

JATO Chevy

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Episode Name: JATO Rocket Car

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Myths: Jet Assisted Chevy, PopRocks and Soda Can Kill

JATO Car

The Myth: The Arizona Highway Patrol responded to a call about some smoldering wreckage on the side of a mountain near a highway. At first it was believed that an airplane had crashed, but further investigation revealed the true story. An Air Force sergeant managed to get a jet-assisted-take-off (JATO) bottle, which is used to supply additional thrust for heavy aircraft or aircraft on a short runway. The sergeant thought it would be fun to have the additional thrust on his car, a 1967 Chevy Impala. While on a straight, desolate stretch of road, he got up to 80 mph and fired the JATO, instantly bringing his speed to over 300 mph. The road had a slight upgrade and a curve with a mountain beyond. Noticing the curve, the sergeant tried to apply the brakes, leaving skid marks for 1.5 miles. He wasn't able to stop, didn't make the curve and became airborne, crashing into the mountain.

The Experts:

Heather Joseph-Witham, folklorist, helps explain the myth. She says that most good urban legends have details like names, places and dates.

Sgt. Bob Stein, Arizona Department of Public Safety, says he first heard about this story in 1994, while he was the department's spokesperson. He thought that this could have happened because Arizona is the home of several air bases. After some research, he found that there never was a crash site like this in Arizona, not even something vaguely similar. The Arizona Department of Public Safety gets several inquiries about this and their official Web site even mentions the myth.

Andy Granatelli, auto racing legend, says that at high speeds wind resistance is a major factor. At 350 mph the roof would be blown off a car. The car would become airborne at around 200 mph as air goes under the car, which would cause it to flip over. In 1946 he placed 8 JATO units on an Indy racer. He estimates the car went about 180 mph. He says that it was unbelievable.

George Calloway, retired rocket scientist, says that in order for the test to be successful the rockets need to be dead straight. He was hoping it would work and when it was over he was quite impressed. He thought Jamie did his homework.

Quotable Moments:

Adam: "This is so exciting...I'm going to have to have a grinectomy."

Action/Results: The first step is to acquire a JATO unit, but Jamie has his doubts that the military will just hand one over. He is informed that JATOs are expensive and it is an unusual request. A few days later the Air Force called to deny permission, then they called back to deny permission again. Each JATO produces 1,000 pounds of thrust for 12-15 seconds. To overcome the lack of a JATO, Adam and Jamie enlist the help of Erik and Dirk Gates, who have over 20 years of experience in model rocketry and are qualified operators. They decide to use model rocket engines instead of a JATO. The engines that they use have 1,500 pounds of thrust (3,000 horsepower), but only burn for 4 seconds. The solution is to fire three engines successively.

The next step was getting a 1967 Chevy Impala, cheap. After a long search they came up with a 1966 Impala with a hydraulics kit. This car breaks down after only 8.5 miles, 3 hours from Jamie's shop. The problem was a clogged fuel filter. Once the car is towed to the shop, the roof is reinforced with a steel cage inside of the car and a mounting platform is made. Since the myth specifically states that the driver of the car died, Jamie makes the car remote-controlled. Due to the limited range of the radio control transmitter and the possible speed of the car, Jamie designs the controls to reset to a preset position in case radio contact is lost.

To test the myth, the car is taken to a dry lake bed. A chase helicopter is used to keep the remote control in range. A test run is done to make sure everything is working properly. They use the car's hydraulic kit to lower the hood to control the wind effects. All systems go, but the car barely moves and the test is aborted. It turns out the fuel filter was

never fixed. After a repair, a second attempt is made and when the car reaches about 80 mph the rockets are fired at 4-second intervals. Everything works perfectly. The car stays on the ground and the chase helicopter can't keep up at 130 mph.

Several other people in the past have driven cars with JATOs attached. The most notable was in 1965 when Walt Arfons built the first rocket-powered land speed car, the Wingfoot Express II, originally designed to use 10 JATOs. It eventually was modified to take 25 JATOs and had an unofficial speed of 605 mph.

Jamie & Adam realized their jet engines on stands weren't powerful enough, and that they couldn't recreate the myth. Adam says, "Whatda we say here, that the Mythbusters are busted?"

Pop Rocks and Cola Can Kill You

The Myth: When little Mikey from the Life Cereal commercial was a teenager, he drank 6 cans of soda and ate 6 packages of Pop Rocks candy. This created a chemical reaction in his stomach and the resulting gas caused his stomach to rupture. He died.

The Experts:

Heather Joseph-Witham, folklorist, helps explain this myth. She also says that once the belief is out there you have to take big steps to disprove it.

Fernando Arguis, Pop Rocks Inc., helps explain this myth and the steps Pop Rocks has taken to disprove the myth. The myth originally appeared in 1979, four years after the release of Pop Rocks. The candy was originally designed to create an instant soda.

Dr. Stanley Benjamin, gastroenterologist, says gastric juice is excreted as a protective mechanism for the body. It is designed to kill things with hydrochloric acid and pepsin. The stomach is designed to stretch. If there is too much pressure, there are also two vents in the stomach, one at each end, making ruptures unlikely. The stomach can rupture in a blunt force trauma such as a car accident. If bicarbonate is used as an antacid, the carbon dioxide that is generated is at low concentrations and usually stays dissolved. In the event of a large meal or other very unusual circumstance, the stomach may rupture, but it is very rare.

Quotable Moments:

Adam: describes the stomach as "A very meaty swimming cap."

Action/Results: To test this myth a pig stomach will be used to mimic a human's stomach. The problem is that they need the esophagus and bowels with the stomach. The FDA has listed those parts as hazardous substances. That means a trip to the butcher to get all of the necessary parts. The myth will be tested in two parts, the first part will be to see how much pressure is generated by 6 cans of pop and 6 packages of Pop Rocks. The second part will be to see how much pressure the stomach can take before rupturing.

Adam makes a syringe to inject the pop quickly into the stomach while Jamie makes a gastric juice with a pH of 2 using hydrochloric acid. One liter of gastric juice is placed into the stomach along with 6 doses of Pop Rocks with a chaser of 6 cans of cola. The stomach enlarges but there is no pressure reading on a pressure gauge attached to the stomach.

The stomach is then emptied and gastric juice and another 6 cans of cola are placed into the stomach. Then a mixture of 3 tablespoons of baking soda and water is added to the stomach. The stomach swells, and the pressure gauge reads ½ psi, but the stomach holds. An additional 2 tablespoons of baking soda is added and the stomach finally bursts. Myth Busted.

- episode description by ndgeoman & mrsgeekboy
Thanks, mrsgeekboy for letting him take over the TV!