



## COUNTERFEIT AIRBAGS

### How Do You Know and Why Should You Care?

By U.S. Forensic

The 1973 Oldsmobile Toronado was the first vehicle sold to the public with a passenger airbag. Since then, airbags have prevented thousands of injuries and deaths when activated during a crash. As an airbag deploys, the occupant (with the aid of a seatbelt) can ride down a crash without forcefully contacting the interior of the vehicle. If airbags do not deploy, steering wheels, interior door panels and dashboards are more likely to cause injuries. Unfortunately, repairing these airbag systems once deployed within vehicles can be expensive. Numerous components are required to be replaced after an airbag has been deployed such as the airbag control module, airbag modules, internal steering wheel components, etc.



Front airbags hanging from steering wheel and dash.

#### HOW DOES AN AIRBAG WORK?

The airbag *control module* is the decision-making component of the airbag system, whereas the airbag *module* is the actual bag or curtain that is inflated during a severe crash. The control module must evaluate the dynamics of a crash almost immediately. Once alerted, it makes a prediction of the severity of the crash and then makes the decision whether to deploy the airbag or not. These decisions occur within a fraction of a second at the beginning of a crash event. Based upon the deceleration or acceleration rate of the event, the control module may signal the airbag to deploy. It may also decide that the airbag need not deploy, but instead, deploy the seatbelt pretensioners. These pretensioners are a pyrotechnic device that when deployed will take up the excess slack in the seatbelt.

In 2012, the National Highway Traffic Safety Administration (NHTSA) reported that vehicles that had been repaired in the prior three years could have a counterfeit airbag module installed. It has been estimated that 0.1 percent of vehicles may have a counterfeit airbag installed. These vehicles were typically repaired by autobody repair shops not affiliated with dealerships.

Counterfeit airbags are fake airbags made to look like the genuine original airbags. They bear the same emblem as authentic airbags; however, counterfeit airbags are cheaper than the OEM (original equipment manufacturer) airbags, as is true with most counterfeit products. New airbag modules are expensive to purchase, typically between \$750 and \$1,000, and a counterfeit airbag module may only cost \$100 to \$400. These counterfeit products are typically purchased from internet sites. The extreme discrepancy in price should be a red flag to consumers.

---

**“The NHTSA tests have led to documented cases where counterfeit airbags discharged metal debris and emitted flames from an ignitor during inflation.”**

---

Also, collision damaged vehicles are purchased from salvage yards and repaired for re-sale. Some of these vehicles will have deployed airbags when purchased. Once these collision damaged vehicles are repaired, they make their way to the used vehicle market. Some used vehicle retailers repair vehicles properly, while others may engage in any means possible to reduce repair cost. Obviously, counterfeit airbag modules have reached the used car retail industry. Buyer beware.

## ENDANGERING CONSUMERS

According to John Morton, director of U.S. Immigration and Customs Enforcement, their organization seized 2,500 counterfeit airbags during 2012. Morton stated, “These airbags don’t work. They are not going to save you in an accident. They are fraud and a danger from start to finish, and you don’t want them in your car period.”

The NHTSA has tested counterfeit airbags as far back as 2012, and they have found numerous problems that can range from improper inflation to no inflation at all. The NHTSA tests have led to documented cases where counterfeit airbags discharged metal debris and emitted flames from an ignitor during inflation. The testing performed by the NHTSA has proven that counterfeit airbags are very dangerous and can lead to injury. Therefore, consumers need to be aware of the potential hazards associated with counterfeit airbags. If a counterfeit airbag is discovered in a vehicle, it should be removed to protect the operators and passengers.

## HOW DO I KNOW IF I HAVE A COUNTERFEIT AIRBAG?

Unfortunately, the consumer will not be able to determine if an airbag in a vehicle is a counterfeit airbag or an authentic one. Counterfeit airbags and OEM airbags are almost identical in

exterior appearance and physical dimensions. If the consumer suspects that they may have a counterfeit airbag in their vehicle, they should consult the NHTSA website [safecar.gov](http://safecar.gov). The NHTSA has identified certain vehicles that are more at risk and have published the list on their website. In addition, the NHTSA has developed a list of call centers to assist consumers who are concerned that a counterfeit airbag may have been installed into their vehicle.

## FORENSIC INVESTIGATIONS INVOLVING AIRBAGS

### FAKE AIRBAG DEPLOYMENT.

While the occurrence of counterfeit airbags is rare, forensic experts also investigate other types of airbag cases. Typically, they are asked to examine an airbag module that may have been cut open and the airbag fabric pulled out. This type of case is usually associated with staged collisions. The vehicle may or may not have been in an actual collision, but by manually pulling out the fabric from the airbag module, this gives the appearance that a collision was more severe and caused the airbag to deploy.

With fake airbag cases, the cut lines in the surface of these airbag modules are obvious. The cuts in the plastic are very clean as a result of using a very sharp tool or knife, and the cuts generally wander off course during the extraction process.

### NON-DEPLOYED AIRBAGS



Front airbag module was cut open and airbag pulled out.

Another common assignment for forensic experts is to examine a non-deployed airbag. This can occur when a previously deployed airbag module was resealed. Generally, the question that will be presented to the expert is “Why did the airbag not deploy?” While there are legitimate reasons for an airbag not to deploy, evaluations may conclude foul play. The evaluations may conclude that someone attempted to make it appear that an airbag had not deployed. Rather than replacing an airbag





Repair of previously deployed front airbag module.



Front airbag module (left). Ignitor removed and previously deployed air bag found (right).

module, the airbag module is just resealed. Often these repairs are obvious, even to the untrained eye.

However, there are some cases that are not so obvious, and the improperly repaired vehicle was sold to an unknowing buyer.

### IMPORTANCE OF FORENSIC INVESTIGATIONS

Whether your case involves a counterfeit airbag, fake deployment or resealed deployed airbag modules, forensic experts can investigate your entire case. If the airbag “cover-up” leads to questions about the validity of a crash, forensic experts can determine if damage to the vehicle is consistent with the reported event. These experts will image crash and infotainment data to verify what occurred prior to and during the event. Speed, steering angles and braking data can be imaged. In addition, damage consistency evaluations can be performed. Dents, scrapes and paint transfers can be examined. These forensic components can piece together the facts of the case.

*U.S. Forensic is a national engineering firm offering evaluation, reporting and expert witness testimony. They provide structural, mechanical and electrical engineering as well as accident reconstruction, post-theft evaluations and vehicle origin and cause services.*

**iasiu**  
**2020**  
**VIRTUAL**  
**SEMINAR**  
**SEPT. 14-16**

**Thank You**  
**Annual**  
**Seminar**  
**Sponsors!**



**SKOPENOW**

