

## SECOND HAND VEHICLE MAINTENANCE FRAUDS

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### 1. INTRODUCTION

With the help of modern body repair techniques everything is possible - even vehicles in a bad overall condition may have a nice look. The auto industry and their dealers are rife with scams and fraud and the potential buyer needs to be armed with the knowledge of how these scams work and how to avoid them. There are many dealers that run reputable businesses and can get buyers into a vehicle without using fraudulent means, but there are always those individuals or companies that are looking for ways to take consumers for a ride.

In many countries, it is illegal to sell a new vehicle that has sustained some form of body, structural, collision, or other damage up to a certain percentage of the manufacturer's suggested retail price for the vehicle without first disclosing the prior damage to the buyer. It is also generally considered illegal to sell an unsafe vehicle, to make affirmative misrepresentations about a vehicle, new or used, or to lie to a consumer in response to questions asked about a vehicle. Few things are more annoying in the purchase of a vehicle than to find out that it has sustained prior accident damage.

Therefore, even if fraudulent maintenance activities were performed in a certain country, there exist fraud internationalization process supported by the exchange of vehicle parts and components (new genuine, new but non-genuine, repaired or used – “second hand”), maintenance tools, repair materials and technologies, etc. between countries. In addition to that there exist an intentional flow of goods and services normally starting in highly developed countries towards the direction of less developed countries. No matter what aspect of internationalization of this process is in question it is always seriously related to safety risks associated with the used vehicle market, and in particular with the importation of such vehicles.

Car maintenance deficiencies may be intentional or unintentional, conscious or unconscious. Maintenance and repair is becoming now-a-days a set of very complex technological procedures that sometimes are even more complex compared to those used in vehicle production.

Used vehicles have an unknown history of ownership. The best used car buy is one that has been well taken care of and well maintained. In the less developed countries there is an unwritten rule assuming “vehicles coming from developed countries” are with no doubt “always better” than those available at the local markets, and “even much better than that”. This “inferiority complex” position in fact is not often true, but it opens a challenging playground for different individuals and companies to benefit significant profit by

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enhancing the flow of bad and/or unsafe second hand vehicles over the borders between “developed” and “less developed” countries, obviously in the direction of the second ones.

Such a believe is also enabling some parties to additionally benefit from the fact that while importing second hand cars to other countries there normally is no any particular vehicle inspection performed over such vehicles aside from documentation verification for customs and latter vehicle registration purposes. That is why vehicle documentation is also often subject to forging.

On the other hand, legislation in less developed countries often does not deal with the automotive fraud issues, i.e. there are no appropriate laws designed to protect consumers from the many deceptive and unsavory practices and fraudulent means used in connection with purchasing and financing an automobile.

In theory, it is illegal to sell an unsafe vehicle, or a vehicle with disclosure of the true mileage, but ...? That is why it may be considered typical that things not to be considered legitimate in a developed country might be assumed “legitimate” in less developed countries, simply due to missing legal frame which would ban the fraudulent behaviour.

In addition to that, purchase of used cars is often "as is" with no warranty, but in developed countries there are legal protections, and these may also apply in the case of "as is" sales [6].

## **2. WHAT IS FRAUD?**

Fraud [1] is often defined using a four-part test to determine whether an act is fraudulent or not by asking whether the act is :

- The false representation of a material fact,
- Intended to be relied upon by others,
- Knowing it was false, and
- Relied upon by the victim to their detriment.

## **3. WHAT IS AUTOMOTIVE FRAUD?**

Automotive fraud is a very broad area. In general, the sale or leasing of cars with forged documentation and/or without a proper disclosure of known defects or dangerous conditions with the vehicle constitutes automotive fraud. There are many different types of automotive fraud, and the defendants include: insurance companies, car dealers and manufacturers, extended warranty companies, service contract companies and car finance companies.

Automotive fraud can come in a variety of forms when purchasing a used car, like inappropriate vehicle documentation, sales of salvage, flood and former rental cars without disclosure of their past history, odometer rollbacks, yo-yo sales, credit consolidation sales, and resale of damaged vehicles without full disclosure [2]. One of the most common forms of auto fraud is the practice of misrepresenting the true condition of the vehicle. There is a rule in some countries that a vehicle should be labeled if it “has been inspected for collision

damage and collision repairs and has been found to be free of collision damage or repairs”, like the case was in the US, but not in a number of other countries.

The NHTSA estimates, for example, that customers lose billions of dollars a year to odometer fraud, due to odometer readings rolled back or documents were forged. Making miles disappear helps increase the car's value to the seller, but can mean increased maintenance and repair costs to the buyer.

Typical dealer fraud that can be perpetrated on a used car buyer, for example, include lying about the previous ownership history, rolling back or replacing the odometer, falsifying figures or terms on a sale and/or lease, forging vehicle documentation, and other. The last thing an auto buyer should expect after buying a new or used car are problems that result from auto fraud, which occurs when the seller of the vehicle either fails to disclose the complete history of the car he is selling, or alters or destroys evidence pertaining to any part of the vehicle's age, condition or inherent or acquired defects.

All these things make used car customer not being ever sure that he/she is buying a legitimate vehicle that he/she can truly own. This lack of knowledge facilitates fraud, and some dealerships will indeed defraud customers by (falsely) telling them that their vehicle is OK. Customers should avoid being fooled by a freshly detailed car and a steam cleaned engine compartment, because it is essential to know the true condition of the vehicle before buying it.

One of the most common types of lemon fraud in US encountered by clients is used car being sold which later turns out to have extensive presale collision damage. The way of fighting this problem is to impose requirements that vehicle should be labeled “not been returned to a dealer or manufacturer because of lemon law defects or complaints.”

Automotive frauds are hard to detect. These are usually associated with the Insurance frauds and/or typically maintenance frauds that may be discovered under accident reconstruction analyses, damaged vehicle value estimation or massive vehicle repairs. Therefore, insurance, or maintenance or automotive frauds in general are not easy of being documented and illustrated because these are not easy to identify in public.

#### **4. WHAT IS MAINTENANCE FAILURE - MAINTENANCE FRAUD & RELATED SAFETY RISKS?**

Auto repair problems make up the largest group of consumer complaints. While most repair shops are honest, undercover car repair stings can be found at dishonest auto mechanics and shops all over the world. [3] According to Leonhardt and Rozon [4], one in three used cars has something to hide. Usually it's nothing major, perhaps the owner was a little lazy and failed to get maintenance done as frequently as he should have. In other cases, it could be that the car has been in a serious accident, flood damaged, or in fact stolen.

Deficiencies are immanent to the maintenance process, but the problem arises from that only when deficiencies are directed consciously by intention. In fact, any maintenance deficiency

is safety related, although not all such things should be ranked to the same level of vehicle safety risk caused by maintenance fraud.

This paper does not deal with poor or low quality vehicle maintenance and repair. Besides, it neither relates to conscious and intentional maintenance deficiencies committed in order to make fraud but to those deficiencies resulting from the fact that both maintenance shops and/or technicians do not apply appropriate maintenance procedures or do not possess appropriate knowledge on the technology built in a vehicle they are repairing.

This particularly applies to installation of inappropriate spare parts, and application of inappropriate materials and/or repair technologies in the case of some specific vehicle failures.

At the Faculty of Mechanical Engineering of the University of Belgrade we are working on the development of a method for estimation of vehicles safety rate based on its condition [5]. It also includes study of some specific fraudulent cases, like the following:

- Intentional mislead to vehicle identification in the form of inappropriate (forged) engine number, VIN number, year of vehicle production, vehicle color, hiding real vehicle condition due to previous serious accident damage, etc.,
- Forging of vehicle maintenance and service documentation,
- Misuse of vehicles that have been declared “total loss” or “totally damaged”, and then re-built in the country of origin or exported in the form of secondary raw material to the customer in another county where it will be rebuilt and marketed as “normally” used vehicle,
- Misuse of vehicle components removed from damaged vehicles, or declared damaged by the vehicle manufacturer (due to corrosion, fabrication failures, etc.) and therefore disposed to the recycling storage from where taken away and built-in a vehicle intended to be repaired and sold out in another country or directly exported to another country,
- Misuse in the form of dismantling of original parts and components from the vehicle intended of being exported and replacing of those with parts and components of unknown origin,
- Importation of vehicles of a given type and purpose (like vans) and their adaptation to become vehicles another purpose (like passenger cars) by means or unoriginal parts and non-standard repair technologies, etc.,
- Incomplete or inoperative vehicle with respect to its auxiliary equipment, like ABS, air-bags, GPS etc., that may not be inspected by inexperienced drivers.

Some of those may be illustrated by means of the cases presented in the Annex to this paper, while they also may be further elaborated in the following way:

### ***Vehicle reconstruction after flood damage***

If a vehicle was involved in a collision or otherwise sustained damage, it will be deemed either a total loss or eligible for repair<sup>2</sup>. If the amount of damage exceeds 75% of the car's fair market value, the owner is entitled to have the car declared a total loss.

In some cases, like in North Carolina, USA, if the vehicle is five years old or newer and the repairs exceed 25% of the vehicle's fair market value, the damage should be disclosed to prospective buyers. Diminished vehicle value occurs when a car sustains damage which is not a total loss in an accident that was the fault of another driver.

After the repairs are completed, such vehicle's fair market value is almost always less than it was before the damage. Some countries require this diminished value to be told to a potential buyer, but some countries don't and that is where fraud may occur.

Even if the vehicle was not stolen, it may be reconstructed after flood damage and/or older than it appears.

A salvaged and/or rebuilt vehicle is one that has been damaged so severely that the insurance company of the previous owner of the vehicle considered it a total loss. Vehicles that have been wrecked, declared a total loss by an insurance company, or rebuilt have what is called a salvage title. The title of the vehicle (and registration) must disclose that the vehicle is a salvage. In US it is unlawful to sell a salvaged vehicle without telling the buyer. The price of a salvaged vehicle is generally much less than an equivalent non-salvaged vehicle. Salvaged vehicles may have major safety defects depending on how well it was rebuilt. It is usually not very difficult to find out whether or not a vehicle is a salvage.

Other vehicles may have been wrecked and rebuilt, but were not declared a total loss by an insurance company. These types of vehicles are much harder to identify because they do not carry the salvage title.

Some companies will then take the vehicle and have it rebuilt and restructured, however, rarely if ever is the vehicle restored to a safe condition. To that end, every state in the US, for example, has a law regarding the disclosure of the salvaged history on the title of the vehicle (known as a "branded title") and requires that certain notification of that history be given to the potential consumer in writing before the actual sale of the vehicle. Any failure to disclose a salvage or rebuilt history is a violation of law.

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<sup>2</sup> Rebuilt titles are issued when the car has sustained damage as a result of one or more incidents. A rebuilt title may be issued if a vehicle sustained damage and was rebuilt or reconstructed, then placed back on the road.

Salvage titles are issued by the state when an insurance company takes possession of a vehicle as a result of a claim. This usually occurs when a vehicle has been declared a total loss.

Junk titles are issued when a vehicle is not road worthy and cannot be titled again in that state.

But this is not the case in many European countries, and that is why such fraudulent behavior is not rare. There are even cases that vehicles used for performing crash tests following EuroNCap procedure were afterwards recollected, reconstructed and marketed in SE Europe, for example.

There are cases that a car rebuilt after a wreck was equipped with engine not properly lined up in the chassis, while these parts of the car had been welded together where bolts normally are used. During a court suit it was proven that the wrecked car had been purchased by backyard mechanic from one country who had tried to fix it up and then sold it to a repair shop in another country.

Used vehicles are often coming from rent-a-car service. These vehicles are subject to driving by numerous different people with different habits. With no pride of ownership, people tend to abuse these vehicles and treat them in ways they would not treat their own car. Thus, they tend to be of lesser value than another vehicle of the same age and make that was owned by an individual, but this must not be disclosed (in writing, for example). On the contrary, dealers typically try to hide this information, or even misrepresent the vehicle's history in an effort to make the sale.

***Counterfeit Car Parts*** - Using counterfeit car parts instead of high-quality replacement parts.

The old used part switcheroo is another common car part related scam. Used parts are a viable option for many repairs, however, some mechanics charge customers for new, premium parts after installing sub-standard or used car parts.

The customer was told and billed by repair firm with the price of new replacement part having high quality, but counterfeit part was in reality built in the vehicle. This practice can actually put vehicle owner in danger because counterfeit auto parts are often of inferior quality. In addition to that, there is a substantial risk for the driver because he may never even know that some parts in his vehicle do not have appropriate quality level. i.e. the quality he is assuming they have. Besides being potentially unsafe, counterfeit parts generally wear out sooner than genuine parts. Detecting counterfeit auto parts is difficult because the counterfeiters often duplicate trademarks or alter them so slightly that it takes an experienced eye to notice the difference.

Many collision service centers are repairing damaged vehicles with used replacement parts but are charging consumers the cost for new parts. This is unlawful. Even more outrageous, many collision shops are repairing collision damage by "pounding out" the damages and using a "bondo" spackling agent but instead are charging the customer for new parts and materials. This is not only unlawful, but it negatively affects the vehicle's warranty agreement with the manufacturer and decreases the vehicle's resale value. Contact us immediately if you suspect you have been a victim of these unlawful business practices.

### ***Cannibalization***

Cannibalization is very famous maintenance technology in which spare parts necessary to perform given maintenance operation are collected from other vehicles of the same kind and type, or even from any other vehicle source on condition this part “fits” to the vehicle being repaired. It is well known that vehicle junk heaps and second hand vehicle shops exist all around the world, and it seems like installation of parts provided from these sources to a vehicle in use is approved by the authorities in these countries. There are countries, even within the EU, in which such market operation is very developed.

### ***Making of clone vehicles:***

Typically, car cloning is the case when cloners find a vehicle identification number or VIN from a legitimate vehicle and slap it onto a stolen, or rebuilt car. Each VIN is unique, so the stolen vehicle becomes a clone of the original one associated with the lifelike paperwork so that an illegal clone looks perfectly legitimate.

There are evidence of cases in which a loose (and often previously disposed or sold out due to significant manufacturing failures or damages while being in the stock) vehicle body is subject to substantial body repair work, performed by the specialized shop. Having in mind that most advanced body repair and painting technologies are used, such a body gives look of the brand new original, particularly to the individuals not being professionals in the subject area, and those normally represent 99,9% of potential customers of such products.

During the rebuilding process, such a vehicle is provided with all relevant symbols (like VIN mark and others) previously removed from another vehicle which, for example, was taken from disposed vehicles plant, and being totally damaged in a car accident. There are also cases that such marks were forged, and that is how there are few vehicles bringing “the same” manufacturing marks but running one in Europe, another in Australia, and the third one in the US, for example. The body is then equipped with all other vehicle components taken away from different disposed vehicles or from another second hand vehicle, or from the unoriginal spare part suppliers, or, finally equipped even with the original spare parts.

And that is how the clone vehicle was born. It is rather clear that such operation would not be financially very efficient on condition it was applied to low class vehicles, but in the case of higher vehicle classes, the benefit may be very substantial.

### ***Missing or False Maintenance and Warranty Records and Disclose of Prior Vehicle Damage History:***

It is always illegal to sell an unsafe vehicle, and if you asked specific questions about a vehicle, new or used, the dealer is obligated to provide truthful responses (to the best of his knowledge). Vehicles sold as Certified Pre-Owned vehicles, meanwhile, must live up to the dealership’s advertised certification standards.

It is also illegal to sell a new vehicle with any unrepaired damage, any structural damage or even if repairs were made costing more than 3% of the vehicle’s value.

Virtually every used car on the market will be said never been damaged or involved in any previous accidents. In fact, only in the case of an individual used car sale the salesperson knows whether vehicle really was previously damaged or not. Therefore, every used car vehicle on the market should go through some inspection but that normally is not the case.

Maintenance and Warranty records may be of particular importance for inexperienced customers not only because they represent a good way to see if the car was stolen, but also will giving a hint of how well the car has been taken care of. It is essential these document are official, otherwise they also may be fraudulent.

The same apply to the mileage over time on the maintenance records, which may represent a good step to ensure that the seller did not tamper with the odometer. Most trained technicians can identify certain damage to a vehicle by noting re-painting, welding, or even replacement parts, but there are no standard procedures of such inspection that are applied on a compulsory bases.

One of the most common forms of auto fraud is failing to disclose preexisting and/or known problems with the vehicle. Cars often have documented histories of mechanical problems. Some dealers try to sell vehicles with known mechanical problems by either misrepresenting the car's condition or simply by not telling the prospective buyer about these problems. Do not be fooled just because a vehicle appears cosmetically clean and mechanically sound. If the vehicle you are interested in comes without a warranty or "as is," you should be extra cautious.

One form of hiding a vehicle's history is called "lemon laundering." Many states, including California, have lemon laws, which essentially require a manufacturer to repurchase a defective vehicle. Lemon laundering is the resale of these defective vehicles without disclosing their prior history. A possible sign of lemon laundering is when a car that is close to new is being sold as used.

Other forms of this type of fraud include misrepresentations about prior owners or prior use. For example, dealers often tell consumers that a car has only had one owner, when in fact it has had multiple owners. Dealers may also conceal the fact that a vehicle was a rental car. Dealers may also hide a vehicle's history as stolen and recovered; stolen vehicles sometimes have undetected and un-repaired problems.

Many unsuspecting consumers purchase from car dealers used vehicles that are represented to be one owner vehicles but are in fact prior daily rental vehicle, (cars used as rental cars by car rental firms). Many of these cars have prior accident damage or mechanical problems. Under California Law an auto dealer has the legal obligation to identify and disclose former taxi cabs, rental vehicles, publicly owned vehicles, insurance salvage vehicles and revived salvage vehicles at the time of and prior to sale. Besides, a dealer has an obligation to perform a legal sufficient safety inspection of all used cars offer for sale and must perform repairs or disclose collision damage revealed by the inspection [7].



**Missing or false Registration Papers :**

The registration papers also give customer clues about the vehicle, and that is why these are sometimes subject to forging. Besides, the license plate on the car should indeed match the numbers on the registration papers, and there is also fraud possibility if the owner's name does not matches the seller's one. Meeting seller at the address listed on the papers may also prevent ideas about fraudulent behavior.

**5. CONCLUSIONS**

In this paper vehicle maintenance fraud was elaborated. It was demonstrated that there is a large variety of possibilities to make pre-sale forge of the vehicle condition and/or relevant documentation.

It may be concluded that missing legal environment is in favor of those who are preparing and ready to commit automotive frauds.

It may also be concluded that automotive frauds are often hard to discover, but there are methods and organizations capable of performing the task of inspection condition of vehicles on the used car market.

**REFERENCES**

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- [5] Duboka Č., et al.: Development of a method of vehicle condition based safety estimation, Project supported by the Ministry for Science and Technology of Serbia, Project No. 15012, Belgrade, 2008 - 2009.
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**ANNEX**

**Case 1 : Volkswagen Golf IV**

After first accident vehicle declared “total loss”



After second accident vehicle declared  
“total loss” again



Vehicle cloning



*Case 2 : Imported used vehicle Audi A4*



Spare part with no manufacturer mark

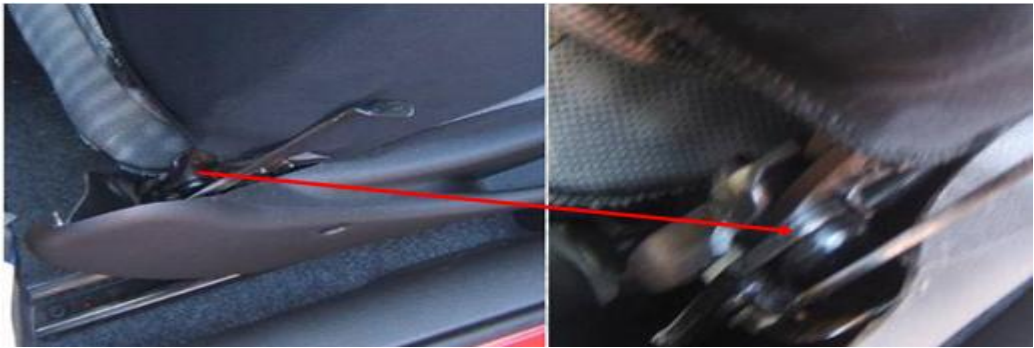


Removed catalysts (converters)



Welding traces at front axle

**Case 3 : Converting van to car**



Non – genuine seat folder device



Non – genuine seat fixation elements



Vehicle manufacturer built-in LPG device replaced with un-original one