Deciding When Used Parts are Appropriate in the Collision Repair Process

By Toby Chess

Recently, I was training in a body shop in the Los Angeles area and noticed a used door for a vehicle repair in the technician's stall.

The tech complained he needed more time to fix the door than what was negotiated between the shop and wrecking yard. When I finished testing, I pulled out my PDR lamp and highlighted all the damage (See Figs 1 & 2).

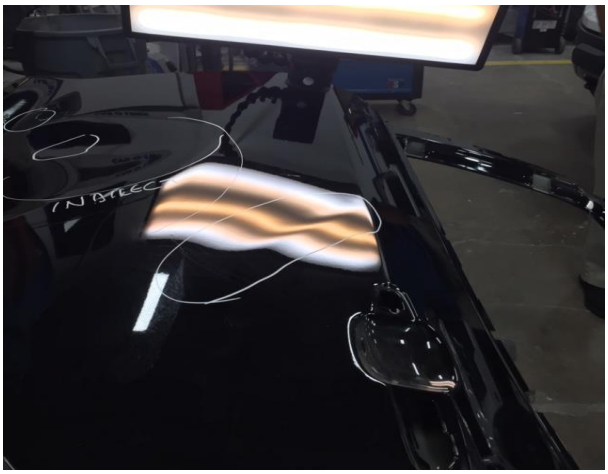

Fig 1

Fig 2

I marked all the damage on the door other than the large dent. I asked the owner of the shop a couple of questions about the door. The shop and owner negotiated a $50 reduction in price to fix the large dent. I used that amount to represent the shop's hourly door rate.

Here are the questions I asked:

1. **Who is paying for the primer, blocking and sandpaper on the entire repaired door?**
2. **Since you are charging one hour to fix the door, who is paying the rest of the repair time?**
3. **Who is going to make up for the lost billing time?**
4. **What about the cycle time delay fixing the used door?**

There are a few items that need to be addressed when you install a used door:

1. **De-trimming the used door for paint access (not included)**
2. **Removing paint finish to comply with your paint manufacturer's warranty. Most company's paint warranty will only cover between 12 to 13 mils of paint thickness, a not-included item. Also, check the door for prior damage repair.**

Figure C
Higher readings indicate paintwork.

Figure D
Significantly high readings indicate bodywork.

Fig 3

3. **Prior damage to the door is now the responsibility of the body shop that sells the part to the customer.**
4. **Check for corrosion and applied seam sealers.**
5. **Check to see if vehicle glass is tempered or laminated. More vehicles are using laminated door glass instead of tempered. See Fig 4. It should be noted laminated**

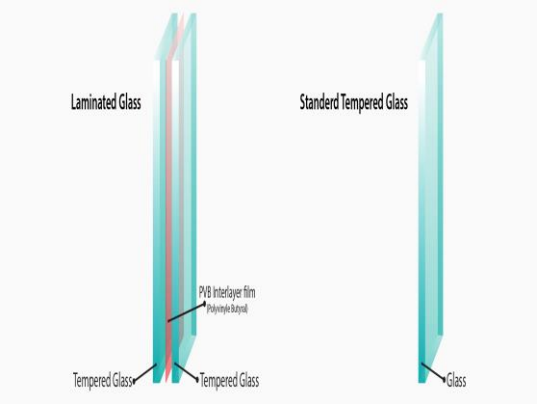

Fig 4

door glass is thicker than tempered glass. You will also need to check the glass for the correct tint.

6. **If the door has an applique, you will need to remove the old one from the used door and order and install a new one, another not-included item.**

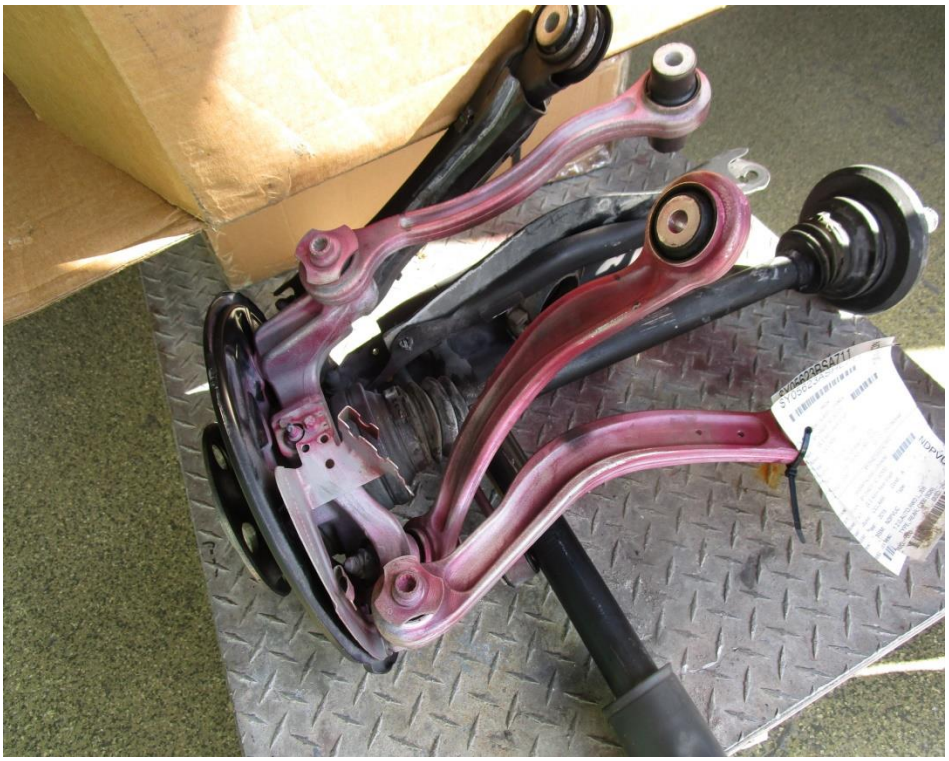

Fig 5

Figure 5 shows a used front suspension received by a body shop. You will notice red coating on some of the parts. The shop was charged $60 for Magnafluxing the part.

Let's take a look at Magnafluxing and die checking.

A Magnaflux test is a non-destructive testing (NDT) process for detecting surface and subsurface cracks in materials such as iron (Figs 6&7). Magnetic particle inspection can be used only on ferrous materials like iron and steel.
The Magnaflux process does not work on aluminum, but penetrating dyes are available to test aluminum parts in a similar way.

Fig 6

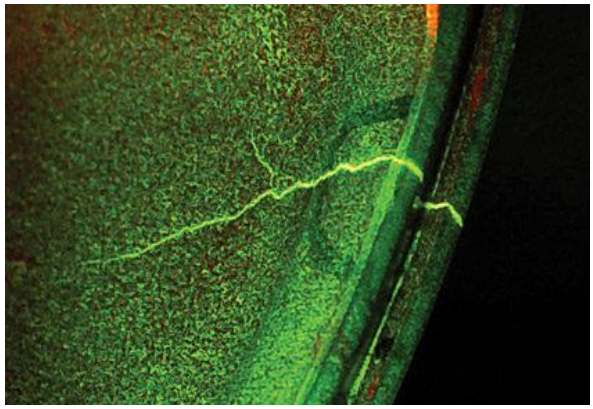

Fig 7

Magnetic Particle Inspection is performed in four steps:

- **Induce a magnetic field in the specimen.**
- **Apply magnetic particles to the part's surface.**
- **View the surface, looking for particle groupings that are caused by defects.**
- **Demagnetize and clean the part.**

Fig 8

Dye penetrant inspection (DPI) is widely used to detect surface cracks. This non-destructive, three-part testing technique, also known as liquid penetrant inspection (LPI), is a method used to locate surface breaking flaws such as cracks, porosity, laps, seams and other surface imperfections.

The procedures for using these products are as follows:

- **Spray the part to checked with the cleaner SKC-S and wipe dry with a clean rag. See Fig 9**

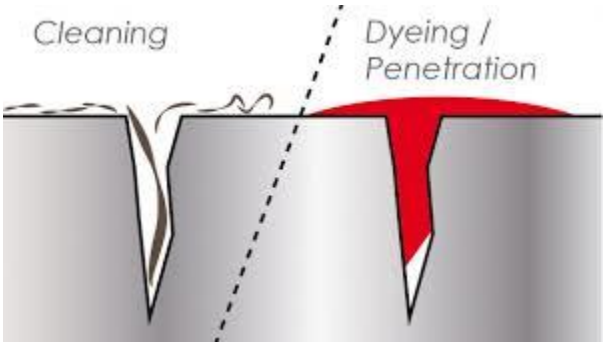

Fig 9

- **Apply Penetrant SKL-SP2 to the area that needs to be checked. Wait about 10 minutes for the product to wick into the crack(s). See Fig 9**
- **Clean entire panel with a clean rag and cleaner. Do not spray cleaner directly to the panel, which will wash away the penetrant in the crack(s).**
- **Follow the cleaning process with developer SKD-S2. Any crack(s) will be red in color. See Fig 10 for**

aluminum panel that was damaged and then repaired and welded. Notice all the cracks.

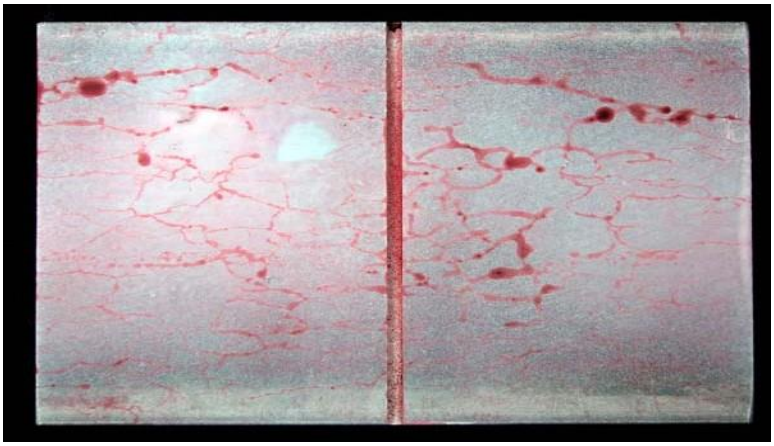

Fig 10

Dye penetrant can be used on steel as well as aluminum. Fig 11 shows dye penetrant being used on a steel brake rotor.

Fig 11

Looking at the suspension parts, the wrecking yard sprayed penetrant on the aluminum parts, but did not apply

developer. They charged for Magnafluxing, but they used dye penetrant. They should have disassembled the parts when they did dye penetrant. They also should have checked the knuckle for cracks.

Moving on to a used sub frame.

Fig 12

There are several things that need to done to this part prior to purchase. First and foremost, you will need to check for square. This can be done with a tram gauge that has adapters. See Figs 13 & 14

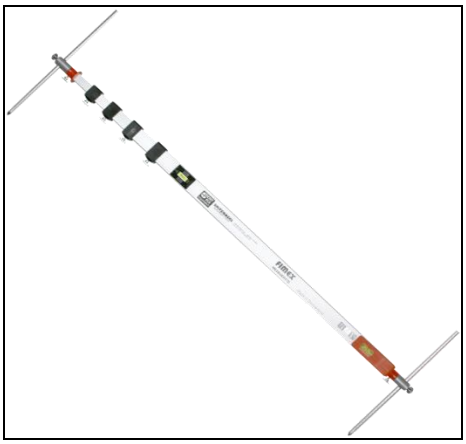

Fig 13 **Fig 14**

Since a subframe controls camber and caster, the part needs to be straight and symmetrical. If you want a printout verification, you could use the Metrix Wand, Car-O-Liner Point X or Chiefs Velocity. This would be a non-included item.

Next you will need to check for corrosion. If it checks out, you need to clean and refinish the part and again, this would be a non-included item. If the part has replaceable bushings, you may want to replace and again, the labor and parts to replace would not be included.

Let's look at everyone's favor used part, the used quarter panel.

Fig 15

When a used quarter panel arrives at the shop, the first thing that needs to be checked is the paint thickness and any body filler from previous repairs. Most shops will drill out the spot welds to remove the outer quarter panel.

This is Honda/Acura's position statement:

"Preparation of the salvaged/recycled parts can negatively affect installation, which may have an adverse effect upon crash energy management and occupant safety in any subsequent collision. For example: If the factory spot welds are drilled out of a rear outer (quarter) panel leaving holes in the flanges, there may not be enough flange material remaining to attach the salvaged/recycled part with the BRM-

specified spot welds. This would require substitution of MAG plug welding to attach the panel. Substitution of BRM-specified welding methods is never approved by American Honda. Additionally, in cases where outer panels attach to certain ultra-high-strength steel (UHSS) structural parts, weld method substitution may weaken the UHSS parts."

What this statement means is a quarter panel should be removed from the inside out so the panel does not have a drilled out metal. See Fig. 16

Fig 16

Some more line items you would need on your estimate include: removing any attached parts, removing any foam from the used panel, removing all sealant and undercoating from mating surface areas, removing broken glass from flanges, removing finish thickness, repairing any holes from the removal process necessary for removal, repairing all hems on the used panel

(including holes that occurred when removing the panel) before installation and finally disposing of the donor remains.

When you add up all the associated costs, it may be more cost effective to use a new OEM panel. Furthermore, many dealers will price match.

A used quarter panel will be a better option if:

- **Need additional attached part(s) and not just the outer panel.**
- **It is more cost effective**
- **OEM is backordered or not available**

You should understand if a vehicle is still under warranty, that warranty is still enforced except for the used part. That warranty falls in your lap, possibly the insurance company and/or the parts vendor. If an attached part fails due to the used part, that part would also be the responsibility of the repair shop.

You will also need to inform your customer a used part was installed on their vehicle.

I found this quote on the Audi website and it should also be considered when ordering that used part:

"Additionally, Audi does not support the use of parts that have been removed or salvaged from another vehicle that was previously involved in a collision. These parts are compromised by being exposed to weathering, rust,

environmental damage and heat damage from welders used to remove the parts from vehicles that were previously involved in a collision. These elements can cause Audi's high-strength steel, aluminum and carbon fiber vehicle unibody parts to lose their structural integrity, which can cause the vehicle to not perform properly if involved in a future collision."

I believe used parts are necessary in the collision repair process, but you need to do your due diligence when you make the decision to replace an OEM new part with that used part.