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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**

Gravel guard is a black, bituminous, textured coating designed to protect surfaces against stone chips. It dries to a tough and flexible coating protecting the surface against rust and providing sound deadening properties. Typically, this coating is not painted over. It is typically applied to the bottom of fenders and quarter panels behind the wheel and along the lower doors and rockers.

It is also referred to as:

- Stone guard
- Chip guard
- Rough coat
- Body Schultz

Many OE manufacturers apply gravel guard at the factory. When the vehicle is in a collision, repair planners need to pay attention to restoring the gravel guard, but also matching the original OEM gravel guard texture.

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**Note:** Gravel guard is different from the protective films offered by some companies.
### Justifying Each Line on the Repair Plan

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Question 1.
Is it required?
Four Negotiation Questions

1. Is it required to apply gravel guard or chip guard in order to return the vehicle back to pre-accident condition?

Answer: Yes, it is required based on a number of sources.

Answer Documentation:

The major Information Providers say that applying gravel guard / chip guard may or may not be necessary to return the vehicle to pre-accident condition in their Estimating Guides or Database Reference Manuals.

- **AudaExplore** – “Today’s vehicles often require exact-match texturing in the chipguard process.”
- **CCC/MOTOR** – “Refer to OEM service repair information for specific location, repair recommendations and/or replacement product(s). MOTOR recommends following OEM service repair information for replacement of these materials following a thorough on-the-sport evaluation of vehicle and damage in question.”
- **Mitchell** – “Gravel Guard application and appropriate refinish may be necessary beyond the actual replacement area to achieve a ”texture” match.”

The original source documents from the Information Providers follow.

Several OE manufacturers also require the application of gravel guard or chip guard to return the vehicle to pre-accident condition.

- Honda
- Lexus
- Toyota
- 3M

The original source documents from these OE manufacturers follow.
Chipguard

The application of chipguard material to the lower portions of panels (up to 8" of protection) is automated in the Audex system and can be selected on a panel-by-panel basis.

**AudaExplore's chipguard formula is:**

- 0.3 for the first panel and 0.2 per each additional panel.

**Note:** This formula can be used to determine time to apply chipguard material only, and does not account for texturing or finish matching of any kind. *Today's vehicles often require exact-match texturing in the chipguard process.* These cases are not addressed by this calculation and must be considered individually at time of inspection.


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1 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 AudaExplore Estimating, Pen Pro or Shoplink. The current version of the Database Reference Manual may also be found at [www.training.AudaExplore.us](http://www.training.AudaExplore.us).
Section 4-4 Refinish Guidelines

Exterior and Interior Surfaces

Three-stage provides time both for exterior and interior surfaces including edges, jambs, and undersides. Three-stage interior surfaces must be selected in conjunction with three-stage exterior. To provide time for three-stage of exterior surfaces and two-stage of interior surfaces, both options must be selected.

User-overridden values: For user-entered refinish values, Audatex will provide an additional 20% to clear coat the entire panel. The user supplies the value for the color coat and the mica coat.

Four-stage

Some vehicle manufacturers occasionally use a four-stage refinish process. At the manufacturer level, four-stage refinish is the same process as three-stage with an additional clear coat between the base and mica coat. This does not need to be duplicated in the repair process. When these vehicles are being repaired, the three-stage process applies.

Two-Tone

Audatex's single-stage refinish times provide a consistent, reliable, and accurate base upon which to add time for the two-tone process

Audatex's two-tone formula is:

- Setup time of 0.4 estimate hours upon selection of the first two-tone panel, plus 30% of Audatex estimate refinish labor per panel selected.
- Two-tone is automated in the Audatex system and can be selected as an operation on a panel-by-panel basis.

Chipguard

The application of chipguard material to the lower portions of panels (up to 8" of protection) is automated in the Audatex system and can be selected on a panel-by-panel basis.

Audatex's chipguard formula is:

- 0.3 for the first panel and 0.2 per each additional panel.

Note: This formula can be used to determine time to apply chipguard material only, and does not account for texturing or finish matching of any kind. Today's vehicles often require exact-match texturing in the chipguard process. These cases are not addressed by this calculation and must be considered individually at time of inspection.

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CCC/MOTOR

Stone Chip Guard (Protective Material)

Vehicle manufacturers may apply a spray-on, chip-resistant coating to protect the vehicle’s finish from chipping. This type of coating may be named differently depending on manufacturer ex: Stone Guard, Soft-chip Primer, PVC Chipping Primer, Chip Guard, Gravel Guard, etc. This type of coating is designed to reduce paint chipping; appearance varies from textured surface to a smooth surface. Chip-resistant coatings may be applied to the vehicle’s lower body and/or leading edges of the body. Refer to OEM service repair information for specific location, repair recommendations and/or replacement product(s). MOTOR recommends following OEM service repair information for replacement of these materials following a thorough on-the-spot evaluation of vehicle and damage in question.

Source: CCC/Motor Guide to Estimating, Rev. 9-14, Page G9
GUIDE TO ESTIMATING

SPECIAL SUBSTRATES

Some vehicle manufacturers use special or alternative materials in the construction of their vehicles. When possible, parts made from one of the eight listed materials will be identified using the abbreviations shown below.

ALUMINUM (ALU): Aluminum is lighter than steel and is non-magnetic. Aluminum is sensitive to galvanic corrosion. Only use fasteners, tools and materials that are designated for use on aluminum. Heat limitations MUST be observed when working with this type of metal.

Boron Steel (BOR): Boron steel has extremely high strength; do not use heat on this type of metal. It cannot be straightened because of the extremely high heat used in the forming process. The only solution for damage is replacement. Boron steel can be cut with a cutoff wheel. Drilling boron steel is very difficult and may be accomplished using a titanium drill bit combined with slow speed (600 rpm).

Carbon fiber composite (CFC): Visible weave carbon fiber (non-painted) and non-visible weave carbon fiber (painted) parts are extremely lightweight and strong. Structural carbon fiber parts will require replacement if damaged. Manufacturers may have repair options for non-structural parts such as exterior panels, provided that the damage does not extend to an edge. Repairability options depend on the manufacturer’s recommendations and procedures. Only use fasteners, tools and materials that are designated for use on carbon fiber.

High strength steel (SSS): Generally frame rails, inner rocker panels, suspension parts, door hinge rails and similar parts are made of this material (these vary by manufacturer). Heat limitations MUST be observed when working with this type of steel. When in doubt, most manufacturers recommend all steel be treated as SSS steel.

Hydroformed Steel (HDS): Hydroformed parts may be sectioned depending on the vehicle manufacturer’s recommendations. Heat limitations MUST be observed when working with this type of steel.

Magnesium (MAG): Magnesium is much lighter, stronger and more resistant to corrosion than steel. Magnesium has the tendency to crack or break either from collision damage or during straightening due to its quick work-hardening characteristics. Magnesium is also not weldable with common collision repair facility SMA (MIG) welding capabilities. Do not use oxyacetylene equipment or plasma arc cutting equipment around this or any other magnesium part. If magnesium catches on fire, it requires a class D fire extinguisher.

Sandwiched Steel (SAS): This type of steel (OEMS may have other names) is being used on the clash panels, floor panels and oil pans, etc. This product has an engineered non-steel layer sandwiched between two cold rolled layers of steel; do not use heat on this type of metal unless recommended by OEM. It is used to help lower sound levels and vibration. This product may or may not be weldable with common collision repair facility SMA (MIG) welding.

SPECIAL SUBSTRATE METALS - Continued

Sheet Molding Compound (SMC): A high strength glass-reinforced thermoset molding material which is normally compression-molded and is used on underbody, outer panels, and radiator supports. Manufacturers may have repair options for these types of non-structural parts. Repairability options depend on the manufacturer’s recommendations and procedures. Only use materials that are designated for use on sheet molding compounds.

Ultra High-Strength Steel: A very lightweight, strong type of steel that is used for trim, beams, bumper reinforcements and other special purpose areas. These parts must not be repaired. They must be replaced. Contact the manufacturer for more information.

Note:
Due to space limitations, special substrate information is not available in MOTOR CEG Online or DVD products.

STEERING COLUMN

Many vehicle manufacturers use collapsible steering columns to absorb energy sustained from a collision impact. These columns should be inspected for proper length, bending and deformation among other specific considerations. Failure to do so may prevent proper operation of steering column and/or air bag deployment. MOTOR recommends following vehicle manufacturer’s guidelines for inspection and replacement of these components.

STONE CHIP GUARD (Protective Material)

Vehicle manufacturers may apply a spray-on, chip-resistant coating to protect the vehicle’s finish from chipping. This type of coating may be named differently depending on manufacturer ex: Stone Guard, Soft-chip Primer, PVC Chipping Primer, Chip Guard, Gravel Guard, etc. This type of coating is designed to reduce paint chipping, appearance varies from textured surface to a smooth surface. Chip-resistant coatings may be applied to the vehicle’s lower body and/or leading edges of the body. Refer to OEM service repair information for specific location, repair recommendations and/or replacement products. MOTOR recommends following OEM service repair information for replacement of these materials following a thorough on-the-spot evaluation of vehicle and damage in question.

STRUCTURAL GLASS

Urethane bonded stationary glass such as windshield, side/quarter glass and back glass adds structural integrity to a vehicle’s body and may be considered a structural component on some vehicles. Therefore, it is important to use proper materials and procedures when installing this type of glass. I-CAR and some vehicle manufacturers recommend the use of epoxy primer on glass pinch weld where coating has been removed. Utilization of incorrect methods or materials could result in a failure to restore the vehicle’s original structural integrity. Removal of some undamaged urethane bonded glass for reuse may not be possible due to damaging plastic locating studs and/or attached moldings. Some vehicle manufacturers recommend replacing glass that has been removed with new OEM glass. It is MOTOR’s position that removal of the glass from the damaged part for reuse is a process best reserved for the judgment of an estimator/appraiser following a thorough review of vehicle manufacturer guidelines.
Note: Gravel Guard application and appropriate refinish may be necessary beyond the actual replacement area to achieve a “texture” match.

Source: Portions Copyright 2012, Mitchell International, Inc. – Mitchell P-Pages, Page 16
**Procedure Explanation**

**Bumper Assembly O/H**

**Included Operations**
- Removal and install assembly
- Disassemble and replace damaged parts
- Replace or transfer parts attached except those listed in Not Included Section
- Remove and install or replace: license plate bracket
- Assembly and install
- Adjust alignment to vehicle

**Not Included Operations**
- Refinish bumper
- Remove and replace impact absorbers or mounting arms
- Remove and replace optional accessories (example: trailer hitch, trailer connector)
- Remove and install adhesive exterior trim; add to clean and retape
- Replace new adhesive exterior trim; deduct one-half of R&R time
- Install stripes, decals, transfers or overlays

**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 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 the 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**

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 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 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 lessen 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, LIFT 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 4.0 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 4.2 hours.

**Non-overlap deductions for valance panel, pillars, door jams, undersides of hood, undersides of luggage lid or undersides 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 (pay complete)
- Prime or seal as required
- Final sanding and clean
- Mix materials
- Adjust spray equipment
- Apply color
- Clean equipment

**Not Included Operations**

- Blending into adjacent panel and/or panels, or nearest breaking point
- Color match or tinting
- Applying anti-corrosion rust resistant materials
- Additional application of self chip primers or anti-chip undercoats
- Finish sand and buff
- Subsequent vehicle bagging when required: deduct .2 hour for each application & removal
- Mask interior to prevent overspray damage
- Removal of protective coatings
- Removal of release agent from OEM raw plastic components (example: non-primer bumped covers) See formula under Raw Substrate Prep
- 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 General Information)
- Gravel guard refinish: deduct .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

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

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Source: Portions Copyright 2012, Mitchell International, Inc. – Mitchell P-Pages, Page 16
Paint General Information

The 3-coat 3-bake (3C.3B) paint finish gives the Accord a deep gloss and stunning finish. This manual provides information on paint defects, repair, and refinishing. Throughout, the objective is to explain in a simple yet comprehensive manner the basic items you should know about paint repairs. Select the correct material for the defect and repaint or refinish in the correct manner as described.

Basic Rules for Repairing a Paint Finish

To repair paint damage, always use the 2-part acrylic urethane paints designated; polish and bake each of the three coats, as in production, to maintain the original film thickness, and to assure the same quality as the original finish.

Outline of factory painting process

![Outline of factory painting process]

<table>
<thead>
<tr>
<th>Pretreatment</th>
<th>Electrodeposition of primer</th>
<th>Intermediate coat</th>
<th>Top coat</th>
</tr>
</thead>
</table>

Features In Each Work Process

Pretreatment and electrodeposition

In the pretreatment process, the entire body is degreased, cleaned, and coated with zinc phosphate by dipping. After the body has been cleaned with pure water, it is placed in an electrolytic bath of soluble primer (cationic electrodeposition). This produces a thorough corrosion inhibiting coating on the inner surface and corners of the body, the pillars, the sills, and the panel joints. Chipping primer is then applied to the most susceptible areas.

Intermediate coat

The intermediate coat is applied to the prepared surface to further protect against damage.

Top coat

Enamel paint and either polyester or acrylic resin paint are used in the top coat for higher solidity, smoothness, brightness, and weather resistance.
Honda

Restoring Gravel Guard / Chip Guard Negotiation Tool
Version 2.0, January 4, 2016

Honda

Soft Chipping Guard Primer Coat - General Safety Precautions

The removal of paint and undercoating by stone chips immediately exposes metal to the atmosphere, causing it to oxidize. The thickness of this oxidation increases if the process continues unchecked. The soft chipping guard primer protects against damage due to the impact of such objects.
- The soft chipping guard primer coat is applied over the E. D. (electrostatically deposited) primer. It is followed by the guide coating and the top coating.
- The soft chipping guard primer produces a smooth surface when dry. It should be sprayed so the thickness of the protective film is 20 microns.

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<tr>
<td>Electrodeposition</td>
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<tr>
<td>Base metal</td>
</tr>
</tbody>
</table>

- A soft chipping guard primer coat is then applied to the most susceptible areas.
- Spray the primer surface (2-part urethane primer surface) on the soft chipping guard primer coating areas when you replace parts using soft chipping guard primer coat.

Coating Procedures

WARNING:
- Wear goggles or safety glasses to prevent eye injury.
- Ventilate when spraying undercoat.

1. Sanding the replacement part.
   Use a double action sander and 400 grit sandpaper.

NOTE:
- Do not oversand the edges or corners of the part.
- Do not expose base metal.

2. Air blowing/degreasing.
   Use alcohol, and wax and grease remover.

3. Protect from overspray.
   Use masking tape and paper to protect the related areas from overspray.

4. Spraying primer surfcacer:
   - Spray about four to five coats to get 20 microns of thickness. One coat deposits about 5 to 7 microns.
   - Do not try to cover the surface with one heavy coat. Applying several thin coats is recommended.
   - Use a 2-part urethane primer surfcacer and a spray gun.
   - Mix the primer surfcacer with the correct ratio of additive and solvent.
   - Follow the primer surfcacer manufacturer's instructions.

5. Drying.
Honda

After spraying primer surfacer, allow 7 to 10 minutes of drying time, then force dry it with infrared lamps or an industrial dryer.

6. Fine sanding.
   - Check that the primer surfacer has dried thoroughly, then sand the primer surfacer.
   - Use a double action sander and 400-600 grit sandpaper.

7. Intermediate coating and top coating.

COLLISION REPAIR INFORMATION
FOR THE COLLISION REPAIR PROFESSIONAL

TITLE: CHIP RESISTANT COATINGS
SECTION: REFINISH BULLETIN # 141
MODELS: ALL TOYOTA LEXUS and SCION
DATE: REVISED MAY 2013

Chip Resistant Coatings

During collision repair and refinishing operations it is necessary to restore OEM chip resistant coatings to factory specifications on repaired and/or replacement body panels. PVC- and Urethane-based Anti-Chipping materials in addition to Anti-Chipping Protector Film are applied to body panels that may receive exposure to abrasive road debris. If these coatings are not restored properly factory-like chip-resistance and finish durability can be compromised which may lead to chipping corrosion and warranty exclusions.

Example Specifications:

- Soft-Chip Primer
- Anti-Chipping Paint
- Protector Film

Application location specifications for chip resistant coatings are supplied in model-specific Repair Manuals for Collision Damage which can be accessed through the Toyota Technical Information System (TIS) at the website. An example is provided.

Consult your paint manufacturer or product vendor for chip-resistant paint material recommendations technical data and mixing and application instructions.

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To assure repairs and replacement components meet strict factory standards, all corrosion preventive coatings and sound absorbing materials must be replicated to match OE application and purpose. In addition, the use of weld thru primer is strongly recommended during welding operations.

If the following materials are not restored to OE like-kind and quality, road noise may be amplified, and the Toyota new car corrosion warranty may be voided on the affected components, and adjoining parts and systems which are caused to fail or rust by those components. Refer to CPS-Toyota/Scion Policy 4.17 and CPS Lexus Policy 4.15 for details on what is not covered by the new vehicle limited warranty.

- Seam Sealer
- Cavity Wax
- ED Primer
- Undercoating
- Frame Finish Coatings
- Chip Resistant Coatings
- Sound Absorbing Materials

Please refer to model-specific Collision Damage Repair Manuals (www.techinfor.toyota.com) for specifications, illustrations, instructions, and locations of these coatings.

CRIB # 159

TITLE: CORROSION PREVENTION & SOUND ABSORBING MEASURES

SECTION: EXTERIOR BULLETIN #159

MODELS: ALL TOYOTA, LEXUS, and SCION

DATE: DECEMBER 2007

To assure repairs and replacement components meet strict factory standards, all corrosion preventive coatings and sound absorbing materials must be replicated to match OE application and purpose. In addition, the use of weld thru primer is strongly recommended during welding operations.

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- Seam Sealer
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- Chip Resistant Coatings
- Sound Absorbing Materials

Please refer to model-specific Collision Damage Repair Manuals (www.techinfo.toyota.com) for specifications, illustrations, instructions, and locations of these coatings.

Everyday, engineers and technicians around the world choose 3M products as the best solution for their manufacturing and repair needs. From Specifications and Endorsements to Service Bulletins and Recall Notices, 3M is proud to be a trusted partner of the Automotive Industry.

Here’s just one example...

Reference Information

Organization: Toyota Motor Corporation

Document
Type: Collision Repair Information Bulletin
Name: CORROSION PREVENTION & SOUND ABSORBING MEASURES
Number: Bulletin #159 (00408-03000-159)
Issued: December 2007

Description
Vehicles: ALL TOYOTA, LEXUS, and SCION models

Purpose: To assure repairs and replacement components meet strict factory standards, all corrosion preventive coatings and sound absorbing materials must be replicated to match OE application and purpose. In addition, the use of weld thru primer is strongly recommended during welding operations.

If materials are not restored to OE like-kind and quality, road noise may be amplified, and the Toyota new car corrosion warranty may be voided on the affected components, and adjoining parts and systems which are caused to fail or rust by those components.

Note: 3M provides this information for REFERENCE ONLY. ALWAYS refer to the original document or the OEM-provided model-specific collision damage repair manuals for complete instructions.

3M Products:
Included:
- PN05910 3M™ Rocker Panel Spray
- PN06883 3M™ Rubberized Undercoating
- PN08891 3M™ Rust Fighter – I
- PN0360 3M™ Urethane Seam Sealer

Note: in some cases, 3M may offer an alternate part number (different size/color) with the same chemistry and/or performance as the included product. Please consult your 3M representative for more information.

Source: www.TechInfo.Toyota.com
www.Collision.ALLDATA.com

3M

Product Use:
Many factors beyond 3M’s control and uniquely within user’s knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user’s method of application.

Warranty, Limited Remedy, and Disclaimer:
Unless an additional warranty is specifically stated on the applicable 3M product packaging or product literature, 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS For A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If the 3M product does not conform to this warranty, then the sole and exclusive remedy of 3M and the only recourse you have against 3M is at 3M’s option, replacement of the 3M product or refund of the purchase price.

Limitation of Liability:
Except as prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.

### Anti-Chip Coating

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Products</th>
</tr>
</thead>
</table>
| 1    | Pre-Cleaning | - 3M™ Car Wash Soap Concentrate, 1 gallon, PN 69572  
- 3M™ All Purpose Cleaner and Degreaser Concentrate, 1 gallon, PN 39300  
- 3M™ General Purpose Adhesive Remover, PN 39030  
- 3M™ All Purpose Cleaner and Degreaser Concentrate, 1 gallon, PN 39300 |
| 2    | Removal of Heavy Surface Contaminates | - 3M™ All Purpose Cleaner and Degreaser Concentrate, 1 gallon, PN 39300 |
| 3    | OEM Coating Removal | - 3M™ Scotch-Brite™ Plus Cleaning Disc, 10 in, PN 39160  
- 3M™ Scotch-Brite™ Cleaning Disc, 7 in, PN 39160  
- 3M™ Scotch-Brite™ Cleaning Disc, 7 in, PN 39160 |
| 4    | Filling/Leveling Surface | - 3M™ Platinum™ Plus Finishing Disc, 5 in, PN 39146  
- 3M™ Platinum™ Plus Finishing Disc, 5 in, PN 39146 |
| 5    | Sanding and Primer | - 3M™ No. 60761° Fine Abrasive Paper, 9 in, 100 grit, PN 39170 |
| 6    | Sanding Primer | - 3M™ No. 60761° Fine Abrasive Paper, 9 in, 100 grit, PN 39170 |
| 7    | Masking | - 3M™ Scotch-Brite™ Plus Cleaning Disc, 10 in, PN 39160  
- 3M™ Scotch-Brite™ Cleaning Disc, 7 in, PN 39160  
- 3M™ Scotch-Brite™ Cleaning Disc, 7 in, PN 39160 |
| 8    | Coating Test Panel | - 3M™ Scotch-Brite™ Plus Cleaning Disc, 10 in, PN 39160  
- 3M™ Scotch-Brite™ Cleaning Disc, 7 in, PN 39160  
- 3M™ Scotch-Brite™ Cleaning Disc, 7 in, PN 39160 |
| 9    | Apply Coating | - 3M™ Scotch-Brite™ Plus Cleaning Disc, 10 in, PN 39160  
- 3M™ Scotch-Brite™ Cleaning Disc, 7 in, PN 39160  
- 3M™ Scotch-Brite™ Cleaning Disc, 7 in, PN 39160 |
| 10   | Blend Sanding | - 3M™ 3M™ Scotch-Brite™ Cleaning Disc, 7 in, PN 39160  
- 3M™ Scotch-Brite™ Plus Cleaning Disc, 10 in, PN 39160  
- 3M™ Scotch-Brite™ Cleaning Disc, 7 in, PN 39160 |

Visit www.3MCollision.com for more SOPs and videos

For ordering information, contact your 3M Sales Representative
Negotiation Question # 1 – Summary

It has been established and proved thru the source documentation it is required to restore gravel guard in order to return the vehicle to pre-accident condition.
Question 2.
Is it included?
2. Is applying gravel guard or chip guard included in any other labor operations?

Answer: No, it is not included.

Answer Documentation:

- According to the three major Information Providers applying gravel guard is not-included with any other labor operation.

The additional labor to match the OE texture is also a not-included operation.
AudaExplore

Refinish Operations

AudaExplore refinish labor generally includes time to perform all operations necessary to accomplish refinish for new and undamaged OEM or equivalent panels. AudaExplore 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. AudaExplore refinish times are for single panels unless otherwise noted.

Two Stage

NOT Included:

- Chipguard application (see page 147)

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*
- HandWet 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 38 inches surrounding the panel and masking of glass within a panel. This includes using backtapeing and/or foam tape to close out the gap between panels. If backtapeing and/or foam tape does not adequately prevent overspray from entering the jamb areas, any additional masking to protect the interior and jamb 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 backtapeing 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
- Mask mouldings
- Spray additional test panel
- Blending into adjacent panels (see Blending, page 148)
- Color Safran Red (see page 149)
- Chipguard application (see page 147)
- Gravel guard (see Chipguard, 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, PerPro or Shoplink. The current version of the Database Reference Manual may also be found at www.honda.audatex.com."
Stone Chip Guard (Protective Material)

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.

- First panel:
  - Add 0.5 per panel
- Each additional panel:
  - Add 0.3 per panel

INCLUDED:

- Up to a 12" height

DOES NOT INCLUDE:

- Texture matching

Source: CCC/Motor Guide to Estimating, Rev. 9-14, Page G38
GUIDE TO ESTIMATING

THREE-STAGE COLOR BLEND
(Adjacent Panels) - Continued

INCLUDED (continued):
- Bonding/adhesion cost application
- Clean component (solvent/detergent wash)
- Clean in preparation for material application
- Clear coat application (full blend panel if required)
- Cover/mask recessed edges/jambs
- Panel preparation (when required)
- Mask adjacent panels ( drei-foot perimeter)
- Mask/dose gap between adjacent panels up to front tape (overspray)
- Mask glass opening
- Mask/protect grille-radiator opening (overspray)
- Remove masking

DOES NOT INCLUDE:
- Correction of pre-existent surface imperfections
- Damage repair
- Masking of attached parts
- Material costs
- R&I of attached parts
- Wet sand and/or buff for polishing
- Test spray-out panel

TWO-TONE REFINISHING
(Second Color Tone Application)

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.

- First panel:
  - Add 40% to refinish time
- Each additional panel:
  - Add 50% to refinish time

STONE CHIP GUARD
(Protective Material)

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 underside color is a different color than the exterior body color. Clear coat (gloss or matte) will be required for base color coat applications.

- First panel:
  - Add 5.5 per panel
- Each additional panel:
  - Add 6.3 per panel

INCLUDED:
- Up to a 12” height

DOES NOT INCLUDE:
- Texture matching

UNDERSIDE OF HOODS, LIDS OR GATES

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 allow for

INCLUDED:
- Refer to specific vehicle test for estimated time allowance
- Use full refinish time without deduction for overlap

DOES NOT INCLUDE:
- Clear coat
- Color tinter
- Mixing a different underside color
Mitchell

Not Included Operations

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

Source: Portions Copyright 2012, Mitchell International, Inc. – Mitchell P-Pages, Page 16
Procedure Explanation

**Bumper Assembly O/H**

**Included Operations**
- Remove and install assembly
- Disassemble and replace damaged parts
- Replace or transfer parts attached except those listed in Not Included Section
- Remove and install or replace: License plate bracket
- Assemble and install
- Adjust alignment to vehicle

**Not Included Operations**
- Refinish bumper
- Remove and replace impact absorbers or mounting arms
- Remove and install or replace optional accessories (example: trailer hitch, trailer connector)
- Remove and install adhesive exterior trim; add to clean and relace
- Replace new adhesive exterior trim; deduct one-half of R&R time
- Install stripes, decals, transfers or overlays

**Procudure 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 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, leather 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 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 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: FRONT HEADER, FENDER, HOOD, COIL 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, LIFT 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.

**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.**

**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.**

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

**Included Operations**
- Solvent wash
- Souffle 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 clean
- Mix materials
- Adjust spray equipment
- Apply color
- Clean equipment

**Not Included Operations**
- Blending into adjacent panel and/or panels, or nearest breaking point
- 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 vehicle bagging when required: add .2 hour for each application & removal
- Mask interior to prevent overspray damage
- Removal of protective coatings
- Removal of release agent from OEM raw plastic components (example: non-primed bumper covers) See formula under Raw Substrate Prep
- Feather, Prime & Block paint damage to adjacent panel and/or panels joined by weld, due to bump damage/Corer, Feather, Prime & Block definition under Refinish General Information

**Gravel guard refresh: add .5 hour for the first major panel and 3 hour for each additional panel.**

**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 "texture" match.

It may be necessary to tint or otherwise modify non-exterior colors applied to undersides, edges and/or jambas for which there is no paint color formulas 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.
Negotiation Question # 2 – Summary

It has been established and proved thru the source documentation that additional labor operations is not included to restore gravel guard.
Question 3.
Are there pre-determined times?
3. Are there pre-determined times for applying gravel guard or chip guard?

Answer: Yes, there are pre-determined times for applying gravel guard or chip guard.

Answer Documentation:

The Information Providers provide pre-determined times for applying gravel guard or chip guard as follows:

<table>
<thead>
<tr>
<th></th>
<th>AudaExplore</th>
<th>CCC/MOTOR</th>
<th>Mitchell</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gravel Guard / Chip Guard Formula</td>
<td>.3 for first panel and .2 for each additional panel</td>
<td>Chip Guard = .5 for the first panel and .3 for each additional panel</td>
<td>Gravel guard finish = .5 for the first panel and .3 for each additional panel</td>
</tr>
</tbody>
</table>

The original source documents from the leading Information Providers follow.

If you disagree with the time provided by the Information Providers, you can submit a request to the DEGWeb.org website.

- DEG Inquiry #4590
- DEG Inquiry #6851

The DEG Database Inquiry documentation follows.
**AudaExplore**

**Chipguard**

The application of chipguard material to the lower portions of panels (up to 8” of protection) is automated in the Audex system and can be selected on a panel-by-panel basis.

**AudaExplore’s chipguard formula is:**

- 0.3 for the first panel and 0.2 per each additional panel.

**Note:** This formula can be used to determine time to apply chipguard material only, and does not account for texturing or finish matching of any kind. Today’s vehicles often require exact-match texturing in the chipguard process. These cases are not addressed by this calculation and must be considered individually at time of inspection.

Section 4-4 Refinish Guidelines

Exterior and Interior Surfaces

Three-stage provides time both for exterior and interior surfaces including edges, jambs, and undersides. Three-stage interior surfaces must be selected in conjunction with three-stage exterior. To provide time for three-stage of exterior surfaces and two-stage of interior surfaces, both options must be selected.

User-overridden values: For user-entered refinish values, Audatex will provide an additional 20% to clear coat the entire panel. The user supplies the value for the color coat and the mica coat.

Four-stage

Some vehicle manufacturers occasionally use a four-stage refinish process. At the manufacturer level, four-stage refinish is the same process as three-stage with an additional clear coat between the base and mica coat. This does not need to be duplicated in the repair process.

When these vehicles are being repaired, the three-stage process applies.

Two-Tone

Audatex's single-stage refinish times provide a consistent, reliable, and accurate base upon which to add time for the two-tone process.

Audatex's two-tone formula is:

- Setup time of 0.4 estimate hours upon selection of the first two-tone panel, plus 30% of Audatex estimate refinish labor per panel selected. Two-tone is automated in the Audatex system and can be selected as an operation on a panel-by-panel basis.

Chipguard

The application of chipguard material to the lower portions of panels (up to 8" of protection) is automated in the Audatex system and can be selected on a panel-by-panel basis.

Audatex's chipguard formula is:

- 0.3 for the first panel and 0.2 per each additional panel.

Note: This formula can be used to determine time to apply chipguard material only, and does not account for texturing or finish matching of any kind. Today's vehicles often require exact-match texturing in the chipguard process. These cases are not addressed by this calculation and must be considered individually at time of inspection.
DEG INQUIRY #4590

DEG#4590

Inquiry Description

Chip Guard

Section 6_Area Vehicle
Rocker Panel

Section 6_Issue Summary
The time for applying chip guard is low.

Section 6_Special
SEM Rocker chip guard material requires one to three coats, with 10-15 min. flash time between coat and a 30 min. flash time after final coat; then a sealer (DUPONT sealer) then sealer needs 10 min. to flash.

Section 6_Estimated Surface
150 square inches

Section 6_Suggested Action
For an entire panel please change time from 0.3 to 2.0 hours under refinish labor. Also, if a blend refinish operation could be added for other panels that would be helpful.

Resolution Description

We have reviewed your inquiry and this issue is addressed in the reference manual (see attachment), the (0.3) is for the application time only and any other finish matching needs to be considered individually. The system is working as designed, no other changes are warranted at this time.

### DEG DATABASE INQUIRY

<table>
<thead>
<tr>
<th>Track_#</th>
<th>Estimating Platform</th>
<th>Inquiry Category</th>
<th>Year Make Model</th>
<th>Resolution Status</th>
<th>Origination Date</th>
<th>Submission Date</th>
<th>Resolution Date</th>
<th>Resolution Time to Resolve</th>
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</thead>
<tbody>
<tr>
<td>4590</td>
<td>Audatex</td>
<td>- Refinish Operations</td>
<td>2012 Honda Civic</td>
<td>Resolved</td>
<td>5/29/2012 3:06:15 PM</td>
<td>5/31/2012 10:20:00 AM</td>
<td>6/8/2012 12:17:00 PM</td>
<td>06 Days</td>
</tr>
</tbody>
</table>

#### Inquiry Description

- **Section6_AreaVehicle**
  - Rocker Panel

- **Section6_IssueSummary**
  - The time for applying chip guard is low.

- **Section6_Special**
  - SEM Rocker chip guard material requires one to three coats, with 10-15 min. flash time between coats and a 30 min. flash time after final coat; then a sealer (DUPONT sealer) then sealer needs 10 min. to flash.

- **Section6_EstimatedSurface**
  - 150 square inches

- **Section6_SuggestedAction**
  - For an entire panel please change time from 0.3 to 2.0 hours under refinish labor. Also, if a blend refinish operation could be added for other panels that would be helpful.

#### Resolution Description

We have reviewed your inquiry and this issue is addressed in the reference manual (see attachment), the (0.3) is for the application time only and any other finish matching needs to be considered individually. The system is working as designed, no other changes are warranted at this time.

DEG INQUIRY #6851

DEG#6851

Inquiry Description
Chip Guard
Section 6_Area Vehicle
RT Bedside Panel

Section 6_Issue Summary
The time for replacing chipguard in the system on the bedside panel after a repair is listed at .3 hours on a long box. We feel that this time should be increased to at least 1.0 hour.

Section 6_Estimated Surface
length of bedside x 8 inches

Section 6_Suggested Action
Increase refinish time on chipguard.

Resolution Description
The AudaExplore Database Reference Manual defines chipguard as follows. No changes are warranted.

Chipguard -The application of chipguard material to the lower portions of panels (up to 8" of protection) is automated in the AudaExplore system and can be selected on a panel-by-panel basis. AudaExplore\'s chipguard formula is: \(X \times 0.3\) for the first panel and 0.2 per each additional panel.

Note: This formula can be used to determine time to apply chipguard material only, and does not account for texturing or finish matching of any kind. Today\'s vehicles often require exact-match texturing in the chipguard process. These cases are not addressed by this calculation and must be considered individually at time of inspection.

<table>
<thead>
<tr>
<th>Track_#</th>
<th>Estimating Platform</th>
<th>Inquiry Category</th>
<th>Year Make Model</th>
<th>Resolution Status</th>
<th>Origination Date</th>
<th>Submission Date</th>
<th>Resolution Date</th>
<th>Total Time to Resolve</th>
</tr>
</thead>
</table>

### Inquiry Description

**Chip Guard**

- Section5_AreaVehicle
- RT Bedside Panel

**Section5_IssueSummary**

The time for replacing chipguard in the system on the bedside panel after a repair is listed at .3 hours on a long box. We feel that this time should be increased to at least 1.0 hour.

- Section5_EstimatedSurface
- length of bedside x 8 inches

- Section5_SuggestedAction
- Increase refinish time on chipguard.

### Resolution Description

**IP Explanation**

The Audatex Database Reference Manual defines chipguard as follows. No changes are warranted.

**Chipguard**

The application of chipguard material to the lower portions of panels (up to 8" of protection) is automated in the Audatex system and can be selected on a panel-by-panel basis.

Audatex's chipguard formula is:

\[ X \times n \times 0.3 \] for the first panel and 0.2 per each additional panel.

**Note:** This formula can be used to determine time to apply chipguard material only, and does not account for texturing or finish matching of any kind. Today's vehicles often require exact-match texturing in the chipguard process. These cases are not addressed by this calculation and must be considered individually at time of inspection.

CCC/MOTOR

Stone Chip Guard (Protective Material)

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.

- First panel:
  - Add 0.5 per panel
- Each additional panel:
  - Add 0.3 per panel

INCLUDED:

- Up to a 12" height

DOES NOT INCLUDE:

- Texture matching

Source: CCC/Motor Guide to Estimating, Rev. 9-14, Page G38
**Guide to Estimating**

**Three-Stage Color Blend (Adjacent Panels) - Continued**

**Included (continued):**
- Boning/adhesion coat application
- Clean component (solvent/detergent wash)
- Clean in preparation for material application
- Clear coat application (full blend panel if required)
- Cover/mask recessed edges/jambs
- Panel preparation (when required)
- Mask adjacent panels (three-foot perimeter)
- Mask/clear gap between adjacent panels up to front tape (overspray)
- Mask glass opening
- Mask/protect grille/radiator opening (overspray)
- Remove masking

**Does Not Include:**
- Correction of pre-existent surface imperfections
- Damage repair
- Masking of attached parts
- Material costs
- RMI of attached parts
- Wet sand and/or buff for polishing
- Test spray-out panel

**Stone Chip Guard (Protective Material)**

**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:

- First panel:
  - Add 9.5 per panel
- Each additional panel:
  - Add 9.0 per panel

**Included:**
- Up to a 12” height

**Does Not Include:**
- Texture matching

**Two-Tone Refinishing (Second Color Tone Application)**

**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. The following formula may be superseded by information published in specific parts text. Calculations should be made after deductions for overlap and additions for edges, if required.

- First panel:
  - Add 40% to refinish time
- Each additional panel:
  - Add 30% to refinish time

**Underside of Hoods, Lids or Gates**

**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 underside 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 vehicle text for estimated time allowance
- Use full refinishing time without deduction for overlap

**Does Not Include:**
- Clear coat
- Color tinting
- Mixing a different underside color

---

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.

---

Source: CCC/Motor Guide to Estimating, Rev. 9-14, Page G38
Procedure 28 – Refinish Procedure

Not Included Operations

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

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Procedure Explanation

Bumper Assembly O/H
Included Operations
- Remove and install assembly
- Disassemble and replace damaged parts
- Replace or transfer parts except those listed in Not Included Section
- Replace and install or replace License plate bracket
- Assemble and install
- Adjust alignment to vehicle

Not Included Operations
- Replace bumper
- Remove and replace impact absorbers or mounting arms
- Remove and install or replace optional accessories (example: trailer hitch, trailer connector)
- Remove and install adhesive exterior trim, add to clean and retape
- Replace new adhesive exterior trim, deduct one-half of R&R time
- Install stripes, decals, transfers or overlays

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 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

Repainted/Used Panels
Labor rates 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 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 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: 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, LIFT 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 4.9 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 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 clean
- Mix materials
- Adjust spray equipment
- Apply color
- Clean equipment

Not Included Operations
- Blending into adjacent panel and/or panels, or nearest breaking point
- 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 vehicle bagging when required: add .2 hour for each application & removal
- Mask interior to prevent overspray damage
- Removal of protective coatings
- Removal of release agent from OEM raw plastic components (example: non-primered bumper covers) See formula under Raw Substrate Prep
- Feather, Prime & Block paint damage to adjacent panel and/or panels joined by welding due to burn damage (see Feather, Prime & Block definition)

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 is identified by the paint manufacturers as highly transparent. These 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 refinishing may be necessary beyond the actual replacement area to achieve a “feature” match.

It may be necessary to tint or otherwise modify non-exterior colors applied to undersides, edges and/or jams 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.
Negotiation Question # 3 – Summary

Pre-determined times for restoring gravel guard has been clearly identified by the Information Providers.
Question 4.
What is it worth?
4. What is it worth?

Answer: Since there are pre-determined times for gravel guard and chip guard, use the formulas provided by the Information Providers.

<table>
<thead>
<tr>
<th>Gravel Guard / Chip Guard Formula</th>
<th>AudaExplore</th>
<th>CCC/MOTOR</th>
<th>Mitchell</th>
</tr>
</thead>
<tbody>
<tr>
<td>.3 for first panel and .2 for each additional panel</td>
<td>Chip Guard = .5 for the first panel and .3 for each additional panel</td>
<td>Gravel guard finish = .5 for the first panel and .3 for each additional panel</td>
<td></td>
</tr>
</tbody>
</table>
**Additional Thoughts**

- Masking is required for this operation and is a not-included operation
- Additional labor to match OE texture may be needed
- Different types of texture looks are achieved by various techniques. You may need to use different nozzles, air pressure, etc.
- Everything is for sprayable chip or gravel guard. It does not apply to decals
- If a vehicle doesn't have rocker covers, it will have some form of gravel or chip guard
- 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