

1

00:00:00,000 --> 00:00:06,840

MUSIC

2

00:00:06,840 --> 00:00:11,840

On this infectious episode of Mythbusters,

3

00:00:11,840 --> 00:00:16,840

we global it on those sensational viral videos.

4

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

Are you ready?

5

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

I'm ready. Let's do it.

6

00:00:18,840 --> 00:00:21,840

Can you believe everything you see on the net?

7

00:00:21,840 --> 00:00:23,840

It's scientific!

8

00:00:23,840 --> 00:00:26,840

Like a sawdust cannon?

9

00:00:27,680 --> 00:00:30,680

Sound off to my little friend!

10

00:00:30,680 --> 00:00:33,680

Or a water-powered rocket car?

11

00:00:33,680 --> 00:00:35,680

Ho, ho, ho, ho, ho!

12

00:00:35,680 --> 00:00:38,680

Or even fainting goats?

13

00:00:38,680 --> 00:00:40,680

We're gonna drop them with this one.

14

00:00:40,680 --> 00:00:42,680

Me!

15

00:00:44,680 --> 00:00:46,680

Who are the Mythbusters?

16

00:00:46,680 --> 00:00:48,680

Ha, ha, ha!

17

00:00:48,680 --> 00:00:50,680

Adam Savage.

18

00:00:50,680 --> 00:00:52,680

Ha, ha, ha, ha, ha, ha!

19

00:00:52,680 --> 00:00:54,680

And Jamie Heineman.

20

00:00:54,680 --> 00:00:56,680

That's perfect. Hold it there.

21

00:00:56,680 --> 00:00:59,680

More than 30 years of special effects experience.

22

00:00:59,680 --> 00:01:00,680

Okay.

23

00:01:00,680 --> 00:01:03,680

Freedom! Joining them, Grant Imahara.

24

00:01:03,680 --> 00:01:05,680

Ha, ha, ha, he's so hot!

25

00:01:05,680 --> 00:01:06,680

Tori Belachie.

26

00:01:06,680 --> 00:01:08,680

Put your back into it.

27

00:01:08,680 --> 00:01:09,680

And Carrie Byron.

28

00:01:09,680 --> 00:01:11,680

My explosives and electricity. Woo!

29

00:01:11,680 --> 00:01:14,680

They don't just tell the myths.

30

00:01:14,680 --> 00:01:18,680

They put them to the test.

31

00:01:18,680 --> 00:01:25,680

What are you doing? We've got work to do.

32

00:01:25,680 --> 00:01:29,680

I'm checking out some viral videos for our viral special.

33

00:01:29,680 --> 00:01:31,680

Viral videos? What's that?

34

00:01:31,680 --> 00:01:34,680

There's this invention out there called the Internet.

35

00:01:34,680 --> 00:01:38,680

And the latest biggest craze on it is people trading videos.

36

00:01:38,680 --> 00:01:40,680

And it's a lot of people.

37

00:01:40,680 --> 00:01:42,680

And it's a lot of people.

38

00:01:42,680 --> 00:01:44,680

And it's a lot of people.

39

00:01:44,680 --> 00:01:47,680

And what's called the Internet and the latest biggest craze on it

40

00:01:47,680 --> 00:01:51,680

is people trading videos which go what is called viral.

41

00:01:51,680 --> 00:01:54,680

I.e. they have spread throughout the population like a virus

42

00:01:54,680 --> 00:01:57,680

because they're so shocking, so amazing, or so hilarious.

43

00:01:57,680 --> 00:01:59,680

Okay, well what's in it for us?

44

00:01:59,680 --> 00:02:03,680

Well, are they real or are they just camera editing or computer trickery?

45

00:02:03,680 --> 00:02:05,680

Okay, that's something we can sink our teeth into.

46

00:02:05,680 --> 00:02:07,680

That's what I thought.

47

00:02:07,680 --> 00:02:14,680

I think I've got one.

48

00:02:14,680 --> 00:02:15,680

Yeah?

49

00:02:15,680 --> 00:02:18,680

Does 10 million hits count as a viral video?

50

00:02:18,680 --> 00:02:21,680

I'll say. What do you got?

51

00:02:21,680 --> 00:02:25,680

Well, it looks like we've got a bunch of fire hoses pointed down

52

00:02:25,680 --> 00:02:27,680

and they're lifting a car off the ground.

53

00:02:27,680 --> 00:02:29,680

That is friggin' perfect for us.

54

00:02:29,680 --> 00:02:32,680

It looks pretty convincing. What do you think?

55

00:02:32,680 --> 00:02:34,680

No idea. You'll play it again.

56

00:02:34,680 --> 00:02:38,680

You know, if this is real and we can actually pull this off,

57

00:02:38,680 --> 00:02:40,680

it's gonna be awesome.

58

00:02:40,680 --> 00:02:44,680

I totally agree, but man, it could also be deadly.

59

00:02:44,680 --> 00:02:47,680

It could also be a conjo.

60

00:02:47,680 --> 00:02:50,680

That car might just be a plastic shell.

61

00:02:50,680 --> 00:02:53,680

But the only way to find out is to try it ourselves.

62

00:02:53,680 --> 00:02:57,680

That means building a platform, sweet talking some firemen,

63

00:02:57,680 --> 00:03:01,680

and buying a full-weight has been hatchback.

64

00:03:01,680 --> 00:03:03,680

This is what it is to be a myth buster.

65

00:03:03,680 --> 00:03:05,680

You see this car behind me and you think,

66

00:03:05,680 --> 00:03:07,680

ah, it's some classified ad piece of crap.

67

00:03:07,680 --> 00:03:11,680

I see a flying water jet coming.

68

00:03:11,680 --> 00:03:14,680

Adams itching to squirt this wreck sky high,

69

00:03:14,680 --> 00:03:17,680

but Jamie wants to check under the hood.

70

00:03:17,680 --> 00:03:23,680

This car weighs, according to the sticker, 3,175 pounds.

71

00:03:23,680 --> 00:03:29,680

That means that each of those hoses has to put out about 320 pounds of thrust.

72

00:03:29,680 --> 00:03:32,680

Personally, I don't think so.

73

00:03:32,680 --> 00:03:35,680

Jamie decides to start small scale,

74

00:03:35,680 --> 00:03:38,680

and he's not afraid to delegate.

75

00:03:38,680 --> 00:03:40,680

Okay, well, this is our car.

76

00:03:40,680 --> 00:03:44,680

I need you to make me a 1-6th scale version of this on the CNC.

77

00:03:44,680 --> 00:03:45,680

Can you do that?

78

00:03:45,680 --> 00:03:46,680

Yes, we can do that, definitely.

79

00:03:46,680 --> 00:03:48,680

Okay, off you go.

80

00:03:48,680 --> 00:03:52,680

The CNC mill is a computer-controlled milling machine

81

00:03:52,680 --> 00:03:55,680

that will take a laser-scanned image of a real car

82

00:03:55,680 --> 00:03:57,680

and generate a toolpath for its cutting tool

83

00:03:57,680 --> 00:04:00,680

that will carve out a miniature version of the car

84

00:04:00,680 --> 00:04:04,680

of any scale we like out of something like a fine-grained particle board.

85

00:04:04,680 --> 00:04:08,680

Meantime, Adam knocks up a miniature 10-nozzle frame

86

00:04:08,680 --> 00:04:10,680

for the tiny car to sit on.

87

00:04:10,680 --> 00:04:15,680

The frame and the car fit together just like a piston in a cylinder.

88

00:04:15,680 --> 00:04:17,680

Ah, it's perfect!

89

00:04:17,680 --> 00:04:18,680

Look at that.

90

00:04:18,680 --> 00:04:20,680

This might be a small-scale test,

91

00:04:20,680 --> 00:04:23,680

but still, why mess up your own backyard?

92

00:04:23,680 --> 00:04:26,680

Jamie's picked out a fire training facility

93

00:04:26,680 --> 00:04:30,680

about 30 miles east of the city in Pleasanton.

94

00:04:30,680 --> 00:04:33,680

Given that we're going to be harnessing hundreds

95

00:04:33,680 --> 00:04:37,680

or maybe even thousands of horsepower of diesel pump energy

96

00:04:37,680 --> 00:04:39,680

and putting that through hoses,

97

00:04:39,680 --> 00:04:41,680

this is kind of a dangerous situation

98

00:04:41,680 --> 00:04:45,680

that we don't really want to just dive into without preparation.

99

00:04:45,680 --> 00:04:47,680

And so we're going to build a scale model,

100

00:04:47,680 --> 00:04:49,680

see how well we can control it,

101

00:04:49,680 --> 00:04:51,680

see if we can learn anything about it

102

00:04:51,680 --> 00:04:54,680

before we start dealing with the big boys.

103

00:04:54,680 --> 00:04:57,680

Okay, this bewildering mix of half-hose,

104

00:04:57,680 --> 00:05:00,680

double-pipe, triple-glue, multi-valves,

105

00:05:00,680 --> 00:05:02,680

sure don't look small-scale.

106

00:05:02,680 --> 00:05:05,680

Thankfully, Adam's here to explain it.

107

00:05:05,680 --> 00:05:08,680

Right, kiddies, close your eyes and open your brains.

108

00:05:08,680 --> 00:05:10,680

Well, actually keep your eyes open,

109

00:05:10,680 --> 00:05:12,680

because the television is going to take you on a little journey.

110

00:05:12,680 --> 00:05:14,680

Picture yourself as a droplet of water

111

00:05:14,680 --> 00:05:18,680

with a bunch of your friends heading down this two-and-a-half inch fire hose.

112

00:05:18,680 --> 00:05:20,680

Everything's going great!

113

00:05:20,680 --> 00:05:22,680

Then all of a sudden you hit this transition.

114

00:05:22,680 --> 00:05:25,680

Why is this? Oh, it's starting to have to do with the Mythbusters.

115

00:05:25,680 --> 00:05:27,680

So you and your friends are divided into two groups.

116

00:05:27,680 --> 00:05:30,680

This group, the left group, let's go see what they're going on with.

117

00:05:30,680 --> 00:05:33,680

Left group comes down the manifold

118

00:05:33,680 --> 00:05:35,680

and further gets divided into five other groups,

119

00:05:35,680 --> 00:05:38,680

each one going down a 25-foot garden hose.

120

00:05:38,680 --> 00:05:41,680

Those garden hose lead to the platform

121

00:05:41,680 --> 00:05:43,680

where all 10 groups of water droplets,

122

00:05:43,680 --> 00:05:47,680

all of you and your friends are rejoined coming out of these nozzles.

123

00:05:47,680 --> 00:05:50,680

And if everything goes well, you'll see this.

124

00:05:50,680 --> 00:05:52,680

Oh!

125

00:05:54,680 --> 00:05:58,680

But we're not exactly sure that's going to happen.

126

00:05:58,680 --> 00:06:00,680

There's likely to be problems.

127

00:06:00,680 --> 00:06:04,680

And that's not just a prediction, it's a promise.

128

00:06:04,680 --> 00:06:08,680

Retired Fire Chief Bob Calloway runs out the hose

129

00:06:08,680 --> 00:06:10,680

and taps into the nearest hydrant.

130

00:06:10,680 --> 00:06:13,680

He's pumped and so are the boys.

131

00:06:13,680 --> 00:06:15,680

We are all plumbed up and ready to go.

132

00:06:15,680 --> 00:06:19,680

And what I'm hoping to discover here is information

133

00:06:19,680 --> 00:06:24,680

about the flight characteristics of the full-size car when we power it up.

134

00:06:24,680 --> 00:06:26,680

So Bob, we're all set and ready to go.

135

00:06:26,680 --> 00:06:27,680

Okay, Jamie.

136

00:06:27,680 --> 00:06:29,680

And you got your valve there, huh?

137

00:06:29,680 --> 00:06:32,680

So what's your signal for more or less?

138

00:06:32,680 --> 00:06:34,680

More is this way.

139

00:06:34,680 --> 00:06:35,680

Less is this way.

140

00:06:35,680 --> 00:06:37,680

Just like a crane, okay?

141

00:06:37,680 --> 00:06:41,680

Well, I'm going to stand kind of safely off to the side watching the whole thing

142

00:06:41,680 --> 00:06:44,680

and I'll give you your signal more or less

143

00:06:44,680 --> 00:06:46,680

and we'll just kind of ramp on up.

144

00:06:46,680 --> 00:06:49,680

Remember the high-pitched squealing means shut everything down.

145

00:06:49,680 --> 00:06:51,680

It sounds like, ah!

146

00:06:51,680 --> 00:06:52,680

Like that.

147

00:06:52,680 --> 00:06:53,680

Well, do.

148

00:06:53,680 --> 00:06:56,680

Jamie declines a waterproof suit.

149

00:06:56,680 --> 00:06:59,680

That's because Adams volunteered to handle the hoses.

150

00:06:59,680 --> 00:07:04,680

Bob turns the tap and there's no turning back.

151

00:07:06,680 --> 00:07:08,680

And before you can say,

152

00:07:08,680 --> 00:07:13,680

pump my ride, this little red car becomes a little red helicopter.

153

00:07:13,680 --> 00:07:15,680

Ha ha ha ha ha ha ha!

154

00:07:15,680 --> 00:07:17,680

Look at that!

155

00:07:17,680 --> 00:07:19,680

Yeah!

156

00:07:19,680 --> 00:07:21,680

And in scale, that's about right.

157

00:07:21,680 --> 00:07:23,680

That's like, what, 20 feet off the ground.

158

00:07:23,680 --> 00:07:24,680

Ha ha ha!

159

00:07:24,680 --> 00:07:27,680

It's totally, these things are pointed every which way

160

00:07:27,680 --> 00:07:30,680

but because they're mostly down, it's really stable.

161

00:07:30,680 --> 00:07:35,680

It seems precise water direction isn't crucial to keeping the car aloft.

162

00:07:35,680 --> 00:07:38,680

And that's what they came here to find out.

163

00:07:39,680 --> 00:07:43,680

Bolstered by an unshakable belief in his own brilliance,

164

00:07:43,680 --> 00:07:46,680

Adam decides to kick it up a notch.

165

00:07:46,680 --> 00:07:47,680

That's maximum.

166

00:07:47,680 --> 00:07:48,680

You know what I'm thinking?

167

00:07:48,680 --> 00:07:49,680

What?

168

00:07:49,680 --> 00:07:51,680

Is that when we go up to full size,

169

00:07:51,680 --> 00:07:55,680

see how just a little bit of guidance keeps it dampened?

170

00:07:55,680 --> 00:07:57,680

So all we need are like four ropes.

171

00:07:57,680 --> 00:08:01,680

Well notice there's a guy on every hose in the video

172

00:08:01,680 --> 00:08:03,680

and it doesn't take much.

173

00:08:03,680 --> 00:08:06,680

I mean actually I can guide it from right like here.

174

00:08:06,680 --> 00:08:08,680

Dude, this couldn't be better.

175

00:08:08,680 --> 00:08:10,680

Well actually, it could.

176

00:08:10,680 --> 00:08:12,680

Whoa! Ha!

177

00:08:12,680 --> 00:08:15,680

Direct hit to the mustache.

178

00:08:15,680 --> 00:08:18,680

I was doing just fine, Stan Dry.

179

00:08:19,680 --> 00:08:21,680

It could not have gone better.

180

00:08:21,680 --> 00:08:24,680

We got lift off, we got stability.

181

00:08:24,680 --> 00:08:29,680

It seems like as long as these things are pointed within 15 degrees of down,

182

00:08:29,680 --> 00:08:31,680

you get stability.

183

00:08:31,680 --> 00:08:33,680

This seems really, really possible.

184

00:08:33,680 --> 00:08:34,680

So what do you guys think?

185

00:08:34,680 --> 00:08:37,680

Can we pull this off with a full size car?

186

00:08:37,680 --> 00:08:38,680

Yeah!

187

00:08:38,680 --> 00:08:39,680

That's awesome!

188

00:08:50,680 --> 00:08:52,680

Wait for it.

189

00:08:54,680 --> 00:08:57,680

I see this footage so many times it just gets funnier.

190

00:08:57,680 --> 00:08:58,680

Now apparently they're fainting goats.

191

00:08:58,680 --> 00:09:00,680

I mean this is a news story.

192

00:09:00,680 --> 00:09:03,680

But have you ever heard of any animal besides a human fainting?

193

00:09:03,680 --> 00:09:05,680

No, in fact some of our fans think that this is just a hoax

194

00:09:05,680 --> 00:09:07,680

because this footage is so weird.

195

00:09:07,680 --> 00:09:09,680

Well you know there's only one way to find out.

196

00:09:09,680 --> 00:09:11,680

Alright, let's go see for ourselves.

197

00:09:12,680 --> 00:09:20,680

So Carrie and Tori hit the road to confirm or confound this possible fraud once and for all.

198

00:09:20,680 --> 00:09:23,680

Alright we're at Renegade Ranch to see these fainting goats.

199

00:09:23,680 --> 00:09:25,680

I mean I haven't seen one fall over yet.

200

00:09:25,680 --> 00:09:27,680

So I'm just kind of excited to get in there and try to freak them out

201

00:09:27,680 --> 00:09:29,680

and see if we can get them to fall over.

202

00:09:29,680 --> 00:09:33,680

I know that seems kind of cruel, but you know science could be cruel sometimes.

203

00:09:33,680 --> 00:09:38,680

I have seen this internet clip so many times because it cracks me up.

204

00:09:38,680 --> 00:09:40,680

Do goats actually faint?

205

00:09:40,680 --> 00:09:42,680

Well they do and they don't.

206

00:09:42,680 --> 00:09:47,680

They appear to faint but they don't actually lose consciousness when they fall on the ground.

207

00:09:47,680 --> 00:09:49,680

It's a muscle condition called myotonia.

208

00:09:49,680 --> 00:09:54,680

It affects their leg muscles so when they get scared, sometimes even excited,

209

00:09:54,680 --> 00:09:58,680

their muscles are tightened up in their legs and sometimes they'll actually fall over.

210

00:09:58,680 --> 00:10:02,680

Yeah, but this still smells like a rural myth.

211

00:10:02,680 --> 00:10:05,680

Meant to make us city folk look dumber than a fence post.

212

00:10:05,680 --> 00:10:08,680

But Tori's halfway convinced.

213

00:10:09,680 --> 00:10:15,680

Apparently shepherds breed these goats just for that gene so that way they can put one of these goats into their flock of sheep.

214

00:10:15,680 --> 00:10:20,680

So when a real predator shows up, all the sheep take off and the goat is stuck there, paralyzed,

215

00:10:20,680 --> 00:10:23,680

so the predator can eat it and not the sheep.

216

00:10:23,680 --> 00:10:26,680

Now if that's not taking one for the team, I don't know what is.

217

00:10:26,680 --> 00:10:29,680

The sad thing is it's not even his team.

218

00:10:29,680 --> 00:10:31,680

I mean, it's the sheep, you know?

219

00:10:31,680 --> 00:10:35,680

Sounds like someone's going soft on these cute little guys.

220

00:10:35,680 --> 00:10:37,680

It won't last.

221

00:10:37,680 --> 00:10:39,680

Alright Tori, your first step, what do you want to do?

222

00:10:39,680 --> 00:10:44,680

I think for my first one, I'm just going to see if I can get one of these goats to faint with no tricks.

223

00:10:44,680 --> 00:10:46,680

I mean, I haven't seen one of these fainted yet.

224

00:10:49,680 --> 00:10:51,680

It's a shameful start.

225

00:10:51,680 --> 00:10:54,680

The first one to faint is one of us.

226

00:10:54,680 --> 00:10:58,680

So while Tori regroups, Carrie gives it a whirl.

227

00:10:58,680 --> 00:11:04,680

Okay, I figured something to be very freaky with a lot of flash would be an umbrella.

228

00:11:04,680 --> 00:11:09,680

So I'm going to try to crouch down, wait till they're calm, and then pow pow.

229

00:11:09,680 --> 00:11:15,680

That pow pow sure worked on the virus video, so it should work now.

230

00:11:15,680 --> 00:11:19,680

But it doesn't.

231

00:11:25,680 --> 00:11:30,680

They're laughing at us, Carrie. They mock us.

232

00:11:30,680 --> 00:11:34,680

I don't think it was as easy as I thought it was going to be.

233

00:11:34,680 --> 00:11:39,680

Every failure to faint casts more doubt on this viral video.

234

00:11:39,680 --> 00:11:43,680

But Tori needs to prove that he's smarter than the livestock.

235

00:11:43,680 --> 00:11:48,680

I'm thinking maybe I'm going to lay down in that trough right there, cover me in hay.

236

00:11:48,680 --> 00:11:55,680

Christina supplies the hay as Tori's wrapped and interred inside a straw sarcophagus.

237

00:11:55,680 --> 00:12:01,680

Let them come up to the hay, eat for a little bit, and then I'll spring out and see if we can get one of these guys to faint.

238

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

Five long minutes later, Carrie calls in the strike.

239

00:12:06,680 --> 00:12:10,680

Alright Tori, go now.

240

00:12:13,680 --> 00:12:14,680

Not one?

241

00:12:14,680 --> 00:12:15,680

Not one.

242

00:12:15,680 --> 00:12:16,680

You kidding me?

243

00:12:16,680 --> 00:12:19,680

Dude, that would scare the heck out of me.

244

00:12:19,680 --> 00:12:24,680

I can't tell you how frustrating this is. I mean they're called fainting goats.

245

00:12:24,680 --> 00:12:29,680

We can't make a fainting goat faint. Seriously.

246

00:12:29,680 --> 00:12:34,680

But enough pleating. Let's bring out the big guns.

247

00:12:34,680 --> 00:12:40,680

These techniques don't seem to be working very well. I thought these goats were supposed to faint like that.

248

00:12:40,680 --> 00:12:43,680

I got an idea. This one's for the boys.

249

00:12:43,680 --> 00:12:50,680

The boys don't know it, but they're about to enjoy their first, probably last, bucks party.

250

00:12:50,680 --> 00:12:52,680

Alright Carrie, these are the male goats. What's your technique?

251

00:12:52,680 --> 00:12:53,680

You ready?

252

00:12:53,680 --> 00:12:54,680

Yeah.

253

00:12:59,680 --> 00:13:07,680

Tori falls to a friendly fire, but once again Carrie fails to stun or stiffen the target species.

254

00:13:07,680 --> 00:13:09,680

I wasn't ready for that one Carrie.

255

00:13:09,680 --> 00:13:15,680

It's especially annoying because by now they know that goat video was no fraud.

256

00:13:15,680 --> 00:13:19,680

Behind the scenes, they're falling like flies.

257

00:13:19,680 --> 00:13:21,680

You know what's frustrating me the most?

258

00:13:21,680 --> 00:13:25,680

Everybody seems to be able to get these goats to fall except Carrie and me.

259

00:13:25,680 --> 00:13:29,680

Carrie guy walks by a goat, it falls over.

260

00:13:29,680 --> 00:13:30,680

Fire!

261

00:13:30,680 --> 00:13:33,680

The runner, he's making goats fall over.

262

00:13:33,680 --> 00:13:37,680

The farmer walks by and they're falling over.

263

00:13:40,680 --> 00:13:50,680

Well the breed is called the Tennessee Fainting Goat, so Carrie and Tori give themselves one last shot at the goat version of Operation Shock and All.

264

00:13:52,680 --> 00:13:54,680

I think maybe we need to blend.

265

00:13:54,680 --> 00:13:56,680

Should we use our secret weapon?

266

00:13:56,680 --> 00:13:57,680

Camouflage?

267

00:13:57,680 --> 00:13:58,680

Camouflage.

268

00:13:58,680 --> 00:13:59,680

Yeah.

269

00:14:03,680 --> 00:14:04,680

You ready?

270

00:14:04,680 --> 00:14:05,680

Oh yeah.

271

00:14:05,680 --> 00:14:07,680

We're going to drop them with this one.

272

00:14:07,680 --> 00:14:09,680

Meek!

273

00:14:09,680 --> 00:14:13,680

Alright Carrie, so this is the camouflage technique.

274

00:14:13,680 --> 00:14:16,680

Now the key is we need to blend in with the goats.

275

00:14:16,680 --> 00:14:19,680

Okay on your attack, we get up, chase them around and make them faint.

276

00:14:19,680 --> 00:14:20,680

Let's do this.

277

00:14:27,680 --> 00:14:33,680

Looking like rejects from a Wizard of Oz revival, Tori and Carrie stalk their prey.

278

00:14:34,680 --> 00:14:37,680

I don't know about the goats, but I think the cow's getting kind of excited.

279

00:14:37,680 --> 00:14:39,680

I'm one of you guys.

280

00:14:39,680 --> 00:14:41,680

What's going on fellas?

281

00:14:41,680 --> 00:14:42,680

Ready Carrie?

282

00:14:42,680 --> 00:14:43,680

Let's go!

283

00:14:57,680 --> 00:14:58,680

We got them.

284

00:14:58,680 --> 00:14:59,680

Totally worked.

285

00:14:59,680 --> 00:15:01,680

Yeah we got a few.

286

00:15:01,680 --> 00:15:03,680

I got one over there.

287

00:15:04,680 --> 00:15:12,680

It won't work every time on every goat, but we've seen enough to prove that this video virus is the real deal.

288

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

They really can be scared stiff.

289

00:15:15,680 --> 00:15:17,680

I am so convinced that this works.

290

00:15:17,680 --> 00:15:19,680

It actually doesn't take that much.

291

00:15:19,680 --> 00:15:23,680

You just have to know what you're doing, which we obviously don't most of the time.

292

00:15:23,680 --> 00:15:26,680

This myth is absolutely confirmed.

293

00:15:26,680 --> 00:15:27,680

These goats faint.

294

00:15:27,680 --> 00:15:32,680

Producers of Mythbusters wish to say that no goats were hurt during filming, though several felt they were made to look stupid.

295

00:15:32,680 --> 00:15:35,680

Authorized and spoken by Robert Lee.

296

00:15:41,680 --> 00:15:51,680

So far the boys have launched a model car on 10 tiny water jets, just to get a feel for the physics behind this hugely popular viral video.

297

00:15:52,680 --> 00:15:57,680

The pressure builds back at M5 as they start designing the full-scale version.

298

00:15:57,680 --> 00:15:59,680

You don't need something as complex as that.

299

00:15:59,680 --> 00:16:06,680

We can have something like MPT pipe fittings to have a tattrach pipe fitting there so your hose comes in.

300

00:16:06,680 --> 00:16:08,680

Yeah I prefer that.

301

00:16:08,680 --> 00:16:10,680

A nipple or a PSI.

302

00:16:10,680 --> 00:16:12,680

Yeah what do we gain and what do we lose?

303

00:16:12,680 --> 00:16:19,680

They need to nail down the most effective mix of hose and pipe sizes, nozzle types and water pressure.

304

00:16:20,680 --> 00:16:23,680

And it's not something the fire department can help them with.

305

00:16:23,680 --> 00:16:26,680

They don't need to know this kind of thing normally.

306

00:16:26,680 --> 00:16:30,680

All they need to know is whether they can hold on to the hose well enough to put a fire out.

307

00:16:30,680 --> 00:16:38,680

When you try and button them down to exactly how many pounds of thrust in this configuration or that, they don't know.

308

00:16:38,680 --> 00:16:40,680

And it's not surprising.

309

00:16:40,680 --> 00:16:46,680

As usual we're using tools and materials in ways for which they were never intended and this is a classic.

310

00:16:46,680 --> 00:16:48,680

So is this clear?

311

00:16:48,680 --> 00:16:50,680

100%

312

00:16:50,680 --> 00:16:52,680

Clear as mud huh?

313

00:16:52,680 --> 00:16:58,680

They start by building a rig that should rate the pressure from one standard fire hose.

314

00:16:58,680 --> 00:17:04,680

You can sense Jamie's confidence by the courage he shows wearing shorts with a beret.

315

00:17:04,680 --> 00:17:10,680

So Bob this is our rig that is going to tell us how much thrust we are going to get out of a single hose.

316

00:17:10,680 --> 00:17:14,680

And what I've got is the hose comes in here, the water goes down like that.

317

00:17:14,680 --> 00:17:20,680

We put barbell weights here and we see how many barbell weights we can lift with the hose coming off that truck.

318

00:17:20,680 --> 00:17:21,680

What do you think?

319

00:17:21,680 --> 00:17:22,680

I think it'll work.

320

00:17:22,680 --> 00:17:25,680

The method is crude but hopefully effective.

321

00:17:25,680 --> 00:17:32,680

If the water lifts the weight, 10 times the pressure from 10 hoses should lift the car.

322

00:17:32,680 --> 00:17:39,680

I've got a very simple rig here which I hope is bulletproof and it's going to tell us what kind of thrust we're getting out of the fire truck.

323

00:17:39,680 --> 00:17:45,680

And we'll see exactly how much lift we get by how many barbell weights we're able to lift.

324

00:17:45,680 --> 00:17:49,680

Okay Bob we're good to go, we've got 400 pounds on there, let's fire it up.

325

00:17:49,680 --> 00:17:50,680

Okay here we go.

326

00:17:55,680 --> 00:17:58,680

The water just barely raises the weights.

327

00:17:58,680 --> 00:17:59,680

There we go!

328

00:17:59,680 --> 00:18:04,680

So Jamie decides to narrow the valve and raise the pressure.

329

00:18:04,680 --> 00:18:13,680

Now I'm going to put a reducer on there which has a much smaller hole and we'll start to dial in on

whether we get any increased thrust from this.

330

00:18:13,680 --> 00:18:20,680

Hopefully putting this reducer on this will make for an increased nozzle reaction.

331

00:18:20,680 --> 00:18:22,680

That's what they call it in the industry.

332

00:18:22,680 --> 00:18:28,680

Bob pumps water through the truck as Jamie wills the weights to greater heights.

333

00:18:28,680 --> 00:18:31,680

But this test is headed straight down the drain.

334

00:18:35,680 --> 00:18:36,680

Everybody up there!

335

00:18:39,680 --> 00:18:42,680

I think we got a little bit more nozzle reaction that time.

336

00:18:46,680 --> 00:18:47,680

It was like a rocket!

337

00:18:49,680 --> 00:18:52,680

That was exciting, in fact that was like dangerous.

338

00:18:55,680 --> 00:18:59,680

We did have to kind of like take a dive for the bushes there at one point.

339

00:18:59,680 --> 00:19:06,680

I didn't plan on the thing going completely over the top and dumping its weights and becoming a like missile on the end of a string.

340

00:19:09,680 --> 00:19:14,680

Well it's very clear a fire truck is able to lift at least 400 pounds.

341

00:19:15,680 --> 00:19:21,680

But I was hoping to make it lift 800 pounds twice that much so we didn't have to use as many fire trucks.

342

00:19:21,680 --> 00:19:28,680

But I can't test it because this thing is screwed and I'm not going to be able to fix it today.

343

00:19:29,680 --> 00:19:33,680

So Jamie still has no idea how many trucks he needs.

344

00:19:33,680 --> 00:19:40,680

Even if he did, it's mid-summer and spare hoses could be scarce as polar bears and pleasant.

345

00:19:53,680 --> 00:19:58,680

Whoa! That looks seriously dangerous. I like it.

346

00:19:58,680 --> 00:20:02,680

You know they're claiming to do this with only sawdust. Fans, they're a little skeptical.

347

00:20:02,680 --> 00:20:05,680

They think it's either something way more flammable or it's CGI.

348

00:20:05,680 --> 00:20:07,680

Well in theory it could work.

349

00:20:07,680 --> 00:20:15,680

Yeah even though they say they're not using any accelerant, if the powder is fine enough you could get that result from just sawdust, compressed air and an open flame.

350

00:20:15,680 --> 00:20:16,680

Oh we are going to have to be so careful.

351

00:20:16,680 --> 00:20:19,680

Yeah Tori, careful. I'm always careful.

352

00:20:19,680 --> 00:20:22,680

That's carefree. You're carefree.

353

00:20:22,680 --> 00:20:27,680

There really could have been any number of undeclared combustibles down that pipe.

354

00:20:27,680 --> 00:20:31,680

At least the guy seems quite forthcoming about how he put it together.

355

00:20:31,680 --> 00:20:37,680

What we have here is the energy source. It's an old propane tank.

356

00:20:37,680 --> 00:20:39,680

So armed with the blueprints.

357

00:20:39,680 --> 00:20:42,680

This is a high speed flow valve.

358

00:20:42,680 --> 00:20:48,680

On behalf of doubting viewers everywhere, we're going to call his bluff and build it like he did.

359

00:20:48,680 --> 00:20:54,680

Like all of the recycled junk that we try to turn into something amazing, this is not just a pipe.

360

00:20:54,680 --> 00:20:56,680

It's filled with all sorts of other metal work.

361

00:20:56,680 --> 00:21:00,680

So I'm going to have to cut it up and cut everything out and make it right for us.

362

00:21:00,680 --> 00:21:03,680

Step one is to pop the top on the tank.

363

00:21:03,680 --> 00:21:09,680

Sounds easy, but Carrie soon discovers these things are not meant to be tampered with.

364

00:21:09,680 --> 00:21:12,680

You didn't want it to come all off in one piece did you?

365

00:21:12,680 --> 00:21:16,680

Carrie finally breaks through, but there's much more work to do.

366

00:21:16,680 --> 00:21:22,680

Tori's timely advice pretty much translates as, well, there's your problem.

367

00:21:22,680 --> 00:21:27,680

Okay, so you're going to have to cut out that whole section there.

368

00:21:27,680 --> 00:21:31,680

I sure hope there's a lot more layers in here. That would be way easier than getting a pipe.

369

00:21:31,680 --> 00:21:33,680

Yeah, it looks like there might be another layer.

370

00:21:33,680 --> 00:21:39,680

Meantime Grant works on a modified propane canister, just like the one in the video.

371

00:21:39,680 --> 00:21:45,680

The propane's been drained and the tank's been adapted to hold compressed air.

372

00:21:45,680 --> 00:21:52,680

And a high speed, high flow valve should release all of that air in a short, sharp blast.

373

00:21:52,680 --> 00:22:01,680

Air's going to come in here from our compressor, and what happens is it normally goes in here and fills up the tank.

374

00:22:01,680 --> 00:22:04,680

And it's doing that all the time until the tank's full.

375

00:22:04,680 --> 00:22:08,680

This leads out to the cannon itself.

376

00:22:08,680 --> 00:22:19,680

When we push this button, it cuts off the flow coming in from the compressor and allows the tank air to go directly out to the cannon.

377

00:22:19,680 --> 00:22:24,680

It deploys in less than a quarter of a second.

378

00:22:24,680 --> 00:22:32,680

Heavy-duty pipes connect Grant's apparatus with Carrie's cleaned-out cannon, to which she's welded four steel struts.

379

00:22:32,680 --> 00:22:41,680

It's ready for a proof-of-concept blowtest without the flame to see how high they can blast the sawdust.

380

00:22:41,680 --> 00:22:47,680

Still, we all know that Uncle Jamie likes them to take this kind of thing outside.

381

00:22:47,680 --> 00:22:50,680

I've got a bag of hamster bedding. This is basically just sawdust.

382

00:22:50,680 --> 00:22:54,680

I'm going to put it in the bottom of the cannon, let it off, and see what we're dealing with here.

383

00:22:54,680 --> 00:22:58,680

I think this will work out pretty well. It's light and fluffy.

384

00:22:58,680 --> 00:23:05,680

One bag of plain sawdust, I'm sorry, hamster bedding only partially fills the pipe.

385

00:23:05,680 --> 00:23:11,680

Grant hooks up to an air compressor, and once he's up to full pressure, he counts it down.

386

00:23:11,680 --> 00:23:22,680

Approaching 100. All right. This is sawdust cannon test with a little bit of sawdust, 100 psi, in

three, two, one.

387

00:23:23,680 --> 00:23:29,680

That's good. That's just a little bit of sawdust. That went pretty good.

388

00:23:31,680 --> 00:23:34,680

The problem is, it didn't go that high. No.

389

00:23:34,680 --> 00:23:35,680

Tenth veneer.

390

00:23:35,680 --> 00:23:44,680

At the moment, it's not looking exactly like the height that we would expect to see, based on what we saw in the video.

391

00:23:46,680 --> 00:23:49,680

But I think it's achievable. It's definitely achievable.

392

00:23:49,680 --> 00:23:54,680

So what to do? Grant thinks he'll get more punch with less hardware.

393

00:23:54,680 --> 00:24:00,680

He fits a shorter connecting pipe, then Carrie trims an inch or two off the legs.

394

00:24:01,680 --> 00:24:09,680

This jumble of spare parts just might fulfill its potential. If so, they'll need some elbow room.

395

00:24:09,680 --> 00:24:13,680

And Scarface Balachy's already booked the bomb range.

396

00:24:13,680 --> 00:24:16,680

Say hello to my little friend.

397

00:24:20,680 --> 00:24:33,680

While preparations are made for a full-scale fire hose test, Adam and Jamie have time to check out another much-viewed, water-themed internet upload.

398

00:24:35,680 --> 00:24:39,680

All right. Here's the viral video we've got to investigate.

399

00:24:40,680 --> 00:24:44,680

Pipe with some gas. Nice forearms on this hand model.

400

00:24:44,680 --> 00:24:49,680

Oh, that is very cool.

401

00:24:50,680 --> 00:24:53,680

They call it invisible water. What do you think?

402

00:24:53,680 --> 00:24:57,680

This one has all the hallmarks of a sideshow stunt.

403

00:24:57,680 --> 00:25:06,680

It's entirely possible that this was done with CGI on a green screen, or even just fishing line with clever lighting.

404

00:25:06,680 --> 00:25:08,680

But Jamie's got his own theory.

405

00:25:09,680 --> 00:25:15,680

That's not invisible water. That's some kind of a super-dense gas. There are all sorts of them out there.

406

00:25:15,680 --> 00:25:17,680

We just got to find out which one.

407

00:25:17,680 --> 00:25:24,680

The prime suspect is sulfur hexafluoride. It's five times heavier than air.

408

00:25:24,680 --> 00:25:29,680

I promise to show you something really cool as long as you promise not to try it at home, okay?

409

00:25:29,680 --> 00:25:34,680

Okay. Now, everyone wants to know why my voice sounds higher when I inhale helium.

410

00:25:34,680 --> 00:25:39,680

My simple fact is that helium is six times less dense than air, which means sound waves travel through it much faster,

411

00:25:39,680 --> 00:25:42,680

which makes my voice sound much higher now.

412

00:25:42,680 --> 00:25:45,680

The same effect can be achieved in reverse if I inhale something like...

413

00:25:47,680 --> 00:25:51,680

Sulfur hexafluoride, which is six times denser than air. I inhale some of that...

414

00:25:52,680 --> 00:25:59,680

And my voice gets really low, although somehow I'm still funny. It's scientific!

415

00:25:59,680 --> 00:26:09,680

On that low note, it's time to start the test and flush out this potential viral flim flam.

416

00:26:09,680 --> 00:26:13,680

Now that we've got the gas, I want to replicate exactly what I can see in the video.

417

00:26:13,680 --> 00:26:20,680

We've got a fish tank, and we've got tons of tinfoil. I'm going to try and make a boat that floats on the invisible water.

418

00:26:20,680 --> 00:26:24,680

All right. Give me the business end.

419

00:26:29,680 --> 00:26:31,680

I can't see anything.

420

00:26:31,680 --> 00:26:36,680

We'll have to take the full tank on faith, just because we can't see anything.

421

00:26:36,680 --> 00:26:39,680

Now, Adam turns boat builder.

422

00:26:39,680 --> 00:26:42,680

All right. Replicating the circumstances. You ready?

423

00:26:42,680 --> 00:26:47,680

It's a simple proposition. The boat either floats or it sinks.

424

00:26:48,680 --> 00:26:54,680

But Jamie can't see why this won't work, and here's the proof of concept.

425

00:26:57,680 --> 00:26:59,680

There you go.

426

00:26:59,680 --> 00:27:01,680

So that's where our level is.

427

00:27:01,680 --> 00:27:10,680

Right. Somewhere right about there. Let's just be clear. This balloon is filled with air, and it drops unless it's in this fish tank.

428

00:27:10,680 --> 00:27:18,680

Where it floats. Because the fish tank's full of gas that's heavier than air, I just can't get a boat to float in it.

429

00:27:18,680 --> 00:27:23,680

That's pretty as it does in the video.

430

00:27:23,680 --> 00:27:30,680

One after another, these tinfoil Titanic's are launched, then lost at sea.

431

00:27:30,680 --> 00:27:37,680

Though the boys do seem to be dialing in on the boat to see what's going on,

432

00:27:37,680 --> 00:27:41,680

the boys do seem to be dialing in on the boat design.

433

00:27:41,680 --> 00:27:46,680

Dude, that is so almost cool.

434

00:27:46,680 --> 00:27:52,680

Here's hoping it's last time lucky.

435

00:27:52,680 --> 00:27:55,680

Jamie.

436

00:27:55,680 --> 00:27:56,680

It worked.

437

00:27:56,680 --> 00:27:59,680

They've almost duplicated what they saw on the internet.

438

00:27:59,680 --> 00:28:04,680

Now Jamie has the honor of flooding the boat with invisible water.

439

00:28:04,680 --> 00:28:08,680

Yeah, I can see it pouring out, man. That's so cool.

440

00:28:08,680 --> 00:28:16,680

Jamie double dips, and that's all it takes to sink the cynicism surrounding this oddly transparent viral video.

441

00:28:16,680 --> 00:28:18,680

It's going down.

442

00:28:18,680 --> 00:28:24,680

Down to the bottom of an invisible sea.

443

00:28:24,680 --> 00:28:26,680

Well, like they say, whatever floats your boat.

444

00:28:26,680 --> 00:28:32,680

And in this case, it's sulfur hexafluoride, because just like a boat on the water,

445

00:28:32,680 --> 00:28:39,680

when you put a boat on sulfur hexafluoride because it's heavier than air, the boat floats.

446

00:28:39,680 --> 00:28:44,680

Even though it was a gas, the myth of invisible water turned out to be true.

447

00:28:44,680 --> 00:28:47,680

But that's not true of every viral video.

448

00:28:47,680 --> 00:28:57,680

And to show how easy it is to post a fake experiment, we put this clip on YouTube around the time we filmed this show.

449

00:28:57,680 --> 00:29:04,680

Adam unscrabbles a Rubik's Cube with his feet while Jamie does it blindfolded.

450

00:29:04,680 --> 00:29:11,680

It looks convincing as they both solve the puzzle, and this was watched by tens of thousands of people.

451

00:29:11,680 --> 00:29:13,680

Do you want to know how it's done?

452

00:29:13,680 --> 00:29:20,680

Because while it looks like we started with one of these and ended up with one of these, in fact, the reverse is true.

453

00:29:20,680 --> 00:29:25,680

We started with the solved cube and mixed it up and just ran the footage backwards.

454

00:29:25,680 --> 00:29:30,680

For a little added realism, if you look carefully, you'll see our researcher John Hunt walking through the frame.

455

00:29:30,680 --> 00:29:33,680

In fact, he was walking backwards.

456

00:29:33,680 --> 00:29:37,680

So remember, don't believe everything you see on the internet.

457

00:29:42,680 --> 00:29:51,680

Carri-Torre and Grant have tracked their homemade cannon out to the bomb range to see if they can exactly replicate this amazing viral video

458

00:29:54,680 --> 00:29:58,680

with nothing more than sawdust, air, and a flare.

459

00:29:58,680 --> 00:30:04,680

Now we've seen a lot of really cool viral videos on the internet, but not all of them are 100% of truth.

460

00:30:04,680 --> 00:30:06,680

There's a lot of computer graphics.

461

00:30:06,680 --> 00:30:11,680

With this to be confirmed, we need to be able to replicate that giant tower of fire that we saw on

the internet video.

462

00:30:11,680 --> 00:30:18,680

This orange line right here is connected to the air compressor, and that is the source of air for the whole cannon.

463

00:30:18,680 --> 00:30:24,680

And hopefully, that'll be enough to create a huge sawdust plume.

464

00:30:24,680 --> 00:30:26,680

Their one and only test was...

465

00:30:26,680 --> 00:30:27,680

One!

466

00:30:27,680 --> 00:30:29,680

Underwhelming.

467

00:30:29,680 --> 00:30:30,680

That went pretty good.

468

00:30:30,680 --> 00:30:37,680

And even though they've upsized the pipes, this time the cannon needs to blast a lot more sawdust.

469

00:30:37,680 --> 00:30:44,680

Maybe booking the bomb range was a tad optimistic, though Torre will be playing with fire.

470

00:30:44,680 --> 00:30:50,680

The plan is I'm going to light the flare, I'm going to stick it into the top of the barrel, in the pile of sawdust, like a birthday candle.

471

00:30:50,680 --> 00:30:58,680

I'm going to run back, Grant's going to pull the string, and we're going to launch that sawdust into the air, and hopefully we'll get a giant tower of fire.

472

00:30:58,680 --> 00:30:59,680

Perfect.

473

00:30:59,680 --> 00:31:03,680

And then hopefully we'll all go, are we missing our eyebrows?

474

00:31:05,680 --> 00:31:08,680

Am I missing an eyebrow?

475

00:31:08,680 --> 00:31:14,680

The pressure inside the X-Propane tank rises to 120 psi.

476

00:31:14,680 --> 00:31:19,680

Okay, perfect. Good to go.

477

00:31:21,680 --> 00:31:24,680

Torre lights, then inserts the road flare.

478

00:31:24,680 --> 00:31:26,680

Alright.

479

00:31:26,680 --> 00:31:32,680

But will this really be enough to make a pipe full of common sawdust go boom?

480

00:31:32,680 --> 00:31:34,680

Hang on to your hamsters.

481

00:31:34,680 --> 00:31:38,680

Alright, three, two, one.

482

00:31:40,680 --> 00:31:47,680

For just a heartbeat, it seemed they wouldn't get the fireball, but good things do come to those who wait.

483

00:31:47,680 --> 00:31:49,680

Yeah!

484

00:31:54,680 --> 00:31:56,680

That was so cool!

485

00:31:58,680 --> 00:31:59,680

Nice.

486

00:31:59,680 --> 00:32:00,680

Confirmed.

487

00:32:00,680 --> 00:32:02,680

Oh my god, that was the coolest thing I've ever seen.

488

00:32:02,680 --> 00:32:03,680

Free!

489

00:32:03,680 --> 00:32:06,680

It didn't look like it was going to ignite, and then all of a sudden, oh!

490

00:32:06,680 --> 00:32:08,680

It went up.

491

00:32:08,680 --> 00:32:14,680

It was beautiful, and it's not just the flame and the size of the flame, but the sound.

492

00:32:15,680 --> 00:32:17,680

It was amazing.

493

00:32:17,680 --> 00:32:21,680

And Carrie thought it was even better than the video.

494

00:32:21,680 --> 00:32:29,680

The sawdust went up with the flare, a mushroom cloud formed, and then the fire fell, and then you could see the flare falling to the ground.

495

00:32:29,680 --> 00:32:31,680

It was way cooler.

496

00:32:31,680 --> 00:32:38,680

Challenge accepted, potential hoax, unhoaxed, and time to up the ante.

497

00:32:38,680 --> 00:32:41,680

We made our can into the specs of the video, and it worked.

498

00:32:41,680 --> 00:32:48,680

Now it's time we wrap it up, and we make a giant cannon, and see how big we can make the fire!

499

00:32:48,680 --> 00:32:54,680

Aside from the upscaled hardware, they plan to fool around with alternate ammunition.

500

00:32:54,680 --> 00:33:05,680

In one of those, don't try this at home moments, Carrie tests the explosive potential of other fine-grain substances, like ordinary kitchen flour.

501

00:33:06,680 --> 00:33:11,680

That was good!

502

00:33:11,680 --> 00:33:14,680

Too true, but it gets even better.

503

00:33:14,680 --> 00:33:22,680

Next to trying non-dairy creamer, because I hear that's really flammable, and I want to see if that's going to make the biggest fireball of all.

504

00:33:22,680 --> 00:33:29,680

Non-dairy creamer. Millions would agree that going up in flames could be its finest moment.

505

00:33:29,680 --> 00:33:40,680

Non-dairy creamer, flame burns to my hand and into the cup. It's so flammable that there is a back

draft.

506

00:33:40,680 --> 00:33:49,680

So with the promise of a much bigger cannon, and a deadly dose of mock milk powder, it looks like the sky's the limit.

507

00:33:49,680 --> 00:33:51,680

Now I want to wrap it up!

508

00:33:52,680 --> 00:34:02,680

Adam and Jamie are testing the authenticity of this Internet video by trying it themselves.

509

00:34:02,680 --> 00:34:12,680

The car could be a lightweight thing, not to mention the frame it's sitting on. But Adam's rack is all that and more.

510

00:34:12,680 --> 00:34:17,680

This right here is one of the water jets of my completed water jet car lifting platform.

511

00:34:17,680 --> 00:34:27,680

I've got ten of these babies on it. Starts out with a fire hose coupler right here, goes to normal

NPT schedule 40, 45 and 90, out to a bowel reducer, and a water jet would be squirting out here.

512

00:34:27,680 --> 00:34:32,680

It's a slick piece of plumbing, and every bit as heavy as it looks.

513

00:34:32,680 --> 00:34:40,680

This right here weighs about maybe four or five hundred pounds, and that means that the whole thing is going to be quite heavy.

514

00:34:40,680 --> 00:34:46,680

We're going to have to be able to lift maybe around four thousand pounds if we get that car off the ground.

515

00:34:46,680 --> 00:34:49,680

But Adam's problems are more immediate.

516

00:34:49,680 --> 00:34:57,680

Turns out my rig's too big to fit in any vehicle we own or can rent, so having just completed it, I've got to cut it in half.

517

00:34:57,680 --> 00:35:03,680

Two steps forward and one back. They'll have to weld the halves together again on-site.

518

00:35:03,680 --> 00:35:09,680

It's a frustrating start to a day they hope will end bathed in glory.

519

00:35:09,680 --> 00:35:13,680

Alright, looks like we're good to go. Let's get this show on the road.

520

00:35:13,680 --> 00:35:20,680

Every spare fire truck rolls up to the test site, but it's the second setback of the morning.

521

00:35:20,680 --> 00:35:27,680

They've only mustered six of the hoped for ten. Still, there's no lack of manpower.

522

00:35:27,680 --> 00:35:30,680

This is many hands make light work.

523

00:35:30,680 --> 00:35:35,680

Alright, all we want to do is lift this car over this bar this way.

524

00:35:35,680 --> 00:35:38,680

Two guys on each wheel.

525

00:35:38,680 --> 00:35:40,680

That was beautiful.

526

00:35:40,680 --> 00:35:46,680

Adam and Jamie strapped down the car with the world's biggest seat belts.

527

00:35:46,680 --> 00:35:49,680

I just had one of those moments. Can't believe we're doing this.

528

00:35:49,680 --> 00:35:53,680

Now to hand things over to the professionals.

529

00:35:53,680 --> 00:35:59,680

Well, it went so smoothly I'm a little nervous, but yeah, I can't think of anything else we can do except hook it up.

530

00:35:59,680 --> 00:36:03,680

The boys have burst of valve to maximize their chances.

531

00:36:03,680 --> 00:36:12,680

In the wash up, it all depends on how much water they can pump from these few hydrants pressurized by just six trucks.

532

00:36:12,680 --> 00:36:17,680

I'm a little nervous about it because we've only got six trucks.

533

00:36:17,680 --> 00:36:22,680

The math says we should be able to do it just, but will we?

534

00:36:22,680 --> 00:36:25,680

I'll give you a prediction. I think we're going to get the lift off.

535

00:36:25,680 --> 00:36:30,680

Whether it's a nice high lift off or whether it's a gentle or catastrophic landing, I don't know.

536

00:36:30,680 --> 00:36:35,680

But I think we're going to get airborne or waterborne.

537

00:37:00,680 --> 00:37:04,680

I don't think this one's going to work. It's just too big.

538

00:37:04,680 --> 00:37:07,680

I'm pretty sure we're going to find something here.

539

00:37:07,680 --> 00:37:13,680

Oh, that is perfect. All we need to do is lose this. I love how it's got a code shape.

540

00:37:13,680 --> 00:37:17,680

That way when we blast our air, all our sawdust is going to come out of the cannon.

541

00:37:17,680 --> 00:37:20,680

So we can maximize our tower of fire.

542

00:37:20,680 --> 00:37:23,680

He's a great hopper. Can we name it Dennis?

543

00:37:23,680 --> 00:37:27,680

It's so hard to find a name both you and the Mrs. can live with.

544

00:37:27,680 --> 00:37:28,680

It's already gold.

545

00:37:28,680 --> 00:37:31,680

But they've got exactly what they came for.

546

00:37:31,680 --> 00:37:37,680

It's perfect. All I need to do is add an extension, make some adjustments and put it on the stand.

547

00:37:37,680 --> 00:37:44,680

Back at base, Tori plans to accessorize the big blue hopper with a bigger yellow barrel.

548

00:37:44,680 --> 00:37:49,680

What I have here is a 55 gallon drum and I'm going to use this to extend my funnel.

549

00:37:49,680 --> 00:37:52,680

So what I need to do first is cut the bottom.

550

00:37:52,680 --> 00:37:58,680

No sooner said than done, then Tori welds the drum tight to the hopper.

551

00:37:58,680 --> 00:38:02,680

They'll also need to use much bigger connecting pipes.

552

00:38:02,680 --> 00:38:04,680

That looks pretty good.

553

00:38:04,680 --> 00:38:08,680

And let's not forget to pack the combustibles.

554

00:38:08,680 --> 00:38:13,680

How big a cup of coffee do you think you need for 3,000 pounds of non-dairy creamer?

555

00:38:13,680 --> 00:38:21,680

We are loading this into the truck, taking it up to the bomb range and then putting it into our giant cannon to make a tower of flames.

556

00:38:21,680 --> 00:38:27,680

Out on the range, the first challenge is finding a safe, smart way to fill the barrel.

557

00:38:27,680 --> 00:38:29,680

What would possibly go wrong?

558

00:38:29,680 --> 00:38:32,680

I can't see anything going wrong.

559

00:38:32,680 --> 00:38:38,680

But 1,500 pounds of coffee creamer and a light breeze conspire against them.

560

00:38:38,680 --> 00:38:40,680

Hey, how full is it?

561

00:38:40,680 --> 00:38:42,680

It's kind of hard to tell.

562

00:38:42,680 --> 00:38:47,680

According to my calculations, half that should fill this drum.

563

00:38:48,680 --> 00:38:52,680

This accident waiting to happen doesn't.

564

00:38:52,680 --> 00:38:54,680

We're good.

565

00:38:54,680 --> 00:38:56,680

It's full.

566

00:38:56,680 --> 00:38:58,680

Back the creamer out.

567

00:38:58,680 --> 00:39:03,680

This time the propulsion comes from Jamie's tried and tested air cannon rig.

568

00:39:03,680 --> 00:39:07,680

This was the powerhouse used to blast a cannonball.

569

00:39:07,680 --> 00:39:10,680

A baseball.

570

00:39:12,680 --> 00:39:16,680

And recently, raw steak.

571

00:39:16,680 --> 00:39:18,680

There's your problem.

572

00:39:18,680 --> 00:39:21,680

And the creamer cannon is bigger in every way.

573

00:39:21,680 --> 00:39:25,680

Then again, it has to lift 700 pounds of powder.

574

00:39:25,680 --> 00:39:28,680

So what's going to happen?

575

00:39:28,680 --> 00:39:32,680

First of all, we know that the non-dairy creamer is much more reactive in air than the sawdust.

576

00:39:32,680 --> 00:39:36,680

Second, the orifice size is much larger on the non-dairy creamer cannon.

577

00:39:36,680 --> 00:39:39,680

36 times the force.

578

00:39:39,680 --> 00:39:42,680

And on top of that, 20 times the air capacity.

579

00:39:42,680 --> 00:39:47,680

If everything goes right, and that stuff goes up in the air, and it actually ignites,

580

00:39:47,680 --> 00:39:50,680

we can set this whole hillside on fire.

581

00:39:50,680 --> 00:39:54,680

I'm either expecting to see a much bigger mushroom cloud of fire,

582

00:39:54,680 --> 00:39:58,680

or because it's heavier, we're going to see bloop, and it's going to catch on fire,

583

00:39:58,680 --> 00:40:00,680

and then we're going to stand there and watch it burn out.

584

00:40:00,680 --> 00:40:02,680

Hopefully, choice A.

585

00:40:02,680 --> 00:40:06,680

Grant slowly builds the air pressure to 120.

586

00:40:06,680 --> 00:40:08,680

Good to go.

587

00:40:08,680 --> 00:40:11,680

Then Tori sets the spark.

588

00:40:12,680 --> 00:40:16,680

The mass of the creamer in relation to the volume of air is crucial.

589

00:40:16,680 --> 00:40:19,680

This could either be a blast or a burn.

590

00:40:19,680 --> 00:40:22,680

Alright, fire this puppy up.

591

00:40:22,680 --> 00:40:24,680

Alright, here we go.

592

00:40:24,680 --> 00:40:28,680

Non-dairy creamer cannon in three, two, one.

593

00:40:32,680 --> 00:40:34,680

Whoa!

594

00:40:34,680 --> 00:40:36,680

Ha ha ha ha!

595

00:40:36,680 --> 00:40:38,680

Yeah!

596

00:40:38,680 --> 00:40:40,680

Oh my God!

597

00:40:40,680 --> 00:40:42,680

That was frightening!

598

00:40:42,680 --> 00:40:44,680

Whoa!

599

00:40:44,680 --> 00:40:46,680

Terrifying!

600

00:40:46,680 --> 00:40:48,680

Did you get that on high speed?

601

00:40:48,680 --> 00:40:56,680

Yeah, we did remember to push the odd button on the off chance that this might be one of the biggest fireballs ever.

602

00:40:56,680 --> 00:40:58,680

This was frightening.

603

00:40:58,680 --> 00:41:01,680

I mean, seriously, there was a moment where I'm like,

604

00:41:01,680 --> 00:41:04,680

oh crap, this was a bad, bad idea.

605

00:41:04,680 --> 00:41:08,680

When you set off an explosion, you'll click, boom.

606

00:41:08,680 --> 00:41:13,680

When you fire one of these cannons, you go click, you're like, whoosh.

607

00:41:13,680 --> 00:41:15,680

It's not working.

608

00:41:15,680 --> 00:41:17,680

Oh my God!

609

00:41:17,680 --> 00:41:23,680

All I heard in my head was run, and I started up the hill as fast as I could go.

610

00:41:23,680 --> 00:41:27,680

And I'm still on a little bit of a drudel and pus right now.

611

00:41:29,680 --> 00:41:31,680

Oh my!

612

00:41:32,680 --> 00:41:34,680

Oh!

613

00:41:34,680 --> 00:41:38,680

Flaming milk substitute floats down like snow from hell,

614

00:41:38,680 --> 00:41:42,680

and the crust at ground zero tells the tale.

615

00:41:42,680 --> 00:41:45,680

Dude, you gotta feel this. It's like the top of a creme brulee.

616

00:41:45,680 --> 00:41:47,680

Oh my God.

617

00:41:47,680 --> 00:41:49,680

I think you need a new camera.

618

00:41:49,680 --> 00:41:51,680

Should we take that off? Is it still rolling?

619

00:41:51,680 --> 00:41:52,680

Oh, look at that.

620

00:41:52,680 --> 00:41:53,680

Whoa!

621

00:41:53,680 --> 00:41:55,680

Oh, it saved it!

622

00:41:55,680 --> 00:41:57,680

Hey!

623

00:41:57,680 --> 00:41:59,680

You don't need a new lens!

624

00:41:59,680 --> 00:42:02,680

This viral video is twice confirmed.

625

00:42:02,680 --> 00:42:06,680

The flame the governor must have seen from Sacramento,

626

00:42:06,680 --> 00:42:09,680

but it's not a recommended science project.

627

00:42:12,680 --> 00:42:14,680

Whoa!

628

00:42:14,680 --> 00:42:19,680

We should destroy this because it's too dangerous to have in our shop.

629

00:42:19,680 --> 00:42:23,680

This technology should not be shared with anyone.

630

00:42:23,680 --> 00:42:26,680

And just in case you missed the message...

631

00:42:26,680 --> 00:42:30,680

I hope I don't need to tell you this, but don't try this at home.

632

00:42:32,680 --> 00:42:35,680

We still have like 500 pounds of this stuff. Should we try it again?

633

00:42:35,680 --> 00:42:38,680

Maybe after I get some new underwear.

634

00:42:44,680 --> 00:42:46,680

Welcome back. Here's where we stand.

635

00:42:46,680 --> 00:42:52,680

We had a video of some fire trucks using only the power of their hose pressure to lift a car.

636

00:42:52,680 --> 00:42:56,680

We figured out that one hose can easily lift over 400 pounds.

637

00:42:56,680 --> 00:42:58,680

There we go!

638

00:42:58,680 --> 00:43:03,680

We also made a scale model of this rig and figured out that this was actually pretty stable.

639

00:43:03,680 --> 00:43:05,680

Now we've put it all together.

640

00:43:05,680 --> 00:43:10,680

We built a full-size car, a full-size rack of hoses, and we're about to try it for real.

641

00:43:10,680 --> 00:43:11,680

Nice update.

642

00:43:11,680 --> 00:43:17,680

Now let's see if a full-size, full-weight car really can take flight.

643

00:43:17,680 --> 00:43:18,680

Dude, I can't believe it.

644

00:43:18,680 --> 00:43:21,680

Six diesel engines kind of rumbling.

645

00:43:21,680 --> 00:43:23,680

The tension is mounting.

646

00:43:23,680 --> 00:43:24,680

Are you ready?

647

00:43:24,680 --> 00:43:25,680

I'm ready. Let's do it.

648

00:43:25,680 --> 00:43:26,680

I'm going to get in position.

649

00:43:26,680 --> 00:43:31,680

Test number one starts with a standard, hydrant pressure of 80 psi,

650

00:43:32,680 --> 00:43:37,680

which Jamie steadily raises 10 psi at a time.

651

00:43:38,680 --> 00:43:41,680

All right, all pumps up, 10 psi.

652

00:43:43,680 --> 00:43:46,680

All pumps up, 10 more psi.

653

00:43:47,680 --> 00:43:49,680

The car's not flying.

654

00:43:49,680 --> 00:43:52,680

All pumps up, 10 more psi.

655

00:43:52,680 --> 00:43:56,680

And the water's a waste of them, so Jamie shuts her down.

656

00:43:56,680 --> 00:43:59,680

All pumps down, completely down.

657

00:44:03,680 --> 00:44:06,680

Okay, we're exceeding the amount of water flow for the system.

658

00:44:06,680 --> 00:44:07,680

Oh, no.

659

00:44:07,680 --> 00:44:08,680

Yeah.

660

00:44:08,680 --> 00:44:13,680

Well, what if we remove a couple of the hoses or just, you know, don't power up with two of the hoses?

661

00:44:13,680 --> 00:44:14,680

Hey, why don't we try that?

662

00:44:14,680 --> 00:44:16,680

Maybe we'll get the lift still that we need.

663

00:44:16,680 --> 00:44:17,680

Because we need that pressure.

664

00:44:17,680 --> 00:44:19,680

Right, we need the pressure.

665

00:44:19,680 --> 00:44:24,680

With a fixed water supply, cutting two hoses will raise the pressure in the remaining eight.

666

00:44:25,680 --> 00:44:28,680

It's a question of finding the perfect balance.

667

00:44:29,680 --> 00:44:34,680

Removing a couple of the nozzles, that'll give us hopefully more pressure, less volume,

668

00:44:34,680 --> 00:44:36,680

and not put such a demand on the system.

669

00:44:36,680 --> 00:44:39,680

And we're also going to make it happen really quickly.

670

00:44:43,680 --> 00:44:48,680

They'll start this test at 100 psi, then lift the pressure bit by bit.

671

00:44:48,680 --> 00:44:50,680

10 more psi.

672

00:44:51,680 --> 00:44:56,680

Once again, they fail to raise the roof, or even lift the tires.

673

00:44:56,680 --> 00:44:59,680

What's happening is, is that we're not getting lift off.

674

00:44:59,680 --> 00:45:01,680

Okay, all engines down.

675

00:45:01,680 --> 00:45:07,680

What seems to be the reason is, is we are exceeding the amount of water that the entire city's water system

676

00:45:07,680 --> 00:45:11,680

can produce in this location at a specific ton.

677

00:45:11,680 --> 00:45:13,680

In test after test.

678

00:45:13,680 --> 00:45:15,680

Up on 1-2-0.

679

00:45:15,680 --> 00:45:18,680

Jamie raises the starting pressure.

680

00:45:18,680 --> 00:45:20,680

All engines 170.

681

00:45:24,680 --> 00:45:25,680

Okay, down.

682

00:45:27,680 --> 00:45:29,680

Repositions the nozzles.

683

00:45:30,680 --> 00:45:32,680

All engines 120.

684

00:45:34,680 --> 00:45:36,680

All engines down.

685

00:45:36,680 --> 00:45:38,680

And cuts the number of hoses.

686

00:45:38,680 --> 00:45:40,680

Now we're running on six hoses.

687

00:45:40,680 --> 00:45:45,680

We have an even balance of hoses in the four corners and two in the middle.

688

00:45:45,680 --> 00:45:47,680

Hopefully that'll be enough.

689

00:45:50,680 --> 00:45:51,680

But it's not.

690

00:45:51,680 --> 00:45:56,680

Try as they might, the hatchback shows no tendency to hover.

691

00:45:56,680 --> 00:45:59,680

But Adam might have the answer.

692

00:46:00,680 --> 00:46:03,680

Now see, the problem is, we've got an engine.

693

00:46:03,680 --> 00:46:05,680

That's why we're not getting any movement.

694

00:46:05,680 --> 00:46:06,680

Well let's get the engine out.

695

00:46:06,680 --> 00:46:08,680

All right, let's do it.

696

00:46:08,680 --> 00:46:13,680

In the video, you can't tell what's inside the car and what's not.

697

00:46:13,680 --> 00:46:16,680

As far as we know, we're doing what they did.

698

00:46:16,680 --> 00:46:18,680

There you go.

699

00:46:18,680 --> 00:46:22,680

There's nothing in the video we saw that said that car had an engine.

700

00:46:22,680 --> 00:46:25,680

And we've got to get lift off before the end of the day.

701

00:46:25,680 --> 00:46:28,680

So, we're lightening our load by a few hundred pounds.

702

00:46:28,680 --> 00:46:33,680

Daylight's fading and this next test is pretty much done.

703

00:46:33,680 --> 00:46:37,680

And this next test is pretty much make or break.

704

00:46:37,680 --> 00:46:39,680

This one's going to work.

705

00:46:41,680 --> 00:46:42,680

I hope.

706

00:46:43,680 --> 00:46:45,680

Up on six.

707

00:46:45,680 --> 00:46:48,680

With six engines, six hoses.

708

00:46:48,680 --> 00:46:49,680

Come on, baby.

709

00:46:49,680 --> 00:46:51,680

Up, up, up.

710

00:46:51,680 --> 00:46:55,680

And no motor, the car finally takes flight.

711

00:46:55,680 --> 00:46:57,680

Up on three.

712

00:46:57,680 --> 00:46:59,680

Up on three.

713

00:47:00,680 --> 00:47:03,680

Up on three.

714

00:47:03,680 --> 00:47:06,680

And isn't this a thing of beauty.

715

00:47:06,680 --> 00:47:11,680

15 feet high for a full 45 seconds.

716

00:47:11,680 --> 00:47:14,680

Okay, down, down, down.

717

00:47:14,680 --> 00:47:15,680

Cut it.

718

00:47:15,680 --> 00:47:18,680

Oh, yeah.

719

00:47:18,680 --> 00:47:20,680

Nice landing.

720

00:47:23,680 --> 00:47:25,680

The new rocking cars start up a little rough,

721

00:47:25,680 --> 00:47:28,680

but once they're airborne, they're beautiful.

722

00:47:29,680 --> 00:47:31,680

It worked.

723

00:47:31,680 --> 00:47:34,680

I didn't actually think it was going to happen, but it did.

724

00:47:34,680 --> 00:47:36,680

Looked just like the video.

725

00:47:36,680 --> 00:47:37,680

We got it.

726

00:47:37,680 --> 00:47:40,680

And I have to say, it was beautiful.

727

00:47:40,680 --> 00:47:42,680

It was a moment I didn't want to end.

728

00:47:42,680 --> 00:47:45,680

I'd say we've confirmed this one.

729

00:47:45,680 --> 00:47:47,680

Confirmed it is.

730

00:47:47,680 --> 00:47:49,680

It was cool though.

731

00:47:49,680 --> 00:47:52,680

It looked so unlikely, but these guys, whoever they are,

732

00:47:52,680 --> 00:47:54,680

seem to know their business.

733

00:47:54,680 --> 00:47:57,680

The video is verified.

734

00:47:57,680 --> 00:48:00,680

You know, of course this makes me want to make a backpack.

735

00:48:00,680 --> 00:48:02,680

Of course it does.

736

00:48:02,680 --> 00:48:04,680

Or maybe like a hoverboard.

737

00:48:27,680 --> 00:48:29,680

I'm going to go back to the car.

738

00:48:29,680 --> 00:48:31,680

I'm going to go back to the car.

739

00:48:31,680 --> 00:48:33,680

I'm going to go back to the car.

740

00:48:33,680 --> 00:48:35,680

I'm going to go back to the car.

741

00:48:35,680 --> 00:48:37,680

I'm going to go back to the car.

742

00:48:37,680 --> 00:48:39,680

I'm going to go back to the car.

743

00:48:39,680 --> 00:48:41,680

I'm going to go back to the car.

744

00:48:41,680 --> 00:48:43,680

I'm going to go back to the car.

745

00:48:43,680 --> 00:48:45,680

I'm going to go back to the car.

746

00:48:45,680 --> 00:48:47,680

I'm going to go back to the car.

747

00:48:47,680 --> 00:48:49,680

I'm going to go back to the car.

748

00:48:49,680 --> 00:48:51,680

I'm going to go back to the car.

749

00:48:51,680 --> 00:48:53,680

I'm going to go back to the car.

750

00:48:53,680 --> 00:48:55,680

I'm going to go back to the car.