

1

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

Do not try any of the experiments you are about to see at home.

2

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

You heard him. Don't do it.

3

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

On this episode of Mythbusters...

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

Kill him!

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

Adam and Jamie are on an archery odyssey...

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

Spring death upon all who oppose them.

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

Exploring if the ancient Greeks jumped the gun by 2,000 years.

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

Ready?

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

Almost.

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

Now I'm ready.

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

And created the world's first machine gun that fired arrows.

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

Oh, hold on! Fudge! Baby hippos.

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

Sooner or later we're going to run out of things to go wrong and then it'll work great.

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

Meanwhile, Carrie Grantontori got a little tipsy for science.

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

Was that the rat that was awesome?

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

And then stay awake for 30 hours straight.

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

Ooh, you're tired.

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

To find out if commuting without your 40 rings is worse than driving after a few drinks.

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

Science sleeps for no one.

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00:01:06,000 --> 00:01:08,000

Who are the Mythbusters?

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

Adam Savage.

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

I'm alive, right?

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

And Jamie Heineman.

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

Almost too exciting.

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00:01:14,000 --> 00:01:18,000

Between them more than 30 years of special effects experience.

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00:01:18,000 --> 00:01:21,000

Joining them, Grant Imahara.

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

Right!

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00:01:22,000 --> 00:01:23,000

Carrie Byers.

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00:01:23,000 --> 00:01:26,000

We have the best job ever!

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00:01:26,000 --> 00:01:27,000

And Tori Belleggi.

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00:01:27,000 --> 00:01:29,000

Let's torch this thing!

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

They don't just tell the Myths.

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

They put them to the test.

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00:01:47,000 --> 00:01:48,000

I got a good one.

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00:01:48,000 --> 00:01:49,000

What?

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00:01:49,000 --> 00:01:53,000

Arrow machine gun.

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

You mean like a modern machine gun but it shoots arrows?

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00:01:56,000 --> 00:01:58,000

Yes, but far from modern.

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00:01:58,000 --> 00:02:05,000

In fact, this design was built by Dionysus the Elder over 2300 years ago, back when you were just a little tyke.

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

I remember it like it was only yesterday.

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00:02:11,000 --> 00:02:14,000

For the ancient Greeks, arrows were the weapon of choice.

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00:02:15,000 --> 00:02:20,000

But did they create a contraption that could fire arrows like a machine gun?

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00:02:23,000 --> 00:02:28,000

History says maybe, but the Mythbusters have never trusted history.

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00:02:29,000 --> 00:02:31,000

So what do we know about this device?

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00:02:31,000 --> 00:02:38,000

Well, historical documentation suggests that this device could fire an arrow 200 yards or 600 feet and was incredibly accurate.

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

What about rate of fire?

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00:02:39,000 --> 00:02:43,000

Historians generally agree that it could fire about 5 arrows per minute.

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00:02:43,000 --> 00:02:44,000

Construction?

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00:02:44,000 --> 00:02:48,000

There are some notes about specific areas of its construction that we have to follow.

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

You know what? This sounds like a really fun build.

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00:02:51,000 --> 00:02:53,000

I thought so too.

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00:02:53,000 --> 00:03:00,000

This build is tailor made for the Mythbusters because although the history books list its three mythical criteria,

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

no physical trace of the actual machine has ever been found.

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00:03:05,000 --> 00:03:11,000

But will it live up to its reputation or turn out to be a Trojan horse?

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

The historical record is pretty sparse really.

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00:03:14,000 --> 00:03:19,000

It describes what amounts to an automatic crossbow that involves a crank, some sprockets, a chain,

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00:03:19,000 --> 00:03:25,000

a spiral groove and a drum that extracts arrows from a hopper and fires them until the hopper is empty.

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00:03:25,000 --> 00:03:27,000

That's pretty much all we have to go with.

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00:03:29,000 --> 00:03:32,000

But sketchy details don't deter our machine mavens.

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00:03:32,000 --> 00:03:36,000

In fact, for this ancient engineering challenge, they prefer it.

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00:03:37,000 --> 00:03:41,000

Now given the time period, we can safely assume it would have been made out of wood.

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00:03:41,000 --> 00:03:46,000

And we can also assume that they would want a stable platform to work off of,

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00:03:46,000 --> 00:03:49,000

so the structure should be fairly large and substantial.

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00:03:51,000 --> 00:03:54,000

Yep, and while Adam knocks the wood together,

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

Jamie gets to work on the heart of this weapon, the bow.

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

Well the first question we need to answer is what propelled the arrows?

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

We've decided to pick the simplest and most reliable option,

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00:04:08,000 --> 00:04:11,000

which is a traditional heavy-duty recurve bow.

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00:04:14,000 --> 00:04:19,000

Adams finished the body of the build and to top it off, he's added a sliding arm,

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00:04:19,000 --> 00:04:21,000

the first part of the repeating mechanism.

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

That's it.

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

It's not bad.

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00:04:23,000 --> 00:04:27,000

Then with Jamie's bow in place, they string it together.

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

Ever go.

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

You got it?

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

I'm in.

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00:04:30,000 --> 00:04:34,000

And now all Adam has to do is work out how their bow will fire,

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00:04:34,000 --> 00:04:37,000

draw another arrow, and fire again.

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

That's my catch.

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00:04:39,000 --> 00:04:46,000

Comes over here, grabs the string, pulls it back, and there's a catch.

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00:04:46,000 --> 00:04:47,000

That's beautiful.

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00:04:47,000 --> 00:04:48,000

Isn't that cool?

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00:04:48,000 --> 00:04:49,000

Gravity resets it.

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00:04:49,000 --> 00:04:51,000

No springs, no mechanics.

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00:04:53,000 --> 00:04:58,000

It's an ingenious little solution that Dionysus the Elder himself would salute.

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00:04:58,000 --> 00:04:59,000

But what's next?

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

The record says that the mechanism used sprockets and a chain to create the reciprocating motion

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

required to make the whole device automatic.

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00:05:08,000 --> 00:05:12,000

Given the fact that there were a whole lot of moving parts,

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00:05:12,000 --> 00:05:17,000

we can assume that the sprockets, the crank, and the chain would all have to be very heavy-duty

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00:05:17,000 --> 00:05:19,000

to make the whole thing work.

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00:05:23,000 --> 00:05:25,000

And now that they have the power to drive it,

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00:05:25,000 --> 00:05:29,000

Jamie adds a nifty, fully automatic reloading system.

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00:05:30,000 --> 00:05:32,000

Smooth as could be, no hitches.

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00:05:32,000 --> 00:05:34,000

Along with an arrow hopper.

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00:05:36,000 --> 00:05:38,000

Adam then adds a crank.

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

It's really nice.

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00:05:41,000 --> 00:05:42,000

Really easy.

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00:05:42,000 --> 00:05:46,000

And the final threatening touch is a foreboding figurehead.

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00:05:46,000 --> 00:05:49,000

Let's put a little personality on this puppy, eh?

101

00:05:51,000 --> 00:05:53,000

Oh yeah, look at that.

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

That totally completes it.

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

With that, their devious device is complete.

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

But how exactly will it wreak destruction?

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00:06:08,000 --> 00:06:09,000

This is how this works.

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

We load arrows into the hopper like so.

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00:06:12,000 --> 00:06:17,000

When I turn this crank, I'll also be turning this sprocket and chain, which engages the slide, like so.

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00:06:18,000 --> 00:06:23,000

When the slide starts to move, it engages a spiral groove which rotates the arrow delivery shaft,

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00:06:23,000 --> 00:06:28,000

which pulls a single arrow out of the hopper and delivers it to the firing position.

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00:06:28,000 --> 00:06:30,000

At the same time the string is being pulled back in it,

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00:06:30,000 --> 00:06:33,000

the exact moment the arrow falls into place,

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00:06:33,000 --> 00:06:37,000

the catch mechanism releases the string and fires the arrow.

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00:06:37,000 --> 00:06:38,000

Well, that's the theory.

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00:06:38,000 --> 00:06:42,000

And after four solid days of ancient innovation,

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00:06:42,000 --> 00:06:46,000

it's time for the inaugural Arrow Machine Gun Test Fire.

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00:06:46,000 --> 00:06:47,000

Let's try it.

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00:06:49,000 --> 00:06:50,000

Come on, baby.

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00:06:51,000 --> 00:06:52,000

One away.

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00:06:54,000 --> 00:06:55,000

Looks good.

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00:06:55,000 --> 00:06:57,000

Everything looks in place.

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

Two away.

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

And it works, firing three arrows right on target.

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00:07:06,000 --> 00:07:08,000

It's working.

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00:07:08,000 --> 00:07:11,000

However, one shop test does not equal success.

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00:07:12,000 --> 00:07:15,000

For that, they'll have to go further afield.

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00:07:15,000 --> 00:07:17,000

Alright, man. Let's head out there.

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00:07:17,000 --> 00:07:18,000

Okay.

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00:07:23,000 --> 00:07:26,000

Next, there's no rest for the mythbusters.

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00:07:27,000 --> 00:07:32,000

Today's myth is that driving tired is actually more dangerous than driving tipsy.

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00:07:32,000 --> 00:07:33,000

Even more dangerous.

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00:07:33,000 --> 00:07:34,000

That's the idea.

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00:07:34,000 --> 00:07:39,000

Apparently, being sleep deprived impairs the brain more than a couple of beers.

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

I heard that every year thousands of car accidents happen

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

because people lose concentration due to tiredness.

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

Then that's definitely something we should look into.

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00:07:47,000 --> 00:07:48,000

Absolutely.

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00:07:50,000 --> 00:07:53,000

Drinking and driving is a dangerous combination.

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00:07:54,000 --> 00:08:01,000

But could getting behind the wheel sleep deprived really be more risky than driving tipsy?

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00:08:01,000 --> 00:08:06,000

Both are technically legal, but which is more dangerous?

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

Okay, so we need to design a course with all sorts of obstacles and hazards and various challenges.

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00:08:12,000 --> 00:08:15,000

First, drive it tipsy, say just under the legal limit,

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00:08:15,000 --> 00:08:19,000

and then again really, really tired like we stay up for 24 hours.

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

Alright, well one of us has to be the sub one.

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

So why don't you two do all the drinking, staying up all night and driving,

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

and I'll figure out the course.

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00:08:26,000 --> 00:08:30,000

Alright, well before we start testing, why don't we learn a little bit more about sleep?

147

00:08:30,000 --> 00:08:32,000

What are you going to do? Go take a nap?

148

00:08:32,000 --> 00:08:33,000

I need a little practice.

149

00:08:34,000 --> 00:08:40,000

Yep, before they hit the road, they want to know exactly why a lack of sleep could spell dangerous driving.

150

00:08:40,000 --> 00:08:45,000

We've come to the UCSF Sleep Disorder Center so that we can investigate the signs of sleep.

151

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

Alright Alex, we're ready for the sleep test.

152

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

Now today, Tories are lab rat.

153

00:08:49,000 --> 00:08:53,000

We're going to hook them up to a polysomnogram so that we can monitor his brain waves.

154

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

Well he's both drowsy and really well rested.

155

00:08:56,000 --> 00:08:58,000

Can you tell me a bedtime story?

156

00:08:58,000 --> 00:09:01,000

Okay Dr. Claimon, what happens if we don't get enough sleep?

157

00:09:01,000 --> 00:09:06,000

Well you end up getting irritable, it's harder to pay attention to things.

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00:09:06,000 --> 00:09:11,000

Your brain function is very different when you're sleepy compared to when you're rested and alert.

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

Indeed, because it's clear Torries brain waves when awake, surprisingly are far more active than when he's drowsy.

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00:09:19,000 --> 00:09:25,000

And for the purposes of our test, Dr. Claimon has one very important point.

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00:09:25,000 --> 00:09:33,000

I think if you're on a longer monotonous section of road, you're going to tend to have a lot more trouble keeping your eyes open and focused.

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00:09:33,000 --> 00:09:41,000

If you're stopping and starting in city traffic, it's more stimulating and so it would be easier to cope with those sections.

163

00:09:41,000 --> 00:09:45,000

Which means they'll need two separate test courses.

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00:09:45,000 --> 00:09:55,000

One to replicate the constant stimulus of city traffic and another to simulate a stretch of highway where straying out of your lane could spell death.

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00:09:55,000 --> 00:10:00,000

And grants found a location where they can do just that.

166

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

We're here at the Alameda County Regional Training Facility EVOC course to set up our Topsy vs. Tire Driving Challenge.

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

Now by putting our drivers through various tests, we'll find out which is more dangerous, driving slightly intoxicated or driving exhausted.

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00:10:16,000 --> 00:10:22,000

Tactical driving instructor Paul Gerard will closely monitor how our designated drivers perform.

169

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

Hey Paul, thanks for coming.

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00:10:24,000 --> 00:10:25,000

Thank you.

171

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

And as an added distraction to the obstacle course, they've added a very mythbusters touch.

172

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

Never know what hit him.

173

00:10:33,000 --> 00:10:39,000

At a secret location is a hidden reaction time test that Tori prepared earlier.

174

00:10:39,000 --> 00:10:45,000

A wrap. I mean what better distraction as you're driving down a road having a rodent cross your path.

175

00:10:45,000 --> 00:10:49,000

Now, I'm going to be one of the test drivers so why am I setting up my own distraction?

176

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

It's kind of like building your own gallows.

177

00:10:51,000 --> 00:10:56,000

But just because I'm building this distraction doesn't mean I know when and where it's going to be deployed.

178

00:10:56,000 --> 00:10:58,000

That's going to be Grant's job.

179

00:10:58,000 --> 00:11:01,000

But the key here is we have to avoid these roads.

180

00:11:01,000 --> 00:11:05,000

Alright, that's it. My rat's done. Now it's time to give it propulsion.

181

00:11:05,000 --> 00:11:09,000

Rockets. That's right. Rat Rockets.

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

Okay, well as distractions go, rats moving at rocket speeds certainly takes the box.

183

00:11:15,000 --> 00:11:21,000

Alright, here we go. Rat rocket distraction in three, two, one.

184

00:11:24,000 --> 00:11:30,000

Eventually with just the right amount of rocket in three, two, one.

185

00:11:32,000 --> 00:11:35,000

That will certainly rattle our drivers.

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00:11:35,000 --> 00:11:38,000

I don't know. I think that looked like a pretty good speed to me.

187

00:11:39,000 --> 00:11:41,000

Next on Mythbusters.

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

Holy crap.

189

00:11:43,000 --> 00:11:47,000

It's the rapid fire debut of their marvelous machine.

190

00:11:53,000 --> 00:12:01,000

Did Dionysus of Alexandria jump the gun by 2,000 years and create an arrow-powered forerunner of the machine gun?

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

Or is this myth just historical hyperbole?

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

The Mythbusters are finding out.

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00:12:10,000 --> 00:12:14,000

They've built their archaic archery prototype.

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00:12:14,000 --> 00:12:18,000

But now to find out if it will fulfill its mythical criteria.

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00:12:18,000 --> 00:12:21,000

And now spin clockwise.

196

00:12:24,000 --> 00:12:26,000

It's so hard to find good slaves.

197

00:12:26,000 --> 00:12:30,000

Well, this guy's worked in the shop so far, but that's not good enough.

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

Now we need a field test. So we've come out to a field.

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00:12:33,000 --> 00:12:40,000

We've got a couple hundred yards of space between our arrow machine gun and an appropriate Roman temple in the distance.

200

00:12:40,000 --> 00:12:45,000

It's time now to figure out just how far and how fast this thing fires.

201

00:12:46,000 --> 00:12:50,000

This is the criteria by which we're going to judge our ancient arrow machine gun.

202

00:12:50,000 --> 00:12:56,000

It has to have a range of over 600 feet and has to fire at least five rounds per minute.

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00:12:56,000 --> 00:12:59,000

And it has to be able to hit a human-sized target.

204

00:12:59,000 --> 00:13:02,000

We're going to test its range first.

205

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

If I had to hazard a prediction, honestly, I have no idea.

206

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

I think it's at least going to go a couple hundred feet, but a couple hundred yards, I don't think so.

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00:13:11,000 --> 00:13:14,000

Well, there's only one way to find out.

208

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

You ready?

209

00:13:15,000 --> 00:13:16,000

Almost.

210

00:13:20,000 --> 00:13:21,000

Now I'm ready.

211

00:13:21,000 --> 00:13:22,000

Nice hat.

212

00:13:22,000 --> 00:13:23,000

Thanks.

213

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

Without further ado, Jamie cranks the crank.

214

00:13:27,000 --> 00:13:28,000

Firing.

215

00:13:28,000 --> 00:13:30,000

And loses an arrow.

216

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

Holy crap.

217

00:13:35,000 --> 00:13:36,000

Dude.

218

00:13:36,000 --> 00:13:37,000

Did it go over the top?

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00:13:37,000 --> 00:13:41,000

I don't think it went over the top, but it went way... I can't even see where it landed.

220

00:13:41,000 --> 00:13:42,000

I lost sight of it.

221

00:13:42,000 --> 00:13:43,000

Let's go look.

222

00:13:43,000 --> 00:13:44,000

Okay.

223

00:13:45,000 --> 00:13:46,000

It's an impressive debut.

224

00:13:46,000 --> 00:13:51,000

And after a quick arrow hunt, the mythbusters are even more impressed.

225

00:13:51,000 --> 00:13:52,000

Here it is.

226

00:13:53,000 --> 00:13:54,000

Whoa.

227

00:13:55,000 --> 00:13:56,000

Nice.

228

00:13:56,000 --> 00:13:58,000

Looks like it broke right off at the head.

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00:13:58,000 --> 00:14:00,000

I'm figuring it hit someplace up high.

230

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

We are 230 yards from our machine gun.

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00:14:03,000 --> 00:14:08,000

That is absolutely in the range of battle ready material.

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

Our arrow machine gun fired an arrow 690 feet, so it easily passed our distance test.

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

Now it's time to test its rate of fire and its accuracy.

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00:14:18,000 --> 00:14:24,000

That's the first mythical criteria more than matched by their marvelous machine.

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00:14:25,000 --> 00:14:29,000

So for the next test, they give themselves a little more room.

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00:14:31,000 --> 00:14:32,000

It looks good.

237

00:14:32,000 --> 00:14:36,000

We've got to have something to shoot at, so I found this guy hiding in the bushes, and

238

00:14:36,000 --> 00:14:39,000

I figure he'd make as good a target as any.

239

00:14:40,000 --> 00:14:45,000

Well, our lone centurion awaits 280 some odd yards in the distance.

240

00:14:45,000 --> 00:14:50,000

We're about to load our arrow machine gun with all of these arrows and try to hit them.

241

00:14:50,000 --> 00:14:52,000

Okay, 10 arrows.

242

00:14:52,000 --> 00:14:53,000

Fast as you can.

243

00:14:53,000 --> 00:14:54,000

Hold on in.

244

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

Three, two, one, go.

245

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

Away.

246

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

Awesome.

247

00:15:05,000 --> 00:15:06,000

Hold on. Stop, stop.

248

00:15:06,000 --> 00:15:10,000

For some reason, it didn't grab the second arrow, so we need to push this forward.

249

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

And if at first you don't succeed, try a quick reset and go again.

250

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

Go.

251

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

Away.

252

00:15:20,000 --> 00:15:22,000

Toys for big boys right here.

253

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

Stop, stop, stop, stop.

254

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

But second time around, they hit the same snag.

255

00:15:29,000 --> 00:15:33,000

You know what's happening is our catch isn't catching with the bow string.

256

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

The suspect bow string is tightened and the test resumes.

257

00:15:37,000 --> 00:15:39,000

Third time's a charm.

258

00:15:39,000 --> 00:15:43,000

10 arrows, rapid succession in three, two, one, go.

259

00:15:45,000 --> 00:15:46,000

Oh, yeah.

260

00:15:46,000 --> 00:15:47,000

One's away.

261

00:15:48,000 --> 00:15:49,000

Loading, it's good.

262

00:15:49,000 --> 00:15:50,000

Yes.

263

00:15:50,000 --> 00:15:51,000

Third one.

264

00:15:51,000 --> 00:15:52,000

Come on, baby.

265

00:15:53,000 --> 00:15:54,000

Oh, it didn't catch.

266

00:15:54,000 --> 00:15:59,000

Unfortunately, it looks like it's not just the string that needs fixing.

267

00:15:59,000 --> 00:16:01,000

They're not firing rapidly.

268

00:16:01,000 --> 00:16:04,000

It needs a little TLC and we need to work out a few bugs.

269

00:16:04,000 --> 00:16:07,000

I've got some good news and some bad news.

270

00:16:07,000 --> 00:16:13,000

The good news is from a distant standpoint, our arrow machine gun exceeded my wildest expectations.

271

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

It would appear we've wounded Achilles.

272

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

No, it's not on his heel.

273

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

It's on his, you know, ball of his foot.

274

00:16:21,000 --> 00:16:24,000

Its range is impressive.

275

00:16:24,000 --> 00:16:28,000

It makes it a very good military weapon in the old times.

276

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

The bad news is the machine part of machine gun.

277

00:16:31,000 --> 00:16:32,000

Not so much.

278

00:16:32,000 --> 00:16:34,000

The machine part was touchy.

279

00:16:34,000 --> 00:16:36,000

Hold on, stop, stop.

280

00:16:36,000 --> 00:16:37,000

It broke a few times.

281

00:16:37,000 --> 00:16:39,000

It didn't fire as rapidly as we want.

282

00:16:39,000 --> 00:16:41,000

Its accuracy was all over the map.

283

00:16:41,000 --> 00:16:45,000

Clearly, we've got to take this thing back to the shop and rejigger some significant parts of it.

284

00:16:45,000 --> 00:16:46,000

After the break...

285

00:16:46,000 --> 00:16:49,000

The riot team.

286

00:16:49,000 --> 00:16:52,000

The tipsy drivers hit the road.

287

00:16:54,000 --> 00:16:56,000

Was that the rat?

288

00:17:02,000 --> 00:17:06,000

The mythbusters are taking a ride on the wild side.

289

00:17:07,000 --> 00:17:12,000

Finding out which is worse, driving exhausted or slightly inebriated.

290

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

And they're starting with their tipsy baseline test.

291

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

Under proper supervision, of course.

292

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

Deputy Nubriga, thank you so much for coming out and helping us.

293

00:17:24,000 --> 00:17:25,000

You're welcome.

294

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

Now this is 45 milliliters of alcohol.

295

00:17:30,000 --> 00:17:31,000

And this is an average shot.

296

00:17:31,000 --> 00:17:34,000

And this is what we're going to be using to get tipsy.

297

00:17:34,000 --> 00:17:37,000

Now remember, we're not trying to get drunk, we're trying to get tipsy.

298

00:17:37,000 --> 00:17:42,000

Which means we need to be below the legal blood alcohol level, which is .08.

299

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

Now a person my size, 170 pounds, I'm going to need three of these within an hour to get tipsy.

300

00:17:47,000 --> 00:17:49,000

Now Carrie, she's a little bit lighter.

301

00:17:49,000 --> 00:17:52,000

She's going to need two of these in an hour to get tipsy.

302

00:17:52,000 --> 00:17:54,000

But once we're at that point, then we're going to start driving.

303

00:17:54,000 --> 00:17:58,000

We're doing this experiment completely under the supervision of the sheriff's department.

304

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

We're no way advocating drinking and driving.

305

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

And in fact, we're using this tipsy driving test as the yardstick for dangerous.

306

00:18:05,000 --> 00:18:08,000

Because this right here is as dangerous as anything we do on the show.

307

00:18:08,000 --> 00:18:10,000

It's dangerous, alright.

308

00:18:10,000 --> 00:18:16,000

And after her precisely allotted amount of alcohol, Carrie blows a .06 on the breathalyzer.

309

00:18:16,000 --> 00:18:17,000

Tipsy but not drunk.

310

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

Perfect.

311

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

Alright, we'll score you from out here.

312

00:18:20,000 --> 00:18:22,000

And we'll be hiding behind the K-rails.

313

00:18:22,000 --> 00:18:24,000

Good idea.

314

00:18:25,000 --> 00:18:33,000

At just below the legal limit, a less than sober Carrie must negotiate the obstacle course at 15 miles per hour.

315

00:18:33,000 --> 00:18:34,000

Oh, there's a cone.

316

00:18:34,000 --> 00:18:35,000

Woohoo!

317

00:18:35,000 --> 00:18:36,000

10 points.

318

00:18:36,000 --> 00:18:40,000

And it's clear from the beginning that the alcohol has affected her driving.

319

00:18:40,000 --> 00:18:42,000

Yep, got one on the corner there.

320

00:18:42,000 --> 00:18:45,000

She hits two cones within 30 seconds.

321

00:18:46,000 --> 00:18:50,000

And then executes a rodent hit and run.

322

00:18:50,000 --> 00:18:53,000

Was that the rat that was awesome?

323

00:18:53,000 --> 00:18:54,000

Yeah.

324

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

The final cone casualty comes on the parallel park.

325

00:19:03,000 --> 00:19:04,000

There's a lot of adding.

326

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

We're going to have to do this guys.

327

00:19:06,000 --> 00:19:07,000

I think this is going to be interesting.

328

00:19:07,000 --> 00:19:08,000

Me too.

329

00:19:09,000 --> 00:19:15,000

Carrie made seven mistakes on the obstacle course, earning 10 penalty points per error.

330

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

But she's not done yet.

331

00:19:18,000 --> 00:19:23,000

Next she has to drive her imitation highway lane for 25 laps.

332

00:19:23,000 --> 00:19:26,000

But how will they make sure Carrie stays between the lines?

333

00:19:26,000 --> 00:19:29,000

Well, with this handy device.

334

00:19:29,000 --> 00:19:35,000

I have a sensor system that looks at these lane markers and knows if it's inside or outside.

335

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

If they're over the line, a timer will automatically go off and keep track of how long they're over

the line.

336

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

And a light on the outside will light up so we can see if they're over the line or if they're safe.

337

00:19:46,000 --> 00:19:49,000

Okay, 25 laps in the not any test.

338

00:19:49,000 --> 00:19:51,000

Three, two, one.

339

00:19:52,000 --> 00:19:53,000

One over here.

340

00:19:54,000 --> 00:19:59,000

Every time the car crosses the line, both Grant's device and the follow car record it.

341

00:19:59,000 --> 00:20:01,000

And left for a long time there.

342

00:20:02,000 --> 00:20:05,000

Keeping in line is proving difficult for Carrie.

343

00:20:06,000 --> 00:20:07,000

One over here.

344

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

But eventually, after 25 laps, it's time to find out just how difficult.

345

00:20:13,000 --> 00:20:14,000

You're done. Stop.

346

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

Alright, so how did Carrie do?

347

00:20:18,000 --> 00:20:23,000

Well, on the monotonous driving course, she crossed the line or went out of the lane 104 times.

348

00:20:23,000 --> 00:20:24,000

What?

349

00:20:24,000 --> 00:20:28,000

Yeah, with an elapsed time endanger of 58 seconds.

350

00:20:28,000 --> 00:20:32,000

I was driving consistently the entire time inside the lines.

351

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

Carrie strayed out of her lane and theoretically into oncoming traffic 104 times.

352

00:20:40,000 --> 00:20:45,000

Bringing her final tipsy penalties to 232.

353

00:20:46,000 --> 00:20:47,000

Perfect.

354

00:20:49,000 --> 00:20:52,000

Troy's approach is to will himself sober.

355

00:20:52,000 --> 00:20:54,000

Be the car, be the car.

356

00:20:54,000 --> 00:20:56,000

Be the road, be the road.

357

00:20:58,000 --> 00:21:03,000

And while it works well initially, a sudden surprise breaks his clear record.

358

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

Oh, I just killed a rat.

359

00:21:08,000 --> 00:21:10,000

I think the little bugger got under my tie.

360

00:21:10,000 --> 00:21:14,000

But he does manage to pull himself together thereafter.

361

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

Okay, now hairpin turn and on to the parallel parking.

362

00:21:17,000 --> 00:21:20,000

Focus, focus, focus, focus.

363

00:21:20,000 --> 00:21:22,000

Don't crash.

364

00:21:22,000 --> 00:21:24,000

And we're in.

365

00:21:24,000 --> 00:21:26,000

Bang!

366

00:21:26,000 --> 00:21:30,000

Tori has done surprisingly well on the maneuverability course,

367

00:21:30,000 --> 00:21:32,000

forfeiting only 20 penalty points.

368

00:21:32,000 --> 00:21:35,000

But now comes the boring part.

369

00:21:35,000 --> 00:21:38,000

sobriety

370

00:21:38,000 --> 00:21:43,000

Once again, Tori's progress is monitored by Grant and Paul in the chase vehicle.

371

00:21:43,000 --> 00:21:48,000

I don't know, call me paranoid, but I think there's white bands following me.

372

00:21:48,000 --> 00:21:53,000

25 laps later and Tori's tipsy test is finally complete.

373

00:21:53,000 --> 00:21:56,000

Oh my gosh, that was torturous.

374

00:21:56,000 --> 00:21:57,000

Right?

375

00:21:57,000 --> 00:21:59,000

I never thought I was going to end.

376

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

You and me both.

377

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

It certainly was tedious, but how did he do?

378

00:22:03,000 --> 00:22:06,000

Well, in the monotonous driving course, he crossed the line four times.

379

00:22:06,000 --> 00:22:10,000

For a grand total of one second in danger.

380

00:22:10,000 --> 00:22:11,000

Woohoo!

381

00:22:11,000 --> 00:22:14,000

The less than sober Tori did very well once again,

382

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

bringing his final penalties to 25 points.

383

00:22:18,000 --> 00:22:20,000

But it's not all good news.

384

00:22:20,000 --> 00:22:27,000

You know, I've got to say watching Tori drive after having had three shots of alcohol is a little disturbing.

385

00:22:27,000 --> 00:22:29,000

He almost didn't make any mistakes.

386

00:22:29,000 --> 00:22:31,000

Yeah, I think on the surface it looks like that.

387

00:22:31,000 --> 00:22:35,000

There were mistakes made and those mistakes in the real world would have been really significant.

388

00:22:35,000 --> 00:22:38,000

For instance, when we fired the rat out in front of them,

389

00:22:38,000 --> 00:22:41,000

if that were a car running a red light or a vehicle running a stop sign,

390

00:22:41,000 --> 00:22:42,000

he would have just plowed right into it.

391

00:22:42,000 --> 00:22:47,000

With their tipsy baseline complete, now all they need to do is sober up,

392

00:22:47,000 --> 00:22:50,000

lose some sleep and then do it all again.

393

00:22:57,000 --> 00:23:00,000

The ancient Greeks were in just swords and sandals.

394

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

They also invented some ingenious war machines.

395

00:23:04,000 --> 00:23:05,000

Good, good, good.

396

00:23:05,000 --> 00:23:08,000

But did they create the world's first machine gun?

397

00:23:08,000 --> 00:23:11,000

Good slaves, extra meat for everyone.

398

00:23:11,000 --> 00:23:13,000

Well, we got a bunch of work to do.

399

00:23:13,000 --> 00:23:15,000

Yeah, we do. Let's get started, huh?

400

00:23:15,000 --> 00:23:16,000

Okay.

401

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

The Greeks may have had centuries,

402

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

but the mythbusters have just 48 hours to perfect their weapon.

403

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

How does it feel?

404

00:23:25,000 --> 00:23:27,000

I think it feels a lot better.

405

00:23:27,000 --> 00:23:30,000

And first, Adams got his sights set on its aim.

406

00:23:30,000 --> 00:23:35,000

Back in my day, we could aim our arrow machine guns.

407

00:23:35,000 --> 00:23:37,000

We did it with wheels.

408

00:23:37,000 --> 00:23:39,000

That's right.

409

00:23:39,000 --> 00:23:42,000

We didn't just pop them down on the ground.

410

00:23:42,000 --> 00:23:46,000

We could find our enemies and bring the arrows to them.

411

00:23:46,000 --> 00:23:48,000

The death sprayers.

412

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

That's what we were called. Yes!

413

00:23:50,000 --> 00:23:55,000

The wheels are fitted to the machine, along with a giant lever to steer.

414

00:23:55,000 --> 00:23:56,000

That's not bad at all.

415

00:23:56,000 --> 00:24:00,000

Meanwhile, the Heidemann works on their reloading problem,

416

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

spending the day ironing out kinks, adding the traditional lube,

417

00:24:04,000 --> 00:24:06,000

and cranking up the crank.

418

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

That's much faster than I was doing yesterday.

419

00:24:11,000 --> 00:24:13,000

Can I get you a glass of water?

420

00:24:13,000 --> 00:24:15,000

That's a workout, that's for sure.

421

00:24:15,000 --> 00:24:16,000

Certainly is.

422

00:24:16,000 --> 00:24:19,000

And there's one more addition, Adams' angling to make.

423

00:24:19,000 --> 00:24:21,000

An angle finder.

424

00:24:21,000 --> 00:24:22,000

Let's do a test fire.

425

00:24:22,000 --> 00:24:27,000

Alright, how about at an angle that's probably going to give us a couple hundred yards of distance?

426

00:24:27,000 --> 00:24:29,000

About 15 degrees?

427

00:24:29,000 --> 00:24:30,000

Sure.

428

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

Okay.

429

00:24:31,000 --> 00:24:33,000

Yep, and with their target in sight,

430

00:24:33,000 --> 00:24:34,000

Good.

431

00:24:34,000 --> 00:24:36,000

Jamie cranks up the tweaked machine.

432

00:24:38,000 --> 00:24:39,000

Good.

433

00:24:39,000 --> 00:24:41,000

You hit a nice close bullseye.

434

00:24:41,000 --> 00:24:42,000

Okay.

435

00:24:42,000 --> 00:24:43,000

Let's just see if it loads again.

436

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

And to begin with, their changes are working like clockwork.

437

00:24:47,000 --> 00:24:48,000

Good.

438

00:24:48,000 --> 00:24:49,000

Another one.

439

00:24:52,000 --> 00:24:54,000

Yeah!

440

00:24:56,000 --> 00:24:57,000

Oh, stop.

441

00:24:57,000 --> 00:24:58,000

Miss fire.

442

00:24:58,000 --> 00:25:02,000

Until they run up against their old friend, the Miss Fire.

443

00:25:02,000 --> 00:25:05,000

There's a problem inherent with something like this,

444

00:25:05,000 --> 00:25:08,000

and that is that it's got so many different moving parts

445

00:25:08,000 --> 00:25:11,000

that if any one little thing gets out of whack,

446

00:25:11,000 --> 00:25:14,000

then you've got a train wreck and everything breaks.

447

00:25:14,000 --> 00:25:17,000

It's a trial and error process to find the fix.

448

00:25:17,000 --> 00:25:20,000

The guys first try restricting the machine.

449

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

The guys first try restringing the bow.

450

00:25:26,000 --> 00:25:27,000

What was that?

451

00:25:27,000 --> 00:25:30,000

I have never seen that behavior from this thing.

452

00:25:31,000 --> 00:25:34,000

Then try adjusting the redraw mechanism.

453

00:25:38,000 --> 00:25:41,000

And finally widening the arrow channel.

454

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

Arrow's loaded well.

455

00:25:43,000 --> 00:25:44,000

That's good.

456

00:25:44,000 --> 00:25:46,000

Keep going.

457

00:25:46,000 --> 00:25:48,000

That's perfect.

458

00:25:48,000 --> 00:25:49,000

One more.

459

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

Perfect. Stop.

460

00:25:53,000 --> 00:25:55,000

That was three beautiful shots.

461

00:25:55,000 --> 00:25:57,000

I think we might have this thing on the ropes.

462

00:25:57,000 --> 00:25:59,000

It's about time, huh?

463

00:25:59,000 --> 00:26:02,000

With the hitches defeated, at least for now,

464

00:26:02,000 --> 00:26:05,000

the Mythbusters celebrate by making their magnificent machine

465

00:26:05,000 --> 00:26:08,000

a little more festive.

466

00:26:08,000 --> 00:26:10,000

That looks great.

467

00:26:10,000 --> 00:26:12,000

Awesome ye olde.

468

00:26:14,000 --> 00:26:18,000

When it comes to warfare, I know you want to walk in the blood and guts of your enemies.

469

00:26:18,000 --> 00:26:19,000

Who doesn't?

470

00:26:19,000 --> 00:26:21,000

Well, have I got the solution for you?

471

00:26:21,000 --> 00:26:24,000

Starting at the back with its ratcheting Z-axis aiming stand,

472

00:26:24,000 --> 00:26:27,000

its new comfort crank handle with a slip grip,

473

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

cast bronze chains, all-terrain wheels,

474

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

a 30-arrow hopper, 70-pound bow string,

475

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

and a lion's head that sprays death at every crank.

476

00:26:37,000 --> 00:26:40,000

Yes, it's the Arrow Machine Gun.

477

00:26:40,000 --> 00:26:42,000

What more do you need to know?

478

00:26:49,000 --> 00:26:51,000

We have tested driving tipsy.

479

00:26:51,000 --> 00:26:53,000

Now it's time to test driving tired.

480

00:26:53,000 --> 00:26:55,000

So we need to stay up all night long.

481

00:26:55,000 --> 00:26:58,000

So we've set up the shop with a few things to help us do that.

482

00:26:58,000 --> 00:27:01,000

We got a treadmill. This way we can run on it, get the blood flowing.

483

00:27:01,000 --> 00:27:02,000

Hopefully that'll keep us awake.

484

00:27:02,000 --> 00:27:04,000

If we get bored with that, we got ping pong.

485

00:27:04,000 --> 00:27:06,000

We'll play that all night.

486

00:27:06,000 --> 00:27:08,000

Plus, we have a lounge air conditioner.

487

00:27:08,000 --> 00:27:10,000

We have a lot of air in the air.

488

00:27:10,000 --> 00:27:12,000

We have a lot of air in the air.

489

00:27:12,000 --> 00:27:14,000

We have a lot of air in the air.

490

00:27:14,000 --> 00:27:16,000

We have a lot of air in the air.

491

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

We have a lot of air in the air.

492

00:27:18,000 --> 00:27:20,000

We have a lounge area.

493

00:27:20,000 --> 00:27:22,000

We got a TV, we watch some television, play some video games,

494

00:27:22,000 --> 00:27:24,000

and since we're doing this at night,

495

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

and we don't have heaters, it is going to get freezing in here,

496

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

which is definitely going to keep us awake.

497

00:27:30,000 --> 00:27:35,000

Gosh, the more I talk about this experiment, the less I want to do it.

498

00:27:35,000 --> 00:27:40,000

Well, that's understandable, because here's grad with a disturbing graphic.

499

00:27:40,000 --> 00:27:43,000

So the physiological effects of sleep deprivation are

500

00:27:43,000 --> 00:27:47,000

increased heart rate, irregular breathing, blurred vision,

501

00:27:47,000 --> 00:27:52,000

dizziness, yawning, nausea, and slurred speech.

502

00:27:52,000 --> 00:27:57,000

The question is, will these symptoms make your driving worse than when you're tipsy?

503

00:27:57,000 --> 00:28:01,000

Well, there's no rest for the mythbusters in order to find out.

504

00:28:01,000 --> 00:28:04,000

All right, so it is now nine o'clock.

505

00:28:04,000 --> 00:28:06,000

You've been awake for roughly 15 hours.

506

00:28:06,000 --> 00:28:10,000

You have 12 hours to go until you're on the road.

507

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

I don't know about you, but I'm feeling good.

508

00:28:11,000 --> 00:28:13,000

Maybe I'm being optimistic, but I think this is going to be all right.

509

00:28:13,000 --> 00:28:15,000

Good luck. I'll see you tomorrow.

510

00:28:15,000 --> 00:28:16,000

All right, see you in the morning.

511

00:28:16,000 --> 00:28:18,000

Sleep tight.

512

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

Now what?

513

00:28:46,000 --> 00:28:48,000

The sound starts to show.

514

00:28:48,000 --> 00:28:54,000

1 a.m. I can tell that I've been up late because I'm starting to get a much deeper voice.

515

00:28:54,000 --> 00:28:57,000

By morning, I'm going to sound like Jamie.

516

00:28:57,000 --> 00:29:02,000

And at 4 a.m., our sleep-deprived pair hit the proverbial wall.

517

00:29:02,000 --> 00:29:04,000

Wake up.

518

00:29:04,000 --> 00:29:06,000

I was just thinking.

519

00:29:06,000 --> 00:29:09,000

So let's look at the effects of sleep deprivation.

520

00:29:09,000 --> 00:29:10,000

Irritability.

521

00:29:10,000 --> 00:29:12,000

Oh, I kill grand.

522

00:29:12,000 --> 00:29:13,000

Check.

523

00:29:13,000 --> 00:29:14,000

Severe yawning.

524

00:29:14,000 --> 00:29:15,000

Check.

525

00:29:15,000 --> 00:29:18,000

Increased reaction time and accuracy.

526

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

Definitely and definitely.

527

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

I am so tired now.

528

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

Suffering all the symptoms of sleeplessness, our deprived duo struggles through the early hours of the morning.

529

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

It's 6 a.m.

530

00:29:31,000 --> 00:29:36,000

We have now been up 24 hours straight.

531

00:29:36,000 --> 00:29:39,000

I'm starting to see cross-eyed.

532

00:29:39,000 --> 00:29:44,000

Finally, at 7 a.m., Grant arrives with a welcome breakfast.

533

00:29:44,000 --> 00:29:46,000

Morning, you guys.

534

00:29:46,000 --> 00:29:48,000

Now I know we're truly tired.

535

00:29:48,000 --> 00:29:50,000

I'm hallucinating that Grant has food for us.

536

00:29:50,000 --> 00:29:51,000

Dig in.

537

00:29:51,000 --> 00:29:56,000

We're going to saddle up in a little while, and then you guys are going to hit the road and start driving.

538

00:30:14,000 --> 00:30:19,000

We've worked out the kinks, and our Arrow Machine Gun is finally ready for testing.

539

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

But what are we going to compare its performance to, both in terms of speed and accuracy?

540

00:30:24,000 --> 00:30:26,000

Clearly, we need the yardstick.

541

00:30:26,000 --> 00:30:29,000

This is our yardstick.

542

00:30:29,000 --> 00:30:33,000

Right now, Brady Ellison is the number one archer in the United States.

543

00:30:33,000 --> 00:30:39,000

I figure that makes him a heck of a yardstick by which to judge the effectiveness of our Arrow Machine Gun.

544

00:30:39,000 --> 00:30:43,000

So, Brady, I need you to take out all five of our soldiers as quickly as you can.

545

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

Are you up for it?

546

00:30:44,000 --> 00:30:45,000

Sounds good.

547

00:30:45,000 --> 00:30:47,000

All right, let's do it.

548

00:30:48,000 --> 00:30:49,000

I know what you're saying.

549

00:30:49,000 --> 00:30:56,000

You're saying mythbusters, our third century BC counterparts, didn't possess equipment nearly as advanced as the one you're holding in your hand.

550

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

How can you call that an accurate comparison to ye olde bows?

551

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

While this may look really fancy, with all this stuff bolted to it that's shiny,

552

00:31:04,000 --> 00:31:11,000

the fact is, functionally, mechanically, it works effectively exactly the same as ye olde bows.

553

00:31:11,000 --> 00:31:13,000

So, that's our story and we're sticking to it.

554

00:31:13,000 --> 00:31:15,000

Okay, Brady, the enemies are at the gate.

555

00:31:15,000 --> 00:31:17,000

May it commence firing.

556

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

Ah, that's a hit!

557

00:31:24,000 --> 00:31:25,000

The blue guy is down!

558

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

On to orange!

559

00:31:30,000 --> 00:31:32,000

The orange guy's down!

560

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

Time for the green!

561

00:31:34,000 --> 00:31:36,000

Brady has obviously done this before.

562

00:31:36,000 --> 00:31:37,000

A hit!

563

00:31:37,000 --> 00:31:38,000

Green guy is down!

564

00:31:38,000 --> 00:31:39,000

Red!

565

00:31:39,000 --> 00:31:42,000

And although not every arrow is a direct hit,

566

00:31:43,000 --> 00:31:45,000

Looks like you hit off to the side of the red.

567

00:31:45,000 --> 00:31:47,000

Not to note, the red guy is not a hit.

568

00:31:47,000 --> 00:31:52,000

Using his super modern bow, it doesn't take long to deflate the targets.

569

00:31:52,000 --> 00:31:53,000

Yellow is down!

570

00:31:53,000 --> 00:31:55,000

Red is the only one left.

571

00:31:58,000 --> 00:31:59,000

Yeah, that hit him.

572

00:31:59,000 --> 00:32:00,000

He's down.

573

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

The red guy is down.

574

00:32:01,000 --> 00:32:02,000

You got him all.

575

00:32:02,000 --> 00:32:03,000

Nice work!

576

00:32:03,000 --> 00:32:04,000

That was two minutes.

577

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

Eleven arrows.

578

00:32:05,000 --> 00:32:07,000

Five kills, eleven arrows, two minutes.

579

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

Well, we got our mark, we got a beat.

580

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

Brady's going to be a pretty tough act to follow.

581

00:32:18,000 --> 00:32:22,000

I mean, we're going to be able to crank out more arrows in a given period of time than he could,

582

00:32:22,000 --> 00:32:28,000

but they're probably not as accurate, so it kind of boils down to quantity or quality.

583

00:32:28,000 --> 00:32:30,000

Okay, that's it!

584

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

Centurion Jamie, I spot five enemy soldiers blocking our way about 90 yard tenths.

585

00:32:38,000 --> 00:32:39,000

Shall we take them out?

586

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

Awaiting your command.

587

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

Well, have at it!

588

00:32:43,000 --> 00:32:45,000

Centurion Adam gives the command.

589

00:32:45,000 --> 00:32:48,000

The timer starts and Jamie gets cranking.

590

00:32:50,000 --> 00:32:52,000

Oh, that looks like a hit!

591

00:32:52,000 --> 00:32:54,000

The yellow one is down, let's move to the red one.

592

00:32:54,000 --> 00:32:56,000

And firing.

593

00:32:57,000 --> 00:32:59,000

Oh, we hit the tunic of the red one.

594

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

Barring.

595

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

Oh, we got the red one, go for the green!

596

00:33:07,000 --> 00:33:08,000

Firing.

597

00:33:09,000 --> 00:33:15,000

It's a promising start with the enemies falling swiftly to the death-spraying machine.

598

00:33:15,000 --> 00:33:17,000

I think we hit the green, let's go for the orange!

599

00:33:17,000 --> 00:33:18,000

Firing.

600

00:33:20,000 --> 00:33:22,000

Oh, the orange went down!

601

00:33:22,000 --> 00:33:26,000

But with four targets down, suddenly the bow bows out.

602

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

We broke the bow.

603

00:33:28,000 --> 00:33:29,000

How so?

604

00:33:29,000 --> 00:33:30,000

The limb broke.

605

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

Split the limb.

606

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

No way!

607

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

I would back off.

608

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

If that comes out, it'll flip towards you.

609

00:33:35,000 --> 00:33:37,000

Alright, here's the report so far.

610

00:33:37,000 --> 00:33:40,000

At a minute and thirty-eight seconds with nineteen arrows fired and four targets down,

611

00:33:40,000 --> 00:33:41,000

our limb broke.

612

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

We are replacing the limb, we're going to start the clock again.

613

00:33:44,000 --> 00:33:48,000

And hopefully we're going to take care of this last blue intruder.

614

00:33:48,000 --> 00:33:49,000

Yep, that's the plan.

615

00:33:49,000 --> 00:33:53,000

And with a new bow, they restart the clock and take aim.

616

00:33:53,000 --> 00:33:54,000

Right.

617

00:33:54,000 --> 00:33:55,000

Go!

618

00:33:55,000 --> 00:33:56,000

Firing.

619

00:33:56,000 --> 00:33:58,000

Oh, so close!

620

00:33:58,000 --> 00:34:00,000

That last guy is a devil!

621

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

Firing.

622

00:34:01,000 --> 00:34:03,000

Wait, we have a problem, we have a problem.

623

00:34:03,000 --> 00:34:04,000

Feed failure.

624

00:34:04,000 --> 00:34:07,000

Once again, there's a hitch in the mechanism.

625

00:34:07,000 --> 00:34:11,000

But they still haven't given up getting that bolt into the blue.

626

00:34:11,000 --> 00:34:14,000

Offending arrow is removed, clock is restarting again.

627

00:34:14,000 --> 00:34:15,000

Go!

628

00:34:18,000 --> 00:34:19,000

Good, keep going.

629

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

Arrow's good.

630

00:34:22,000 --> 00:34:24,000

Oh, we didn't load that one.

631

00:34:24,000 --> 00:34:25,000

Wow, it didn't grab the...

632

00:34:25,000 --> 00:34:30,000

Back, back, back, back, back!

633

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

Fudge, babies, baby hippos.

634

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

Start right up again.

635

00:34:36,000 --> 00:34:37,000

Yet another failure.

636

00:34:37,000 --> 00:34:38,000

Okay.

637

00:34:38,000 --> 00:34:41,000

But the Mythbusters know a thing or two about persistence.

638

00:34:41,000 --> 00:34:44,000

So far, just about everything that can go wrong has gone wrong.

639

00:34:44,000 --> 00:34:50,000

We've had misfires, mis-triggers, we've had string problems.

640

00:34:50,000 --> 00:34:52,000

Sooner or later, we're going to run out of things to go wrong,

641

00:34:52,000 --> 00:34:54,000

and then it'll work great.

642

00:34:54,000 --> 00:34:59,000

Well, here's hoping, because the Mythbusters aren't given up on this one without a fight.

643

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

Coming up...

644

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

Our drowsy drivers are a little fuzzy.

645

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

He's getting closer!

646

00:35:07,000 --> 00:35:12,000

And will the archery odyssey end in defeat for victory?

647

00:35:18,000 --> 00:35:21,000

It's been a long time between naps for our duo.

648

00:35:21,000 --> 00:35:22,000

We're here.

649

00:35:22,000 --> 00:35:24,000

You're driving to wake anybody up.

650

00:35:24,000 --> 00:35:32,000

After 30 hours awake, it's time to find out if sleep deprivation makes you a worse driver than alcohol.

651

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

Turn the sun down.

652

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

And there's no doubt these two are tired.

653

00:35:36,000 --> 00:35:40,000

So Carrie and I have now been awake for over 30 hours.

654

00:35:40,000 --> 00:35:44,000

And let me tell you, my heart's racing, my breathing is irregular.

655

00:35:44,000 --> 00:35:49,000

You know that sound that the TV makes when it's just full of snow?

656

00:35:50,000 --> 00:35:55,000

I'm feeling sick, so I'm pretty sure my immune system is failing.

657

00:35:55,000 --> 00:35:59,000

I haven't started hallucinating yet, but the day has just begun.

658

00:35:59,000 --> 00:36:02,000

Kind of the only thing going through my head right now.

659

00:36:02,000 --> 00:36:06,000

I think I might kill a few cones today.

660

00:36:07,000 --> 00:36:12,000

Well, there's only one way to find out, as our drowsy driver hits the road.

661

00:36:13,000 --> 00:36:18,000

Get that one hard too.

662

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

As Carrie predicted, she has knocked down cones, but not as many as you'd think.

663

00:36:23,000 --> 00:36:25,000

She's kind of like a different driver now.

664

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

Very different.

665

00:36:27,000 --> 00:36:32,000

This time around, she even reacts to and avoids the rocket wrap.

666

00:36:32,000 --> 00:36:35,000

Wow, that was really good.

667

00:36:35,000 --> 00:36:41,000

On the obstacle course, Carrie did slightly better driving sleep deprived than tipsy.

668

00:36:41,000 --> 00:36:44,000

But will she do as well with the monotony test?

669

00:36:44,000 --> 00:36:49,000

All right, this is tipsy versus tired monotony course.

670

00:36:49,000 --> 00:36:50,000

Go.

671

00:36:51,000 --> 00:36:56,000

How weary Carrie is finding the test such a yawn, it's hard for her to stay awake.

672

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

Cross.

673

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

Go all the way over.

674

00:37:02,000 --> 00:37:04,000

Go around the left.

675

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

At every time she slips towards sleep,

676

00:37:07,000 --> 00:37:11,000

let's just say the line monitoring device has its work cut out.

677

00:37:12,000 --> 00:37:16,000

This has got to be like lap one on the roof.

678

00:37:16,000 --> 00:37:21,000

Eventually, Carrie has run the rings, and it's all over for her tired test.

679

00:37:21,000 --> 00:37:24,000

That's it for driving tired.

680

00:37:24,000 --> 00:37:26,000

Good job, Carrie.

681

00:37:27,000 --> 00:37:31,000

But before we get to her final results, it's Tori's turn.

682

00:37:33,000 --> 00:37:35,000

What I want to do is go to bed right now.

683

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

Compared to his relatively mistake free run last time, he's making far more errors.

684

00:37:43,000 --> 00:37:45,000

Oh, we hit one of the cones there.

685

00:37:45,000 --> 00:37:46,000

That's a confirmed hit.

686

00:37:46,000 --> 00:37:50,000

Once again, he mows down his rodent distraction.

687

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

And on the slalom, even though he slows right down,

688

00:37:55,000 --> 00:37:57,000

There's no tire noise or anything.

689

00:37:57,000 --> 00:37:58,000

He's just kind of creeping through the whole thing.

690

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

His steering suffers.

691

00:38:01,000 --> 00:38:08,000

In contrast to Carrie, Tori was penalized 50 points, more than double his tipsy tally.

692

00:38:08,000 --> 00:38:13,000

But will his fatigue affect his driving on the stimulus free circuit?

693

00:38:13,000 --> 00:38:15,000

Here we go.

694

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

In the beginning, Tori is alert and driving well.

695

00:38:18,000 --> 00:38:21,000

Science sleeps for no one.

696

00:38:21,000 --> 00:38:23,000

Oh, he snuck through there, didn't he?

697

00:38:23,000 --> 00:38:24,000

Yeah, it was clean.

698

00:38:24,000 --> 00:38:25,000

It was clean.

699

00:38:26,000 --> 00:38:31,000

But as he loops the laps over and over, his focus starts to wander.

700

00:38:34,000 --> 00:38:40,000

It's the straightaways that give you that bit of time to relax, not worry about a turn.

701

00:38:40,000 --> 00:38:42,000

And that's when you doze off.

702

00:38:42,000 --> 00:38:47,000

Eventually, after completing 25 laps, he can stop driving in circles.

703

00:38:47,000 --> 00:38:52,000

Yeah! Dang! That was rough.

704

00:38:53,000 --> 00:38:55,000

It was rough.

705

00:38:55,000 --> 00:38:58,000

But how much did the monotony get to our tired to some?

706

00:38:58,000 --> 00:39:00,000

I mean, you guys are plainly very tired right now.

707

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

From one minute over the lines before to being over five minutes over the line,

708

00:39:05,000 --> 00:39:08,000

and you being one second over the line to suddenly being over two minutes over the line.

709

00:39:08,000 --> 00:39:09,000

Wow!

710

00:39:09,000 --> 00:39:16,000

It's a shocking result, but it's clear that both Tori and Carrie made more errors driving tired.

711

00:39:16,000 --> 00:39:18,000

Particularly when it came to monotony.

712

00:39:18,000 --> 00:39:23,000

Carrie was three times worse, and Tori almost ten.

713

00:39:23,000 --> 00:39:25,000

So it's looking like myth confirmed.

714

00:39:25,000 --> 00:39:26,000

It's confirmed.

715

00:39:26,000 --> 00:39:31,000

Not only is driving tired as bad as driving tipsy, it's worse.

716

00:39:31,000 --> 00:39:33,000

Now, being tipsy is borderline illegal.

717

00:39:33,000 --> 00:39:36,000

It's incredibly dangerous.

718

00:39:36,000 --> 00:39:41,000

What we found is that being tired is even more dangerous than that.

719

00:39:41,000 --> 00:39:46,000

So if you have to take a break, if you have to pull over to the side of the road and take a nap,

720

00:39:46,000 --> 00:39:48,000

that's what you should do.

721

00:39:48,000 --> 00:39:52,000

Because otherwise, you're putting yourself and everyone else at risk.

722

00:40:16,000 --> 00:40:18,000

They all lived up to their deadly mythology.

723

00:40:18,000 --> 00:40:23,000

I'm standing right in it, and I'm not dead yet.

724

00:40:23,000 --> 00:40:28,000

And after three aborted attempts at mowing down a five-man Roman regiment,

725

00:40:28,000 --> 00:40:32,000

it's looking like the Arrow Machine Gun could be joining their ranks.

726

00:40:32,000 --> 00:40:36,000

Oh, fudge! Babies! Baby hippos!

727

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

But undeterred, the mythbusters soldier on.

728

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

You ready to try this thing again?

729

00:40:41,000 --> 00:40:45,000

Yeah, I was getting a little cranky, but maybe it'll be alright this time.

730

00:40:45,000 --> 00:40:47,000

A little cranky? Nice joke. Let's do it!

731

00:40:47,000 --> 00:40:49,000

Kill him!

732

00:40:51,000 --> 00:40:54,000

Oh, so close!

733

00:40:54,000 --> 00:40:55,000

Grabbing load. Oh, stop!

734

00:40:55,000 --> 00:40:57,000

That's yet another failed attempt.

735

00:40:57,000 --> 00:41:01,000

But it does give the mythbusters their Eureka moment.

736

00:41:01,000 --> 00:41:05,000

I would not have called this, but when you're bumping into this,

737

00:41:05,000 --> 00:41:08,000

it bumps the catch down and makes it miss the string.

738

00:41:08,000 --> 00:41:09,000

Okay, I understand.

739

00:41:09,000 --> 00:41:13,000

After you fire, maybe go just a little bit slow until it hits this,

740

00:41:13,000 --> 00:41:15,000

and then crank it.

741

00:41:15,000 --> 00:41:18,000

Could the problems all be down to just a cranky crank?

742

00:41:18,000 --> 00:41:20,000

Load it and grab. It's good.

743

00:41:20,000 --> 00:41:23,000

Well, to find out, they start the timer once again.

744

00:41:25,000 --> 00:41:27,000

It's away! That's a hit!

745

00:41:27,000 --> 00:41:30,000

Move on to the next one. Load it and grab!

746

00:41:31,000 --> 00:41:34,000

Oh, good hit on the red guy!

747

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

Ha ha ha!

748

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

Oh, that looked like a direct hit on the green!

749

00:41:43,000 --> 00:41:45,000

Oh, it's a miss!

750

00:41:45,000 --> 00:41:47,000

Go!

751

00:41:49,000 --> 00:41:52,000

Oh, that orange looks like a good hit! Come on!

752

00:41:52,000 --> 00:41:54,000

Last man left!

753

00:41:54,000 --> 00:41:57,000

Come on, he's getting closer!

754

00:41:58,000 --> 00:42:04,000

We hit the blue! The blue is dead!

755

00:42:04,000 --> 00:42:07,000

Ahhhhh!

756

00:42:08,000 --> 00:42:11,000

I'm going to go eat something that was living.

757

00:42:14,000 --> 00:42:17,000

The mythbusters are finally triumphant,

758

00:42:17,000 --> 00:42:19,000

and they have their dead dummies to prove it.

759

00:42:19,000 --> 00:42:21,000

We hit the blue!

760

00:42:22,000 --> 00:42:25,000

15 arrows, five guys down. How long did that take?

761

00:42:25,000 --> 00:42:27,000

One minute fifty seconds.

762

00:42:27,000 --> 00:42:30,000

One minute fifty seconds? Nice work.

763

00:42:30,000 --> 00:42:32,000

Excellent aiming.

764

00:42:32,000 --> 00:42:35,000

Our ancient arrow machine gun killed all five of our soldiers

765

00:42:35,000 --> 00:42:38,000

in one minute fifty seconds using fifteen arrows.

766

00:42:38,000 --> 00:42:41,000

Our stated goal was five arrows per minute,

767

00:42:41,000 --> 00:42:43,000

as per the historical record,

768

00:42:43,000 --> 00:42:46,000

and we were firing at a rate of eight arrows per minute.

769

00:42:46,000 --> 00:42:50,000

Not only that, we were able to complete this task quicker than our archer.

770

00:42:50,000 --> 00:42:52,000

That's pretty good.

771

00:42:52,000 --> 00:42:55,000

So, what's the verdict on their little tiger here?

772

00:42:55,000 --> 00:42:58,000

Well, we exceeded all our design specifications.

773

00:42:58,000 --> 00:43:00,000

Absolutely. Our range was fantastic.

774

00:43:00,000 --> 00:43:04,000

Our accuracy was stunning, and our rate of fire was higher than anyone's surmised.

775

00:43:04,000 --> 00:43:06,000

I think we've got to call this one...

776

00:43:06,000 --> 00:43:07,000

Blossable.

777

00:43:07,000 --> 00:43:09,000

Blossable it is.

778

00:43:10,000 --> 00:43:14,000

So I swear, man, if we are ever invaded by an army of blow-up dolls,

779

00:43:14,000 --> 00:43:16,000

we are ready!

780

00:43:22,000 --> 00:43:25,000

you