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Introduction

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

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

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

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

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

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

Seam sealers include a variety of materials with varying viscosities used to weatherproof and seal out water, fumes, dirt and any other contaminants from the joints that are created by overlapping parts when the vehicle is assembled.

Whenever two panels are joined together – whether by welding or with mechanical fasteners – a seam exists at the overlapping areas. The edges and contact surfaces of these panels are potential corrosion hot spots and the necessary steps must be taken to protect them.

There are several different types of sealants:

- Brushable
- Sprayable
- One part
- Two part
- Self leveling

Consider the following when evaluating the repair:

1. Remove seam sealer
2. Replace the seam sealer
   - Bolted
3. Additional labor to match OE appearance
Photo Documentation
Photo Documentation
### Justifying Each Line on the Repair Plan

<table>
<thead>
<tr>
<th>1. Is it required?</th>
<th>2. Is it included?</th>
<th>3. Is there a predetermined time?</th>
<th>4. If not, what is it worth?</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALLDATA®, TechAdvisor, etc.</td>
<td>ASA Not-Included Charts</td>
<td><a href="http://www.DEGweb.org">www.DEGweb.org</a></td>
<td>Print an Invoice</td>
</tr>
<tr>
<td>Paint Manufacturer’s Bulletins</td>
<td><a href="http://www.DEGweb.org">www.DEGweb.org</a></td>
<td></td>
<td>OEM Warranty Times</td>
</tr>
<tr>
<td>Material Manufacturer’s Bulletins (3M, Wurth, Kent, etc.)</td>
<td><a href="http://www.estimatescrubber.com">www.estimatescrubber.com</a></td>
<td></td>
<td>Equipment Manufacturer’s Bulletins</td>
</tr>
<tr>
<td>Equipment Manufacturer’s Bulletins</td>
<td>SCRS Guide to Complete Repair Planning</td>
<td></td>
<td>ALLDATA®, TechAdvisor, etc. Times</td>
</tr>
<tr>
<td>Internet</td>
<td></td>
<td></td>
<td>Internet</td>
</tr>
<tr>
<td>Scan Tools</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>The Vehicle</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Question 1.
Is it required? (Bolted)
Four Negotiation Questions

1. Is it required to apply seam sealer to a bolted-on panel in order to return the vehicle back to pre-accident condition?

   **Answer:** Yes, it may be required to apply seam sealer to a bolted-on panel in order to return the vehicle back to pre-accident condition.

   **Answer Documentation:**
   - 3M
   - Ford
   - GM
   - Toyota

   **The supporting documents follow.**
3M

Door Skin Replacement – Steel Repair Procedures Poster

Step 1. Door Frame Preparation: Using a grade 80 abrasive belt, remove remaining weld nugget material from door frame. Clean and prep remaining mating flanges on door frame with a coarse Scotch-Brite™ Belt.

Step 2. Clean: Clean door frame and replacement panel mating flange areas with a VOC compliant surface cleaner.

Step 3. Replacement Skin Prep: Scuff replacement skin mating flange areas using Scotch-Brite™ Hand Pad.

Step 4. Dry Fit Panel: Dry fit replacement panel and complete any necessary metal straightening at flanges areas. Remove door skin in preparation for adhesive application.

Step 5. NVH Replacement: Apply NVH material at original locations on intrusion beam.

Step 6. Apply Bonding Adhesive: Re-clean bonding surfaces with a VOC compliant surface cleaner. Apply adhesive to door frame covering all bare metal areas. Apply an additional bead of adhesive at mating flange areas to ensure proper bond line thickness.

Step 7. Install Door Skin: Install replacement door skin onto door frame. Crimp hem flange using hammer and dolly. Clamp as necessary. (For aluminum panels, follow OEM recommended flanging procedures.)

Step 8. Clamp and Cure: Follow recommended adhesive clamp and cure times. Clean any adhesive squeeze out from hem flange area with a VOC compliant cleaner.

Step 9. Seam Sealing: Re-apply seam sealer to hem flange as requested following general seam sealing guidelines.

<table>
<thead>
<tr>
<th>Door Skin Replacement</th>
<th>Product List</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Door Frame Preparation</strong></td>
<td>+ 3M™ Max Sealant, PN 31060</td>
</tr>
<tr>
<td></td>
<td>+ 3M™ Hardener, PN 15001</td>
</tr>
<tr>
<td></td>
<td>+ Scotch-Brite™ Abrasive Pad, 08412</td>
</tr>
<tr>
<td><strong>2. Clean</strong></td>
<td>+ Scotch-Brite™ 3M File Belt, grade 90, PN 15040</td>
</tr>
<tr>
<td></td>
<td>+ Scotch-Brite™ Durafile Fine Belt, O-8, PN 39187</td>
</tr>
<tr>
<td><strong>3. Replacement Skin Prep</strong></td>
<td>+ Scotch-Brite™ 3M File Belt, grade 90, PN 15040</td>
</tr>
<tr>
<td></td>
<td>+ Scotch-Brite™ Durafile Fine Belt, O-8, PN 39187</td>
</tr>
<tr>
<td><strong>4. Dry Fit Panel</strong></td>
<td>+ Scotch-Brite™ 3M File Belt, grade 90, PN 15040</td>
</tr>
<tr>
<td></td>
<td>+ Scotch-Brite™ Durafile Fine Belt, O-8, PN 39187</td>
</tr>
<tr>
<td><strong>5. NVH Replacement</strong></td>
<td>+ 3M™ Acoustical Bonding Material, PN 40704</td>
</tr>
<tr>
<td></td>
<td>+ 3M™ 9155 Spray Adhesive, PN 08581</td>
</tr>
<tr>
<td><strong>6. Apply Bonding Adhesive</strong></td>
<td>+ 3M™ 9051 Acoustical Bonding Adhesive, PN 08670</td>
</tr>
<tr>
<td></td>
<td>+ 3M™ 9051 Acoustical Bonding Adhesive, PN 08670</td>
</tr>
<tr>
<td><strong>7. Install Door Skin</strong></td>
<td>+ 3M™ 9051 Acoustical Bonding Adhesive, PN 08670</td>
</tr>
<tr>
<td></td>
<td>+ 3M™ 9051 Acoustical Bonding Adhesive, PN 08670</td>
</tr>
<tr>
<td><strong>8. Clamp and Cure</strong></td>
<td>+ 3M™ 9051 Acoustical Bonding Adhesive, PN 08670</td>
</tr>
<tr>
<td></td>
<td>+ 3M™ 9051 Acoustical Bonding Adhesive, PN 08670</td>
</tr>
<tr>
<td><strong>9. Seam Sealing</strong></td>
<td>+ 3M™ 9051 Acoustical Bonding Adhesive, PN 08670</td>
</tr>
<tr>
<td></td>
<td>+ 3M™ 9051 Acoustical Bonding Adhesive, PN 08670</td>
</tr>
</tbody>
</table>

3M

General Seam Sealer Application: Non-Direct to Metal – Steel Repair Procedures Poster

**Step 1. Surface Prep:** Cover all bare metal areas with a quality Urethane or Epoxy two part primes. After allowing to cure as per manufacturers recommendations, scuff primer in sealer application areas using a maroon Scotch-Brite™ Hand Pad. Blow off with clean, dry air.

**Step 2. Clean:** Use a clean cloth or paper towel to clean repair areas with all purpose cleaner and degreaser followed by a VOC compliant wax and grease remover. DO NOT spray or saturate seams with cleaner.

**Step 3. Apply Seam Sealer:** Apply seam sealer over the prepared seam. Tool to re-create OEM appearance.

Source: AAD_2014_SOP_Steel_General_Seam_Sealer_Application_Non_DTM.pdf. St. Paul: 3M Automotive Aftermarket Division, 2014. PDF.
### General Seam Sealer Application: Non-Direct to Metal

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Product List</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Surface Prep</td>
<td>Cover all bare metal areas with a quality undercoat or anti-rust preparation primer. After allowing to cure according to manufacturer’s recommendations, sand primer or undercoating areas using a random orbital sander. Hand sand with 80-grit, then 120-grit, up to 220-grit.</td>
<td></td>
</tr>
</tbody>
</table>
| | | • Scotch-Brite® Non-Scratch Hand Pad, 4½ w. x 3½ h. x 0½ d. 
| 2. Clean | Use a clean cloth or paper towel to clean repair area with all purpose cleaner and degreaser followed by a fast-drying solvent and paper towel. Roll off any excess solvent with clean cloth. | 
| | | • 3M® All Purpose Cleaner and Degreaser Concentrate, 1 gallon, PN 39360 |
| 3. Apply Seam Sealer | Apply seam sealer over the prepared areas. Tool to ensure smooth application. | 
| | | • 3M® Urethane Seam Sealer, PN 36361 |
| | | • 3M® 400P Seam Sealer, PN 36370 |
| | | • 3M® 400P Sprinkle Seam Sealer, PN 36310 |
| | | • 3M® Wrinkle Release Seam Sealer, 300ml, PN 36320, 3003, 36330 |
| | | • 3M® 12B Bond Multi-Purpose Adhesive 15, 300ml, PN 36367, 36371, 36330 |
| | | • 3M® 1500-4 Bond Multi-Purpose Adhesive 15, 300ml, PN 36367 |

Visit www.3M.com for more SOPs and videos. For ordering information, contact your 3M Sales Representative.

---

Source: AAD_2014_SOP_Steel_General_Seam_Sealer_Application_Non_DTM.pdf. St. Paul: 3M Automotive Aftermarket Division, 2014. PDF.
Sealer Coating Removal – Steel Repair Procedures Poster

**Step 1. Pre-Cleaning:** Prewash/clean vehicle prior to disassembly (power wash undercarriage area at repair).

**Step 2. Method A:** Use Scotch-Brite™ Clean N Strip Disc to remove seam sealer and coatings where accessible.

**Step 3. Method B:** Use CRS Scotch-Brite™ Belt to remove coatings and seam sealers in hard to reach areas.

<table>
<thead>
<tr>
<th>Sealer Coating Removal</th>
<th>Product List</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 Pre-Cleaning</strong></td>
<td></td>
</tr>
<tr>
<td>Wash/clean vehicle prior to disassembly. Apply wash undertray areas at rear.</td>
<td></td>
</tr>
<tr>
<td><strong>2 Method A</strong></td>
<td></td>
</tr>
<tr>
<td>Use Scotch-Brite™ Clean N Strips to remove seam sealer and coatings where accessible.</td>
<td></td>
</tr>
<tr>
<td><strong>3 Method B</strong></td>
<td></td>
</tr>
<tr>
<td>Use 3M Scotch-Brite™ pads to remove sealers and then remove it neat to rough surfaces.</td>
<td></td>
</tr>
</tbody>
</table>

**Think About Your Health**
- 3M™ Safety Spectacles
- 3M™ Rubberized N95 Mask
- 3M™ Yellow N95 Mask
- 3M™ Disposable Earplugs
- 3M™ Hearing Conservation Program

**Source:** AAD_2014_SOP_Steel_Sealer_Coating_Removal.pdf. St. Paul: 3M Automotive Aftermarket Division, 2014. PDF.
Corrosion Protection – Seam Sealer Negotiation Tool

Reference Information

Organization: Ford Paint and Body Technology Center

Document
Type: Letter of Approval
Name: Approval of 3M Panel Bonding Adhesives and Sealers
Number: N/A
Issued: September 23, 2008

Description
Vehicles: ALL Ford Vehicles
Purpose: This letter is to inform you of my approval to label 3M’s Panel Bonding Adhesive (PN08115 and PN08116) as meeting Ford Specifications - specifically, WSS-M52410-A2. In addition, I also approve the labeling of your excellent line of Autovin and Duramin Seam Sealers and Expandable Foams as being Ford approved. My extensive evaluation of these products at the Ford Paint and Body Technology Center, as part of "Real World" projects, has shown your products line to be complete, reasonably priced, and readily available to serve my Ford Dealership Bodyshop needs. As always, we highly value your continued support and partnership at the Technology Center, and look forward to many more years of working together to develop optimal body repair solutions.

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:
- PN08115 3M™ Panel Bonding Adhesive
- PN08116 3M™ Panel Bonding Adhesive
- 3M Seam Sealers
- 3M Expandable Foams

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:
Gerry Bonanni
Ford Customer Service Division
Paint/Body Senior Technical Engineer

**Reference Information**

**Organization:** General Motors Company

**Document**
- **Type:** Service Bulletin
- **Name:** Application Guidelines and Availability of Liquid Applied Sound Deadening (LASD) Materials
- **Number:** 07-08-51-001
- **Issued:** March 2007

**Description**
- **Purpose:** The above vehicles have sound damping materials applied during production. In some areas, these are sprayed-on products referred to as Liquid Applied Sound Dampeners (LASD). These materials must be replaced if repair work forces affected panel replacements. The included chart outlines the current approved products that meet GM guidelines for sound deadening materials.
- **Note:** Refer to the manufacturer's recommendations for proper application.

**3M Products:**
- **Included:** PN6374, 3M™ MSP Sprayable 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.GenuineGMParts.com
- www.ACDelcoTDS.com
- www.Collision.ALLDATA.com

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Reference Information

Organization: General Motors Company

Document Type: Service Bulletin
Name: Application Guidelines and Availability of Liquid Applied Sound Dampening (LASD) Materials
Number: 07-08-51-001
Issued: March 2007

Description:

Vehicles: 2007 Cadillac Escalade Models, Chevrolet Avalanche, Silverado, Suburban, Tahoe, GMC Acadia, Sierra, Yukon, Yukon XL, Yukon Denali, Yukon Denali XL, Saturn Outlook

Purpose: This bulletin covers vehicles that have sound damping materials applied during production. In some areas, there are sprayed-on products referred to as Liquid Applied Sound Dampeners (LASD). These materials must be replaced if repair work forces affected panel replacements.

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: PN08374 3M™ MSP Sprayable Seam Sealer

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

Source: www.GenuineGMParts.com
www.Collision.ALLDATA.com

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Reference Information

Organization: General Motors Company

Document
Type: Service Information
Name: Information on Hem Flange Sealer for Corrosion Protection
Number: 06-08-51-005B
Issued: April 30, 2012

Description
Vehicles: 2013 and Prior
GM Passenger Cars and Trucks.

Purpose: Metal or aluminum overlap joints and seams, commonly referred to as hem flanges, on replacement doors, hoods, decklids, and liftgates should be sealed to prevent moisture from entering the bonded hem flange using a quality 2K sealer. This bulletin includes acceptable-quality sealers, as well as application criteria.

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: PH9300B 3M™ Heavy-Bodied 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.GenuineGMParts.com
www.Collision.ALLDATA.com

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Toyota CRIB 82

Reference Information

Organization: Toyota Motor Corporation

Document
Type: Collision Repair Information Bulletin
Name: ANTI-CORROSION TREATMENT
Number: Bulletin #082
Issued: December 1997

Description
Vehicles: ALL MODELS

Purpose: To prevent corrosion and reduce interior noise when replacing body panels, always apply corrosion inhibiting and sound dampening materials such as body sealer, cavity wax, undercoating and body foam according to Toyota recommendations.

These recommendations can be found in the Anti-Rust Treatment (AR) section of the model specific Repair Manual for Collision Damage publication. Collision repair manuals can be obtained through a Toyota dealership parts department.

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

3M Products:
Included:
- 3M™ Rust-Fighter-I, Aerosol
- 3M™ Rust-Fighter-I, Quart
- 3M™ Rubberized Undercoating
- 3M™ Body Schultz™ Rubberized Coating
- 3M™ Flexible Foam

PN08892 3M™ Self Leveling Seam Sealer
PN08891 3M™ Heavy Bodied Seam Sealer
PN08883 3M™ Urethane Sealant
PN08664 3M™ Urethane Sealant
PN08463 3M™ Weld-Thru II

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

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

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Corrosion Protection – Seam Sealer Negotiation Tool
Version 2.0, November 12, 2015
Negotiation Question # 1 – Summary

It has been established and proved thru the source documentation it is required to apply seam sealer to a bolted-on panel in order to return the vehicle to pre-accident condition.
Question 2. Is it included? (Bolted)
2. Is applying seam sealer to bolted-on panels included in any other labor operation?

**Answer:** No, applying seam sealer to bolted-on panels is not included with any other labor operation.

**Answer Documentation:**

1. The Information Providers state that applying seam sealer to bolted-on panels is not included in any other labor operation.
   - AudaExplore
   - CCC/MOTOR

2. There are also DEG Database Task Force Inquiries that say that applying seam sealer to bolted-on panels is not included with any other labor operation.
   - DEG Database Inquiry #645 – CCC/MOTOR
   - DEG Database Inquiry #3683 – Mitchell

The original source documents follow.
Hood Replacement and Recycled

<table>
<thead>
<tr>
<th>New Part Replacement (OEM and non-OEM new parts) Operations</th>
<th>Recycled Part Replacement Operations</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Included Operations</td>
<td>Not Included Operations</td>
<td>Seam Sealing</td>
</tr>
<tr>
<td>✅</td>
<td>✗</td>
<td></td>
</tr>
</tbody>
</table>

Section 4-3 Replacement & Recycled Operations

Refer to the AudaExplore Labor Report for Operations Specific to the Vehicle Being Repaired

### Hood

**Hood Replacement and Recycled**

Recycled panel replacement may or may not be recommended by the vehicle manufacturer.

<table>
<thead>
<tr>
<th>New Part Replacement (OEM and non-OEM new parts) Operations</th>
<th>Recycled Part Replacement Operations</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Included Operations</td>
<td>Not Included Operations</td>
<td></td>
</tr>
<tr>
<td>√</td>
<td>√</td>
<td>Hood R&amp;I at hinges / hydraulic rod</td>
</tr>
<tr>
<td>√</td>
<td>√</td>
<td>Hood lamp R&amp;I (when required)</td>
</tr>
<tr>
<td>√</td>
<td>√</td>
<td>Safety catch R&amp;I (on Hood)</td>
</tr>
<tr>
<td>√</td>
<td>√</td>
<td>Striker R&amp;I (on Hood)</td>
</tr>
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<td>√</td>
<td>√</td>
<td>Weatherstrip (on Hood)</td>
</tr>
<tr>
<td>√</td>
<td>√</td>
<td>Windshield washer hose (when required)</td>
</tr>
<tr>
<td>√</td>
<td>√</td>
<td>Windshield washer nozzles (when required)</td>
</tr>
<tr>
<td>√</td>
<td>√</td>
<td>Air inlet system R&amp;I (when required)</td>
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<td>Reasonable adjustment and alignment (as defined by the manufacturer using conventional fasteners and/or hardware)</td>
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<td>Insulator pad R&amp;I</td>
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<td>Specification labels R&amp;I or replacement</td>
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<td>Trimming, repair, or modification of part</td>
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<td>R&amp;I of mouldings, emblems, nameplates and ornaments</td>
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<td>R&amp;I of non-standard equipment not identified as options</td>
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<td>Disassembly, cleaning, and reassembly of assemblies</td>
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*Any printed copy of this document may not contain the most current information. For the latest version, please refer to the Database Reference Manual accessible through the Help menu in the current release of AudaExplore Estimating, PartPro or Sidekick. The current version of the Database Reference Manual may also be found at www.audapart.com.*

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CCC/MOTOR

HOOD

SPECIAL NOTATION:

Some replacement components may or may not be supplied with duplicated OEM caulk/seam sealer. This is not included in R&R time and requires an on-the-spot evaluation.

Source: CCC/Motor Guide to Estimating, Rev. 9-14, Page G14

DOOR – DOOR SHELL – R&R, HINGED TYPE

SPECIAL NOTATION:

Some replacement components may or may not be supplied with duplicated OEM caulk/seam sealer. This is not included in R&R time and requires an on-the-spot evaluation.

Source: CCC/Motor Guide to Estimating, Rev. 9-14, Page G20
GUIDE TO ESTIMATING

HOOD

SPECIAL NOTATION:
Some replacement components may or may not be supplied with duplicated OEM caulk/seam sealer. This is not included in R&R time and requires on-the-spot evaluation.

INCLUDED:
Disconnect hood at hinges.

- Align to vehicle
- Grille (if attached)
- Hood lamp
- Hood panel R&R
- Insulation
- Scoop
- Safety catch
- Striker
- Washer hose & nozzle (mounted to hood)
- Weatherstrip & seals (mounted to hood)

DOES NOT INCLUDE:
- Emblems & nameplates
- Hinge
- Hood lock
- Moldings & ornamentation
- Side repeater lamp (if mounted to fender)

FENDER – OUTER PANEL

INCLUDED:
- Align to vehicle
- Fenders (if mounted to fender)
- Grille
- Grille panel
- Hood
- Inner panels
- Lamp aiming
- Minor
- Moldings
- Mud guard
- Road wheel
- Spoilers & flares
- Side repeater lamp (if mounted to fender)

DOES NOT INCLUDE:
- Antenna
- Bumper R&I
- Battery
- Emblems & nameplates
- Grille
- Header panel
- Inner panels
- Lamp aiming
- Minor
- Moldings
- Mud guard
- Road wheel
- Spoilers & flares
- Side repeater lamp (if mounted to fender)

FENDER – INNER PANEL

(Welded Apron & Rails)

SPECIAL NOTATION:
Detach and weld at floor pan, radiator support, hinge pillar and cowl panel.

INCLUDED:
- Adhesive application
- Battery tray
- Carpet & insulation
- Fuel tank
- Headlight
- Headlight unit
- Hood
- Inner panels
- Lamp aiming
- Minor
- Moldings
- Mud guard
- Road wheel
- Spoilers & flares
- Side repeater lamp (if mounted to fender)

DOES NOT INCLUDE:
- Adjacent panels
- Air intake system (if necessary)
- Attachment of standard items
- Battery
- Bolted-on parts
- Bumper assembly
- Carpet, insulation or seat R&I
- Cruise control
- Dash panel
- Decals/labels

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 G14
WINDSHIELD GLASS

SPECIAL NOTATION:
Glass, moldings, mounting studs or mounting flange may be damaged or broken during normal service procedures on some applications. MOTOR advises that these factors be considered before performing glass operations in the event unavoidable damage occurs. Time for the removal of old urethane, clean and preparation of sealing surfaces (vehicle and/or glass) should be estimated after an on-the-spot evaluation.

INCLUDED:
- Cowl vent panel/screen (if overlapping glass)
- Rear view mirror/support (attached to glass)
- Reveal & interior molding/trim
- Rubber channel R&I (if installed)
- Test for leaks
- Urethane adhesive application
- Wiper arms

DOES NOT INCLUDE:
- Clean up of broken glass
- Cost of installation material or kit
- Refinish glass pinchweld (epoxy primer)

STATIONARY SIDE GLASS
(Doors, Quarter Panel, or Pillar)

SPECIAL NOTATION:
Glass, moldings, mounting studs or mounting flange may be damaged or broken during normal service procedures on some applications. MOTOR advises that these factors be considered before performing glass operations in the event unavoidable damage occurs. Time for the removal of old urethane, clean and preparation of sealing surfaces (vehicle and/or glass) should be estimated after an on-the-spot evaluation.

INCLUDED:
- Reveal & interior moldings/trim
- Rubber channel (if installed)
- Test for leaks
- Urethane adhesive application

DOES NOT INCLUDE:
- Clean up of broken glass
- Cost of installation material or kit

BACK GLASS

SPECIAL NOTATION:
Glass, moldings, mounting studs or mounting flange may be damaged or broken during normal service procedures on some applications. MOTOR advises that these factors be considered before performing glass operations in the event unavoidable damage occurs. Time for the removal of old urethane, clean and preparation of sealing surfaces (vehicle and/or glass) should be estimated after an on-the-spot evaluation.

INCLUDED:
- Reveal & interior moldings/trim
- Rubber channel (if installed)
- Test for leaks
- Urethane adhesive application
- Wiper arm

DOES NOT INCLUDE:
- Clean up of broken glass
- Cost of installation material or kit
- High-mounted stop lamp

DOOR – DOOR SHELL R&R, HINGED TYPE

SPECIAL NOTATION:
Some replacement components may or may not be supplied with duplicated OEM caulk/sealant. This is not included in R&R time and requires an on-the-spot evaluation. Disconnect at hinges unless otherwise noted in text.

INCLUDED:
- Align to vehicle
- Appliqué
- Belt Molding
- Bonded glass installation
- Door check
- Glass (fixed/movable)
- Hinge halves bolted to door
- Inside handles & bezels
- Internal mechanisms
- Latch mechanisms
- License Lamp (if attached to door)
- License plate (if attached to door)
- Lock & cylinder assembly (if necessary)
- Mirror
- Outside handle
- Regulator
- Speakers
- Trim panel R&I
- Vents
- Weatherstrip (if attached to door)
- Window/runner channel

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.
Inquiry Description

Door Seam Sealer

Issue Summary//MOST ALL DOORS HAVE SEAMSEALER ON SKIN SEAMS, BUT WHEN WE GET A NEW OEM DOOR 99 % OF THE TIME THE DO NOT HAVE SEAM SEALER ON THEM . THE P-PAGES DO NOT SHOW THAT THIS IS INCL, NOR DOES IT SHOW THAT IT IS NOT INCL. ON THIS CAR IT TOOK 1.0 HR PER DOOR TO DUPLICATE THE OEM SEAM SEALER.

Suggested Action//ADD TIME TO DOOR O/H FOR THIS OPERATION AND/OR ADD NOTES IN P-PAGES

No Change

Estimated Fix Date: Closed

Proposed Resolution: MOTOR stated: "After review, we have determined the Estimated Work Time of 4.0hrs for the Door shell is appropriate. For further explanation, please refer to page G20 of the Guide to Estimating Pages, Door Shell R&R Hinged Type: SPECIAL NOTATION: Some replacement components may or may not be supplied with duplicated OEM caulk/seam sealer, this is not included in R&R time requires an on-the-spot evaluation. Disconnect at hinges (unless otherwise noted in text). No changes."

## DEG DATABASE INQUIRY

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### Inquiry Description

**Door Seam Sealer**

Issue Summary:

- MOST ALL DOORS HAVE SEAM SEALER ON SKIN SEAMS.
- BUT WHEN WE GET A NEW OEM DOOR, 99% OF THE TIME THE DO NOT HAVE SEAM SEALER ON THEM. THE P-PAGES DO NOT SHOW THAT THIS IS INCL, NOR DOES IT SHOW THAT IT IS NOT INCL. ON THIS CAR IT TOOK 30 HR PER DOOR TO DUPLICATE THE OEM SEAM SEALER.

Suggested Action:

- ADD TIME TO DOOR O/H FOR THIS OPERATION AND/OR ADD NOTES IN P-PAGES.

### Resolution Description

**No Change**

- Estimated Fix Date: Closed
- Proposed Resolution: MOTOR stated:
  "After review, we have determined the Estimated Work Time of 4.0hrs for the Door shell is appropriate. For further explanation, please refer to page G20 of the Guide to Estimating Pages. Door Shell RSR Hinged Type:
  SPECIAL NOTATION:
  Some replacement components may or may not be supplied with duplicated OEM caulking/seal sealer. this is not included in RSR time. requires an on-the-spot evaluation. Disconnect at hinges (unless otherwise noted in text).
  No changes."

Mitchell

Roof Panel R&R

Included Operations

Remove and replace caulkimg for standard factory application.

Source: Portions Copyright 2012, Mitchell International, Inc. – Mitchell P-Pages, Rev. 10-09. Page 12
Procedure Explanation

**IMPORTANT REMINDER:** Sectioning of a panel may or may not be recommended by vehicle manufacturer. This procedure should only be performed when a qualified and knowledgeable technician has determined that the operation does not jeopardize the integrity of the vehicle.

**Door Glass R&R**
Included Operations:
- Remove and install: trim panel, Garnish moldings
- Remove and/or install: rearview mirror, paint, etc.
- Replace weatherstrip(s) if so attached
- Clean up old adhesive in opening area

Not Included Operations:
- Remove and install: Glass regulator and motor
- Remove and replace: Aftermarket window tint

**Procedure 17—Roof**
Roof Panel R&R
Included Operations:
- Remove and install: Rear or lift gate, front and rear seats (Passenger/fleet vehicles), front seats (Van/Utility vehicles), Quarter trim
- Remove and replace: Windshield and moldings, Back window and moldings, Quarter windows and moldings if necessary, headliner assembly
- Replace clip type molding for base model vehicle (example: roof rail, drip rail)
- Replace and replace caulk for standard factory application

Not Included Operations:
- Refinish roof panel
- Remove and/or apply: Anti-corrosion rust resistant materials
- Remove and install or replace: Luggage rack, Roof cap and/or vinyl cover, Wiring and/or wiring harness, Sound deadening material, Non-base model exterior trim and/or headliner (Van/Utility vehicles)
- Replace new adhesive exterior trim, deduct one-half of R&R time
- Install stripes, decals, transfers or overlays
- Broken glass clean up

**IMPORTANT REMINDER:** No windshield, back or quarter glass (if applicable), or flush mounted reveal moldings can be removed without the possibility of breakage or damage that will require replacement. Unintentional damage to glass that is considered a structural member by the vehicle manufacturer may occur when attempting alignment puts to correct unhappy condition. Agree beforehand who will incur the charge for damage occurring during normal R&R or R&R operations.

**Headliner R&R**
Included Operations:
- Remove and install or replace: Rear seat, Sun visors, dome lamp, grip handles and cost hooks, inside moldings that interfere

**Procedure 18—Pickup Cab Panels**
Lock Pillar, Side or Corner Panel
Included Operations:
- Remove and install: B pillar, Front and/or rear seats
- Remove and replace urethane set glass: Quarter window and molding
- Remove and install: Non-urethane set glass (Quarter window and molding)
- Replace and replace caulking for standard factory application
- Loose and pull back carpet and/or insulation as required

Not Included Operations:
- Refinish pillar, side or corner panel
- Remove and install: Bed assembly
- Remove and install or replace: Back window and molding, interior trim
- Install urethane set glass: Quarter window and molding
- Replace sound deadening
- Replace sound deadening
- Replace new adhesive exterior trim, deduct one-half of R&R time
- Install stripes, decals, transfers or overlays
- Drill holes for installing exterior trim
- Broken glass clean up

**IMPORTANT REMINDER:** No back or quarter glass (if applicable), or flush mounted reveal moldings can be removed without the possibility of breakage or damage that will require replacement. Agree beforehand who will incur the charge for damage occurring during normal R&R or R&R operations.

**Side or Corner Panel Sectioning Explanation:** See Procedure 20—Quarter Panel

**IMPORTANT REMINDER:** Sectioning of a panel may or may not be recommended by vehicle manufacturer. This procedure should only be performed when a qualified and knowledgeable technician has determined that the operation does not jeopardize the integrity of the vehicle.

**Quarter Glass R&R**
Included Operations:
- Remove and install: Rear seal if necessary
- Remove and install or replace: Parts attached to glass
- Replace weatherstrip(s) if so attached
- Replace necessary adhesive/urethane
- Clean up old adhesive in opening area
- Test for leaks

Not Included Operations:
- Remove and install: Trim panel
- Remove and replace: Aftermarket window tint
- Clean up

**Back Panel R&R**
Included Operations:
- Remove and install: Front and/or rear seats
- Remove and replace: Non-urethane set glass (back window and molding)
- Install urethane set glass: Back window and molding
- Replace and replace caulk for standard factory application
- Loose and pull back carpet and/or insulation as required

Not Included Operations:
- Refinish back panel
- Remove and/or apply: Anti-corrosion rust resistant materials
- Remove and install or replace: Headliner (all types)
- Replace sound deadening
- Remove and install rubber exterior trim, deduct one-half of R&R time
- Install stripes, decals, transfers or overlays
- Drill holes for installing exterior trim
- Broken glass clean up

**Procedure 19—Back Window**
Back Window R&R
Included Operations:
- Remove and replace: Reveals moldings, Garnish moldings, Wiper arm if so equipped
- Replace weatherstrip(s) if so installed
- Replace necessary adhesive/urethane
- Clean up old adhesive in opening area

Source: Portions Copyright 2012, Mitchell International, Inc. – Mitchell P-Pages, Rev. 10-09. Page 12
**DEG Database Inquiry - #3683**

**Inquiry Description**

**Door Skin**

Issue Summary//PLEASE CLAIRIFY...I WOULD LIKE TO KNOW IF REMOVING THE OLD SEAMSEALER, BONDING ADHESIVE, ANY DIRT, GREASE, BODYWAX, AND RUST IS INCLUDED IN THE TIME GIVEN TO REPLACE THE DOOR SKIN? THERE IS A SECTION IN THE P-PAGES UNDER ADDIONS TO LABOR TIMES... ANTI-CORROSION RUST RESISTANT MATERIAL (REMOVE AND REPLACE AND TAR AND GREASE. (REMOVAL OF THESE OR ANY OTHER MATERIAL THAT WOULD INTERFERE WITH OPERATION)

**IP Explanation**

PLEASE REFERENCE THE FOLLOWING : DOOR REPAIR PANEL R&R

INCLUDED OPERATIONS REMOVE AND REPLACE CAULKING FOR STANDARD FACTORY APPLICATION

NOT INCLUDED OPERATIONS REMOVE AND/OR APPLY: ANTI-CORROSION RUST RESISTANT MATERIALS REPLACE SOUND DEADENING

ADDITIONAL INFORMATION REGARDING NON-INCLUDED ADDITIONS TO PUBLISHED LABOR ALLOWANCES CAN BE FOUND UNDER LABOR GENERAL INFORMATION/ADDITIONS TO LABOR TIMES.

### DEG DATABASE INQUIRY

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#### Door Skin

**Issue Summary:**

PLEASE CLARIFY...I WOULD LIKE TO KNOW IF REMOVING THE OLD SEAM SEALER BONDING ADHESIVE, ANY DIRT, GREASE, BODY WAX, AND RUST IS INCLUDED IN THE TIME GIVEN TO REPLACE THE DOOR SKIN? THERE IS A SECTION IN THE PAGES UNDER ADDITIONS TO LABOR TIMES... ANTI-CORROSION RUST RESISTANT MATERIAL (REMOVE AND REPLACE AND TAR AND GREASE) (REMOVAL OF THESE OR ANY OTHER MATERIAL THAT WOULD INTERFERE WITH OPERATION)

#### Resolution Description

**Resolution Explanation:**

PLEASE REFERENCE THE FOLLOWING:

DOOR REPAIR PANEL RSR

INCLUDED OPERATIONS

REMOVE AND REPLACE CAULKING FOR STANDARD FACTORY APPLICATION

NOT INCLUDED OPERATIONS

REMOVE AND/OR APPLY ANTI-CORROSION RUST RESISTANT MATERIALS REPLACE SOUND DEADENING

ADDITIONAL INFORMATION REGARDING NON INCLUDED ADDITIONS TO PUBLISHED LABOR ALLOWANCES CAN BE FOUND UNDER LABOR GENERAL INFORMATION ADDITIONS TO LABOR TIMES.

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Negotiation Question #2 – Summary

It has been established and proved through the source documentation that applying seam sealer to bolted-on panels is a not-included operation for AudaExplore and CCC. Applying seam sealer to bolted-on panels is an included operation in Mitchell.
Question 3. Are there pre-determined times? (Bolted)
3. Is there a pre-determined time for applying seam sealer to a bolt-on panel?

**Answer:** Mitchell includes the time to apply seam sealer to bolted-on panels in the R&R time.

AudaExplore and CCC do not provide times for the application of seam sealer to bolted-on panels.

- However, if there is not a time, it does not mean that it is included.
- If there is not a time you may need to do a manual entry.
Question 4.
What is it worth? (Bolted)
4. If not, then what is applying seam sealer to a bolt-on panel worth?

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

**Answer Documentation:**

- Conduct Your Own Time Study:
  - Create a Time Study Form
  - Video of Time Study
- Invoice for materials
3M Seam Sealer Rope

Seam Sealer Standard Work

Standard Work – For Estimators to measure the amount of Seam Sealer required to be applied and billed to a vehicle.

Long Rope – For 3M (PN 8310) Bare Metal Beige or 3M (PN 08308) Heavy Bodied Seam Sealers.
1. After vehicle has been disassembled, identify all areas where Seam Sealer is required.
2. Use the Long Rope for all panels except roof ditches when planning the application of 3M (PN 8310) Bare Metal Beige or 3M (PN 08308) Heavy Bodied Black Seam Sealers.
3. Lay the Long Rope to trace or outline the area where Seam Sealer will be applied in order to determine the amount required for the repair areas.
   o Each mark on the rope equals a ¼, ½, and ¾ up to 1 complete tube of Seam Sealer.
   o Take a picture for documentation and add it to the repair order file.
4. Once the amount of Seam Sealer required for the repair has been determined, mark the Seam Sealer sheet by circling the quantity and dollar amount of the material required.
5. After the required quantity and cost has been documented, add a line item to the estimate for “Seam Sealer” along with the repair area or areas and enter the corresponding dollar amount based on the measurement from the rope and information from the price document sheet.

Short Rope – For 3M (PN 08307) Self-Leveling Seam Sealer
1. After vehicle has been disassembled, identify all areas where Seam Sealer is required.
2. Use the Short Rope for Roof Ditches and “Quarter Troughs” when planning the application of 3M (PN 08307) Self-Leveling Seam Sealer. (Divide quantity and price by 2 for Quarter Troughs)
3. Lay the Short Rope to trace or outline the area where Self Leveling Seam Sealer will be applied in order to determine the amount required for the repair areas.
   o Each mark on the rope equals a ¼, ½, and ¾ up to 1 complete tube of Seam Sealer.
   o Take a picture for documentation and add it to the repair order file.
4. Once the amount of Self-Leveling Seam Sealer required for the repair has been determined, mark the Seam Sealer sheet by circling the quantity and dollar amount of the material required.
5. After the required quantity and cost has been documented, add a line item to the estimate for “Seam Sealer” along with the repair area or areas and enter the corresponding dollar amount based on the measurement from the rope and information from the price document sheet.
## 3M Adhesives and Seam Sealers Application and Job Cost Guide

### Repair Applications and Job Cost Guide

#### Step 1:
Select Repair Applications (Drop Down)

#### Step 2:
Product

#### Step 3:
Quantity

#### Step 4:
Invoice

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Additional Thoughts
**Additional Thoughts**

- **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

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<th>CCC Labor</th>
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<td>Not Included</td>
<td>Seam Sealer Materials, Seam Sealer Tips, Acid Brushes to Apply</td>
</tr>
<tr>
<td>Remove Seam Sealer on Welded Panels</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
<td>Not Included</td>
<td>Eraser Wheels, Roloc Disc, Wire Wheels, Whatever Supplies Needed</td>
</tr>
<tr>
<td>Epoxy Primer prior to application of Seam Sealer</td>
<td>Not Included</td>
<td>Not Included</td>
<td>Not Included</td>
<td>Not Included</td>
<td>Primer Materials</td>
</tr>
</tbody>
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