

Effective Estimating

BASF AUTOMOTIVE REFINISH COATINGS



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Welcome

- * Introductions
- * Restrooms
- * Fire Exits



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Anti-Trust Disclaimer

- Please be advised that the following guidelines for conduct shall be established and followed:
 - No participant shall be allowed to discuss any subject relating to prices charged, discounts offered of any nature, hourly rate, employee benefits, or assignments made with third party entities.
 - Should any discussion of these items take place, said participant will be asked to refrain immediately, disregarding any pursuant discussion, and should said party deny such request, the meeting will be immediately disbanded.
 - All participants are herewith notified that the materials presented herein are not to be construed as information or direction to take concerted actions.
 - The information can be utilized by individuals acting within their own judgment, making sound business decisions, without agreements with other participants of this meeting.
- This notice is hereby read with regard to laws governing this conduct.

Product Disclaimer: Products mentioned in this presentation are for information purposes only and do not represent an endorsement by BASF.



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What is
going on in
this
picture?





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Vehicle Inspection

Inspect Vehicle with customer

- Develop a *mutual* understanding of vehicle condition
- Develop a *mutual* understanding of areas being repaired
- Develop a *mutual* understanding of pre-existing damage



Determine if an estimate is necessary

- *Sell First*
- *Assess Damage Second*





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Vehicle Assessment

- Check for panel misalignment or deformity
- Check for loose joint and seam sealers
- Check for chipped paint





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Verify Vehicle Information

- Make
- Model
- Trim Level Decoding
- Mileage
- Production Date
- Exterior Color
- Interior Trim Color



2017 GMC Sierra 2500 HD Denali Crew Cab 153.7" WB 4WD 4D P/U 8-6.6L Turbocharged Diesel Direct Injection white

VIN: 1GT12UEY6HF231255	Interior Color: white	Mileage In: 9,363	Vehicle Out: 1/23/2018
License: NONE	Exterior Color: white	Mileage Out:	
State: NC	Production Date: 6/2017	Condition:	Job #: jason

TRANSMISSION

Automatic Transmission
Overdrive
4 Wheel Drive

POWER

Power Steering
Power Brakes
Power Windows
Power Locks
Power Mirrors
Heated Mirrors
Power Driver Seat
Power Passenger Seat
Power Adjustable Pedals

DECOR

Dual Mirrors

CONVENIENCE

Air Conditioning
Tilt Wheel
Cruise Control
Rear Defogger
Keyless Entry
Alarm
Steering Wheel Touch Controls
Telescopic Wheel
Climate Control
Navigation System
Backup Camera w/Parking Sensors
Remote Starter
Home Link

RADIO

AM Radio

CD Player

Auxiliary Audio Connection
Premium Radio
SAFETY
Drivers Side Air Bag
Passenger Air Bag
Anti-Lock Brakes (4)
4 Wheel Disc Brakes
Traction Control
Stability Control
Front Side Impact Air Bags

Head/Curtain Air Bags

Communications System
Hands Free Device
Xenon Headlamps
Positraction

Leather Seats

Heated Seats
Ventilated Seats

WHEELS

20" Or Larger Wheels

PAINT

Clear Coat Paint

OTHER

Fog Lamps
Signal Integrated Mirrors

TRUCK

Rear Step Bumper
Power Rear Window
Bedliner (Spray On)
Trailer Hitch
Trailer Package



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Verify Vehicle Options





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Take Preliminary Photos

BEST PRACTICES GUIDELINES FOR DIGITAL IMAGING

The Collision Industry Conference Insurer-Insurance Relations Committee, a dedicated volunteer group of insurers, repairers, and industry partners has produced a set of working guidelines that represent a consensus on how to work together for the benefit of the vehicle owner using good faith business practices and mutual respect in the event of a collision or an event which results in the need for collision repair.

Now the members of the Collision Industry Conference ask that all responsible repairers and insurers endorse and adopt these common-sense practices.

NOTE: This is a "living" document, designed to be modular in approach. It is intended to be global in nature and will provide the framework for all collision industry Best Practices. This is a draft and is not intended to be acted upon in any way other than review and comment from interested industry colleagues.

1. These guidelines describe only the basic imaging requirements needed on all vehicles. Other factors, such as severity, complexity, and individual insurer policies or requirements, may necessitate taking additional images or approaches.
2. Taking the images of the damage should come after examining the vehicle to determine the point of impact, related and unrelated damage.
3. Basic Imaging Procedures
 - a. Take initial images to capture all four corners of the vehicle including the license plate.
 - b. Take images of the instrument panel, dash warning lights, (if possible, with engine running), odometer, and VIN plate, including vehicle production date.
 - c. Take images of all loss related damaged parts listed on the estimate. The sequence of the images should mirror the sequence in which the repair estimate was written. Remember to take establishing or overall images for context in addition to close ups.
 - d. Take images of all unrelated damage and label as such.
 - e. Review the images to ensure they are clear, well lit and fully depict the extent of damage to the vehicle. Delete and recapture any blurry, dark or unusable images.
4. Minimum Requirements
 - a. 4 Corner shots
 - i. Always try to include the License Plate in the photo



Reference CIC Best Practices

- Four Corners
- License Plate
- Instrument cluster
 - With engine running
 - Dash warning lights
 - Mileage
- VIN Plate
 - Production Date





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Review Repair Process

- Become familiar with damaged area

- Review the P-pages
- Learn what is included and what is not
- Check the H-notes
- Review SCRS Guide to Complete Repair Planning



Guide to Complete Repair Planning

This guide is owned by and maintained by the Society of Collision Repair Specialists. The purpose of this document is to provide the estimate preparation process, intended to be used as a guide to determine as a reminder of steps that may be promoted, that your shop can or should perform repair operations that are performed. The document does not contain procedures determined based on your facility's notified that the materials presented are concerted actions. Information can be found on the SCRS website.

Visit www.scrs.com to become a member, or learn more about the Society of Collision Repair Specialists

Labor Category Legend - By Color:

- Body
- Paint
- Structural
- Mechanical
- Detail
- Other

Item	Category	Notes
29. FLEXIBLE PARTS ADDITIVE		
05 - HOOD:		
30. R&I WINDSHIELD WASHER NOSSELS (REPAIR SITUATION)		
31. R&I HOOD INSULATION		
32. WINDSHIELD WASHER HOSE RETAINERS (MORE THAN ONE DESIGN)		
33. REPAIR HOOD LATCH		
34. REPAIR HOOD HINGES AND/OR HINGE MOUNT AREA		
35. ACCESS TIME TO REVEAL DAMAGE		
36. FEATHEREDGE, FILL SAND AND BLOCK (REPAIRED HOOD)		
37. SEAM SEAL INNER EDGE OF NEW HOOD		
38. R&I OR R&R HOOD HINGE		
39. R&I COWL VENT PANEL (ACCESS TO HINGE)		
40. TEST FIT HOOD		
41. MIX PAINT FOR UNDERSIDE SECOND COLOR (ADD FOR 3 RD AND 4 TH COLOR)		
42. COLOR TINT & TEST FOR UNDER SIDE SECOND COLOR		
43. MASK HOOD INNER EDGES		
44. WINDSHIELD WASHER HOSE FASTENER-S (1 ST DESIGN)		
45. WINDSHIELD WASHER HOSE FASTENERS (2ND DESIGN)		
46. HOOD INSULATION RETAINER FASTENERS, REPLACE		
47. HOOD FRONT SEAL/ FASTENERS		
48. HOOD REAR SEAL/ FASTENERS		
49. ALUMINUM MATERIAL LABOR RATE		
50. HOOD LABELS ***HOW MANY?***		
10 - FENDER:		
51. R&I TIRE WHEEL		
52. R&I FENDER LINER		
53. R&I FENDER MOLDINGS, EMBLEMS AND FLARE		
54. R&I MUD FLAP		
55. R&I ROCKER COVER		
56. REPLACE ROCKER COVER FASTENERS (TWO DESIGNS?)		
57. REPLACE FENDER FLARE FASTENERS		
58. CLEAN AND RETAPE FENDER MOLDING-S AND EMBLEM		
59. REPLACE LINER FASTENERS		
60. FEATHEREDGE, FILL SAND AND BLOCK REPAIRED FENDER		
61. CAVITY WAX		
62. REMOVE FACTORY INSTALLED ADHESIVE FOR ACCESS		
63. ALIGN ADJACENT PANEL-S TO FENDER		
64. ANTENNA BASE CORROSION, REPAIR		
65. MASK FENDER JAMS AND OPENINGS		
66. FENDER MLDG CLADDING PREP FOR "RAW"		
67. GRAVEL GUARD		
68. REMOVE STRIPES **ERASER WHEEL**		
69. FENDER BLACK OUT SECOND COLOR		
15 - CORESUPPORT:		
70. ACCESS/PRE-PULLING		
71. PROTECT ENGINE COMPARTMENT COMPONENTS		
72. REPAIR CUT WIRING		
73. ACQUIRE RADIO CODE		
74. RESET MEMORY FUNCTIONS		

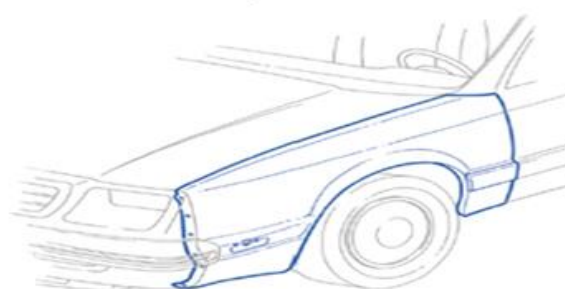
FENDER - OUTER PANEL

INCLUDED:

- Align to vehicle
- Fillers (if mounted to fender)
- Cornering lamps (if mounted to fender)
- Fender liner
- Scoop
- Side marker
- Side repeater lamp (if mounted to fender)

DOES NOT INCLUDE:

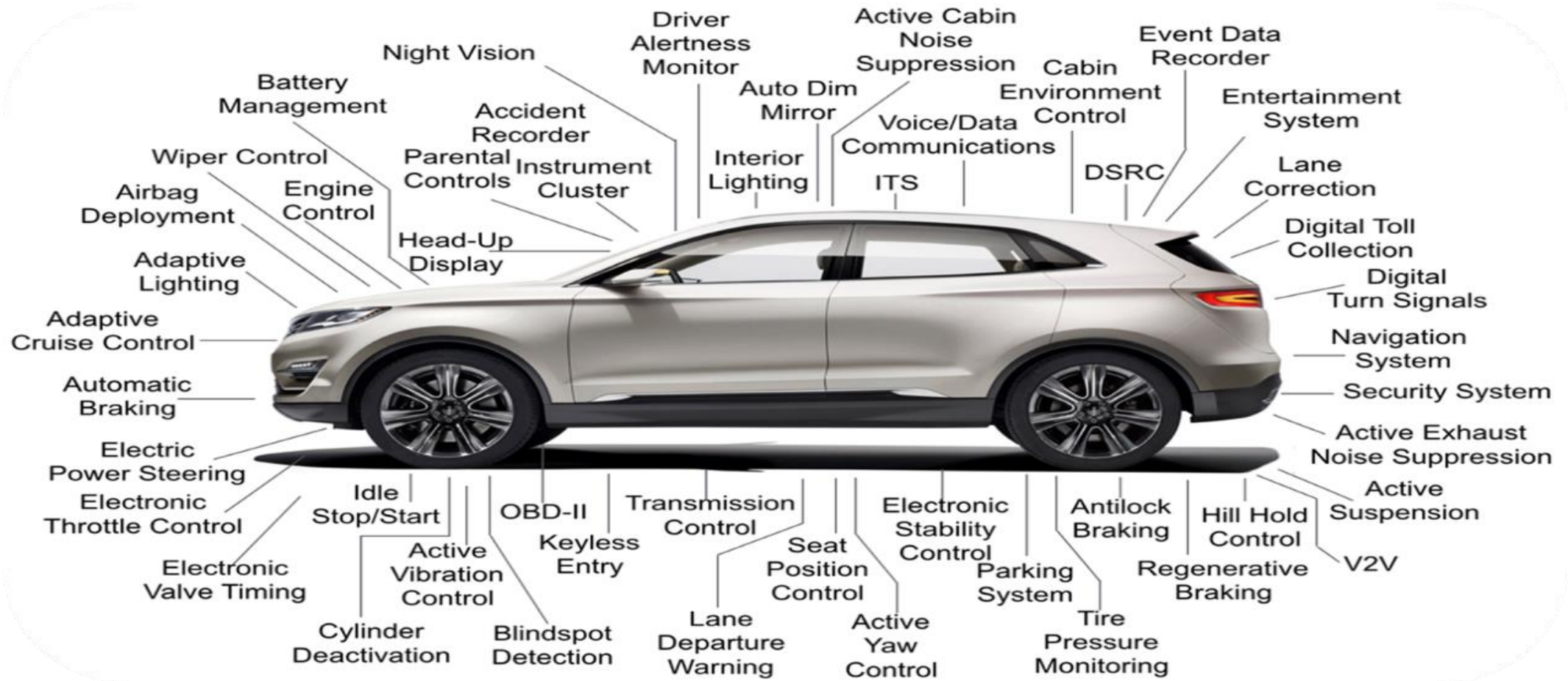
- Antenna
- Bumper R&I
- Battery
- Emblems & nameplates
- Grille
- Header panel
- Hood
- Inner panels
- Lamp aiming
- Mirror
- Moldings
- Mud guard
- Road wheel
- Spoilers & flares
- Stripe tape, decals or overlays





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Possible System Fault Areas





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Pre-Scan Diagnostics

- Scan system to locate fault codes
 - Add diagnosis line to estimate
 - Place line under affected system
 - Separate diagnosis for each system



TOYOTA LEXUS SCION

CRIB COLLISION REPAIR INFORMATION

BULLETIN FOR THE COLLISION REPAIR PROFESSIONAL

TITLE: Scanning for Electrical System Faults **2016-191**

SECTION: Electrical **Page 1 of 1**

APPLICABLE VEHICLES: All Toyota, Lexus and Scion Models

These electrical systems are designed to set fault codes known as DTCs (Diagnostic Trouble Codes) if a fault is detected. **Not all DTCs illuminate a MIL (Malfunction Indicator Light).** Toyota's "Techstream" and "Techstream Lite"* scan tool and software can retrieve and report all DTCs for all Toyota, Lexus, and Scion vehicles.**

repairers perform a "Health Check" diagnostic scan if a vehicle has sustained damage as a result of a collision that may affect electrical systems. Additionally, Toyota strongly recommends that repairers perform a "Health Check" diagnostic scan before and after every repair to identify and document DTCs. If DTCs are identified pre-repair, then they can be considered to create a complete vehicle damage analysis report. If DTCs are identified post-repair, then they can be diagnosed and addressed before returning a vehicle to the customer.



No MIL illuminated



DTCs found during Health Check

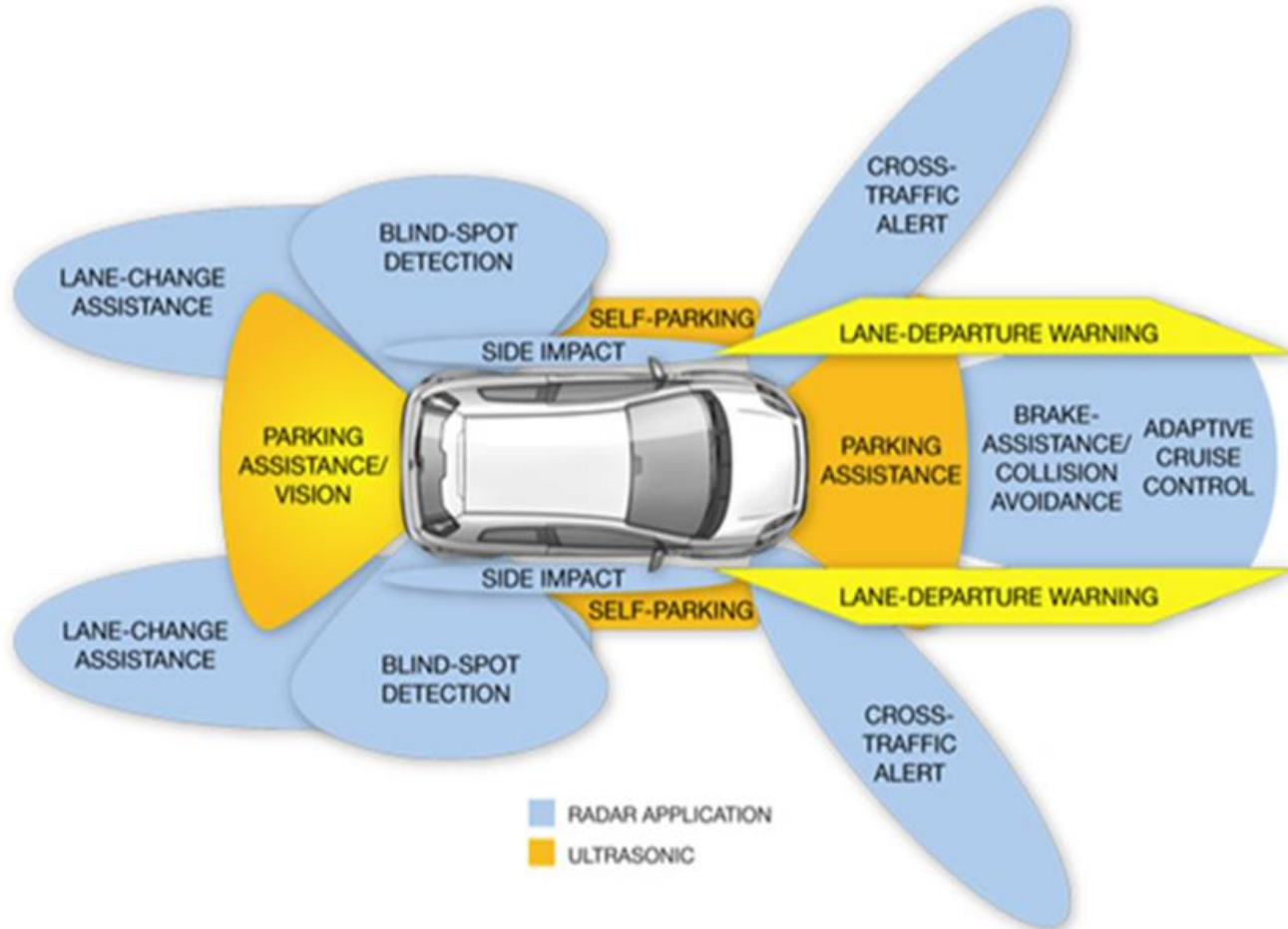
*Call Toyota Approved Dealer Equipment at 800.368.6787 for information, availability and pricing.

** Before using an aftermarket scan tool, check with the manufacturer to ensure that their equipment can retrieve History, Pending and Current DTCs as well as 'Time Stamp' their occurrence on all Toyota vehicles.



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Advanced Driver Assistance Systems



[Verify need for recalibration](#)



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Damage Review



- Begin reviewing damage
 - Start at end of vehicle with most damage
 - Work with the body technician to identify repairs needed
 - Work panel by panel to opposite end of vehicle



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Document Exterior Damage

- Begin documenting major assemblies damaged
- Allow the estimating system to work for you
 - Document repair front to rear or rear to front

1	E01		FRONT BUMPER				
2	E01	Remove/Replace	O/H front bumper				
3	E01	Remove/Replace	Bumper cover	1	245.00T	Opt OEM	
			NOTE: Price matched with OEM part				
4	E01		Add for Three Stage				
5	E01	Remove/Replace	LT Lower bracket	1	8.75T	OEM	
6	E01	Remove/Replace	LT Corner support	1	5.95T	OEM	
7	E01	Remove/Replace	RT Corner support	1	5.95T	OEM	
8	E01	Refinish	Tow eye cap				
9	E01		Add for Three Stage				
10	E01		GRILLE				
11	E01	Remove/Install	R&I grille assy				
12	E01		FRONT LAMPS				
13	E01	Remove/Install	LT Headlamp assy				
14	E01		FENDER				
15	E01	Remove/Replace	LT Fender	1	225.00T	Opt OEM	
16	E01		Add for Three Stage				
17	E01		Add for Edging				
18	E01	Remove/Replace	LT Fender liner	1	60.53T	OEM	
19	E01	Remove/Install	LT Filler trim				
20	E01	Remove/Replace	LT Wheel flare	1	126.38T	OEM	
21	E01	Remove/Install	LT Pillar cover				
22	E01	Remove/Install	LT Mudguard				

DESCRIPTION	MATERIAL SUBLET PRICE	MINIMUM LABOR UNITS
01 - FRONT AND REAR BUMPERS:		
1. FEATHERFILL, SAND AND BLOCK REPAIR AREA		
2. REMOVE BUMPER MOLDING ADHESIVE		
3. DRILL FOR LICENSE PLATE		
4. R&I LICENSE PLATE		
5. LICENSE PLATE, REPAIR		
6. LOOSEN/PULL BACK BUMPER COVER		
7. CCC BUMPER PROMPT *ADD BACK OVERLAP + CLEAR*		
8. R&I FOG LAMPS		
9. R&I TRAILER HITCH (ON BUMPER)		
10. AIM FOG LAMPS		
11. R&I CAMERA AND WIRING		
12. TRIAL FIT BUMPER		
13. R&I TRAILER HITCH (FRAME BOLT-ON TYPE)		
14. R&I OR R&R SENSORS (SRS-AMBEINT TEMP- ETC)		
15. REPAIR BUMPER BRACKET AND/OR OTHER COMPONENTS		
16. REPAIR BUMPER BRACKET MOUNT AREA		
17. REPAIR ELECTRICAL WIRING TO LAMP LIGHTS		
18. REFINISH O.E.M "RAW" BUMPER		
19. REFINISH, SECOND COLOR ON BUMPER COVER		
20. REFINISH, BLACK-OUT ON BUMPER COVER		
21. PAINT PREP & CLEAN UP USED BUMPER		
22. MASK UNPAINTED AREAS ON BUMPER COVER		
23. MASK BUMPER COVER FOR PRIMER APPLICATION		
24. FLEXIBLE PARTS ADHESION PROMOTOR APPLICATION		
25. REPLACE MINI BULBS		
26. RAW BUMPER PREP KIT		
27. BUMPER FASTENERS/RETAINERS (KIT)		
28. URETHANE BUMPER REPAIR KIT (MATERIALS)		
29. FLEXIBLE PARTS ADDITIVE		



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Identify R&I Requirements



- Determine R&I's for repair access
 - Headlamps
 - Mounting brackets
 - Windows

- Determine R&I's for paint access
 - Door handles
 - Weather strips
 - Fender liners

270. FEATHER & FILL CONTOUR REPAIR AREAS, (DOOR EDGE)		
271. DRESS WELDS		
272. STONE GUARD DECAL		
273. R&I RAIN SHIELD (VENT SHADE)		
274. R&I WELDED BELT REINFORCEMENT PANEL		
275. R&I SRS AIR BAG		
276. R&I DOOR MIRROR		
277. R&I DOOR GLASS		
278. R&I AIR-SEAL WEATHER STRIP AT PERIMETER (SOME MODELS ONLY)		
279. R&I DOOR CHECK (WHEN SKINNING DOOR)		
280. R&I DOOR LATCH, (WHEN SKINNING DOOR)		
281. R&I DOOR CHECK		
282. R&I DOOR LATCH		
283. R&I DOOR SPEAKER		
284. R&I DOOR GLASS RUN CHANNEL		
285. WRAP/MASK WIRE HARNESS		
286. PREP DOOR CLADDING FOR "RAW" PROCESSING		
287. MASK DOOR OPENINGS & JAMS		
288. WINDOW BLACK OUT AT WINDOW FRAME, (SECOND COLOR)		
289. GRAVEL GUARD		
290. DOOR SKIN BONDING MATERIAL		
291. RECODE DOOR LOCK CYLINDER		
292. DOOR FASTENERS & RIVETS		
293. RR&I LKQ DOORS-CHARGE TO DISASSEMBLE BOTH DOOR		





Document additional labor to access damage

- Add as a line item on estimate
 - Show labor within area being repaired
 - Create a line note explaining addition



39	E01		QUARTER PANEL						
40	E01	Blend	LT Quarter panel						1.6T
41	E01	Remove/Replace	LT Quarter panel protector	1	16.06T	OEM	0.2T	Body	
42	E01	Repair	LT Quarter glass Toyota (Backtape for refinish)						0.5T
43	E01		REAR LAMPS						
44	E01	Remove/Install	LT R&I tail lamp				0.3T	Body	
45	E01		REAR BUMPER						
46	S01	Remove/Install	R&I bumper assy				0.5T	Body	



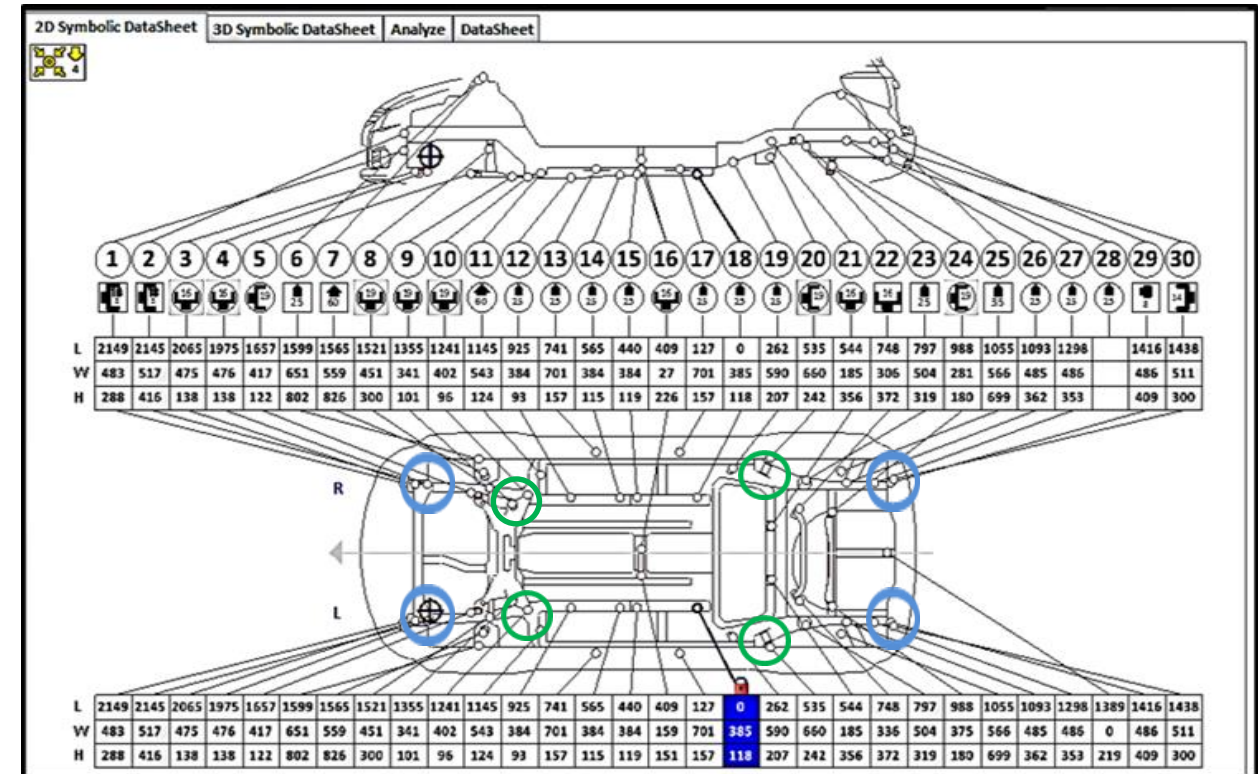
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Identify Measurement Needs

- Establish need for measurements
 - Is there sway?
 - Are gaps misaligned?
 - Does a door drag on the striker?
 - Do you see a frame buckle?
 - Are body panels distorted?
 - Is there suspension damage?

135 - FRAME SET UP:

- 684. UNIBODY CLAMP SYSTEM
- 685. FULL FRAME CLAMP SYSTEM
- 686. NON-DRIVE VEHICLE (NO START)
- 687. DISABLE VEHICLE (DOES NOT ROLL)
- 688. LIFTED/LOWERED VEHICLE
- 689. TRAM VEHICLE TO DETERMINE IF MOVEMENT EXISTS
- 690. INSTALL MECHANICAL MEASURING SYSTEM
- 691. ELECTRONIC MEASUREMENT DOCUMENT
- 692. R&I ROCKER MLDGS- ACCESS TO CLAMP AREA
- 693. ACCESS PULLING TO FACILITATE TEAR DOWN
- 694. R&I INTERFERING WIRES, TUBING/LINES, EXHAUST
- 695. R&I SUSPENSION/STEERING, PARTIAL
- 696. REPAIR CLAMP SCARING ON ROCKER FLANGE
- 697. REPAIR ANCHOR DAMAGE AT LOCKING POINTS
- 698. REPAIR PROTECTIVE COATING AT ROCKER
- 699. PAINT ROCKER FLANGE



Document need for measurement of
torque box
and
four corner points



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Inspect Inner Structure

Visually Check for structural damage

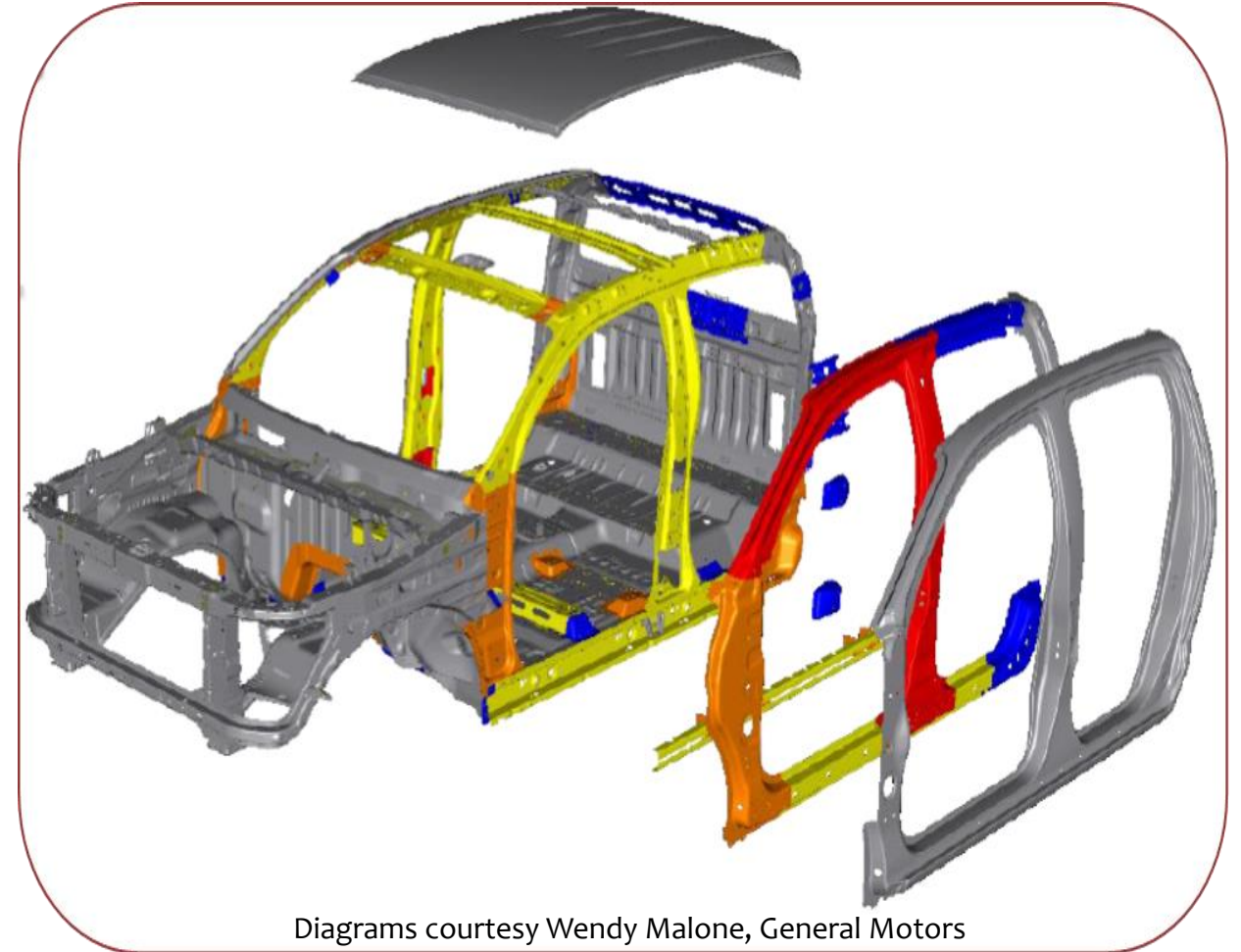


Pay particular attention to crush zones



- Review structure composition
 - [Check to determine steel type and reparability](#)

	Press Hardened Steel
	Multi-Phase & Martensite
	Dual-Phase
	HSLA
	Bake Hard & Mild Steel



Diagrams courtesy Wendy Malone, General Motors



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Evaluate Structure Repair

- Determine reparability
 - Identify sectioning processes
 - Review OEM websites
 - Review I-CAR guidelines
- Document SIR disabling requirement
- Document Battery disconnect requirement

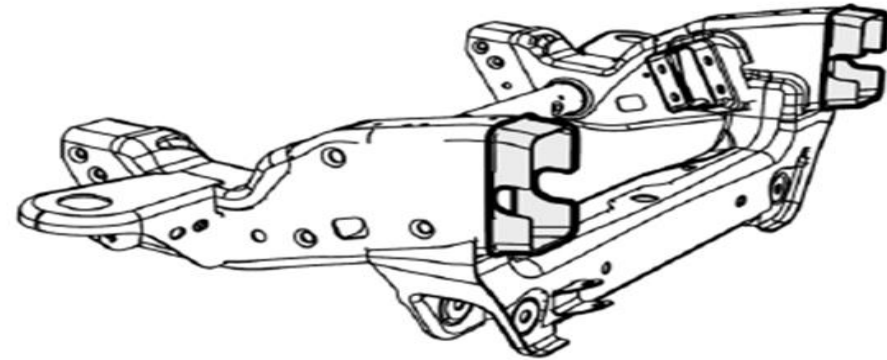


Front Full Frame Sectioning (Heavy Duty)

Removal Procedure

If damage permits a pre-sleeved replacement front frame service section has been developed as a cost-effective alternative to complete frame replacement. This procedure is for the heavy duty pick-up front frame service section.

WARNING: Refer to Approved Equipment for Collision Repair Warning.



WARNING: Refer to Collision Sectioning Warning.

NOTE: Perform all of the steps on both of the rails for complete module replacement.

1. Disable the SIR system. Refer to SIR Disabling and Enabling.
2. Disconnect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection.
3. Remove all of the related panels and components.



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Document Structure Repair

- Itemize each repair required
 - Separate each panel
 - Core Support
 - Apron
 - Lower Rail

15 - CORESUPPORT:	
70. ACCESS/PRE-PULLING	
71. PROTECT ENGINE COMPARTMENT COMPONENTS	
72. REPAIR CUT WIRING	

25 - APRON/UPPER RAIL:	
136. PRE-PULL/ACCESS	
137. REMOVE CAULKING & SEAM SEALER	
138. REPLACE CAULKING AND SEAM SEALER (NEW PART)	

145 - FRONT END DAMAGE:	
799. PRE-PULL TO FACILITATE TEAR DOWN	
800. PULL & REPOSITION CORESUPPORT	
801. REPAIR FRONT BUMPER WELDED MOUNTING BRACKET (EACH)	
802. CORRECT UPPER RAIL/APRON SWAY, LEFT	
803. CORRECT UPPER RAIL/APRON SWAY, RIGHT	
804. CORRECT UPPER RAIL/APRON HEIGHT, LEFT	
805. CORRECT UPPER RAIL/APRON HEIGHT, RIGHT	
806. CORRECT UPPER RAIL APRON LENGTH/MASH, LEFT	
807. CORRECT UPPER RAIL APRON LENGTH/MASH, RIGHT	
808. REPAIR AND CORRECT DIAMOND CONDITION	

24	S01		RADIATOR SUPPORT					
25	S01	Remove/Replace	Upper tie bar	1	242.00T	OEM	0.6T	Body 0.6T
26	S01	Remove/Replace	Radiator support	1	279.00T	OEM	4.8T	Body
27	S01	Remove/Replace	Hardware kit	1	17.60T	OEM		
28	S01	Remove/Replace	RT Support brace	1	48.00T	OEM	0.0T	Body 0.2T
29	S01		Add for Clear Coat					0.1T
30	S01	Remove/Replace	LT Support brace	1	48.00T	OEM	0.0T	Body 0.2T
31	S01		Add for Clear Coat					0.1T
32	S01	Repair	Crossmember				3.0T	Body 0.7T
33	S01		Overlap Minor Panel					(0.2)T
34	S01	Remove/Replace	RT Air deflector Town & Country	1	28.35T	OEM	0.0T	Body
35	S01	Remove/Replace	LT Air deflector Town & Country	1	28.20T	OEM	0.0T	Body
36	S01	Remove/Replace	Underbody shield	1	302.00T	OEM	0.0T	Body
37	S01	Remove/Install	Splash guard				0.0T	Body



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Identify Associated Damage



- Determine damage to adjacent panels
 - Damage to flanges
 - Damage to inner panels





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Corrosion Protection and Seam Sealers

- Align with repair area
 - Rear Body
 - Panel adhesive
 - Seam sealer
 - Weld thru primer
 - Quarter Panel
 - Seam sealer
 - Weld thru primer
 - Panel adhesive
 - Cavity Wax
 - Undercoating
 - Floor
 - Seam sealer
 - Weld thru primer
 - Doors
 - Panel adhesive
 - Seam Sealer
 - Intrusion beam foam
 - Cavity wax
 - Rockers
 - Cavity wax
 - Weld thru primer

3M Automotive Aftermarket Division

Corrosion Protection at a Glance

Between the ALL Welded Flanges

If MIG Welding:

- Weld Thru II (If OEM Recommended)

If Resistance Spot Welding, One of the following:

- Adhesive
- One Part Urethane or MSP Seam Sealer
- Weld Thru II (If OEM Recommended)
- OEM E-Coat

Acceptable Substrates:

- All 2 Part Seam Sealers: 2K Epoxy or 2K Urethane Primer (Inc. primer fillers and sealers), Scuffed E-Coat, Scuffed OEM paint.
- Bare Metal Seam Sealer or 1 Part Urethane/MSP Seam Sealers: All of the above and clean Bare Metal
- Do Not Seam Seal Over: Etch or 1K Primer, Body Filler, Weld Through Primer, burned paint, soot, rust, or unsound surfaces..

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Typical Joint Configuration

1. Adhesive/Sealer or weld Primer
2. Seam Sealer
3. Cavity Wax

IMPORTANT NOTE: There are many factors that can affect an individual repair, so the technician and repair facility need to evaluate each specific application and repair process and determine what's appropriate. 3M recommends referring to relevant vehicle repair and OEM guidelines prior to starting all repairs.

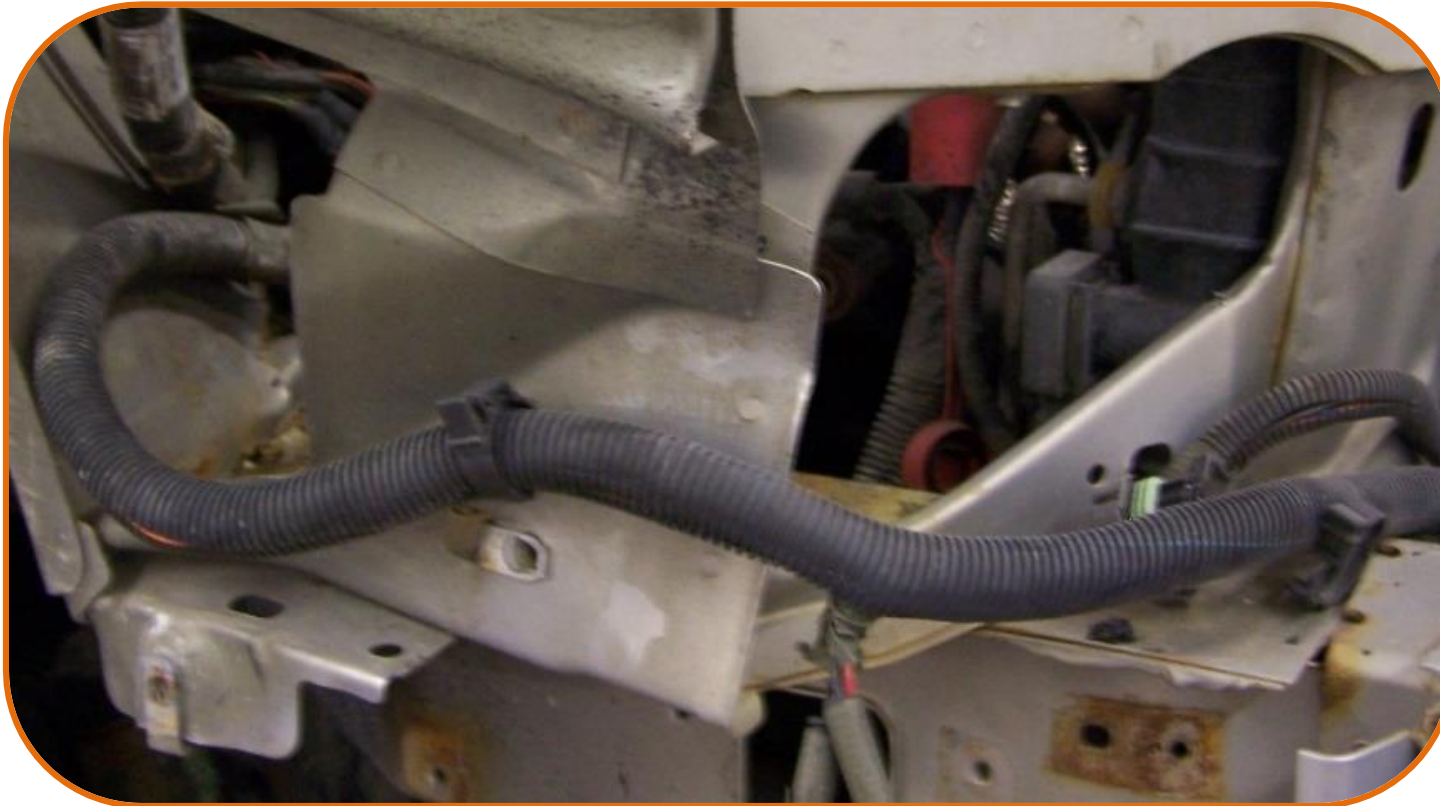
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Inspect Lighting and Wiring

- All lamp bulbs/harnesses should be inspected
 - Inspect all wiring harnesses for kinks/breaks



Identify any broken bulbs



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Document Wiring Repair



- Identify number of wires broken
 - Indicate number of wires in line note
 - Add a parts line for connectors – tape – solder



Verify wiring repairs can be accomplished



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Identify Mechanical Repairs

- Identify all parts requiring replacement
 - Identify associated repairs
 - Determine access labor
 - Account for vehicle condition
 - Consider attaching hardware



SPECIAL NOTATION:

The items listed below apply to all labor procedures.

- A/C System, Evacuate and Recharge
- Access to repair information/subscription cost
- Aftermarket & OEM accessories
- Alignment, straightening, or verifying the dimensional accuracy of related parts
- Alignment check of front or rear suspension/steering
- Anticorrosion material restoration/application
- Battery D&R/recharge
- Brackets & braces transfer
- Broken glass removal or clean up
- Brakes, bleed and adjust
- Caulk (non-OEM), sound insulate or paint inner areas
- Clean up or detailing of vehicle prior to delivery
- Computer control module D&R/relearn
- Conversion Vans (special components, equipment and trim)
- Cutting, pulling or pushing collision damaged parts for access
- Damaged or defective replacement parts
- Drain & refill fuel tank
- Drilling, modification or fabrication of mounting holes
- Fabricate templates, reinforcing inserts, sleeves or flanges
- Filling, plugging and finishing of unneeded holes in new parts
- Information label installation
- Maintenance costs of building or equipment
- Material costs
- Pinch weld clamp damage repair
- Refinishing
- Repair information retrieval/lookup
- Reset electronic memory functions after battery disconnect
- Road test vehicle
- Rusted, frozen, broken or corrosion damaged components or fasteners
- Scan tool clear/reset electronic module
- Scan tool diagnostics
- Steering Angle Sensor recalibration
- Straighten or align used, reconditioned or non-OEM parts
- Structural damage diagnosis and vehicle set up time
- Structural foam removal or application
- Test for water leaks (except Windshield, Back Glass, and Stationary Glass)
- Test panel/spray caulk
- Trial-Fit of a component to verify dimensional accuracy of adjoining parts
- Undercoating, tar or grease removal
- Unprimed bumpers, removal of mold-release agents
- Waste disposal fees (all types)
- Weld through primer
- Welded seam surface finishing finer than 150 grit sandpaper
- Welder set-up or preparation
- Wheel or hub cap locks R&I



BASF AUTOMOTIVE REFINISH COATINGS

Document Mechanical Repairs

- Document all parts requiring replacement individually
 - Avoid “Right Front Suspension” as a line
 - Create line notes to describe damage
 - Four wheel alignment is a must

19	Repl	RT Strut	1	\$187.53	1.3	M
20		Note: Bent at control arm mount				
21	Repl	RT Lower control arm	1	\$ 58.50	.8	M
22		Note: Rolled at ball joint				
23	Repl	RT Lower ball joint	1	\$ 22.30	Incl	M
24	Repl	RT Outer tie rod	1	\$ 39.60	.6	M
25		Note: Bent at spindle attachment point				





BASF AUTOMOTIVE REFINISH COATINGS

Identify Interior Repairs

- Damage from secondary impact
 - Passengers
 - Cargo
 - Fluid spills
- Damage related to restraint systems





BASF AUTOMOTIVE REFINISH COATINGS

Validate Restraint System Repairs

- Use websites to verify process

- OEM
- I-CAR
- AllData
- OEM1stop

PARTS THAT MUST BE REPLACED FOLLOWING A DEPLOYMENT When any deployable device or combination of devices have deployed and/or the Restraints Control Module (RCM) has DTC B1231/B1193:00 (Event Threshold Exceeded) in memory, the repair of the vehicle SRS is to include the removal of all deployed devices and the installation of new deployable devices, the removal and installation of new impact sensors and the removal and installation of a new RCM:

- Drivers side airbag (If Deployed) [AIRBAG,STEERING WHEEL]
- Passengers side airbag (If Deployed) [AIRBAG,INSTRUMENT PNL]
- Steering column (deployable column if equipped), (If Deployed)
- New impact sensors [AIRBAG SENSOR,FRONT; AIRBAG SENSOR,INTERIOR]
- Clockspring (when the driver air bag module has deployed)
- Restraints control module (RCM) [MODULE,AIRBAG CONTROL]
- Driver safety belt systems (including retractors, buckles and height adjusters), (If Deployed)
- Front outboard Passenger safety belt systems (including retractors, buckles and height adjusters), (If Deployed)
- Drivers side seat airbag (If Deployed) [AIRBAG,FRONT SEAT]
- Passengers seat side airbag (If Deployed) [AIRBAG,FRONT SEAT]
- If a side seat air bag deployment took place, the seatback pad, trim cover and side air bag module must be replaced. The seatback frame should be installed new if necessary.
- Any damaged or defective restraint system part



BASF AUTOMOTIVE REFINISH COATINGS

Restraint Systems



Was a child seat in place

Restraint Considerations

- How many people were in the vehicle
 - Were occupants wearing seat belts
- Which seat belts were used



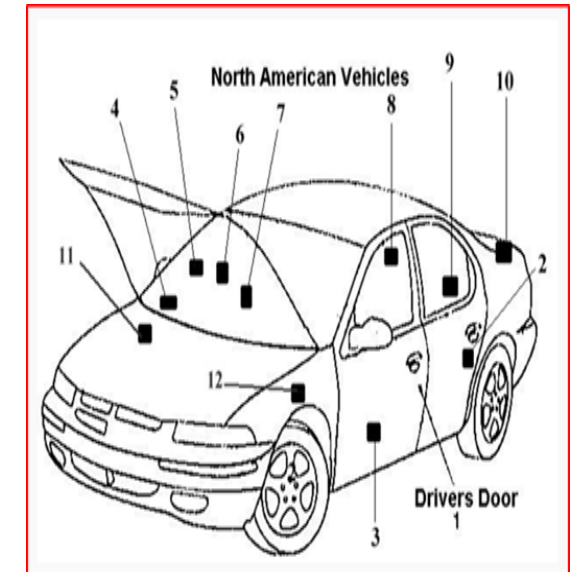


BASF AUTOMOTIVE REFINISH COATINGS

Identify Paint Type

	Color Code: 17/WA636R/GAN Switchblade Silver Pearl
	Color Code: 28/WA502Q/GCR Inferno Orange Metallic
	Color Code: 34/WA9414/GCO Yellow
	Color Code: 37U/WA403P Imperial Blue Metallic
	Color Code: 41/WA8555/GBA Black
	Color Code: 50/WA8624/GAZ Olympic White
	Color Code: 57U/WA637R/GBV Cyber Gray Metallic
	Color Code: 58/WA501Q/GAR Carbon Flash Metallic
	Color Code: 74/WA9260/GCN Victory Red
	Color Code: 89/WA505Q/GBE Crystal Claret Pearl Tricoat

- Locate Body Plate
- Determine Color
 - paintscratch.com
 - Solid Color
 - Pearl
 - Metallic
 - Tri - Coat





BASF AUTOMOTIVE REFINISH COATINGS

Verify Refinish Requirements

Inquiry Details

Submission Information

Tracking #: 10051

Date Submitted: 11/07/2016

Status: Resolved (IP Change)

Inquiry Resolution

IP Explanation

Estimated Release Date: Closed

Proposed Resolution: MOTOR stated:



4 stage colors may be developed as a 3Stage formula, 4Stage formula, or both 3Stage and 4Stage formulas depending on the paint manufacturer. In general a 4Stage formula will require the application of a ground coat in addition to the base coat and mid coat application while others may use a tinted clear coat in addition to the final clear coat (non-tinted). The use of a ground coat or tinted clear coat has not been considered in MOTOR's THREE-STAGE FINISHES (Base/Mica/Clear Coat) and is not included.

estimated refinish time:

1. Test spray-out panel or let down panel to match color.
 2. Application of a tinted clear coat (only if it is in addition to the non-tinted clear coat)
 3. Application of a ground coat (only if it is in addition to base coat and mid coat)
 4. Sanding the tinted clear coat or clear coat to match the texture of the adjacent panels.
- MOTOR suggests using an on-the-spot inspection for any additional refinish steps required for a 4Stage formula.

According to the Guide To Estimating, material costs are not included in any labor operation. MOTOR will add the suggestion of developing a 4Stage formula or making revisions to the MOTOR Guide To Estimating REFINISHING PROCEDURES THREE-STAGE FINISHES (Base/Mica/Clear Coat) for its next scheduled review process.

No changes required.

- Determine Blend Requirements
- Determine multi-stage process
 - Base/clear
 - Three Stage
 - Four Stage
 - Ground coat requirements
- Determine partial paint times
 - Inner structures
 - Validate overlaps
- Identify items to be painted off of vehicle



BASF AUTOMOTIVE REFINISH COATINGS

Verify Refinish Requirements

- Validate Clear requirements
 - Don't rely on estimating system
 - Confirm with paint manufacturer



Clearcoat Blending

BASF recommends applying the specified amount of clear to the entire panel when doing basecoat/clearcoat repairs. This will make the repair eligible for the Glasurit or R-M lifetime warranties.

Blending the clearcoat requires that the thickness of clear be reduced in the blend area. This can result in the clearcoat blend-edge becoming visible after a period of exposure to sunlight and weather. The blend edge can also become visible if it is polished too aggressively.

For these reasons, BASF will not warrant the blended edges of clearcoats. Although, BASF has developed processes and products for blending clearcoats, these are intended as a cost-saving measure in those instances where an economical, non-warranty repair is required.

Detailed guidelines for applying clearcoats can be found in the Glasurit or R-M technical data sheets and technical reference manuals. These documents can also be found online at [BASFrefinish.com](https://www.basfrefinish.com).



BASF AUTOMOTIVE REFINISH COATINGS

Document Refinish Process

115 - REFINISH PROCESS:

643. DIFFICULT COLOR, TINTING & TESTING (<i>INACCURATE VARIANCE</i>)
644. MASK FOR PRIMING
645. SPOT PAINT CORESUPPORT AFTER INSTALLED (<i>SECOND PAINT</i>)
646. SPRAY OUT TEST PANEL
647. SPRAY OUT LET-DOWN PANEL FOR THREE STAGE
648. SPRAY OUT LET-DOWN PANEL FOR TRANSPARENT COLOR
649. COLOR TINT & TEST TO BLENDABLE MATCH
650. COLOR TINT SECOND COLOR
651. GRAVEL GUARD FIRST PANEL
652. GRAVEL GUARD SECOND PANEL
653. GRAVEL GUARD THIRD PANEL
654. GRAVEL GUARD SPRAY-OUT TEST PANEL
655. HAZARDOUS WASTE DISPOSAL
656. UNDERSIDE COLOR TINTING & TESTING (<i>CORESUPPORT & TRUNK AREAS</i>)
657. UNDERSIDE COLOR REFINISH
658. COVER VEHICLE (FOR REFINISHING ONE TIME)
659. REFINISHING JAMBS (SEPARATE COLOR THAN EXTERIOR-EACH COLOR*)
660. MASKING JAMBS

- Itemize Blend Panels
 - “A” Pillar
 - Up and Over
- Document flex additive requirement
 - Align with panel refinished
- Identify rock guard needs
 - Align with panel refinished
- Document raw plastic preparation requirement
 - Use line notes to describe
- Identify items painted off vehicle



BASF AUTOMOTIVE REFINISH COATINGS

Identify Stripe Requirements

- Determine if OEM or Aftermarket
 - [Use 3M chart to identify stripe](#)
- Document stripe on estimate
 - Indicate stripe type to insure proper billing
 - Itemize stripe per panel



125 - STRIPES:

672. REMOVE OLD STRIPES WITH ERASER WHEEL USE

673. RESTRIPE WITH FINE-LINE TAPE

674. RESTRIPE PAINTED-ON

675. FACTORY STRIPE INSTALLATION



BASF AUTOMOTIVE REFINISH COATINGS

Fluid Requirements

20 - RADIATOR, AC AND FLUIDS:

114. REPAIR RADIATOR

115. REPAIR FAN SHROUD(S)

116. REPAIR AC CONDENSER/LINES

117. FLUSH LKQ CONDENSER/LINES

118. FLUSH LKQ RADIATOR/LINES

119. REPAIR AC LINES & TUBES

120. REPLACE RADIATOR "O"-RINGS **TRANS**

121. REPAIR TRANS COOLER/LINES

122. REPAIR WIRING/FASTENERS ATTACHED TO FAN SHROUDS

123. PRESSURE TEST COOLING SYSTEM

124. BLEED COOLING SYSTEM

125. TEST AC SYSTEM/CONTIMANITES

126. RECOVER AC FREON

127. EVACUATE & RECHARGE AC SYSTEM

128. TEST KIT REFRIGERANT RECOVERY

129. COOLANT, OEM RECOMMENDED PER GALLON

130. VACUUM FILL RADIATOR

131. TRANSMISSION FLUID (PINT)

132. STEERING FLUID (PINT)

133. WINDSHIELD WASHER FLUID

134. R-134 FREON AND OIL (TWO POUNDS)

135. O-RING SEAL KIT FOR AC LINES

- Any fluids removed should be measured
 - Allows adequate replacement
 - Allows accurate billing
- Document Freon requirements
 - Avoid using blanket amount
- Identify replaced fluids within category used
 - Quantity should be annotated in a line note
- Identify OEM specific fluid requirements





BASF AUTOMOTIVE REFINISH COATINGS

Tire Requirements



30 - WHEELS/TIRES/WHEEL ALIGNMENT:
168. REPLACE VALVE STEMS AND WEIGHTS
169. MOUNT & BALANCE TIRE
170. R&I WHEEL COVERS
171. TIRE DISPOSAL FEE
172. REPAIR RIM EDGE, POLISH SKUFF MARKS
173. ROTATE TIRES
174. RESET TIRE PRESSURE SENSORS
175. R&I WHEEL COVERS TO MOUNT ALIGNMENT HEADS
176. FOUR WHEEL ALIGNMENT
177. ECENTRIC ALIGNMENT KIT (PER SIDE)
178. INSPECT SUSPENSION COMPONENTS FOR DAMAGE

- Tire size and tread depth is noted in line note
 - Tire size and brand should be included in note
 - Tread depth measurement is annotated in line note
- TPMS Re-calibration
- Tire disposal fees
- Tire Tax

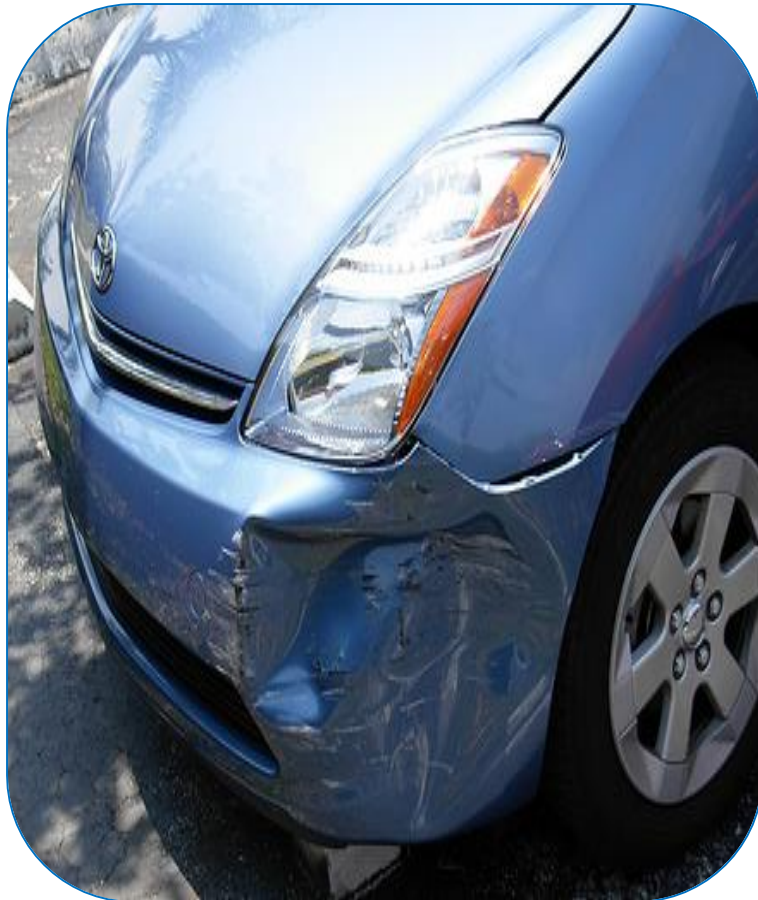




BASF AUTOMOTIVE REFINISH COATINGS

Final Photos

- Use repair plan as a checklist
 - Take photos in order of estimate
 - Label photos for clarification
 - Follow CIC Best Practice for Digital Imaging





BASF AUTOMOTIVE REFINISH COATINGS

Validate and Complete Estimate

- Verify all “Incl” labor
 - Conduct P-Page audit
 - When in doubt consult DEG

Line	Oper	Description	Part Number	Qty	Extended Price \$	Labor	Paint	
1		FRONT BUMPER						
2		O/H bumper assy				2.2		
3	Repl	Bumper cover	865112H000	1	261.44	Incl.	2.4	
		Note: Component comes unprimed from OEM. Preparation is required.						
4		Add for Clear Coat					1.0	
5	Repl	Prep unprimed bumper		1			0.6	
6	#	Repl Flex additive		1	8.95 T			
7	Repl	Bumper grille	865612H001	1	52.58	Incl.		
		Note: LABOR: Time is after bumper cover is removed. Time included with overhaul.						
		Chipped on outside upper corner						
8	Repl	Energy absorber	865202H000	1	73.00	Incl.		
9	Repl	RT Outer bracket	865142H000	1	23.89	Incl.		
		Note: LABOR: Time is after bumper cover is removed. Time not included in overhaul.						
10	#	RT Outer bracket labor		1		0.1		
		Note: System override labor: Time not included in overhaul.						

Inquiry Details

Submission Information

Tracking #: 14200

Date Submitted: 06/05/2019

Status: Resolved (IP Change)

Inquiry Resolution

Estimated UM Release Date: 07/01/2019

Proposed Resolution: MOTOR stated:

After review, in the Front Bumper group, Bumper & Components 2006-2008 subgroup, the estimated work time applied to the Reinforcement Beam has been updated to 0.4 hours from 2.0 hours. The footnote applied to the Reinforcement Beam has been updated and now states, "LABOR: Time is after bumper cover is removed. Time is not included in overhaul."

Vehicle Information

Year: 2006

Make: Acura

Model: TSX

Body: Sedan

Database Inquiry

Inquiry Type: Procedure Page Issue

Database: CCC

Area of Vehicle: Front Bumper

Page #:

Issue Summary: The Impact Bar/Reinforcement is bolted to the Frame Rails on this model. Per the general P-Page section, an Impact Bar/Reinforcement is not included if it bolts to the Frame Rails, however the specific note on the Impact Bar/Reinforcement says: "Time is for overhaul" & shows the same 2.0 hours as if you only select a Bumper Cover & Lower Valance. The Impact Bar is held onto the Frame Rails with 6 bolts. Also there is a weight mounting inside the Impact Bar with 2 nuts & the Ambient Air Sensor/bracket needs transferred as well.

Suggested Action: Correct the database to show .6 as a working time to Replace the Impact Bar/Reinforcement after the Bumper Cover is removed/Overhaul



BASF AUTOMOTIVE REFINISH COATINGS

Validate and Complete Estimate

91	#	Repl	REFRIGERANT R134	1	25.00		
92	#	Rpr	SET UP AND MEASURE			2.0	
93	#	Rpr	PULL MASH			3.0	F
94	#	Rpr	PULL SWAY			1.0	F
95	#	Subl	ALIGNMENT	1	89.95	X	
96	#	Repl	COROSION PROTECTION	1	8.00	0.3	
97	#	Repl	SEAM SEALER	1	25.00		
98	#	Repl	UNDERCOATING	1	12.00	0.5	
99	#	Repl	WELD THRU PRIMER	1	2.50		
100	#	Repl	COVER CAR	1	5.00	0.3	
101	#	Repl	FLEX ADDITIVE	1	8.00		
102	#	Rpr	MASK JAMBS			0.3	
103	#	Refn	CLEAR COAT				3.0
104	#	Repl	PAINT MATERIALS	1	492.80		
105	#	Repl	HAZARDOUS WASTE DISPOSAL	1	5.00		

- Add miscellaneous charges
 - Align within areas used
 - Cover Car
 - Hazardous waste

8	Repl	Replace door skin	FL34-16202204-AE	1	\$148.65	4.5	3.2
9	Ref	Add for clear					1.2
10	Repl	Solid Rivet	W790376-S900	10			
11	Repl	Door skin adhesive	3M 08115	1	\$56.89	Incl	
12		Note: Door skin replacement requires 100% of 3M P/N 08115 tube to complete repair. Labor included in door skin					
13	Repl	Door intrusion beam adhesive	3M 04275	1	\$12.13	.3	
14		Note: Intrusion beam requires 30% of 3M P/N 04275 tube to complete repair					
15	Repl	Door seam sealer	3M 08323	1	\$45.51	Incl	
16		Note: Door requires 80% of 3M P/N 08323 to complete repair. Labor included in door skin					
17	Repl	Door cavity wax	3M 08852	1	\$17.85	.3	
18		Note: Door requires 25% of 3M P/N 08852 to complete repair					



BASF AUTOMOTIVE REFINISH COATINGS

Determine Reparability

2009 Chevrolet COBALT-L4

Sedan 4D LS



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Pricing	Rough Trade-In	Average Trade-In	Clean Trade-In	Clean Retail
Base Price	\$6,625	\$7,625	\$8,425	\$10,875
Mileage: 46,785	N/A	N/A	N/A	N/A
Options: (add options)				
Cruise Control	\$150	\$150	\$150	\$175
Aluminum/Alloy Wheels	\$300	\$300	\$300	\$350
Power Sunroof	\$550	\$550	\$550	\$625
TOTAL PRICE	\$7,625	\$8,625	\$9,425	<u>\$12,025*</u>

- Research NADA Website
 - Indicate *exact* Make, Model and Trim
 - Indicate *current* mileage



BASF AUTOMOTIVE REFINISH COATINGS

Determine Reparability

Appraisal total divided by vehicle value as a percentage

$$\begin{aligned} &\text{Appraisal Total: } \$8,695.50 \\ &\quad \text{divided by} \\ &\text{Vehicle Value: } \$12,025.00 \\ &= \\ &\text{Repair Percentage of } 72\% \end{aligned}$$



- Be Thorough – Communicate the Repair
- Itemize all repairs
 - Be descriptive
 - Make line notes
- Take photos
 - Let them illustrate the repair
 - Label them



Document * Document * Document



BASF AUTOMOTIVE REFINISH COATINGS

Take Aways

- Estimating
- Tools
- Documentation





BASF AUTOMOTIVE REFINISH COATINGS

Useful Websites

Alldata Collision

www.alldata.com/collision

BASF Automotive Refinish

www.basrefinish.com

Collision Industry Conference

www.ciclink.com

Collision Hub

www.collisionhub.com

Database Enhancement Gateway

www.degweb.org

I-CAR

www.i-car.com

NADA Guides

www.nadaguides.com

OEM1Stop - Position Statements

www.oem1stop.com

Paintscratch - Paint Info

www.Paintscratch.com

3M Sop's

www.3mcollision.com



BASF AUTOMOTIVE REFINISH COATINGS



Thank You!

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