



# Estimating Best Practices

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# Section I

## IDENTIFICATION AND INSPECTION

### **IDENTIFICATION**

The estimator should record the vehicle identification number (VIN), state registration plate number and mileage directly from the vehicle inspected and photographed. If these items can't be recorded, the estimator should document the reason why.

The estimator must identify the model, body style, color (Paint Code) and all standard and optional equipment. It also is recommended the estimator record the interior and exterior trim codes for proper parts identification in the notes section of the estimate. If assistance is required in obtaining this information the estimator is encouraged to obtain it.

The estimator should "interview" the customer and ask specific questions, including:

- How did the accident occur?
- Can you please identify the point(s) of impact?
- Have you noticed any change in the way the vehicle drives since the impact?
- How many people were in the vehicle and were they wearing seat belts?

### **INSPECTION**

- Inspect the vehicle for damage other than at the primary impact area. Pay attention to door lines, stress buckles, opposite corner damage and wheels for low impacts. This procedure will provide an overview of all damage and will help identify damage done through skidding. In addition, this procedure will assist in the identification of "New vs. Pre-existing" damage.
- On first party vehicles the estimator should have knowledge of prior losses, if possible.
- Before writing the estimate, compare the vehicle being inspected against an exploded view illustration. This will help identify parts not visible.
- If possible, unlock any doors or deck lid where damage exists. If the area around the hood is damaged, open the hood for access. **Caution:** If the vehicle is drivable and the customer is still driving the vehicle do not pry or force open the doors, hood or deck lid. This could result in unintended opening after the vehicle leaves your facility and result in personal injury to the customer or other passengers of the vehicle.

- Inspect the underside of the vehicle (preferably on a lift) and utilize artificial light, if necessary. Check bumper, suspension, steering and exhaust components for damage. Look for fluid leaks and identify frame or unibody structure damage. On unibody cars, secondary damage is a distinct possibility and should be investigated for.
- Inspect the engine compartment for radiator damage, remove the radiator cap and check the fluid level. **Caution:** Engine temperature must be cool and system not under pressure. In addition, check the air conditioner compressor, fan shroud, core support and pulleys for damage. Check engine mounts, air cleaners, fluid reservoirs, suspension towers, firewall, wiring, etc.
- Inspect the passenger compartment. Sit in the driver's seat to check the seat tracks/frame, steering wheel, mast jacket and tree controls. Check seat belts for wear, damage and if the seatbelts have been deployed. Check plastic dash panels for cracks, along with the knobs and switches. View the entire interior for rips or other damage resulting from flying objects and damage caused by other passengers. If possible, start the engine and check the instrument panel lamps to see if any are illuminated. **Special Note:** Be extremely careful with vehicles where blood is present, always use proper blood pathogen procedures and gloves. Always check areas where estimator may reach, lean or sit to conduct inspection for foreign and/or sharp objects.
- If the vehicle required recovery, such as extraction from a ditch, inspect for damage which may have occurred and been unavoidable.
- Verify ALL vehicle functions to determine any inertia or secondary damage caused by the accident as well as any pre-existing inoperable functions.
- Inspect and determine if any vehicle warning lights are evident (i.e. ABS, SRS, Check engine, etc.)
- Identify gaps in the sheetmetal indicating possible damage to underlying frame/unibody. (Could require R/I of sheetmetal for inspection)
- **Note:** If, during the inspection, the estimator determines that the vehicle is not in safe operating condition, the customer should be notified and a notation placed on the estimate.
  - Un-Safe Conditions to include but are not limited to: Suspension damage, tire damage, hood latch inoperable, radiator damage, frame damage, door unable to open.

## *Section II*

### *SCOPING AND COMPLETING THE ESTIMATE*

#### ***ANALYSIS***

After the identification and inspection procedures are complete, the estimator should create a mental plan as to how repairs will be made (e.g., how was the vehicle damaged and what is required to reverse the damage?). The estimator should consider what will be removed to allow access and record those access allowances. Determining pulling operations will lead to proper time application and also can identify how one procedure affects another. For sheet metal repair items, imagine repairing them and what has to be removed to provide access. Below please find several factors to help determine proper repair time allowances.

Note: If the estimator has a question or questions beyond the scope of their knowledge they should seek knowledgeable assistance.

- Would removing the panel itself be advisable?
- What equipment or tools are required?
- What preparation has to be done considering the abilities of an “average” technician?

#### ***WRITING THE ESTIMATE***

The mechanics of sequence writing is to start at the deepest point of impact and work out through the damage. Starting at the deepest point and reversing the damage process will reduce the chance of missing damage and help ensure a return to pre-accident condition.

Following a Crash Guide layout will assist in the proper sequencing, component identification, determining areas of overlap, and help reduce the chance of missing damage.

The responsibility of the estimator is to properly identify the damaged parts and describe the parts or assemblies written in the estimate.

#### ***DISASSEMBLY FOR FINAL INSPECTION***

Once the initial inspection is completed, disassembly should be completed to finalize the estimate where applicable. Disassembly is encouraged where/when possible to allow for complete damaged parts discovery.

## *Section III*

### *PHOTOGRAPHING AND DOCUMENTING THE ESTIMATE*

#### *PHOTOGRAPHS*

All photographs should include the date and time of the initial inspections, supplemental inspections and all coinciding re-inspections. Photographs of sufficient quality to support the written estimate should be taken for each vehicle. Photograph the VIN, mileage, state registration plates, all four corners, along with photographs of the damaged area at two different angles, plus any close up photographs necessary to identify damage and support the estimate.

All photographs should be clear, readable, and properly labeled describing the damaged area.

#### *RELATED AND UNRELATED PRIOR DAMAGE ESTIMATES*

All estimators should document in estimating software available from applicable information providers. The documentation requirements are detailed below.

**1. Related Prior Damages:** Related prior damages are those damages that must be repaired in conjunction with the current damage repair. That is, current damage repair is not possible without including the repair of these prior damages. (For example, the current repair requires replacing a panel, and the replaced panel contains damage from a previous loss.) Related damages require a separate damage analysis to determine the amount of repair cost to be deducted for the prior damages.

**2. Unrelated Prior Damages:** Unrelated damages are those damages that do not require repair or restoration in conjunction with the current damage repair process. The current damage repair is possible without involving the prior damages. Unrelated damages should be documented with photographs and submitted with the current damage photographs. Unrelated damage should be identified and noted but not estimated as to price.

#### *UNRELATED DAMAGE FOR TOTAL LOSSES*

The estimator should note all unrelated damage and photograph it for documentation.

The estimator should itemize, price and photograph unrelated damage.

## ***HIDDEN DAMAGE***

Hidden damage is damage that is concealed from view during the initial (preliminary) inspection. Disassembly is generally required to find this damage.

The estimator should explain all hidden damage items. Allowances for highly probable hidden damages are subject to the estimator's experience and based on a thorough inspection of all visible damages. The estimator should make decisions for repairs based upon visual inspection.

## ***Section IV***

### ***BODY REPAIR ALLOWANCES***

#### ***REPAIR TIME ALLOWANCES***

Accurate repair time allowances depend on an analysis of the procedures involved in effecting the repairs. This applies to parts made of sheet metal, aluminum, high strength steel, plastic, composite and any other repairable material. Step-by-step considerations for each operation will lead to greater accuracy. Determinations should be made as detailed below.

#### **1. Access**

This allows time consideration to reach the damage by removing interior trim or the possibility of removal of the damaged part itself, or any other work necessary to access the damage.

#### **2. Molding/Trim Removal**

This includes the removal and installation of undamaged moldings, lamps and exterior trim, where applicable. It should be noted some trim and glass are "one way" only parts and may break during removal. Careful consideration should be given when electing to remove these parts, a discussion should occur between the Repairer and the insurer/customer, prior to completion.

#### **3. Roughing**

Once the damage is accessed, it is necessary to know the procedures and tools that will be used to return the part to its original shape. Use of portapowers, heavy hammers; pry bars and pulling towers are applicable to this procedure.

#### 4. Bumping or Dinging

This is the process of dolly hammering to restore contour and finished shape.

### ***METAL FINISH OPERATIONS***

Final metal finishing (not to be confused with finishing for painting) consists of grinding, filling and smoothing with files, air sanders or sanding boards. Use of a thin coat of plastic filler material to a depth of less than 1/8" is the generally accepted procedure used to remove imperfections. The total of all these considerations will give the estimator a firm foundation for the repair allowance and the ability to explain how the timeframe was developed. **Note:** In most repair facilities the body technician will repair and block to approximately 150 grit finish.

## ***Section V***

### ***PARTS REPLACEMENT OPTIONS***

The parts utilized in the repair of a collision damaged vehicle must provide:

- A vehicle that is safe to operate
- Optimum protection for occupants in the event of a subsequent collision
- A vehicle that is mechanically reliable
- A vehicle that retains its pre-collision value

Vehicle manufacturer recommendations regarding repair procedures must be reviewed to assure repairs are performed properly.

Available Parts Types:

- **Original Equipment Parts:** Parts designed by the vehicle manufacturer and manufactured by the vehicle manufacturer or on behalf of the manufacturer and distributed by the vehicle manufacturer through their dealer network.
- **New Alternative Parts:** Parts made by and distributed through companies other than the vehicle manufacturer.
- **Remanufactured Parts:** Parts produced by various manufacturers that have been harvested from used vehicles, cleaned, inspected, and then repaired, rebuilt, refurbished in accordance with OE Specifications with new components and sold/distributed through OE/aftermarket/other channels.
- **Salvage / Recycled Parts:** Parts harvested from salvage vehicles and sold/distributed through aftermarket/other channels.

Note: Pricing for "clean-up and repair of minor damage" to these parts needs to be noted on the estimate. If a salvage / recycled part included in

the estimate was not manufactured by or on the behalf of the OEM this must also be noted on the estimate.

**Best Practice:** Prior to parts being ordered, vehicle owners should be made aware of parts options (as defined by the insurance policy if applicable) and be provided sufficient information to make informed choices as to the parts to be included in the repair.

**Note:** With reference to laws regarding customer consent and/or disclosure for parts usage, all estimators are obligated to abide by the laws of the particular state in which the estimate is being written.

**Additional Parts Considerations #1:** When ordering replacement parts, give consideration to replacement fluids, such as power steering fluid or anti-freeze/coolant. Ensure that any replacement fluids meet the vehicle manufacturer's specifications. Using the incorrect fluid as a replacement could have long-term damaging effects on the mechanical components used.

**Additional Parts Considerations #2:** When ordering parts from any source take into consideration all viable options, and be aware of any promotions or programs which could minimize severity and maintain the repairability of the vehicle.

**Additional Parts Considerations #3:** When ordering parts, orders of complete part assemblies should be considered.

Note: These parts should be considered only when safety, quality and cycle time are not compromised.

**Additional Parts Considerations #4:** When ordering parts from any source, consider placing complete orders rather than splitting orders between multiple parts vendors.

**Additional Parts Considerations #5:** When selecting parts for the vehicle repair, consideration should be given to repairer-vendor relationships.

**Additional Parts Considerations #6:** When ordering parts, the vehicle's VIN, year, make & model should be provided to the vendor.



# Section VI

## FRAME ALLOWANCES

### **UNIBODY/FRAME STRUCTURAL DAMAGE OPERATIONS**

When applicable, the estimator should itemize the following restoration operations.

#### **1. Tie Down/Floor Pull**

This is an operation that should be used in lieu of setup/measure when the damage being repaired requires only the sheet metal to be pulled or does not require a complete setup and measurement of the entire vehicle. This procedure could apply to full frame vehicles such as pick-up trucks, SUVs, as well as minor realignment on unibody vehicles.

Floor Pull is actually part of the repair process to a panel and should be factored when determining repair times. If a unitized structure is composed of all the panels either bonded or welded together, then the re-alignment of these panels should be considered as a structural repair. If a body panel on a unitized vehicle is not within the factory specifications or dimensions, this should be considered a structural realignment.

#### **2. Setup/Measure Time**

This operation includes securing in place on a frame machine (dedicated bench, universal bench or drive on rack) and using an appropriate measuring system to determine unibody or frame distortion. These operations are “vehicle specific” and must be estimated accordingly.

#### **3. Initial Control Point Realignment**

When appropriate, allowances should reflect only that time necessary to restore approximate overall dimensions.

#### **4. Repair and/or Replacement**

Individual repair and/or replacement items should be itemized. Time allowances should take into consideration the influence of initial realignment, conjunctive straightening and overlap operations.

#### **5. Conjunctive Straightening**

Very often sheet metal damage is influenced by frame or structure repair. As a result, repairs can often be made where replacement was originally considered. This is especially true when a car is hit in the rear, shortening the overall length and buckling the quarter panels. In this condition the quarters may appear to require replacement; however, when the car is returned to its correct length, the tension is released to the quarter panels making them repairable. This type of damage should be figured as being repairable and subject to a re-inspection upon unibody structure alignment.

## **6. Recording Frame/Unibody Damage on the Estimate**

Estimates of frame and unitized repair should be itemized. This itemization should be clearly documented on the estimate as in the following example:

- Repair R/F Rail Realignment 2.0 hours
- Repair R/F Rail Mash 1.0 hour
- Setup and Measure 2.0 hours\*

\*Certain vehicles require the removal of additional (i.e. suspension) parts for setup and would suggest additional labor allowances. In these cases, documentation supporting this operation is required.

**Best Practice: Allowances for repair or replacement of any structural components must be made in strict accordance with the manufacturer's specifications and recommendations. Repair procedures that include sectioning or full frame/unitized panel replacement must be consistent with the vehicle manufacturer's specifications. In the absence of the vehicle manufacturer's specifications, the recommendations stipulated by I-CAR shall be used. Visit the I-CAR Help Desk at <http://www.icar.com/html/ages/upcr.html> for more information.**

## **Section VII**

### **SECTIONING**

#### ***FULL-BODY SECTIONING***

To consider full-body sectioning, a vehicle must be severely damaged with extensive mechanical and body damage. In most cases, the vehicle would be considered a total loss as warranties could be affected and VIN registration would not match; this should be considered a method of last resort.

**NOTE:** Check with the vehicle manufacturer prior to starting repairs. Some vehicle manufacturers do not recommend this procedure. Be aware that this procedure has a potential for the loss of structural integrity, impact worthiness, and reduced occupant protection.

#### ***PARTIAL SECTIONING***

Partial front-body sectioning (from the shock towers forward if both sides are replaced or one side full section and the other side in front of the shock tower) is a viable repair process if it is fully understood. This can involve sectioning of rails, wheel housings, reinforcement rails, core supports, etc. The estimator should itemize all procedures with accurate time allowances.

**NOTE:** Check with the vehicle manufacturer prior to starting repairs. Some vehicle manufacturers do not recommend this procedure. Be aware that this

procedure has a potential for the loss of structural integrity, impact worthiness, and reduced occupant protection.

## Section VIII

### REFINISHING

Estimators should follow refinishing guidelines and procedures when calculating refinishing costs and the materials necessary to refinish the repaired or replaced part. The estimator should follow the paint manufacturers/OEM guidelines and procedures for properly refinishing the vehicle.

#### Feather, Prime & Block Note: CIC Definition

Final finishing by refinish technician is defined as working the repaired part from the metal finishing point of 150 grit finish to the finish of a new undamaged panel. At this point in the process the information providers (e.g., CCC, Audatex, Mitchell) paint time commences (see CIC Feather Prime & Block Definition). The amount of time required would be a judgment determined by inspection of the vehicle, area of damage, and normal contours of the vehicle.

Removal of glass in order to refinish an adjacent panel is not always necessary. The estimator should document and provide photos supporting the completed operation.

Removal of moldings and hardware in order to obtain a satisfactory repair may be necessary. The estimator must document and provide photos supporting the completed operation.

Estimators should be aware of and investigate special limited availability colors, special performance clearcoats (i.e. scratch resistant), anti-chip, textured, reduced gloss, flexible and other non-standard finishes.

In general, clearcoat should always be applied to the entire panel; however, ending the clearcoat on a sail panel as opposed to clearcoating the entire roof and opposite quarter panel could be an option. A vehicle's age, condition, color, sail panel shape/orientation and non-related damage are some of the criteria that need to be weighed when determining the appropriate process. As always, the paint and vehicle manufacturers' recommendations should be followed.

Estimators should consider blending and/or tinting in appropriate situations.

**Best Practice: Follow the vehicle and paint manufacturers' guidelines/procedures to ensure a proper refinish operation is produced on the vehicle. This best practice will result in the proper paint warranty from the paint manufacturer and/or OEM.**

# *Section IX*

## *ADDITIONAL ITEMS*

### *TOWING, STORAGE, REPAIR DAYS*

1. Towing charges should be included on the estimate.
2. Repair days should be listed on the estimate.

### *SUPPLEMENTAL DAMAGE*

As soon as supplemental damage is found the estimator should initiate a supplement within their estimating system and begin photographing the additional damage. The estimator must notify all stakeholders (i.e., Owner, insurance carrier, and insurance estimator) of the supplemental allowances required to return the vehicle to pre-loss condition. The estimator must follow all procedures for establishing a supplemental repair document and consider all contractual agreements. All supplemental damage must be clearly documented with photographs and parts invoices.

## *Addendum: Definitions*

Certified Aftermarket Parts -

- These parts are new replacement parts not manufactured by the OE. These parts are manufactured by a company other than the vehicle manufacturer and certified by CAPA

Certified Automotive Parts Association (CAPA) –

- A non-profit organization established in 1987 to develop and oversee a test program guaranteeing the suitability and quality of automotive parts.

Estimate –

- This is sometimes referred to as the repair estimate or appraisal.

Estimator –

- The person who evaluates the damage and writes the repair estimate. Also referred to as appraiser and/or adjuster.

Hidden Damage –

- Damage that is not visible until further teardown is conducted.

Metal Bumping –

- Restores the general shape to the panel.

Metal Finishing –

- This procedure is completed by the body technician. The body technician will finish the metal to a finish grade of 150 grit.

Metal Roughing –

- Restores the height and length of a repaired panel.

Original Equipment Manufacturer (OEM) –

- OEM parts are defined as those manufactured by or on behalf of the original manufacturer and distributed through the OE Dealer Network.

Recycled / Like, Kind and Quality (LKQ) / UOEM (Used OEM) –

- A “Used Part” harvested from a donor vehicle to be used as a replacement on the damaged vehicle.

Related Prior Damage –

- Damage that has occurred previously in the same area as the current loss damage on the vehicle.

Scope –

- Scope is the process of reviewing all damage to the vehicle and begin preparing a repair plan.

Unrelated Prior Damage –

- Damage to a vehicle that is unrelated to the current loss damage on the vehicle.

Vehicle Identification Number (VIN) –

- A unique identification number for each vehicle manufactured. This number will provide the year, make, model, engine type and sequence number of the vehicle manufactured.