

Vandalism damage analysis

Vandalism and/or graffiti damage to vehicles is an occasional problem brought to collision repair facilities. Types of vandalism damage include physical destruction, defacement, fire, and/or theft. Examples of destruction can include broken glass, punctured tires, or damage to external parts such as mirrors, lights, antennas, etc. Defacement may be a problem such as spray-painted graffiti (see Figure 1).

Damage analysis requires a thorough inspection, looking at not only the visual indicators, but also looking for hidden damage. Hidden damage may include damage to wires and connectors and other electrical parts, kinked fuel lines, embedded glass, or fluid contamination.

Extent of Damage

One important consideration for making a repair or replace decision is to determine the extent of the damage. Identify the direct and indirect damage or any pre-existing damage. Consider how the vehicle could be repaired. Then discuss the repair options with all of the parties involved.

Determining the extent of damage should include inspecting for any damage to the restraint system (see Figure 2). A damaged or missing restraint system part must be replaced to restore the integrity of the system.

Determining the extent of damage should also include identifying if any foreign material is contaminating any system, such as the fuel system. A contaminated fuel system may require draining and cleaning the fuel tank and lines (see Figure 3). More information on contaminated fuel tanks can be found in the I-CAR Advantage

Online articles Fuel Tank Contamination and Contaminated Fuel Tank.

Damage to Finished Surfaces

Other vandalism damage may involve scratches or gouges to finished surfaces (see Figure 4). Considerations for this damage include the type of surface, and the depth of the scratches or gouges.

Defacement such as graffiti may include spray paint or miscellaneous substances such as eggs or brake fluid. Some graffiti may require special cleaners or the need to strip the paint.

Graffiti removal may require using special cleaners or solvents or detailing clay. Detailing clay used with a water-based lubricant can be used to remove some forms of overspray and paint on non-porous (smooth) surfaces such as glass and metal.

Another option for removing graffiti spray paint, permanent marker, or other staining products includes specially designed products. Though there may be other products available, we experimented with both a petroleum- and water-based graffiti remover (see Figure 5). The petroleum-based graffiti remover has a warning about not using on automotive finishes, though we saw no immediate surface damage after the graffiti was removed. The long-term effects of the petroleum-based graffiti remover on the automotive finish is unknown. When using chemical cleaners, always test the effects of cleaner on an inconspicuous area to determine that the surface will not become damaged from the cleaner.

To use either cleaner, cover the area to be cleaned with the cleaner. Soon after the cleaner has been applied, the damage will begin to



FIGURE 1

Defacement-type vandalism may include spray painted graffiti.



FIGURE 2

A slashed airbag cover may include damage to the adjacent airbag module.

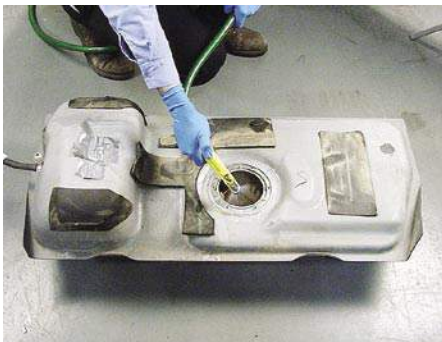


FIGURE 3

A contaminated fuel system may require the removal and cleaning of the fuel lines and tank.



FIGURE 4

Vandalism to finished surfaces may involve scratches and/or gouges.



FIGURE 5

These two products are specifically designed for removing graffiti.



FIGURE 6

Fire damage may require replacing damaged parts and extensive cleaning of adjacent parts.

lift and soften. Wipe the material off the surface, and if necessary, reapply additional cleaner.

As an alternative to completely stripping or replacing every damaged part, and depending on the vehicle and the expectations from the customer, detailing clay or these spray chemical cleaners may be an acceptable alternative repair solution.

Theft Damage

Common stolen parts include airbags, batteries, and electronics. Theft of these parts may result in secondary damage to wiring, connectors, attachment points, trim, instrumentation, instrument panel controls, glass, and/or the steering column.

Other commonly stolen parts include the tyres and wheels. Inspect for underbody damage from improper jacking of the vehicle. Additionally, there may be replacement issues locating matching sizes and styles of the remaining tires.

Fire Damage

Some vandalism may include damage from a fire (see Figure 6). Inspect for the extent of the damage and repair or replace as appropriate.

Cleaning may involve removing soot and/or fire extinguisher chemicals. Wear the proper protective equipment such as face and eye protection, breathing protection, and rubber gloves when cleaning fire residue. Difficult areas to clean include window and door gaskets, under the instrument panel, and hidden channels and vents.

Smoke odors can be difficult to eliminate. Some problem areas where smoke odors might be present include HVAC vents, inner reinforcements, and window and door gaskets. Removing smoke odors may require using cleaners containing a deodorant, or spray deodorizers. More difficult smoke odors may require special treatment, for example using an ozone machine.

Depending on the location of the fire, repair will often require refinishing a part or panel. Ensure that any damaged corrosion protection is restored.

Conclusion

Vandalism damage may show up in your facility in many different forms. Determining the source of the problem and knowing what solutions will work for repairing or replacing parts, and cleanup and/or removal will result in a satisfactory outcome.

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These articles first appeared in the I-CAR Advantage Online, which is published and distributed free of charge. I-CAR, the Inter-Industry Conference on Auto Collision Repair, is a not-for-profit international training organization that researches and develops quality technical education programs related to automotive repair. To learn more about I-CAR, and to subscribe to the free publication, visit <http://www.i-car.com>

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