

1

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

Don't try anything you're about to see at home.

2

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

That's right. We're what you call experts.

3

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

On this episode of Mythbusters...

4

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

...

5

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

Jamie, I've got a present for you.

6

00:00:46,000 --> 00:00:51,000

Welcome to Hollywood Explosions on Trial.

7

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

Who are the Mythbusters?

8

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

Adam Savage.

9

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

I got the chicken!

10

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

And Jamie Heineman.

11

00:01:02,000 --> 00:01:04,000

What can go wrong?

12

00:01:04,000 --> 00:01:07,000

Between them more than 13 people have been killed.

13

00:01:07,000 --> 00:01:10,000

And the truth is that they're not the only ones.

14

00:01:10,000 --> 00:01:13,000

They're the only ones who have been killed.

15

00:01:13,000 --> 00:01:15,000

What can go wrong?

16

00:01:15,000 --> 00:01:19,000

Between them more than 30 years of special effects experience...

17

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

...together with Tori Belachy...

18

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

Let's chop this car up!

19

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

Brent Imahara...

20

00:01:24,000 --> 00:01:26,000

Nothing's a-tick me!

21

00:01:26,000 --> 00:01:28,000

...and Carrie Byron...

22

00:01:28,000 --> 00:01:31,000

They don't just tell the myths...

23

00:01:31,000 --> 00:01:34,000

...they put them to the test.

24

00:01:44,000 --> 00:01:46,000

Looks dangerous.

25

00:01:46,000 --> 00:01:48,000

It is very dangerous.

26

00:01:48,000 --> 00:01:52,000

This is possibly the most dangerous story we've ever filmed.

27

00:01:53,000 --> 00:01:55,000

Fire!

28

00:01:56,000 --> 00:01:57,000

It didn't go off.

29

00:01:57,000 --> 00:01:59,000

We have a live grenade.

30

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

We cannot leave this bunker until we deal with the situation.

31

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

Let me guess, it involves a grenade!

32

00:02:05,000 --> 00:02:08,000

You're like a mind reader. Yes, it totally does.

33

00:02:08,000 --> 00:02:09,000

Pop quiz hot shot.

34

00:02:09,000 --> 00:02:12,000

What would you do if you were to die?

35

00:02:12,000 --> 00:02:16,000

What would you do if someone threw one of these at you?

36

00:02:16,000 --> 00:02:18,000

Why, you kiss your ass goodbye.

37

00:02:18,000 --> 00:02:21,000

That is one solution, another solution...

38

00:02:21,000 --> 00:02:23,000

...favored by Hollywood movie action heroes...

39

00:02:23,000 --> 00:02:25,000

...pull out a gun and shoot it out of the air.

40

00:02:25,000 --> 00:02:28,000

And that is where I think we need to begin.

41

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

Okay.

42

00:02:30,000 --> 00:02:33,000

It's a standard action movie move.

43

00:02:33,000 --> 00:02:35,000

To protect yourself from an incoming grenade...

44

00:02:35,000 --> 00:02:37,000

...you take it out midair.

45

00:02:37,000 --> 00:02:40,000

Where one of three things can happen.

46

00:02:40,000 --> 00:02:42,000

It explodes safely.

47

00:02:42,000 --> 00:02:44,000

It's rendered inert.

48

00:02:44,000 --> 00:02:47,000

Or it's sent back from whence it came.

49

00:02:50,000 --> 00:02:52,000

Now when it comes to shooting objects out of midair...

50

00:02:52,000 --> 00:02:56,000

...that's a sport actually called trap shooting or ski shooting.

51

00:02:56,000 --> 00:02:58,000

I think it's this way.

52

00:02:58,000 --> 00:02:59,000

Pull.

53

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

And when you want to do that in the bay area...

54

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

Pull!

55

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

...you come here...

56

00:03:05,000 --> 00:03:07,000

...to the Coyote Valley Sporting Clip.

57

00:03:07,000 --> 00:03:09,000

You must be Dave.

58

00:03:10,000 --> 00:03:12,000

Our teacher today is Dave Redu.

59

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

Pull!

60

00:03:13,000 --> 00:03:15,000

He's been an instructor for 16 years...

61

00:03:15,000 --> 00:03:18,000

...and he's going to teach Jamie and I how to rid the world...

62

00:03:18,000 --> 00:03:20,000

...of the scourge of Clay pigeons.

63

00:03:21,000 --> 00:03:24,000

It would be an understatement to say we've fired a lot of guns...

64

00:03:24,000 --> 00:03:25,000

...in the course of doing this show.

65

00:03:25,000 --> 00:03:26,000

You'll come across.

66

00:03:26,000 --> 00:03:28,000

Over the years we've fired pistols...

67

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

...rifles, cannons.

68

00:03:33,000 --> 00:03:35,000

We've fired from moving cars...

69

00:03:35,000 --> 00:03:37,000

...at moving cars.

70

00:03:37,000 --> 00:03:39,000

I'm feeling pretty shot up.

71

00:03:39,000 --> 00:03:42,000

We've even fired bullets at other bullets.

72

00:03:42,000 --> 00:03:46,000

But this time we're trying to hit a moving target in midair.

73

00:03:46,000 --> 00:03:47,000

Pull.

74

00:03:49,000 --> 00:03:51,000

We were close but not close enough.

75

00:03:51,000 --> 00:03:53,000

Training on clay pigeons...

76

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

...so that hopefully we can hit a grenade.

77

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

Pull.

78

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

If they can't even hit a moving target...

79

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

...then the myth falls at the first hurdle.

80

00:04:06,000 --> 00:04:07,000

Pull.

81

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

And at first it's not as easy as Hollywood would have his believe.

82

00:04:14,000 --> 00:04:16,000

Yeah, I was a little behind it.

83

00:04:16,000 --> 00:04:18,000

But they've got a great teacher.

84

00:04:18,000 --> 00:04:19,000

Pull.

85

00:04:20,000 --> 00:04:21,000

Nice shot.

86

00:04:22,000 --> 00:04:23,000

Fantastic.

87

00:04:24,000 --> 00:04:25,000

Very nice shot.

88

00:04:26,000 --> 00:04:27,000

Pull.

89

00:04:28,000 --> 00:04:29,000

There we go.

90

00:04:29,000 --> 00:04:30,000

Beautiful shot.

91

00:04:30,000 --> 00:04:31,000

There we go.

92

00:04:31,000 --> 00:04:32,000

Beautiful shot.

93

00:04:37,000 --> 00:04:39,000

I was just going to tell you about that.

94

00:04:40,000 --> 00:04:42,000

We've been shooting at these clays from the side...

95

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

...but if you're trying to avoid getting hit by a grenade...

96

00:04:45,000 --> 00:04:48,000

...you're going to be more concerned when they're coming right at you.

97

00:04:49,000 --> 00:04:50,000

Yeah, I got it.

98

00:04:52,000 --> 00:04:53,000

Like that.

99

00:04:57,000 --> 00:04:58,000

Pull.

100

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

Very well done. Nice shot.

101

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

Interestingly, the more realistic oncoming trajectory...

102

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

...is a lot easier to hit.

103

00:05:07,000 --> 00:05:10,000

So far, this myth is moving in the right direction.

104

00:05:12,000 --> 00:05:13,000

Sweet.

105

00:05:13,000 --> 00:05:14,000

Pull.

106

00:05:16,000 --> 00:05:17,000

Yeah.

107

00:05:25,000 --> 00:05:26,000

So Adam.

108

00:05:26,000 --> 00:05:27,000

Yes, sir.

109

00:05:27,000 --> 00:05:29,000

To celebrate our newly found skills...

110

00:05:29,000 --> 00:05:32,000

...I'm going to go over behind that building over there...

111

00:05:32,000 --> 00:05:35,000

...and toss my beret out.

112

00:05:35,000 --> 00:05:37,000

No way. Let me shoot at it?

113

00:05:37,000 --> 00:05:39,000

You've got one shot.

114

00:05:39,000 --> 00:05:40,000

I'll take it.

115

00:05:49,000 --> 00:05:50,000

Pull.

116

00:05:56,000 --> 00:05:58,000

I can't tell if I hit it.

117

00:05:58,000 --> 00:05:59,000

What did you do?

118

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

Sorry.

119

00:06:02,000 --> 00:06:03,000

Let's go take a look.

120

00:06:03,000 --> 00:06:04,000

All right.

121

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

I think you did.

122

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

There's the proof.

123

00:06:11,000 --> 00:06:14,000

Dude, I get to keep this stuff and mounted in my trophy case.

124

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

What am I going to wear?

125

00:06:16,000 --> 00:06:17,000

We'll get you another beret.

126

00:06:18,000 --> 00:06:20,000

Okay, you let me know when it arrives.

127

00:06:29,000 --> 00:06:32,000

Seconds from disaster.

128

00:06:32,000 --> 00:06:34,000

I'm not sure I like the sound of this one.

129

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

No, this is going to be a good one.

130

00:06:36,000 --> 00:06:39,000

This is that old cliché Hollywood device...

131

00:06:39,000 --> 00:06:42,000

...where the hero finds himself in the possession...

132

00:06:42,000 --> 00:06:43,000

...of a bomb that's about to go off.

133

00:06:43,000 --> 00:06:44,000

Candy Graham.

134

00:06:48,000 --> 00:06:50,000

Instead of letting it explode...

135

00:06:50,000 --> 00:06:51,000

...he surveys his surroundings...

136

00:06:51,000 --> 00:06:54,000

...and then finds a place to stash it.

137

00:06:54,000 --> 00:06:56,000

The question is, is this going to work in real life?

138

00:06:56,000 --> 00:06:58,000

Can you stash it, dive, survive?

139

00:06:58,000 --> 00:07:00,000

Well, it sounds like we're going to have to set off some explosions.

140

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

Not much we hate that.

141

00:07:10,000 --> 00:07:12,000

So we're here at the Alameda County bomb range...

142

00:07:12,000 --> 00:07:14,000

...to see what items that you would find in your household...

143

00:07:14,000 --> 00:07:16,000

...that could protect you from an explosion.

144

00:07:16,000 --> 00:07:19,000

Now, the amount we're going to be using is a pound of C4.

145

00:07:19,000 --> 00:07:20,000

One in doubt.

146

00:07:21,000 --> 00:07:22,000

C4.

147

00:07:22,000 --> 00:07:23,000

So what is C4?

148

00:07:23,000 --> 00:07:25,000

Well, its technical definition is...

149

00:07:25,000 --> 00:07:27,000

...cyclo-trimethylene trinitramine.

150

00:07:27,000 --> 00:07:29,000

When you want a high velocity explosive...

151

00:07:29,000 --> 00:07:32,000

...that's also very stable, C4 can't be beat.

152

00:07:32,000 --> 00:07:35,000

You could set it on fire and it wouldn't go off.

153

00:07:35,000 --> 00:07:37,000

You could hit it with a hammer and it wouldn't detonate.

154

00:07:37,000 --> 00:07:39,000

What it does take to detonate C4...

155

00:07:39,000 --> 00:07:42,000

...is deck cord or blasting cap.

156

00:07:42,000 --> 00:07:44,000

The explosion of the blasting cap...

157

00:07:44,000 --> 00:07:47,000

...applies a really powerful shock...

158

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

...that triggers the C4 explosion.

159

00:07:49,000 --> 00:07:51,000

As the C4 decomposes...

160

00:07:51,000 --> 00:07:53,000

...it releases a variety of gases...

161

00:07:53,000 --> 00:07:56,000

...that expanded over 26,000 feet per second.

162

00:07:57,000 --> 00:07:59,000

Now, before we can find out...

163

00:07:59,000 --> 00:08:01,000

...if you can contain that explosion...

164

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

...we need to find out what its power is without containment.

165

00:08:04,000 --> 00:08:06,000

And for that, we're going to do a control.

166

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

Alright, Buster. The bomb's about to go off.

167

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

Jump.

168

00:08:10,000 --> 00:08:12,000

So how are we measuring the shock wave?

169

00:08:12,000 --> 00:08:13,000

Safe.

170

00:08:13,000 --> 00:08:14,000

With these.

171

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

With these?

172

00:08:15,000 --> 00:08:16,000

With these?

173

00:08:16,000 --> 00:08:17,000

With these?

174

00:08:17,000 --> 00:08:18,000

With these?

175

00:08:18,000 --> 00:08:19,000

With these?

176

00:08:19,000 --> 00:08:21,000

Burstis, made by a company called Ossico.

177

00:08:21,000 --> 00:08:24,000

Now, what happens when an explosive goes off...

178

00:08:24,000 --> 00:08:26,000

...is that you have a shock wave...

179

00:08:26,000 --> 00:08:29,000

...that propagates spherically out from the center of the explosion.

180

00:08:29,000 --> 00:08:32,000

Alright, so that's 20 feet away from the blast zone.

181

00:08:32,000 --> 00:08:35,000

These are calibrated to burst at a specific PSI.

182

00:08:35,000 --> 00:08:37,000

This one is 13 PSI.

183

00:08:37,000 --> 00:08:39,000

Which we're using to measure injury.

184

00:08:39,000 --> 00:08:42,000

Because remember, it's not whether the hero lives or dies...

185

00:08:42,000 --> 00:08:45,000

...it's whether he walks away unscathed.

186

00:08:45,000 --> 00:08:48,000

Ready? In three...

187

00:08:48,000 --> 00:08:49,000

...two...

188

00:08:49,000 --> 00:08:50,000

...one.

189

00:08:53,000 --> 00:08:55,000

Ooh, that was a good one.

190

00:08:55,000 --> 00:08:56,000

I felt that one.

191

00:09:01,000 --> 00:09:02,000

Look at that.

192

00:09:02,000 --> 00:09:04,000

That's perfect.

193

00:09:04,000 --> 00:09:07,000

So we've successfully identified the injury zone.

194

00:09:07,000 --> 00:09:10,000

For our experiment, this is at 12 feet.

195

00:09:10,000 --> 00:09:14,000

At 14 feet, the disc didn't go off, so he'd be safe out there.

196

00:09:14,000 --> 00:09:18,000

We're going to set our guy right here at the 12 foot marker.

197

00:09:18,000 --> 00:09:21,000

And try it again with our first household item...

198

00:09:21,000 --> 00:09:23,000

...a filing cabinet.

199

00:09:29,000 --> 00:09:31,000

Coming up on Mythbusters.

200

00:09:44,000 --> 00:09:46,000

Bad baby. Run!

201

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

So we're done with skeet shooting, and we didn't do too bad.

202

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

But that was skeet.

203

00:10:07,000 --> 00:10:11,000

Now we're going to try our hand at hitting something that's more like a grenade...

204

00:10:11,000 --> 00:10:13,000

...and see if they're any harder to hit.

205

00:10:14,000 --> 00:10:15,000

Sweet.

206

00:10:16,000 --> 00:10:21,000

To do that, it's back to the shop, where an old favorite is resurrected.

207

00:10:22,000 --> 00:10:24,000

I call it my little pop gun.

208

00:10:28,000 --> 00:10:31,000

And rejigged to launch paintball grenades.

209

00:10:32,000 --> 00:10:34,000

That looks badass.

210

00:10:34,000 --> 00:10:37,000

The same distance as if they were thrown.

211

00:10:38,000 --> 00:10:39,000

Gun is hot.

212

00:10:40,000 --> 00:10:42,000

Three, two, one.

213

00:10:44,000 --> 00:10:48,000

That was an awesome sound.

214

00:10:49,000 --> 00:10:52,000

With a little more air pressure and some room to play with...

215

00:10:52,000 --> 00:10:56,000

...they'll soon be lobbing their fake grenades, realistic distances.

216

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

That's my little pop gun.

217

00:11:00,000 --> 00:11:02,000

And back on location...

218

00:11:02,000 --> 00:11:04,000

This looks like a good spot.

219

00:11:04,000 --> 00:11:05,000

Alright.

220

00:11:05,000 --> 00:11:08,000

The pop gun is lined up and ready to launch.

221

00:11:09,000 --> 00:11:13,000

Just like with skeet shooting, we're using a 12 gauge shotgun and bird shot.

222

00:11:13,000 --> 00:11:15,000

Alright, sir. Loading.

223

00:11:15,000 --> 00:11:16,000

Why bird shot?

224

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

Well, because it doesn't travel very far, and so it doesn't pose a hazard...

225

00:11:19,000 --> 00:11:22,000

...for anybody outside the immediate area.

226

00:11:22,000 --> 00:11:23,000

This is it.

227

00:11:24,000 --> 00:11:25,000

Gun is hot.

228

00:11:25,000 --> 00:11:30,000

It's all very well hitting a harmless clay pigeon that's designed to float...

229

00:11:30,000 --> 00:11:34,000

...but how about a less-than-aerodynamic paintball grenade?

230

00:11:36,000 --> 00:11:37,000

Pull!

231

00:11:40,000 --> 00:11:41,000

Nice!

232

00:11:44,000 --> 00:11:48,000

That was the most satisfying trap shooting ever!

233

00:11:51,000 --> 00:11:53,000

Well, skeet shooting training paid off in space.

234

00:11:55,000 --> 00:11:56,000

Pull!

235

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

I was able to knock four out of five paintball grenades right out of the sky...

236

00:12:06,000 --> 00:12:09,000

...as evidenced by their carnage here on my board.

237

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

But, if a paintball grenade doesn't kill ya...

238

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

Pull!

239

00:12:14,000 --> 00:12:19,000

And I have no idea what if anything bird shot would do to a real steel grenade.

240

00:12:23,000 --> 00:12:24,000

Yeah!

241

00:12:25,000 --> 00:12:28,000

Nonetheless, I still feel pretty satisfied with myself.

242

00:12:30,000 --> 00:12:33,000

So the thing is that bird shot spreads out in this large pattern...

243

00:12:33,000 --> 00:12:37,000

...that makes the odds relatively high you're gonna hit your target.

244

00:12:37,000 --> 00:12:42,000

And on top of that, I bet that bird shot's just gonna bounce off a steel grenade.

245

00:12:42,000 --> 00:12:44,000

It's not gonna do anything to it.

246

00:12:44,000 --> 00:12:51,000

So, what we really wanna know is what the odds are of actually hitting an incoming grenade with a single bullet...

247

00:12:51,000 --> 00:12:55,000

...and then of course, what's the likelihood of you being able to disable it as well.

248

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

Alright, sir. I'm ready.

249

00:12:59,000 --> 00:13:04,000

MUSIC

250

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

Twelve feet away from one pound of exploding C4 will result in serious injury.

251

00:13:10,000 --> 00:13:15,000

But Hollywood would have us believe you could walk away unscathed.

252

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

You got this from Jamie's office?

253

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

By dropping the ticking time bomb in a handily located, supposedly boom-proof container.

254

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

I'm trying to find my contract right now.

255

00:13:26,000 --> 00:13:28,000

Like a filing cabinet.

256

00:13:28,000 --> 00:13:34,000

Okay, so this is our same 13 PSI injury indicating burst disc.

257

00:13:34,000 --> 00:13:39,000

I don't remember agreeing to washing Jamie's mustache.

258

00:13:39,000 --> 00:13:47,000

And remember, with no containment devices, one pound of C4 caused this disc to go off at this 12-foot range.

259

00:13:49,000 --> 00:13:52,000

Well, I'll be damned. I guess I have to wash his mustache.

260

00:13:53,000 --> 00:14:00,000

The goal here is to see if the containment devices serve as some kind of protection.

261

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

And to indicate that, if this disc does not go off, then that means, you know what?

262

00:14:05,000 --> 00:14:08,000

There's no injury at this range, and they did their job.

263

00:14:08,000 --> 00:14:13,000

You're probably asking yourself, why do you guys have these Styrofoam cut out blue guys?

264

00:14:13,000 --> 00:14:19,000

Well, those are our shrapnel catchers, because if the shockwave doesn't injure you, the shrapnel might.

265

00:14:19,000 --> 00:14:23,000

In three, two, one.

266

00:14:25,000 --> 00:14:27,000

Oh, my God, your files.

267

00:14:27,000 --> 00:14:29,000

Wow!

268

00:14:29,000 --> 00:14:31,000

That is a mess of paper.

269

00:14:34,000 --> 00:14:36,000

It's just confetti.

270

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

Alright, let's see if it helps.

271

00:14:41,000 --> 00:14:46,000

Well, as far as the pressure wave goes, the filing cabinet did offer some protection.

272

00:14:46,000 --> 00:14:51,000

The disc at 12 feet, the dive to survive zone, did not burst.

273

00:14:52,000 --> 00:14:56,000

Okay, so the cabinet did save you from the shockwave, but you're going to be killed by the shrapnel.

274

00:14:56,000 --> 00:14:59,000

I mean, look at that guy's head. It's been ripped off.

275

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

Oh, putting the ball in the filing cabinet.

276

00:15:04,000 --> 00:15:06,000

What was I thinking?

277

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

Will you take this?

278

00:15:19,000 --> 00:15:21,000

Now we're going to move on to a bed.

279

00:15:21,000 --> 00:15:25,000

Ooh, I kind of want some red silky sheets now. This is nice.

280

00:15:25,000 --> 00:15:27,000

Ooh, these are fancy.

281

00:15:27,000 --> 00:15:32,000

Now you might be asking yourself, how would you use a bed to protect yourself from an explosion?

282

00:15:32,000 --> 00:15:34,000

Cue the dream sequence.

283

00:15:34,000 --> 00:15:37,000

Wait for this. This is a little disturbing.

284

00:15:46,000 --> 00:15:48,000

Ah! Ah!

285

00:15:52,000 --> 00:15:54,000

That could work.

286

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

Here we go. In three, two, one.

287

00:16:04,000 --> 00:16:10,000

That's really interesting. All the energy went up and I didn't see any shrapnel go out towards the guys.

288

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

I will be so shocked if stuffing a bomb under your bed actually saves you.

289

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

You've got to be kidding me.

290

00:16:19,000 --> 00:16:22,000

I think we might have found something that's actually bomb proof.

291

00:16:22,000 --> 00:16:25,000

Yeah, I mean, look, the burst discs aren't even burst.

292

00:16:25,000 --> 00:16:28,000

And the shrapnel catchers?

293

00:16:28,000 --> 00:16:32,000

Well, they caught nothing but a gentle rain of mattress stuffing.

294

00:16:32,000 --> 00:16:37,000

I'm absolutely astounded at how well the mattress worked at both absorbing the shockwave

295

00:16:37,000 --> 00:16:40,000

and preventing deadly shrapnel from hitting our guys.

296

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

And if you look at the high speed, you'll see exactly why.

297

00:16:43,000 --> 00:16:46,000

All the energy went straight up into the air.

298

00:16:55,000 --> 00:17:01,000

But up next is a fish tank full of water, and that is a totally different animal.

299

00:17:08,000 --> 00:17:12,000

Welcome back. It's guns versus grenades on mythbusters.

300

00:17:12,000 --> 00:17:19,000

And truth be told, if someone has just thrown one of these at you and you have enough time to see it

301

00:17:19,000 --> 00:17:22,000

and pull a gun to try and shoot at it, pull.

302

00:17:22,000 --> 00:17:26,000

Kind of gun you're going to have ready access to. It's going to be something like this.

303

00:17:26,000 --> 00:17:31,000

But unlike a shotgun, this only fires a single round, a single piece of lead.

304

00:17:31,000 --> 00:17:35,000

Can you even hit this in midair with this?

305

00:17:35,000 --> 00:17:37,000

Well, that's what Jamie and I are about to try and find out.

306

00:17:37,000 --> 00:17:40,000

We've chosen this spot because it's miles away from habitation.

307

00:17:40,000 --> 00:17:45,000

But even so, we're allowed to shoot anything straight up in the air other than bird shot.

308

00:17:45,000 --> 00:17:50,000

And with that in mind, we've chosen paintball pistols to do our test.

309

00:17:50,000 --> 00:17:56,000

Because if we can hit them with those, we should be able to hit them with a real pistol.

310

00:17:56,000 --> 00:17:59,000

All right, sir. I'm ready.

311

00:17:59,000 --> 00:18:01,000

Equally?

312

00:18:01,000 --> 00:18:05,000

Okay, here we go. Throw in the grenade in three.

313

00:18:05,000 --> 00:18:10,000

If they miss with the paintball pistol, they're likely to miss with a real one.

314

00:18:14,000 --> 00:18:17,000

Totally missed it. Let's try again.

315

00:18:17,000 --> 00:18:22,000

The myth is hitting its first hurdle.

316

00:18:22,000 --> 00:18:26,000

Because Adams certainly not hitting any grenades.

317

00:18:32,000 --> 00:18:37,000

I ran out of ammo. I got close, though.

318

00:18:37,000 --> 00:18:42,000

They've proven the wide spray of shotgun shot works.

319

00:18:42,000 --> 00:18:50,000

But the silver screen scene in question usually involves a weapon firing a single bullet at a time.

320

00:18:50,000 --> 00:18:56,000

And that's proving very, very difficult.

321

00:18:57,000 --> 00:19:00,000

Oh! I got it!

322

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

But not impossible.

323

00:19:04,000 --> 00:19:08,000

There is paintball paint on that puppy.

324

00:19:08,000 --> 00:19:09,000

It can be done.

325

00:19:09,000 --> 00:19:12,000

It can be done. It can be done.

326

00:19:12,000 --> 00:19:14,000

I'm ready.

327

00:19:17,000 --> 00:19:23,000

Look, if someone's throwing a grenade at me, I'm going to use anything at my disposal to try and save my life.

328

00:19:23,000 --> 00:19:31,000

If that means fruitlessly shooting a whole clip of rounds at that thing with a 1% chance of hitting it...

329

00:19:33,000 --> 00:19:35,000

I got it.

330

00:19:35,000 --> 00:19:38,000

I'm going to take those odds. Nice!

331

00:19:38,000 --> 00:19:41,000

Right in the middle. Beautiful.

332

00:19:43,000 --> 00:19:48,000

But the real question is what happens to a grenade when you hit it with a real bullet?

333

00:19:48,000 --> 00:19:51,000

That's the question we're going to answer next.

334

00:19:53,000 --> 00:20:03,000

We're testing different household items that can mythically contain the blast of a bomb.

335

00:20:03,000 --> 00:20:05,000

You've got to be kidding me.

336

00:20:05,000 --> 00:20:10,000

This test, we're using a pound of C4 and we're throwing it inside of a fish tank.

337

00:20:10,000 --> 00:20:12,000

Candy Graham.

338

00:20:15,000 --> 00:20:21,000

To measure it all, we have our Oseco burst discs and our shrapnel catchers.

339

00:20:21,000 --> 00:20:27,000

This will tell us if a fish tank is enough to take on one pound of C4.

340

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

So what do I think is going to happen here?

341

00:20:30,000 --> 00:20:35,000

Well, I see an incompressible fluid surrounded by a 3 eighth inch acrylic tank.

342

00:20:35,000 --> 00:20:39,000

The water is not going to really absorb the explosion.

343

00:20:39,000 --> 00:20:47,000

Rather, it's going to transmit that out to the edges of the tank, which is going to shatter into a

million razor sharp acrylic pieces.

344

00:20:48,000 --> 00:20:51,000

In three, two, one.

345

00:20:55,000 --> 00:20:58,000

Oh my god, that was awesome.

346

00:21:04,000 --> 00:21:09,000

That did not look good for our diving would-be survivor. But what's the evidence say?

347

00:21:09,000 --> 00:21:12,000

Wow. That was spectacular.

348

00:21:12,000 --> 00:21:14,000

Dude, look at this mess.

349

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

The damage is not nearly what I thought it was going to be.

350

00:21:18,000 --> 00:21:23,000

And the Oseco disc survived, which means our hero would have survived the shock wave.

351

00:21:25,000 --> 00:21:30,000

Yeah, and look at the guys. I mean, there's no shrapnel in them. They look relatively unharmed.

352

00:21:33,000 --> 00:21:35,000

I think all of us are pretty surprised by this result.

353

00:21:35,000 --> 00:21:42,000

We thought this was going to shred and they're just be fragging shrapnel and all our guys, but that's not what happened.

354

00:21:42,000 --> 00:21:47,000

They look like all of the energy was focused on the front and the back of the tank, which was elevated.

355

00:21:47,000 --> 00:21:52,000

So if you hit the deck, you might walk away from the sun's scathe.

356

00:21:52,000 --> 00:21:55,000

I think we can actually call this plausible.

357

00:21:55,000 --> 00:21:57,000

Agreed. I think it's plausible as well.

358

00:21:57,000 --> 00:21:58,000

Shocking.

359

00:21:58,000 --> 00:22:00,000

That was awesome.

360

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

Welcome to Angels Camp Quarry, because next up, the team is ramping it up.

361

00:22:15,000 --> 00:22:21,000

Now, what's the scenario? That's right. It's a garbage truck.

362

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

Imagine this. It's early in the morning. You go to your mailbox and you find-

363

00:22:27,000 --> 00:22:33,000

What is it? A bomb? What am I going to do with it? Oh, I know. It's trash day.

364

00:22:33,000 --> 00:22:34,000

Road in the garbage truck.

365

00:22:34,000 --> 00:22:42,000

Now he has two options. He can jump away from the truck, dive here, or he can jump off to the side and let this steel wall protect it.

366

00:22:42,000 --> 00:22:44,000

Because of that, we're going to have two different setups.

367

00:22:44,000 --> 00:22:49,000

We're going to have a shrapnel catcher with the burst disc here and another shrapnel catcher with the burst disc here.

368

00:22:49,000 --> 00:22:52,000

It's to see whether or not this garbage truck will protect it.

369

00:22:53,000 --> 00:22:59,000

Alright, here we go with one pound of C4 in the trough of a garbage truck.

370

00:22:59,000 --> 00:23:05,000

In three, two, one, fire!

371

00:23:10,000 --> 00:23:13,000

Yeah, that's a pretty big pop.

372

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

Well, I think it's obvious you don't want to stand behind the truck. This guy's blown to bits and the seco disc is blown.

373

00:23:26,000 --> 00:23:33,000

Alright, well, over here on the side, looks like you'd fare a whole lot better. In fact, you'd survive without injury.

374

00:23:33,000 --> 00:23:36,000

If you jump off to the side, you would survive.

375

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

This one's looking plausible.

376

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

So plausible by proximity.

377

00:23:48,000 --> 00:23:50,000

So what have we learned from this experiment?

378

00:23:50,000 --> 00:23:57,000

Well, when selecting a household item as a potential bomb disposal area, it's important to look at where the energy is going to go.

379

00:23:57,000 --> 00:24:00,000

Completely containing all that energy is a very bad idea.

380

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

But if you find an item that can focus the energy in one direction, like the mattress or the aquarium,

381

00:24:06,000 --> 00:24:15,000

or in the garbage truck, and you jump away from that direction and hit the deck, you significantly increase your chances of survival.

382

00:24:15,000 --> 00:24:22,000

You guys, we're here, we have a truck, we have experts, and we have a lot of explosives. I say we do this myth buster style.

383

00:24:22,000 --> 00:24:23,000

Let's make it disappear.

384

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

It's time to go boom.

385

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

Fire in the hole! Fire in the hole! Fire in the hole!

386

00:24:29,000 --> 00:24:35,000

Five, four, three, two, one!

387

00:24:37,000 --> 00:24:43,000

Please do not try what you're about to see at home.

388

00:24:43,000 --> 00:24:46,000

The things that we do on this show are extremely dangerous.

389

00:24:46,000 --> 00:24:48,000

We have experts to keep us safe.

390

00:24:52,000 --> 00:24:53,000

Pull!

391

00:24:57,000 --> 00:25:00,000

We're done with our target practice on fake grenades.

392

00:25:02,000 --> 00:25:04,000

So now it's time to break out the real ones.

393

00:25:06,000 --> 00:25:08,000

It looks pretty innocuous, doesn't it?

394

00:25:08,000 --> 00:25:13,000

It is, in fact, pretty small compared to some of the things we've blown up over the history of myth busters.

395

00:25:18,000 --> 00:25:26,000

But in fact, these grenades are incredibly dangerous and have all of us in our bomb techs quite nervous.

396

00:25:26,000 --> 00:25:33,000

So in order to properly experiment with these, we have come to a large tract of private land in Gold Country, east of the Myth Busters shop.

397

00:25:33,000 --> 00:25:40,000

We have thousands of acres of clear land all around us in order to experiment with these.

398

00:25:41,000 --> 00:25:43,000

God, I love operating the big machinery.

399

00:25:47,000 --> 00:25:54,000

Countless times on this show, we have armored ourselves behind these blast chamber panels to watch dangerous things happen, hopefully right on the other side.

400

00:25:54,000 --> 00:25:56,000

Perfect. That's perfect. I love it.

401

00:25:56,000 --> 00:26:03,000

This is the setup where our blast chamber panel is bordered on both sides by inch thick plates of steel.

402

00:26:03,000 --> 00:26:07,000

This is the most armored we have ever required ourselves to be out in the field.

403

00:26:08,000 --> 00:26:12,000

That's because it's not just an explosive pressure wave they're dealing with.

404

00:26:13,000 --> 00:26:22,000

The steel body of the grenade is designed to spray lethal fragments at over 25,000 feet per second in every direction.

405

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

And the nightmare scenario is a misfire. To prepare for that, Jamie's recreated his own nightmare.

406

00:26:30,000 --> 00:26:38,000

Normally, bomb disposal robots cost around 100 grand or so. This is my version. Behold the bomb, baby.

407

00:26:38,000 --> 00:27:04,000

This is about a \$200 remote control truck. I put some servos for arms, a baby head, and most importantly, through this camera, I'll be able to see what's going on from the safety of our reinforced bunker.

408

00:27:08,000 --> 00:27:14,000

Those are the safety precautions. But what's the first test? Time to wire up a little control.

409

00:27:15,000 --> 00:27:19,000

Before we get to shooting guns at these things, they have a timed fuse.

410

00:27:19,000 --> 00:27:21,000

All right, go ahead and make it go up.

411

00:27:21,000 --> 00:27:28,000

I.e., after you pull the pin and release the spoon, there's a few seconds before they blow up. How many seconds?

412

00:27:29,000 --> 00:27:35,000

That's what we need to determine by blowing one up. I knew that was a dead.

413

00:27:36,000 --> 00:27:48,000

But this one isn't. Blame the bomb tech pulls the pin and then traps the spoon of the live grenade in the tube. When it's raised, the spoon will pop and we're hot.

414

00:27:48,000 --> 00:27:54,000

The delay fuse will light and we'll find out exactly how long it takes a grenade to go boom.

415

00:27:54,000 --> 00:27:56,000

I feel quite tense about this.

416

00:27:56,000 --> 00:27:57,000

We're all ready?

417

00:27:57,000 --> 00:27:58,000

Yep.

418

00:27:58,000 --> 00:28:02,000

Everybody's clear? Here we go. Going up.

419

00:28:05,000 --> 00:28:12,000

I heard the cap go.

420

00:28:12,000 --> 00:28:16,000

Wow.

421

00:28:16,000 --> 00:28:19,000

I heard stuff hit us.

422

00:28:19,000 --> 00:28:23,000

That was intense, man.

423

00:28:36,000 --> 00:28:47,000

The key reason for this test was to check our timing because we need to know how much time it takes for the grenade to go off once the spoon pops up.

424

00:28:47,000 --> 00:28:50,000

That was five seconds exactly.

425

00:28:50,000 --> 00:28:54,000

Time for some guns.

426

00:28:54,000 --> 00:29:04,000

We're just about to start firing guns at grenades and we've been thinking about it and we think one of three things is going to happen for each of these shots.

427

00:29:04,000 --> 00:29:09,000

Either the round will render the grenade inert and maybe decimate it. That's one.

428

00:29:09,000 --> 00:29:13,000

Two is it could actually detonate it and explode it in midair.

429

00:29:13,000 --> 00:29:18,000

Or three, it could bring enough energy to the equation to actually send the grenade back to where it came.

430

00:29:18,000 --> 00:29:21,000

I'm curious as to what the result is actually going to be.

431

00:29:21,000 --> 00:29:26,000

To find out the setup is simple.

432

00:29:26,000 --> 00:29:28,000

Alright then.

433

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

It's been established an oncoming grenade can be taken out, but with live ammo they're taking no chances.

434

00:29:35,000 --> 00:29:39,000

Three, two, one, go.

435

00:29:39,000 --> 00:29:40,000

Perfect.

436

00:29:40,000 --> 00:29:46,000

These are the weapons we'll be using on our grenade today and we'll be firing four kinds of ammunition out of these three weapons.

437

00:29:46,000 --> 00:29:53,000

We've got a .308 round, a .45 caliber pistol round and a 12 gauge double-aught buck round.

438

00:29:53,000 --> 00:29:59,000

That looks pretty dead on. I'll leave the rest to the bomb squad.

439

00:29:59,000 --> 00:30:07,000

Now here's where things get interesting. I think the .308 round is going to be by far the most effective round against the grenade.

440

00:30:07,000 --> 00:30:12,000

But its rifle is by far the most difficult one to hit a grenade in midair with.

441

00:30:12,000 --> 00:30:19,000

While at the other end of the spectrum we've got the shotgun used for trap shooting, the easiest weapon to use to hit a grenade in midair.

442

00:30:19,000 --> 00:30:24,000

But I think this, the double-aught buck round, will be the least effective against the grenade.

443

00:30:24,000 --> 00:30:28,000

First up, the shotgun and the lightweight buck shot.

444

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

Okay.

445

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

Arming.

446

00:30:33,000 --> 00:30:36,000

Will it detonate the electronically triggered grenade?

447

00:30:36,000 --> 00:30:38,000

Arms.

448

00:30:38,000 --> 00:30:39,000

Or render it inert?

449

00:30:39,000 --> 00:30:40,000

Three.

450

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

Or even knock it back 30 feet.

451

00:30:43,000 --> 00:30:44,000

Two.

452

00:30:44,000 --> 00:30:48,000

Cartoon style.

453

00:30:48,000 --> 00:30:53,000

One. Fire.

454

00:30:53,000 --> 00:30:55,000

Where'd it go?

455

00:30:55,000 --> 00:30:57,000

I don't know.

456

00:30:57,000 --> 00:30:58,000

It didn't go off.

457

00:30:58,000 --> 00:31:00,000

Crap.

458

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

Yeah.

459

00:31:01,000 --> 00:31:03,000

We've got ourselves a situation now.

460

00:31:03,000 --> 00:31:10,000

The grenade's delay fuse was remotely triggered, Adam fired the shotgun and the grenade was knocked off the stand.

461

00:31:10,000 --> 00:31:13,000

But there was no explosion.

462

00:31:13,000 --> 00:31:18,000

And now somewhere out there we have a live grenade.

463

00:31:18,000 --> 00:31:22,000

We cannot leave this bunker until we deal with this situation. You want to fire up the baby?

464

00:31:22,000 --> 00:31:25,000

The Garbage Truck

465

00:31:30,000 --> 00:31:34,000

Turns out that the garbage truck is plausible.

466

00:31:34,000 --> 00:31:37,000

Our hero would have survived that blast.

467

00:31:37,000 --> 00:31:43,000

But now it's my favorite time where we ramp it up and see if we can make that garbage truck not so bombproof.

468

00:31:43,000 --> 00:31:49,000

So we're going to load it up with 200 pounds of Ampho. See if we can make this thing disappear.

469

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

Now does this remind you of anything?

470

00:31:51,000 --> 00:31:54,000

This is like cement truck all over again.

471

00:31:54,000 --> 00:31:57,000

And this is the quarry where we actually blew it up.

472

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

Now one thing everybody complains about is you guys don't have a high speed shot.

473

00:32:05,000 --> 00:32:09,000

We don't have to worry about that this time. We have our high speed camera standing by and we're going to get that shot.

474

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

In that right, Willie.

475

00:32:12,000 --> 00:32:14,000

No pressure.

476

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

The Garbage Truck

477

00:32:30,000 --> 00:32:33,000

This is Garbage Truck versus a whole lot of Ampho.

478

00:32:35,000 --> 00:32:37,000

In three.

479

00:32:39,000 --> 00:32:40,000

Two.

480

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

One.

481

00:32:45,000 --> 00:32:46,000

Whoa!

482

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

Oh my God!

483

00:32:52,000 --> 00:32:58,000

The Shrangle got up to the same height as us!

484

00:32:59,000 --> 00:33:01,000

Whoa!

485

00:33:04,000 --> 00:33:07,000

That was intense.

486

00:33:07,000 --> 00:33:09,000

Now that's an explosion.

487

00:33:11,000 --> 00:33:16,000

No CGI. No unlikely survivors. Just a whole load of...

488

00:33:17,000 --> 00:33:23,000

Big boom in glorious 5,000 frames a second high speed.

489

00:33:23,000 --> 00:33:26,000

Wow! Way to wrap things up guys.

490

00:33:26,000 --> 00:33:28,000

Well that's one way to take out the trash.

491

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

You know what the best part about all this is?

492

00:33:30,000 --> 00:33:35,000

Through the magic of editing we can watch this experiment over and over again.

493

00:33:46,000 --> 00:33:48,000

The Shrangle

494

00:33:56,000 --> 00:34:00,000

Since this story is about grenades, I'm going to map out how these things work.

495

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

This thing on the outside is called the Spoon and it's retained by this ring and a pin.

496

00:34:07,000 --> 00:34:14,000

Now underneath that is a spring-loaded striker which once the Spoon is released, the striker is also released

497

00:34:14,000 --> 00:34:18,000

and it flips over and creates a spark like so.

498

00:34:18,000 --> 00:34:26,000

Underneath that spark is a fuse. It's called a delay fuse which is engineered to burn for a specific period of time.

499

00:34:26,000 --> 00:34:36,000

Once it burns to its end which is down somewhere in the middle of the grenade, it ignites a small amount of high explosive that's relatively unstable.

500

00:34:36,000 --> 00:34:41,000

That creates a small blast which ignites the rest of the high explosive that fills the grenade.

501

00:34:41,000 --> 00:34:48,000

At this point you basically got a small pipe bomb which has a kill zone of about 45 feet.

502

00:34:52,000 --> 00:34:53,000

Fire!

503

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

Where'd it go?

504

00:34:57,000 --> 00:34:58,000

It didn't go off.

505

00:34:59,000 --> 00:35:05,000

But why? Before they fire up the bomb baby, Adam fires up the high speed camera.

506

00:35:05,000 --> 00:35:07,000

Oh, crime-idy, Jamie, come here.

507

00:35:08,000 --> 00:35:09,000

Dude.

508

00:35:11,000 --> 00:35:12,000

Watch this.

509

00:35:15,000 --> 00:35:16,000

No more grenades.

510

00:35:17,000 --> 00:35:21,000

We don't have a live grenade out there. We've got a bunch of dust.

511

00:35:22,000 --> 00:35:23,000

Wow.

512

00:35:23,000 --> 00:35:24,000

I totally did not see that coming.

513

00:35:26,000 --> 00:35:28,000

Darn, I wanted to wake the baby up.

514

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

That's a result.

515

00:35:33,000 --> 00:35:40,000

Unbelievably, it seems that you can indeed shoot a live grenade and render it inert.

516

00:35:41,000 --> 00:35:51,000

It's amazing. It disintegrated the outer casing and then even though this was in its five second range, did not let it explode the caps so the TNT didn't blow up.

517

00:35:51,000 --> 00:35:52,000

Wow.

518

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

I would not have called that. That's amazing.

519

00:35:56,000 --> 00:36:10,000

The double-odd buck completely disintegrated the grenade and that frankly surprised us all because double-odd buck is their little 38 caliber lead balls and you wouldn't think it would be able to do a whole lot to a steel grenade.

520

00:36:10,000 --> 00:36:17,000

But it did. It took it completely apart and it even took apart the blasting cap before it could go off.

521

00:36:17,000 --> 00:36:26,000

An astonishing result. The fuse was lit electronically but before it could detonate, the buck shot broke up the TNT party.

522

00:36:30,000 --> 00:36:34,000

Next up is a 45 caliber round pointed at the grenade.

523

00:36:34,000 --> 00:36:43,000

If you remember, only very recently we discovered it's a lot harder to hit a mid-air grenade with one of these than it is with one of those easy shotgun rounds.

524

00:36:43,000 --> 00:36:46,000

As to what it's going to do to the grenade, you ready?

525

00:36:46,000 --> 00:36:51,000

Okay. 45 ACP. Three.

526

00:36:51,000 --> 00:36:55,000

I expect it to have a very similar effect as the double-odd buck.

527

00:36:55,000 --> 00:36:56,000

Two.

528

00:36:56,000 --> 00:37:00,000

I think that the 45 caliber round is going to turn that thing right into dust.

529

00:37:00,000 --> 00:37:02,000

One. Fire.

530

00:37:04,000 --> 00:37:07,000

Hey! It shot it right off the thing.

531

00:37:08,000 --> 00:37:10,000

The cap went off but the grenade didn't.

532

00:37:10,000 --> 00:37:13,000

We knocked the grenade off the stand. It looks like we split it in half.

533

00:37:13,000 --> 00:37:17,000

So we didn't stop the cap from going off but we did stop the grenade from blowing up.

534

00:37:17,000 --> 00:37:18,000

That's cool.

535

00:37:18,000 --> 00:37:19,000

That is very cool.

536

00:37:28,000 --> 00:37:34,000

Compared to the buck shot, the 45 millimeter round removed the blasting cap with surgical precision.

537

00:37:35,000 --> 00:37:39,000

Either way, it's another myth-confirming result.

538

00:37:39,000 --> 00:37:40,000

What's next?

539

00:37:48,000 --> 00:37:54,000

Now we're going to bring some real energy to the equation by using a .308 sniper round full metal jacket.

540

00:37:55,000 --> 00:37:56,000

There we go.

541

00:37:56,000 --> 00:38:01,000

As to what this is going to do to the grenade, I've been wrong for everything so far.

542

00:38:01,000 --> 00:38:04,000

So I'm going to say I have no freaking idea.

543

00:38:06,000 --> 00:38:09,000

Three, two, one. Fire.

544

00:38:11,000 --> 00:38:15,000

The grenade went boom. We didn't disintegrate it. It blew up.

545

00:38:17,000 --> 00:38:18,000

I think so.

546

00:38:20,000 --> 00:38:21,000

Let's look at high speed.

547

00:38:21,000 --> 00:38:22,000

Okay.

548

00:38:25,000 --> 00:38:29,000

The high speed camera, the scalpel, the microscope, the light,

549

00:38:29,000 --> 00:38:32,000

the multi-tool for tackling time.

550

00:38:32,000 --> 00:38:33,000

There it is.

551

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

And what it shows is the grenade ignited the second thing it penetrated.

552

00:38:39,000 --> 00:38:40,000

That is a thing.

553

00:38:43,000 --> 00:38:47,000

The blasting cap inside a grenade is actually somewhat shock-sensitive.

554

00:38:47,000 --> 00:38:51,000

And the .308 round is a very, very high speed round.

555

00:38:51,000 --> 00:38:56,000

And that speed translates directly to a certain amount of energy being brought to the equation.

556

00:38:56,000 --> 00:39:02,000

And in our case, the .308 round, the very instant it touched the exterior of our grenade,

557

00:39:02,000 --> 00:39:06,000

that shock caused the entire thing to detonate early.

558

00:39:06,000 --> 00:39:10,000

It was a very, very powerful reaction and an instant one.

559

00:39:11,000 --> 00:39:13,000

Yep, it's the second of three potential results.

560

00:39:14,000 --> 00:39:18,000

And the most common of the cinematic techniques, the mid-air explosion.

561

00:39:19,000 --> 00:39:21,000

But let's think about that for a second.

562

00:39:21,000 --> 00:39:26,000

Because if that ignited the grenade at any closer than 45 feet,

563

00:39:27,000 --> 00:39:30,000

which is the kill zone for a grenade, you're dead.

564

00:39:30,000 --> 00:39:37,000

Further than 45 feet, it starts to become almost impossible to make a shot like that.

565

00:39:38,000 --> 00:39:43,000

Yes, in theory it's possible, but I would duck.

566

00:39:43,000 --> 00:39:45,000

Personally, I would just duck.

567

00:39:49,000 --> 00:39:50,000

That worked!

568

00:39:50,000 --> 00:39:55,000

So to recap our final results, the high-powered rounds, the .308,

569

00:39:55,000 --> 00:40:01,000

actually detonated the grenade, which means that if it's within 50 feet of you, you're dead sucker.

570

00:40:01,000 --> 00:40:07,000

But the low-powered rounds, the .45, and especially the shotgun, both rendered the grenades inert.

571

00:40:07,000 --> 00:40:11,000

The shotguns even kept the blasting cap from going off.

572

00:40:11,000 --> 00:40:15,000

Pretty much the exact polar opposite of what we thought was going to happen.

573

00:40:15,000 --> 00:40:16,000

Isn't that cool?

574

00:40:21,000 --> 00:40:27,000

So where did we stand with the original question of whether you can protect yourself from a grenade using a gun?

575

00:40:27,000 --> 00:40:30,000

I think we found hand-lead that that is totally the case.

576

00:40:30,000 --> 00:40:36,000

Moreover, the weapon that rendered the grenade the most inert was the one that was easiest to shoot it out of the air with, the shotgun.

577

00:40:36,000 --> 00:40:38,000

Yep, so it's plausible.

578

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

Totally plausible. Let's get out of here.

579

00:40:42,000 --> 00:40:43,000

Uh-oh. Bad baby.

580

00:40:43,000 --> 00:40:44,000

Run!

581

00:40:50,000 --> 00:40:51,000

Bad baby.