1

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

Please, don't try anything that you're about to see us do at home.

2

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

Ever.

3

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

That looks like it worked.

4

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

And Grant Carriantori hit the rough road...

5

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

Faster! Yeah!

6

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

...to prove driving faster leads to a smoother ride.

7

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

Ready for your 45-mile-an-hour run.

8

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

Paramedics are nowhere to be found.

9

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

Who are the myth busters?

10

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

Adam Savage.

11

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

And Jamie Heineman.

12

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

This is gonna kill you.

13

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

Between them more than 30 years of special effects experience.

14

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

That's what I'm talking about!

15

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

Joining them, Tori Belleggi.

16

00:01:05,000 --> 00:01:07,000

Very excited about this.

17

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

Carri Byron.

18

00:01:08,000 --> 00:01:10,000

Look, he cracked into his skull.

19

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

And Grant Imahara.

20

00:01:11,000 --> 00:01:13,000

Don't say anything.

21

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

They don't just tell the myths.

22

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

They put them to the test.

23

00:01:19,000 --> 00:01:22,000

And now, we're talking about the myth.

24

00:01:22,000 --> 00:01:24,000

What is the myth?

25

00:01:24,000 --> 00:01:29,000

Well, apparently there are some car stereo systems that are so powerful

26

00:01:29,000 --> 00:01:32,000

that they're capable of destroying the car that houses them.

27

00:01:32,000 --> 00:01:35,000

We're not talking about, like, destruction over time, right?

28

00:01:35,000 --> 00:01:38,000

Not bolts rattling loose over a period of weeks.

29

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

This is turning on the power of the car.

30

00:01:41,000 --> 00:01:44,000

And the power of the car is the power of the car.

31

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

Destruction over time, right?

32

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

Not bolts rattling loose over a period of weeks.

33

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

This is, turn on the stereo and the car just becomes a junker, right?

34

00:01:52,000 --> 00:01:54,000

That's correct. Or it explodes.

35

00:01:57,000 --> 00:02:00,000

When it comes to the size of a man's subwoofer,

36

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

big is not only better, it's essential.

37

00:02:04,000 --> 00:02:07,000

Some guys just have to play it loud to be proud.

38

00:02:07,000 --> 00:02:12,000

But is it possible to make your mobile sound system so powerful

39

00:02:13,000 --> 00:02:15,000

that when you crank the dial to 11,

40

00:02:18,000 --> 00:02:20,000

the car explodes?

41

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

So what's the plan?

42

00:02:23,000 --> 00:02:26,000

Well, this time I think we need to get right into it and just go big.

43

00:02:26,000 --> 00:02:29,000

Hell bent for leather, no shop tests, no small scale.

44

00:02:29,000 --> 00:02:32,000

Just build the biggest subwoofer we can.

45

00:02:32,000 --> 00:02:34,000

That's right. The biggest thing, we can possibly fit in that car

46

00:02:34,000 --> 00:02:36,000

and go for maximum decibels.

47

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

And hopefully, max destruction.

48

00:02:39,000 --> 00:02:41,000

So it's a simple plan.

49

00:02:41,000 --> 00:02:43,000

Build the most powerful subwoofer possible

50

00:02:43,000 --> 00:02:46,000

and if that doesn't destroy the car, then nothing will.

51

00:02:46,000 --> 00:02:51,000

But how can mere sound destroy something as solid as a car?

52

00:02:52,000 --> 00:02:55,000

Okay, so we know a speaker produces sound.

53

00:02:55,000 --> 00:02:58,000

It does this by switching an electromagnet on and off

54

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

and vibrating the speaker cone.

55

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

This moves air back and forth, creating waves of pressure.

56

00:03:06,000 --> 00:03:09,000

This sound pressure level is measured in decibels

57

00:03:09,000 --> 00:03:11,000

and in theory, with enough decibels,

58

00:03:11,000 --> 00:03:14,000

enough pressure, you can break anything.

59

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

And Jamie and Adam have already proved just that.

60

00:03:22,000 --> 00:03:26,000

On this classic episode, they confirmed the destructive potential of sound

61

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

by hitting the right note.

62

00:03:30,000 --> 00:03:34,000

But on breaking glass, the key ingredient was finding the resonant frequencies

63

00:03:34,000 --> 00:03:36,000

of the crystal.

64

00:03:38,000 --> 00:03:42,000

To shatter a car, this car, they won't be messing around with sound quality.

65

00:03:42,000 --> 00:03:45,000

They want decibels and lots of them.

66

00:03:46,000 --> 00:03:48,000

Alright, let's get her off the ground.

67

00:03:48,000 --> 00:03:49,000

Yeah!

68

00:03:49,000 --> 00:03:55,000

With the car in position, it's time to begin the super-sized subwoofer installation.

69

00:03:55,000 --> 00:04:00,000

Step one, make room by removing all mod-cons and luxury extras,

70

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

like the front seats.

71

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

You could make a robot out of one of those seats.

72

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

I think I could make a robot out of one of these.

73

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

The back seats...

74

00:04:07,000 --> 00:04:08,000

Oh!

75

00:04:08,000 --> 00:04:10,000

...and the steering wheel.

76

00:04:11,000 --> 00:04:13,000

Now, this is cool. I want this.

77

00:04:14,000 --> 00:04:18,000

A typical subwoofer has a cone size of around 10 inches.

78

00:04:18,000 --> 00:04:24,000

But in true myth-buster fashion, the myth-woofer will be anything but typical.

79

00:04:25,000 --> 00:04:26,000

It's 52 inches.

80

00:04:27,000 --> 00:04:28,000

Oh, man.

81

00:04:28,000 --> 00:04:31,000

Which means we're talking probably a four-foot speaker cone.

82

00:04:33,000 --> 00:04:35,000

The myth-woofer is a four-foot speaker cone.

83

00:04:38,000 --> 00:04:40,000

So, finally, a myth from our Australian contingent,

84

00:04:40,000 --> 00:04:44,000

although I would imagine that anybody who spent time driving on dirt roads would know this one.

85

00:04:44,000 --> 00:04:47,000

The myth is, if you're driving on a rough dirt road,

86

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

it's better to drive fast because it smooths out the ride.

87

00:04:52,000 --> 00:04:56,000

Okay, so how exactly do you get these mythical good vibrations?

88

00:04:57,000 --> 00:05:03,000

Apparently, at slow speeds, the wheels of the vehicle have time to drop down into the troughs of each bump,

89

00:05:03,000 --> 00:05:06,000

resulting in more bounce than a kangaroo on a trampoline.

90

00:05:06,000 --> 00:05:09,000

But according to the myth, if you put your foot down,

91

00:05:09,000 --> 00:05:12,000

the wheels skip across the tops of the car regations,

92

00:05:12,000 --> 00:05:15,000

giving the passengers a much smoother ride.

93

00:05:15,000 --> 00:05:17,000

Well, you know, that sounds pretty easy to test, isn't it?

94

00:05:17,000 --> 00:05:18,000

What are you going to do?

95

00:05:18,000 --> 00:05:21,000

Just go out and get a bunch of cars and test them on rough road?

96

00:05:21,000 --> 00:05:23,000

You know, I'm not sure it's that simple, Jamie,

97

00:05:23,000 --> 00:05:28,000

because, I mean, you guys have to figure out a way of measuring the vibration that's happening to the car

98

00:05:28,000 --> 00:05:31,000

under different speeds and different road conditions, right?

99

00:05:31,000 --> 00:05:35,000

First things first, they're going to need a car.

100

00:05:35,000 --> 00:05:39,000

This is a 1978 Oldsmobile Cutlass Suprem.

101

00:05:39,000 --> 00:05:42,000

Listen to that, baby, fur!

102

00:05:42,000 --> 00:05:44,000

And to measure the rough road ahead,

103

00:05:44,000 --> 00:05:48,000

this old classic is going to need a myth-busters makeover.

104

00:05:48,000 --> 00:05:52,000

To objectively record the vibration intensity at different speeds,

105

00:05:52,000 --> 00:05:54,000

they have three systems in mind.

106

00:05:54,000 --> 00:05:57,000

Tori has an idea for a suspension gauge.

107

00:05:57,000 --> 00:06:01,000

Grant will crunch the numbers on a three-axis accelerometer,

108

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

but Carrie steps up with a more elegant solution.

109

00:06:05,000 --> 00:06:08,000

I love that.

110

00:06:08,000 --> 00:06:13,000

I'm making a system to measure how rough each of the road trials is,

111

00:06:13,000 --> 00:06:17,000

and to do that, I'm using all of these wonderful crystal chardonnay glasses

112

00:06:17,000 --> 00:06:19,000

and making them into a pyramid.

113

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

Because the road makes the car tumble,

114

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

the water should spill out from the top and kind of trickle down into the lower glasses

115

00:06:26,000 --> 00:06:28,000

and maybe spill out altogether.

116

00:06:28,000 --> 00:06:32,000

And at the end, we should have a really good representation of the roughness

117

00:06:32,000 --> 00:06:35,000

between a 15-mile-an-hour drive and, say, a 50-mile-an-hour drive.

118

00:06:35,000 --> 00:06:39,000

So, after each test, using the 100-mil marks,

119

00:06:39,000 --> 00:06:43,000

they'll simply calculate the total amount of water lost.

120

00:06:43,000 --> 00:06:47,000

The bumpy of the ride, the wetter the designated driver is going to get.

121

00:06:47,000 --> 00:06:52,000

Meanwhile, Tori is rigging system number two, the suspension deflection gauge.

122

00:06:52,000 --> 00:06:56,000

He first welds a metal rod or needle to the suspension of the car.

123

00:06:56,000 --> 00:07:01,000

Then he attaches a scale to the hood. Impressive. But how does it work?

124

00:07:01,000 --> 00:07:05,000

So the needle stays with the suspension,

125

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

and our scale stays with the body of the car.

126

00:07:07,000 --> 00:07:13,000

This way, we can see how much distance the two are, you know, traveling.

127

00:07:13,000 --> 00:07:17,000

Their next task is to rig the car for Carrie's glass pyramid.

128

00:07:17,000 --> 00:07:21,000

To make room and provide a flat surface, Grant removes the passenger seat

129

00:07:21,000 --> 00:07:24,000

and replaces it with a wooden platform.

130

00:07:24,000 --> 00:07:26,000

Now, to get the pyramid in the car.

131

00:07:26,000 --> 00:07:29,000

I think we should drain this before trying to fit it in there

132

00:07:29,000 --> 00:07:33,000

because there'll be a lot of fussing around to get it in.

133

00:07:34,000 --> 00:07:37,000

Maybe this is a good time to take a...

134

00:07:38,000 --> 00:07:39,000

break.

135

00:07:40,000 --> 00:07:44,000

After the break, Grant and Tori hit the rough road.

136

00:07:44,000 --> 00:07:49,000

And doctors Savage and Heinemann perform open car surgery.

137

00:07:50,000 --> 00:07:52,000

The Myth Busters way.

138

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

In the myth that a car stereo can destroy a car,

139

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

Adam and Jamie have, well, destroyed a car.

140

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

They've made space for their mythical shattering subwoofer, the myth woofer.

141

00:08:13,000 --> 00:08:16,000

Now, they have to work out how to power it.

142

00:08:16,000 --> 00:08:19,000

Normally, speakers are powered with an electromagnet.

143

00:08:19,000 --> 00:08:22,000

It repels and attracts a permanent magnet.

144

00:08:22,000 --> 00:08:25,000

And because it's electronic, it can do this very rapidly.

145

00:08:25,000 --> 00:08:28,000

It can vary the amplitude and the frequency of the signal.

146

00:08:28,000 --> 00:08:32,000

That's how you get music and all sorts of good sounds out of speaker.

147

00:08:32,000 --> 00:08:34,000

We don't need that.

148

00:08:34,000 --> 00:08:38,000

We're only interested in one thing, and that's maximum amplitude.

149

00:08:38,000 --> 00:08:44,000

So how are they going to supply enough juice to their super-sized subwoofer to blow up a car?

150

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

I figure just go directly to an engine.

151

00:08:47,000 --> 00:08:51,000

You know, we can get a crank, we can go right to the output of an engine,

152

00:08:51,000 --> 00:08:53,000

we get raw power.

153

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

That's what we're going to do.

154

00:08:55,000 --> 00:08:57,000

It's another Myth Buster first.

155

00:08:57,000 --> 00:09:00,000

A diesel-powered speaker.

156

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

To harness the engine's raw power, they'll need access to the transmission.

157

00:09:04,000 --> 00:09:08,000

So Adam and Jamie get cutting and open up the bodywork.

158

00:09:08,000 --> 00:09:12,000

From the top and the bottom.

159

00:09:14,000 --> 00:09:16,000

Where they find the drive shaft.

160

00:09:16,000 --> 00:09:18,000

This is beautiful.

161

00:09:18,000 --> 00:09:20,000

That's the best news I've had all day.

162

00:09:20,000 --> 00:09:24,000

Is the perfect size and shape for their mechanically powered speaker plans.

163

00:09:24,000 --> 00:09:29,000

The next step is to build a mechanical device called a crankshaft.

164

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

The crucial link in the Myth Woofer's power chain.

165

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

This is the crankshaft that is going to, via a pushrod, push the speaker cone up and down.

166

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

So what we've done is very carefully align all this stuff,

167

00:09:44,000 --> 00:09:49,000

and now I've got a welded in place so that it works like a crankshaft inside an engine block.

168

00:09:50,000 --> 00:09:53,000

So this crankshaft will connect to the transmission,

169

00:09:53,000 --> 00:10:00,000

and when the engine is in drive, it will turn and pump the speaker cone up and down via a pushrod.

170

00:10:01,000 --> 00:10:04,000

Now to get the crank assembly into the car.

171

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

This is kind of heavy.

172

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

This heavy steel bar is going to anchor our crankshaft in the car.

173

00:10:12,000 --> 00:10:18,000

This is a simplest, rather crude, but simplest way of really making this thing solid.

174

00:10:18,000 --> 00:10:23,000

So I'm determined not to have this thing just rip itself apart.

175

00:10:23,000 --> 00:10:25,000

I want to have this speaker rip the car apart.

176

00:10:25,000 --> 00:10:28,000

It's time to find out if it works.

177

00:10:31,000 --> 00:10:34,000

I'm going to kick it into reverse.

178

00:10:36,000 --> 00:10:39,000

Hey! It's turning beautifully.

179

00:10:39,000 --> 00:10:42,000

Nice. That is nice.

180

00:10:42,000 --> 00:10:48,000

With the build progressing nicely, Adam and Jamie call in Tori for a little fact-finding myth show.

181

00:10:49,000 --> 00:10:51,000

This is beautiful. You're going to love this.

182

00:10:51,000 --> 00:10:54,000

Dude, I needed to go to Florida for us on the Subwoofer story.

183

00:10:54,000 --> 00:10:57,000

I needed to go down there and check out this contest we found.

184

00:10:57,000 --> 00:11:00,000

The winner of which is the one with the loudest car stereo.

185

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

Okay, what do you want me to do there?

186

00:11:02,000 --> 00:11:10,000

Well, we need you to go there and see if any of these car stereo systems are actually capable of destroying the cars that they're installed in.

187

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

Alright, cool.

188

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

Should be a nice trip.

189

00:11:14,000 --> 00:11:21,000

So Tori's off to Daytona Beach, Florida for the Spring Break Nationals, the world's most famous sound off.

190

00:11:21,000 --> 00:11:23,000

Hey, look, I'm on TV.

191

00:11:23,000 --> 00:11:24,000

It's a tough job.

192

00:11:24,000 --> 00:11:26,000

This is nicer than my apartment.

193

00:11:26,000 --> 00:11:29,000

And Tori takes one for the team.

194

00:11:35,000 --> 00:11:40,000

But the Spring Break Nationals isn't just an excuse for the guys to show off the size of their equipment.

195

00:11:40,000 --> 00:11:42,000

They're here to compete.

196

00:11:42,000 --> 00:11:48,000

They come every year to sound off and find out exactly who has the loudest car audio system.

197

00:11:48,000 --> 00:11:51,000

Now you're the president of the DB Drag Racing.

198

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

What is that?

199

00:11:53,000 --> 00:12:00,000

It's a format of car stereo competition where competitors compete against one another to see who has the loudest car stereo.

200

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

Crazy but true, these guys customize their vehicles for one purpose, maximum volume.

201

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

Then they compete in a head to head sound off, where the winner records the loudest decibel reading.

202

00:12:14,000 --> 00:12:20,000

But as Wayne heard about the myth, a car actually being destroyed by its stereo.

203

00:12:20,000 --> 00:12:25,000

Well, I haven't seen one detonate, if that's what you're saying, but I have seen windshields break.

204

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

And I know of lots of vehicles where the panels have come undone.

205

00:12:29,000 --> 00:12:36,000

And I've seen lights that, you know, all of the driving lights on the top of the vehicle, like the trucks and stuff, pop out during competition.

206

00:12:36,000 --> 00:12:39,000

How many decibels would take to shatter a window?

207

00:12:39,000 --> 00:12:47,000

Well, there's not an exact answer, but I would say that once you get to 160 dB, you're in a range of sound pressure levels that could fracture the windshield.

208

00:12:47,000 --> 00:12:52,000

So 160 dB can potentially shatter a windshield.

209

00:12:52,000 --> 00:12:55,000

And Jamie and Adam have their benchmark.

210

00:12:55,000 --> 00:12:59,000

But let's get some more info on exactly what sound pressure can do.

211

00:13:03,000 --> 00:13:09,000

So I think we can actually name some figures to give viewers a perspective on the kinds of decibel levels we're talking about.

212

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

140 dB is plenty to severely damage your ears no matter how short a time you're exposed to it.

213

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

And 165 dB is what you get out of a jet airplane with 15,000 pounds of thrust.

214

00:13:22,000 --> 00:13:29,000

198 to 201 dB is enough to kill you from the shockwave alone.

215

00:13:29,000 --> 00:13:36,000

Yeah, and I believe 248 dB is what the atomic bombs that were dropped on Hiroshima and Nagasaki put out.

216

00:13:37,000 --> 00:13:44,000

Back with the bill team and they're tackling the myth that if you drive faster on a rough road, you get a smoother ride.

217

00:13:44,000 --> 00:13:48,000

We have three systems rigged to this car to tell us how bumpy the ride is.

218

00:13:48,000 --> 00:13:54,000

The first one is Tori suspension rig that's connected directly to the suspension on the wheel.

219

00:13:54,000 --> 00:14:00,000

As that deflects up and down, there's a needle that goes up and down and a camera on that so you can see what's going on.

220

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

Perfect.

221

00:14:02,000 --> 00:14:09,000

The second system is Kerry's wine glass pyramid and that's filled with water and depending on how bumpy the ride is, we'll see water slosh out of the glasses.

222

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

We know that there's a lot of water out of the glasses. That means that they had a really rough ride.

223

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

Final system is my three axis accelerometer.

224

00:14:16,000 --> 00:14:18,000

Similarly, we have a three axis accelerometer.

225

00:14:18,000 --> 00:14:20,000

We have a three axis accelerometer.

226

00:14:20,000 --> 00:14:22,000

We have a three axis accelerometer.

227

00:14:22,000 --> 00:14:24,000

We have a three axis accelerometer.

228

00:14:24,000 --> 00:14:26,000

We have a three axis accelerometer.

229

00:14:26,000 --> 00:14:29,000

Final system is my three axis accelerometer.

230

00:14:29,000 --> 00:14:39,000

Similar to the one that was in Buster's head and that is going to measure electronically what the deflections are and I'll be able to load it on my computer and see.

231

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

So it's official. This dirt road drive-by will result in more information than a space flight.

232

00:14:46,000 --> 00:14:54,000

And to check all systems are go, Grant and Tori are going to get the hump by taking on the parking lot speed bumps.

233

00:14:54,000 --> 00:15:03,000

Grant with full face helmet, five point safety belt and wet weather gear is focused on the safety issues, visibility and data accuracy.

234

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

Tori, well he just wants to go faster.

235

00:15:07,000 --> 00:15:08,000

I hit it.

236

00:15:09,000 --> 00:15:11,000

Faster, faster.

237

00:15:11,000 --> 00:15:12,000

Yeah!

238

00:15:13,000 --> 00:15:14,000

Yeah!

239

00:15:16,000 --> 00:15:17,000

Yeah!

240

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

Hit it.

241

00:15:19,000 --> 00:15:20,000

Yeah!

242

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

Oh!

243

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

Oh!

244

00:15:23,000 --> 00:15:24,000

Yeah!

245

00:15:25,000 --> 00:15:29,000

So everything's working and it's time to hit a rough road for real.

246

00:15:29,000 --> 00:15:35,000

With dirt tracks in short supply in San Francisco, they head out of town.

247

00:15:35,000 --> 00:15:38,000

Alright, here we are.

248

00:15:38,000 --> 00:15:41,000

Alright, we're here at the State Vehicle Recreation Center.

249

00:15:41,000 --> 00:15:47,000

This is where people with motorcycles, ATVs, rough road riding, this is the perfect spot to do it.

250

00:15:47,000 --> 00:15:57,000

The section that we've found here is an access road and it actually is pretty representative of a dirt road that you might find, say, out in the country or something like that.

251

00:15:58,000 --> 00:16:08,000

With their test track marked out, Grant gets into position for the first of two comparative runs.
This one will be at the slower speed of 15 miles an hour.

252

00:16:08,000 --> 00:16:13,000

Okay, I'm good to go for run number one, 15 miles per hour. Over.

253

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

Copy that.

254

00:16:18,000 --> 00:16:23,000

Grant eases up to the test speed.

255

00:16:23,000 --> 00:16:30,000

And the camera on the hood shows the axle gauge works perfectly. It's recording maximum deflections of three inches.

256

00:16:33,000 --> 00:16:36,000

Alright, Grant, so that was 15 miles an hour. It didn't look too crazy.

257

00:16:36,000 --> 00:16:41,000

No, and actually it was more like 20. Like, that car was idling very high.

258

00:16:41,000 --> 00:16:49,000

I'm noticing something. Your pants are wet now. Is that water? Why don't you come over and find out?

259

00:16:49,000 --> 00:16:59,000

While Tori finds out exactly how much water is lost from the glass pyramid, Grant, after a quick change of pants, downloads and saves the accelerometer data.

260

00:16:59,000 --> 00:17:01,000

Let's come back when they're done.

261

00:17:02,000 --> 00:17:04,000

Coming next, Tori gets an ear bashing.

262

00:17:05,000 --> 00:17:11,000

And Jamie and Adam fine tune their myth woofer installation plans.

263

00:17:11,000 --> 00:17:13,000

The diesel will make it fit.

264

00:17:22,000 --> 00:17:29,000

Back in Daytona Beach, Florida, and super sleuth Tori has got his ear to the ground at the Spring Break Nationals.

265

00:17:30,000 --> 00:17:36,000

Jamie and Adam have sent him on a crash course in auto audio for the myth shattering subwoofer.

266

00:17:36,000 --> 00:17:42,000

Can you destroy a car with a car stereo? If anyone can, it's one of these guys.

267

00:17:44,000 --> 00:17:50,000

Tori's next stop is Ayaska Champ Mike Bartels, the owner of one serious noise making machine.

268

00:17:50,000 --> 00:17:58,000

This is actually what's called an extreme vehicle. This vehicle is good for nothing but sound. Nothing but to be as loud as humanly possible.

269

00:17:59,000 --> 00:18:04,000

Put it this way, it's loud enough to make your hair stand on end.

270

00:18:04,000 --> 00:18:07,000

So what kind of modifications did you do to this?

271

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

This thing is modified more than you can imagine. It actually weighs over 11,000 pounds, has over 50 bags of concrete in it, more fiberglass and steel than you can imagine.

272

00:18:16,000 --> 00:18:21,000

Windows is thick as four inches. It's just like a bank vault.

273

00:18:21,000 --> 00:18:25,000

Now are you doing that to keep the car from falling apart or is that just to keep the air pressure inside?

274

00:18:25,000 --> 00:18:31,000

It's a combination thing. The stronger you can make it to where no pressure can be released, the better it's going to be.

275

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

So the louder it's going to be on the inside, you actually won't even hear that much on the outside, but inside it's just out of control.

276

00:18:37,000 --> 00:18:38,000

I'm going to take a look.

277

00:18:43,000 --> 00:18:47,000

Oh my God, that is ridiculous.

278

00:18:47,000 --> 00:18:54,000

The scary part about it is the way this design is, there's actually a 15 decibel difference from where you were at to the other side.

279

00:18:54,000 --> 00:19:02,000

So if I was on the other side, it's literally something we will not let somebody do because we don't know what will actually happen to your vital organs at 177 decibels.

280

00:19:02,000 --> 00:19:06,000

Oh, my liver. I think I might have damaged my liver.

281

00:19:06,000 --> 00:19:12,000

So Tari has learned 170 car stereo decibels is enough to tear stuff up.

282

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

This subwoofer is so powerful, it takes a bolt this long to keep this door shut.

283

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

But to find out if that sort of sound pressure will destroy an unmodified car, it's back to San Francisco.

284

00:19:26,000 --> 00:19:28,000

So how'd it go?

285

00:19:28,000 --> 00:19:35,000

It was very cool. It was a very cool contest and these cars are sick. The amount of deep ease they're getting up to is pretty incredible.

286

00:19:35,000 --> 00:19:40,000

So did you see anything on the level of car level destruction with those kind of decibel levels?

287

00:19:40,000 --> 00:19:46,000

Not like the myth talks about. I mean there was a lot of rattling, but no panels were popping off, windshields were not cracking.

288

00:19:46,000 --> 00:19:52,000

In fact, they actually build the car strong so that they don't break because they want to compress all that air.

289

00:19:52,000 --> 00:19:56,000

They want to keep that air pressure so they can have higher DVs.

290

00:19:56,000 --> 00:20:01,000

So car level destruction by decibels is a complete myth theory.

291

00:20:01,000 --> 00:20:09,000

Even in the world of sound off competition where the specialists use resonance to enhance their incredibly high volume readings.

292

00:20:10,000 --> 00:20:17,000

But of course, Jamie and Adam will go their own way. They'll be attempting to blow the car up with DVs alone.

293

00:20:17,000 --> 00:20:24,000

Raw, unadulterated volume. The plan is to power their giant speaker with the diesel engine of the car.

294

00:20:24,000 --> 00:20:33,000

The driveshaft will pump the speaker cone up and down, creating waves of sound pressure intense enough to destroy this unfortunate vehicle.

295

00:20:33,000 --> 00:20:40,000

This is the cone for the speaker. Now technically we could just have a flat plate, but this will actually be stronger.

296

00:20:40,000 --> 00:20:44,000

It'll be less likely to bend when we start pumping up and down on it.

297

00:20:44,000 --> 00:20:56,000

And you know, in a real speaker you would have like something that was perfectly conical, but by making these pie sections we're able to get pretty close with a lot less work.

298

00:20:56,000 --> 00:21:05,000

Wow, that is perfect.

299

00:21:05,000 --> 00:21:16,000

Next, an attractor inner tube will double up as the speaker surround. This flexible diaphragm will allow the speaker cone to vibrate and retain a seal on the speaker cavity.

300

00:21:16,000 --> 00:21:28,000

And once it's glued to the aluminum cone, Adam and Jamie work on a new Mythbuster theme tune.

301

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

We are actually really close to nearing completion on all the major components of the subwoofer.

302

00:21:33,000 --> 00:21:42,000

All that remains for us is to put in the wooden parts that will house the speaker cone, glue the rubber gasket to those, bolt it all together.

303

00:21:42,000 --> 00:21:49,000

And I can't think of anything else, so that must mean that we're close to a test.

304

00:21:49,000 --> 00:21:55,000

With most of the box cut and glued into place, it's time to attach the push rod to the crankshaft.

305

00:21:55,000 --> 00:22:02,000

This is the crucial link that will transfer the power of the engine to the speaker cone.

306

00:22:02,000 --> 00:22:07,000

And speaking of the cone, here it comes. But, will it fit?

307

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

Look at that. Dude, that's plenty of clearance. I was all worried.

308

00:22:17,000 --> 00:22:23,000

To make sure the speaker cone stays attached to the push rod, Jamie bolts it into place.

309

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

And there we go.

310

00:22:25,000 --> 00:22:34,000

Now the thing is to paint on the contact cement. This provides the main attachment between the speaker diaphragm and the body of the car.

311

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

A coat of stinky, sticky stuff and some loving attention with a rubber mallet and the monster myth woofer comes to life.

312

00:22:42,000 --> 00:22:46,000

And Dr. Jamie Frankenstein is as happy as can be.

313

00:22:46,000 --> 00:22:58,000

That's not half bad. It's a little off, but I think it'll sort of seat as we kind of turn on the diesel. The diesel will make it fit.

314

00:22:58,000 --> 00:23:04,000

Next on MythBusters, Grant prepares to fast track the rough road myth.

315

00:23:04,000 --> 00:23:11,000

Ready for your 45 mile an hour run. Paramedics are nowhere to be found.

316

00:23:11,000 --> 00:23:14,000

Remember, don't try this at home.

317

00:23:14,000 --> 00:23:22,000

We've got years of experience that keeps us safe.

318

00:23:22,000 --> 00:23:29,000

Back on the bumpy road and Grant and Tori are collecting data in an attempt to solve the riddle of the rough road.

319

00:23:29,000 --> 00:23:37,000

For answers, our drive by duo are going to compare the vibrations at 20 and 45 miles an hour.

320

00:23:37,000 --> 00:23:43,000

Alright, so we just did one run with Grant going 20 miles an hour. There wasn't a lot of movement between the axle and the vehicle.

321

00:23:43,000 --> 00:23:53,000

The maximum deflection on the suspension gauge was 3 inches and there were 3.5 liters of water lost from Kerry's glass pyramid.

322

00:23:53,000 --> 00:23:59,000

With the pyramid refilled, it's time this experiment moved into top gear.

323

00:23:59,000 --> 00:24:06,000

Okay, Grant, ready for your 45 mile an hour run. Paramedics are nowhere to be found.

324

00:24:06,000 --> 00:24:08,000

Might be the last time we see Grant.

325

00:24:08,000 --> 00:24:15,000

With his elaborate safety measures, Grant has been driving Tori crazy. But this run is no driving this daisy.

326

00:24:15,000 --> 00:24:17,000

Look at that water.

327

00:24:17,000 --> 00:24:23,000

At 45 miles an hour on a tricky dirt trail, this is the real deal.

328

00:24:23,000 --> 00:24:31,000

The axle gauge is showing a lot more activity, at times reaching the top of the scale, a maximum deflection of 6 inches.

329

00:24:31,000 --> 00:24:34,000

Don't hit that rock. Yeah!

330

00:24:34,000 --> 00:24:39,000

But let's find out from the driver whether the faster speed led to a smoother ride.

331

00:24:39,000 --> 00:24:44,000

Dude, your eyes are wide open. Did it scare you a little bit?

332

00:24:44,000 --> 00:24:51,000

Yeah, other than kind of control problems, it's actually a lot smoother than I thought it would be.

333

00:24:51,000 --> 00:24:54,000

I thought I'd be all over the place.

334

00:24:54,000 --> 00:25:03,000

What is all over the place is the water from the glass pyramid. 4.5 liters were lost, one full liter more than the slower test.

335

00:25:03,000 --> 00:25:12,000

Which means Grant's subjective experience in the car of a smooth ride is at odds with the data. But Tori has a theory.

336

00:25:12,000 --> 00:25:18,000

It might be similar to, like say, a horse, as opposed to a trot and a gallop.

337

00:25:18,000 --> 00:25:27,000

Maybe the slower you're going, you're more conscious of the actual hits that you're doing, the

rocks, the bumps. You're conscious of that.

338

00:25:27,000 --> 00:25:34,000

Which might sound like a load of old horse manure, but Tori is prepared to saddle up to prove his point.

339

00:25:34,000 --> 00:25:41,000

Okay, so I'm giving you these and I'm going to expect you to act responsibly, be home by 11 and have it gassed up.

340

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

Alright, Mom.

341

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

Act responsibly? Tori Belachie? It's possible.

342

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

After seeing Grant do that 40-mile-an-hour run, it just makes me want to get in there and go 70.

343

00:25:54,000 --> 00:25:59,000

With the area clear and the team at a safe distance, Tori hits the gas.

344

00:25:59,000 --> 00:26:08,000

Responsible drivers, those wearing pacemakers, and Tori's insurance company may find the following pictures disturbing.

345

00:26:15,000 --> 00:26:19,000

Yeah, he's looking a little squirrely, just like I was.

346

00:26:19,000 --> 00:26:24,000

Incredibly, he makes it back in one piece, but what exactly was his speed?

347

00:26:27,000 --> 00:26:36,000

I guess around the first set of bumps, I probably hit around 70, and by the time I passed the high-speed camera, I was close to 75.

348

00:26:36,000 --> 00:26:42,000

Man, well, yeah, let's see what the data says.

349

00:26:42,000 --> 00:26:51,000

And for that, it's back to the shop, where Adam and Jamie lend Grant their massive brains in an attempt to decipher the data.

350

00:26:51,000 --> 00:27:03,000

The numbers from the glass pyramid and suspension gauge quite clearly showed that the faster you go, the bumpier the ride, leaving the myth on a road to nowhere.

351

00:27:03,000 --> 00:27:06,000

Now, finally, I have my accelerometer data.

352

00:27:06,000 --> 00:27:12,000

But the accelerometer data on this comparative graph says just the opposite.

353

00:27:12,000 --> 00:27:19,000

The dark line of the 20-mile-an-hour test shows more G-Force peaks, representing a bumpier ride.

354

00:27:21,000 --> 00:27:30,000

Yeah, the 70 miles an hour, the first, like, 70% of the test seems to be smoother than the 15 miles an hour, but again, like the 45, the spikes are higher.

355

00:27:30,000 --> 00:27:38,000

Well, our data is in a little bit of conflict here. I mean, clearly, as you go faster, you lose more water and you have more deflection on the suspension.

356

00:27:38,000 --> 00:27:50,000

But our accelerometer says during that part where, you know, the road is fairly uniform, you actually have a better smoother ride when you're driving faster.

357

00:27:50,000 --> 00:27:58,000

So what we're saying here is that the myth is plausible. But I really don't think that we can put this one to bed unless we test the washboard road.

358

00:27:58,000 --> 00:28:08,000

But that is the type of road surface that people think about and have experienced that driving faster makes for a smoother ride, and I think you should try it and get the data to support that.

359

00:28:08,000 --> 00:28:19,000

So it's back to the drawing board. If the team want to nail this myth, maybe they have to build a replica of a track the tale is based on, the washboard road.

360

00:28:19,000 --> 00:28:27,000

These corrugated dirt tracks are common in the Australian Outback, and Grant takes time out to discover how they're formed.

361

00:28:27,000 --> 00:28:37,000

So it turns out washboarding is created by the response of your car suspension to alternatively accelerating or braking or hitting a pothole.

362

00:28:37,000 --> 00:28:46,000

What that does is it sets up an oscillation in the suspension that alternatively compacts the dirt or makes it fly up, creating that pattern.

363

00:28:46,000 --> 00:28:50,000

After the break, Adam shows off his massive myth woofer.

364

00:28:50,000 --> 00:28:52,000

Holy cow, how big is that?

365

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

And the rough road to success sends the build team round the bend.

366

00:28:56,000 --> 00:28:58,000

I have come to take over the world.

367

00:29:10,000 --> 00:29:14,000

Adam and Jamie have souped up their ride with one thing in mind.

368

00:29:14,000 --> 00:29:23,000

Here we have the original factory installation, and here we have the custom, more deluxe, a little over the top installation.

369

00:29:23,000 --> 00:29:35,000

They're testing the myth that you can do this with a car stereo, and their diesel powered speaker is just about ready to fire up.

370

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

Now we just have to decide what tune we're going to play.

371

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

DJ Jamie may be thinking about breaking out his hip hop collection, but the sounds this speaker will generate won't be music to anyone's ears.

372

00:29:48,000 --> 00:29:58,000

We will not be piping a sound into this speaker, but it will be making a sound. Let me explain.

373

00:29:58,000 --> 00:30:06,000

We are merely creating a set of pressure waves, specifically just using the car's engine to make this thing go up and down about 15 to 20 times per second.

374

00:30:06,000 --> 00:30:12,000

That is sound, because all sound is, is a set of oscillating pressure waves.

375

00:30:12,000 --> 00:30:24,000

It's probably going to be too low to actually hear anything, because humans can't hear really subsonic sounds, like under 20, 25 hertz, or 20 to 25 vibrations per second.

376

00:30:24,000 --> 00:30:31,000

But it will be incredibly high in the decibel range, and decibels is only a measure of pressure.

377

00:30:31,000 --> 00:30:37,000

So that's it. Adam and Jamie's diesel powered subwoofer is all set to sound off.

378

00:30:37,000 --> 00:30:47,000

And fresh from the DV drag race in Daytona, our Duke of decibels, Wayne Harris, is here to help measure the myth woofer's subsonic output.

379

00:30:47,000 --> 00:30:50,000

Check it out.

380

00:30:50,000 --> 00:30:58,000

It's like the world's largest walk. Holy cow, how big is that?

381

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

Good question. How big is it?

382

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

It is, it's 51 inches in diameter.

383

00:31:03,000 --> 00:31:08,000

Judging by that stunned expression, Wayne has never seen one as big as Adam's.

384

00:31:08,000 --> 00:31:14,000

Yeah, it's very, I mean, go big or stay home. I'm not a...

385

00:31:14,000 --> 00:31:17,000

I don't know if there's much more speaker that could be fit in here.

386

00:31:17,000 --> 00:31:19,000

No, I don't think so.

387

00:31:19,000 --> 00:31:25,000

And after a guided tour of the speaker specs, Wayne is still wearing that bemused look.

388

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

I was thinking, you know, you're going to hook it up to the engine.

389

00:31:27,000 --> 00:31:29,000

I didn't realize you were going to use the transmission.

390

00:31:29,000 --> 00:31:34,000

So you got some serious torque. I don't even know how to convert that into equivalent power.

391

00:31:34,000 --> 00:31:40,000

So it's time to raise the curtain on this tall tail of the shattering subwoofer.

392

00:31:40,000 --> 00:31:46,000

Adam tapes off a safety zone, and the myth woofer is ready to roll.

393

00:31:46,000 --> 00:31:48,000

Go.

394

00:31:48,000 --> 00:31:51,000

Wayne prepares his measuring equipment.

395

00:31:51,000 --> 00:31:58,000

The setup is simple. A precision sound pressure level sensor will sit on the windshield inside the car.

396

00:31:58,000 --> 00:32:02,000

And Wayne will get a decibel reading on his laptop at a safe distance.

397

00:32:02,000 --> 00:32:04,000

All right. High speed ready?

398

00:32:04,000 --> 00:32:05,000

Ready.

399

00:32:05,000 --> 00:32:08,000

Well, it's almost time to fire this thing off.

400

00:32:08,000 --> 00:32:11,000

And potentially blow up this car.

401

00:32:11,000 --> 00:32:16,000

But first, I'd like to do one quick test run just to make sure it's operational.

402

00:32:16,000 --> 00:32:19,000

Open all the doors so we don't build up any pressure.

403

00:32:19,000 --> 00:32:23,000

Turn on the engine, make a test of pulling the car into gear,

404

00:32:23,000 --> 00:32:26,000

and test of pulling the throttle just a little bit.

405

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

The myth woofer has yet to be tried.

406

00:32:30,000 --> 00:32:35,000

The aim of this preliminary test is simply to check the massive speaker is working.

407

00:32:35,000 --> 00:32:40,000

You know what will make this test a success is the rig itself not failing.

408

00:32:40,000 --> 00:32:43,000

My big concern is that the subwoofer is not going to hold together.

409

00:32:43,000 --> 00:32:49,000

There's going to be tremendous forces at play on the linkage between the engine and the cone of the woofer.

410

00:32:49,000 --> 00:32:54,000

And if the cone starts to fluctuate, it could literally rip itself apart.

411

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

You ready, Wayne?

412

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

Ready.

413

00:32:56,000 --> 00:32:57,000

Okay.

414

00:33:01,000 --> 00:33:02,000

Stop.

415

00:33:06,000 --> 00:33:07,000

That looks like it worked.

416

00:33:08,000 --> 00:33:14,000

Like a dream, Adam pulled the throttle, the driveshaft spun the crank, which pumped the pushrod,

417

00:33:14,000 --> 00:33:18,000

and that in turn pumped the speaker cone through several cycles.

418

00:33:19,000 --> 00:33:22,000

Dude, I'm cautiously optimistic.

419

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

That's exactly what we wanted to see.

420

00:33:25,000 --> 00:33:29,000

We wanted to see it go without any big ka-plang and things shooting off.

421

00:33:29,000 --> 00:33:31,000

So we know the rig works.

422

00:33:31,000 --> 00:33:34,000

Now it's time to close the door and do it under pressure.

423

00:33:38,000 --> 00:33:45,000

So far, it's Rough Road Myth 1, Carrie Grant and Tori Zip.

424

00:33:45,000 --> 00:33:50,000

To even the score, the team have de-camped to the wide open asphalt of Alameda.

425

00:33:50,000 --> 00:33:54,000

The dirt road data they've gathered so far is a little confusing.

426

00:33:54,000 --> 00:34:01,000

The pyramid and the suspension gauge seem to indicate a faster ride is a bumpier ride.

427

00:34:01,000 --> 00:34:02,000

Wow!

428

00:34:03,000 --> 00:34:07,000

But Grant's accelerometer hinted at the opposite.

429

00:34:07,000 --> 00:34:13,000

To solve the problem, our intrepid trio have decided to build a washboard road of their own.

430

00:34:13,000 --> 00:34:15,000

So, Carrie, what's the plan?

431

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

The plan today is going to be a little back-breaking.

432

00:34:19,000 --> 00:34:27,000

We have about 4,000 pounds of steel angle iron that we are going to lay with about 8-inch increments

433

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

and weld them all down to make one long track.

434

00:34:31,000 --> 00:34:33,000

It's going to be belongs out here.

435

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

It doesn't look that tough, especially if you edit the sequence like this.

436

00:34:41,000 --> 00:34:46,000

Voila! One easy to assemble, straight out of the box, washboard road.

437

00:34:46,000 --> 00:34:48,000

Grant's going to tell us more about it.

438

00:34:48,000 --> 00:34:54,000

We've taken this angle iron and welded it to the steel here, creating a washboard pattern.

439

00:34:54,000 --> 00:35:01,000

And our research indicates that 4 inches tall and about 8 inches apart is about as bad as washboarding can get.

440

00:35:03,000 --> 00:35:10,000

So this steel track is an exact replica of the corrugated roads in Australia where the myth comes from.

441

00:35:10,000 --> 00:35:14,000

Which means when Tari's finished his siesta, there's just one thing left to do.

442

00:35:14,000 --> 00:35:20,000

The test is going to be, we're just going to drive over our strip of washboard at different speeds.

443

00:35:20,000 --> 00:35:25,000

Probably start around 10 miles an hour and then slowly ramp up to 70 miles an hour.

444

00:35:25,000 --> 00:35:30,000

For these runs, the team are just using the glass pyramid and the accelerometer.

445

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

5 miles an hour and he's still wearing his helmet.

446

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

And Grant is all set for the first run.

447

00:35:38,000 --> 00:35:40,000

NASCAR, it ain't.

448

00:35:40,000 --> 00:35:45,000

Cruising at a breakneck 5 miles an hour, he hits the test track.

449

00:35:46,000 --> 00:35:51,000

But surprisingly, Grant and the glass pyramid are really feeling the vibe.

450

00:35:51,000 --> 00:35:53,000

Oh, look at the glasses spilling.

451

00:35:53,000 --> 00:35:55,000

Interesting.

452

00:35:55,000 --> 00:35:56,000

That's pretty bumpy.

453

00:35:56,000 --> 00:35:57,000

I saw that.

454

00:35:57,000 --> 00:36:00,000

You could see all the water jumping out of the glass.

455

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

The glass pyramid showed a lot of activity, but the high speed is inconclusive.

456

00:36:05,000 --> 00:36:10,000

The wheel is bouncing, but how much? We won't know until we see a comparison.

457

00:36:11,000 --> 00:36:13,000

Time for run number two.

458

00:36:13,000 --> 00:36:16,000

Grant has to keep the speed at a steady 40 miles an hour.

459

00:36:18,000 --> 00:36:23,000

Tori and Carrie are charged with the responsibility of timing the run.

460

00:36:23,000 --> 00:36:24,000

Did you time it?

461

00:36:24,000 --> 00:36:26,000

I did it when 1000 rach!

462

00:36:26,000 --> 00:36:32,000

Okay, so the timing thing didn't work out, but the high speed camera is very interesting.

463

00:36:32,000 --> 00:36:37,000

Compared to the slow run, the wheels are skimming across the tops of the bumps.

464

00:36:38,000 --> 00:36:41,000

Just by feeling it, it fell a lot smoother.

465

00:36:41,000 --> 00:36:42,000

Really?

466

00:36:42,000 --> 00:36:44,000

I don't know what the data is going to say, but just...

467

00:36:44,000 --> 00:36:46,000

Okay, let's count up our water.

468

00:36:46,000 --> 00:36:50,000

But there's some head scratching, because the numbers just don't add up.

469

00:36:50,000 --> 00:36:52,000

You ready for the countdown?

470

00:36:52,000 --> 00:36:53,000

Yep.

471

00:36:53,000 --> 00:36:58,000

Although Grant experienced a smoother ride, there was more water lost than the slower run.

472

00:36:58,000 --> 00:36:59,000

Tear.

473

00:36:59,000 --> 00:37:01,000

Yeah, those two there. Looks like you've lost two.

474

00:37:01,000 --> 00:37:06,000

Which means the physical data contradicts Grant's subjective experience in the car.

475

00:37:08,000 --> 00:37:13,000

Tori and Grant respond to this clip and the proceedings in their own special way.

476

00:37:13,000 --> 00:37:14,000

You'll never defeat me!

477

00:37:14,000 --> 00:37:16,000

I have come to take over the world!

478

00:37:19,000 --> 00:37:22,000

And with that done, it's time for the final run.

479

00:37:22,000 --> 00:37:26,000

And Grant feels the need, the need for speed.

480

00:37:26,000 --> 00:37:29,000

This run is going to hit 70 miles an hour.

481

00:37:29,000 --> 00:37:33,000

So, if you start steering in towards us, let's just run.

482

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

Grant and the Cutlass fly over the track.

483

00:37:40,000 --> 00:37:46,000

The high-speed camera again confirms the tires skip across the peaks of the corrugations,

484

00:37:46,000 --> 00:37:48,000

exactly as the myth suggests.

485

00:37:48,000 --> 00:37:51,000

It's built actually pretty smooth.

486

00:37:51,000 --> 00:37:52,000

Yeah, it looked really smooth.

487

00:37:52,000 --> 00:37:55,000

I mean, subjectively, very smooth.

488

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

From the glasses, it's looking really good.

489

00:37:56,000 --> 00:37:58,000

It looks like there's a lot less spillage this time.

490

00:37:58,000 --> 00:38:04,000

This time, the water lost from the pyramid backs up both Grant's experience and the high-speed results.

491

00:38:04,000 --> 00:38:07,000

No quarter. That's it.

492

00:38:07,000 --> 00:38:08,000

That's it.

493

00:38:08,000 --> 00:38:09,000

That's it.

494

00:38:09,000 --> 00:38:11,000

So, it's looking good for myth confirmed.

495

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

And Tori celebrates with a few skid marks.

496

00:38:15,000 --> 00:38:18,000

Well, Jamie, we went ahead and built our artificial washboard.

497

00:38:18,000 --> 00:38:24,000

I think we can conclusively say driving faster on a rough road will give you a smoother ride.

498

00:38:24,000 --> 00:38:28,000

Still, you know, you're driving 70 miles an hour and you hit a pothole,

499

00:38:28,000 --> 00:38:31,000

you're going to break your suspension with that kind of mass and velocity.

500

00:38:31,000 --> 00:38:32,000

What's the verdict?

501

00:38:32,000 --> 00:38:35,000

Well, as far as the myth goes, it's confirmed.

502

00:38:35,000 --> 00:38:36,000

Confirmed?

503

00:38:36,000 --> 00:38:37,000

Confirmed.

504

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

Cool.

505

00:38:55,000 --> 00:39:04,000

Adam and Jamie have successfully tested the world's first diesel-powered speaker.

506

00:39:04,000 --> 00:39:11,000

The question now is how to maximize the rig's potential for the real experiment.

507

00:39:11,000 --> 00:39:16,000

Do we bring it up to a certain speed and just run until it buzzes, or do we try and like...

508

00:39:16,000 --> 00:39:21,000

Like that. I just... I want to crank it and just send it to the moon.

509

00:39:21,000 --> 00:39:25,000

Adam's solution has got myth busters stamped all over it.

510

00:39:25,000 --> 00:39:26,000

Let's do it.

511

00:39:26,000 --> 00:39:29,000

Excess. And lots of it.

512

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

Adam fires up the engine and Wayne gets into position at the recording station.

513

00:39:35,000 --> 00:39:44,000

In order for this myth to be true, we need to see this car destroyed in some fashion by the sound system,

514

00:39:44,000 --> 00:39:46,000

i.e. our big speaker.

515

00:39:46,000 --> 00:39:48,000

Anything else in this thing is pretty much busted.

516

00:39:48,000 --> 00:39:54,000

Of course, Adam and Jamie are impartial scientists, so a result either way is valid.

517

00:39:54,000 --> 00:39:57,000

But let's face it, music to their ears...

518

00:39:57,000 --> 00:40:01,000

We've got three melodies. It's called first gear, second gear, and third gear.

519

00:40:01,000 --> 00:40:03,000

...will be the sound of shattering car.

520

00:40:03,000 --> 00:40:04,000

Ready. Let's go for it.

521

00:40:04,000 --> 00:40:07,000

In three, two, one.

522

00:40:07,000 --> 00:40:22,000

Now that didn't go to plan. The car is very unexploded.

523

00:40:22,000 --> 00:40:27,000

I'm thinking the audio guy better get ready with the bleep machine.

524

00:40:27,000 --> 00:40:29,000

There you go.

525

00:40:29,000 --> 00:40:34,000

I don't see no cracked glass.

526

00:40:35,000 --> 00:40:39,000

And why not? Because the speaker sure did look like it was working.

527

00:40:39,000 --> 00:40:43,000

And if it was, it was pumping out some serious sound pressure.

528

00:40:43,000 --> 00:40:47,000

It actually, to me, looked like a piece of medical hardware when it was pumped.

529

00:40:47,000 --> 00:40:49,000

It looked like some kind of...

530

00:40:49,000 --> 00:40:56,000

I mean, it was so kind of barbarically primitive in the way it was moving.

531

00:40:56,000 --> 00:41:03,000

And yet, I was so gratefully pleased to see that it was moving exactly as we intended it to move.

532

00:41:05,000 --> 00:41:09,000

Check this out. Blew the sunroof completely out of its tracks.

533

00:41:09,000 --> 00:41:11,000

Oh, no!

534

00:41:11,000 --> 00:41:14,000

Well, that's probably the reason the windows didn't go hot.

535

00:41:14,000 --> 00:41:18,000

Yeah, once you have any type of opening, you know, all the pressure inside is released.

536

00:41:18,000 --> 00:41:21,000

The reason that we didn't get an explosion or shattered glasses,

537

00:41:21,000 --> 00:41:24,000

because when you put pressure in a car like this,

538

00:41:24,000 --> 00:41:28,000

that pressure is going to find the first outlet it can and release itself.

539

00:41:28,000 --> 00:41:33,000

In this case, it popped the sunroof off of its tracks itself, not a small feat.

540

00:41:33,000 --> 00:41:36,000

And at that point, nothing else was going to fail,

541

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

because the air had plenty of room to move around then by escaping from the car.

542

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

Okay, so the sound pressure escaped into the wild blue yonder via the sunroof,

543

00:41:46,000 --> 00:41:50,000

leaving the windows and the rest of the car intact.

544

00:41:50,000 --> 00:41:56,000

But how many decibels did the myth woofer pump out before it broke down?

545

00:41:56,000 --> 00:42:00,000

It did a 161.3 when it failed,

546

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

but what really impresses is it did it at 16 hertz.

547

00:42:04,000 --> 00:42:09,000

That is just almost unheard of to produce sound pressure levels that high at such low frequencies.

548

00:42:09,000 --> 00:42:12,000

It just takes a tremendous amount of energy to do that.

549

00:42:12,000 --> 00:42:16,000

Remember, a jet engine with 15,000 pounds of thrust

550

00:42:16,000 --> 00:42:20,000

generates 165 decibels of sound pressure.

551

00:42:20,000 --> 00:42:24,000

Wow, it's just an incredible amount of force.

552

00:42:24,000 --> 00:42:27,000

With the myth woofer pumping out that kind of sound energy,

553

00:42:27,000 --> 00:42:29,000

and the car still not detonating,

554

00:42:29,000 --> 00:42:31,000

now there's the failure.

555

00:42:31,000 --> 00:42:35,000

This myth is looking as busted as, well, the myth woofer.

556

00:42:35,000 --> 00:42:39,000

Wow, it's a violent thing. It's a heck of a tune.

557

00:42:39,000 --> 00:42:41,000

Did someone ask for a tune?

558

00:42:41,000 --> 00:42:44,000

The fat lady is warming up right now.

559

00:42:44,000 --> 00:42:48,000

Well, guys, what are we going to call this? Busted, plausible, or confirmed?

560

00:42:48,000 --> 00:42:50,000

That's busted, without a doubt.

561

00:42:50,000 --> 00:42:53,000

Look, we created some ludicrously high decibel levels,

562

00:42:53,000 --> 00:42:56,000

and the pressure did exactly what it'll do on any car.

563

00:42:56,000 --> 00:42:59,000

It found one outlet, popped out through there,

564

00:42:59,000 --> 00:43:01,000

and stopped acting on the rest of the car.

565

00:43:01,000 --> 00:43:05,000

I'm not saying you can't smash glass with sound.

566

00:43:05,000 --> 00:43:09,000

I mean, I think that's entirely possible, but you cannot destroy a car.

567

00:43:09,000 --> 00:43:13,000

Face it, this speaker's so big you can't get in the car,

568

00:43:13,000 --> 00:43:18,000

so it's ridiculously oversized, and it's powered by the diesel.

569

00:43:18,000 --> 00:43:24,000

If that doesn't do it, then any kind of regular conventional speaker isn't going to do it,

570

00:43:24,000 --> 00:43:26,000

even a really, really big one.

571

00:43:26,000 --> 00:43:28,000

No, it's totally busted.