Masking for Internal Refinish Negotiation Tool
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Introduction

In response to numerous requests from valued Collision Advice customers across the US, we have created this tool to help explain, justify and negotiate time for repair operations. The collected information and documentation are intended to help clarify whether or not specific repair processes are considered to be required repair operations and if they are included or not-included within any other repair procedures. Our objective is to help our customers build a complete repair plan and to get paid for the work they do.

To do so, we utilize four negotiation questions and supporting documentation as described below:

1. Is it required to put the vehicle back to pre-accident condition?
   - OEM Position Statements
   - ALLDATA®, TechAdvisor and Other Similar Systems
   - Paint Manufacture Bulletins
   - Material Manufacturer Bulletins (ex. 3M, Wurth, Kent)
   - Equipment Manufacturers
   - Internet (www.YouTube.com)
   - Estimating Systems
   - Scan Tools (Ex. ASTech)
   - The Vehicle

2. Is it included in any other labor operations?
   - Estimating Systems
   - ASA Not-Included Charts
   - www.Degweb.org
   - www.Estimatescrubber.com
   - SCRS Guide to Estimating

3. Is there a pre-determined time in the database?
   - Estimating Systems
   - www.Degweb.org

4. What is it worth?
   - Do a Time Study
   - Print an Invoice
   - OEM Warranty Times
   - Equipment Manufacture Times
   - ALLDATA®, TechAdvisor and Other Similar Systems
   - Internet
Definition
Definition

Masking protects surfaces and parts from paint overspray. Masking protects the parts of the vehicle, such as windows, trim and lights that aren’t supposed to be painted. Masking is done by placing special tape, paper or plastic over areas NOT to be painted.

When refinishing the inner structural components, such as a frame rail, masking is required to prevent contamination from overspray on the rest of the vehicle.
Photo Documentation
Question 1.
Is it required?
Four Negotiation Questions

1. Is it required to mask for internal refinish in order to return the vehicle to pre-accident condition?

Answer: Yes, it may be required to mask for internal refinish in order to return it back to pre-accident condition.

Answer Documentation:

1. According to the Information Providers, masking for internal refinish is required to return the vehicle back to pre-accident condition.
   - AudaExplore

The source documentation follows.
AudaExplore

Interior/Exterior Metal

Refinishing interior surfaces of exterior parts (e.g., inner quarter, rear body panel, windshield pillars, etc.) requires more masking for interior protection than similar sized/construction exterior parts. Although preparation, application and color match were similar on both exterior and interior parts, interior parts required less time than exterior.

Section 4-4 Refinish Guidelines

Interior Parts – Plastic

Plastic interior trim parts do not generally require the same degree of surface preparation, number of coats of paint, priming, wet sanding, or degree of color match. Our refinish research shows that interior trim panels required less time than exterior parts of similar size and composition. In addition, they were generally painted before installation on the vehicle eliminating the need for interior masking. Although these parts are sometimes painted, on newer vehicles they can often be ordered by color. They are rarely repaired. As the vehicle ages, fewer by color parts are stocked, until the part comes in only one color and requires refinishing when replaced.

**Interior/Exterior Metal**

Refinishing interior surfaces of exterior parts (e.g., inner quarter, rear body panel, windshield pillars, etc.) requires more masking for interior protection than similar sized/construction exterior parts. Although preparation, application and color match were similar on both exterior and interior parts, interior parts required less time than exterior.

However, overall time required for interior versus exterior tended to be comparable, due to additional time required to protect the interior, combined with difficulty of access. Some of the same processes that apply to exterior parts were occasionally observed in refinish of interior parts, although not with the same care and attention given to exterior panels.

Most interior parts requiring refinish are covered with finish panels, carpets, and trim and, as such, are not usually seen.

**Note:** Audatex does not include refinish labor for roof or bed underside. Under hood, interior parts (core support, frame, inner fender, etc.) tend to have less effort invested for color match or attention to detail in surface preparation than exterior parts do. In some instances, these panels are painted prior to installation (e.g., bolt-on radiator support panel). The masking effort on these components was not as extensive as interior passenger compartment parts. Generally, these non-passenger compartment interior parts take less time to refinish than comparable exterior parts.

Question 2.
Is it included?
2. Is masking for internal refinish included in any other labor operations?

Answer: No, masking for internal refinish is not included in any other labor operations.

Answer Documentation:

2. According to the Information Providers, masking for internal refinish is not included in any other labor operation.
   – AudaExplore
   – CCC/MOTOR
   – Mitchell
   – ASA
   – SCRS Guide to Complete Repair Planning

The original source documents from the leading Information Providers follow.
AudaExplore

Interior/Exterior Metal

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Interior/Exterior Metal

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Most interior parts requiring refinish are covered with finish panels, carpets, and trims and, as such, are not usually seen.

Note: Audatex does not include refinish labor for roof or bed undersides. Under hood, interior parts (core support, frame, inner fender, etc.) tend to have less effort invested for color match or attention to detail in surface preparation than exterior parts do. In some instances, these panels are painted prior to installation (e.g., bolt-on radiator support panel). The masking effort on these components was not as extensive as interior passenger compartment parts. Generally, these non-passenger compartment interior parts take less time to refinish than comparable exterior parts.

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Section 4-5 Refinish Operations

NOT Included

- 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.

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 jamb areas, any additional masking to protect the interior and jams is a not included operation (labor only). See **Not Included “masking” operation**
  - Basic corrosion protection provided by primer/sealer and paint application
  - 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 (included in refinish time, not setup)
  - 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 151)
- 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. See **Included “protect interior” operation**
- Spray additional test panel
- Blending into adjacent panels (see Blending, page 148)
- Color Sand and Buff (see page 149)
- Chipguard application (see page 147)
- Gravel guard (see Chipguard, page 147)
- Additional time for two-tone (see page 147)
- Additional time for three-stage (see page 145-146)
- Custom finishes
- Tint primer or clear coat
- Application of e-coat equivalent
- Application of “high build” primer
- 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.testing.audatex.us.

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CCC/Motor

REFINISH TIME PREMISE

REFINISH, WET/DRY SAND, DE-NIB and/or RUB-OUT TIME DOES NOT INCLUDE:

- Mask inner panels ex: apron/cowl/pillars/rail/floor, etc.

Source: CCC / Motor Guide to Estimating, Rev. 9-14, Page G35

CCC/Motor

BASIC COLOR COAT APPLICATION

DOES NOT INCLUDE:

- Cover/mask for cut-in

Source: CCC / Motor Guide to Estimating, Rev. 9-14, Page G35
GUIDE TO ESTIMATING

REFINISH TIME PREMISE - Continued

SPECIAL NOTATION:
The items or operations below were not considered during the development of any published basic refinishing operation times. These operations may or may not be required depending upon the vehicle or process used. If any of these items or operations are required, they should be considered by the estimator and added to the estimate if necessary.

REFINISH, WET/DRY SAND, DE-NIB AND/OR RUB-OUT TIME DOES NOT INCLUDE:
- Anti-corrosion material application
- Filling, blocking, featheredging repaired panels
- Flex additive mixing time
- Material costs
- Mask inner panels or exterior covers/polishers/trim/floor, etc.
- Molding & ornamentation
- Protective coating material application
- Protective coating removal
- Sand dusting application
- Spatter paint application time
- Stripe tape, decal & overlay
- Waste disposal fees (all types)

PANEL AND/OR COMPONENT DESIGNATION

MAJOR PANELS/COMPONENTS:
All panels or components with a base refinishing time of 1.0 hour or greater are generally considered by MOTOR to be major panels. Example: grille, header panel, fender, hood, roof top panel, doors, rear roof panel, rocker panel, quarter panel, engine lid, trunk lid, liftgate, rear gate, rear body panel, truck cab corner and back panel, truck bed front and side panel and van side and corner panels.

MINOR PANELS/COMPONENTS:
All panels or components with a base refinishing time of less than 1.0 hour.

FLEXIBLE PANELS/COMPONENTS:
All panels or components for which paint systems require a flex agent added to the paint mix. Example: fascia covers, fillers, extensions, spoilers, etc.

No overlap deduction should be taken when calculating refinishing time for a single item from this category.

A combination of items from this category refined during a single, continuous procedure should be subject to the appropriate "Adjacent" or "Non-Adjacent" overlap formula deduction.

When a flex agent or a separate paint mix procedure is not required and when the flexible component is refined during the same procedure with major or minor components, then flexible components should be considered the same designation as major or minor components for the purpose of calculating refinishing overlap deductions and/or multi-stage refinishing additions.

INDIVIDUAL PROCEDURE ITEMS/AREAS:
Areas of a panel or component that are part of a main component, but are refined during a procedure separate from the main component, Example: edges, jams, hinges, inside panels and the underside of hoods, deck lids, liftgates, etc.

No overlap deduction should be taken when calculating refinishing time for items from this category.

DEDUCTIONS TO BASIC REFINISH TIMES (Refinish Overlap)

OVERLAP - NON-ADJACENT PARTS:
- First major panel:
  - Use full published time
  - Each additional panel:
  - Deduct 0.2 per part

OVERLAP - ADJACENT PARTS:
- First major panel:
  - Use full published time
  - Each additional panel with a base time of 1.0 hour or greater:
  - Deduct 0.4 per part
  - Each additional panel with a base time less than 1.0 hour:
  - Deduct 0.2 per part

OVERLAP - INNER PANEL COMPONENTS:
- First inner panel:
  - Use full published time
  - Each additional inner panel with a base time of 0.5 hour or greater:
  - Deduct 0.2 per part
  - Inner panel with a base time less than 0.5 hour:
  - No deduct

BASIC COLOR COAT APPLICATION

INCLUDED:
- Back tape opening handle, lock cylinder, mirror
- Clean component (solvent wash)
- Clean spray
- Color cost application
- Initial dry sand (as recommended by paint manufacturers)
- Light buff, lacquer paint only
- Load spray
- Mask by panels (three-foot perimeter)
- Mask by open gap between adjacent panels up to foam tape (overspray)
- Mask grill opening
- Mask protect grill radiator opening (overspray)
- Mix paint (color with necessary solvents)
- Primer sealer coat application
- Primer sealer coat cleaning
- Primer sealer coat final application
- Remove masking
- Retrieve accurate color information, including paint chip

DOES NOT INCLUDE:
- Adhesion promoter (unprimed flexible component)
- Backside refinishing
- Blending into adjacent panels
- Cover mask engine/compartments to prevent overspray
- Color matching to adjacent panels
- Cover mask for primer and black
- Cover mask for cut-in
- Cover mask recessed edges (amb/waistlines)

Source: CCC / Motor Guide to Estimating, Rev. 9-14, Page G35
GUIDE TO ESTIMATING

REFINISH TIME PREMISE - Continued

SPECIAL NOTATION:
The items or operations listed were not considered during the development of any published basic refinishing operation times. These operations may or may not be required depending upon the vehicle or process used. If any of these items or operations are required, they should be considered by the estimator and added to the estimate if necessary.

REFINISH, WET/DRY SAND, DE-MIR and/or RUB-OUT TIME DOES NOT INCLUDE:
- Anti-corrosion material application
- Filling, blocking, fastener cleaning repaired panels
- Flex additive mixing time
- Flex prep application
- Material costs
- Mask inner panels ex: apron/cowl/pillars/rail/door, etc.
- Molding & ornamentation
- Protective coating material application
- Protective coating removal
- Sound deadening application
- Sprayer paint application time
- Strip tape, decal & overlay
- Waste disposal fees (all types)

PANEL and/or COMPONENT DESIGNATION

MAJOR PANELS/COMPONENTS
All panels or components with a base refinishment time of 1.0 hour or greater are generally considered by MOTOR to be major panels. Examples: grille header panel, fender, hood, headlight panel, doors, roof panel, rocker panel, quarter panel, engine lid, trunk lid, liftgate, rear gate, rear body panel, truck cab corner and back panel, truck bed front and side panels and side and corner panels.

MINOR PANELS/COMPONENTS
All panels or components with a base refinishment time of less than 1.0 hour.

FLEXIBLE PANELS/COMPONENTS
All panels or components for which paint systems require a flex agent added to the paint mix. Examples: fascia covers, fillers, extensions, spoilers, etc. No overlap deduction should be taken when calculating refinishing time for a single item from this category.

A combination of items from this category refinishing during a single, continuous procedure should be subject to the appropriate "Adjustable" or "Non-Adjustable" overlap formula deduction.

When a flex agent or a separate paint mix procedure is not required and when the flexible component is refinishing during the same procedure with major or minor components, then flexible components should be considered the same designation as major or minor components for the purpose of calculating refinishing overlap deductions and/or for multi-stage refinishing additions.

INDIVIDUAL PROCEDURE ITEMS/AREAS
Areas of a panel or component that are part of a main component, but are refinishing during a procedure separate from the main component. Example: edges, jams, hinges, inside panels and the underside of hoods, deck lids, liftgates, etc.

No overlap deduction should be taken when calculating refinishing time for items from this category.

DEDUCTIONS TO BASIC REFINISH TIMES (Refinish Overlap)

OVERLAP - NON-ADJACENT PARTS:
- First major panel: Use full published time
- Each additional part: Deduct 9.2 per part

OVERLAP - ADJACENT PARTS:
- First major panel: Use full published time
- Each additional part with a base time of 1.0 hour or greater: Deduct 9.4 per part
- Each additional part with a base time less than 1.0 hour: Deduct 9.2 per part

OVERLAP - INNER PANEL COMPONENTS:
- First inner part: Use full published time
- Each additional inner part with a base time of 0.6 hour or greater: Deduct 0.2 per part
- Inner part with a base time less than 0.6 hour: No deduct

BASIC COLOR COAT APPLICATION

INCLUDED:
- Back tape opening (handle, lock cylinder, mirror)
- Clean component (solvent wipe)
- Clean sprayer
- Color coat application
- Initial dry sand (as recommended by paint manufacturer)
- Light buff, lacquer paint only
- Load sprayer
- Mask adjacent panels (three-foot perimeter)
- Mask/close gap between adjacent panels up to form tape (overspray)
- Mask glass opening
- Mask/protect grille radiator opening (overspray)
- Mix paint (color with necessary solvents)
- Primer-sealer coat application
- Primer-sealer coat final clean
- Primer-sealer coat final application
- Remove masking
- Retrieve accurate color information, including paint chip

DOES NOT INCLUDE:
- Adhesion promoter (unprimed flexible component)
- Backside refreshing
- Blending into adjacent panels
- Cover mask engine compartment to prevent overspray
- Cover mask for prime and block
- Cover mask for overspray
- Cover mask recessed edges/jambs/weatherstrips

Source: CCC / Motor Guide to Estimating, Rev. 9-14, Page G35
**Not Included Operations**

- Mask interior to prevent overspray damage


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**Single Stage/ Two Stage Colors**

**Not Included Operations**

- Remove and install or mask attached components, trim, stripes, decals on blended panels/areas


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**MASK INTERIOR, ENTRYWAYS, ENGINE COMPARTMENT AND TRUNK OPENINGS**

Interior masking may be necessary when refinishing exterior surfaces to stop overspray damage that is not prevented by adjacent panel perimeter masking which includes back taping or application of foam tape. Interior masking may also be used when exterior panels (door, hood, etc.) are removed while applying refinish material. The performance of this operation is NOT INCLUDED in the Mitchell refinish labor time.

Procedure 28—Refinish Procedure

Refinish General Information

Complete Refinish

Refinish times in this Guide pertain to NEW, UNDAMAGED PARTS and are not intended for calculating complete vehicle refinishes—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 a 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.

AZCO — DuPont — Sherwin Williams — BASF — PPG

Repainted/Used Panels

Labor times related to repaired and/or used panels—example: Remove and install or masking of glass, outside handle or exterior trim, feather prime & block, masking for primer surfacer application—are not included in refinish time. The steps required for reconditioning 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 grt 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 labor to be performed. See Welded Panels under Estimating Information.

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 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: FRONT HEADER, FENDER, HOOD, COWL, TOP, DOOR, ROCKER, ROOF, PICKUP CAB CORNER, PICKUP CAB BACK, QUARTER, PICKUP BED FRONT, PICKUP BED SIDE, VAN SIDE, VAN REAR CORNER, ENGINE LID, LUGGAGE LID, LEFT GATE, REAR RATE, TAIL GATE, 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 van panel, pillars, door jams, underside of hood, underside of luggage lid or underside of gate, inner panels, filler panels, soft bumper covers or bolt-on finish panels.

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

Included Operations

• Solvent wash
• Scuff panel and clean
• Mask adjacent panels up to 36 inches or substitute with cover vehicle (bag) complete
• Prime or seal as required
• Final sanding and buff
• Mix materials
• Adjust spray equipment
• Apply color
• Clean equipment

Not Included Operations

• Blending into adjacent panel and/or panels, or nearest breakpoint
• Color match or tinting
• Applying anti-corrosion rust resistant materials
• Additional application of soft chip primers or anti-chip undercoats
• Finish sand and buff
• Subsequent additional labor when required
• 2 hours for each application

Removal of Protective Coatings

Removal of release agent from OEM raw paint components (example: non-primed bumper covers) See formula under Raw Substrate Prep

Feather, Prime & Block

Feather, Prime & Block paint damage to adjacent panel and/or panels joined by welding due to burn damage (see Feather, Prime & Block definition under Refinish Information)

Gravel guard refinish, add .5 hour for the first major panel and .3 hour for each additional panel.

NOTE: The included operation of mask adjacent panels is inclusive of any necessary back-tape masking to prevent overspray.

IMPORTANT REMINDER: Refinish times are for NEW, UNDAMAGED PARTS without exterior or interior trim or attached components. Refinish times may vary depending on individual procedures, product and/or weather conditions.

A small percentage of colors are identified by the paint manufacturers as highly transparent. These colors may require additional application coats to achieve visual hiding. In instances where four or more color coats are necessary to achieve adequate hiding, some adjustment in refinish times may be appropriate.

IMPORTANT REMINDER: The cost of paint and materials is not included in refinish time.

NOTE: Gravel Guard application and appropriate refinish may be necessary beyond the actual replacement area to achieve a “textured” match.

It may be necessary to tint or otherwise modify non-exterior colors applied to undercoats, edges and/or jambs for which there is no paint color formula to achieve a color match. When necessary, reference “color match or tinting” listed above in Not included Operations.

Raw Substrate Prep

Allow 2 per refinish hour (20%) for plastic components that come from the manufacturer/supplier in a raw/un-primed state.

Procedure Explanation

Included Operations
- Detergent wash
- Alcohol/electric cleaner wash
- Additional solvent wash
- Application of specialized adhesion promoter
- Clean equipment

Clear Coat/Two Stage Refinish
First major panel or soft bumper/fascia cover: Add .4 per refresh hour (40%), then add .4 per refresh hour for jamb, jamb and interior, edge panel, and/or underside (when necessary).

Included Operations
- Mix material
- Clean and tack surface
- Apply material
- Clean equipment

NOTE: Some OEMs now utilize a matte clear coat on non-exterior colors applied to undersides, edges, and/or jambs.

Additional panel(s) and/or other refresh area(s): Deduct overlap (if applicable); add .2 per refresh hour (20%), then add .2 per refresh hour for jamb, jamb and interior, edge panel, and/or underside (when necessary).

Included Operations
- Clean and tack surface
- Apply material

NOTE: For NEW, UNDAMAGED PARTS, a total of no more than 2.5 hours should be necessary to perform the four Clear Coat Refinish included Operations listed above. This calculation DOES NOT APPLY to bumper covers, ground effects, special package equipment, interior edges, jambs, entryways, undersides and additional time that may be required for repaired and/or used panels. IT DOES NOT APPLY to complete vehicle refresh. It is not intended to determine the quantity or cost of materials required for the application of clear.

Three Stage Refinish
First major panel or soft bumper/fascia cover: Add .7 per refresh hour (70%), after time has been added for jamb, jamb and interior, edge panel, and/or underside (when necessary).

Included Operations
- Mix pear/lime toner
- Apply toner to test panel
- Mix clear
- Clean and tack surface
- Apply clear to test panel
- Repeat application to surface being refreshed
- Clean equipment

Additional panel(s) and/or other refresh area(s): Deduct overlap (if applicable); add .4 per refresh hour (40%), after time has been added for jamb, jamb and interior, edge panel, and/or underside (when necessary).

Included Operations
- Apply pear/lime toner
- Clean and tack surface
- Apply clear

NOTE: With three stage paints, it may be necessary to blend into larger areas of adjacent panels or complete sides of vehicles, otherwise known as zone painting.

NOTE: Some OEMs now utilize a matte clear coat on non-exterior colors applied to undersides, edges, and/or jambs.

Two Tone Refinish
First major panel: Add .5 per refresh hour (50%)

Included Operations
- Mask panel
- Scuff panel
- Mix material
- Apply material

- Clean equipment

Additional panel(s) and/or other refresh area(s): Deduct overlap (if applicable); add .3 per refresh hour (30%)

Included Operations
- Mask panel
- Scuff panel
- Apply material

Blend Adjacent Panel(s)
With some colors, it may be necessary to blend color into adjacent panels to obtain an acceptable color match.

A blend labor time formula is provided should it be necessary to perform this operation. The performance of this operation is NOT INCLUDED in the Mitchell refresh labor time.

The blend times are for EXISTING UNDAMAGED adjacent surfaces. The blend labor time includes the application of clear coat to the entire panel on which color is blended. On some panels, the clear may be stopped at natural body lines or be blended into acceptable design configuration areas.

Single Stage/Two Stage Colors
Blend adjacent panel(s): Allow .5 per refresh hour (50%) for each panel(s)/refresh area(s) blended.

Included Operations
- Detergent/solvent wash
- Wet sand, scuff (ScotchBrite) or rubout (compound) panel and clean for preparation
- Mask existing adjacent panels to 30°
- Apply bonding material - if required
- Apply color
- Clean and tack surface
- Apply clear material

Not Included Operations
- Repair existing surface imperfections
- Remove and install or mask attached components, trim, stripes or decals on blended panel area.

NOTE: Blend labor time does not apply to two-tone refresh or custom non-OEM refresh. No overlap deduction applies to blended panel(s)/refresh area(s).

NOTE: When calculated, the estimate will allocate 20% from the total blend time and apply it to the clear coat line item. The total sum of the blend line and the amount allocated to the clear coat line will total 50% of the exterior refresh time for the panel being blended.

Example: A panel refresh time is 2.0 hrs. When blended, the refresh time for that panel will be displayed as 1.0 (5 per refresh hour). Once calculated, the refresh blend line will be displayed as .8 and .2 (20%) will be allocated to the clear coat line.

Three Stage Colors
Blend adjacent panel(s): Allow .7 per refresh hour (70%) for each panel(s)/refresh area(s) blended.

Included Operations
- Detergent/solvent wash
- Wet sand, scuff (ScotchBrite) or rubout (compound) panel and clean for preparation
- Mask existing adjacent panels to 30°
- Apply bonding material - if required
- Apply color
- Clean and tack surface
- Apply pear/lime toner
- Clean and tack surface
- Apply clear material

Not Included Operations
- Repair existing surface imperfections

Procedure Explanation

- Remove and install or mask attached components, trim, stripes or decals on blended panel/area
- Finish, sand, and buff

NOTE: Blend labor time does not apply to two-tone refinsh or custom non-OEM refinsh. No overlap deduction applies to blended panel(s)/refinish area(s).

NOTE: When calculated, the estimate will allocate 40% from the total blend time and apply it to the three stage line item. The total sum of the blend line and the amount allocated in the three stage line will total 70% of the exterior refinsh time for the panel being blended.

Example: A panel refinsh time is 2.0 hrs. When blended, the refinsh time for that panel will be displayed as 1.4 (7 per refinsh hour). Once calculated, the refinsh line will be displayed as .8 and .8 (40%) will be allocated to the three stage line.

Extension of Clear Coat

In some applications, it may be required to extend the application of clear to the nearest panel edge or breakpoint.

The performance of this operation is NOT INCLUDED in the Mitchell refinsh labor time.

The extension of clear coat formula is intended to be calculated as a percentage of base refinsh hours excluding overlap. It DOES NOT APPLY to edges, jams, and underides. No deduction for overlap should be taken.

This formula DOES APPLY to the 2.5 hours maximum clear coat allocation. Should this operation be necessary, the following formula is provided.

Extend Clear to Adjacent Panel(s)

Extend clear to adjacent panel(s): Allow .5 per refinsh hour (50%) for each panel(s)/refinish area(s) cleared.

Included Operations

- Detergent/solvent wash
- Wet sand, scuff (Scotchbrite) or rubout (compound) panel and clean for preparation
- Mask existing adjacent panel to 36°
- Apply bonding material - if required
- Clean and tack surface
- Apply clear material

Not Included Operations

- Repair existing surface imperfections
- Remove and install or mask attached components, trim, stripes or decals on extended clear panel/area
- Finish, sand, and buff
- Nib sand and finesse

Finish Sand & Buff

A labor time formula is provided should it be necessary to perform this operation. This procedure includes the removal of orange peel and any blemishes that aﬀect paint texture in order to produce a smooth ﬁnish to the entire panel surface. This process is not limited to “nib sanding” or “finessing” which is the removal of isolated dirt/dust particles only. The performance of this operation is NOT INCLUDED in the Mitchell refinsh labor time.

The finish sand and buff formula is intended to be calculated as a percentage of the base refinsh hours excluding overlap and clear coat. It DOES NOT APPLY to edges, jams, and underides. For blended panels, the formula should be applied to the full panel refinsh time. No deduction for refinsh overlap should be taken.

Finish sand and buff outside surface area(s): Allow .3 per refinsh hour (30%) to finish sand and buff each surface area(s).

De-nib & Finesse

A labor time formula is provided should it be necessary to perform this operation. This procedure includes the removal of small isolated dust particles (nibs) and the application of a ﬁnishing glaze.

The performance of this operation is NOT INCLUDED in the Mitchell refinsh labor time.

The de-nib and finesse formula is intended to be calculated as a percentage of the base refinsh hours excluding overlap and clear coat. It DOES NOT APPLY to edges, jams, and underides. For blended panels, the formula should be applied to the full panel refinsh time. No deduction for refinsh overlap should be taken.

De-nib and finesse outside surface area(s): Allow .2 per refinsh hour (20%) to de-nib and finesse each surface area(s).

Mask Vehicle to Prevent Overspray Damage

The following refinsh information is provided should it be necessary to perform.

Fig. 1: IDENTIFYING INTERIOR MASKING LOCATIONS
<table>
<thead>
<tr>
<th>Audatex</th>
<th>CCC/MOTOR</th>
<th>Mitchell</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-corrosion material application</td>
<td>Anti-corrosion material application</td>
<td>Anti-corrosion material application</td>
</tr>
<tr>
<td>Refinish:</td>
<td>Refinish:</td>
<td>Refinish:</td>
</tr>
<tr>
<td>Mask of engine compartment</td>
<td>Cover/mask engine compartment to prevent</td>
<td>Cover/mask engine compartment to prevent</td>
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<tr>
<td>Mask of engine compartment</td>
<td>overspray</td>
<td>overspray</td>
</tr>
<tr>
<td>Mask of engine compartment</td>
<td>Cover/mask entire exterior of vehicle to prevent</td>
<td>Cover/mask entire exterior of vehicle to prevent</td>
</tr>
<tr>
<td>Mask of engine compartment</td>
<td>overspray</td>
<td>overspray</td>
</tr>
<tr>
<td>Mask of engine compartment</td>
<td>Cover/mask for cut-in</td>
<td>Mask of engine compartment to prevent</td>
</tr>
<tr>
<td>Mask of engine compartment</td>
<td>Filling, blending, fairing and/or repair panels</td>
<td>Mask of engine compartment to prevent</td>
</tr>
<tr>
<td>Mask of engine compartment</td>
<td>Masking of attached parts</td>
<td>Mask of engine compartment to prevent</td>
</tr>
<tr>
<td>Mask of engine compartment</td>
<td>Paint inner areas</td>
<td>Mask of engine compartment to prevent</td>
</tr>
<tr>
<td>Mask of engine compartment</td>
<td>Primer &amp; blocker</td>
<td>Mask of engine compartment to prevent</td>
</tr>
<tr>
<td>Mask of engine compartment</td>
<td>Second coating</td>
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</tr>
<tr>
<td>Mask of engine compartment</td>
<td>Test spray-cut panel</td>
<td>Mask of engine compartment to prevent</td>
</tr>
<tr>
<td>Mask of engine compartment</td>
<td>Tinting Primer Sealer</td>
<td>Mask of engine compartment to prevent</td>
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<tr>
<td>Mask of engine compartment</td>
<td>Tinting to achieve color match</td>
<td>Mask of engine compartment to prevent</td>
</tr>
<tr>
<td>Mask of engine compartment</td>
<td>Weld, grind or sanding damage to adjacent</td>
<td>Mask of engine compartment to prevent</td>
</tr>
<tr>
<td>Mask of engine compartment</td>
<td>panels</td>
<td>Mask of engine compartment to prevent</td>
</tr>
<tr>
<td>Mask of engine compartment</td>
<td>Welded seam surface finishing finer than 150</td>
<td>Mask of engine compartment to prevent</td>
</tr>
<tr>
<td>Mask of engine compartment</td>
<td>grit sandpaper</td>
<td>Mask of engine compartment to prevent</td>
</tr>
</tbody>
</table>
# SCRS Guide to Complete Repair Planning

## Labor Category Legend – By Color:
- **Body**
- **Paint**
- **Structural**
- **Mechanical**
- **Detail**
- **Other**

| 172. | PFI WHEEL COVERS TO MOUNT ALIGNMENT HEADS |
| 173. | FOUR WHEEL ALIGNMENT |
| 174. | ECENTRIC ALIGNMENT KIT (PER SIDE) |
| 176. | INSPECT SUSPENSION COMPONENTS FOR DAMAGE |

### 35 - Suspension/Mechanical:
- **Bleed Brakes and Add Fluid**
- **Bleed Brakes (Air)**
- **Reset ABS System with Scanner**
- **Shift Crossmember**
- **Memory "SAVER" Collision Tool**
- **Shift Engine Cradle**
- **Adjust Linkages**
- **Drain & Transfer Fuel**
- **Check Run-Out on Wheel (Necessary for Balance)**

### 40 - SRS/Seat Belts:
- **Clean Up Deployed Air Bag Residue**
- **Repair Seat Frame**
- **Inspect Seat Belts (If Used in Collision, Should Be Replaced)**
- **Clear SRS Function Code On Dash**
- **Inspect SRS Wiring**

### 45 - Pillars:
- **Pre-Pull Pillar**
- **Remove Caulking and Seam Sealer**
- **Replace Caulking and Seam Sealer**
- **Expansion Foam**
- **Cavity Wax Rustproofing**
- **Weld-Thru Primer**
- **Fabricate Pillar Sleeve Inserts**
- **Test Fit Parts Adjacent to Pillar**
- **Pdi Seat to Access Pillar Repairs/Replacement**
- **Pull Back Wire Harness**
- **Feather & Fill Contour Repair Area**
- **Repair/Dress Weels at Flanges**
- **Catastrophic Damage From the Repair Process (Build Sequence)**

**204. Mask to Protect Interior**

### 206. Refinish Second Color Black-Out on Pillar

### 50 - Rockers:
- **Pre-Pull Rocker**
- **Remove Caulking & Seam Sealer**
- **Replace Caulking & Seam Sealer**
- **Expansion Foam**
- **Text Coat**
- **Cavity Wax**
- **Weld-Thru Primer**
- **Fabricate Rocker Sleeve Inserts**
- **Test Fit Parts Adjacent to Rocker**
- **Gravel/Stone Guard (Note the Thickness) Per Tube**
- **Pdi Seat**

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## SCRS Guide to Complete Repair Planning

**Labor Category Legend – By Color:**
- Body
- Paint
- Structural
- Mechanical
- Detail
- Other

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<thead>
<tr>
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<th>R/SEAT BELT-S</th>
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<tr>
<td>051</td>
<td>FULL BACK CARPET AND PADDING</td>
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<td>200</td>
<td>STONE GUARD DECAL</td>
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<td>FULL BACK WIRE HARNESS</td>
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<td>REPAIR/DRESS WELDS AT FLANGES</td>
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<td>REPAIR INNER ROCKER</td>
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<td>REPAIR A-PILLAR AT WELD AREA</td>
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<td>250</td>
<td>REPAIR CENTER PILLAR AT WELD AREA</td>
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<td>260</td>
<td>REPAIR FLOOR AT WELD AREA</td>
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<td>270</td>
<td>REPAIR N PANEL AT WELD AREA</td>
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<tr>
<td>228</td>
<td>COLATERAL DAMAGE FROM THE REPAIR PROCESS (Build Sequence)</td>
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<td>COBALT DRILL BIT (BROKEN TIMP-102 Boo)</td>
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<td>FEATHER &amp; FILL CONTOUR REPAIR AREAS</td>
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<td>WRAP MASK WIRE HARNESS</td>
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<td>232</td>
<td>MASK TO PROTECT INTERIOR</td>
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<td>233</td>
<td>MASK FOR PRIMER APPLICATION</td>
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<td>244</td>
<td>PREP FOR ROCKER PANEL MOLD CLADDING “RAW”</td>
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<td>235</td>
<td>REFINISH INNER ROCKER</td>
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<td>236</td>
<td>REFINISH A-PILLAR</td>
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<td>REFINISH CENTER PILLAR</td>
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<td>REFINISH FLOOR AREA</td>
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<td>245</td>
<td>REFINISH LOCK POST</td>
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<td>240</td>
<td>REFINISH M PANEL AT WELD AREA</td>
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<td>241</td>
<td>REFINISH BLACK-OUT AT ROCKER</td>
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<tr>
<td>242</td>
<td>TEXT COAT ROCKER, OUTER (MASKING REQUIRED)</td>
</tr>
<tr>
<td>243</td>
<td>TEXT COAT ROCKER, BACK SIDE</td>
</tr>
</tbody>
</table>

### 35 - Door Skin/Shelf:
- 244: DISCONNECT AND RECONNECT BATTERY
- 245: PROTECT INTERIOR FOR PROTECTION
- 246: ACQUIRE RADIO CODE & PLACE TO OFF POSITION
- 247: RESET MEMORY FUNCTIONS
- 248: REMOVE ADHESIVE AT INTRUSION BEAM, BELT REINFORCEMENT & DOOR EDGE
- 249: REPLACE CAULKING & SEAM SEALER
- 250: WELD-THRU PRIMER
- 251: CAVITY WAX
- 252: FLUTTER BONDING
- 253: SOUND DEADENER PAD-S
- 254: CLEAN & RETAPE ADHESIVE DOOR MOLDING
- 255: REPLACE DOOR EDGE GUARD MOLDING
- 256: REPAIR VAPOR BARRIER WEATHER SHIELD
- 257: REPLACE VAPOR BARRIER, (CMS)
- 258: REPLACE BELT MOLDING FASTENERS
- 259: TEST FIT DOOR BEFORE WELD BONDING
- 260: REPAIR EDGE OF DOOR SHELL, (MANUAL DETECTION)
- 261: RE-SEAL INTRUSION BEAM/BELT REINSTALL FLUTTER MATERIAL
- 262: DOOR SKIN BONDING KIT
- 263: ADJUST/RECALIBRATE POWER DOOR LOCK SYSTEM
- 264: FEATHER & FILL CONTOUR REPAIR AREAS, (DOOR EDGE)
- 265: DRESS WELDS
- 266: STONE GUARD DECAL

Question 3.
Are there pre-determined times?
3. If not, are there pre-determined times for masking for internal refinish?

Answer: There are no pre-determined times provided for masking for internal refinish. 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.
Question 4.
What is it worth?
4. If not, what is it worth?

Answer: There are several ways to determine how much masking for internal refinish is worth, including:

- Invoice for materials
- Conduct your own time study:
  - Create a time study form
  - Create a video of the time study
Additional Thoughts
Additional Thoughts

- Keep in mind, the additional labor and materials required.
- TIP: If you save the P-pages as a PDF and search for terms in the document by going to Edit, then Find or by hitting Ctrl+F.