DuPont Performance Services
Weld Burn Damage
Weld Burn Damage

Question 1: Is it required to restore the vehicle back to pre-accident condition?

The following items are included as justification:

1. According to the Information Providers, refinish times are for one side only.
   - Information Provider P-page Documentation (4 pages)
Section 4-5 Refinish Operations

Refinish Operations

Audatex refinish labor generally includes time to perform all operations necessary to accomplish refinish for new and undamaged OEM or equivalent panels. Audatex refinish labor begins at 320 - 400 grit (dry) or 500 - 600 grit (wet) as this is the starting point for refinish of a new, undamaged panel. Audatex refinish times are for single panels unless otherwise noted.

Two-stage

Included Operations:
- Move car
- Review estimate/work order
- Get paint code
- Order paint
- Get paint
- Gather materials, equipment and tools**
- Clean equipment and materials
- De-wax and degrease
- Prepare to sand
- Dual action sand*
- Hand/wet sand
- Mix, apply, and flash primer (for adhesion and sealing)
- Application of guide coat*
- Block sand*
- Water wash and clean panel with solvent
- Blow dry clean panels
- Prepare to spray
- Clean booth
- Booth operations
- Protect exterior of vehicle from overspray utilizing all acceptable methods of bagging, masking, masking up to 36 inches surrounding the panel and masking of glass within a panel. This includes using backtaping and/or foam tape to close out the gap between panels.
  - If backtaping and/or foam tape does not adequately prevent overspray from entering the jambs areas, any additional masking to protect the interior and jambs is a not included operation. (labor only)
- Basic corrosion protection provided by paint system/primer applied
- Mix and apply flash; additives
- Tack wipe
- Mix color, spray test panel, compare to vehicle
- Initial tint, spray test panel, let down, compare to vehicle**
- Apply and flash; color
- Inspect job and paint
- Clean gun; color
- Add flex additive** (when required, labor only)
- Tack wipe (between color and clear when required)
- Apply flash clear coat
- Mix clear coat**
- Clear; Clean gun**

*Welded panel operations
**Included in setup

NOT Included:
- Body work
- Spot putty
- Panel stripping (see Panel Stripping section, page 146)
- Additional preparation or cleaning of new, unprimed panels (i.e., bumper covers)
- Removal of release agents from raw, unprimed plastic components (i.e., bumper covers)
- Moulding R&I
- Stripe R&I
- Parts R&I
- Painting of stripes
- Adhesive removal
- Masking of interior surfaces/entryways, engine compartment and trunk openings. Interior masking may be performed when necessary to ensure prevention of overspray damage that may not be prevented by adjacent panel perimeter masking (including backtaping or application of foam tape). Interior masking may be considered when exterior panels (doors, hoods, etc.) are removed and refinished.
- Mask mouldings
- Spray additional test panel
- Blending into adjacent panels (see Blending, page 143)
- Color Sand and Buff (see page 144)
- Chipguard application (see page 142)
- Gravel guard (see Chipguard, page 142)
- Additional time for two-tone (see page 142)
- Additional time for three-stage (see page 140-141)
- Custom finishes
- Tint primer or clear coat
- Undercoating
- Metal preparation and corrosion protection beyond those listed in Included Operations (i.e. cavity wax)
- Final wash
- Hazardous waste removal
- Any special coatings applied to luggage compartment
- Second or third bagging or masking of vehicle
- Paint and materials

*Any printed copy of this document may not contain the most current information. For the latest version, please refer to the Database Reference Manual accessed through the Help Menu in the current release of Audatex Estimating, PenPro or Shoplink. The current version of the Database Reference Manual may also be found at www.training.audatex.us.

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Section 4-2 Labor Exclusions

Labor Exclusions – continued

- Repair, fitting, trimming, or modification of recycled parts.

- **Replace labor does not include additional labor to repair the replaced panel and or adjacent panels which may become distorted, burned or damaged by welding, drilling, grinding and straightening.**

- Reset of electronic components (e.g., airbags, computers, modules, clock, radio, tire pressure monitors, adaptive cruise control, etc.). (Standard Manual Entry M67 is available).

- Restoration of corrosion-protective coatings (e.g., galvanizing, zinc coatings, E-coat ‘equivalent’, and other like materials). (Standard Manual Entry M14 is available). For more detailed information, see Refinish section.

- Setup of a vehicle on a frame machine, dedicated bench, or other measuring / straightening devices. Pulling time is not included (Standard Manual Entry M31 is available).

- Steam cleaning of or rust removal from fuel tanks.

- Test drive to relearn system.

- Transfer of attached items from original parts to recycled parts.

- **Wheel balancing (Standard Manual Entries M22 through M25 are available).**
REFINISH TIME LISTINGS

All refinishing times are listed in hours and tenths of an hour. A time in parentheses adjacent to the part name, such as (p.3.5) indicates three and one half hours. Replacement operation time does not include time necessary to repair the component.

Operation times for the application of painted-on stripes are not covered in this publication. The time necessary to perform this type of operation should be estimated after an on-the-spot evaluation of required procedure.

REFINISH TIME PREMISE

Published refinishing times are for one color applied to new undamaged replacement components, without exterior trim, interior trim or other attached components and applied in one continuous process. For damaged panel(s), published refinishing times may be applied after the damaged panel has been returned to a NEW UNDAMAGED condition.

Refinishing times do not include time which may be required to match color tints or defective finish textures on interior or exterior surfaces. Nor do they include time which may be required to correct finish imperfections caused by improper weather conditions, application, or environmental contamination such as dust, dirt, grease, etc. MOTOR advises all parties consider these factors beforehand to determine mutually acceptable provisions in the event such conditions exist or occur.

ANTI-THEFT LABELS (R DOT)

Replacement part labels are coded with the letter “R” to show that it is a replacement part. R Dot labels should not be removed from the part. Use caution when refinishing, rustproofing or undercoating replacement components to avoid damaging the label.

BUMPER COVERS AND OTHER FLEXIBLE COMPONENTS

Refinishing times listed on the parts detail lines for these components are based on the items being refinishing prior to installation. Refinishing time listed on the parts detail line for an OEM bumper cover that has both body color and unpainted grained portion allows for the refinishing of the body color only. Masking the grained, textured, or non-body color portions in preparation for body color application is an included operation. It includes exterior surface and edges refinishing during one continuous process. If a separate edging procedure is utilized then the appropriate time should be estimated after an on-the-spot evaluation. Refinishing times do not include removal of mold release agent from new unpainted molded components. Parts received from the OEM manufacturer without primer and some non-OEM parts with or without primer should be tested for the presence of release agents that would cause paint adhesion problems and treated accordingly. For unprimed bumper preparation time, see “Add If Required” operation(s). Preparation time for all other unprimed components should be estimated after an on-the-spot evaluation.

DOOR OUTER REPAIR PANELS

Refinishing times listed on the parts detail line for new repair panels (i.e. door outer repair panel, tail gate and lift gate repair panels) include panel lip and immediate area. It does not include time for refinishing the entire door frame edge or interior side. Where possible, MOTOR will publish time for those areas under a “Refinishing Notes” heading within that group.

DOOR SHELLS, LIFT GATES AND TAIL GATES

Refinishing times listed on the parts detail line for these new components include exterior surface, edges and interior sides, unless otherwise noted in text.

NEW UNDAMAGED PANEL

A component manufactured to the same exacting standards as the parts installed on new vehicles when the car was built. Exterior body panels are supplied with a smooth painted surface (e-coat).

UNDERSIDE COLORS

Refinishing times presented in this guide are developed under the premise that the underside and jamb color is the same as the exterior body color. Some vehicle manufacturers use a different color for the engine compartment, trunk compartment and/or jams. An additional paint mix is required if the underside and/or jamb color is a different color than the exterior body color. Clear coat (gloss or matte) will be required for base color coat applications. This should be considered when developing the estimate.

PRIME & BLOCK

Prime & block (high build/primer-filler) is a required procedure that restores a repaired panel surface, including the joined areas of replaced welded panels, from 150-grit finish to that of a NEW UNDAMAGED condition. It is MOTOR's position that prime and block is a process best reserved for the judgment of an estimator/appraiser following a thorough on-the-spot evaluation of the specific vehicle and damage in question.

REPAIRED PANEL REFINISHING

MOTOR suggests using component(s) base refinishing time for this type of procedure after the damaged panel is repaired to new undamaged condition. Repaired surface preparation requires an on-the-spot evaluation for additional procedural steps such as featheredge and/or prime and block not required for new undamaged panels.

PARTIAL PANEL REFINISHING

This is a PARTIAL PANEL REFINISHING operation; partial panel refinishing is NOT a BLEND-WITHIN operation. MOTOR defines partial panel refinishing as refinishing a body panel with damage that is contained within a defined border or underneath body cladding after the panel has been repaired to that of a “NEW UNDAMAGED PANEL.” It is MOTOR's position that partial panel refinishing is a process best reserved for the judgment of an estimator/appraiser following a thorough on-the-spot evaluation of the specific vehicle and refinishing requirements in question. Refer to G.T.E. “BASIC COLOR COAT APPLICATION.”
Refinish General Information

**Complete Refinish**
Refinish times in this Guide pertain to NEW, UNDAMAGED PARTS and are not intended for calculating complete vehicle refinish—single- or multi-stage. An estimate of this nature would suggest all new panels have been fitted to the vehicle.

**Lifetime Refinish Warranty/Clear Coat**
The major paint manufacturers listed below have provided the following information:

"Major refinish paint manufacturers recommend that when performing refinish warranty repairs on an OEM multi-stage or basecoat/clearcoat finish, you must extend the application of clear to the nearest panel edge or breakpoint to qualify for lifetime warranty."

AKZO  DuPont  Sherwin Williams
BASF  PPG

**Repaired/Used Panels**
Labor times related to repaired and/or used panels—example: Remove and install or masking of glass, outside handles or exterior trim, feather prime & block, masking for primer surfacer application—are not included in refinish time. The steps required for refinishign a repaired and/or used panel may vary from those required for a new panel depending on the condition of the repaired and/or used panel.

**Feather, Prime & Block**
Is the Not-Included refinish operation that completes bodywork repair from 150 grit smoothness to the condition of a new undamaged panel, and the point at which refinish labor time begins. The labor and materials associated with feather, prime and block may vary depending upon the size of the repair area, and should be evaluated when determining the work to be performed. See Estimating Information page P-3 for information on Welded Panels.

**Spot Repair/Blend Adjacent Panel**

**Spot Repair**
Spot repair is defined as applying color to the repaired area of a damaged panel to obtain full coverage of undercoats, and blending that color into the original panel finish so that no transition can be detected. The goal is to keep the actual repair as small as possible to avoid having newly applied color directly next to an undamaged adjacent panel(s). Clear coat is then applied to the entire panel. This refinish process minimizes color mismatch.

**Blend for Color Match**
Blending is defined as applying color, without necessity to cover undercoats, to less than the full surface area of an adjacent undamaged panel. Paint manufacturers recommend blending adjacent panels when a panel is replaced, or repaired and color applied to the full surface areas, or to the area that borders the adjacent undamaged panel(s). Clear coat is then applied to the entire blended panel.

**Major Panels**
Major panels are those listed below.

- FRONT HEADER  PICKUP BED FRONT
- FENDER  PICKUP BED SIDE
- HOOD  VAN SIDE
- COWL TOP  VAN REAR CORNER
- DOOR  ENGINE LID
- ROCKER  LUGGAGE LID
- ROOF  LIFT GATE
- PICKUP CAB CORNER  REAR GATE
- PICKUP CAB BACK  TAIL GATE
- QUARTER  REAR BODY

**Overlap**
Deduct .4 hour from refinish time for each ADJACENT MAJOR PANEL and deduct .2 hour from time for each NON-ADJACENT MAJOR PANEL. There is no overlap deduction taken for the first major panel.

Adjacent major panel example: Right front fender 2.5 hours (full time) and right front door 2.5 hours minus .4 hour overlap for a total of 4.6 hours.

Non-adjacent major panel example: Right front fender 2.5 hours (full time) and left front fender 2.5 hours minus .2 hour overlap for a total of 4.8 hours.

No overlap deductions for valance panel, pillars, door jambs, underside of hood, underside of luggage lid or underside of gate, inner panels, filler panels, soft bumper covers or bolt-on finish panels.

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**NOTE:** Refinish times are for outside surfaces only unless stated otherwise in text (example: add for underside, add to edge).
Weld Burn Damage

Question 2: Is weld burn damage included in any other labor operation?

The following items are included as justification:

1. All the Information Providers have statements saying weld burn damage is not included in any other operation.
   - Information Provider P-page Documentation (4 pages)
Section 4-4 Refinish Guidelines

Two-Sided Refinish Panels

Some body panels (e.g., hoods, deck lids, single-walled bedsides, and tailgates) are painted both inside and outside. Currently, when these panels are:

- replaced, Audatex automatically calculates two-sided refinish
- repaired, Audatex does not automatically calculate two-sided refinish.

Welded-on Panels

Audatex base refinish labor does not include additional time to refinish adjacent panels that may be damaged by welding.

Highly Contoured Parts

Pickup beds and large roofs (station wagons and vans) often have corrugated panels for extra strength. Their highly contoured construction makes them more difficult to sand.

Most large, flexible front and rear panels (front bumper covers, and rear bumper covers), and cowl vent panels present some additional contours (beyond the usual metal and fiberglass panels). However, these did not appear to be noticeably more difficult.

Audatex refinish labor is determined on a per-panel basis considering contours.

Part Composition

Metal is the standard for all refinish labor.

Plastic, fiberglass, and SMC refinish processes are similar to metal. Audatex recognizes that flexible panels are usually the same part types (e.g., bumper covers, and fillers). For flexible panels, Audatex refinish labor is part type specific.

Raw, Unprimed Bumper Covers and Plastic Parts

Audatex refinish allowances start with priming a part. Due to the differences in the paint manufacturers’ procedures, OEM recommendations, and the unpredictable nature of the parts, any preparation required for raw, unprimed bumper covers or other plastic parts is Not Included in Audatex labor allowances. This operation may be added manually, if required.
GUIDE TO ESTIMATING

WELD ZONE/ADJACENT PANEL

SPECIAL NOTATION:
Suggested refinish operation times do not include additional time for repair of damage to adjacent panels resulting from normal cutting, welding and grinding procedures. The amount of damage can vary considerably depending upon process and technique used by the servicing technician and, therefore, is impractical to anticipate in this publication. MOTOR recommends these factors be considered before finalizing any repair cost estimate. Typical areas to be considered are illustrated below.

DE-NIB & POLISH

SPECIAL NOTATION:
Refinished panels may or may not require a varying amount of de-nibbing, a process used to remove small particles in final finish surface. The clear coat contains ultraviolet screeners and reducing the clear coat thickness (mils) may result in early paint failure. Follow vehicle manufacturer's recommendations when performing this type of repair. Calculations should be based upon the base refinish time outer surface only and should not include additions for clear coat, underside, inside or edges. In the event that this type of operation will be performed, MOTOR suggests the following formula be considered:

Each panel requiring de-nibbing (refinish or blend)

HOOD, ROOF, TRUNK LID, SPOILER
First panel add up to 20% of full base refinish time, each additional panel add up to 10%

FENDER, DOOR, QUARTER PANEL, BUMPER COVER
First panel add up to 10% of full base refinish time, each additional panel add up to 5%

INCLUDED:
• Panel outer surface only
• Paint nib removal as required (spot only)
• Spot polish only

DOES NOT INCLUDE:
• Acid rain damage
• Full panel polish
• Overspray removal
• Removal of residual material from recessed edges and jambs if required
• Scratch damage
• Wash, clean, wax or detail entire vehicle prior to delivery if required
• Wet sand full panel

WET/DY SAND, RUB-OUT & BUFF

SPECIAL NOTATION:
Refinished panels may or may not require a varying amount of wet sanding, compound rub-out or buffing operations in order to match original finish texture. The clear coat contains ultraviolet screeners and reducing the clear coat thickness (mils) may result in early paint failure. Follow manufacturer's recommendations when performing this type of repair. Calculations should be based upon the outer surface only and should not include additions for clear coat, underside, inside or edges. Base refinish time does not include deduction for refinish overlap. In the event that this type of operation will be performed, MOTOR suggests the following formula be considered:

Refinished panels may or may not require a varying amount of wet sanding, compound rub-out or buffing operations. In the event this type of operation will be performed, MOTOR suggests the following formula be considered.

• Each panel requiring wet sand, rub-out and/or buff (refinish or blend)
  – Add 30% of full base refinish time

INCLUDED:
• Panel outer surface only
• Wet sand full panel as required
• Compound, buff and/or polish as required

DOES NOT INCLUDE:
• Acid rain damage
• Overspray removal
• Removal of residual material from recessed edges and jambs if required
• Wash, clean, wax or detail entire vehicle prior to delivery if required

UNPRIMED BUMPER PREPARATION

• 25% of the bumper's base refinish time
• Maximum time allocation: 1.0 hours

INCLUDED:
• Removal of mold-release agents as outlined by manufacturer
• Masking (if required)
• Application of adhesion promoter

DOES NOT INCLUDE:
• Correction of pre-existent surface imperfections
• Material Costs

Footnotes found in a chapter contain vehicle-specific information. The content of footnotes is in addition to, and takes precedence over, information in the Guide to Estimating pages for the operation indicated.
Labor General Information

LABOR TIMES: The labor times shown in the Guide are in hours and tenths of an hour (6 minutes) and are for replacement with new, undamaged parts from the vehicle manufacturer on a new, undamaged vehicle. Any additional time needed for collision damage access, alignment pulls, non-original equipment or used parts should be agreed upon by all parties. Times for some operations are applicable after necessary bolts, attached or related parts have been removed. Exceptional circumstances, including all the sub-operations or extra operations, are indicated as notes throughout the text or are identified in the Procedure Explanations. The actual time taken by individual repair facilities to replace collision damaged parts can be expected to vary due to severity of collision, vehicle condition, equipment used, etc.

LABOR CATEGORIES: The labor times shown in the Guide fall into various categories (for example: body, frame, mechanical) as determined by the repair facility's operating procedures. As a guide, components for which R&I or R&R is commonly considered to be a mechanical operation when performed in a collision repair environment are designated with the letter "m" in the text. These designations are only a guide. They are not necessarily all inclusive, nor do they suggest the application of a labor rate.

WELDED PANELS: Replacement labor times for new panels that are joined by welding include the necessary use of inserts and accepted sectioning guidelines developed by OEMs, I-CAR, and TECH-COR. The labor times for welded panels include grinding, filling, and final sanding with up to 150 grit sandpaper to match the original panel contour. Labor times do not include the Feather, Prime, and Block refill operation. See Procedure Explanation page 142, for information on Feather, Prime, and Block.

ADHESIVE PANEL BONDING: Replacement labor times for panel bonding include all necessary weld applications identified by adhesive manufacturer and OEM guidelines. Users should reference best practices procedures from bonding material manufacturers and OEM guidelines before selecting this replacement method option.

SHOP MATERIAL: The labor times shown in the Guide do not take into account the cost of any materials, or the cost of hazardous materials recycling or disposal.

DISABLE and ENABLE AIR BAG SYSTEM: The labor times shown in the guide represent the procedures necessary to disable and enable the air bag system in order to replace air bag system components and/or to perform repairs not related to the air bag system; e.g., welding. This procedure includes visually monitoring the air bag warning light to verify proper system functionality. The allowance does not include troubleshooting of the system if proper system functionality is not present.

DIAGNOSE AIR BAG SYSTEM: The labor times shown in the guide to diagnose air bag systems include system disable and enable, removal and installation of air bag module(s) (where required), installation of appropriate simulators, and retrieving and clearing of trouble codes. Time for specific troubleshooting of Diagnostic Trouble Codes (DTCs) is not included.

GLASS LABOR TIMES: The labor times shown in the Guide for glass listed with the NAGS part numbers are Mitchell times, not times from NAGS. Glass labor times are for remove and replace (R&R), i.e., removal of the existing glass and its replacement with new glass. Some glass labor times are also shown for removal and the later installation (R&I) of the same glass.

STRIPE, DECALS and OVERLAYS: The labor times shown in the Guide for these items refer to installation only.

TECH-COR REPAIR INFORMATION: The labor times shown in the Guide for TECH-COR repair procedures are supplied by Mitchell. TECH-COR does not endorse, sanction or otherwise approve such times. TECH-COR publications are copyrighted material. However, reproduction of TECH-COR bulletins is permitted as long as the bulletin is reproduced in its entirety, including source attribution. TECH-COR bulletins may be obtained by contacting TECH-COR, Inc., Technical Communications Dept., 100 East Palatine Road, Wheeling, IL 60090; Phone: 847-667-2341.

BASE MODEL VEHICLE: Vehicle with the minimal level of equipment available from the manufacturer.

TYPES OF VEHICLES: The types of vehicles covered are regular production models only.

COMPREHENSIVE LABOR TIME: Completeness is stressed for each Guide. There will be instances, however, in which a labor time has not been established for an operation at the time of publication. If an item requires replacement and can be replaced as an individual item but shows no time, a time should be agreed upon among all parties and recorded on the damage report.

PROCEDURE REFERENCE: Throughout each vehicle service there are Procedure Explanation reference notes located immediately following the main section headings. Example: BUMPER/Front PANEL is followed by "Use Procedure Explanations 1, 3 and 29 with the following text." This indicates that the text portion and the Procedure Explanations for Front Bumper, Front Panel and Refinish should be used in conjunction with another when writing a damage report. LABOR RELATED NOTES IN THE TEXT PORTION OVERRIDE THE PROCEDURE EXPLANATION PAGES.

PROCEDURES: The Procedure Explanations on the following pages outline the operations which are or are not included in the labor time listed in each vehicle service. You are encouraged to become familiar with these procedure pages to be sure you have a thorough understanding of the Mitchell approach to collision estimating.

The included Operations column means that the labor time shown in the Mitchell Collision Estimating Guide text includes that particular operation or operations.

The right Not included Operations column means that the labor time in the text does not include that particular operation or operations. Performance of one or more of these operations may not be necessary as determined by the individual job requirements. If an add-on time has been established for any of these operations but will be shown in the text. If a time has not been established or if the add-on time is dependent on conditions that vary due to collision damage (example: access time, free up parts), the additional time should be recorded on the damage report. Labor times relating to the repair of a damaged panel or the use of used parts would come under this category.

Additions to Labor Times

Due to the wide range of collision damage and vehicle conditions, labor times for the following operations are not included in the Guide.

- ACCESS TIME: Remove extensively damaged parts by cutting, pushing, pulling, etc.
Weld Burn Damage

Question 3: Is there a pre-determined time in the database for weld burn damage?

Answer: In some instances, there are times supplied in the estimating systems. However, if there is not a time, it does not mean that it is included. If there is not a time, you may need to do a manual entry.
Weld Burn Damage

Question 4: What is it worth?

Answer: The Damage Appraiser / Estimator will have to use judgment times on these items since no database times are given by the Information Providers.

The following items are included as justification:

- Submit an inquiry to DEG (www.DEGweb.org)

- Conduct Your Own Time Study:
  - Create a Time Study Form
  - Video of Time Study