing I've ever heard.

263

00:16:23,000 --> 00:16:27,000

If you catch him, I'll give you \$100.

264

00:16:27,000 --> 00:16:32,000

Okay, let's put this big bang theory into practice.

265

00:16:32,000 --> 00:16:34,000

You want to put some protection on there?

266

00:16:34,000 --> 00:16:36,000

No, I think I'm all right.

267

00:16:36,000 --> 00:16:38,000

He thinks he's all right.

268

00:16:38,000 --> 00:16:42,000

Five, and three, two, one.

269

00:16:42,000 --> 00:16:49,000

Oh, my God.

270

00:16:49,000 --> 00:16:52,000

I almost made the chair.

271

00:16:52,000 --> 00:16:54,000

You almost made the chair.

272

00:16:54,000 --> 00:16:58,000

We've got two very excited mythbusters on our hands.

273

00:16:58,000 --> 00:17:00,000

He survived.

274

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

Buster survived.

275

00:17:03,000 --> 00:17:05,000

I'm all ready.

276

00:17:05,000 --> 00:17:07,000

Woo.

277

00:17:07,000 --> 00:17:09,000

I came out, I was a little worse.

278

00:17:09,000 --> 00:17:10,000

How are you feeling, buddy?

279

00:17:10,000 --> 00:17:11,000

Absolutely perfectly.

280

00:17:11,000 --> 00:17:14,000

I was off by about five or ten feet.

281

00:17:14,000 --> 00:17:29,000

Buster heroically executed at textbook superhero style exit from the cannon.

282

00:17:29,000 --> 00:17:37,000

This myth is just complete and utter lunacy to think that it's true.

283

00:17:37,000 --> 00:17:39,000

Coming up.

284

00:17:39,000 --> 00:17:45,000

We're going to build a cannon out of a tree on mythbusters.

285

00:17:45,000 --> 00:18:01,000

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

286

00:18:01,000 --> 00:18:03,000

that was being threatened by their neighbors.

287

00:18:03,000 --> 00:18:09,000

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

288

00:18:09,000 --> 00:18:13,000

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

289

00:18:13,000 --> 00:18:18,000

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

290

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

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

291

00:18:22,000 --> 00:18:27,000

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

292

00:18:27,000 --> 00:18:30,000

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

293

00:18:31,000 --> 00:18:38,000

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

294

00:18:38,000 --> 00:18:45,000

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

295

00:18:45,000 --> 00:18:50,000

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

296

00:18:50,000 --> 00:18:52,000

This was done in medieval Hungary.

297

00:18:52,000 --> 00:18:58,000

They didn't have power tools and there would have been a lot of things that would be different about what we're doing.

298

00:18:58,000 --> 00:19:05,000

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

299

00:19:05,000 --> 00:19:08,000

For authenticity, they want to make similar equipment.

300

00:19:08,000 --> 00:19:11,000

Jamie starting with an axe to strip the log.

301

00:19:19,000 --> 00:19:21,000

Getting a little workout this morning.

302

00:19:21,000 --> 00:19:26,000

Adam's having a workout of his own.

303

00:19:26,000 --> 00:19:31,000

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

304

00:19:43,000 --> 00:19:46,000

Now there's some medieval workmanship.

305

00:19:47,000 --> 00:19:51,000

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

306

00:19:51,000 --> 00:19:57,000

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

307

00:20:03,000 --> 00:20:07,000

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

308

00:20:07,000 --> 00:20:11,000

Will Jamie's medieval drill do the job?

309

00:20:11,000 --> 00:20:18,000

Drills nice and sharp and I flatten this out so that I can grab this like that to crank it.

310

00:20:18,000 --> 00:20:24,000

Remember, according to the myth, the tribe made their cannon overnight.

311

00:20:24,000 --> 00:20:27,000

But this is slow work.

312

00:20:32,000 --> 00:20:34,000

We're about half an inch in.

313

00:20:36,000 --> 00:20:38,000

I need somebody with a whip and a drum.

314

00:20:39,000 --> 00:20:42,000

They've got to drill through about five feet.

315

00:20:44,000 --> 00:20:47,000

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

316

00:20:47,000 --> 00:20:49,000

Let's see.

317

00:20:49,000 --> 00:20:53,000

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

318

00:20:53,000 --> 00:20:59,000

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

319

00:20:59,000 --> 00:21:02,000

The myth says that overnight they'd be able to drill a cannon.

320

00:21:02,000 --> 00:21:05,000

And I would say that that is unlikely.

321

00:21:05,000 --> 00:21:08,000

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

322

00:21:08,000 --> 00:21:11,000

They've come too far to stop now.

323

00:21:11,000 --> 00:21:15,000

Adam and Jamie resolve to test the rest of this explosive myth.

324

00:21:15,000 --> 00:21:18,000

And that means building the cannon their way.

325

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

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

326

00:21:21,000 --> 00:21:28,000

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

327

00:21:28,000 --> 00:21:33,000

I'm making a cannonball out of granite. Or a mess.

328

00:21:33,000 --> 00:21:38,000

He plans to hand chisel a perfectly round cannonball.

329

00:21:38,000 --> 00:21:41,000

It's precision versus precision.

330

00:21:41,000 --> 00:21:44,000

And it's a great way to do it.

331

00:21:44,000 --> 00:21:49,000

He plans to hand chisel a perfectly round cannonball.

332

00:21:49,000 --> 00:21:53,000

It's precision versus power.

333

00:21:53,000 --> 00:21:57,000

That is a tree cannon.

334

00:21:57,000 --> 00:22:00,000

Jamie hasn't done a bad job himself.

335

00:22:00,000 --> 00:22:04,000

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

336

00:22:04,000 --> 00:22:07,000

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

337

00:22:07,000 --> 00:22:11,000

So they've made the tree cannon, made the cannonball.

338

00:22:11,000 --> 00:22:15,000

And now they need to make medieval gunpowder.

339

00:22:15,000 --> 00:22:20,000

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

340

00:22:20,000 --> 00:22:27,000

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

341

00:22:27,000 --> 00:22:31,000

Jack knows what ingredients existed around the time of the myth.

342

00:22:31,000 --> 00:22:35,000

So they can make up a crude gunpowder.

343

00:22:35,000 --> 00:22:38,000

But how well will it work?

344

00:22:38,000 --> 00:22:43,000

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

345

00:22:43,000 --> 00:22:46,000

Ready?

346

00:22:51,000 --> 00:22:53,000

Oh, wow!

347

00:22:53,000 --> 00:22:54,000

Nicely done.

348

00:22:54,000 --> 00:22:56,000

I think that's very respectable.

349

00:22:56,000 --> 00:22:57,000

Okay.

350

00:22:57,000 --> 00:22:59,000

I think that'll do.

351

00:22:59,000 --> 00:23:02,000

I think that's going to work quite well, yes.

352

00:23:02,000 --> 00:23:05,000

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

353

00:23:05,000 --> 00:23:08,000

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

354

00:23:08,000 --> 00:23:10,000

Of course we're going to try to blow it up.

355

00:23:10,000 --> 00:23:12,000

That's what we do.

356

00:23:16,000 --> 00:23:21,000

Once more, in the name of myth-busting, Jamie and Adam head into the world.

357

00:23:21,000 --> 00:23:25,000

Armed, dangerous, and set on destruction.

358

00:23:25,000 --> 00:23:26,000

Their destination?

359

00:23:26,000 --> 00:23:30,000

The abandoned runway at the Alameda Naval Base.

360

00:23:31,000 --> 00:23:39,000

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

361

00:23:39,000 --> 00:23:41,000

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

362

00:23:41,000 --> 00:23:43,000

No, we definitely don't.

363

00:23:43,000 --> 00:23:46,000

You ready to load some powder there, Jamie?

364

00:23:46,000 --> 00:23:48,000

Yeah, let's do it.

365

00:23:48,000 --> 00:23:53,000

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

366

00:23:53,000 --> 00:23:58,000

The cartridges are forced to the bottom of the barrel.

367

00:23:59,000 --> 00:24:02,000

And a hull poked in the side for the fuse.

368

00:24:02,000 --> 00:24:05,000

We're debating whether or not to put a single or double load,

369

00:24:05,000 --> 00:24:08,000

either three or six ounces of powder behind it.

370

00:24:08,000 --> 00:24:12,000

The extra weight of the cannonball will further compress the blast,

371

00:24:12,000 --> 00:24:15,000

increasing the force of the barrel.

372

00:24:15,000 --> 00:24:19,000

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

373

00:24:19,000 --> 00:24:21,000

You comfortable with six ounces, Jack?

374

00:24:21,000 --> 00:24:22,000

Yeah.

375

00:24:22,000 --> 00:24:25,000

All right, loading the cartridge.

376

00:24:25,000 --> 00:24:27,000

It's double or nothing.

377

00:24:27,000 --> 00:24:30,000

Twice the powder, twice the danger.

378

00:24:33,000 --> 00:24:36,000

At this point, no one crosses the front.

379

00:24:36,000 --> 00:24:38,000

Fire in the hole.

380

00:24:48,000 --> 00:24:50,000

I don't have a clue where that went.

381

00:24:50,000 --> 00:24:52,000

I didn't see a darn thing.

382

00:24:52,000 --> 00:24:54,000

Did you see anything?

383

00:24:54,000 --> 00:24:55,000

Wow.

384

00:24:55,000 --> 00:25:00,000

What everyone did see was a remarkably successful tree cannon.

385

00:25:06,000 --> 00:25:10,000

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

386

00:25:10,000 --> 00:25:11,000

Long way.

387

00:25:11,000 --> 00:25:16,000

Jamie's cannonball is long gone, but the myth-busting continues.

388

00:25:16,000 --> 00:25:20,000

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

389

00:25:20,000 --> 00:25:22,000

We put six ounces of powder in last time.

390

00:25:22,000 --> 00:25:23,000

What are we going to put in this time?

391

00:25:23,000 --> 00:25:24,000

Five pounds.

392

00:25:24,000 --> 00:25:25,000

Whoa.

393

00:25:25,000 --> 00:25:26,000

Yeah.

394

00:25:26,000 --> 00:25:32,000

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

395

00:25:32,000 --> 00:25:36,000

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

396

00:25:40,000 --> 00:25:43,000

Five pounds of gunpowder.

397

00:25:43,000 --> 00:25:47,000

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

398

00:25:47,000 --> 00:25:50,000

Now it's a ten.

399

00:25:50,000 --> 00:25:54,000

They're seen in the end with an aluminum clock.

400

00:25:54,000 --> 00:25:57,000

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

401

00:25:57,000 --> 00:26:01,000

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

402

00:26:01,000 --> 00:26:03,000

So it's not a question just of hard hats.

403

00:26:03,000 --> 00:26:09,000

It's a question of you have to have something like a shield or an automobile or something like that

404

00:26:09,000 --> 00:26:12,000

between you and the cannon.

405

00:26:12,000 --> 00:26:17,000

I'm going to get back about probably 150 feet on the field there, just in case.

406

00:26:17,000 --> 00:26:20,000

The rest of the team is even further back.

407

00:26:20,000 --> 00:26:22,000

They're hoping that'll be far enough.

408

00:26:43,000 --> 00:26:45,000

Everybody all right?

409

00:26:45,000 --> 00:26:49,000

I mean, like, the heaviest parts go farther than the fence.

410

00:26:49,000 --> 00:26:51,000

There's a piece of long way back there, really.

411

00:26:51,000 --> 00:26:53,000

Oh my God!

412

00:26:53,000 --> 00:26:59,000

It seems tree cannons can explode with even more force than anyone imagined.

413

00:27:02,000 --> 00:27:04,000

The cannon went away.

414

00:27:06,000 --> 00:27:11,000

There's a little black on the ground around where the cannon was and that's all that's left.

415

00:27:11,000 --> 00:27:14,000

I'd say it's a very efficient way to split wood.

416

00:27:14,000 --> 00:27:17,000

No, we don't have to lug that damn thing around anymore.

417

00:27:17,000 --> 00:27:19,000

My God!

418

00:27:20,000 --> 00:27:25,000

Adam and Jamie have busted a cannon, but proved two myths.

419

00:27:25,000 --> 00:27:28,000

Maybe 80 pounds or something like that.

420

00:27:28,000 --> 00:27:36,000

They've proved you can make a cannon out of a tree and they've also shown the Hungarian townsfolk could have been wiped out when it exploded.

421

00:27:37,000 --> 00:27:41,000

Sometimes myth-busting is dangerous work.

422

00:27:43,000 --> 00:27:50,000

When we come back, the myth-busters hit the bathroom to bust a well-known toilet tail.

423

00:27:51,000 --> 00:27:53,000

How much? I put it all in there.

424

00:27:53,000 --> 00:27:55,000

That's too much.

425

00:28:07,000 --> 00:28:10,000

Apparently somebody dumped some combustibles down a toilet.

426

00:28:10,000 --> 00:28:14,000

You know, bug spray, gasoline, there's a number of different variations on this myth.

427

00:28:14,000 --> 00:28:20,000

At which point, her husband comes into the bathroom, sits down, has a cigarette,

428

00:28:20,000 --> 00:28:27,000

puts the cigarette out between his legs into the toilet and it explodes, burning his sensitive parts.

429

00:28:28,000 --> 00:28:32,000

It should be easy for the myth-busters to get this one in the can.

430

00:28:32,000 --> 00:28:37,000

All they have to do is buy a toilet, dump a range of combustible materials into it,

431

00:28:37,000 --> 00:28:40,000

drop in a lit cigarette and watch the fireworks.

432

00:28:40,000 --> 00:28:45,000

With your years of experience of exploding toilets and combustible gases,

433

00:28:45,000 --> 00:28:48,000

what do you think the hard part of this experiment is going to be?

434

00:28:48,000 --> 00:28:52,000

I'm trying to think of various ways that we can actually make that toilet blow up.

435

00:28:52,000 --> 00:28:56,000

And, you know, maybe the gasoline or maybe the bug spray will do it,

436

00:28:56,000 --> 00:28:59,000

but if not, you know, there are other things that we can put in there.

437

00:28:59,000 --> 00:29:01,000

Like a grand finale?

438

00:29:01,000 --> 00:29:03,000

One way or another, we're going to blow up that damn toilet.

439

00:29:03,000 --> 00:29:04,000

Okay.

440

00:29:04,000 --> 00:29:07,000

This narrative has been around at least since the 1930s,

441

00:29:07,000 --> 00:29:10,000

at which point it appeared in news clippings and newspapers.

442

00:29:11,000 --> 00:29:15,000

The early form of the story was probably some sort of rural gag.

443

00:29:15,000 --> 00:29:20,000

You have the wife of the house going and cleaning out the outhouse with some kind of kerosene or oil

444

00:29:20,000 --> 00:29:27,000

or other kind of volatile fluid, at which point the grandpa goes out and sits down and lights his pipe

445

00:29:27,000 --> 00:29:30,000

and he gets blown right off the outhouse seat.

446

00:29:30,000 --> 00:29:33,000

And as he's lying there amidst the rubble, he says,

447

00:29:33,000 --> 00:29:35,000

it must have been something I ate.

448

00:29:37,000 --> 00:29:43,000

The next step, Jamie has to build a remote-controlled hand to drop the cigarette.

449

00:29:50,000 --> 00:29:52,000

That's probably the best thing.

450

00:29:53,000 --> 00:29:55,000

Okay.

451

00:29:56,000 --> 00:30:00,000

Adam and Jamie have also had to build their very own blast chamber.

452

00:30:00,000 --> 00:30:04,000

It's made from a bulletproof material called Lexan,

453

00:30:04,000 --> 00:30:07,000

the same substance used in aircraft windows.

454

00:30:07,000 --> 00:30:10,000

Hopefully, it will survive its maiden voyage.

455

00:30:10,000 --> 00:30:22,000

On its first outing, the blast chamber is doubling as the world's most public bathroom.

456

00:30:22,000 --> 00:30:25,000

Like an hourglass, the sands of time.

457

00:30:26,000 --> 00:30:30,000

Moving an extra blade towards toilet explosion.

458

00:30:31,000 --> 00:30:35,000

Inside, a high-speed camera has its BDI trained on the bowl.

459

00:30:35,000 --> 00:30:40,000

It's running at a thousand frames per second, 40 times faster than the average camcorder.

460

00:30:40,000 --> 00:30:43,000

The more frames exposed, the slower the picture.

461

00:30:43,000 --> 00:30:47,000

Normal camera, high-speed camera.

462

00:30:50,000 --> 00:30:52,000

Perfectly.

463

00:30:53,000 --> 00:30:54,000

That ought to work.

464

00:30:54,000 --> 00:30:56,000

That ought to work.

465

00:30:56,000 --> 00:30:59,000

The temperature inside the chamber is already climbing.

466

00:31:00,000 --> 00:31:02,000

Ow!

467

00:31:02,000 --> 00:31:06,000

The hotter it is, the easier it should be to ignite the fuel.

468

00:31:06,000 --> 00:31:13,000

While the chamber should easily contain any explosion, the mythbusters have called for backup just in case.

469

00:31:13,000 --> 00:31:15,000

Have you never heard this myth before?

470

00:31:15,000 --> 00:31:17,000

No, actually I haven't heard this one.

471

00:31:17,000 --> 00:31:21,000

I've found a few people on the toilet, but never because of a toilet explosion.

472

00:31:21,000 --> 00:31:23,000

Falling off the toilet.

473

00:31:23,000 --> 00:31:25,000

Falling off the toilet.

474

00:31:25,000 --> 00:31:27,000

Never actually exploding.

475

00:31:27,000 --> 00:31:31,000

The local fire marshal is on hand to oversee proceedings.

476

00:31:31,000 --> 00:31:36,000

We've designed this, it's covered with polycarbonate that won't shatter, go anywhere.

477

00:31:36,000 --> 00:31:45,000

It's securely bolted as well as it's made in two separate halves so that if there is any kind of general explosion in there, it'll just open like a flower.

478

00:31:45,000 --> 00:31:47,000

So there's nothing holding it together in other words?

479

00:31:47,000 --> 00:31:48,000

No.

480

00:31:51,000 --> 00:31:52,000

The first product you're going to test?

481

00:31:52,000 --> 00:31:53,000

We've got it.

482

00:31:53,000 --> 00:31:54,000

We have an order.

483

00:31:54,000 --> 00:31:55,000

You start with your cleanest.

484

00:31:55,000 --> 00:31:57,000

You have your best progression.

485

00:32:05,000 --> 00:32:07,000

Well, oh.

486

00:32:09,000 --> 00:32:11,000

This is powerful porcelain.

487

00:32:11,000 --> 00:32:18,000

It seems the smoldering tip of the cigarette is not producing enough heat to reach the flash point of the hydrocarbons.

488

00:32:18,000 --> 00:32:21,000

I mean, we're totally duplicating the circumstances of the myth.

489

00:32:21,000 --> 00:32:23,000

Let's cigarette, bug spray.

490

00:32:23,000 --> 00:32:27,000

It's not like anyone tried to reach an ideal air fuel mixture.

491

00:32:27,000 --> 00:32:30,000

Bug spray and hair spray aren't the most flammable things in the world.

492

00:32:30,000 --> 00:32:34,000

And also, you know, it's a cigarette with a coal on it.

493

00:32:34,000 --> 00:32:37,000

It'd be better to have a nice up and flame to it.

494

00:32:37,000 --> 00:32:40,000

Time for butane to step up to the plate.

495

00:32:40,000 --> 00:32:41,000

Lighting.

496

00:32:41,000 --> 00:32:42,000

Let's go.

497

00:32:42,000 --> 00:32:43,000

Wow.

498

00:32:46,000 --> 00:32:48,000

There's a poof.

499

00:32:48,000 --> 00:32:50,000

Finally.

500

00:32:50,000 --> 00:32:53,000

That is not enough to blast somebody off the seat.

501

00:32:53,000 --> 00:32:54,000

You don't think so?

502

00:32:54,000 --> 00:32:55,000

No.

503

00:32:55,000 --> 00:32:56,000

I don't think so either.

504

00:32:56,000 --> 00:33:02,000

The myth is looking kind of unlikely at the moment, although, you know, gasoline is the big one.

505

00:33:04,000 --> 00:33:05,000

What do you think? Does that work?

506

00:33:05,000 --> 00:33:06,000

Oh, that's beautiful.

507

00:33:06,000 --> 00:33:11,000

Surely dropping a cigarette into a pool of gasoline will produce some type of reaction.

508

00:33:11,000 --> 00:33:13,000

It's got a wet towel ready in case the extinguisher fails.

509

00:33:13,000 --> 00:33:16,000

Silly housewife pouring gasoline down the toilet.

510

00:33:16,000 --> 00:33:17,000

Are you ready?

511

00:33:17,000 --> 00:33:18,000

I am ready.

512

00:33:18,000 --> 00:33:20,000

Lighting cigarette.

513

00:33:20,000 --> 00:33:22,000

Okay, I'm going to drop it.

514

00:33:22,000 --> 00:33:25,000

Three, two, one, go.

515

00:33:26,000 --> 00:33:27,000

Nada.

516

00:33:27,000 --> 00:33:30,000

But the pool of liquids simply put the cigarette out.

517

00:33:32,000 --> 00:33:35,000

Try again, this time using the naked flame of the match.

518

00:33:35,000 --> 00:33:36,000

Let go.

519

00:33:36,000 --> 00:33:37,000

Lit, go.

520

00:33:39,000 --> 00:33:45,000

Okay, so you'd get a shock and a blackened backside, but it's still not the explosive force mentioned in the myth.

521

00:33:45,000 --> 00:33:47,000

So do you think that was enough to blow you off the toilet?

522

00:33:47,000 --> 00:33:48,000

No way.

523

00:33:49,000 --> 00:33:50,000

No way.

524

00:33:50,000 --> 00:33:52,000

It wasn't really like a constant blast.

525

00:33:52,000 --> 00:33:55,000

I mean, it didn't, you know, I didn't see the chamber move very much at all.

526

00:33:55,000 --> 00:34:01,000

Finally, the moment the mythbusters have been sweating on, it's time for Solution X, gunpowder.

527

00:34:01,000 --> 00:34:06,000

We have this black powder that, like, there's a, actually almost a full can of this.

528

00:34:06,000 --> 00:34:09,000

Do you think you could let us put it in the toilet and set it off?

529

00:34:09,000 --> 00:34:12,000

Sure, go ahead, try a cap full in a metal container and see what we get out of it.

530

00:34:12,000 --> 00:34:13,000

Okay.

531

00:34:14,000 --> 00:34:17,000

The fire marshal seems to be getting a little nervous.

532

00:34:18,000 --> 00:34:19,000

How much?

533

00:34:19,000 --> 00:34:20,000

I put it all in there.

534

00:34:20,000 --> 00:34:21,000

That's too much.

535

00:34:21,000 --> 00:34:22,000

Half of it?

536

00:34:23,000 --> 00:34:24,000

That's a hell of a lot.

537

00:34:24,000 --> 00:34:26,000

Should give you one hell of an effect.

538

00:34:26,000 --> 00:34:28,000

Okay, lighting the match.

539

00:34:31,000 --> 00:34:32,000

It left, didn't it?

540

00:34:32,000 --> 00:34:33,000

Uh-oh.

541

00:34:33,000 --> 00:34:34,000

I thought it went out.

542

00:34:34,000 --> 00:34:35,000

No, it didn't.

543

00:34:35,000 --> 00:34:38,000

Well, there is no match on the tinfoil.

544

00:34:38,000 --> 00:34:42,000

Strangely, exactly what was explained as a possibility has occurred.

545

00:34:42,000 --> 00:34:47,000

Well, what do we think, time five minutes or something and then going?

546

00:34:47,000 --> 00:34:48,000

Reasonable.

547

00:34:48,000 --> 00:34:49,000

609.

548

00:34:50,000 --> 00:34:55,000

Sit tide buster, your moment of glory has been slightly delayed.

549

00:35:02,000 --> 00:35:04,000

Chamber is sealed.

550

00:35:04,000 --> 00:35:05,000

Are we good to go?

551

00:35:05,000 --> 00:35:06,000

Ready.

552

00:35:07,000 --> 00:35:08,000

Go.

553

00:35:12,000 --> 00:35:15,000

Well, I tell you what, you know, there.

554

00:35:17,000 --> 00:35:18,000

That was great.

555

00:35:18,000 --> 00:35:19,000

It didn't even move him.

556

00:35:19,000 --> 00:35:20,000

No, he didn't even move.

557

00:35:20,000 --> 00:35:22,000

It did blow his pants up though.

558

00:35:25,000 --> 00:35:27,000

He's still holding the cigarette.

559

00:35:28,000 --> 00:35:29,000

That was fun.

560

00:35:29,000 --> 00:35:30,000

Congratulations.

561

00:35:31,000 --> 00:35:35,000

Not even half a tin of gunpowder could unseat our new star.

562

00:35:35,000 --> 00:35:39,000

If anything, it just enhanced his smoldering good looks.

563

00:35:46,000 --> 00:35:47,000

There you go.

564

00:35:47,000 --> 00:35:50,000

Yeah, I've had dudes just like this too.

565

00:35:50,000 --> 00:35:52,000

Another myth busted.

566

00:35:52,000 --> 00:35:55,000

Jamie and Adam are flush with success.

567

00:35:58,000 --> 00:36:00,000

This is perfect amount of carnage.

568

00:36:01,000 --> 00:36:11,000

Okay, Adam, let's get ready.

569

00:36:11,000 --> 00:36:13,000

It's time to dial that number.

570

00:36:13,000 --> 00:36:16,000

Come on, okay, we got three, two, one.

571

00:36:16,000 --> 00:36:18,000

I feel like something's going to happen this time.

572

00:36:20,000 --> 00:36:27,000

So it's back to the drawing board to see if cell phones or static sparks can cause gas pump fires.

573

00:36:27,000 --> 00:36:29,000

Ignition is still proving to be difficult.

574

00:36:29,000 --> 00:36:32,000

But the personal flash point is rising.

575

00:36:32,000 --> 00:36:35,000

Wait, wait, hold on, Adam, before you break up all the way out.

576

00:36:35,000 --> 00:36:37,000

All afternoon's work.

577

00:36:37,000 --> 00:36:39,000

Give me just a sec.

578

00:36:39,000 --> 00:36:42,000

I thought all four sides were taped.

579

00:36:43,000 --> 00:36:46,000

You're a nice guy and all, but sometimes you're a bull in a china shop.

580

00:36:48,000 --> 00:36:49,000

I'm not going to respond to that.

581

00:36:51,000 --> 00:36:57,000

Working with a smaller blast box should help them figure out the right fuel air mix to achieve ignition.

582

00:36:57,000 --> 00:37:03,000

You know, all of that spray presents a lot of surface area, and I think it's probably sinking down and collecting right at the ground.

583

00:37:03,000 --> 00:37:09,000

My guess is that one of our mistakes with the big chamber was that we had the ignition source too far above the ground.

584

00:37:09,000 --> 00:37:14,000

So let's just see whether this works.

585

00:37:14,000 --> 00:37:19,000

To get a bigger spark, Jamie connects a device called a Jacob's Ladder.

586

00:37:19,000 --> 00:37:23,000

You'll be familiar with its climbing arc from those old science fiction movies.

587

00:37:23,000 --> 00:37:25,000

But this is no toy.

588

00:37:25,000 --> 00:37:29,000

It's high voltage and potentially lethal.

589

00:37:29,000 --> 00:37:34,000

Now be careful in this metal, you know, we've got some pretty heavy duty currents here, so.

590

00:37:34,000 --> 00:37:39,000

All right, shall we lose the spark and get some gasoline going and blow some stuff up in miniature?

591

00:37:50,000 --> 00:37:54,000

Is gasoline flammable? You'll find out after this.

592

00:37:55,000 --> 00:37:58,000

Three, two, one.

593

00:37:58,000 --> 00:38:01,000

Hey, we made something blow up.

594

00:38:01,000 --> 00:38:04,000

We made something blow up.

595

00:38:10,000 --> 00:38:12,000

Adam has improved his lighting jar.

596

00:38:12,000 --> 00:38:16,000

The heavy duty version will provide a potent spark.

597

00:38:16,000 --> 00:38:20,000

And finally, they are getting an ideal blend of fuel and air.

598

00:38:25,000 --> 00:38:27,000

I lost a lot of hair on my arm.

599

00:38:27,000 --> 00:38:29,000

How about that?

600

00:38:29,000 --> 00:38:32,000

It definitely works.

601

00:38:32,000 --> 00:38:33,000

Okay, now I'm afraid.

602

00:38:33,000 --> 00:38:36,000

Adding more gasoline won't guarantee a bigger blast.

603

00:38:36,000 --> 00:38:38,000

You want yourself there, Andre.

604

00:38:38,000 --> 00:38:41,000

The critical mix needs more air.

605

00:38:41,000 --> 00:38:45,000

That's probably it. That's probably all that it takes.

606

00:38:45,000 --> 00:38:47,000

You think there's anything left of a fume in there?

607

00:38:47,000 --> 00:38:49,000

Go, go, go.

608

00:38:49,000 --> 00:38:50,000

Okay, here I go.

609

00:38:50,000 --> 00:38:52,000

Let's talk more sparks.

610

00:38:52,000 --> 00:38:55,000

Stop your grinning and grab your linen. Here we go.

611

00:38:57,000 --> 00:38:59,000

Oh!

612

00:38:59,000 --> 00:39:01,000

The Heinemann was right.

613

00:39:03,000 --> 00:39:07,000

We now know exactly what kind of concentration of fuel that we have to have for ignition.

614

00:39:07,000 --> 00:39:11,000

We know that we can create a spark from static electricity off of fabric.

615

00:39:11,000 --> 00:39:15,000

And we know that it is something that we have to be very careful with.

616

00:39:15,000 --> 00:39:20,000

I'm fine, I'm fine, I'm fine.

617

00:39:20,000 --> 00:39:23,000

Am I missing an eyebrow?

618

00:39:23,000 --> 00:39:26,000

I am missing an eyebrow, aren't I?

619

00:39:26,000 --> 00:39:28,000

You lost a lot of air up there.

620

00:39:28,000 --> 00:39:29,000

You're kidding me.

621

00:39:29,000 --> 00:39:31,000

You're alright, exactly.

622

00:39:31,000 --> 00:39:33,000

I didn't want to look weird after a day or two.

623

00:39:36,000 --> 00:39:40,000

I think it took him about five seconds to worry about whether he's going to look funny for his

date.

624

00:39:40,000 --> 00:39:42,000

I have a date tomorrow.

625

00:39:42,000 --> 00:39:45,000

Is it survival more important or sex?

626

00:39:47,000 --> 00:39:49,000

All it would be was science.

627

00:39:50,000 --> 00:39:53,000

Okay, that was probably one of the stupidest things I've ever done.

628

00:39:54,000 --> 00:39:57,000

No problem now with the static spark.

629

00:39:57,000 --> 00:39:59,000

The mix is right, that ignition comes easily.

630

00:39:59,000 --> 00:40:01,000

But what about the cell phone?

631

00:40:01,000 --> 00:40:04,000

Will it prove to be the cause of gas station fires?

632

00:40:04,000 --> 00:40:06,000

Nada.

633

00:40:06,000 --> 00:40:08,000

Miente.

634

00:40:08,000 --> 00:40:10,000

Second call.

635

00:40:10,000 --> 00:40:12,000

No explosion.

636

00:40:14,000 --> 00:40:17,000

With the cell phone myth well and truly busted,

637

00:40:17,000 --> 00:40:20,000

they still want to make their own big static back.

638

00:40:20,000 --> 00:40:23,000

So they're back at Fred Stokes Gasoline Museum

639

00:40:23,000 --> 00:40:26,000

with the fire department there to monitor safety.

640

00:40:26,000 --> 00:40:28,000

Here, pump the whole thing in there.

641

00:40:28,000 --> 00:40:30,000

It's maker break time.

642

00:40:30,000 --> 00:40:36,000

So today the guys are using a much higher concentration of gas in a much finer spray.

643

00:40:37,000 --> 00:40:40,000

Okay, that's it.

644

00:40:40,000 --> 00:40:42,000

Alright, here we go.

645

00:40:42,000 --> 00:40:44,000

Watching for spark.

646

00:40:49,000 --> 00:40:54,000

Despite a heavy saturation of gasoline vapors, still no blast.

647

00:40:54,000 --> 00:40:56,000

This is a pain in the butt.

648

00:40:56,000 --> 00:41:01,000

We've got the darn thing so it's foggy with gas fumes in there and no boom.

649

00:41:01,000 --> 00:41:03,000

What are you going to do?

650

00:41:03,000 --> 00:41:05,000

Lighten jar, I am finished with you.

651

00:41:06,000 --> 00:41:11,000

Desperate to get their big bang, the boys decide to use extra juice.

652

00:41:11,000 --> 00:41:13,000

Good spark.

653

00:41:13,000 --> 00:41:14,000

That good?

654

00:41:14,000 --> 00:41:15,000

Yeah.

655

00:41:15,000 --> 00:41:19,000

We're using a spark that's actually a smaller spark in terms of the kilovolts,

656

00:41:19,000 --> 00:41:21,000

but it's longer.

657

00:41:21,000 --> 00:41:24,000

We're using neon transformer to generate it, but lasts as long as we want.

658

00:41:24,000 --> 00:41:30,000

So I feel totally confident we're going to get the concussive boom that we want right now.

659

00:41:30,000 --> 00:41:32,000

Okay Adam, let's get ready.

660

00:41:32,000 --> 00:41:34,000

Come on, okay, here we go.

661

00:41:34,000 --> 00:41:35,000

Stand by.

662

00:41:35,000 --> 00:41:37,000

I feel like something's going to happen this time.

663

00:41:37,000 --> 00:41:40,000

In three, two, one.

664

00:41:51,000 --> 00:41:54,000

Wow, I forgot to watch. That was really cool.

665

00:41:57,000 --> 00:41:59,000

Right on.

666

00:41:59,000 --> 00:42:01,000

Hey, we got it.

667

00:42:01,000 --> 00:42:03,000

That was a lot of force.

668

00:42:03,000 --> 00:42:04,000

Yes it was.

669

00:42:04,000 --> 00:42:08,000

We're going to part this 24 foot seam of metal tape.

670

00:42:08,000 --> 00:42:10,000

Well it's about time, huh?

671

00:42:10,000 --> 00:42:12,000

It's about time. Absolutely right.

672

00:42:22,000 --> 00:42:27,000

Bob, what is your recommendation if there is a spark, if there is ignition, what should you do?

673

00:42:27,000 --> 00:42:32,000

If you discharge here and you get a spark, don't be a hero, don't take your nozzle out.

674

00:42:32,000 --> 00:42:34,000

Your gas tank will contain the gasoline.

675

00:42:34,000 --> 00:42:38,000

We don't want any gasoline spilling on the forecorder, on the pavement.

676

00:42:38,000 --> 00:42:41,000

Stand away and notify the station immediately.

677

00:42:43,000 --> 00:42:46,000

Adam, what do you reckon? Myth busted?

678

00:42:46,000 --> 00:42:49,000

Absolutely. This myth is definitely busted.

679

00:42:49,000 --> 00:42:52,000

No cell phone will ever cause a gas station to ignite.

680

00:42:52,000 --> 00:42:54,000

Just not going to happen.

681

00:42:54,000 --> 00:42:55,000

I agree.

