

1

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

AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

2

00:00:30,000 --> 00:00:48,260

3-0-Start up all the oleos in unlimited Hispanic movies

3

00:01:18,260 --> 00:01:20,260

You don't look anything like him.

4

00:01:20,260 --> 00:01:21,260

I know.

5

00:01:21,260 --> 00:01:22,260

Let's get to work.

6

00:01:22,260 --> 00:01:23,260

Okay.

7

00:01:48,260 --> 00:01:51,260

Why are you dressed like my old archeology professor?

8

00:01:51,260 --> 00:01:53,260

No, no, no. I'm dressed as Indiana Jones.

9

00:01:53,260 --> 00:01:56,260

That's him, Dr. Jones, from Indiana.

10

00:01:56,260 --> 00:01:58,260

Anyway, what's the story?

11

00:01:58,260 --> 00:02:00,260

Okay, the story is there's also a movie called

12

00:02:00,260 --> 00:02:03,260

Raiders the Lost Ark starring a guy named Indiana Jones

13

00:02:03,260 --> 00:02:05,260

and we're going to tackle some myths from that movie.

14

00:02:05,260 --> 00:02:08,260

First and foremost, his famous sidearm, the whip.

15

00:02:08,260 --> 00:02:10,260

We're going to look at some of the science of Indy's whip

16

00:02:10,260 --> 00:02:13,260

and some of the remarkable things he does with it.

17

00:02:13,260 --> 00:02:15,260

But the opening scene is a little bit different.

18

00:02:15,260 --> 00:02:18,260

Indy is escaping from a South American temple

19

00:02:18,260 --> 00:02:21,260

that is attempting to kill him with all manner of booby traps,

20

00:02:21,260 --> 00:02:24,260

including our first test, a floor filled with pressure pads

21

00:02:24,260 --> 00:02:27,260

that shoots poison darts at Indy.

22

00:02:27,260 --> 00:02:29,260

Well, sounds like fun. Let's get into it.

23

00:02:29,260 --> 00:02:30,260

Okay.

24

00:02:30,260 --> 00:02:35,260

In the exhilarating opening scene from the iconic 80s adventure story,

25

00:02:35,260 --> 00:02:37,260

there's a question to be answered.

26

00:02:37,260 --> 00:02:41,260

By simply running for it, would Indy really be able to get into it?

27

00:02:41,260 --> 00:02:43,260

What's the answer?

28

00:02:43,260 --> 00:02:47,260

By simply running for it, would Indy really have escaped unharmed?

29

00:02:47,260 --> 00:02:52,260

And as a massive fan of the franchise, Adam's in his element.

30

00:02:57,260 --> 00:02:59,260

We're going to do this temple run and really figure out

31

00:02:59,260 --> 00:03:01,260

if we truly can outrun the darts,

32

00:03:01,260 --> 00:03:05,260

we're going to need to know how long that run is going to be.

33

00:03:05,260 --> 00:03:09,260

So I'm going to look at some video, do some measurements

34

00:03:09,260 --> 00:03:13,260

and actually work it up in a little diorama

35

00:03:13,260 --> 00:03:15,260

for little Indy Adam here.

36

00:03:18,260 --> 00:03:21,260

You can't tell, but it's totally psyched about it.

37

00:03:23,260 --> 00:03:28,260

This kind of work is something I used to do all the time in the film industry.

38

00:03:28,260 --> 00:03:30,260

It's all coming together.

39

00:03:30,260 --> 00:03:34,260

In the film industry, it's often used as a pre-visualization technique.

40

00:03:36,260 --> 00:03:38,260

Now, just having fun.

41

00:03:38,260 --> 00:03:40,260

Like, I will mock up a set in foam core,

42

00:03:40,260 --> 00:03:42,260

just so I understand all of its dimensions

43

00:03:42,260 --> 00:03:45,260

before building it in the actual materials it'll be built in.

44

00:03:45,260 --> 00:03:47,260

Hot glue threads on my face.

45

00:03:49,260 --> 00:03:51,260

Seeing something in that white space,

46

00:03:51,260 --> 00:03:55,260

for some reason to me, it's deeply, deeply satisfying.

47

00:03:55,260 --> 00:03:58,260

I put my head down and I can see what it looks like from different angles.

48

00:03:58,260 --> 00:04:01,260

It's like I'm building a playground for my brain.

49

00:04:01,260 --> 00:04:03,260

I've actually also learned a few things.

50

00:04:03,260 --> 00:04:06,260

I carefully checked screenshots of Harrison Ford

51

00:04:06,260 --> 00:04:09,260

against many parts of the set, knowing how tall he is.

52

00:04:09,260 --> 00:04:12,260

I have determined that dart pads are about 40 inches long

53

00:04:12,260 --> 00:04:15,260

and that that room is about 30 feet long.

54

00:04:15,260 --> 00:04:18,260

If it's 30 feet long and the dart pads are the size they are,

55

00:04:18,260 --> 00:04:23,260

Harrison Ford, Indy, will encounter at least 16 of those pads,

56

00:04:23,260 --> 00:04:25,260

likely setting off 16 darts.

57

00:04:25,260 --> 00:04:28,260

That's how many he's got to outrun.

58

00:04:28,260 --> 00:04:30,260

That's how many we're going to set up.

59

00:04:30,260 --> 00:04:35,260

Did you notice that I managed to keep the label of the pipe facing the things?

60

00:04:35,260 --> 00:04:38,260

You really see 450 psi.

61

00:04:38,260 --> 00:04:40,260

It's really shattering the illusion.

62

00:04:45,260 --> 00:04:49,260

In the temple run, Indy gets shot at by Mayan poison darts,

63

00:04:49,260 --> 00:04:51,260

but because these are potentially lethal,

64

00:04:51,260 --> 00:04:54,260

I'm going to do the same thing using paintballs.

65

00:04:56,260 --> 00:04:57,260

14.

66

00:04:57,260 --> 00:05:00,260

You know, I buy this crap salvaged,

67

00:05:00,260 --> 00:05:03,260

but who knew that 14 wasn't enough?

68

00:05:03,260 --> 00:05:05,260

I need 16.

69

00:05:05,260 --> 00:05:12,260

And so it's my job to figure out how to put together a 16 gun pressure pad operated

70

00:05:12,260 --> 00:05:14,260

paintball gun array.

71

00:05:14,260 --> 00:05:16,260

I think those will work.

72

00:05:17,260 --> 00:05:20,260

This item right here is a solenoid switch.

73

00:05:20,260 --> 00:05:23,260

The wire gives power to an electromagnet,

74

00:05:23,260 --> 00:05:25,260

which opens the flow of air.

75

00:05:25,260 --> 00:05:31,260

These kinds of things are how we can fire pneumatic projectiles on Q.

76

00:05:34,260 --> 00:05:35,260

It works.

77

00:05:35,260 --> 00:05:39,260

I love it when I've got all the parts I need to put together something like this.

78

00:05:39,260 --> 00:05:46,260

The sequence is going to go like a barrel connected to a pipe nipple, a solenoid,

79

00:05:46,260 --> 00:05:52,260

and that will screw into one big long tube, and that'll be our air feed.

80

00:05:52,260 --> 00:05:55,260

And so it's just going to be like a little assembly line of, you know,

81

00:05:55,260 --> 00:06:01,260

barrel, barrel, barrel, barrel, and out comes the paintball and shoots us.

82

00:06:04,260 --> 00:06:08,260

With the first of the 16 air powered guns attached to its solenoid trigger.

83

00:06:09,260 --> 00:06:11,260

Sounds kind of like a seal.

84

00:06:11,260 --> 00:06:14,260

Atom arrives to up the pressure.

85

00:06:14,260 --> 00:06:15,260

Dude, they arrived.

86

00:06:15,260 --> 00:06:16,260

Oh, cool.

87

00:06:16,260 --> 00:06:19,260

That is our pressure pad switch activation.

88

00:06:19,260 --> 00:06:21,260

Well, let's check it out.

89

00:06:22,260 --> 00:06:23,260

Point it that way.

90

00:06:23,260 --> 00:06:24,260

Pointing?

91

00:06:24,260 --> 00:06:25,260

Yeah.

92

00:06:25,260 --> 00:06:26,260

Three, two, one.

93

00:06:26,260 --> 00:06:27,260

Oh!

94

00:06:30,260 --> 00:06:31,260

That couldn't have worked any better.

95

00:06:34,260 --> 00:06:38,260

Inside this pad is an electrical switch such that when you step on it,

96

00:06:38,260 --> 00:06:40,260

it completes a circuit like so.

97

00:06:41,260 --> 00:06:46,260

Now that opens the flow of air and out comes the paintball and we get shot when we step on the pad.

98

00:06:48,260 --> 00:06:49,260

That is beautiful.

99

00:06:49,260 --> 00:06:50,260

There we go.

100

00:06:50,260 --> 00:06:51,260

Awesome.

101

00:06:51,260 --> 00:06:53,260

That's how each gun will be triggered.

102

00:06:53,260 --> 00:06:58,260

The next step is to combine them into a single coordinated air powered system.

103

00:06:58,260 --> 00:07:05,260

This white tube is the air supply for our paintball gauntlet which will be installing in the temple.

104

00:07:05,260 --> 00:07:09,260

Now each one of these guns will be wired to its own pressure pad.

105

00:07:09,260 --> 00:07:10,260

Three, two.

106

00:07:11,260 --> 00:07:12,260

Whoa!

107

00:07:14,260 --> 00:07:15,260

Beautiful.

108

00:07:15,260 --> 00:07:20,260

Which as we run along will be setting off these guns one after the other.

109

00:07:21,260 --> 00:07:24,260

While we possibly are screaming in pain.

110

00:07:24,260 --> 00:07:26,260

That is going to hurt.

111

00:07:26,260 --> 00:07:30,260

Well, let's pack it up, put it on the truck and take it out to the location.

112

00:07:30,260 --> 00:07:31,260

Okay.

113

00:07:33,260 --> 00:07:36,260

Before they pack up their temple run gun,

114

00:07:36,260 --> 00:07:41,260

while the team gets busy prefabricating a fake man temple,

115

00:07:42,260 --> 00:07:47,260

Adam and Jamie get cracking on another iconic Indian quarry.

116

00:07:48,260 --> 00:07:49,260

Well, good luck there buddy.

117

00:07:51,260 --> 00:07:52,260

So whips.

118

00:07:52,260 --> 00:07:53,260

Exactly.

119

00:07:53,260 --> 00:07:56,260

Indy's whip is like almost mythological.

120

00:07:56,260 --> 00:08:00,260

He does all sorts of incredible stuff including one I think we should test

121

00:08:00,260 --> 00:08:03,260

when he disarms an opponent with a gun using only the whip.

122

00:08:04,260 --> 00:08:09,260

So would the whip be accurate enough and would it hit the hand hard enough to knock the gun out of it or something?

123

00:08:09,260 --> 00:08:10,260

Exactly.

124

00:08:10,260 --> 00:08:15,260

And I think the other thing we should look at is the opening sequence when he loops the whip around a log and swings across a chasm.

125

00:08:15,260 --> 00:08:17,260

Is that really possible?

126

00:08:17,260 --> 00:08:20,260

Yeah, I wonder whether the whip would actually have enough grip.

127

00:08:20,260 --> 00:08:23,260

And then if it did, how are you going to get it off?

128

00:08:23,260 --> 00:08:26,260

I think we need to deeply look into the science of whips.

129

00:08:31,260 --> 00:08:36,260

If we're going to put whips through their paces in this episode, we're going to need, wait a minute, whips.

130

00:08:36,260 --> 00:08:40,260

Whip making is something I taught myself about 17 years ago.

131

00:08:40,260 --> 00:08:46,260

I built the whip I'd always wanted from Raiders of the Lost Ark and to start this episode, I'm going to build the first whip.

132

00:08:47,260 --> 00:08:49,260

This is kangaroo hide.

133

00:08:50,260 --> 00:08:54,260

Don't let anyone tell you any different. This is the strongest leather in the world.

134

00:08:57,260 --> 00:08:59,260

Whip making is an art.

135

00:08:59,260 --> 00:09:02,260

An art for which Adam clearly has a passion.

136

00:09:02,260 --> 00:09:09,260

Now astonishingly, this right here is everything required to make a 8-foot leather bullet.

137

00:09:13,260 --> 00:09:14,260

Animal fat.

138

00:09:15,260 --> 00:09:18,260

But before I start, I actually need to prep the laces.

139

00:09:21,260 --> 00:09:29,260

I need to treat them with a leather dressing that softens them and allows me to stretch them to bring them out to their natural state.

140

00:09:29,260 --> 00:09:34,260

Then I'm going to braid them. I'm going to do a four plate braid that is using four laces.

141

00:09:34,260 --> 00:09:40,260

And this will comprise the inner and smallest core of the whip. This will be the center.

142

00:09:44,260 --> 00:09:46,260

Now you're starting to see where this is going.

143

00:09:46,260 --> 00:09:50,260

That is called the belly, the first belly, the interior belly of the whip.

144

00:09:50,260 --> 00:09:55,260

I'm going to cover this belly with a bolster, which is effectively a long triangle of leather.

145

00:09:55,260 --> 00:10:02,260

That bolster will then get another belly laid over it because the Indiana Jones whips are what are called two belly whips.

146

00:10:03,260 --> 00:10:08,260

The braided core and leather bolster is doubled up to form the second belly.

147

00:10:09,260 --> 00:10:14,260

And in the middle of this meticulous process, Adam couldn't be happier.

148

00:10:15,260 --> 00:10:20,260

In case you haven't guessed already, I loves me the bull whips.

149

00:10:20,260 --> 00:10:22,260

I started out inspired by Raiders.

150

00:10:23,260 --> 00:10:25,260

I'm done with the second belly.

151

00:10:25,260 --> 00:10:29,260

And I quickly learned that I love two distinct things about the practice.

152

00:10:29,260 --> 00:10:34,260

These will be the 12 laces that make the actual outer coating of the whip.

153

00:10:34,260 --> 00:10:38,260

One was that I love the practice itself, the craft of whip making.

154

00:10:39,260 --> 00:10:45,260

The meticulous, repetitive, stretching, checking, cutting, lacing.

155

00:10:45,260 --> 00:10:47,260

It is deeply meditative.

156

00:10:48,260 --> 00:10:50,260

Hold on, I got to drink my own urine.

157

00:10:51,260 --> 00:10:53,260

I'm kidding, I wasn't drinking my own urine.

158

00:10:54,260 --> 00:10:56,260

I was drinking someone else's.

159

00:10:57,260 --> 00:11:02,260

The second thing I love about it is the form and function coming together magnificently.

160

00:11:02,260 --> 00:11:08,260

I mean, you've got this beautiful form of a smooth leather object that is tapered from one end to the other.

161

00:11:08,260 --> 00:11:10,260

Dude, just looking so good.

162

00:11:10,260 --> 00:11:14,260

And then that tapering turns out not just to be lovely and compelling,

163

00:11:14,260 --> 00:11:22,260

but in fact crucial for delivering the energy from your hand out to the tip of the whip with the maximum amount of strength.

164

00:11:22,260 --> 00:11:24,260

That is really cool.

165

00:11:25,260 --> 00:11:28,260

I am really pleased with how this is looking.

166

00:11:28,260 --> 00:11:34,260

For the finishing touches, Adam decorates the handle and then to make the whip actually crack,

167

00:11:34,260 --> 00:11:38,260

attaches two thin strips called the fall and the cracker.

168

00:11:40,260 --> 00:11:44,260

But with all that work, pay off with a working whip.

169

00:11:44,260 --> 00:11:47,260

Alright, this is very exciting.

170

00:11:49,260 --> 00:11:51,260

Oh, it sounds good.

171

00:11:54,260 --> 00:11:55,260

Yeah!

172

00:11:59,260 --> 00:12:00,260

Ha ha ha ha!

173

00:12:04,260 --> 00:12:07,260

Oh, it's pretty loud. Can you hit anything with it?

174

00:12:07,260 --> 00:12:09,260

You know, I've never actually tried.

175

00:12:09,260 --> 00:12:10,260

Why don't I set something up?

176

00:12:10,260 --> 00:12:11,260

Let's do it.

177

00:12:13,260 --> 00:12:18,260

Indiana Jones, nonchalantly and surgically disarmed his armed phone.

178

00:12:18,260 --> 00:12:19,260

Come on.

179

00:12:19,260 --> 00:12:20,260

Adam, however,

180

00:12:23,260 --> 00:12:26,260

can't seem to take out a few cans.

181

00:12:27,260 --> 00:12:29,260

Not exactly precision shooting.

182

00:12:31,260 --> 00:12:36,260

Until he gets real close and the laws of probability weigh in.

183

00:12:36,260 --> 00:12:37,260

Ah!

184

00:12:37,260 --> 00:12:38,260

Yeah!

185

00:12:41,260 --> 00:12:42,260

Yes!

186

00:12:42,260 --> 00:12:43,260

He hit it.

187

00:12:43,260 --> 00:12:46,260

As long as I've got 10, 12, 15 tries, you are in trouble, man.

188

00:12:47,260 --> 00:12:51,260

Yep, to find out if you can indeed disarm armed adversaries,

189

00:12:52,260 --> 00:12:55,260

Adam and Jamie clearly need some expert help.

190

00:12:56,260 --> 00:13:02,260

And a spectacular change of scene to set up for some temple run fun.

191

00:13:02,260 --> 00:13:04,260

Totally getting it shot.

192

00:13:20,260 --> 00:13:25,260

Indy's whip is a character in its own right in the Raiders films.

193

00:13:26,260 --> 00:13:28,260

And it does some unbelievable things in the film.

194

00:13:28,260 --> 00:13:32,260

First and foremost, he's able to disarm someone who pulls a gun at him,

195

00:13:32,260 --> 00:13:35,260

just pulling this off his belt and giving it a crack.

196

00:13:35,260 --> 00:13:36,260

And that's what we're going to do.

197

00:13:36,260 --> 00:13:38,260

We're going to give that a crack.

198

00:13:40,260 --> 00:13:42,260

Now, I'm pretty good at making these,

199

00:13:42,260 --> 00:13:45,260

but we've already established that I am not that good at operating.

200

00:13:47,260 --> 00:13:49,260

Let's just say you're a work in progress.

201

00:13:50,260 --> 00:13:51,260

Aren't we all?

202

00:13:51,260 --> 00:13:56,260

Yep, to test Indy's mythical ability to disarm gun-coating foes,

203

00:13:58,260 --> 00:14:01,260

Adam and Jamie need a whole heap of whip-wielding tips

204

00:14:03,260 --> 00:14:05,260

from the very best in the business.

205

00:14:09,260 --> 00:14:13,260

Wherever I point the handle, this is where the whip is going to go.

206

00:14:14,260 --> 00:14:16,260

We brought a lot of experts onto this show over the years,

207

00:14:16,260 --> 00:14:20,260

but Anthony might be my all-time favorite right now.

208

00:14:21,260 --> 00:14:22,260

And then...

209

00:14:22,260 --> 00:14:23,260

Yes.

210

00:14:23,260 --> 00:14:24,260

Now it's just timing.

211

00:14:24,260 --> 00:14:27,260

I have rarely ever had someone teach me something so quickly.

212

00:14:29,260 --> 00:14:32,260

And I got results I really didn't think were going to happen

213

00:14:32,260 --> 00:14:34,260

within such a short period of time.

214

00:14:34,260 --> 00:14:36,260

Open your hand straight and your arm close your hand.

215

00:14:38,260 --> 00:14:39,260

Hey!

216

00:14:39,260 --> 00:14:40,260

Perfect.

217

00:14:40,260 --> 00:14:41,260

That totally worked.

218

00:14:41,260 --> 00:14:42,260

This is awesome.

219

00:14:42,260 --> 00:14:45,260

This is a far more precise tool than I thought it was.

220

00:14:45,260 --> 00:14:46,260

Band.

221

00:14:47,260 --> 00:14:50,260

We've got a lot of the basics of whip-handling from Anthony.

222

00:14:50,260 --> 00:14:51,260

Excellent.

223

00:14:51,260 --> 00:14:56,260

But now it's time to see if we can't use the whip to grab a gun out of somebody's hand.

224

00:14:58,260 --> 00:15:02,260

But it's important to note that we never actually see how Indy disarms the bad guy.

225

00:15:02,260 --> 00:15:05,260

So to cover all our bases, we're going to run a couple of tests.

226

00:15:05,260 --> 00:15:08,260

Stretch it out and send it out.

227

00:15:08,260 --> 00:15:09,260

Better, okay?

228

00:15:09,260 --> 00:15:14,260

First, we're going to see if that whip tip could wrap around the wrist and or the gun

229

00:15:14,260 --> 00:15:17,260

and yank it in such a way as to spoil the shot.

230

00:15:17,260 --> 00:15:22,260

We're going to see if a direct hit to the wrist with the whip tip is enough to make somebody drop the gun.

231

00:15:22,260 --> 00:15:25,260

The scariest thing I've done all day, isn't it?

232

00:15:28,260 --> 00:15:29,260

Go ahead.

233

00:15:31,260 --> 00:15:32,260

That was perfect.

234

00:15:32,260 --> 00:15:33,260

That was a nice crack.

235

00:15:33,260 --> 00:15:34,260

It was right on the tip of your thumb.

236

00:15:34,260 --> 00:15:35,260

That would have hurt a lot.

237

00:15:35,260 --> 00:15:40,260

Jamie's making contact, but there's no mythical grab and aim-spoiling pull.

238

00:15:40,260 --> 00:15:41,260

Go for the wrist.

239

00:15:41,260 --> 00:15:42,260

Go for the wrist, Heinemann.

240

00:15:44,260 --> 00:15:45,260

That's it.

241

00:15:45,260 --> 00:15:52,260

Not quite the first time accuracy of Indy, but novice Jamie is dialing in on the technique

242

00:15:52,260 --> 00:15:54,260

surprisingly quickly.

243

00:15:56,260 --> 00:15:57,260

Yes.

244

00:15:57,260 --> 00:15:58,260

Oh, there we go.

245

00:15:58,260 --> 00:15:59,260

Good job.

246

00:16:00,260 --> 00:16:01,260

All right, my turn.

247

00:16:07,260 --> 00:16:08,260

Did I get you?

248

00:16:08,260 --> 00:16:09,260

Yeah.

249

00:16:09,260 --> 00:16:14,260

Adam missed his target a couple of times and connected with me instead of the other guy.

250

00:16:14,260 --> 00:16:15,260

With me instead.

251

00:16:16,260 --> 00:16:25,260

But he was actually able to wrap the tip of the whip around my hand to where he would be interfering with my aiming of that gun.

252

00:16:26,260 --> 00:16:27,260

Yeah.

253

00:16:27,260 --> 00:16:29,260

And that was actually pretty effective.

254

00:16:29,260 --> 00:16:32,260

The grab and tug is clearly plausible.

255

00:16:32,260 --> 00:16:34,260

But what about the second option?

256

00:16:35,260 --> 00:16:36,260

The hit to the hand.

257

00:16:37,260 --> 00:16:39,260

Would that force you to drop the gun?

258

00:16:40,260 --> 00:16:49,260

Well, Jamie with a short straw drawn adds extra protection and prepares to face the whip cracking might of the whip master.

259

00:16:52,260 --> 00:16:53,260

Ow.

260

00:16:58,260 --> 00:17:03,260

I'm positive I wouldn't have been able to hold on to that gun if I didn't have this glove on.

261

00:17:03,260 --> 00:17:08,260

It would be equivalent to somebody slicing at your hand with a sharp knife.

262

00:17:10,260 --> 00:17:12,260

Oh, he dropped the gun.

263

00:17:12,260 --> 00:17:13,260

Yep.

264

00:17:13,260 --> 00:17:18,260

Without padding, Jamie's dropping the gun every single time.

265

00:17:18,260 --> 00:17:23,260

Yeah, I don't think there's any way I would have been able to hold on to this if I hadn't had this protection.

266

00:17:23,260 --> 00:17:33,260

So Anthony, it strikes me that we have enough experimental evidence gathered thus far to conclude that the first appearance of a whip in Rangers of the Lost Ark is actually pretty reasonable.

267

00:17:33,260 --> 00:17:38,260

That it is feasible to disarm someone with a gun if you're only holding a whip.

268

00:17:38,260 --> 00:17:39,260

Would you agree?

269

00:17:39,260 --> 00:17:40,260

I do agree.

270

00:17:40,260 --> 00:17:48,260

I think a targeted strike to bear flesh is going to make it pretty much impossible to hang onto the

gun, let alone operate vacuately.

271

00:17:49,260 --> 00:17:51,260

So this is plausible.

272

00:17:52,260 --> 00:17:55,260

Is that what you would do if you were in the same situation?

273

00:17:55,260 --> 00:17:56,260

Absolutely not.

274

00:17:56,260 --> 00:17:57,260

No, okay, what would you do?

275

00:17:57,260 --> 00:17:59,260

I would go straight for the face.

276

00:17:59,260 --> 00:18:00,260

Oh.

277

00:18:07,260 --> 00:18:12,260

With the gun whip myth all tied up, it's time to set the scene for the temple run.

278

00:18:12,260 --> 00:18:15,260

Not many people realize, but the Mayans built their temples just like this.

279

00:18:15,260 --> 00:18:16,260

Yeah.

280

00:18:16,260 --> 00:18:18,260

And Adams having a whole heap of fun.

281

00:18:18,260 --> 00:18:22,260

Look, I know that some of the lakes were going to seem a little bit over the top.

282

00:18:22,260 --> 00:18:24,260

Now, I'm thinking right about this level.

283

00:18:24,260 --> 00:18:26,260

Yeah, upper torso.

284

00:18:26,260 --> 00:18:27,260

Yeah.

285

00:18:27,260 --> 00:18:32,260

We could have just set up 16 paintball guns on like a wooden rack in about an hour and a half.

286

00:18:33,260 --> 00:18:35,260

But honestly, we couldn't.

287

00:18:36,260 --> 00:18:37,260

We're special effects guys.

288

00:18:37,260 --> 00:18:40,260

This is what we did for a living for decades.

289

00:18:42,260 --> 00:18:43,260

Looks pretty good.

290

00:18:44,260 --> 00:18:46,260

I know it looks like crap, but it's fun.

291

00:18:46,260 --> 00:18:52,260

It would offend our sensibilities not to make it look period and timely to the actual film we're replicating.

292

00:18:53,260 --> 00:19:00,260

Of course, any decent temple's got its share of deities and gods, so we've got ours.

293

00:19:01,260 --> 00:19:03,260

It would offend my sensibilities.

294

00:19:03,260 --> 00:19:08,260

Frankly, I think Jamie thinks this whole experiment is an excuse for me to dress up, which it might be.

295

00:19:10,260 --> 00:19:12,260

While Adam completes the scene setting,

296

00:19:13,260 --> 00:19:17,260

Jamie's connected the pressure pad and gun one for a test run.

297

00:19:18,260 --> 00:19:20,260

Three, two, one.

298

00:19:21,260 --> 00:19:26,260

Oh, that works perfectly.

299

00:19:26,260 --> 00:19:29,260

Perfectly except for a timing tweak.

300

00:19:30,260 --> 00:19:32,260

That was fantastic.

301

00:19:32,260 --> 00:19:37,260

Our Mayan temple dart room is operational except with paintballs instead of the air.

302

00:19:37,260 --> 00:19:40,260

The only thing is that hit was instantaneous.

303

00:19:40,260 --> 00:19:41,260

Cat touch, dark hit.

304

00:19:41,260 --> 00:19:45,260

And in the movie, there's actually a delay when Indie tests the rig.

305

00:19:45,260 --> 00:19:53,260

My question is how much of a time delay is there between the time that torch pushes the pad and the time the dart hits the torch.

306

00:19:56,260 --> 00:19:57,260

That's one second.

307

00:19:57,260 --> 00:19:58,260

That's going to be our delay.

308

00:19:59,260 --> 00:20:00,260

Over to Jamie.

309

00:20:01,260 --> 00:20:02,260

It's tricky.

310

00:20:02,260 --> 00:20:10,260

But by inserting a timer between the pressure pad trigger and the air powered paintball gun, he can delay the firing by the required one second.

311

00:20:11,260 --> 00:20:15,260

And with the guns not loaded, he steps up to test the timing.

312

00:20:22,260 --> 00:20:23,260

Hmm.

313

00:20:23,260 --> 00:20:24,260

Who's here?

314

00:20:24,260 --> 00:20:25,260

We have a problem.

315

00:20:25,260 --> 00:20:26,260

That's a...

316

00:20:26,260 --> 00:20:28,260

Not quite what we had in mind.

317

00:20:36,260 --> 00:20:39,260

As soon as this episode got rolling...

318

00:20:44,260 --> 00:20:46,260

It was clear the Mythbusters one.

319

00:20:47,260 --> 00:20:50,260

Idolize all things Indie.

320

00:20:51,260 --> 00:20:54,260

And with one myth already cracked...

321

00:20:57,260 --> 00:20:59,260

The fun is set to continue.

322

00:21:00,260 --> 00:21:02,260

Or is it?

323

00:21:02,260 --> 00:21:11,260

As it turns out, this timing setup that we put together is really screwing us up because while they're delaying the firing of our valves like we want them to,

324

00:21:11,260 --> 00:21:18,260

they're also holding the valves open way too long, which means that by the time we get to the end of the array, our tank is empty.

325

00:21:20,260 --> 00:21:25,260

Our solution is to actually give them more air or more of a tank.

326

00:21:25,260 --> 00:21:32,260

I'm about to build that tank out of a bunch of PVC plumbing pipe you stay while Jamie plays around with the timers.

327

00:21:32,260 --> 00:21:38,260

And with the larger air supply hooked up, we're going to be able to get the air out of the tank.

328

00:21:38,260 --> 00:21:46,260

And with the larger air supply hooked up, it's time for the Temple Run Test Run Take 2.

329

00:21:51,260 --> 00:21:52,260

That was good.

330

00:21:52,260 --> 00:21:53,260

Yeah.

331

00:21:53,260 --> 00:21:54,260

That's exactly what we wanted.

332

00:21:54,260 --> 00:21:55,260

Yep.

333

00:21:55,260 --> 00:22:03,260

With the rig successfully firing on the big cylinder, the set dressing is complete, the guns armed for action.

334

00:22:04,260 --> 00:22:07,260

16 barrels, 16 paintballs.

335

00:22:09,260 --> 00:22:11,260

There we go.

336

00:22:13,260 --> 00:22:17,260

And Adams geared up, ready to run the paintball gauntlet.

337

00:22:21,260 --> 00:22:25,260

Any second now, I'm going to grab that idle and hightail it across this chamber.

338

00:22:25,260 --> 00:22:31,260

Now, if the myth is true, if the movie's version of events are correct, I should make it to the other side alive.

339

00:22:32,260 --> 00:22:34,260

That's what we're going to find out.

340

00:22:34,260 --> 00:22:41,260

Remember, their run has the same number of booby traps as the movie, and they'll shoot with the same one second delay.

341

00:22:43,260 --> 00:22:44,260

You ready?

342

00:22:45,260 --> 00:22:46,260

Yep.

343

00:22:46,260 --> 00:22:47,260

See you down the other end.

344

00:22:47,260 --> 00:22:48,260

Okay.

345

00:22:48,260 --> 00:22:55,260

The question is, will Adam, who will run with the same hunched protective shuffle as Indy, make it out unscathed?

346

00:22:56,260 --> 00:22:57,260

Okay.

347

00:22:57,260 --> 00:23:02,260

In 3, 2, 1, go.

348

00:23:05,260 --> 00:23:07,260

Something's not turned on.

349

00:23:08,260 --> 00:23:09,260

That was anti-climactic.

350

00:23:10,260 --> 00:23:13,260

Anti-climactic and a mystery.

351

00:23:13,260 --> 00:23:16,260

3, 2, 1, go.

352

00:23:21,260 --> 00:23:22,260

Still no work.

353

00:23:22,260 --> 00:23:24,260

Maybe even a Mayan mystery.

354

00:23:24,260 --> 00:23:26,260

Well, I think it's clear what's going on here.

355

00:23:26,260 --> 00:23:27,260

This guy.

356

00:23:27,260 --> 00:23:31,260

Mythbusters is clearly suffering the idle's curse.

357

00:23:32,260 --> 00:23:33,260

The idle's curse.

358

00:23:36,260 --> 00:23:39,260

The circuit's not collapsing the way it should.

359

00:23:41,260 --> 00:23:44,260

The curse may not be real, but ours are.

360

00:23:44,260 --> 00:23:47,260

This rig is kicking our butt.

361

00:23:47,260 --> 00:23:48,260

Hold on.

362

00:23:48,260 --> 00:23:51,260

I got to take all my shit off, and we're going to really solve this.

363

00:23:52,260 --> 00:23:55,260

Some rolled sleeves and brain storming later.

364

00:23:55,260 --> 00:23:57,260

We're only going to pressurize it to like, what, 70?

365

00:23:57,260 --> 00:23:58,260

Yeah.

366

00:23:58,260 --> 00:23:59,260

We could try that.

367

00:23:59,260 --> 00:24:01,260

And they think they may have it sorted.

368

00:24:01,260 --> 00:24:03,260

We have figured out the problem.

369

00:24:04,260 --> 00:24:06,260

It's a simple little dumb problem.

370

00:24:06,260 --> 00:24:08,260

We just got a couple of leads misplaced,

371

00:24:08,260 --> 00:24:12,260

and we should be up and running, literally running in a minute.

372

00:24:13,260 --> 00:24:15,260

A minute and a test fire later.

373

00:24:17,260 --> 00:24:18,260

Oh, yeah.

374

00:24:19,260 --> 00:24:20,260

With vigor.

375

00:24:20,260 --> 00:24:24,260

The curse of the crossed wires is lifted.

376

00:24:24,260 --> 00:24:25,260

All right.

377

00:24:25,260 --> 00:24:27,260

And the temple run is ready to rock.

378

00:24:27,260 --> 00:24:32,260

Three, two, one, go.

379

00:24:41,260 --> 00:24:42,260

I didn't feel a thing.

380

00:24:42,260 --> 00:24:44,260

I don't think I got hit.

381

00:24:45,260 --> 00:24:46,260

You were a mile ahead of me.

382

00:24:46,260 --> 00:24:47,260

Really?

383

00:24:47,260 --> 00:24:50,260

With a one second delay, you were halfway across the thing

384

00:24:50,260 --> 00:24:52,260

before they started the fire.

385

00:24:53,260 --> 00:24:54,260

Fantastic.

386

00:24:54,260 --> 00:24:56,260

So Indy really could have made it out.

387

00:24:56,260 --> 00:24:57,260

Easily.

388

00:25:06,260 --> 00:25:09,260

We had all the parameters we needed from the setup of the temple

389

00:25:09,260 --> 00:25:12,260

in the film, and we applied them to our set and discovered

390

00:25:12,260 --> 00:25:16,260

that Indy would indeed have made it out alive with his idol,

391

00:25:16,260 --> 00:25:17,260

wouldn't he?

392

00:25:18,260 --> 00:25:21,260

But now, let's assume the Mayans could make darts

393

00:25:21,260 --> 00:25:24,260

that shot almost instantaneously as Indy ran.

394

00:25:24,260 --> 00:25:27,260

We'll see whether he gets shot or not now.

395

00:25:27,260 --> 00:25:28,260

Here we go.

396

00:25:28,260 --> 00:25:32,260

And frankly, I pretty much expect to get shot at this point.

397

00:25:32,260 --> 00:25:33,260

Totally gonna get shot.

398

00:25:33,260 --> 00:25:40,260

Instantaneous firing in three, two, one, go.

399

00:25:54,260 --> 00:25:59,260

I totally got hit.

400

00:25:59,260 --> 00:26:01,260

I got one in my back.

401

00:26:01,260 --> 00:26:03,260

That's the only one I see on you.

402

00:26:03,260 --> 00:26:04,260

Really?

403

00:26:04,260 --> 00:26:05,260

Yeah.

404

00:26:07,260 --> 00:26:10,260

As I expected when we set the darts to instantaneous,

405

00:26:10,260 --> 00:26:12,260

I got shot and I'm dead.

406

00:26:12,260 --> 00:26:13,260

It's a poison dart after all.

407

00:26:13,260 --> 00:26:15,260

What I did was, I got shot.

408

00:26:15,260 --> 00:26:16,260

I got shot.

409

00:26:16,260 --> 00:26:17,260

I got shot.

410

00:26:17,260 --> 00:26:18,260

I got shot.

411

00:26:18,260 --> 00:26:19,260

I got shot.

412

00:26:19,260 --> 00:26:20,260

I got shot.

413

00:26:20,260 --> 00:26:21,260

I got shot.

414

00:26:21,260 --> 00:26:22,260

I got shot.

415

00:26:22,260 --> 00:26:23,260

I got shot.

416

00:26:23,260 --> 00:26:26,260

What I didn't expect is that I only got shot once.

417

00:26:26,260 --> 00:26:30,260

So as far as I'm concerned, if you ever find yourself looting

418

00:26:30,260 --> 00:26:32,260

a piece of precious Mayan gold from a temple,

419

00:26:32,260 --> 00:26:36,260

while you're probably gonna die, I say run for your life.

420

00:26:39,260 --> 00:26:40,260

Ow!

421

00:26:40,260 --> 00:26:44,260

So why do you think the Mayans set such a long delay

422

00:26:44,260 --> 00:26:45,260

on their dart magnetism?

423

00:26:45,260 --> 00:26:47,260

Well, it is an ancient temple.

424

00:26:47,260 --> 00:26:50,260

Maybe the machinery was getting kind of rusty.

425

00:26:50,260 --> 00:26:51,260

That's a good idea.

426

00:26:51,260 --> 00:26:53,260

So how do you want to call it?

427

00:26:53,260 --> 00:26:54,260

Confirmed, I guess.

428

00:26:54,260 --> 00:26:57,260

I'm there with you, but it is a fictional universe,

429

00:26:57,260 --> 00:26:59,260

so I'm inclined to give them plausible.

430

00:26:59,260 --> 00:27:00,260

Suit me.

431

00:27:00,260 --> 00:27:01,260

Okay.

432

00:27:16,260 --> 00:27:19,260

So, all episode, we've been learning the mechanics

433

00:27:19,260 --> 00:27:21,260

and the operation of whips, and we've actually gotten

434

00:27:21,260 --> 00:27:22,260

pretty good at it.

435

00:27:24,260 --> 00:27:25,260

Yeah.

436

00:27:25,260 --> 00:27:26,260

Ha-ha!

437

00:27:27,260 --> 00:27:30,260

But before we continue, we think that we'd be remiss

438

00:27:30,260 --> 00:27:33,260

if we didn't address the idea that a whip is supposed to break

439

00:27:33,260 --> 00:27:35,260

the speed of sound.

440

00:27:35,260 --> 00:27:36,260

Is this really true?

441

00:27:36,260 --> 00:27:38,260

Is there enough of the kinetic energy transfer

442

00:27:38,260 --> 00:27:40,260

from the handle out to the end?

443

00:27:40,260 --> 00:27:42,260

That's what we are about to test.

444

00:27:42,260 --> 00:27:43,260

All right.

445

00:27:43,260 --> 00:27:46,260

Using our high-speed camera and all of the stagecraft

446

00:27:46,260 --> 00:27:48,260

we've learned in ten years of doing this show,

447

00:27:48,260 --> 00:27:50,260

we're going to try and prove that the end of the whip

448

00:27:50,260 --> 00:27:52,260

breaks the speed of sound.

449

00:27:52,260 --> 00:27:55,260

Three, two, one.

450

00:27:58,260 --> 00:28:01,260

Because the tip of the whip is moving so fast

451

00:28:01,260 --> 00:28:04,260

and over such a large area, it makes it really difficult to see

452

00:28:04,260 --> 00:28:07,260

where and when it's making the crack.

453

00:28:11,260 --> 00:28:15,260

Yeah, the tip's starting to swing around at about 4D.

454

00:28:16,260 --> 00:28:20,260

So, with that in mind, we've created this background

455

00:28:20,260 --> 00:28:22,260

with a grid on it.

456

00:28:22,260 --> 00:28:25,260

Yeah, right about there, a little bit below it,

457

00:28:25,260 --> 00:28:29,260

so we can hopefully zoom in on it with the high-speed camera.

458

00:28:31,260 --> 00:28:34,260

Oh, it's banged right on the same mark.

459

00:28:34,260 --> 00:28:38,260

But with the camera recording at the 6,000 frames per second

460

00:28:38,260 --> 00:28:40,260

required to measure the speed of sound,

461

00:28:40,260 --> 00:28:44,260

zooming in and capturing the exact moment of the crack

462

00:28:44,260 --> 00:28:47,260

is a very tricky task.

463

00:28:47,260 --> 00:28:49,260

Okay, are you ready?

464

00:28:49,260 --> 00:28:50,260

Yep.

465

00:28:50,260 --> 00:28:52,260

Okay, here we go.

466

00:28:56,260 --> 00:28:58,260

Too low.

467

00:28:58,260 --> 00:29:00,260

Try that.

468

00:29:05,260 --> 00:29:09,260

In terms of time, this is like looking for a needle in a haystack.

469

00:29:09,260 --> 00:29:13,260

There's a lot of increments when you're looking at 6,000 frames per second.

470

00:29:14,260 --> 00:29:18,260

To find the exact instant that that passes through the frame.

471

00:29:18,260 --> 00:29:22,260

Yep, not only does Adam have to get a clean crack,

472

00:29:22,260 --> 00:29:24,260

that was too low,

473

00:29:24,260 --> 00:29:29,260

and pull off the unlikely feat of hitting the exact same mark,

474

00:29:29,260 --> 00:29:34,260

the guys then have to find those four or five frames of action.

475

00:29:35,260 --> 00:29:38,260

So the signal you're watching me on right now

476

00:29:38,260 --> 00:29:43,260

is transmitting 29.9 something frames per second.

477

00:29:43,260 --> 00:29:45,260

Hello.

478

00:29:45,260 --> 00:29:48,260

I'm aiming at the same spot every single time.

479

00:29:48,260 --> 00:29:52,260

Our high-speed camera is catching almost two seconds of footage

480

00:29:52,260 --> 00:29:54,260

at 6,000 frames per second.

481

00:29:56,260 --> 00:29:58,260

That's gonna be too high.

482

00:29:58,260 --> 00:30:02,260

It is a little bit of a hunting pack.

483

00:30:02,260 --> 00:30:04,260

There it is.

484

00:30:14,260 --> 00:30:18,260

Finally, in glorious 6,000 frames per second high-speed.

485

00:30:18,260 --> 00:30:23,260

Now, how fast is it going right here?

486

00:30:23,260 --> 00:30:26,260

That's five frames to travel 12 inches.

487

00:30:33,260 --> 00:30:36,260

1200 feet per second.

488

00:30:36,260 --> 00:30:38,260

That beats the speed of sound.

489

00:30:38,260 --> 00:30:39,260

That is awesome!

490

00:30:39,260 --> 00:30:42,260

We caught the speed of sound being broken

491

00:30:42,260 --> 00:30:45,260

by these little fuzzies.

492

00:30:45,260 --> 00:30:47,260

That is so cool.

493

00:30:50,260 --> 00:30:54,260

It took hours of Adam withing for us to finally capture that

494

00:30:54,260 --> 00:30:58,260

tiny piece of string traveling over the speed of sound

495

00:30:58,260 --> 00:31:00,260

in front of this grid,

496

00:31:00,260 --> 00:31:03,260

but we finally cracked it, so to speak.

497

00:31:06,260 --> 00:31:08,260

With the science whipped into shape,

498

00:31:08,260 --> 00:31:11,260

Adam and Jamie head back to the warehouse

499

00:31:11,260 --> 00:31:15,260

to test the whip's mythical ability to swing Indy to safety.

500

00:31:18,260 --> 00:31:22,260

This story has Indy swinging across a chasm on his whip.

501

00:31:24,260 --> 00:31:27,260

And since we don't happen to have a chasm ready to go,

502

00:31:27,260 --> 00:31:29,260

we decided to build our own.

503

00:31:30,260 --> 00:31:33,260

This thing weighs 5,000 pounds empty.

504

00:31:33,260 --> 00:31:35,260

You got room, you can keep coming in.

505

00:31:35,260 --> 00:31:37,260

Kill someone in a heartbeat.

506

00:31:37,260 --> 00:31:39,260

Pull, pull, pull. Yeah.

507

00:31:39,260 --> 00:31:42,260

We're using these containers, which we love.

508

00:31:42,260 --> 00:31:44,260

That's it! Perfect over here!

509

00:31:44,260 --> 00:31:45,260

Miles, pull!

510

00:31:45,260 --> 00:31:47,260

Because they're kind of like big bricks.

511

00:31:47,260 --> 00:31:49,260

Yeah!

512

00:31:49,260 --> 00:31:52,260

We can build whatever we want instantly.

513

00:31:52,260 --> 00:31:54,260

You're at the needle.

514

00:31:54,260 --> 00:31:56,260

But like a 5,000-pound needle.

515

00:32:00,260 --> 00:32:02,260

Now the containers here stacked up

516

00:32:02,260 --> 00:32:04,260

represent exactly one half of our chasm.

517

00:32:04,260 --> 00:32:06,260

All right. Here we go.

518

00:32:06,260 --> 00:32:08,260

We're going to bring in the other pair of containers

519

00:32:08,260 --> 00:32:10,260

and make the other half of the chasm.

520

00:32:10,260 --> 00:32:12,260

They're going to be a certain distance apart,

521

00:32:12,260 --> 00:32:14,260

but how far apart is the real question?

522

00:32:14,260 --> 00:32:18,260

An answer found with a little high-speed camera magic.

523

00:32:18,260 --> 00:32:20,260

That was good.

524

00:32:20,260 --> 00:32:23,260

So we've got my jump on high speed,

525

00:32:23,260 --> 00:32:26,260

but how are we going to use that to determine how wide our chasm is,

526

00:32:26,260 --> 00:32:28,260

especially since I'm jumping on flat ground

527

00:32:28,260 --> 00:32:30,260

and Andy was jumping across a chasm,

528

00:32:30,260 --> 00:32:32,260

which he hit the edge of with his chest.

529

00:32:32,260 --> 00:32:34,260

Editors, can you help me out, please,

530

00:32:34,260 --> 00:32:37,260

and load up the high-speed footage of my jump?

531

00:32:37,260 --> 00:32:38,260

Excellent.

532

00:32:38,260 --> 00:32:42,260

Okay, now, fast-forward until my foot leaves the starting line,

533

00:32:42,260 --> 00:32:44,260

right there, and put a dot on my chest.

534

00:32:44,260 --> 00:32:45,260

Great!

535

00:32:45,260 --> 00:32:47,260

Now continue to put dots on my chest

536

00:32:47,260 --> 00:32:49,260

through the full arc of my jump

537

00:32:49,260 --> 00:32:51,260

until my left foot touches the ground.

538

00:32:51,260 --> 00:32:52,260

Excellent.

539

00:32:52,260 --> 00:32:55,260

Now, draw a line that intersects all those dots

540

00:32:55,260 --> 00:32:57,260

until you've got a curve, and continue that curve

541

00:32:57,260 --> 00:33:00,260

until it hits the ground where my number stripes are.

542

00:33:00,260 --> 00:33:01,260

Perfect.

543

00:33:01,260 --> 00:33:03,260

Okay, can you count up how many number stripes those are?

544

00:33:03,260 --> 00:33:04,260

12.

545

00:33:04,260 --> 00:33:05,260

Beautiful.

546

00:33:05,260 --> 00:33:08,260

That is the distance of our chasm, 12 feet.

547

00:33:09,260 --> 00:33:11,260

With the exact distance marked off,

548

00:33:11,260 --> 00:33:14,260

the far side of the chasm is dropped into position.

549

00:33:16,260 --> 00:33:17,260

Nice!

550

00:33:19,260 --> 00:33:21,260

Some protective padding put in place.

551

00:33:23,260 --> 00:33:24,260

That's a long way to fall.

552

00:33:24,260 --> 00:33:27,260

The key structural component brought up...

553

00:33:27,260 --> 00:33:29,260

This is our branch.

554

00:33:31,260 --> 00:33:33,260

Some more safety measures manhandled...

555

00:33:33,260 --> 00:33:35,260

Indy never fought a beast like this.

556

00:33:35,260 --> 00:33:37,260

This is like a Dr. Who villain.

557

00:33:37,260 --> 00:33:39,260

Yeah, that's it!

558

00:33:42,260 --> 00:33:45,260

Before the movie-accurate scene is set...

559

00:33:45,260 --> 00:33:46,260

Good luck, everybody.

560

00:33:46,260 --> 00:33:48,260

I'm gonna stand back here.

561

00:33:48,260 --> 00:33:51,260

...for Adam's date with whip-swinging destiny.

562

00:33:51,260 --> 00:33:52,260

Oh!

563

00:34:00,260 --> 00:34:04,260

If you wondered exactly how Adam and Jamie got the ball rolling

564

00:34:04,260 --> 00:34:07,260

on this Indiana Jones junket, wonder no more.

565

00:34:07,260 --> 00:34:10,260

Believe it or not, this is actually going to be

566

00:34:10,260 --> 00:34:13,260

our spherical temple-run stone.

567

00:34:13,260 --> 00:34:15,260

Rise!

568

00:34:15,260 --> 00:34:17,260

Rise!

569

00:34:17,260 --> 00:34:19,260

Ha ha ha ha!

570

00:34:20,260 --> 00:34:22,260

Ha ha ha ha ha!

571

00:34:22,260 --> 00:34:23,260

Oh, hey man, check it out.

572

00:34:23,260 --> 00:34:25,260

It's our temple-run ball!

573

00:34:25,260 --> 00:34:26,260

Whoa, dude!

574

00:34:27,260 --> 00:34:29,260

So we've got our big, clear plastic ball,

575

00:34:29,260 --> 00:34:31,260

but to make it look like a boulder,

576

00:34:31,260 --> 00:34:34,260

we had the idea that we'll take this two-part thumb

577

00:34:34,260 --> 00:34:37,260

and mix it together and slather it all over the surface.

578

00:34:37,260 --> 00:34:40,260

If we do it kind of sloppy, but in the right way,

579

00:34:40,260 --> 00:34:42,260

it might just look like a big stone thing,

580

00:34:42,260 --> 00:34:44,260

which is what we want.

581

00:34:45,260 --> 00:34:47,260

That looks like a piece of stone!

582

00:34:49,260 --> 00:34:50,260

Ha ha ha ha!

583

00:34:50,260 --> 00:34:51,260

Inflatable stone?

584

00:34:51,260 --> 00:34:52,260

No problem!

585

00:34:52,260 --> 00:34:54,260

It's called safety stone.

586

00:34:54,260 --> 00:34:55,260

Ha ha ha ha!

587

00:35:12,260 --> 00:35:14,260

This test is all about the relationship

588

00:35:14,260 --> 00:35:16,260

between the whip and the tree branch,

589

00:35:16,260 --> 00:35:18,260

and so we've looked very closely at the film

590

00:35:18,260 --> 00:35:20,260

and tried to replicate the diameter

591

00:35:20,260 --> 00:35:23,260

of that tree branch with this log

592

00:35:23,260 --> 00:35:25,260

and its placement above the chasm.

593

00:35:25,260 --> 00:35:28,260

Now the next thing that we've got to do is take our whip

594

00:35:28,260 --> 00:35:30,260

and throw it across the tree branch

595

00:35:30,260 --> 00:35:32,260

and see whether it creates a knot

596

00:35:32,260 --> 00:35:34,260

that's strong enough to hold a person.

597

00:35:34,260 --> 00:35:35,260

Here we go.

598

00:35:35,260 --> 00:35:37,260

Because if it ain't...

599

00:35:39,260 --> 00:35:41,260

Ha ha ha ha ha!

600

00:35:41,260 --> 00:35:43,260

I've waited my whole life for this moment.

601

00:35:43,260 --> 00:35:45,260

They're falling to their death.

602

00:35:46,260 --> 00:35:49,260

But before Adam tests the strength of the swing...

603

00:35:49,260 --> 00:35:51,260

Oh! Hey!

604

00:35:51,260 --> 00:35:52,260

Wasn't bad.

605

00:35:52,260 --> 00:35:53,260

That was not bad.

606

00:35:53,260 --> 00:35:56,260

He has to actually secure the whip on the log.

607

00:35:58,260 --> 00:36:00,260

This test goes down in history

608

00:36:00,260 --> 00:36:02,260

as one of my all-time favorites.

609

00:36:02,260 --> 00:36:05,260

But it did not start out looking that rosy.

610

00:36:05,260 --> 00:36:06,260

Oh!

611

00:36:07,260 --> 00:36:10,260

First, just trying to wrap the whip around the log.

612

00:36:10,260 --> 00:36:12,260

I was not getting enough service area,

613

00:36:12,260 --> 00:36:14,260

not getting enough friction.

614

00:36:15,260 --> 00:36:18,260

I want to feel that solid bite.

615

00:36:18,260 --> 00:36:20,260

The leather on the log.

616

00:36:21,260 --> 00:36:24,260

What I really needed was a kind of a knot.

617

00:36:24,260 --> 00:36:27,260

Actually, the technical term is a half hitch.

618

00:36:27,260 --> 00:36:29,260

Oh! That looks promising.

619

00:36:29,260 --> 00:36:30,260

You had a crossover.

620

00:36:30,260 --> 00:36:31,260

I did.

621

00:36:32,260 --> 00:36:34,260

I need a second crossover.

622

00:36:34,260 --> 00:36:37,260

But that tested my whip-wielding skills

623

00:36:37,260 --> 00:36:39,260

to the absolute limit.

624

00:36:42,260 --> 00:36:43,260

Dude.

625

00:36:43,260 --> 00:36:44,260

That's not bad.

626

00:36:44,260 --> 00:36:46,260

I think I got a hitch.

627

00:36:46,260 --> 00:36:47,260

Oh, man.

628

00:36:48,260 --> 00:36:50,260

Well, good luck there, buddy.

629

00:36:50,260 --> 00:36:51,260

I'm going to stand back here.

630

00:36:51,260 --> 00:36:54,260

With the whip grip seemingly secure,

631

00:36:54,260 --> 00:36:56,260

this is it.

632

00:36:56,260 --> 00:36:57,260

This is terror.

633

00:36:57,260 --> 00:36:59,260

Actually, I'm genuinely scared.

634

00:36:59,260 --> 00:37:01,260

Was Indy's mythical swing to freedom

635

00:37:01,260 --> 00:37:04,260

feasible or a fictional fancy?

636

00:37:09,260 --> 00:37:10,260

Oh!

637

00:37:10,260 --> 00:37:12,260

Oh!

638

00:37:12,260 --> 00:37:14,260

I'm good. I'm good. I'm okay.

639

00:37:16,260 --> 00:37:18,260

So, I got the loop around the log.

640

00:37:18,260 --> 00:37:20,260

It felt really, really secure.

641

00:37:20,260 --> 00:37:22,260

I think I got a hitch.

642

00:37:22,260 --> 00:37:25,260

And then just before my feet reached the other side,

643

00:37:25,260 --> 00:37:28,260

the whip unwinds from the log and I go tumbling.

644

00:37:32,260 --> 00:37:33,260

All right, we got to try this again.

645

00:37:33,260 --> 00:37:35,260

That was too much fun.

646

00:37:36,260 --> 00:37:37,260

Even though Adam fell,

647

00:37:37,260 --> 00:37:40,260

I have to say I'm surprised he did as well as he did.

648

00:37:40,260 --> 00:37:43,260

Because from this distance,

649

00:37:43,260 --> 00:37:46,260

you're only going to get around three wraps out of it.

650

00:37:46,260 --> 00:37:47,260

There you go.

651

00:37:47,260 --> 00:37:51,260

So, a single half-itch holding a close to 200-pound guy?

652

00:37:51,260 --> 00:37:53,260

Pretty low odds, if you ask me.

653

00:37:55,260 --> 00:37:57,260

Yeah, you're moving the whole log, dude.

654

00:37:57,260 --> 00:37:58,260

Am I?

655

00:37:58,260 --> 00:38:00,260

Yeah. I think you're going to do it, buddy.

656

00:38:00,260 --> 00:38:01,260

Here we go.

657

00:38:02,260 --> 00:38:03,260

Oh!

658

00:38:03,260 --> 00:38:04,260

Oh!

659

00:38:09,260 --> 00:38:10,260

Oh!

660

00:38:11,260 --> 00:38:12,260

Oh!

661

00:38:12,260 --> 00:38:13,260

Gah!

662

00:38:13,260 --> 00:38:15,260

Ha ha ha ha ha!

663

00:38:15,260 --> 00:38:18,260

I thought that was going to be mine!

664

00:38:18,260 --> 00:38:21,260

Once again, the whip and potentially the myth

665

00:38:21,260 --> 00:38:23,260

unravels at the last second.

666

00:38:26,260 --> 00:38:28,260

But as Edison almost said,

667

00:38:28,260 --> 00:38:31,260

myth-busting is 1% inspiration

668

00:38:31,260 --> 00:38:36,260

and 99% repeatedly throwing yourself into a chasm for science.

669

00:38:38,260 --> 00:38:39,260

Oh, dude!

670

00:38:39,260 --> 00:38:42,260

Well, no guts, no glory.

671

00:38:42,260 --> 00:38:43,260

No guts, no glory.

672

00:38:43,260 --> 00:38:45,260

Three, two, one.

673

00:38:46,260 --> 00:38:47,260

You're going to make it!

674

00:38:47,260 --> 00:38:48,260

Oh!

675

00:38:48,260 --> 00:38:49,260

Oh, Drat!

676

00:38:49,260 --> 00:38:50,260

Ha ha ha ha!

677

00:38:50,260 --> 00:38:51,260

Gah!

678

00:38:53,260 --> 00:38:54,260

Oh!

679

00:38:56,260 --> 00:38:57,260

Three times so far,

680

00:38:57,260 --> 00:39:00,260

I have attempted to lasso our log with my whip

681

00:39:00,260 --> 00:39:01,260

and swing across this chasm.

682

00:39:01,260 --> 00:39:03,260

And three times, just as glory,

683

00:39:03,260 --> 00:39:05,260

seemed within my grasp,

684

00:39:05,260 --> 00:39:08,260

the whip slipped and I fell to my death.

685

00:39:08,260 --> 00:39:10,260

But for due diligence,

686

00:39:10,260 --> 00:39:13,260

we are going to cover our log with some bark-like friction material

687

00:39:13,260 --> 00:39:15,260

and give it another go.

688

00:39:15,260 --> 00:39:19,260

This sandpaper or our pseudo bark

689

00:39:19,260 --> 00:39:20,260

may not seem like that much,

690

00:39:20,260 --> 00:39:25,260

but it may not actually take that much to allow the whip to bite.

691

00:39:25,260 --> 00:39:27,260

Without this, it can just slide.

692

00:39:27,260 --> 00:39:29,260

It's almost like it's lubricated.

693

00:39:29,260 --> 00:39:32,260

With this, it'll just give it a little bit of tooth

694

00:39:32,260 --> 00:39:36,260

so that those coils can actually cinch onto the log.

695

00:39:36,260 --> 00:39:37,260

All right.

696

00:39:38,260 --> 00:39:39,260

One more time?

697

00:39:39,260 --> 00:39:40,260

Go for it.

698

00:39:40,260 --> 00:39:41,260

Okay, here we go.

699

00:39:41,260 --> 00:39:45,260

So what difference will this small real-world detail make?

700

00:39:45,260 --> 00:39:46,260

Oh!

701

00:39:48,260 --> 00:39:50,260

A first-time grip and it's looking good,

702

00:39:50,260 --> 00:39:53,260

but Adam's been burned before.

703

00:39:54,260 --> 00:39:57,260

As many times as I've done this,

704

00:39:57,260 --> 00:39:59,260

it's still scary.

705

00:39:59,260 --> 00:40:01,260

All right.

706

00:40:01,260 --> 00:40:03,260

It's now or never.

707

00:40:03,260 --> 00:40:04,260

Here we go.

708

00:40:04,260 --> 00:40:05,260

Oh!

709

00:40:05,260 --> 00:40:06,260

Oh!

710

00:40:06,260 --> 00:40:08,260

Yeah!

711

00:40:08,260 --> 00:40:10,260

Give me some!

712

00:40:18,260 --> 00:40:21,260

You could say Adam's happy with the result.

713

00:40:21,260 --> 00:40:22,260

Yeah!

714

00:40:22,260 --> 00:40:23,260

Ho-ho-ho!

715

00:40:23,260 --> 00:40:24,260

Yeah!

716

00:40:24,260 --> 00:40:25,260

Whoo!

717

00:40:25,260 --> 00:40:26,260

Whoo!

718

00:40:26,260 --> 00:40:29,260

Not quite an indie reaction,

719

00:40:29,260 --> 00:40:31,260

but dude, we totally did it.

720

00:40:31,260 --> 00:40:32,260

Yeah.

721

00:40:32,260 --> 00:40:33,260

All right.

722

00:40:33,260 --> 00:40:34,260

Throw me the idols.

723

00:40:36,260 --> 00:40:37,260

Come on.

724

00:40:41,260 --> 00:40:44,260

All the question now is, can you get it off there?

725

00:40:44,260 --> 00:40:45,260

Oh, right.

726

00:40:45,260 --> 00:40:46,260

Okay, here we go.

727

00:40:46,260 --> 00:40:47,260

Come on.

728

00:40:47,260 --> 00:40:48,260

Come on.

729

00:40:48,260 --> 00:40:51,260

We added a little bit of friction, some bark to our log.

730

00:40:51,260 --> 00:40:53,260

The whip grabbed easily,

731

00:40:53,260 --> 00:40:55,260

and I swung across handily.

732

00:40:55,260 --> 00:40:57,260

It was beautiful.

733

00:41:01,260 --> 00:41:02,260

Come on, baby.

734

00:41:02,260 --> 00:41:03,260

Come on, this is the final thing.

735

00:41:03,260 --> 00:41:06,260

Indy's whip grabs when you want, and let's go when you want.

736

00:41:06,260 --> 00:41:07,260

Come on, Indy.

737

00:41:07,260 --> 00:41:11,260

Now, I still don't think the whip has the kind of magical properties

738

00:41:11,260 --> 00:41:14,260

that Indy uses as an extension of his hands.

739

00:41:14,260 --> 00:41:15,260

How does this work?

740

00:41:15,260 --> 00:41:16,260

There we go!

741

00:41:16,260 --> 00:41:17,260

Almost.

742

00:41:17,260 --> 00:41:18,260

Awesome.

743

00:41:18,260 --> 00:41:21,260

But we've pretty much proved it can do

744

00:41:21,260 --> 00:41:23,260

everything we've seen in the movie.

745

00:41:29,260 --> 00:41:33,260

With that, this archaeological adventure roms to a conclusion.

746

00:41:34,260 --> 00:41:37,260

And Indy's iconic status is, quote,

747

00:41:39,260 --> 00:41:42,260

Dr. Jones was not doomed in the temple.

748

00:41:43,260 --> 00:41:44,260

Indy really could have made it out.

749

00:41:44,260 --> 00:41:45,260

Easily.

750

00:41:45,260 --> 00:41:47,260

And when it comes to a tight spot,

751

00:41:47,260 --> 00:41:48,260

you're going to make it.

752

00:41:48,260 --> 00:41:50,260

his trusty weapon

753

00:41:50,260 --> 00:41:51,260

I think you're going to do it, buddy,

754

00:41:51,260 --> 00:41:54,260

is all it's cracked up to be.

755

00:41:55,260 --> 00:41:57,260

Yeah!

