



DuPont Performance Services

Basecoat Reduction (Blend Within a Panel)



EDUCATION



CONSULTING



**PERFORMANCE
GROUPS**



TOOLS



**PERFORMANCE
ALLIANCE**

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The miracles of science™

Basecoat Reduction for Blend Within a Panel

Question 1: Can a refinish time be changed? If so, should it be lessened on a damaged panel?

The following items are included as justification:

1. According to the Information Providers, refinish times can be changed. There are many situations where the times may be adjusted.
 2. The refinish times provided by the Information Providers are for new, undamaged panels.
 - *Information Provider P-page Documentation (3 pages)*
 3. More refinish procedures are required to blend a panel than to refinish a new panel.
 - *ASA's Refinish Time for Blended Panels Flier (1 pages)*
-

Section 4-4 Refinish Guidelines

Replaced Panel Refinish

Current Audatex refinish labor is based on the use of new and undamaged panels. Additional steps or processes that may be required should be considered during estimate preparation.

Repaired Panel Refinish

When a repaired panel is being refinished, the estimator provides time for the repair of the panel. Consequently, the estimator also determines included operations. When Audatex refinish labor is used for repaired panels, Audatex refinish times assume that the panel has been returned to the condition of a new, undamaged OEM panel or equivalent.

Operations that might be considered in the repair refinish time include any steps required to bring the panel to the condition of a new, undamaged panel. This may include feather edge, blow off and clean, mask to prime, tack off, mix etch primer, prime bare metal, mix and apply primer filler, guide coat application, unmask as required and block sand. Panel scuff to facilitate application of clear may also be considered for two- or three-stage refinish.

Feather / Prime / Block

Audatex recognizes that Feather/Prime/Block are required operations in the panel repair process, that occurs after 150 grit, to bring the repaired panel to the condition of a new, undamaged panel for the purpose of refinish. Audatex does not provide labor allowance for repaired panels, as this is a judgment time, nor does Audatex provide material allowance for the Feather/Prime/Block process. The determination and assessment for this operation is best provided by the estimate preparer for consideration and allowance during the estimate preparation process.

Nib Sanding/De-nib

Nib sanding (or de-nib) is defined as the removal of isolated dirt and dust particles, and polishing the affected area(s).

- Audatex's formula for Color Sand and Buff does not apply to this operation. Additional steps or processes that may be required should be considered during estimate preparation.

*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.



LABOR TIME LISTINGS

All operation times are listed in hours and tenths of an hour. A time listed as 3.5 indicates three and one half hours.

LABOR TIME PREMISE

The times reported in this publication are to be used as a GUIDE ONLY. Reported times include normal align procedure to insure proper fit of the individual new part being replaced. Reported times include tube/padded application of OEM caulking and seam sealers on welded replacement panels. Sprayable seam sealer equipment requires preparation and adjustment before application and is NOT INCLUDED IN LABOR TIME.

Times do not apply to vehicles with equipment other than that supplied by the vehicle manufacturer as standard or regular production options. If other equipment is used, the time may be adjusted to compensate for the variables. Removal and replacement of exchanged or used parts is not considered. If additional aligning or repair must be made, such factors should be considered when developing the estimate. Items not listed under the INCLUDED/DOES NOT INCLUDE heading for any given procedure have not been considered in the estimated work time development for that procedure, unless specified by a footnote. **All included/not included items for labor procedures listed between pages G10 and G33 are for component R&R and R&I procedures unless otherwise indicated in operation heading.**

OPERATION TIMES LISTED ARE BASED ON NEW UNDAMAGED PARTS INSTALLED ON NEW UNDAMAGED VEHICLES AS INDIVIDUAL OPERATIONS. TIME HAS NOT BEEN CONSIDERED FOR ALIGNMENT PULLS, DAMAGE-RELATED ACCESS TIME, DAMAGED, USED, REMANUFACTURED OR AFTERMARKET PARTS. SOME OPERATION TIMES ARE APPLICABLE AFTER BOLTED, ATTACHED OR RELATED PARTS HAVE BEEN REMOVED. REFER TO SPECIFIC FOOTNOTES ATTACHED TO OPERATION TIME LISTING.

LABOR TIME DOES NOT INCLUDE:

SPECIAL NOTATION:

The items listed below apply to all labor procedures.

- A/C System, Evacuate and Recharge
- Aftermarket & OEM accessories
- Alignment, check or straightening related parts
- Alignment check of front or rear suspension/steering
- Anticorrosion material restoration/application
- Battery D&R/recharge
- Brackets & braces transfer
- Broken glass removal or clean up
- Brakes, bleed and adjust
- Caulk (non-OEM), sound insulate or paint inner areas
- Clean up or detailing of vehicle prior to delivery
- Computer control module D&R/relearn
- Conversion Vans (special components, equipment and trim)
- Cutting, pulling or pushing collision damaged parts for access
- Damaged or defective replacement parts
- Drain & refill fuel tank
- Drilling, modification or fabrication of mounting holes
- Fabricate templates, reinforcing inserts, sleeves or flanges
- Filling, plugging and finishing of unneeded holes in new parts
- Information label installation
- Material costs
- Pinch weld clamp damage repair
- Refinishing

LABOR TIME PREMISE - Continued

- Reset electronic memory functions after battery disconnect
- Road test vehicle
- Rusted, frozen, broken or corrosion damaged components or fasteners
- Scan tool clear/reset electronic module
- Scan tool diagnostics
- Straighten or align used, reconditioned or non-OEM parts
- Structural damage diagnosis and vehicle set up time
- Structural foam removal or application
- Test panel/spray caulk
- Undercoating, tar or grease removal
- Unprimed bumpers, removal of mold-release agents
- Waste disposal fees (all types)
- Weld through primer
- Welded seam surface finishing finer than 150 grit sandpaper
- Wheel or hub cap locks R&I

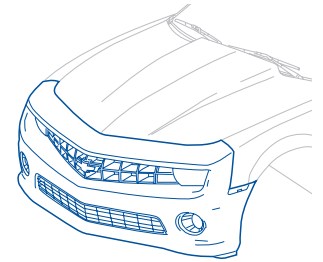
FRONT BUMPER ASSEMBLY - R&I ALL TYPES

INCLUDED:

- Align to vehicle
- Face bar/bumper cover assembly R&I

DOES NOT INCLUDE:

- Air bag sensor
- Battery
- Emblems & nameplates
- Energy absorber, all types
- Lamp aiming
- Lamps (when not mounted in bumper)
- Moldings & impact strip
- Stripe tape, decals or overlays
- Valance panel/spoiler (when not mounted to bumper)



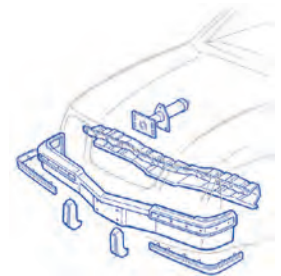
FRONT BUMPER - R&R FACE BAR TYPE

INCLUDED:

- Align to vehicle
- Emblem & nameplate
- Face bar R&I
- Guard
- Guard cushions
- Molding & impact strip

DOES NOT INCLUDE:

- Air bag sensor
- Battery
- Distance sensor
- Energy absorber, if mounted to frame rail (all types)
- Lamp aiming
- Lamps (when not mounted in bumper)
- License plate/bracket
- Stripe tape, decals or overlays
- Valance panel/spoiler (when not mounted to bumper)



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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 refinishing 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.

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

More Refinish Time for Blended Panels

Compare Basic Refinish Procedures for Blend vs. New Panels

22 blended panel procedures vs. 21 new panel procedures

- Ask your paint company for its documentation given to insurance companies for refinish procedures.
- Compare refinish procedures for blend and new panels side by side.
- Refer to ASA's Repaired vs. New refinish flier for blend within a repaired panel, zone refinish and spot refinish procedures.

Blend Panel* vs. New Panel*

1. Clean panel/edges for refinish.
2. Wax and grease for contamination
3. Abrade panel for adhesion. This process may be repeated three or four times to remove all gloss from panel to achieve complete adhesion.
4. Remove residue and rinse with water.
5. Mask and bag for paint.
6. Mix color (minimum amounts required).
7. Tint color (to achieve acceptable blend).
8. Wax and grease for contamination.
9. Blow off and tack for dust.
10. Apply wet bed (eliminates scratches in blend).
11. Apply basecoat to partial panel.
12. Allow for additional flash time.
13. Tack blend area for dirt/overspray.
14. 2nd basecoat application, stepped out and over reduced for blend application.
15. 3rd basecoat application, stepped out again to achieve maximum hiding and full blend effect.
16. Clean basecoat spray gun.
17. Mix clear coat.
18. Apply two coats of clear.
19. Clean clear spray gun.
20. Bake at 140° for 30-45 minutes.
21. Cool down process.
22. Unmask for re-assembly.

1. Clean panel/edges/vehicle for refinish.
2. Sand and prep panel.
3. Mask/bag for sealer and paint.
4. Mix sealer.
5. Mix color (minimum amounts required).
6. Tint (if necessary).
7. Wax and grease for contamination.
8. Blow off and tack panel for dust.
9. Mix etch primer (for bare metal areas).
10. Apply etch primer for adhesion.
11. Clean etch primer spray gun.
12. Apply sealer.
13. Clean sealer spray gun.
14. Apply basecoat color to entire panel.
15. Clean basecoat spray gun.
16. Mix clear coat.
17. Apply two coats of clear.
18. Clean clear spray gun.
19. Bake at 140° for 30-45 minutes.
20. Cool down process.
21. Unmask for reassembly.

*Based on paint manufacturer requirements, industry refinish standards, technical data sheets, warranty requirements and p-pages as of September 2006.

**Please contact your local paint representative for specific refinish procedures.



Automotive Service Association®

(800) ASA-SHOP
www.ASAshop.org

Use this tool to help explain proper refinish procedures to insurance partners.**

More Refinish Time for Blended Panels

Compare Basic Refinish Procedures for Blend vs. New Panels

22 blended panel procedures vs. 21 new panel procedures

- Ask your paint company for its documentation given to insurance companies for refinish procedures.
- Compare refinish procedures for blend and new panels side by side.
- Refer to ASA's Repaired vs. New refinish flier for blend within a repaired panel, zone refinish and spot refinish procedures.

Blend Panel* vs. New Panel*

1. Clean panel/edges for refinish.
2. Wax and grease for contamination
3. Abrade panel for adhesion. This process may be repeated three or four times to remove all gloss from panel to achieve complete adhesion.
4. Remove residue and rinse with water.
5. Mask and bag for paint.
6. Mix color (minimum amounts required).
7. Tint color (to achieve acceptable blend).
8. Wax and grease for contamination.
9. Blow off and tack for dust.
10. Apply wet bed (eliminates scratches in blend).
11. Apply basecoat to partial panel.
12. Allow for additional flash time.
13. Tack blend area for dirt/overspray.
14. 2nd basecoat application, stepped out and over reduced for blend application.
15. 3rd basecoat application, stepped out again to achieve maximum hiding and full blend effect.
16. Clean basecoat spray gun.
17. Mix clear coat.
18. Apply two coats of clear.
19. Clean clear spray gun.
20. Bake at 140° for 30-45 minutes.
21. Cool down process.
22. Unmask for re-assembly.

1. Clean panel/edges/vehicle for refinish.
2. Sand and prep panel.
3. Mask/bag for sealer and paint.
4. Mix sealer.
5. Mix color (minimum amounts required).
6. Tint (if necessary).
7. Wax and grease for contamination.
8. Blow off and tack panel for dust.
9. Mix etch primer (for bare metal areas).
10. Apply etch primer for adhesion.
11. Clean etch primer spray gun.
12. Apply sealer.
13. Clean sealer spray gun.
14. Apply basecoat color to entire panel.
15. Clean basecoat spray gun.
16. Mix clear coat.
17. Apply two coats of clear.
18. Clean clear spray gun.
19. Bake at 140° for 30-45 minutes.
20. Cool down process.
21. Unmask for reassembly.

*Based on paint manufacturer requirements, industry refinish standards, technical data sheets, warranty requirements and p-pages as of September 2006.

**Please contact your local paint representative for specific refinish procedures.



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Basecoat Reduction for Blend Within a Panel

Question 2: Do some collision repair centers make concessions in order to get work?

Yes., Some collision repair centers make concessions to earn business. Concessions are a part of normal business operations

Basecoat Reduction for Blend Within a Panel

Question 3: If a collision repair center wanted to make a concession for “Blend Within a Panel”, what would be a reasonable concession? Is it reasonable to concede half of the refinish time?

The following items are included as justification:

1. According to several studies conducted by CCC/MOTOR, the only difference between the base refinish time and partial panel refinish time is the basecoat and sealer application time. Clearcoat still needs to be applied to the entire panel.

- *Data based on MOTOR 2004 Procedural Analysts from CIC, 2006 (1 pages)*

2. No adjacent or non-adjacent panel overlap is to be deducted per Mitchell and CCC/MOTOR database guidelines.

- *Information Provider P-page Documentation (2 pages)*

3. Audatex is the only company that calculates blend time (-50% time adjustment) after adjacent panel overlap is taken.

- *Information Provider P-page Documentation (1 pages)*

4. Using the operation breakdown provided by CCC/MOTOR along with Audatex’s blend time, the following formula can be created:

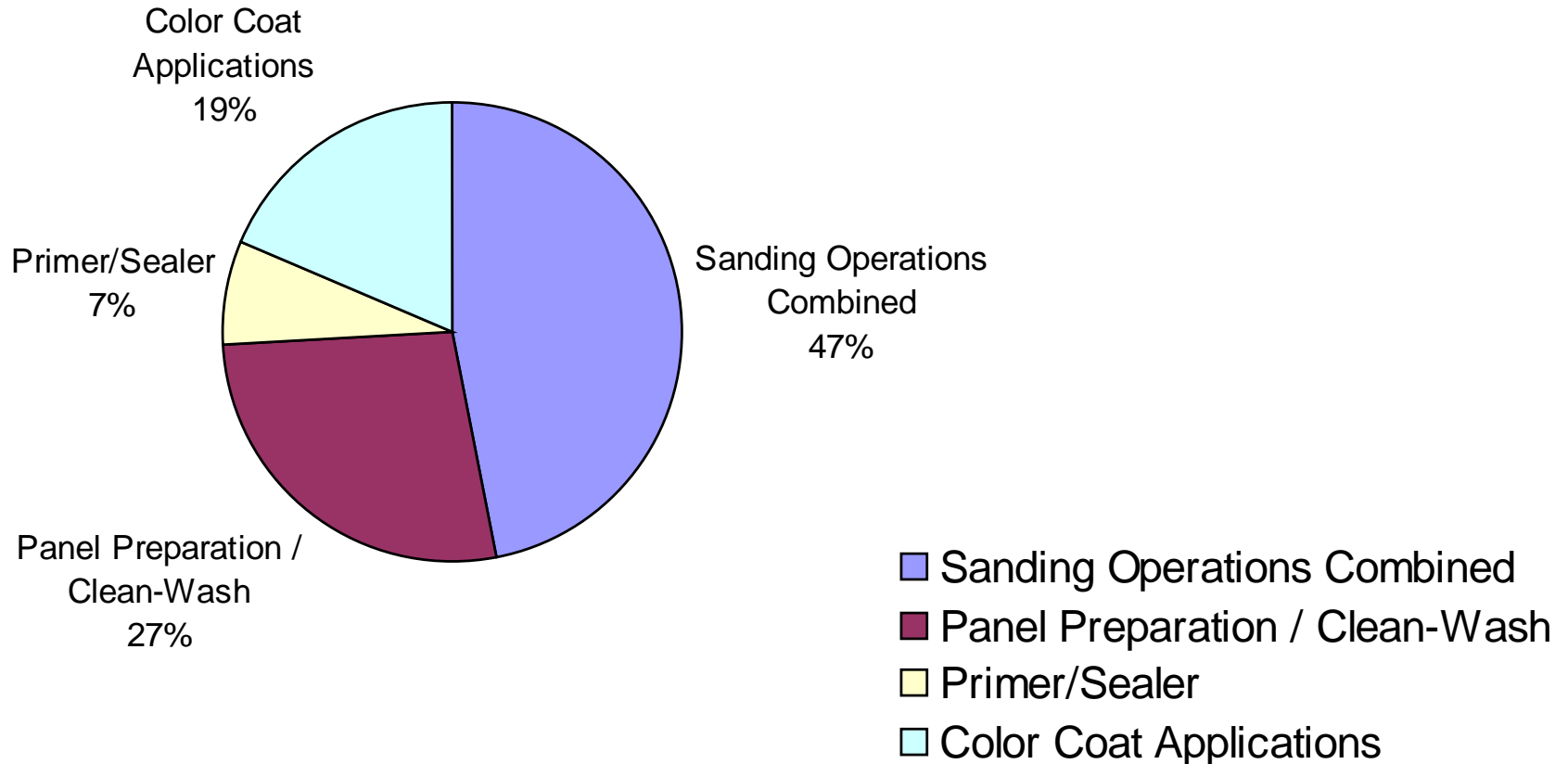
**With “Blend Within a Panel”,
there is a savings of 50% on the sealer and basecoat
operation time by only applying full coverage color
on a portion of the panel.**

5. In addition, there are several not-included operations that may need to be taken into account when calculating body and refinish labor times, such as feather, prime and block, surface or etching primer and masking for prime.

2004 MOTOR Procedural Analysts Base Coat Application

Data based on MOTOR 2004 Procedural Analysts
Base Coat Application 2003 Ford Taurus new hood

Chart does not include all operations outlined in MOTOR Guide to Estimating



<h1 style="margin: 0;">Refinish Procedure</h1>	 28
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(continued)

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 refinish labor time.

The blend times are for existing undamaged exterior 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** refinish hour (50%) for each panel(s)/refinish 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 36"
- 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
- Finish, sand, and buff

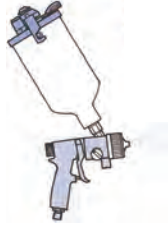
NOTE: Blend labor time does not apply to two-tone refinish or custom non-OEM refinish. **No overlap deduction applies to blended panel(s)/refinish area(s).**

GUIDE TO ESTIMATING

CLEAR COAT UNDAMAGED PANEL - Continued

INCLUDED:

- Back tape opening (handle, lock cylinder, mirror)
- Bonding/adhesion coat application (if required)
- Clear coat application
- Clean component (solvent/detergent wash)
- Clean in preparation for material application
- Initial wet sand or scuff
- Mask adjacent panels (three foot perimeter)
- Mask/close gap between adjacent panels up to foam tape (overspray)
- Mask glass opening
- Mask/protect grille radiator opening (overspray)
- Remove masking
- Tack wipe surface (when required)



DOES NOT INCLUDE:

- Correction of pre-existent surface imperfections
- Damage repair
- De-nib/wet sand and/or buff for polishing
- Masking of attached parts
- Material costs
- R&I of attached parts

COLOR BLEND (Adjacent Panels)

SPECIAL NOTATION:

Calculations for blending are based upon the outer surface only and should not include additions for underside, inside or edges of the blend panel. There should be no overlap deduction between blend panel(s) and/or refinished panel(s). This formula is not applicable to SINGLE-STAGE, 3-STAGE, 4-STAGE or TWO-TONE type finishes. Finishes of this type should be negotiated after an on-the-spot evaluation. Estimation of material cost should be based upon the full blended panel(s).

Blending may be necessary for adjacent body components to avoid noticeable color variation between newly applied paint and the existing paint of adjacent components or areas.
The following formula may be considered in the event this type of procedure is required on an UNDAMAGED panel:

- Each blended adjacent panel or area
– 50% of blend panel's base refinish time

INCLUDED:

- Back tape opening (handle, lock cylinder, mirror)
- Blend coat application
- Bonding/adhesion coat application
- Clean component (solvent/detergent wash)
- Clean in preparation for material application
- Clear coat application (full blend panel if required)
- Initial wet sand or scuff (when required)
- Mask adjacent panels (three-foot perimeter)
- Mask/close gap between adjacent panels up to foam tape (overspray)
- Mask glass opening
- Mask/protect grille radiator opening (overspray)
- Remove masking

COLOR BLEND (Adjacent Panels) - Continued

DOES NOT INCLUDE:

- Correction of pre-existent surface imperfections
- Cover/mask recessed edges/jambes/weatherstrips
- Damage repair
- Masking of attached parts
- Material costs
- R&I of attached parts
- Wet sand and/or buff for polishing

EDGES OF NEW PARTS (Edging)

SPECIAL NOTATION:

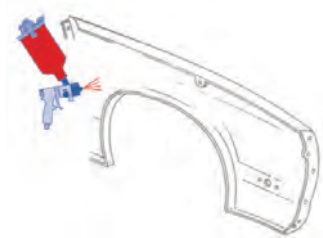
The following items or operations were not considered during the development of any published basic refinish operation times. If any of these items or operations are required, they should be considered by the estimator. An additional paint mix is required if the edge color is a different color than the exterior body color. Clear coat (gloss or matte) will be required for base color coat applications.

INCLUDED:

- Refer to specific parts text for estimated time allowance
- Use full refinishing time without deduction for overlap

DOES NOT INCLUDE:

- Clear coat
- Color tinting
- Mixing a different edge color



THREE STAGE COLOR BLEND (Adjacent Panels)

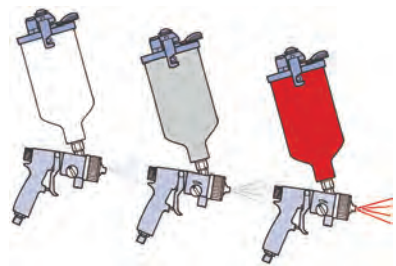
SPECIAL NOTATION:

Calculations for blending are based upon the outer surface only and should not include additions for underside, inside or edges of the blend panel. There should be no overlap deductions between blend panel(s) refinish time. Blending may be necessary for adjacent body components to avoid noticeable color variation between newly applied paint and the existing paint of adjacent components or areas. The following formula may be considered in the event this type of procedure is required on an undamaged panel:

- Each blended adjacent panel or area
70% of blend panel's base refinish time

INCLUDED:

- Back tape opening (handle, lock cylinder, mirror)
- Blend coat application



Section 4-4 Refinish Guidelines

Blending

Blending is defined as the application of color to a portion of an undamaged adjacent panel for the sole purpose of facilitating the appearance of color match into the area. When blending is performed in a two- or three-stage refinish system, the same definition applies to the process and includes the application of clear coat to the entire blended panel.

Note: I-CAR recommends preparing and planning to blend before the work begins. This means that blending should be planned for in all phases of refinish, from tinting to preparation of surfaces. Following this recommendation will ensure that when the decision is made to blend, the preparation work is already complete. (For additional information, see I-CAR Finish Matching, Module 2, and Topic 3.) Blending into an undamaged/unreplaced adjacent panel to facilitate color match is automated in the Audatex system and can be selected on a panel-by-panel basis.

Audatex's blend formula is:

- 50% of Audatex estimate refinish labor after overlap consideration, including two-stage or three-stage allowances, if applicable for the panel to be blended. This provides time to apply clear coat to the entire panel. Remember that all overlap is still considered when refinish labor is overridden.
- This excludes R&I stripes, mouldings and special masking for two-tone, when required, unless two-tone is also selected.

Refinish within Panel Boundaries

Refinish within panel boundaries is defined as the process of applying paint and clear coat to the surface of a repaired panel for the sole purpose of facilitating the appearance of color match within the confines of the panel.

Note: The Audatex blend formula does not apply to this operation.

In the Audatex system, there are two ways to include the time to perform this refinish operation in an estimate:

1. The preferred method provided by Audatex is a Manual Entry. Using this method will not remove adjacent panel/non-adjacent panel overlap. This labor will also be used in paint materials calculations. A manual entry for this operation may be entered along with the desired value, or the Standard Manual Entry "M10 Paint As Required" may be used.

*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.