

1

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

On this episode of Mythbusters,

2

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

What are your plans, my master?

3

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

Dial E for electrocution.

4

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

We're going to take over the world.

5

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

Oh, yes.

6

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

Could using a phone in a thunderstorm

7

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

result in a call from the Almighty?

8

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

I'm feeling really Miami Vice right now.

9

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

Is it a boating blunder or a time-saving triumph?

10

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

On the water with a new set of wheels

11

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

and it's a Civil War baby boom.

12

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

Can getting shot get you pregnant?

13

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

Who are the Mythbusters?

14

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

Adam Savage.

15

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

I reject your reality and substitute my own.

16

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

And Jamie Heinemann.

17

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

I feel like it in here, it's private.

18

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

Between them, more than 30 years special effects experience.

19

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

That was intense.

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

They don't just tell the myths.

21

00:00:59,000 --> 00:01:02,000

They put them to the test.

22

00:01:12,000 --> 00:01:14,000

Jamie, I know the phone wasn't invented when you were born,

23

00:01:14,000 --> 00:01:16,000

but about the time you were growing up,

24

00:01:16,000 --> 00:01:19,000

were you ever told to stay off the phone in a lightning storm?

25

00:01:19,000 --> 00:01:21,000

Yes, actually.

26

00:01:21,000 --> 00:01:23,000

We were told to stay off the phone out of the shower,

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00:01:23,000 --> 00:01:25,000

don't go under a tree,

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00:01:25,000 --> 00:01:29,000

don't go out in the middle of a field with a large metal pole.

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00:01:29,000 --> 00:01:31,000

Yeah, that would be bad.

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00:01:31,000 --> 00:01:33,000

Well, all the ones that occur inside a house that we've heard

31

00:01:33,000 --> 00:01:36,000

from staying off the phone to staying out of the shower,

32

00:01:36,000 --> 00:01:38,000

we're going to test on this myth.

33

00:01:38,000 --> 00:01:41,000

Should you be on the phone in a lightning storm?

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00:01:41,000 --> 00:01:43,000

Here's the theory.

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00:01:43,000 --> 00:01:45,000

Lightning strikes your house,

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00:01:45,000 --> 00:01:47,000

or the phone or power cables leading to it.

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00:01:47,000 --> 00:01:49,000

And it looks for the quickest way to the earth.

38

00:01:49,000 --> 00:01:51,000

Usually that's through a ground wire.

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00:01:51,000 --> 00:01:53,000

But failing that, conductive wiring,

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00:01:53,000 --> 00:01:56,000

or metal plumbing is the fastest route.

41

00:01:56,000 --> 00:01:59,000

And if you happen to be hooked up to that,

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00:01:59,000 --> 00:02:02,000

but can it actually happen?

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

To find out the mythbusters need a house and lightning.

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00:02:06,000 --> 00:02:10,000

The second part sounds tricky.

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00:02:10,000 --> 00:02:14,000

But it turns out they're in luck.

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00:02:14,000 --> 00:02:17,000

Pacific Gas and Electric has a facility

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00:02:17,000 --> 00:02:20,000

specifically built to test the impact of lightning strike

48

00:02:20,000 --> 00:02:22,000

on electrical equipment.

49

00:02:22,000 --> 00:02:30,000

Jamie, I think you should live here, man.

50

00:02:30,000 --> 00:02:34,000

It's great to visit a place that looks exactly like you think it should.

51

00:02:34,000 --> 00:02:38,000

Yeah, it's a great place to recharge after a hard day's work.

52

00:02:38,000 --> 00:02:43,000

Lots of space and lots of electricity.

53

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

They need so much electricity here,

54

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

they use generators to make their own.

55

00:02:48,000 --> 00:02:51,000

So they don't black out all the houses for miles around.

56

00:02:51,000 --> 00:02:56,000

This would be called man's feeble attempt to generate lightning.

57

00:02:56,000 --> 00:03:01,000

We can't even become close to generate what mother nature can generate.

58

00:03:01,000 --> 00:03:05,000

Well, good for mother nature. How much can you generate?

59

00:03:05,000 --> 00:03:10,000

What we can generate here is up to 700,000 volts

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00:03:10,000 --> 00:03:13,000

at about half a million watts.

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00:03:13,000 --> 00:03:17,000

A real lightning bolt has more than 100 million volts.

62

00:03:17,000 --> 00:03:23,000

700,000 should do the trick.

63

00:03:23,000 --> 00:03:26,000

Now, before they get to fool about with lethal electricity,

64

00:03:26,000 --> 00:03:29,000

they need to build their stunt house.

65

00:03:29,000 --> 00:03:31,000

We need a dialed telephone, two-inch conduit.

66

00:03:31,000 --> 00:03:33,000

Yeah, I might have that.

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00:03:33,000 --> 00:03:34,000

Roofing shingles.

68

00:03:34,000 --> 00:03:37,000

What about telephone jack and telephone wires?

69

00:03:37,000 --> 00:03:45,000

The Building Resource Center is where old houses come to rest in pieces.

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00:03:45,000 --> 00:03:48,000

If you wanted, chances are they've got it.

71

00:03:48,000 --> 00:03:52,000

And also stuff you didn't know you wanted till you found it.

72

00:03:52,000 --> 00:03:53,000

There we go.

73

00:03:53,000 --> 00:03:56,000

Jamie, I think we might have finally found a way to control me.

74

00:03:56,000 --> 00:03:57,000

There you go.

75

00:03:57,000 --> 00:03:58,000

Come here.

76

00:03:58,000 --> 00:03:59,000

Woo!

77

00:03:59,000 --> 00:04:01,000

Come on.

78

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

Woo!

79

00:04:04,000 --> 00:04:06,000

They aren't horsing around here.

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00:04:06,000 --> 00:04:10,000

The stunt house has to be as close as possible to the real thing.

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00:04:10,000 --> 00:04:13,000

Plumbing, wiring, and of course, the phone.

82

00:04:13,000 --> 00:04:14,000

Okay, I found it.

83

00:04:14,000 --> 00:04:15,000

Do you have...

84

00:04:15,000 --> 00:04:18,000

I have to keep it in storage because this is the red phone.

85

00:04:18,000 --> 00:04:21,000

When this rings, you know what's going to happen.

86

00:04:21,000 --> 00:04:22,000

Hello, Batman.

87

00:04:22,000 --> 00:04:24,000

Batman, it's Commissioner Gordon.

88

00:04:24,000 --> 00:04:27,000

This is great.

89

00:04:27,000 --> 00:04:31,000

And sooner than you can say, holy, Heidemann's handymen,

90

00:04:31,000 --> 00:04:38,000

our dynamic duo is ready to start swinging hammers.

91

00:04:38,000 --> 00:04:42,000

The sample house I'm going to build is actually going to be fairly mobile.

92

00:04:42,000 --> 00:04:44,000

It's going to be on wheels.

93

00:04:44,000 --> 00:04:48,000

It's going to have full plumbing, full code electricity,

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00:04:48,000 --> 00:04:50,000

exactly imitating what a house has.

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00:04:50,000 --> 00:04:56,000

With a roof, with a pitched roof and shingles and exterior siding and everything like that,

96

00:04:56,000 --> 00:04:59,000

it's actually going to be pretty cool.

97

00:04:59,000 --> 00:05:04,000

It's an old-fashioned Mythbusters barn raisin'.

98

00:05:04,000 --> 00:05:06,000

Ah!

99

00:05:06,000 --> 00:05:10,000

I should have put it on while I was down.

100

00:05:11,000 --> 00:05:16,000

There's even a shower, complete with its own tank and pump.

101

00:05:16,000 --> 00:05:18,000

Oh, yeah.

102

00:05:18,000 --> 00:05:20,000

That works.

103

00:05:20,000 --> 00:05:22,000

Yeah.

104

00:05:22,000 --> 00:05:26,000

But now, the all-important issue of wiring.

105

00:05:26,000 --> 00:05:32,000

The total goal of this experiment is to make this house entirely accurate to the exterior of a house.

106

00:05:32,000 --> 00:05:36,000

And we're not actually trying to imitate what happens when lightning hits a house.

107

00:05:36,000 --> 00:05:40,000

We want to see what happens when lightning hits the wiring to a house

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00:05:40,000 --> 00:05:45,000

and where those electricity jolts might actually travel.

109

00:05:47,000 --> 00:05:52,000

I mean, mostly, wiring is just about following a path correctly.

110

00:05:52,000 --> 00:05:55,000

Understanding the closed circuit and then everything's pretty simple.

111

00:05:55,000 --> 00:06:01,000

It's just when you start distributing it, it gets pretty complex pretty fast.

112

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

That's a really kind of scary junction, isn't it?

113

00:06:07,000 --> 00:06:12,000

In fact, it's often pretty scary when Adam has anything to do with electricity.

114

00:06:14,000 --> 00:06:16,000

Come on!

115

00:06:16,000 --> 00:06:19,000

It's hard to get a light bulb to light.

116

00:06:19,000 --> 00:06:22,000

This is hot because I want to make sure it worked.

117

00:06:22,000 --> 00:06:26,000

Question. How many Mythbusters does it take to change a light bulb?

118

00:06:26,000 --> 00:06:30,000

I'm getting 120 volts. I'm just not getting any current.

119

00:06:30,000 --> 00:06:32,000

Answer? Just one.

120

00:06:32,000 --> 00:06:36,000

But you'll need to call in a certified electrician to make it work.

121

00:06:42,000 --> 00:06:45,000

Well, that was easy. Thank you.

122

00:06:45,000 --> 00:06:46,000

You're welcome.

123

00:06:46,000 --> 00:06:49,000

Hopefully, we're not going to have any more problems before the test.

124

00:06:51,000 --> 00:06:58,000

Stephen runs an eye over the entire setup and finds the wiring does meet California's building codes.

125

00:06:58,000 --> 00:06:59,000

Are you sure this is plugged in?

126

00:06:59,000 --> 00:07:01,000

I'm sure this is plugged in.

127

00:07:01,000 --> 00:07:06,000

Stephen, have you heard the myth or the tale that you should stay off the phone

128

00:07:06,000 --> 00:07:11,000

or stay out of the shower, not watch television or work on a computer during a lightning storm?

129

00:07:11,000 --> 00:07:17,000

I can see the telephone or electric devices because if there's a strike in the house and you get a big surge,

130

00:07:17,000 --> 00:07:22,000

that would not be good for anything that's connected with wire in the house, be that a computer.

131

00:07:22,000 --> 00:07:26,000

I've certainly heard about people's computers pretty much melting and frying down.

132

00:07:26,000 --> 00:07:31,000

I've heard about problems with telephones, but I've never actually seen the melted pieces and held them in my hand.

133

00:07:31,000 --> 00:07:34,000

Our little shotgun shack is all ready to go.

134

00:07:34,000 --> 00:07:36,000

We've got the computer set up. We've got two kinds of phones.

135

00:07:36,000 --> 00:07:42,000

We've got a television. We've got wall switches, plugs, junction boxes, everything to code,

136

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

plus a shower that will be fully grounded.

137

00:07:45,000 --> 00:07:47,000

And we're ready to shoot lightning bolts with this thing.

138

00:07:47,000 --> 00:07:52,000

I mean, I've been ready to shoot lightning bolts at it from the beginning, but now we're officially ready.

139

00:07:53,000 --> 00:07:57,000

And so Adam and Jamie will take their new home on the road.

140

00:07:57,000 --> 00:08:00,000

Its destiny is electrifying.

141

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

But first, the Mythbusters have a date with history.

142

00:08:09,000 --> 00:08:13,000

It's a Civil War story to shivel the confidence of any man.

143

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

Struck by a bullet in the family jewels.

144

00:08:17,000 --> 00:08:20,000

And stun any woman.

145

00:08:21,000 --> 00:08:25,000

And cause her to become in a family way.

146

00:08:25,000 --> 00:08:29,000

Was there ever a pregnancy from making war, not love?

147

00:08:38,000 --> 00:08:42,000

Guys, it's been a long time coming, but it's finally time to do.

148

00:08:42,000 --> 00:08:43,000

Son of a gun.

149

00:08:43,000 --> 00:08:44,000

Exactly.

150

00:08:44,000 --> 00:08:45,000

All right.

151

00:08:45,000 --> 00:08:47,000

One of the oldest and most bizarre medical myths.

152

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

The story is about a young Civil War cavalryman who was shot by a musket ball.

153

00:08:52,000 --> 00:08:59,000

The bullet hits his tibia, ricochets off his tibia, goes right through his family jewels,

154

00:08:59,000 --> 00:09:07,000

and then pierces the womb of a woman standing on her porch, watching the battle from 150 yards away.

155

00:09:07,000 --> 00:09:14,000

This bullet apparently still carried some viable genetic material, because as the story goes,

156

00:09:14,000 --> 00:09:19,000

she found herself very embarrassingly pregnant.

157

00:09:19,000 --> 00:09:20,000

No.

158

00:09:20,000 --> 00:09:21,000

Yes.

159

00:09:21,000 --> 00:09:26,000

Either they fell in love and got married, or he felt some sense of cosmic obligation,

160

00:09:26,000 --> 00:09:29,000

and they had several children together, and as the doctor stated,

161

00:09:29,000 --> 00:09:33,000

none of them looked as much like the soldier as the first one.

162

00:09:34,000 --> 00:09:40,000

This story was first written up in the fancy American Medical Weekly in 1874,

163

00:09:40,000 --> 00:09:44,000

which leaves the Mythbusters two questions to answer.

164

00:09:44,000 --> 00:09:50,000

Could a bullet ricochet like that, and could the genetic material survive the trip?

165

00:09:53,000 --> 00:09:56,000

Let's face it, it was Civil War.

166

00:09:56,000 --> 00:09:59,000

They were strange, momentous times.

167

00:09:59,000 --> 00:10:04,000

Soldiers marched their way into history, armed with muskets and bayonets,

168

00:10:04,000 --> 00:10:07,000

and a changed nation was born.

169

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

So why not a son of a gun?

170

00:10:12,000 --> 00:10:17,000

Turns out this is the perfect time to test this myth conception.

171

00:10:17,000 --> 00:10:23,000

There's a massive Civil War recreation going on, not far from home base.

172

00:10:24,000 --> 00:10:27,000

We have a Civil War event here in Carney Park in Fresno.

173

00:10:27,000 --> 00:10:31,000

It's the largest Civil War event in the western United States.

174

00:10:31,000 --> 00:10:36,000

We're hoping to give people a taste of their history and their heritage.

175

00:10:38,000 --> 00:10:45,000

You're going to hold it just like this, and you're going to turn that cartridge upside down over the barrel.

176

00:10:45,000 --> 00:10:51,000

Stand still here, and someone will regale you with Civil War facts you never knew,

177

00:10:51,000 --> 00:10:53,000

and probably didn't need to.

178

00:10:53,000 --> 00:10:57,000

You'll then pull your hammer back one click to half cock.

179

00:10:58,000 --> 00:10:59,000

You then remove that.

180

00:10:59,000 --> 00:11:01,000

It's ideal for the build team.

181

00:11:01,000 --> 00:11:06,000

They want to recreate this story exactly, starting with the gun.

182

00:11:06,000 --> 00:11:07,000

Fire!

183

00:11:07,000 --> 00:11:12,000

This rifle is a replica of an Enfield rifle musket,

184

00:11:12,000 --> 00:11:17,000

and this is a very typical weapon used during the Civil War by both armies.

185

00:11:17,000 --> 00:11:24,000

The story goes that, as I understand it, that it was a mini-ball bullet that actually hit this cavalryman,

186

00:11:24,000 --> 00:11:27,000

and that's the bullet this weapon uses.

187

00:11:27,000 --> 00:11:31,000

This bullet was propelled by about 70 grains of black powder.

188

00:11:32,000 --> 00:11:36,000

This weapon has a muzzle velocity of 1,000 feet per second,

189

00:11:36,000 --> 00:11:40,000

and a good marksman could hit a target 900 yards away.

190

00:11:41,000 --> 00:11:43,000

I feel like charging right about now.

191

00:11:43,000 --> 00:11:46,000

Look at this, Tori! Look, excellent!

192

00:11:46,000 --> 00:11:50,000

So they have their gun, but they say clothes make of the man.

193

00:11:50,000 --> 00:11:52,000

Oh, yeah!

194

00:11:52,000 --> 00:11:57,000

What was the well-dressed gunshot victim wearing during the Civil War?

195

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

This is a pair of trousers that a Union soldier would be wearing.

196

00:12:00,000 --> 00:12:02,000

It is made of wool, as you can feel.

197

00:12:02,000 --> 00:12:03,000

Wow!

198

00:12:03,000 --> 00:12:04,000

What about the underwear?

199

00:12:04,000 --> 00:12:09,000

Soldiers, and of course, anybody during that period, wore what was called long johns,

200

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

and it was an overall piece, you know, a top and the bottom part connected.

201

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

And they even warmed during the summer?

202

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

No, warmed during the summer.

203

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

Wow!

204

00:12:18,000 --> 00:12:22,000

Now, something for the lady of the house, something retro maybe,

205

00:12:22,000 --> 00:12:25,000

with just a hint of immaculate conception.

206

00:12:25,000 --> 00:12:29,000

She would have pantalettes and a chemise.

207

00:12:29,000 --> 00:12:31,000

She'd wear her corset over the top of that,

208

00:12:31,000 --> 00:12:34,000

and then she would have four to five petticoats,

209

00:12:34,000 --> 00:12:36,000

and then she'd put her dress on.

210

00:12:36,000 --> 00:12:37,000

Tight.

211

00:12:37,000 --> 00:12:40,000

Apparently, people weren't in such a hurry back then.

212

00:12:40,000 --> 00:12:43,000

And as the troops ready themselves for battle,

213

00:12:43,000 --> 00:12:48,000

the build team has learned enough to start work on its own Civil War recreation

214

00:12:48,000 --> 00:12:50,000

of the reproductive kind.

215

00:12:56,000 --> 00:12:58,000

Woo!

216

00:12:59,000 --> 00:13:03,000

When they say they're measuring out 70 grains of black powder,

217

00:13:03,000 --> 00:13:06,000

they're not actually talking about individual grains.

218

00:13:06,000 --> 00:13:11,000

70 grains is going to be measured in this powder measure here.

219

00:13:11,000 --> 00:13:16,000

Carrie's scaring the neighbors as she perfects the black powder cartridges.

220

00:13:18,000 --> 00:13:21,000

Wow, looks like it works!

221

00:13:22,000 --> 00:13:24,000

No human error can be involved here.

222

00:13:24,000 --> 00:13:26,000

We have to get this right.

223

00:13:27,000 --> 00:13:30,000

So I'm going to make a gun mount, a gun holder,

224

00:13:30,000 --> 00:13:32,000

that we can aim really precisely.

225

00:13:34,000 --> 00:13:35,000

More than a mount,

226

00:13:35,000 --> 00:13:40,000

Scotty aims to fit that old musket with a genuine Civil War laser sight.

227

00:13:41,000 --> 00:13:44,000

We're going to make one with a human bone that's dried,

228

00:13:44,000 --> 00:13:49,000

and then one with the veal bone, the little baby cow bone.

229

00:13:50,000 --> 00:13:53,000

For his part in all this, Buster's getting a new leg.

230

00:13:53,000 --> 00:13:56,000

A real bone suspended in ballistics gel.

231

00:13:59,000 --> 00:14:02,000

Yes, Buster's going to take another one for the team.

232

00:14:03,000 --> 00:14:06,000

But there's already a problem with his uniform.

233

00:14:06,000 --> 00:14:09,000

No, you just ripped that, Tori.

234

00:14:09,000 --> 00:14:15,000

Oh man, Buster, you've got a big old hole in your backside.

235

00:14:15,000 --> 00:14:18,000

To be honest, with the experiments the Mythbusters are planning,

236

00:14:18,000 --> 00:14:22,000

a hole in his backside is the least of Buster's worries.

237

00:14:23,000 --> 00:14:36,000

Well, we all knew it would happen one day.

238

00:14:36,000 --> 00:14:38,000

What are your plans, my master?

239

00:14:38,000 --> 00:14:40,000

We're going to take over the world.

240

00:14:40,000 --> 00:14:43,000

Oh yes, yes.

241

00:14:47,000 --> 00:14:51,000

The evil scientist in Jamie and Adam has finally busted loose.

242

00:14:54,000 --> 00:14:57,000

They're about to wreak massive global havoc.

243

00:14:59,000 --> 00:15:03,000

They'll start conservatively with this little playhouse.

244

00:15:03,000 --> 00:15:07,000

They've brought it to Pacific Gas and Electrics' testing facility

245

00:15:07,000 --> 00:15:11,000

to tackle the myth that lightning can travel down your home's wiring or pipes

246

00:15:11,000 --> 00:15:14,000

and kill you while you're on the phone or in the shower.

247

00:15:14,000 --> 00:15:17,000

So this is what the arc will actually come off of?

248

00:15:17,000 --> 00:15:18,000

Sure, why not?

249

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

Wow.

250

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

This facility can generate up to 700,000 volts,

251

00:15:23,000 --> 00:15:26,000

but by using half that, they'll get more amps.

252

00:15:26,000 --> 00:15:29,000

It's that flowing current that does the damage.

253

00:15:30,000 --> 00:15:33,000

And since everyone's feeling pretty good about being alive,

254

00:15:33,000 --> 00:15:37,000

Chip, the Ballistics gel dummy, will be taking hits for the team.

255

00:15:42,000 --> 00:15:46,000

The gel has similar electrical resistance to human flesh,

256

00:15:46,000 --> 00:15:50,000

and Chip is grounded to the earth like a person standing up.

257

00:15:51,000 --> 00:15:54,000

This electrode will give us about 200,000 volts.

258

00:15:54,000 --> 00:15:58,000

Now that's enough to make it jump across the two feet here,

259

00:15:58,000 --> 00:16:02,000

through these wires, down either into the electrical box here

260

00:16:02,000 --> 00:16:03,000

or through the phone lines.

261

00:16:03,000 --> 00:16:08,000

Our test subject here, Chip, is set up with a phone strapped to his ear.

262

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

We've also taped in some gunpowder in a little paper baggie here.

263

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

And finally, we have our MythBusters patented heart paddle current meter setup,

264

00:16:17,000 --> 00:16:20,000

where we've got two copper paddles set up right where the heart would be.

265

00:16:20,000 --> 00:16:24,000

And if we read more than 6 milliamps of current across these lines,

266

00:16:24,000 --> 00:16:27,000

we know we've got a dead guy.

267

00:16:30,000 --> 00:16:34,000

The MythBusters have added a couple of common appliances for realism,

268

00:16:34,000 --> 00:16:38,000

but connecting to mains power during a test would be dangerous,

269

00:16:38,000 --> 00:16:39,000

so they're left off.

270

00:16:40,000 --> 00:16:43,000

I mean, we'll be able to see what the effect on a television or your computer

271

00:16:43,000 --> 00:16:47,000

is if you've got it plugged in during a thunderstorm.

272

00:16:47,000 --> 00:16:52,000

But unfortunately, we won't be able to have them running during our test.

273

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

I think what's going to happen when we zap the house

274

00:16:54,000 --> 00:17:00,000

is that we're going to see this nice long arc jumping from the electrode into the house.

275

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

We may see a few little things sizzling and burning,

276

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

and if we're lucky, we'll find a pathway that could realistically happen

277

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

that will show up on the meters as potential death.

278

00:17:13,000 --> 00:17:18,000

We've done our best to duplicate in several different iterations

279

00:17:18,000 --> 00:17:21,000

what kind of wiring a lightning bolt is likely to encounter,

280

00:17:21,000 --> 00:17:23,000

but it's very unpredictable stuff,

281

00:17:23,000 --> 00:17:26,000

and even the guys here aren't exactly sure what will happen.

282

00:17:27,000 --> 00:17:30,000

The only thing the experts can be sure about in this test

283

00:17:30,000 --> 00:17:34,000

is they don't want to be standing anywhere near it when it happens.

284

00:17:35,000 --> 00:17:38,000

Barricaded off from a safe distance from the structure,

285

00:17:38,000 --> 00:17:43,000

the barricade position that people down here will have to stay behind during the test.

286

00:17:46,000 --> 00:17:48,000

Here's how this will work.

287

00:17:48,000 --> 00:17:50,000

Electricity can jump through air.

288

00:17:50,000 --> 00:17:55,000

Every 10,000 volts adds about 1 centimeter to the distance.

289

00:17:55,000 --> 00:17:57,000

Closing 200 over 5.

290

00:17:58,000 --> 00:18:00,000

With the electrode in this position,

291

00:18:00,000 --> 00:18:04,000

when the charge reaches between 2 and 300,000 volts,

292

00:18:04,000 --> 00:18:06,000

it will zap across to the house.

293

00:18:07,000 --> 00:18:10,000

It's a waiting game as the charge builds.

294

00:18:13,000 --> 00:18:17,000

Their mad scientist fantasy is coming to life.

295

00:18:31,000 --> 00:18:37,000

That was 300,000 volts straight into the house's wiring.

296

00:18:37,000 --> 00:18:44,000

It generates an electromagnetic pulse strong enough to throw our remote camera out of focus.

297

00:18:46,000 --> 00:18:48,000

No smoke and no sparks.

298

00:18:48,000 --> 00:18:51,000

No smoke, no sparks, no sparks from the phone.

299

00:18:51,000 --> 00:18:55,000

Incredibly, Chip's phone call is uninterrupted.

300

00:18:56,000 --> 00:18:59,000

Well, everything seems just like we left it.

301

00:18:59,000 --> 00:19:01,000

No problem, no reaction whatsoever.

302

00:19:01,000 --> 00:19:03,000

I don't think he got any current.

303

00:19:04,000 --> 00:19:06,000

The jolt exited straight out the ground wire,

304

00:19:06,000 --> 00:19:08,000

standard to most homes.

305

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

But remember, this shock is much smaller than real lightning.

306

00:19:11,000 --> 00:19:16,000

So Adam will help it by creating the worst possible scenario.

307

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

What I'm going to do is there's no facility in the world

308

00:19:19,000 --> 00:19:22,000

can generate both the voltage and the amperage of an actual lightning bolt.

309

00:19:22,000 --> 00:19:27,000

Both together make this massive amount of electricity that will crawl across all sorts of wires.

310

00:19:27,000 --> 00:19:32,000

So I'm going to start cutting some grounds to the electrical wiring system

311

00:19:32,000 --> 00:19:37,000

and try and guide the electricity over to our person to see what would happen to the phone.

312

00:19:37,000 --> 00:19:39,000

There we go.

313

00:19:40,000 --> 00:19:42,000

So, now minus the ground wire.

314

00:19:42,000 --> 00:19:46,000

Can that thin telephone cord carry a fatal charge?

315

00:19:46,000 --> 00:19:50,000

100 kV, as I saw it, is going up in voltage.

316

00:19:50,000 --> 00:19:52,000

150,000.

317

00:19:52,000 --> 00:19:54,000

200,000.

318

00:19:54,000 --> 00:19:56,000

200,000.

319

00:19:56,000 --> 00:19:58,000

220, 230.

320

00:20:02,000 --> 00:20:04,000

That actually worked.

321

00:20:04,000 --> 00:20:06,000

That was beautiful.

322

00:20:08,000 --> 00:20:13,000

The lightning arc from the mouthpiece into Chip's head setting off Jamie's charge.

323

00:20:13,000 --> 00:20:17,000

The jolt finding its way with disturbing accuracy.

324

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

That was awesome. I can't believe that worked so well.

325

00:20:23,000 --> 00:20:25,000

Are we clear?

326

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

Do you want us to put up for it?

327

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

I'll just blow it out.

328

00:20:33,000 --> 00:20:35,000

Well, that worked like a charm.

329

00:20:35,000 --> 00:20:38,000

Did it fry the ear too?

330

00:20:38,000 --> 00:20:41,000

No, it doesn't look like it did anything with the ear.

331

00:20:41,000 --> 00:20:44,000

No, it didn't do anything with the ear.

332

00:20:44,000 --> 00:20:49,000

So, a new phone, it arcs through the mouthpiece and into the body.

333

00:20:49,000 --> 00:20:51,000

That's pretty serious.

334

00:20:51,000 --> 00:20:53,000

Yeah.

335

00:20:55,000 --> 00:20:57,000

Wow.

336

00:20:57,000 --> 00:20:59,000

So, that's it right there as far as I'm concerned.

337

00:20:59,000 --> 00:21:01,000

This is a standard phone.

338

00:21:01,000 --> 00:21:03,000

It arcs through the mouthpiece of the phone.

339

00:21:03,000 --> 00:21:06,000

That's a lot of current to go through gel.

340

00:21:06,000 --> 00:21:08,000

Well, we can check and see what kind of current it is.

341

00:21:08,000 --> 00:21:09,000

Yeah.

342

00:21:09,000 --> 00:21:15,000

Remember, 6 milliamps across Chip's heart paddles would indicate a fatal shock.

343

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

But there's a problem. The meter's blown.

344

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

We had it set on the 40 milliamp setting, which is more than enough to kill you.

345

00:21:22,000 --> 00:21:27,000

If it fried the fuse of this meter, that was a lot more than 40 milliamps going through it.

346

00:21:27,000 --> 00:21:29,000

And that's a dead guy.

347

00:21:29,000 --> 00:21:31,000

Works for me.

348

00:21:31,000 --> 00:21:34,000

So, it seems it's myth confirmed.

349

00:21:34,000 --> 00:21:39,000

Even with a modern phone and modern wiring, you can be struck by lightning.

350

00:21:39,000 --> 00:21:45,000

As a second test, they'll try an older phone and an older style fuse box.

351

00:21:45,000 --> 00:21:48,000

Closing 200 over 2, going up.

352

00:21:48,000 --> 00:21:50,000

That sound is kind of ominous.

353

00:21:50,000 --> 00:21:53,000

That frying egg sound in the ozone.

354

00:21:53,000 --> 00:21:55,000

200,000.

355

00:22:04,000 --> 00:22:06,000

Wow.

356

00:22:08,000 --> 00:22:11,000

This time, Jamie's gunpowder didn't ignite.

357

00:22:11,000 --> 00:22:13,000

But Chip's was definitely hit.

358

00:22:13,000 --> 00:22:15,000

And the meter blew again.

359

00:22:15,000 --> 00:22:19,000

We definitely still got continuity through the body and into the ground.

360

00:22:19,000 --> 00:22:21,000

Well, I'm satisfied.

361

00:22:21,000 --> 00:22:23,000

Phones will do it. Phones and lightning.

362

00:22:23,000 --> 00:22:26,000

Phones and lightning? Bad, bad, bad.

363

00:22:26,000 --> 00:22:30,000

Lightning fatality statistics bear that out.

364

00:22:30,000 --> 00:22:35,000

On average, about 75 Americans are killed by lightning each year,

365

00:22:35,000 --> 00:22:39,000

with 2% of those people talking on the phone at the time.

366

00:22:39,000 --> 00:22:47,000

The only good news for Chip's next of kin, powered up, the TV and computer still work fine.

367

00:22:47,000 --> 00:22:53,000

I think it's time to move on to see if showers and lightning are a similarly deadly combination.

368

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

Let's do it.

369

00:22:55,000 --> 00:23:03,000

So Chip's electrifying adventures continue, thrown out of the frying pan and into the shower.

370

00:23:03,000 --> 00:23:05,000

There we go.

371

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

That is too funny.

372

00:23:10,000 --> 00:23:15,000

People have written into the site and specifically told us that they were always warned as children

373

00:23:15,000 --> 00:23:17,000

never to take a shower during a thunderstorm.

374

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

We have grounded plumbing, which is running near electrical wire.

375

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

We're hoping for a short between the electrical wire and the plumbing.

376

00:23:27,000 --> 00:23:31,000

And then our guy here, I've put a ground bar directly into him.

377

00:23:31,000 --> 00:23:38,000

This is basically equivalent to if you're standing in the shower and you're standing on the drain, which is also grounded.

378

00:23:38,000 --> 00:23:39,000

That's beautiful.

379

00:23:39,000 --> 00:23:45,000

Now the guys learned to the third rail myth that fluid streams aren't great conductors.

380

00:23:45,000 --> 00:23:48,000

The liquid breaks up, so there's no direct path.

381

00:23:48,000 --> 00:23:51,000

But at these voltages, who knows?

382

00:23:52,000 --> 00:23:53,000

Ready to go.

383

00:23:53,000 --> 00:23:54,000

Ramp it up.

384

00:23:54,000 --> 00:23:56,000

140 kV.

385

00:23:57,000 --> 00:23:59,000

It's a lot.

386

00:23:59,000 --> 00:24:01,000

Okay, proceed and close.

387

00:24:01,000 --> 00:24:02,000

200 over 2.

388

00:24:02,000 --> 00:24:06,000

Okay, we're up to 243, almost 250 kV.

389

00:24:07,000 --> 00:24:09,000

I hear it.

390

00:24:17,000 --> 00:24:18,000

Did you see that?

391

00:24:18,000 --> 00:24:19,000

Yes, I did.

392

00:24:19,000 --> 00:24:22,000

I'm not sure what I saw, but I saw it.

393

00:24:25,000 --> 00:24:29,000

Only the mythbusters could manage to start a fire in the shower.

394

00:24:31,000 --> 00:24:32,000

There you go.

395

00:24:32,000 --> 00:24:33,000

Here.

396

00:24:37,000 --> 00:24:41,000

So, chips is saved from the fire, but was he already toast?

397

00:24:45,000 --> 00:24:47,000

The meter is inconclusive again.

398

00:24:48,000 --> 00:24:53,000

The electromagnetic pulse that messed with our camera could be frying it too.

399

00:24:53,000 --> 00:24:58,000

Even so, there seems little doubt you don't want to be in the shower during a storm.

400

00:25:03,000 --> 00:25:05,000

I don't care what the meter says.

401

00:25:05,000 --> 00:25:10,000

We're not even remotely approaching the actual strength of real lightning, and nobody can.

402

00:25:10,000 --> 00:25:14,000

And yet we're getting these massive arcs dancing across this guy's body.

403

00:25:14,000 --> 00:25:19,000

Arcs the size of boa constrictors that are kind of like wiggling right next to you.

404

00:25:19,000 --> 00:25:23,000

You kind of get the hint that there's going to be a problem there somewhere.

405

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

Yeah, exactly.

406

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

I'm looking at phone confirmed shower plausible.

407

00:25:30,000 --> 00:25:32,000

I'd say that's a safe bet.

408

00:25:35,000 --> 00:25:40,000

That amount of voltage and power can go anywhere, and so if you have a lightning storm,

409

00:25:40,000 --> 00:25:44,000

you want to minimize the possibility of exposure to the bolts.

410

00:25:44,000 --> 00:25:47,000

Stay away from things that can conduct lightning to you.

411

00:25:47,000 --> 00:25:51,000

Appliances can do it, water can do it, your plumbing can do it.

412

00:25:51,000 --> 00:25:53,000

Stay away from those things.

413

00:25:53,000 --> 00:25:54,000

I think we're done.

414

00:26:04,000 --> 00:26:08,000

The Civil War was the bloodiest conflict on American soil.

415

00:26:08,000 --> 00:26:11,000

Four years, 600,000 dead.

416

00:26:12,000 --> 00:26:16,000

But amid all that misery, could a life have been created?

417

00:26:16,000 --> 00:26:19,000

Was there a son of a gun?

418

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

There was a gentleman out on the battlefield, and he was struck by a bullet in the family jewels.

419

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

Continues on, hits a young lady in the abdomen and impregnates her.

420

00:26:32,000 --> 00:26:40,000

Just for now, forget making a baby. Could a bullet even make the journey from leg to well of private's privates?

421

00:26:41,000 --> 00:26:48,000

Cavalrymen often times fought dismounted. It's very hard to hit anything sitting on a horse. Horses move.

422

00:26:48,000 --> 00:26:56,000

When they dismount, they tend to kneel. It gives them better accuracy. A position like so.

423

00:26:57,000 --> 00:27:09,000

So, if someone is firing at me, the bullet hits me in the lower leg, continues on, and who knows what's behind me?

424

00:27:10,000 --> 00:27:19,000

So it looks plausible, and now Buster gets to play the unhappiest cavalryman in the world, in what will be the first of two tests.

425

00:27:20,000 --> 00:27:30,000

The mythbusters need to see if a mini-ball fired from their end field musket could pass through a leg and still have enough energy to fly on for hundreds of yards.

426

00:27:33,000 --> 00:27:36,000

Three, two, one.

427

00:27:38,000 --> 00:27:39,000

Oh, no.

428

00:27:39,000 --> 00:27:40,000

Low on to the left.

429

00:27:40,000 --> 00:27:42,000

Got a little more left.

430

00:27:42,000 --> 00:27:53,000

Civil War expert and marksman Jim Mitchell is helping adjust the sights, but darned if they just don't keep missing.

431

00:27:55,000 --> 00:28:00,000

In five, four, three, two, one.

432

00:28:03,000 --> 00:28:05,000

Do you think the laser is jiggling when we fire it?

433

00:28:05,000 --> 00:28:07,000

Could be the recoil, yeah.

434

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

Come to your left, half inch there.

435

00:28:10,000 --> 00:28:11,000

Perfect.

436

00:28:11,000 --> 00:28:14,000

Three, two, one.

437

00:28:17,000 --> 00:28:18,000

It's low on to the right this time.

438

00:28:18,000 --> 00:28:19,000

It was a lot lower.

439

00:28:21,000 --> 00:28:25,000

All right, well clearly modern technology is not helping us out here.

440

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

We're going to have to do this old fashioned way.

441

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

All right.

442

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

Think you can pull off this shot?

443

00:28:29,000 --> 00:28:30,000

Sure.

444

00:28:31,000 --> 00:28:32,000

There you go, sir.

445

00:28:32,000 --> 00:28:33,000

Very good.

446

00:28:34,000 --> 00:28:42,000

We've got busters set up with a artificial calf, which is ballistics jail with a real tibia and fibula in it.

447

00:28:42,000 --> 00:28:50,000

Jim's going to aim for that and we're going to catch on this grid back here a high speed shot of what that bullet's exit velocity is.

448

00:28:50,000 --> 00:29:02,000

If Jim hits the leg in exactly the right point and the bullet leaves, we will be able to measure the speed that it leaves at and be able to tell whether it would be possible for the bullet to travel the other hundreds of yards.

449

00:29:03,000 --> 00:29:05,000

So we're going to go in 50 yards and hit the woman.

450

00:29:05,000 --> 00:29:10,000

So in the interests of ballistic investigation, Buster gets a brand new leg.

451

00:29:10,000 --> 00:29:16,000

But long and bitter experience has taught him not to get too attached to his limbs.

452

00:29:16,000 --> 00:29:19,000

And that is especially the case today.

453

00:29:21,000 --> 00:29:22,000

All right.

454

00:29:23,000 --> 00:29:27,000

In three, two, one.

455

00:29:34,000 --> 00:29:38,000

We have pieces of bone.

456

00:29:39,000 --> 00:29:48,000

Traveling 1,000 feet per second, the mini ball passed straight through Buster's leg, blowing out a piece of bone on the way.

457

00:29:49,000 --> 00:29:54,000

It looks like it went through the ballistics jail and it just collapsed.

458

00:29:54,000 --> 00:29:57,000

All right, let's get another leg over here.

459

00:29:58,000 --> 00:30:02,000

They've prepared several legs with different types of bone for comparison.

460

00:30:02,000 --> 00:30:07,000

And despite the vintage weapon, Jim is deadly accurate every time.

461

00:30:14,000 --> 00:30:16,000

That feels like a bone hit to me.

462

00:30:18,000 --> 00:30:19,000

I don't know.

463

00:30:20,000 --> 00:30:21,000

Do you think that was it?

464

00:30:21,000 --> 00:30:22,000

Completely shattered at the bottom, yes.

465

00:30:23,000 --> 00:30:24,000

That was the most recent hit?

466

00:30:24,000 --> 00:30:25,000

Yes.

467

00:30:25,000 --> 00:30:26,000

All right.

468

00:30:26,000 --> 00:30:27,000

I'm right on center.

469

00:30:28,000 --> 00:30:36,000

Even passing through leg and bone, the bullet's still too fast for the high speed, around 1,000 feet per second.

470

00:30:37,000 --> 00:30:41,000

Well, whatever the speed it actually is going, the bottom line is this.

471

00:30:41,000 --> 00:30:48,000

We know that the bullet is capable of actually going through all the clothing, penetrating the bone and the flesh,

472

00:30:48,000 --> 00:30:52,000

and still keeping going at a deadly velocity.

473

00:30:52,000 --> 00:30:53,000

Absolutely.

474

00:30:53,000 --> 00:30:56,000

The myth is not busted right here, where we thought it might be.

475

00:30:56,000 --> 00:31:01,000

It's passing right through all that stuff, so it's time to move on to the womb and see if we can bust it there.

476

00:31:02,000 --> 00:31:03,000

All right.

477

00:31:03,000 --> 00:31:09,000

So the next test will have a womb with a view to busting this 150-year-old myth

478

00:31:09,000 --> 00:31:16,000

and laying to rest this story of an impossible baby and the most unlikely of marriages.

479

00:31:16,000 --> 00:31:17,000

We heard it was honor.

480

00:31:17,000 --> 00:31:22,000

I already limped back and married the girl because it was a virgin birth and he wanted to keep her honor.

481

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

Well, the Yankees would say that about themselves, but if it really happened on the Yankee side,

482

00:31:27,000 --> 00:31:28,000

her daddy had to go get a shotgun.

483

00:31:28,000 --> 00:31:30,000

We know what they're like.

484

00:31:36,000 --> 00:31:38,000

It's a big day out for the myth busters.

485

00:31:39,000 --> 00:31:41,000

I'm feeling really Miami-Bice right now.

486

00:31:43,000 --> 00:31:44,000

They're going boating.

487

00:31:47,000 --> 00:31:49,000

But this is no ordinary cruise.

488

00:31:49,000 --> 00:31:51,000

So what kind of speed are you getting now, Jamie?

489

00:31:52,000 --> 00:31:56,000

They're going to recreate that dumbest mistake on the high seas.

490

00:32:03,000 --> 00:32:07,000

Carrie, I'm trying to figure out what this is from the title and it's not making any sense.

491

00:32:07,000 --> 00:32:09,000

What is trailer troubles?

492

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

This is actually about inexperienced boaters.

493

00:32:11,000 --> 00:32:13,000

They were taking their boat out.

494

00:32:13,000 --> 00:32:14,000

The boat just wouldn't get any horsepower.

495

00:32:14,000 --> 00:32:15,000

It wouldn't go.

496

00:32:15,000 --> 00:32:17,000

It couldn't get about five miles an hour.

497

00:32:17,000 --> 00:32:18,000

So they took it back to dock.

498

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

They called their repairman to come find out why the boat's just not working.

499

00:32:21,000 --> 00:32:22,000

The repairman shows up.

500

00:32:22,000 --> 00:32:23,000

He tries the motor.

501

00:32:23,000 --> 00:32:24,000

He tries everything.

502

00:32:24,000 --> 00:32:25,000

It seems to be okay.

503

00:32:25,000 --> 00:32:28,000

Dunks his head under the water, realizes the trailer's still attached.

504

00:32:31,000 --> 00:32:35,000

This is bound to catch on boating with the trailer attached.

505

00:32:35,000 --> 00:32:39,000

The myth busters are going to need some nautical know-how to live this dream.

506

00:32:41,000 --> 00:32:43,000

Jay Meiswinkel is their man.

507

00:32:43,000 --> 00:32:46,000

He's helped out before on the scuba diver myth.

508

00:32:48,000 --> 00:32:49,000

Hey, Jay.

509

00:32:49,000 --> 00:32:50,000

Hey, Jay.

510

00:32:51,000 --> 00:32:55,000

In his capacity as outboard motor guru, Jay has heard it all.

511

00:32:55,000 --> 00:32:57,000

Even this myth.

512

00:32:57,000 --> 00:33:02,000

The last time I heard it was about a year and a half ago and it was e-mailed to one of the parts guys up front.

513

00:33:02,000 --> 00:33:06,000

He printed it out, sent it back to me and it basically said the same thing.

514

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

Some things are considered amphibious and they just figured it was supposed to be there.

515

00:33:12,000 --> 00:33:16,000

Fortunately, Jay shares the myth busters passion for the preposterous.

516

00:33:17,000 --> 00:33:20,000

This is like what I had when I was a kid.

517

00:33:20,000 --> 00:33:26,000

And better yet, he has a 13-foot Boston whaler he's willing to lend to the cause.

518

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

The boat dog.

519

00:33:27,000 --> 00:33:28,000

This is Ruger.

520

00:33:28,000 --> 00:33:30,000

He goes boating more than most boats.

521

00:33:30,000 --> 00:33:31,000

Ah.

522

00:33:31,000 --> 00:33:32,000

Alright, Jay.

523

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

So what do we need to do to prepare this boat for this test?

524

00:33:35,000 --> 00:33:41,000

Well, the boat is already strapped to the trailer, but we will be adding a couple of more straps on there

525

00:33:41,000 --> 00:33:43,000

just to help you with the myth.

526

00:33:43,000 --> 00:33:48,000

Not to recreate the entire incident, but to make it more plausible and safe for you.

527

00:33:48,000 --> 00:33:53,000

Now Boston whalers have a reputation as being extremely hard to sink.

528

00:33:53,000 --> 00:34:00,000

This one has a 25-horsepower motor, but funnily enough has never been tested trailer on.

529

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

Sometimes the only way to get to the bottom of a myth is jump right in.

530

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

Of course, that's also the way to get to the bottom of the bay.

531

00:34:10,000 --> 00:34:15,000

I guess the worst-case scenario is that we could sink, but we're not short at Coast Guard.

532

00:34:15,000 --> 00:34:19,000

So maybe the worst-case scenario is a cranky Coast Guard when yells at me a lot.

533

00:34:19,000 --> 00:34:21,000

You know what the worst-case scenario is going to be?

534

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

What?

535

00:34:22,000 --> 00:34:27,000

A bunch of people around here are going to see us launch the boat with a trailer attached

536

00:34:27,000 --> 00:34:31,000

and then take off and they're going to say, look at what that blonde is doing.

537

00:34:32,000 --> 00:34:36,000

Now, you won't even find this in the lesson plan for a boat launching 101,

538

00:34:36,000 --> 00:34:38,000

because it's just too obvious.

539

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

When you launch your boat, you back it in, float it off the trailer,

540

00:34:42,000 --> 00:34:44,000

and the trailer stays with the car.

541

00:34:44,000 --> 00:34:45,000

Happy days.

542

00:34:53,000 --> 00:34:56,000

I got a GPS system so we can track a fast-forward going in the water.

543

00:34:56,000 --> 00:34:57,000

Cool.

544

00:34:57,000 --> 00:35:00,000

So while you're driving, I know exactly how wily you're getting.

545

00:35:01,000 --> 00:35:05,000

The plan is to test the boat without the trailer first

546

00:35:05,000 --> 00:35:09,000

to see just how fast it can go under normal conditions.

547

00:35:11,000 --> 00:35:15,000

Or as normal as they can be with Rev Head Scotty at the wheel.

548

00:35:16,000 --> 00:35:18,000

Let's see what this baby's got.

549

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

Woo!

550

00:35:20,000 --> 00:35:21,000

Yeah!

551

00:35:21,000 --> 00:35:22,000

We're living miles an hour.

552

00:35:22,000 --> 00:35:23,000

Four keys.

553

00:35:24,000 --> 00:35:25,000

16, 18, 19.

554

00:35:27,000 --> 00:35:28,000

20, 21.

555

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

Hey, if we throw the cameraman overboard, it will be a little lighter, we'll go faster.

556

00:35:36,000 --> 00:35:39,000

Hey, look at all those poor fools going to work today.

557

00:35:42,000 --> 00:35:44,000

23, they're talking so far.

558

00:35:45,000 --> 00:35:52,000

So, Carrie and Scotty have proved you can have a whale of a time in a whaler doing 23 miles an hour.

559

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

So now, throttling back a little, the real test.

560

00:35:55,000 --> 00:35:57,000

How will it perform?

561

00:35:57,000 --> 00:35:58,000

Trailer on.

562

00:36:01,000 --> 00:36:05,000

The way we're actually going to do this is disconnect it before it goes in the water

563

00:36:05,000 --> 00:36:08,000

and put a line or a tow strap on it.

564

00:36:08,000 --> 00:36:14,000

And then just kick up the front wheel and it will support itself to roll in there with the trailer.

565

00:36:14,000 --> 00:36:17,000

You don't want to try to submerge the boat and trailer with the truck

566

00:36:17,000 --> 00:36:20,000

because then you're going to have to put a snorkel on the truck.

567

00:36:20,000 --> 00:36:23,000

Is this how you would strap it on if you wanted to get the boat and the water with the trailer?

568

00:36:23,000 --> 00:36:28,000

This is how the myth would be, they would have normal transmission straps holding the trailer on.

569

00:36:28,000 --> 00:36:31,000

But since we're testing, we're going to add some more.

570

00:36:32,000 --> 00:36:38,000

These straps shouldn't affect the boat's performance or lack of it, just make it more secure.

571

00:36:38,000 --> 00:36:44,000

And now, perhaps the biggest question of the test all strapped up with the boat even float.

572

00:36:44,000 --> 00:36:45,000

Is she full yet?

573

00:36:45,000 --> 00:36:47,000

No, it'll take a little bit.

574

00:36:51,000 --> 00:36:53,000

Yeah, that's floating.

575

00:36:53,000 --> 00:36:55,000

That thing's really buoyant.

576

00:36:55,000 --> 00:36:57,000

Yeah, look at that.

577

00:36:58,000 --> 00:37:01,000

It's still a float and so is the myth.

578

00:37:01,000 --> 00:37:06,000

Now the hard work is done, Jamie and Adam have arrived for the fun part.

579

00:37:06,000 --> 00:37:11,000

My prediction is that it will significantly slow the boat down.

580

00:37:11,000 --> 00:37:16,000

I know from experience with these kinds of boats that anything at all that's on the bottom,

581

00:37:16,000 --> 00:37:22,000

like barnacles or anything like that, will dramatically reduce the speed that the boat's capable of.

582

00:37:22,000 --> 00:37:27,000

And I can't think of much worse than a trailer to attach to the bottom of the boat.

583

00:37:27,000 --> 00:37:30,000

But I think that's the best way to do it.

584

00:37:30,000 --> 00:37:38,000

The boat's capable of and I can't think of much worse than a trailer to attach to the bottom of the boat as far as slowing it down.

585

00:37:38,000 --> 00:37:45,000

My prediction on the speed with the trailer attached, if the top speed was 22 miles an hour,

586

00:37:45,000 --> 00:37:49,000

I'll say 8 or 9 miles per hour.

587

00:37:49,000 --> 00:37:55,000

If that boat and that engine, I'd say we're going to get between like 6 to 10 miles an hour at most out of it.

588

00:37:56,000 --> 00:38:01,000

With barely a thought for their seafaring reputations,

589

00:38:01,000 --> 00:38:07,000

Scotty and Jamie take the new trailer whaler for a spin, a very slow spin.

590

00:38:20,000 --> 00:38:24,000

It's already been kind of sluggish for that speed, isn't it?

591

00:38:24,000 --> 00:38:26,000

Come on!

592

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

So what kind of speed are you getting, Jamie?

593

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

We're going 4.7 miles per hour.

594

00:38:41,000 --> 00:38:43,000

We're at slow throttle.

595

00:38:43,000 --> 00:38:46,000

Whoa, we hit 4.8 for a moment there.

596

00:38:46,000 --> 00:38:48,000

That's flat out, right?

597

00:38:48,000 --> 00:38:50,000

Flat out, it's not going fast.

598

00:38:50,000 --> 00:38:56,000

Sure, it's slow, but even so, it seems this myth is entirely plausible.

599

00:38:57,000 --> 00:39:01,000

So maybe those people weren't as stupid as we originally thought.

600

00:39:01,000 --> 00:39:02,000

What are you doing?

601

00:39:02,000 --> 00:39:04,000

What's our speed?

602

00:39:05,000 --> 00:39:07,000

It's not healthy.

603

00:39:07,000 --> 00:39:12,000

Do you think it's worth trying to ride just right out of the water onto the ramp?

604

00:39:12,000 --> 00:39:16,000

Well, that is certainly going to be a lot more interesting than doing what we're doing now.

605

00:39:17,000 --> 00:39:24,000

So it works, and maybe the mythbusters are onto something the amphibious runabout.

606

00:39:24,000 --> 00:39:26,000

What's going on?

607

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

Woohoo!

608

00:39:44,000 --> 00:39:46,000

Yeah!

609

00:39:46,000 --> 00:39:49,000

That makes floating munchies here!

610

00:39:50,000 --> 00:39:53,000

I think we're going to start a new trend here.

611

00:39:53,000 --> 00:39:59,000

Something tells me that you'll be in the shop this weekend, Jamie, working out a motor drive for these.

612

00:39:59,000 --> 00:40:02,000

So what was our maximum speed?

613

00:40:02,000 --> 00:40:04,000

4.8 miles per hour.

614

00:40:04,000 --> 00:40:07,000

4.8 miles an hour under our lowest estimate.

615

00:40:07,000 --> 00:40:09,000

Kind of a slow jog.

616

00:40:09,000 --> 00:40:14,000

Well, this one of those myths worked out so well, almost too well.

617

00:40:14,000 --> 00:40:21,000

So I think it's totally a reasonable myth that it could have happened.

618

00:40:21,000 --> 00:40:25,000

In fact, it has happened at least once.

619

00:40:25,000 --> 00:40:32,000

We had to deliver a new boat and trailer to a customer of ours who had a ramp in the back of his house.

620

00:40:32,000 --> 00:40:38,000

But during his original design, he did not think of trying to put the trailer to the back of his house.

621

00:40:38,000 --> 00:40:43,000

In doing so, the best thing we could come up with was to launch a 19-foot Boston whaler

622

00:40:43,000 --> 00:40:48,000

with the trailer about a mile away, and we just kind of put it on over there with the trailer attached to it.

623

00:40:49,000 --> 00:40:52,000

So this is a rare day for the Mythbusters.

624

00:40:52,000 --> 00:40:58,000

Not only have they replicated a myth, they've verified that it's happened in real life.

625

00:41:00,000 --> 00:41:02,000

That's a pretty small boat, too.

626

00:41:02,000 --> 00:41:06,000

It had a small motor, small boat, with an 80% loss of power.

627

00:41:06,000 --> 00:41:11,000

I think with a larger boat, it'd be much easier to drive around and not realize that you lost power

628

00:41:11,000 --> 00:41:14,000

because you've been an idiot and left the trailer on.

629

00:41:14,000 --> 00:41:17,000

Confirmed, but totally goofy.

630

00:41:17,000 --> 00:41:20,000

Easily confirmed, easily goofy.

631

00:41:30,000 --> 00:41:36,000

The Mythbusters have shown, ballistically at least, the son of a gun myth is possible.

632

00:41:36,000 --> 00:41:38,000

But now, a setback.

633

00:41:38,000 --> 00:41:44,000

While the term son of a gun does stem from those times, it seems it has nothing to do with this myth.

634

00:41:44,000 --> 00:41:49,000

Sailors lived on the gun deck, and so that's where they fraternized.

635

00:41:49,000 --> 00:41:55,000

So a son of a gun is a child that is conceived on the gun deck of a British man of war.

636

00:41:58,000 --> 00:42:05,000

And on that naughty nautical note, it's back to the range, where no such shenanigans are tolerated.

637

00:42:07,000 --> 00:42:09,000

I don't know.

638

00:42:09,000 --> 00:42:17,000

The Mythbusters are setting up their second experiment, which will test if viable genetic material can be carried on a bullet.

639

00:42:17,000 --> 00:42:26,000

This would represent the 15 layers of petticoats in various undergarments that the women of that era would have on.

640

00:42:27,000 --> 00:42:32,000

Ballistics Gal is the eventual target in this experiment.

641

00:42:32,000 --> 00:42:37,000

We'll kind of arrange it like so, like a skirt, and there you go.

642

00:42:37,000 --> 00:42:41,000

What I'm wondering is how to aim through a bag towards a target you can't see.

643

00:42:41,000 --> 00:42:48,000

200 feet away, Civil War expert Jim Mitchell is contemplating the most unusual shot of his life.

644

00:42:48,000 --> 00:42:50,000

This I'm going to need to shoot off a bench.

645

00:42:53,000 --> 00:43:01,000

He not only has to hit Ballistics Gal, but on the way there, the bullet has to pass through this pouch of Civil War trouser material.

646

00:43:03,000 --> 00:43:13,000

And in the pouch, well, let's just say a sample of genetic legacy has been obtained and dyed blue for easier visibility.

647

00:43:14,000 --> 00:43:21,000

Genetic legacy? It's sperm. Any kid in grade school knows that. It helps make babies, you know?

648

00:43:21,000 --> 00:43:23,000

It's still viable.

649

00:43:23,000 --> 00:43:25,000

There's one.

650

00:43:25,000 --> 00:43:28,000

Oh, oh, one swimming, there's one. Look.

651

00:43:29,000 --> 00:43:31,000

He's like, yeah, yeah, yeah.

652

00:43:31,000 --> 00:43:32,000

Yeah, we got a few here.

653

00:43:32,000 --> 00:43:45,000

So I'm going to put the sample in this cloth bag that simulates the four layers of cloth, two layers of long johns and two layers of woolen pants, and we will fire through these.

654

00:43:46,000 --> 00:43:55,000

If any blue swimmers wind up in Ballistics Gal, well, we're probably getting ahead of ourselves. They hardly know each other.

655

00:43:55,000 --> 00:44:07,000

By setting up these circumstances, the way that we believe the myth says, we'll be able to prove that it is so unlikely that it might as well be said that it's impossible.

656

00:44:07,000 --> 00:44:13,000

Once it goes through that, there's no guarantee it's going to go straight. We'll do our best, but...

657

00:44:13,000 --> 00:44:21,000

This myth has stood untested for nearly 150 years and now hangs on Jim's aim.

658

00:44:21,000 --> 00:44:23,000

Everyone's ready?

659

00:44:23,000 --> 00:44:27,000

In three, two, one.

660

00:44:30,000 --> 00:44:32,000

Bloody hell, I think he did it.

661

00:44:36,000 --> 00:44:37,000

Wow.

662

00:44:42,000 --> 00:44:46,000

That's amazing. He did it on the first try. That's just incredible.

663

00:44:46,000 --> 00:44:47,000

It went all the way through.

664

00:44:47,000 --> 00:44:48,000

It did?

665

00:44:48,000 --> 00:44:49,000

Yeah.

666

00:44:49,000 --> 00:44:51,000

Fantastic. Do you have a scraper?

667

00:44:51,000 --> 00:44:56,000

Yes, I do. I guess I should scrape the entry, huh?

668

00:44:56,000 --> 00:44:57,000

Yeah.

669

00:44:57,000 --> 00:44:59,000

Oh, that's a perfect shot.

670

00:44:59,000 --> 00:45:01,000

I know. I can't believe you pulled that off.

671

00:45:01,000 --> 00:45:06,000

Amazing. Jim, that was just a perfect shot. It was really stunning.

672

00:45:07,000 --> 00:45:16,000

Jim's done his part. Now, entry wound samples will be examined under a microscope for traces of still viable genetic material.

673

00:45:17,000 --> 00:45:25,000

But first, spare a thought for our hero and heroine. Could the unhappy cavalrymen have survived this wound?

674

00:45:26,000 --> 00:45:31,000

Could ballistics gal have lived to tell her unfortunate tale?

675

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

Constance Smith Golda is at the cutting edge of Civil War medicine.

676

00:45:39,000 --> 00:45:42,000

So, say, Tora, he's a Union soldier. You have to treat him anyway.

677

00:45:42,000 --> 00:45:48,000

And he has had a mini-ball go through his tibia and proceed through his...

678

00:45:48,000 --> 00:45:50,000

Will he survive?

679

00:45:50,000 --> 00:45:55,000

It depends on how quickly he's gotten medical attention right on the battlefield.

680

00:45:55,000 --> 00:46:08,000

If you can get a tourniquet on you and stop the bleeding and they can get you back to a field hospital or field station like this one within, oh, say, an hour, yes, we can try very hard to save your life.

681

00:46:08,000 --> 00:46:11,000

So the woman that actually gets hit with this bullet, is she going to be able to survive?

682

00:46:11,000 --> 00:46:22,000

If I'm not going to be naked in front of my husband when I am burying his child or conceiving his child, I am not going to get naked in front of a strange doctor in the middle of a battlefield hospital and have him look at me.

683

00:46:22,000 --> 00:46:27,000

She probably would have bled to death out of embarrassment more than anything else.

684

00:46:28,000 --> 00:46:35,000

Well, that's a blow, but back to the experiment. Did the bullet deposit genetic material in ballistics gel?

685

00:46:36,000 --> 00:46:39,000

We're scanning for any residue. Keep on moving.

686

00:46:39,000 --> 00:46:42,000

Well, if anything was moving, you'd see it.

687

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

I don't see anything.

688

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

I know. I don't even see any things that look like our cells.

689

00:46:51,000 --> 00:46:58,000

I mean, I can see all sorts of stuff like the thread residue, the burn residue, pieces of the petticoat.

690

00:46:58,000 --> 00:47:02,000

I mean, there's tons of identifiable stuff in here, but none of it is genetic.

691

00:47:03,000 --> 00:47:05,000

Keep going. Keep going.

692

00:47:05,000 --> 00:47:11,000

So at a distance of 200 feet, nothing was transferred from the pouch to ballistics gal.

693

00:47:11,000 --> 00:47:15,000

As a double check, they try again from 50 feet.

694

00:47:15,000 --> 00:47:18,000

Three, two, one.

695

00:47:21,000 --> 00:47:25,000

This time, ballistics gal is brought in for a more thorough exam.

696

00:47:26,000 --> 00:47:29,000

You know what? We're just not finding anything.

697

00:47:29,000 --> 00:47:33,000

I mean, we fired right through that bag of genetic material from 50 feet away.

698

00:47:33,000 --> 00:47:37,000

I really think we've done the best effort to find anything.

699

00:47:38,000 --> 00:47:41,000

A birds and bees reality check is in order here.

700

00:47:41,000 --> 00:47:46,000

Yes, sperm does form in the testes, but the mature guys live higher up.

701

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

And while one mature sperm causes fertilization,

702

00:47:51,000 --> 00:47:55,000

many are needed to first break down the walls of a woman's egg.

703

00:47:55,000 --> 00:47:59,000

A lucky survivor on the end of a bullet just won't do it.

704

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

So how did the myth start?

705

00:48:02,000 --> 00:48:05,000

Constance, why do you think people tell this story?

706

00:48:05,000 --> 00:48:08,000

Because it's a wonderful, dirty story. Everyone's salacious.

707

00:48:08,000 --> 00:48:10,000

We want to talk about what someone else did.

708

00:48:10,000 --> 00:48:16,000

Plus, there are a number of young ladies that really desperately had to explain how that child got here.

709

00:48:17,000 --> 00:48:26,000

It seems after all that, this great Civil War myth was really just a great, embarrassed cover-up.

710

00:48:26,000 --> 00:48:32,000

But there was some truth to this myth that a mini-ball could go through fabric, through flesh and bone, and easily go 150 yards.

711

00:48:32,000 --> 00:48:40,000

Yeah, but despite Jim's remarkable shot, there's just no way any biological material would survive on that hot bullet.

712

00:48:40,000 --> 00:48:47,000

Even over 50 feet, we found burn marks on the petticoat and still weren't able to find anything in our scrapings.

713

00:48:47,000 --> 00:48:51,000

So I think that myth is pretty much busted.

714

00:48:52,000 --> 00:48:56,000

I never get tired of doing that. Never.

715

00:48:59,000 --> 00:49:00,000

Busted.

716

00:49:10,000 --> 00:49:11,000

Busted.