

1

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

on this combustible episode of mythbusters.

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

Oh, that's pretty.

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

Adam and Jamie try a little tenderness.

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

Red meat and high explosives.

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

They're testing the myth that blasting the heck out of low-grade steak

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

with high explosives makes it so much softer.

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

It's awesome. I love results.

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

Then Carrie gets to torture Grant and Tori.

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

I knew that we would make him angry, but I didn't realize he'd be this angry.

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

To see if stressed out drivers really do use more gas.

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

Where did those rats go?

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

I didn't know. I really am.

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

Who are the mythbusters?

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

Adam Savage.

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

Hal, people of Earth.

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

And Jamie Heidemann.

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

Mushroom.

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

Between them more than 30 years of special effects experience.

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00:01:11,000 --> 00:01:14,000

These things are always catching on fire.

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

Joining them, Carrie Byron.

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00:01:16,000 --> 00:01:18,000

I feel so sci-fi.

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00:01:18,000 --> 00:01:20,000

Grant Imahara.

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

Warning, warning.

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00:01:21,000 --> 00:01:22,000

And Tori Bellachy.

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

All right, release the hound.

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00:01:24,000 --> 00:01:27,000

They don't just tell the myths.

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00:01:27,000 --> 00:01:30,000

They put them to the test.

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00:01:42,000 --> 00:01:45,000

Adam, I thought we talked about doing that while you were at work.

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

Ha ha. Oh, Jamie, my friend.

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00:01:47,000 --> 00:01:50,000

You know, many fans have written to us over the years and said,

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00:01:50,000 --> 00:01:55,000

mythbusters is the best way to tenderize by steak.

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00:01:55,000 --> 00:01:59,000

Now, thanks to a viewer submission, we may have a new technique.

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00:01:59,000 --> 00:02:04,000

For we might replace this with this.

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00:02:04,000 --> 00:02:10,000

The question we'll be answering is, can you tenderize a steak with explosives?

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00:02:10,000 --> 00:02:12,000

Ha ha ha ha ha ha.

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00:02:12,000 --> 00:02:14,000

Oh, it went down.

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00:02:15,000 --> 00:02:18,000

Over the years, we've used explosives.

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00:02:20,000 --> 00:02:23,000

To answer all sorts of vital questions,

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

can they clear a clogged up cement truck?

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00:02:28,000 --> 00:02:30,000

Can they help cushion a fall?

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00:02:31,000 --> 00:02:34,000

And can they make a surfable wave?

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00:02:36,000 --> 00:02:41,000

Now, it's time to open the fridge on combustible condiments.

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00:02:41,000 --> 00:02:46,000

So, Adam, if we're using explosives on steaks, wouldn't it just blow up the steak?

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00:02:46,000 --> 00:02:48,000

I'm going to go without the accent. No, okay, it's too hot.

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00:02:48,000 --> 00:02:49,000

Okay.

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00:02:49,000 --> 00:02:54,000

No, it won't. In fact, the technique we'll be testing involves putting the meat into a vacuum sealed bag,

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00:02:54,000 --> 00:03:00,000

putting that into a barrel of water, and then detonating a small amount of explosives in the water.

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

The theory is that the shock wave created by the explosive will actually tear apart micro-tissue fibers within the meat,

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00:03:06,000 --> 00:03:08,000

rendering it a heck of a lot more tender.

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00:03:08,000 --> 00:03:13,000

A steak's tenderness depends very much on where it's cut from the cow.

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00:03:13,000 --> 00:03:16,000

Meat from the short ribs is super soft.

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00:03:16,000 --> 00:03:20,000

Meat from the neck and the rump? Not so squishy.

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00:03:20,000 --> 00:03:24,000

It's all due to the strength of the connective tissue between muscle fibers.

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00:03:24,000 --> 00:03:27,000

The weaker the tissue, the softer the meat.

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00:03:27,000 --> 00:03:35,000

Two common ways to break those bonds are powdered pineapple enzymes and a sound thrashing.

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00:03:35,000 --> 00:03:40,000

But the fans want to see this third method thoroughly investigated.

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00:03:40,000 --> 00:03:43,000

If you're going to tenderize meat with explosives,

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00:03:43,000 --> 00:03:47,000

it's not like you're just going to throw a stick of dynamite on the steak and expect it to work.

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00:03:47,000 --> 00:03:55,000

You've got to put it in water because the water is actually going to transmit the pressure of the blast wave a lot more effectively.

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00:03:55,000 --> 00:03:59,000

And you also don't want to contaminate the meat. You've got to seal it in something.

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

So we're going to vacuum bag this meat in some really tough plastic.

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00:04:03,000 --> 00:04:09,000

These crash test steaks are all relatively low-grade select cuts.

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00:04:09,000 --> 00:04:11,000

So there's plenty of room for improvement.

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00:04:11,000 --> 00:04:17,000

They're sealed and delivered. Not to the kitchen, but the bomb range.

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00:04:17,000 --> 00:04:22,000

By popular demand, today we are joining two of my favorite steaks.

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00:04:22,000 --> 00:04:28,000

Red meat and high explosives.

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00:04:28,000 --> 00:04:34,000

What we're creating here is a shock wave that is traveling at supersonic speeds.

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00:04:34,000 --> 00:04:39,000

And it is just ripping apart all those little fibers that make up the muscle of the meat.

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00:04:39,000 --> 00:04:41,000

Hence it's tender.

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00:04:41,000 --> 00:04:47,000

As to how much explosive they need, well, they'll find that out by trial and error.

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00:04:47,000 --> 00:04:52,000

Tenderizing steak with explosives in three, two, one.

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00:04:52,000 --> 00:04:55,000

Oh!

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00:04:55,000 --> 00:05:00,000

Jamie, I think that was too much explosives.

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

Some chefs add too much salt. Some go nuts with the garlic.

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

But Frank's added way too much C4.

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00:05:10,000 --> 00:05:15,000

What can you say? This recipe is just plain wrong.

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00:05:15,000 --> 00:05:20,000

Everything else is gone, but the steak is here. Sort of.

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00:05:20,000 --> 00:05:26,000

So while Adam and Jamie recalibrate, let's jumpstart our second myth.

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

Okay, I'm relaxed.

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

What does a shoulder massage have to do with fuel efficiency?

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00:05:42,000 --> 00:05:45,000

According to this myth, there's a really easy way to save gas.

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00:05:45,000 --> 00:05:50,000

Forget nitrogen in your tires, forget gadgets in your tank. This one has to do with feelings.

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00:05:50,000 --> 00:05:53,000

The idea is that if you're driving and you're relaxed and you're happy,

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00:05:53,000 --> 00:05:56,000

you'll save a lot more fuel than if you're angry and stressed out.

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00:05:56,000 --> 00:05:59,000

So if you want to save fuel, don't drive angry.

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00:05:59,000 --> 00:06:01,000

Precisely.

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00:06:02,000 --> 00:06:08,000

It's a widely accepted fact that bad driving habits like stopping and starting abruptly

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00:06:08,000 --> 00:06:11,000

result in less fuel efficiency.

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00:06:11,000 --> 00:06:19,000

But could the simple act of driving stressed turn an otherwise careful motorist into a gas guzzler?

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00:06:19,000 --> 00:06:21,000

You know, I really like the sound of this myth.

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00:06:21,000 --> 00:06:25,000

I mean, you get to relax, kick back, and then take a little drive.

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00:06:25,000 --> 00:06:27,000

You know, it's not going to be all easy, though.

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00:06:27,000 --> 00:06:29,000

It sounds like we're going to have to get stressed out, too.

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

Yeah, in fact, I think it's going to be dangerous, so we're not going to do this on the road.

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

We're going to go to an abandoned neighborhood, and I'm going to set up a course.

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00:06:35,000 --> 00:06:43,000

And this is the Test Track, a once-thriving California suburb that someone pulled the plug on.

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

This is Cypress Noles, and it's an abandoned military housing neighborhood.

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00:06:47,000 --> 00:06:49,000

And the city of Marina has agreed to let us use it.

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00:06:49,000 --> 00:06:53,000

And there are plenty of neighborhood streets, and we are going to be tearing around these streets

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00:06:53,000 --> 00:06:57,000

to see if you use more fuel when you drive stressed.

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00:06:57,000 --> 00:07:02,000

The place is so decrepit that Kari's forced to make some running repairs.

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00:07:02,000 --> 00:07:13,000

We've set up a course that includes traffic lights, different speed limits, stop signs, obstacles, and u-turns.

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00:07:13,000 --> 00:07:20,000

These streets haven't seen traffic for 15 years, so for the test car, we've gone retro-rusty.

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00:07:20,000 --> 00:07:22,000

So this is the car that we're going to use for our test.

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

Now it's pretty old, and it doesn't get great gas mileage, but that doesn't matter.

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

What we're trying to test here is whether or not driving stressed out or driving calm

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00:07:31,000 --> 00:07:33,000

has a difference on whether or not you use more fuel.

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00:07:33,000 --> 00:07:40,000

And to get a precise reading on fuel usage, they'll bypass the car's gas tank for a gas bag.

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00:07:40,000 --> 00:07:48,000

What we're doing is measuring the fuel before and after, but not by volume, but actually by weight, so that it's more precise.

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00:07:48,000 --> 00:07:54,000

Now for a few practice laps, just to get a feel for the car and the old neighborhood.

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00:07:55,000 --> 00:07:56,000

Alright, goes first.

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00:07:56,000 --> 00:07:57,000

We're shimbo.

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

Dynamite.

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00:08:01,000 --> 00:08:03,000

There's no dynamite.

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00:08:03,000 --> 00:08:05,000

No, you're pointing at me. That means I go first.

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00:08:07,000 --> 00:08:14,000

Kari's marked out a 4-mile course that, like most racetracks, finally brings you back to where you started.

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00:08:14,000 --> 00:08:17,000

Grant's the first to try a test lap.

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00:08:18,000 --> 00:08:21,000

Approaching playground, on right.

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

On the playground, on right, and turn left.

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

Then Tori tries cruising the Koldesat.

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

It's like a modern day ghost town.

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00:08:39,000 --> 00:08:41,000

Alright, looking for smashed computers.

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00:08:41,000 --> 00:08:44,000

Does this GPS sound condescending, or is it just me?

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

I don't want to feel this way.

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00:08:48,000 --> 00:08:50,000

I'm a sole survivor.

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00:08:50,000 --> 00:08:53,000

I'm searching, searching for a lone survivor.

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00:08:53,000 --> 00:08:56,000

Hopefully it's a female so I can start procreating.

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00:08:57,000 --> 00:09:05,000

That's enough of that, though it might surprise Tori to learn that a rather more wholesome fantasy awaits him just around the corner.

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00:09:10,000 --> 00:09:12,000

Home, home on the bomb range.

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00:09:13,000 --> 00:09:21,000

Adam and Janie are testing a viewer myth that low-grade stakes can be tenderized with high explosives.

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00:09:21,000 --> 00:09:24,000

So far, it's a total bust.

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00:09:24,000 --> 00:09:32,000

Now we're going to pull it all the way back in the other direction and detonate what is essentially an extra-large firecracker full of aluminized black powder,

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00:09:32,000 --> 00:09:35,000

which is a fairly low-speed explosive as opposed to what we just used.

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00:09:35,000 --> 00:09:41,000

And remember kids, do not try this at home.

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00:09:42,000 --> 00:09:50,000

Barrels of water and low-velocity explosives might not sound like a good tenderization technique,

but hey, it's worth a shot.

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00:09:51,000 --> 00:09:56,000

When Adam and Janie tested an age-old idiom, the results were surprising.

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00:09:56,000 --> 00:09:57,000

I killed it!

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00:09:57,000 --> 00:10:02,000

They found out it's not the bullet that kills Vish in a barrel, but the shockwave.

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00:10:02,000 --> 00:10:09,000

The question now is can a similar shockwave rip through cow flesh and tenderize a stake?

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

The low explosive we're using is like a really big firecracker.

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00:10:14,000 --> 00:10:17,000

It's illegal for you to have, but of course these guys can have one.

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00:10:17,000 --> 00:10:19,000

It requires a fuse to light it.

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00:10:19,000 --> 00:10:25,000

Now getting a fuse to light into water is not undoable, but it's a little finicky.

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00:10:25,000 --> 00:10:31,000

Finicky for some, but for JD, it's just like shooting Vish in a barrel.

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00:10:31,000 --> 00:10:33,000

That was a nice little blast.

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

It sure was. The buckets destroyed.

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00:10:37,000 --> 00:10:40,000

But more importantly, how's the steak?

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00:10:40,000 --> 00:10:45,000

Well that went perfect. The explosion went off and we didn't ruin our bag of meat.

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00:10:45,000 --> 00:10:48,000

Now I can't tell anything specific just by touching this meat.

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00:10:48,000 --> 00:10:52,000

The proof in any improvement in texture is really going to be in the cooking.

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00:10:52,000 --> 00:10:54,000

One, two, three.

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00:10:54,000 --> 00:10:58,000

The bag's intact, so the steak's still good to eat.

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00:10:58,000 --> 00:11:02,000

Even better, they've tracked down someone at the Department of Agriculture

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00:11:02,000 --> 00:11:06,000

who says he knows how to blast a steak to perfection.

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

And they say that we've got to put a steel plate at the bottom of the barrel.

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00:11:11,000 --> 00:11:18,000

We have to suspend it in the air and they gave us the precise amount of explosive we have to use.

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00:11:18,000 --> 00:11:20,000

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

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00:11:20,000 --> 00:11:23,000

In a few minutes we should have very tasty meat.

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00:11:24,000 --> 00:11:29,000

And just for the record, this one goes back to using high explosives.

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00:11:29,000 --> 00:11:34,000

So we've done baby bearer and we've done papa bearer. This is Goldilocks, right?

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00:11:34,000 --> 00:11:39,000

This is the recommended recipe. In, three, two, one.

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00:11:42,000 --> 00:11:43,000

Oh, look at that.

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

Boom times for fans of exploding meat.

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

And just like last time, the steak is...

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00:11:50,000 --> 00:11:51,000

Not breached.

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00:11:51,000 --> 00:11:54,000

And that means it's time to get cooking.

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00:11:54,000 --> 00:11:58,000

As the sun goes down, the Barbie fires up.

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00:11:58,000 --> 00:12:01,000

So let's meet the meat.

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00:12:01,000 --> 00:12:05,000

Now the first one is a low grade steak. It's not been altered or tenderized in any way.

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

The second one is that same low grade steak, but we've tenderized it with a low explosive.

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

The third one, we've tenderized with a high explosive.

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00:12:13,000 --> 00:12:18,000

The fourth one, we've tenderized with a pineapple enzyme commercial preparation.

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

Now the last one is a prime steak that's been aged 28 days.

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00:12:22,000 --> 00:12:26,000

We're going to test all of these and see which one is the most tender.

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00:12:26,000 --> 00:12:31,000

And so is not to influence the results, Adam adds a touch of color.

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

We have five different cuts of meat to cook and test.

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00:12:34,000 --> 00:12:38,000

Each of those cuts of meat has been assigned a color, which matches to these pans

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00:12:38,000 --> 00:12:40,000

and our little taste test bowls here.

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

To ensure there's no bias from the Barbie,

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00:12:43,000 --> 00:12:47,000

steak chef Joe Cohn cooks all five cuts just the same.

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00:12:47,000 --> 00:12:54,000

And another celebrity chef has been invited to dine in the dirt.

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00:12:54,000 --> 00:12:58,000

We're bringing in Ron Siegel, who's the chef at the Ritz Carlton,

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00:12:58,000 --> 00:13:03,000

and he's the only American ever to win Japanese iron chef program.

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

Ron, thanks for coming on to help us out.

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

Thanks for coming out to the bomb range.

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

Thank you.

187

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

All right, where are those steaks?

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

It turns out that Ron is double qualified to judge this contest.

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00:13:16,000 --> 00:13:19,000

He began his professional life as a butcher.

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00:13:19,000 --> 00:13:27,000

Gentlemen, we get five cuts of meat and we are to rate them from the least tender to the most tender.

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00:13:27,000 --> 00:13:29,000

It's all about tender.

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00:13:29,000 --> 00:13:31,000

Let the chewing commence.

193

00:13:35,000 --> 00:13:37,000

Steak's good.

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00:13:37,000 --> 00:13:39,000

Some of it is better than others.

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00:13:42,000 --> 00:13:47,000

I'm done.

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00:13:47,000 --> 00:13:50,000

So, drum roll please.

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00:13:50,000 --> 00:13:55,000

Three different tasters and three totally different results.

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00:13:55,000 --> 00:14:02,000

For this myth to be true, the order should be red, yellow, blue, pink, then green.

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00:14:02,000 --> 00:14:05,000

But no one agreed on anything.

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00:14:05,000 --> 00:14:07,000

And that's got Adam worried.

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

Even though we had five different samples here, the main thing we wanted to see was that the green,

202

00:14:12,000 --> 00:14:17,000

the high explosive tenderized meat, would be rated higher than the red, our control.

203

00:14:17,000 --> 00:14:21,000

And even though I did that, neither Ron nor Jamie felt like that.

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00:14:21,000 --> 00:14:24,000

So right now it's not looking that good for this myth.

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

Let's get back to the shop and crunch the numbers. I'm cold.

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00:14:26,000 --> 00:14:28,000

All right.

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00:14:28,000 --> 00:14:30,000

Is there any more steak left?

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00:14:31,000 --> 00:14:35,000

Here's a few simple rules for safe driving.

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00:14:35,000 --> 00:14:39,000

Don't do it drunk, distracted or stressed.

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00:14:39,000 --> 00:14:44,000

Aside from the danger, driving under duress might add to your fuel bill.

211

00:14:44,000 --> 00:14:48,000

And that's today's motoring myth.

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00:14:48,000 --> 00:14:54,000

Later on, we'll try to redline Grant and Tory's stress levels.

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00:14:54,000 --> 00:14:56,000

Oh, you fuck!

214

00:14:56,000 --> 00:15:00,000

But first, we need a nice, calm comparison test.

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

And Carrie knows just how to put the boys into a mellow mood.

216

00:15:05,000 --> 00:15:08,000

Grant, for you, we have puppies.

217

00:15:08,000 --> 00:15:13,000

Tory, for you, we have the director's cut of Blade Runner.

218

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

And all your favorite desserts.

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

I don't want to leave.

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

These are the fluffiest puppies we could find. They're eight weeks old.

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

Oh, I'm so sorry.

222

00:15:21,000 --> 00:15:24,000

Okay, I think we found Grant's happy place.

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00:15:24,000 --> 00:15:26,000

Thank you.

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00:15:26,000 --> 00:15:30,000

While Grant gets acquainted with his extra fluffy puppies,

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00:15:30,000 --> 00:15:34,000

Tory slips next door for a pre-movie massage.

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00:15:34,000 --> 00:15:39,000

This is the best day of Mythbusters ever.

227

00:15:39,000 --> 00:15:42,000

Yeah, we want that calm feeling to last throughout the test.

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00:15:42,000 --> 00:15:44,000

So we're going to cater to the senses.

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00:15:44,000 --> 00:15:47,000

We're going to have CD playing that has really soothing effects.

230

00:15:47,000 --> 00:15:49,000

We're going to cater to the senses.

231

00:15:49,000 --> 00:15:52,000

We're going to have CD playing that has really soothing music.

232

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

We're going to have lavender scenting the car.

233

00:15:54,000 --> 00:15:57,000

And aromatherapists say that this is a calming smell.

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00:15:57,000 --> 00:16:01,000

We're going to have a plush seat cover and steering wheel cover.

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00:16:01,000 --> 00:16:03,000

So they have something nice to touch.

236

00:16:03,000 --> 00:16:07,000

And we'll see how much fuel that they use when they're in that relaxed mode.

237

00:16:07,000 --> 00:16:10,000

Sounds very calming, but not for Carrie.

238

00:16:10,000 --> 00:16:15,000

She's wrestling with a concept that never fails to raise your blood pressure.

239

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

One size fits all.

240

00:16:17,000 --> 00:16:19,000

Calm day has been a pain in the butt.

241

00:16:19,000 --> 00:16:21,000

I'm looking forward to stressful day.

242

00:16:21,000 --> 00:16:23,000

I think that's going to be Carrie calm day.

243

00:16:23,000 --> 00:16:25,000

So it's been fun.

244

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

Oh, it smells nice in here.

245

00:16:28,000 --> 00:16:31,000

What if I get so relaxed I fall asleep and crash?

246

00:16:31,000 --> 00:16:34,000

I guess we'll find out how fuel-fishing a crash is.

247

00:16:34,000 --> 00:16:43,000

Tory's the first cab off this restricted rank with precisely 2,500 grams of gasoline.

248

00:16:43,000 --> 00:16:50,000

Now, for the first of three nasty surprises, as he learns, he's not alone out there.

249

00:16:50,000 --> 00:16:52,000

Go Angry Driver.

250

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

Good job Angry Driver.

251

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

Awesome.

252

00:17:04,000 --> 00:17:06,000

What's that guy's area?

253

00:17:06,000 --> 00:17:08,000

And good job Tory.

254

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

You'll notice he didn't respond with gunfire or rude gestures.

255

00:17:12,000 --> 00:17:15,000

But every man has his limitations.

256

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

Cue Slow Driver. Over.

257

00:17:18,000 --> 00:17:20,000

Look at this guy.

258

00:17:20,000 --> 00:17:26,000

Carrie's added these distractions to simulate a typically frustrating day on the road.

259

00:17:26,000 --> 00:17:30,000

He's overtaking the Slow Driver.

260

00:17:30,000 --> 00:17:32,000

That was annoying.

261

00:17:32,000 --> 00:17:34,000

That doesn't seem very calm.

262

00:17:34,000 --> 00:17:39,000

Now let's see the response to one very annoying pedestrian.

263

00:17:42,000 --> 00:17:47,000

There you go.

264

00:17:47,000 --> 00:17:51,000

The calm test is almost over.

265

00:17:51,000 --> 00:17:55,000

Now for that deliberately difficult parallel park.

266

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

Nice San Francisco park. I like the bumper bump.

267

00:18:03,000 --> 00:18:05,000

That's why they call them bumpers.

268

00:18:05,000 --> 00:18:06,000

Nice.

269

00:18:06,000 --> 00:18:10,000

Okay, well now I'm going to weigh your fuel and see how much you've actually used up

270

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

and then we'll have something to compare.

271

00:18:12,000 --> 00:18:13,000

Cool.

272

00:18:13,000 --> 00:18:16,000

So Tory's used 924 grams of fuel.

273

00:18:16,000 --> 00:18:22,000

Next step is to top this back off to exactly 2,500 and start the test again with Grant.

274

00:18:25,000 --> 00:18:28,000

Alright, the birdie has flown the nest.

275

00:18:28,000 --> 00:18:30,000

That means Grant's gone.

276

00:18:30,000 --> 00:18:33,000

Do you make this stuff up or is somebody writing it down for you?

277

00:18:34,000 --> 00:18:36,000

There's a rider strike in my head.

278

00:18:41,000 --> 00:18:43,000

Okay, that's Angry Driver. Can you hear him honking?

279

00:18:43,000 --> 00:18:45,000

Oh, I can hear him honking.

280

00:18:45,000 --> 00:18:48,000

Grant takes both the angry

281

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

and the Slow Drivers in his sedate stride.

282

00:18:56,000 --> 00:19:01,000

He's been told to stick to a safe speed and that's no problem at all.

283

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

That is funny.

284

00:19:05,000 --> 00:19:07,000

Now for the parallel park.

285

00:19:07,000 --> 00:19:12,000

Grant's so relaxed it takes him a minute to find his inner rage.

286

00:19:12,000 --> 00:19:13,000

This is attempt number nine.

287

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

Oh!

288

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

This isn't fair.

289

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

Now you're starting to break me off.

290

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

Oh, seas getting...

291

00:19:21,000 --> 00:19:23,000

Oh, yeah, yeah, I'm dead.

292

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

That was real smooth.

293

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

There you go.

294

00:19:28,000 --> 00:19:34,000

Carrie weighs Grant's remaining gasoline and comes up with a figure she wasn't expecting.

295

00:19:34,000 --> 00:19:41,000

Alright, Grant used 1,053 grams, which is actually quite a bit more than Tori,

296

00:19:41,000 --> 00:19:43,000

but that's not what's important here.

297

00:19:43,000 --> 00:19:45,000

They're testing against themselves.

298

00:19:45,000 --> 00:19:51,000

So what is important is how much they use in their calm test versus how much they use in their stress test.

299

00:19:51,000 --> 00:19:57,000

And how exactly does one go about turning two very relaxed dudes into quivering wrecks?

300

00:19:57,000 --> 00:19:59,000

Oh, this is going to be fun.

301

00:19:59,000 --> 00:20:00,000

We're about to find out.

302

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

Alright guys, we know one of the most stressful things about driving is having to have a bathroom and not being able to.

303

00:20:08,000 --> 00:20:09,000

Sweet.

304

00:20:09,000 --> 00:20:12,000

So I'm going to have to drink caffeine all day and the potty's off limits.

305

00:20:16,000 --> 00:20:19,000

Here's the exploding steak story so far.

306

00:20:19,000 --> 00:20:25,000

Adam, Jamie and one of America's best chefs can't agree on which steak is more tender.

307

00:20:25,000 --> 00:20:32,000

The prime cut, the one sprinkled with pineapple enzymes, or those we've blasted to hell and back.

308

00:20:33,000 --> 00:20:34,000

I don't know what to do with this one.

309

00:20:34,000 --> 00:20:35,000

I'm dumbfounded.

310

00:20:35,000 --> 00:20:40,000

We clearly have too many variables in the mix because we could run this test a dozen more times

311

00:20:40,000 --> 00:20:43,000

and I don't think we'd come up with results that agreed with each other.

312

00:20:43,000 --> 00:20:46,000

Yeah, I think having humans involved is the problem.

313

00:20:46,000 --> 00:20:50,000

We need to have a mechanical, purely objective test.

314

00:20:50,000 --> 00:20:57,000

And for that matter, you know, I was thinking about it and there got to be a lot of other ways that we can tenderize meat.

315

00:20:57,000 --> 00:20:58,000

Like what?

316

00:20:58,000 --> 00:21:02,000

What say we've fired out of a can and at a steel plate.

317

00:21:02,000 --> 00:21:03,000

Not how to tenderize it.

318

00:21:05,000 --> 00:21:07,000

I love it. Let's do it.

319

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

With explosives, we're passing a pressure wave at high velocity through the meat fibers and hopefully that pressure wave is going to be so violent that it rips the fibers apart

320

00:21:19,000 --> 00:21:20,000

and makes the meat tender.

321

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

Now in the case of the air cannon, we're looking for a high velocity impact of the meat against a steel plate.

322

00:21:28,000 --> 00:21:35,000

Jamie's got the plan, the hardware, and the real estate to build a cannon as long as a four-story building is high.

323

00:21:37,000 --> 00:21:40,000

As a tenderizer, it's total overkill.

324

00:21:40,000 --> 00:21:42,000

And that's why we're doing it.

325

00:21:43,000 --> 00:21:47,000

Today's target is simply meant to stop the steak cone.

326

00:21:47,000 --> 00:21:48,000

That is our target.

327

00:21:49,000 --> 00:21:54,000

It's a tough and steel plate. Jamie calls the flower of death.

328

00:21:54,000 --> 00:21:59,000

Now this is going to be a very sturdy catching device for our steak tenderizing.

329

00:21:59,000 --> 00:22:07,000

We're going to be shooting up Kevlar burrito full of meat at it and hopefully this will help prevent it from just spraying all over the room.

330

00:22:07,000 --> 00:22:09,000

And this is the Kevlar burrito.

331

00:22:10,000 --> 00:22:15,000

Raw steak wrapped in a high tensile fiber that should minimize the mess.

332

00:22:15,000 --> 00:22:23,000

Santino, I'm really upset. I think the hemline looks nice now, but it could be a huge disaster.

333

00:22:23,000 --> 00:22:27,000

You realize what we're making? It's cannon con carne asada!

334

00:22:29,000 --> 00:22:37,000

To get a fair comparison between unmodified meat and cannon con carne, Adams cut each steak in two.

335

00:22:37,000 --> 00:22:42,000

One half gets blasted and the other, control cut, doesn't.

336

00:22:42,000 --> 00:22:48,000

So your very rational question might be why go through all the trouble to make every steak its own control?

337

00:22:48,000 --> 00:22:53,000

See the white parts here? That's marbling. That's fat and connective tissue.

338

00:22:53,000 --> 00:22:58,000

Now while the composition of this makes the steak delicious, it also makes it inconsistent.

339

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

That's why we're going steak to steak. Every single steak is tested against itself for evidence of improvement.

340

00:23:05,000 --> 00:23:12,000

That testing will eventually be done by a highly sophisticated machine that promises indisputable results.

341

00:23:12,000 --> 00:23:15,000

Meantime, we've got some steaks to shoot.

342

00:23:16,000 --> 00:23:19,000

Steaks are all prepared and properly labeled. The cannon is all together.

343

00:23:19,000 --> 00:23:22,000

We're now going to try and tenderize these with this.

344

00:23:22,000 --> 00:23:30,000

The only thing we need left is a plunger, some way to get the steaks from the business in all the way back to the propulsive hand.

345

00:23:31,000 --> 00:23:36,000

I do need to figure out how to make a 40 foot long thing that is reliable.

346

00:23:36,000 --> 00:23:40,000

I could probably do it out of PVC and some duct tape.

347

00:23:40,000 --> 00:23:45,000

PVC and duct tape. How did we build the pyramids with Adams?

348

00:23:45,000 --> 00:23:49,000

Which brings to mind the history of the savage family.

349

00:23:49,000 --> 00:23:57,000

We have been meat tenderizers to the apsebergs, to Charlemagne, to do with their fourteenths.

350

00:23:58,000 --> 00:24:08,000

The four cylinder air pressure charge is set and Jamie estimates the potential velocity at over 400 miles per hour.

351

00:24:08,000 --> 00:24:11,000

Tenderizing meat when you're ready.

352

00:24:11,000 --> 00:24:15,000

In three, two, one.

353

00:24:17,000 --> 00:24:19,000

Oh shoot.

354

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

Oh, yeah, see there's a piece of meat over there. There's one over there.

355

00:24:30,000 --> 00:24:32,000

Yes, but it's a tender.

356

00:24:35,000 --> 00:24:41,000

It ripped the kevlar. I kind of thought that the kevlar would hold on to it. I guess not.

357

00:24:41,000 --> 00:24:43,000

Taught wrong.

358

00:24:43,000 --> 00:24:47,000

This is actually through the other side. There's your problem.

359

00:24:48,000 --> 00:24:51,000

There's a meat-soaked kevlar on the other side.

360

00:24:51,000 --> 00:24:55,000

This is only part of it. I'm missing some.

361

00:24:57,000 --> 00:25:01,000

I think it seems prudent to recalibrate the pressure.

362

00:25:01,000 --> 00:25:03,000

What's the PSI you want to go to?

363

00:25:03,000 --> 00:25:06,000

I'm backing it down a third to a hundred PSI.

364

00:25:06,000 --> 00:25:11,000

It's not going to make a single bit of difference. I'm going to bet you that it's not going to make a single bit. It's going to obliterate it.

365

00:25:11,000 --> 00:25:12,000

You want to bet?

366

00:25:12,000 --> 00:25:13,000

No.

367

00:25:13,000 --> 00:25:16,000

I got 20 bucks.

368

00:25:16,000 --> 00:25:19,000

Anyone want to give me some action?

369

00:25:19,000 --> 00:25:26,000

But Jamie made this cannon. And hey, let's not forget who runs the joint. So he calls the shots.

370

00:25:26,000 --> 00:25:36,000

This time we're using four times the kevlar. We've backed off the pressure about a third to a hundred PSI. We'll see what happens.

371

00:25:36,000 --> 00:25:41,000

Firing in three, two, one.

372

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

Uh-oh.

373

00:25:51,000 --> 00:25:56,000

Well, there's the outer layer. That's hard on that thing.

374

00:25:56,000 --> 00:25:59,000

Here's the inner layer.

375

00:26:01,000 --> 00:26:09,000

Once again, this New York strip's been less tenderized than pulverized. But there is hope amongst the carnage.

376

00:26:10,000 --> 00:26:14,000

I think that's still a testable piece of meat.

377

00:26:14,000 --> 00:26:16,000

I would say so.

378

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

Yeah, this is number four. I'm going to cook this now.

379

00:26:19,000 --> 00:26:25,000

Finally, Adam has some useful cannon fodder to test against its unstressed twin.

380

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

Here's its other half. Unmodified. I'm going to cook both of these.

381

00:26:30,000 --> 00:26:33,000

Freeze them again. Test them and see if there's any improvement.

382

00:26:33,000 --> 00:26:37,000

First off, both cuts are cooked precisely.

383

00:26:37,000 --> 00:26:48,000

So the magic temperature here is 70 degrees Celsius. When it's 70 degrees at the middle of the steak, I've reached the USDA standard for cooking a steak for testing.

384

00:26:48,000 --> 00:26:54,000

Once they're cooked, the steaks need to be cooled to four degrees Celsius.

385

00:26:54,000 --> 00:26:57,000

Modified cooked. Here's another steak for you, Jamie.

386

00:26:57,000 --> 00:27:02,000

Adam needs more than one sample, and Jamie's happy to fill the order.

387

00:27:02,000 --> 00:27:07,000

Firing in three, two, one.

388

00:27:09,000 --> 00:27:14,000

At 340 miles per hour, it looks like we finally found our range.

389

00:27:16,000 --> 00:27:18,000

It's totally intact.

390

00:27:18,000 --> 00:27:22,000

It's almost enough to inspire yet another change of career.

391

00:27:22,000 --> 00:27:28,000

I can see it now. I've started a restaurant. It's Jamie's cannon-fired steak.

392

00:27:28,000 --> 00:27:32,000

You place your order, and then a few seconds later, there's this big...

393

00:27:32,000 --> 00:27:33,000

Roost!

394

00:27:59,000 --> 00:28:14,000

So the first thing I thought of was a dryer, because, you know, it's that kind of motion, and if you put a steak or anything you want to tenderize in there, sooner or later, it's got to loosen all those fibers up and make it nice and tender.

395

00:28:14,000 --> 00:28:20,000

Sounds straightforward, but to make it work, the dryer needs some modifications.

396

00:28:20,000 --> 00:28:25,000

Okay, so that's the slit right there. If we put that over that thing.

397

00:28:26,000 --> 00:28:34,000

This is dry ice, and this is going to pour down into our dryer and hopefully keep the meat cold while it gets tumbled.

398

00:28:34,000 --> 00:28:35,000

Yeah, let's do it.

399

00:28:36,000 --> 00:28:41,000

And to keep the meat company, a generous helping of tenderizing ball berries.

400

00:28:44,000 --> 00:28:51,000

To the chagrin of our sound guy, we're throwing it in the dryer, a whole bunch of them, and see what that does to the meat overnight.

401

00:28:56,000 --> 00:29:05,000

So far, my neighbors think it's pulled me next to the Knitbusters. That could change.

402

00:29:12,000 --> 00:29:17,000

Next morning, the dryer should still be running, but it's not. Did you turn it off?

403

00:29:17,000 --> 00:29:18,000

I didn't turn it off.

404

00:29:18,000 --> 00:29:20,000

I didn't turn it off.

405

00:29:20,000 --> 00:29:22,000

That's not a good sign.

406

00:29:22,000 --> 00:29:26,000

This is the color of the plastic bags that were in there.

407

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

It's still kind of turns, but something got messed up.

408

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

I think we might have burned out the motor. How many did we put in there? Four?

409

00:29:38,000 --> 00:29:42,000

Four went in and two sort of came out.

410

00:29:43,000 --> 00:29:48,000

Adam now has a fridge full of tumbled and blasted meat to test for tenderness.

411

00:29:49,000 --> 00:29:53,000

And he's got the perfect machine for an impartial appraisal.

412

00:29:54,000 --> 00:29:58,000

Starting from the bottom up, we've got a plate in here, which the meat is placed on.

413

00:29:58,000 --> 00:30:03,000

It's got a slot in it, exactly the width that the USDA expects the slot in their machine should be.

414

00:30:03,000 --> 00:30:07,000

Above that is a blade that is exactly the angle the USDA says it should be.

415

00:30:07,000 --> 00:30:14,000

Above the blade is a pressure gauge, which as the blade pushes through the meat, will read exactly the number of pounds of force required to push through that meat.

416

00:30:14,000 --> 00:30:21,000

And what's pushing this down at a constant speed, but a linear actuator, which I will power with a power supply.

417

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

This is exactly the way the government tests the tenderness of meat. It ought to be good enough for us.

418

00:30:31,000 --> 00:30:36,000

Tori, Carrie and Grant are testing the myth that your mood affects your mileage.

419

00:30:36,000 --> 00:30:40,000

The boys have already run the course in a state of supreme serenity.

420

00:30:45,000 --> 00:30:52,000

Now, Carrie has two short hours to turn these angels into deranged, distracted motorists.

421

00:30:52,000 --> 00:30:55,000

Drink that. Come on. Come on. We're on time limit. Seriously.

422

00:30:55,000 --> 00:30:59,000

So I've had nearly a liter of caffeinated energy drink.

423

00:30:59,000 --> 00:31:03,000

Carrie has just informed us that we're not allowed to go to the bathroom from this point on.

424

00:31:03,000 --> 00:31:07,000

And it's the thought that I can't go to the bathroom anymore that's starting to stress me out.

425

00:31:07,000 --> 00:31:10,000

If you've got to go to the bathroom, you've got to go to the bathroom.

426

00:31:10,000 --> 00:31:15,000

But needing to tinkle in traffic might be the least of their problems.

427

00:31:15,000 --> 00:31:19,000

In each of your drinks this morning, I put one of these.

428

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

That's why I took it from the car and you got them already opened.

429

00:31:23,000 --> 00:31:25,000

Oh, yes. Is it a laxative?

430

00:31:25,000 --> 00:31:26,000

This is a laxative.

431

00:31:26,000 --> 00:31:32,000

Yes! Payback some. You know what it is.

432

00:31:32,000 --> 00:31:36,000

You've got a few hours left, so enjoy.

433

00:31:37,000 --> 00:31:41,000

Pumped full of jumping juice, the boys are getting real antsy.

434

00:31:41,000 --> 00:31:46,000

You father! I'm not stressed. I'm totally fine.

435

00:31:46,000 --> 00:31:49,000

Carrie responds by having them in.

436

00:31:49,000 --> 00:31:54,000

This is your permissible area. You cannot leave this area, sit in this area, or land this area.

437

00:31:54,000 --> 00:31:56,000

You must stand within the lines.

438

00:31:56,000 --> 00:32:02,000

I'm not going in a circle. No, I'm not going in a circle. You can't keep me in a circle.

439

00:32:03,000 --> 00:32:06,000

Let's do a circle.

440

00:32:06,000 --> 00:32:13,000

If we had a football, we could be like chucking the football. Let's pretend like we got one.

441

00:32:13,000 --> 00:32:16,000

Oh my God, how much coffee have you drank today?

442

00:32:16,000 --> 00:32:18,000

Catch it! Yeah!

443

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

He can't even catch it in his imagination.

444

00:32:23,000 --> 00:32:29,000

Leaving the boys on a slow simmer, Carrie sets about reverse pimping their ride.

445

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

I have got so much stuff. I'm really excited about it.

446

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

I've got stink bombs that smell like sulfur, so they basically smell like flatulence.

447

00:32:37,000 --> 00:32:43,000

Those are going to go in my sensorator. I've got some gross slimy stuff that goes on the dashboard.

448

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

They won't know what it is. It looks like guts. I've got stressful noises.

449

00:32:46,000 --> 00:32:51,000

I'm going to put in the CD player. I've got a seat cover that is filled with golf balls,

450

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

so it's not sticking your back, and the seat's going to be at an uncomfortable angle.

451

00:32:55,000 --> 00:32:58,000

I think I might make it wet, and then the steering wheel is going to be stickier

452

00:32:58,000 --> 00:33:02,000

because I'm going to cover it in cola and then like gross, melty candy bar,

453

00:33:02,000 --> 00:33:07,000

so it will not be sticky, but it will be kind of slimy, and it will just be like brown crap all over your hands.

454

00:33:07,000 --> 00:33:14,000

All this suffering is in the name of science to see if the boys use any more gas when they've got their dander up.

455

00:33:15,000 --> 00:33:18,000

Good news is you guys get to leave the circles.

456

00:33:18,000 --> 00:33:20,000

I like my circle.

457

00:33:20,000 --> 00:33:23,000

Bad news is it's not necessarily going to be any better.

458

00:33:23,000 --> 00:33:25,000

Are you ready?

459

00:33:27,000 --> 00:33:30,000

Anti-spaw! Come on in.

460

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

Hey!

461

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

Oh my God.

462

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

Come on in and welcome to Mad Man's Man Massage.

463

00:33:35,000 --> 00:33:38,000

Right here in the break your back shack.

464

00:33:38,000 --> 00:33:41,000

I'm over this experiment. How about you?

465

00:33:43,000 --> 00:33:44,000

Get on the table!

466

00:33:44,000 --> 00:33:45,000

Is this going to hurt?

467

00:33:45,000 --> 00:33:47,000

Well, it depends on how you define hurt.

468

00:33:48,000 --> 00:33:50,000

While Tori gets pummeled,

469

00:33:51,000 --> 00:33:54,000

Cary takes Grant to his own personal hell.

470

00:33:54,000 --> 00:33:57,000

This has nothing to do with driving.

471

00:33:59,000 --> 00:34:02,000

It's nothing to do with fuel efficiency.

472

00:34:02,000 --> 00:34:04,000

This is all about torture.

473

00:34:05,000 --> 00:34:08,000

Grant's torture is a goldfish foot bath,

474

00:34:08,000 --> 00:34:11,000

guaranteed to send his stress levels through the roof.

475

00:34:11,000 --> 00:34:16,000

The problem is that I really don't like any fish.

476

00:34:17,000 --> 00:34:19,000

It's just touching me.

477

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

It's just something, it's a phobia that I have.

478

00:34:24,000 --> 00:34:27,000

Now for our final stress-inducing condition.

479

00:34:27,000 --> 00:34:29,000

There are two live rats in this box.

480

00:34:29,000 --> 00:34:32,000

Now the reason we chose rats instead of say snakes or spiders

481

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

is because rats are self-aware.

482

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

They're not going to run under the petals.

483

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

And the first angry man to slide his baleful butt behind the wheel is Tori.

484

00:34:41,000 --> 00:34:43,000

Are you feeling stressed?

485

00:34:43,000 --> 00:34:44,000

A little.

486

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

Are you feeling angry?

487

00:34:45,000 --> 00:34:46,000

Yeah.

488

00:34:48,000 --> 00:34:53,000

Cary adds the rodents and this stinking, sticky rat trap is ready to roll.

489

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

Buckle your seatbelts, little fellas.

490

00:34:56,000 --> 00:34:58,000

We're going for a ride.

491

00:35:05,000 --> 00:35:08,000

Grant and Tori have just suffered two hours of torture

492

00:35:08,000 --> 00:35:13,000

to see if stress really does make them drive more erratically and use more fuel.

493

00:35:14,000 --> 00:35:17,000

Cary's teased the boys to breaking point

494

00:35:17,000 --> 00:35:20,000

and she's modified the car for maximum discomfort.

495

00:35:20,000 --> 00:35:24,000

Tori's the first to vent his spleen behind the wheel.

496

00:35:24,000 --> 00:35:26,000

Buckle your seatbelts, little fellas.

497

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

We're going for a ride.

498

00:35:31,000 --> 00:35:33,000

I would say he's sufficiently angry.

499

00:35:33,000 --> 00:35:36,000

There's no mistaking the look on his face,

500

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

but he is driving within the speed limit

501

00:35:38,000 --> 00:35:41,000

and at least trying to stick to the traffic rules.

502

00:35:44,000 --> 00:35:48,000

Adding to his frustration,

503

00:35:48,000 --> 00:35:52,000

the racket from the CD means Tori can't hear the GPS.

504

00:35:52,000 --> 00:35:54,000

Not talking to me.

505

00:35:54,000 --> 00:35:57,000

Tori's actually skipping the course.

506

00:35:59,000 --> 00:36:01,000

He's totally missed a turn

507

00:36:01,000 --> 00:36:05,000

and now the slow driver gets burned off.

508

00:36:08,000 --> 00:36:10,000

You guys got me f\*\*\*ing f\*\*\*ing f\*\*\*ing.

509

00:36:10,000 --> 00:36:13,000

This is definitely a great job.

510

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

You know, I knew that we were going to make him angry and stressed out,

511

00:36:16,000 --> 00:36:19,000

but I didn't realize he'd be this angry.

512

00:36:20,000 --> 00:36:24,000

Back on the HQ hilltop, they're all standing way back from the curb.

513

00:36:31,000 --> 00:36:35,000

Wow, significant amount of stress. He still has a great parking job.

514

00:36:40,000 --> 00:36:43,000

Well, I definitely saw a difference in the way I drove.

515

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

It was calm versus stressed out.

516

00:36:46,000 --> 00:36:49,000

I just found myself all day kind of fighting the stress,

517

00:36:49,000 --> 00:36:51,000

trying not to let all this stuff get to me,

518

00:36:51,000 --> 00:36:53,000

but then at some point I realized, you know what,

519

00:36:53,000 --> 00:36:56,000

I need to let this stuff get to me in order for this to be a valid test.

520

00:36:56,000 --> 00:36:59,000

Okay, I think I can see just from the level that he's...

521

00:36:59,000 --> 00:37:03,000

I think he's used more gas, but he did...

522

00:37:03,000 --> 00:37:07,000

I heard less of the course, which is kind of crazy.

523

00:37:07,000 --> 00:37:10,000

We got 1089.

524

00:37:10,000 --> 00:37:15,000

You were so stressed out that you actually missed pretty much a third of the course.

525

00:37:15,000 --> 00:37:17,000

You went right by it.

526

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

I did.

527

00:37:18,000 --> 00:37:20,000

How could you can't hear that GPS?

528

00:37:20,000 --> 00:37:22,000

You still used more gas.

529

00:37:22,000 --> 00:37:23,000

Are you serious?

530

00:37:23,000 --> 00:37:25,000

A shorter amount of time.

531

00:37:25,000 --> 00:37:28,000

You're crazy driving that made me fear for your life.

532

00:37:28,000 --> 00:37:32,000

Actually, it made you use about a third more gas.

533

00:37:32,000 --> 00:37:34,000

That is incredible.

534

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

Time for Carrie to top up the tank

535

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

and fetch Grant from the torture tent.

536

00:37:40,000 --> 00:37:41,000

How is the fish?

537

00:37:41,000 --> 00:37:43,000

Really sucky.

538

00:37:43,000 --> 00:37:44,000

Why are you walking funny?

539

00:37:44,000 --> 00:37:47,000

Might have to go to the bathroom.

540

00:37:47,000 --> 00:37:51,000

And you've got to figure that a man who gets spooked by ornamental fish

541

00:37:51,000 --> 00:37:53,000

will not be a rat lover.

542

00:37:53,000 --> 00:37:54,000

One more thing.

543

00:37:54,000 --> 00:37:55,000

Yeah!

544

00:37:55,000 --> 00:37:59,000

There are two little live rats that are going to go for the ride with you.

545

00:38:05,000 --> 00:38:10,000

Carrie's turned a puppy kisser into a moving violation.

546

00:38:10,000 --> 00:38:15,000

This time around, Grant's demeanor is less demure.

547

00:38:21,000 --> 00:38:23,000

Oh, crap.

548

00:38:23,000 --> 00:38:25,000

Grant almost missed the turn.

549

00:38:25,000 --> 00:38:32,000

Just like Tori, Grant finds himself accelerating and breaking much harder this time around.

550

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

And his steering's not nearly as smooth.

551

00:38:35,000 --> 00:38:37,000

Where did those rats go?

552

00:38:37,000 --> 00:38:39,000

Where did you go?

553

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

Hey!

554

00:38:40,000 --> 00:38:42,000

Cross walker in position.

555

00:38:42,000 --> 00:38:45,000

Cross walker is ready.

556

00:38:49,000 --> 00:38:52,000

Thankfully, Grant's at the end of his run.

557

00:38:52,000 --> 00:38:54,000

Actually, he's doing better parking.

558

00:38:54,000 --> 00:38:56,000

He's doing way better like this.

559

00:38:56,000 --> 00:38:57,000

Rest out.

560

00:38:57,000 --> 00:38:59,000

That's it, that's it, that's it.

561

00:38:59,000 --> 00:39:07,000

At last, he ran the full course and carries in no doubt that angry Grant used more juice than his calm counterpart.

562

00:39:07,000 --> 00:39:18,000

Grant has 826 grams left, which means he used 1,674 grams.

563

00:39:18,000 --> 00:39:22,000

Last time he used 1,053 grams.

564

00:39:22,000 --> 00:39:27,000

Grant's also used a third more fuel than on his calm drive.

565

00:39:27,000 --> 00:39:29,000

The lesson is clear.

566

00:39:29,000 --> 00:39:33,000

Drive under stress and it will cost you.

567

00:39:33,000 --> 00:39:38,000

You both used a significant amount of fuel more when you were stressed than when you were relaxed.

568

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

Yeah, that seemed pretty obvious.

569

00:39:40,000 --> 00:39:43,000

Yeah, well now we have the results to back it up.

570

00:39:43,000 --> 00:39:44,000

Well, that's cool.

571

00:39:44,000 --> 00:39:45,000

That's what's confirmed.

572

00:39:45,000 --> 00:39:46,000

Confirmed?

573

00:39:46,000 --> 00:39:48,000

By the way, how are your stomachs doing?

574

00:39:48,000 --> 00:39:50,000

That wasn't laxative.

575

00:39:50,000 --> 00:39:53,000

That was a vitamin.

576

00:39:53,000 --> 00:39:55,000

So you should be okay.

577

00:39:55,000 --> 00:39:56,000

What?

578

00:39:56,000 --> 00:39:58,000

Placeva, awesome!

579

00:39:58,000 --> 00:39:59,000

Are you kidding me?

580

00:39:59,000 --> 00:40:01,000

I'm gonna kill you!

581

00:40:06,000 --> 00:40:07,000

Number one.

582

00:40:07,000 --> 00:40:09,000

Number one.

583

00:40:09,000 --> 00:40:15,000

Back in our cow poke kitchen, the boys are ready to test the cannon-fired meat for tenderness.

584

00:40:15,000 --> 00:40:24,000

Each steak from each test is numbered so they can match those figures with the unblasted control halves.

585

00:40:24,000 --> 00:40:27,000

2.5.

586

00:40:27,000 --> 00:40:29,000

2.1.

587

00:40:29,000 --> 00:40:31,000

2.4.

588

00:40:33,000 --> 00:40:39,000

Dude, you know, the readings are looking pretty consistent here.

589

00:40:39,000 --> 00:40:43,000

Now to test those modified meat missiles.

590

00:40:46,000 --> 00:40:49,000

Here's your moment of truth, Jimmy.

591

00:40:49,000 --> 00:40:53,000

Air cannon testing.

592

00:40:53,000 --> 00:40:54,000

Yeah, nothing.

593

00:40:54,000 --> 00:40:55,000

0.0.

594

00:40:55,000 --> 00:41:00,000

That could mean it's so tender it just fell apart, but let's try a second one.

595

00:41:00,000 --> 00:41:08,000

Test after test shows their cannon concarny is way softer than the steaks that sat this one out.

596

00:41:12,000 --> 00:41:13,000

0.7.

597

00:41:13,000 --> 00:41:15,000

Dude, the averages are in.

598

00:41:15,000 --> 00:41:20,000

The controlled steaks were averaging a tenderness of about 1.33.

599

00:41:20,000 --> 00:41:26,000

The post cannon-fired steaks averaged a tenderness of about 0.4 pounds.

600

00:41:26,000 --> 00:41:28,000

That's pretty tender.

601

00:41:28,000 --> 00:41:31,000

There's a clear, clear improvement.

602

00:41:31,000 --> 00:41:34,000

It just takes a 40-foot air cannon.

603

00:41:34,000 --> 00:41:37,000

Yeah, and about 50 bucks worth of Kevlar.

604

00:41:38,000 --> 00:41:43,000

Now for that marbled mess that totaled the tumble dryer.

605

00:41:43,000 --> 00:41:46,000

All right, this is the ball of the brain.

606

00:41:46,000 --> 00:41:49,000

And this steak.

607

00:41:49,000 --> 00:41:52,000

Who knows what we're going to get out of this?

608

00:41:52,000 --> 00:41:55,000

The very first slice sets the standard.

609

00:41:55,000 --> 00:41:57,000

0.

610

00:41:57,000 --> 00:42:00,000

And that seems like an honest 0 to me, man.

611

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

This is like nothing here.

612

00:42:05,000 --> 00:42:08,000

And that calls for one more reading.

613

00:42:08,000 --> 00:42:10,000

Total zero.

614

00:42:10,000 --> 00:42:16,000

It looks like it's falling apart in your hands, but it does still look like meat.

615

00:42:16,000 --> 00:42:18,000

It's not like it looks like hamburger.

616

00:42:18,000 --> 00:42:25,000

So this definitely showed some significant improvement, although the process itself also needs a little improvement.

617

00:42:25,000 --> 00:42:30,000

Steak and a dryer with ball bearings actually did really tenderize the meat.

618

00:42:30,000 --> 00:42:35,000

Of course, there were problems because it like tenderized the dryer itself and it fell apart.

619

00:42:35,000 --> 00:42:39,000

But, you know, if you get over that, you've got a tender steak.

620

00:42:39,000 --> 00:42:45,000

Two positive results confirming that meat really does benefit from a bashing.

621

00:42:45,000 --> 00:42:52,000

Now that they found a reliable way to test for tenderness, it's back to the bomb range to bring this one home.

622

00:42:53,000 --> 00:43:03,000

So far, Adam and Jamie have stayed up late to spawn a series of culinary catastrophes.

623

00:43:03,000 --> 00:43:11,000

But it's all in a good cause, making tough steak al dente for the cash-strapped consumer.

624

00:43:11,000 --> 00:43:17,000

Results were mixed, but they've learned enough to revisit the original myth.

625

00:43:17,000 --> 00:43:21,000

The method won't change, but the testing will.

626

00:43:22,000 --> 00:43:24,000

Oh, that's awesome.

627

00:43:24,000 --> 00:43:31,000

The first time we were out here at the range, we blew up our steaks and then we cooked them and ate them in order to gauge their tenderness.

628

00:43:31,000 --> 00:43:33,000

And it was a disaster.

629

00:43:33,000 --> 00:43:36,000

Steak's good. Some of it is better than others.

630

00:43:36,000 --> 00:43:40,000

This test was totally subjective. We all three came to different conclusions about everything.

631

00:43:40,000 --> 00:43:45,000

I put the green, then the yellow, then the red, then the pink, then the blue.

632

00:43:45,000 --> 00:43:53,000

So we began to look for what's an empirical, non-subjective test, and we went right to the USDA's testing procedures for grading meat.

633

00:43:53,000 --> 00:43:55,000

2.5, 2.1.

634

00:43:55,000 --> 00:44:01,000

So we are following all of their guidelines now, with all of our steaks, in order to gauge their tenderness.

635

00:44:01,000 --> 00:44:06,000

Adam and Jamie shape a lump of C4 to the size of a pool ball.

636

00:44:06,000 --> 00:44:11,000

They add a fuse, then wrap it inside a plastic glove.

637

00:44:11,000 --> 00:44:14,000

There it is, the blue hand of death.

638

00:44:14,000 --> 00:44:16,000

For me, let's put it in.

639

00:44:16,000 --> 00:44:24,000

Following strict instructions, this handful of high explosive is dangled and secured a foot below the surface.

640

00:44:24,000 --> 00:44:27,000

Well, there it is. Let's blow it up.

641

00:44:27,000 --> 00:44:29,000

Okay.

642

00:44:29,000 --> 00:44:33,000

The cranes deployed and the boys retreat to the bunker.

643

00:44:33,000 --> 00:44:34,000

Are we set?

644

00:44:34,000 --> 00:44:35,000

I think we're set.

645

00:44:35,000 --> 00:44:42,000

Tenderizing meat with high explosives in 3, 2, 1.

646

00:44:43,000 --> 00:44:45,000

Oh, that's pretty.

647

00:44:51,000 --> 00:44:54,000

We might have to look far in line for our steaks.

648

00:44:55,000 --> 00:45:01,000

The bucket is history, but they're hoping to find some steaks still fit for the griddle.

649

00:45:01,000 --> 00:45:03,000

Oh, I see a steak.

650

00:45:03,000 --> 00:45:04,000

Yup.

651

00:45:04,000 --> 00:45:06,000

That's a good sign.

652

00:45:06,000 --> 00:45:10,000

Hey, that's totally intact.

653

00:45:10,000 --> 00:45:18,000

That's great. This one's breached. I can see that, but these two are totally intact. That's fantastic.

654

00:45:18,000 --> 00:45:21,000

And even that one looks like a usable sample.

655

00:45:21,000 --> 00:45:22,000

Yeah, completely.

656

00:45:22,000 --> 00:45:27,000

Well, apparently the practice has paid off. We got exactly what we came here to get.

657

00:45:27,000 --> 00:45:36,000

Now it's time to run some USDA grade testinies and find out once and for all if tenderness resulted from an explosion.

658

00:45:37,000 --> 00:45:42,000

Back at M5, Adam scrapes down the hot plate for the last time.

659

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

But Jamie's on tender hooks.

660

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

So what, does it feel any different? Like tender?

661

00:45:48,000 --> 00:45:50,000

It doesn't feel that different.

662

00:45:50,000 --> 00:45:53,000

All right, sample number 16.

663

00:45:53,000 --> 00:46:00,000

This final test should make or break the myth of tenderizing meat with high explosives.

664

00:46:00,000 --> 00:46:04,000

70 degrees Celsius.

665

00:46:05,000 --> 00:46:11,000

After a quick chill, the unmodified meat is cored and sliced.

666

00:46:11,000 --> 00:46:13,000

2.3.

667

00:46:13,000 --> 00:46:16,000

Nothing to sully our science.

668

00:46:16,000 --> 00:46:20,000

I'm getting good at this.

669

00:46:20,000 --> 00:46:22,000

2.9.

670

00:46:22,000 --> 00:46:27,000

All right, that's pretty good. Let's just call that and let's do the exploded ones.

671

00:46:27,000 --> 00:46:35,000

We're moments away from finding out if a high powered shockwave through water really can make steak more digestible.

672

00:46:35,000 --> 00:46:37,000

1.8.

673

00:46:37,000 --> 00:46:42,000

And this time, thanks to modern mechanics, it's not personal.

674

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

Another zero. These two zeros are accurate.

675

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

There's nothing here. I mean, this is, you like, if you take a look at it.

676

00:46:52,000 --> 00:46:58,000

I would say so. It's going towards the direction of the can or the, the ball bearing.

677

00:46:58,000 --> 00:47:03,000

Jamie works the numbers. Now Adam shows his tenderloin.

678

00:47:03,000 --> 00:47:07,000

I think I know the results. Tell me what the averages are.

679

00:47:07,000 --> 00:47:14,000

Control was 2.82 and the exploded steak was 1.16.

680

00:47:14,000 --> 00:47:17,000

Oh, that's so great.

681

00:47:17,000 --> 00:47:23,000

I'm exhausted. All of this protocol to build the machine and to have it actually give us results.

682

00:47:23,000 --> 00:47:27,000

We were hoping to see something and we got something.

683

00:47:27,000 --> 00:47:31,000

Yeah. When you're chewing on it, you can't tell, but the machine won't lie.

684

00:47:31,000 --> 00:47:35,000

That's awesome. That's awesome. I love results.

685

00:47:35,000 --> 00:47:46,000

Don't we all? And against all expectations, it seems blasting a steak to Kingdom Come really does make it melt in the mouth.

686

00:47:46,000 --> 00:47:52,000

Our core sampling from both the control and the exploded steaks is totally conclusive.

687

00:47:52,000 --> 00:47:59,000

The high explosives absolutely have a marked effect on the tenderness of the steaks.

688

00:47:59,000 --> 00:48:04,000

Tenderizing steak with explosives? It works. It's confirmed.