

Instructional Framework

Automotive Collision Repair
47.0600.30



Domain 1: Repair	
Instructional Time: 45-55%	
STANDARD 1.0 Perform Non-Structural Analysis and Damage Repair	
1.1 Review damage report and analyze damage to determine appropriate methods for overall repair; develop and document a repair plan	<ul style="list-style-type: none"> ● Repair methods ● Repair plan
1.2 Inspect, remove, label, store, and reinstall exterior trim and moldings	<ul style="list-style-type: none"> ● Trim and Molding Procedures
1.3 Inspect, remove, label, store, and reinstall interior trim and components	<ul style="list-style-type: none"> ● Removing and installing trim procedures ● Importance of labeling and storage
1.4 Inspect, remove, label, store, and reinstall body panels and components that may interfere with or be damaged during repair	<ul style="list-style-type: none"> ● Removing and installing body panels procedures ● Importance of labeling and storage
1.5 Inspect, remove, label, store, and reinstall vehicle mechanical and electrical components that may interfere with or be damaged during repair	<ul style="list-style-type: none"> ● Safety ● Removing electrical component procedures ● Installing electrical component procedures ● Importance of labeling and storage
1.6 Protect panels, glass, interior parts, and other vehicles adjacent to the repair area	<ul style="list-style-type: none"> ● Protect adjacent repair area
1.7 Wash entire vehicle with soap and water; complete pre-repair inspection checklist	<ul style="list-style-type: none"> ● Pre repair procedure
1.8 Prepare damaged area using water-based and solvent-based cleaners	<ul style="list-style-type: none"> ● Safety ● Cleaning procedure
1.9 Remove corrosion protection, undercoatings, sealers, and other protective coatings as necessary to perform repairs	<ul style="list-style-type: none"> ● Safety ● Protective coating removal procedures
1.10 Inspect, remove, and reinstall repairable plastics and other components for off-vehicle repair	<ul style="list-style-type: none"> ● Remove and install procedures
STANDARD 2.0 Perform outer body panel repairs, replacement, and adjustments	
2.1 Determine the extent of direct and indirect/hidden damage and direction of impact; develop and document a repair plan	<ul style="list-style-type: none"> ● Direct and indirect damage differences
2.2 Inspect, remove and replace bolted, bonded, and welded steel panel or panel assemblies	<ul style="list-style-type: none"> ● Safety ● Repair plan

	<ul style="list-style-type: none"> ● Repair procedures
2.3 Determine the extent of damage to aluminum body panels; repair or replace	<ul style="list-style-type: none"> ● Safety ● Repair plan ● Repair procedures
2.4 Inspect, remove, replace, and align hood, hood hinges, and hood latch	<ul style="list-style-type: none"> ● Safety ● Aluminum Repair Plan ● Aluminum repair procedure per manufacturer recommendation
2.5 Inspect, remove, replace, and align deck lid, lid hinges, and lid latch	<ul style="list-style-type: none"> ● Panel alignment repair plan
2.6 Inspect, remove, replace, and align doors, latches, hinges, and related hardware	<ul style="list-style-type: none"> ● Repair plan ● Repair procedures
2.7 Inspect, remove, replace and align tailgates, hatches, lift gates and sliding doors	<ul style="list-style-type: none"> ● Repair plan ● Repair procedures
2.8 Inspect, remove, replace, and align bumper bars, covers, reinforcement, guards, isolators, and mounting hardware	<ul style="list-style-type: none"> ● Repair plan ● Repair procedures
2.9 Inspect, remove, replace and align fenders, and related panels	<ul style="list-style-type: none"> ● Repair plan ● Repair procedures
2.10 Straighten contours of damaged panels to a suitable condition for body filling or metal finishing using power tools, hand tools, and weld-on pulling attachments	<ul style="list-style-type: none"> ● Safety ● Repair plan ● Repair procedures
2.11 Weld damaged or torn steel body panels; repair broken welds	<ul style="list-style-type: none"> ● Safety ● Repair plan ● Repair procedures
2.12 Restore corrosion protection	<ul style="list-style-type: none"> ● Safety ● Repair plan ● Repair procedures
2.13 Replace door skins	<ul style="list-style-type: none"> ● Safety ● Repair plan ● Repair procedures
2.14 Restore sound deadeners and foam materials	<ul style="list-style-type: none"> ● Safety ● Repair plan ● Repair procedures
2.15 Perform panel bonding and weld bonding	<ul style="list-style-type: none"> ● Safety ● Repair plan ● Repair procedures

2.16 Diagnose and repair water leaks, dust leaks, and wind noise	<ul style="list-style-type: none"> ● Safety ● Repair plan for leaks (water, dust and wind noise)
2.17 Identify one-time use fasteners	<ul style="list-style-type: none"> ● Fastener Types ● Removal and replacement procedures
STANDARD 3.0 Perform Metal finishing and body filling	
3.1 Remove paint from damaged area of body panel	<ul style="list-style-type: none"> ● Safety ● Paint removal procedures
3.2 Locate and repair surface irregularities on a damaged body panel	<ul style="list-style-type: none"> ● Safety ● Body panel repair procedures
3.3 Demonstrate hammer and dolly techniques	<ul style="list-style-type: none"> ● Safety ● Hammer techniques ● Dolly techniques
3.4 Heat shrink stretched panel areas to proper contour	<ul style="list-style-type: none"> ● Safety ● Heat shrink procedures
3.5 Cold shrink stretched panel areas to proper contour	<ul style="list-style-type: none"> ● Safety ● Cold shrink procedures
3.6 Prepare and apply body filler	<ul style="list-style-type: none"> ● Safety ● Mixing procedures ● Spreading procedures
3.7 Identify different types of body fillers	<ul style="list-style-type: none"> ● Uses of different fillers
3.8 Rough sand body filler to contour; finish sand	<ul style="list-style-type: none"> ● Safety ● Body filler sanding technique
3.9 Determine the proper metal finishing techniques for aluminum	<ul style="list-style-type: none"> ● Aluminum vs steel sanding difference
3.10 Determine proper application of body filler to aluminum	<ul style="list-style-type: none"> ● Aluminum vs steel body filler difference
STANDARD 4.0 Determine Movable glass and hardware requirements	
4.1 Inspect, adjust, repair or replace window regulators, run channels, glass, power mechanisms, and related controls	<ul style="list-style-type: none"> ● Safety ● Window component service procedures
4.2 Inspect, adjust, repair, remove, reinstall or replace weather-stripping	<ul style="list-style-type: none"> ● Weatherstrip service procedures
4.3 Inspect, repair or replace, and adjust removable power operated roof panel and hinges, latches, guides, handles, retainer, and controls of sunroofs	<ul style="list-style-type: none"> ● Sunroof repair procedures
4.4 Initialize electrical components as needed	<ul style="list-style-type: none"> ● Initialize procedures
STANDARD 5.0 Perform Metal welding and cutting	
5.1 Identify weldable and non-weldable substrates used in vehicle construction	<ul style="list-style-type: none"> ● Weldable substrates/non weldable substrates

5.2 Weld and cut high-strength steel and other steels	<ul style="list-style-type: none"> • Safety • Welding and cutting procedures
5.3 Weld and cut aluminum	<ul style="list-style-type: none"> • Safety • Aluminum welding and cutting procedures
5.4 Determine the correct GMAW (MIG) welder type, electrode/wire type, diameter, and gas to be used in a specific welding situation	<ul style="list-style-type: none"> • Welding procedure plan
5.5 Set up and adjust the GMAW (MIG) welder to "tune" for proper electrode stickout, voltage, polarity, flow rate, and wire-feed speed required for the substrate being welded	<ul style="list-style-type: none"> • Setup procedure
5.6 Store, handle, and install high-pressure gas cylinders	<ul style="list-style-type: none"> • Safety • Gas cylinder handling procedures
5.7 Determine work clamp (ground) location and attach	<ul style="list-style-type: none"> • Grounding procedure
5.8 Use the proper angle of the gun to the joint and direction of gun travel for the type of weld being made in the flat, horizontal, vertical, and overhead positions	<ul style="list-style-type: none"> • Welding gun use procedures
5.9 Protect adjacent panels, glass, vehicle interior, etc. from welding and cutting operations	<ul style="list-style-type: none"> • Adjacent panel protection
5.10 Protect computers and other electronic control modules during welding procedures	<ul style="list-style-type: none"> • Electronic protection procedures
5.11 Clean and prepare the metal to be welded, assure good metal fit-up, apply weld-through primer if necessary, clamp or tack as required	<ul style="list-style-type: none"> • Prepare metal for welding • Clamp or tack work piece
5.12 Determine the joint type (butt weld with backing, lap, etc.) for weld being made	<ul style="list-style-type: none"> • Welding Joint type
5.13 Determine the type of weld (continuous, stitch weld, plug, etc.) for each specific welding operation	<ul style="list-style-type: none"> • Weld types
5.14 Perform the following welds: continuous, plug, butt weld with and without backing, fillet, etc.	<ul style="list-style-type: none"> • Welds without backings
5.15 Perform visual and destructive tests on each weld type	<ul style="list-style-type: none"> • Destructive testing
5.16 Identify the causes of various welding defects; make necessary adjustments	<ul style="list-style-type: none"> • Welding defects • Adjustments
5.17 Identify cause of contact tip burn-back and failure of wire to feed; make necessary adjustments	<ul style="list-style-type: none"> • Burn-back and wire failure
5.18 Identify cutting process for different substrates and locations; perform cutting operation	<ul style="list-style-type: none"> • Cutting processes
5.19 Identify different methods of attaching non-structural components [squeeze type resistant spot welds (STRSW), riveting, non-structural adhesive, silicon bronze, etc.]	<ul style="list-style-type: none"> • Alternative welding methods
STANDARD 6.0 Perform Plastics and adhesives repairability	

6.1 Identify the types of plastics; determine repairability	<ul style="list-style-type: none"> ● Plastic repair procedures
6.2 Clean and repair the surface of plastic parts; identify the types of plastic repair procedures	<ul style="list-style-type: none"> ● Safety ● Plastic repair procedures
6.3 Repair rigid, or flexible plastic panels	<ul style="list-style-type: none"> ● Safety ● Plastic repair procedures
6.4 Remove or repair damaged areas from rigid exterior composite panels	<ul style="list-style-type: none"> ● Plastic repair procedures
6.5 Replace bonded rigid exterior composite body panels; straighten or align panels supports	<ul style="list-style-type: none"> ● Replace procedures ● Alignment procedures
STANDARD 13.0 Perform Damage Analysis	
13.1 Position the vehicle for inspection	<ul style="list-style-type: none"> ● Inspect vehicle
13.2 Prepare vehicle for inspection by providing access to damaged area	<ul style="list-style-type: none"> ● Access damaged area
13.3 Analyze damage to determine appropriate methods for overall repairs	<ul style="list-style-type: none"> ● Repair plan
13.4 Determine the direction, point(s) of impact, and extent of direct, indirect, and inertia damage	<ul style="list-style-type: none"> ● Points of impact (direct/indirect)
13.5 Gather details of the incident/accident necessary to determine the full extent of vehicle damage	<ul style="list-style-type: none"> ● Compile damage list
13.6 Identify and record pre-existing damage	<ul style="list-style-type: none"> ● Pre existing damage
13.7 Identify and record prior repairs	<ul style="list-style-type: none"> ● Prior repairs
13.8 Perform visual inspection of structural components and members	<ul style="list-style-type: none"> ● Structural components
13.9 Identify structural damage using measuring tools and equipment	<ul style="list-style-type: none"> ● Measuring tools ● Structural damage
13.10 Perform visual inspection of non-structural components and members	<ul style="list-style-type: none"> ● Non-structural inspection
13.11 Determine parts, components, material type(s) and procedures necessary for a proper repair	<ul style="list-style-type: none"> ● Repair procedures
13.12 Identify type and condition of finish; determine if refinishing is required	<ul style="list-style-type: none"> ● Determine refinish
13.13 Identify suspension, electrical, and mechanical component physical damage	<ul style="list-style-type: none"> ● Determine damage to suspension,electrical,and mechanical components
13.14 Identify safety systems physical damage	<ul style="list-style-type: none"> ● Safety system damage
13.15 Identify interior component damage	<ul style="list-style-type: none"> ● Interior damage identification
13.16 Identify damage to add-on accessories and modifications	<ul style="list-style-type: none"> ● Accessory identification
13.17 Identify single (one time) use components	<ul style="list-style-type: none"> ● One time use component Safety identification
STANDARD 15.0 Determine Vehicle Construction and parts identification	

15.1 Identify type of vehicle construction (space frame, unibody, body-over-frame)	<ul style="list-style-type: none"> • Frame differences
15.2 Recognize the different damage characteristics of space frame, unibody, and body over frame vehicles	<ul style="list-style-type: none"> • Frame differences
15.3 Identify impact energy absorbing components	<ul style="list-style-type: none"> • Safety components
15.4 Identify steel types; determine repair ability	<ul style="list-style-type: none"> • Repair procedures
15.5 Identify aluminum/magnesium components; determine repair ability	<ul style="list-style-type: none"> • Repair procedures
15.6 Identify plastic/composite components determine repair ability	<ul style="list-style-type: none"> • Repair procedures
15.7 Identify vehicle glass components and repair/replacement procedures	<ul style="list-style-type: none"> • Glass repair procedures
15.8 Identify add-on accessories	<ul style="list-style-type: none"> • Repair procedures

Domain 2: Refinishing

Instructional Time: 35-45%

STANDARD 7.0 Apply Safety precautions when painting and refinishing

7.1 Identify and take necessary precautions with hazardous operations and materials according to federal, state, and local regulations	<ul style="list-style-type: none"> • Safety • Hazardous material handling
7.2 Identify safety and personal health hazards according to OSHA guidelines and the Right to Know Law	<ul style="list-style-type: none"> • Health hazards
7.3 Inspect spray environment and equipment to ensure compliance with federal, state and local regulations, and for safety and cleanliness hazards	<ul style="list-style-type: none"> • Inspect spray equipment and environment • Federal, State, and Local Regulations
7.4 Select and use a NIOSH approved air purifying respirator. Inspect condition and ensure fit and operation. Perform proper maintenance in accordance with OSHA Regulation 1910.134 and applicable state and local regulation	<ul style="list-style-type: none"> • Safety • Inspect and fit air purifying respirator
7.5 Select and use a NIOSH approved supplied air (Fresh Air Make-up) respirator system. Perform proper maintenance in accordance with OSHA Regulation 1910.134 and applicable state and local regulation	<ul style="list-style-type: none"> • Safety • Inspect and maintain Fresh air supplied respirator
7.6 Select and use the proper personal safety equipment for surface preparation, spray gun and related equipment operation, paint mixing, matching and application, paint defects, and detailing (gloves, suits, hoods, eye and ear protection, etc.)	<ul style="list-style-type: none"> • Safety • Select proper PPE equipment

STANDARD 8.0 Perform Surface Preparations for paint and refinishing

8.1 Inspect, remove, store, and replace exterior trim and components necessary for proper surface preparation	<ul style="list-style-type: none"> • Repair procedures
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8.2 Wash entire vehicle with soap and water; use appropriate cleaner to remove contaminants	<ul style="list-style-type: none"> ● Washing procedures
8.3 Inspect and identify type of finish, surface condition, and film thickness; develop and document a plan for refinishing using a total product system	<ul style="list-style-type: none"> ● Repair techniques
8.4 Strip paint to bare substrate (paint removal)	<ul style="list-style-type: none"> ● Safety ● Paint removal
8.5 Dry or wet sand areas to be refinished	<ul style="list-style-type: none"> ● Select abrasives
8.6 Featheredge areas to be refinished	<ul style="list-style-type: none"> ● Featheredge panels
8.7 Apply suitable metal treatment or primer in accordance with total product systems	<ul style="list-style-type: none"> ● Safety ● Apply suitable metal treatment
8.8 Mask and protect other areas that will not be refinished	<ul style="list-style-type: none"> ● Protect adjacent panels
8.9 Mix primer, primer-surfacer or primer-sealer	<ul style="list-style-type: none"> ● Mix undercoat
8.10 Identify a complimentary color or shade of undercoat to improve coverage	<ul style="list-style-type: none"> ● Colored undercoats
8.11 Apply primer onto surface of repaired area	<ul style="list-style-type: none"> ● Safety ● Apply primers
8.12 Apply two-component finishing filler to minor surface imperfections	<ul style="list-style-type: none"> ● Minor imperfections
8.13 Block sand area to which primer-surfacer has been applied	<ul style="list-style-type: none"> ● Block sand primer
8.14 Dry sand area to which finishing filler has been applied	<ul style="list-style-type: none"> ● Dry sand finishing filler
8.15 Remove dust from area to be refinished, including cracks or moldings of adjacent areas	<ul style="list-style-type: none"> ● Remove dust
8.16 Clean area to be refinished using a final cleaning solution	<ul style="list-style-type: none"> ● Clean panels
8.17 Remove, with a tack rag, any dust or lint particles from the area to be refinished	<ul style="list-style-type: none"> ● Tack rag vehicle
8.18 Apply suitable sealer to the area being refinished	<ul style="list-style-type: none"> ● Apply sealers
8.19 Scuff sand to remove nibs or imperfections from a sealer	<ul style="list-style-type: none"> ● Nib sand imperfections
8.20 Apply stone chip resistant coating	<ul style="list-style-type: none"> ● Apply chip guard
8.21 Restore caulking and seam sealers to repaired areas	<ul style="list-style-type: none"> ● Seam sealer
8.22 Prepare adjacent panels for blending	<ul style="list-style-type: none"> ● Panels for blending
8.23 Identify the types of rigid, semi-rigid or flexible plastic parts to be refinished; determine the materials needed, preparation, and refinishing procedures	<ul style="list-style-type: none"> ● Plastic repair/refinish procedures
8.24 Identify metal parts to be refinished; determine the materials needed, preparation, and refinishing procedures	<ul style="list-style-type: none"> ● Metal repair/refinish procedures

STANDARD 10.0 Perform Paint and Mixing, Matching, and Applying procedures	
10.1 Identify color code by manufacturer vehicle information label	<ul style="list-style-type: none"> ● Color Identify procedures
10.2 Shake, stir, reduce, catalyze/activate, and strain refinish materials	<ul style="list-style-type: none"> ● Pre Refinishing procedures ● Safety
10.3 Apply finish using appropriate spray techniques (gun arc, angle, distance, travel speed, and spray pattern overlap) for the finish being applied	<ul style="list-style-type: none"> ● Safety ● Refinishing procedures
10.4 Apply selected product on test or let-down panel; check for color match	<ul style="list-style-type: none"> ● Safety ● Refinishing procedures
10.5 Apply single stage topcoat	<ul style="list-style-type: none"> ● Safety ● Refinishing procedures
10.6 Apply basecoat/clearcoat for panel blending and panel refinishing	<ul style="list-style-type: none"> ● Safety ● Refinishing/ blending procedures
10.7 Apply basecoat/clearcoat for overall refinishing	<ul style="list-style-type: none"> ● Safety ● Refinishing procedures
10.8 Remove nibs or imperfections from basecoat	<ul style="list-style-type: none"> ● Refinishing procedures
10.9 Refinish rigid or semi-rigid plastic part	<ul style="list-style-type: none"> ● Safety ● Refinishing procedures
10.10 Refinish flexible plastic parts	<ul style="list-style-type: none"> ● Safety ● Plastic refinishing procedures
10.11 Apply multi-stage coats for panel blending and overall refinishing	<ul style="list-style-type: none"> ● Safety ● Refinishing procedures
10.12 Identify and mix paint using a formula	<ul style="list-style-type: none"> ● Safety ● Mixing procedures
10.13 Identify poor hiding colors; determine necessary action	<ul style="list-style-type: none"> ● Refinishing procedures
10.14 Tint color using formula to achieve a blendable match	<ul style="list-style-type: none"> ● Mixing and matching procedures
10.15 Identify alternative color formula to achieve a blendable match	<ul style="list-style-type: none"> ● Mixing and matching procedures
10.16 Identify the materials equipment, and preparation differences between solvent and waterborne technologies	<ul style="list-style-type: none"> ● Refinishing tools and procedures
STANDARD 9.0 Perform Spray gun and related equipment operations	
9.1 Inspect, clean, and determine condition of spray guns and related equipment (air hoses, regulators, air lines, air source, and spray environment)	<ul style="list-style-type: none"> ● Refinishing tools and procedures
9.2 Select spray gun setup (fluid needle, nozzle, and cap) for product being applied	<ul style="list-style-type: none"> ● Refinishing tool ID
9.3 Test and adjust spray gun using fluid, air and pattern control valves	<ul style="list-style-type: none"> ● Refinishing tools procedures

	<ul style="list-style-type: none"> • Safety
9.4 Demonstrate an understanding of the operation of pressure spray equipment	<ul style="list-style-type: none"> • Refinishing tools procedures • Safety
STANDARD 11.0 Determine Paint defects,Causes ,and cures	
11.1 Identify blistering (raising of the paint surface, air entrapment); determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Refinishing procedures repair
11.2 Identify a dry spray appearance in the paint surface; determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Refinishing procedures
11.3 Identify the presence of fish-eyes (crater-like openings) in the finish; determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Refinishing repair procedures
11.4 Identify lifting; determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Refinishing repair procedures
11.5 Identify clouding (mottling and streaking in metallic finishes); determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Refinishing repair procedures
11.6 Identify orange peel; determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Cut and buffing procedures
11.7 Identify overspray; determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Refinishing repair procedures
11.8 Identify solvent popping in freshly painted surface; determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Refinishing repair procedures
11.9 Identify sags and runs in paint surface; determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Cut and buffing procedures
11.10 Identify sanding marks or sand scratch swelling; determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Refinishing repair procedures
11.11 Identify contour mapping/edge mapping while finish is drying; determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Refinishing repair procedures
11.12 Identify color difference (off-shade); determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Refinishing repair procedures • Mixing procedures
11.13 Identify tape tracking; determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Masking procedures
11.14 Identify low gloss condition; determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Refinishing procedures
11.15 Identify poor adhesion; determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Refinishing prep procedures
11.16 Identify paint cracking (shrinking, splitting, crows feet or line-checking, micro-checking, etc.); determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Refinishing repair procedures
11.17 Identify corrosion; determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Corrosion
11.18 Identify dirt or dust in the paint surface; determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Dust in finish
11.19 Identify water spotting; determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Water spotting

11.20 Identify finish damage caused by bird droppings, tree sap, and other natural causes; correct the condition	<ul style="list-style-type: none"> • Bird-droppings
11.21 Identify finish damage caused by airborne contaminants (acids, soot, rail dust, and other industrial-related causes); correct the condition	<ul style="list-style-type: none"> • Airborne contaminants
11.22 Identify die-back conditions (dulling of the paint film showing haziness); determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Die-back
11.23 Identify chalking (oxidation); determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Oxidation
11.24 Identify bleed-through (staining); determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Bleed through
11.25 Identify pin-holing; determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Pin- holing
11.26 Identify buffing-related imperfections (swirl marks, wheel burns); correct the condition	<ul style="list-style-type: none"> • Buffing imperfections
11.27 Identify pigment flotation (color change through film build); determine the cause(s) and correct the condition	<ul style="list-style-type: none"> • Pigment floatation
STANDARD 12.0 Perform Final painting and Refinishing detail	
12.1 Apply decals, transfers, tapes, woodgrains, pinstripes (painted and taped), etc.	<ul style="list-style-type: none"> • Decals
12.2 Sand, buff and polish fresh or existing finish to remove defects as required	<ul style="list-style-type: none"> • Sand,buff,and polish defects
12.3 Clean interior, exterior, and glass	<ul style="list-style-type: none"> • Clean glass
12.4 Clean body openings (door jambs and edges, etc.)	<ul style="list-style-type: none"> • Clean body openings
12.5 Remove overspray	<ul style="list-style-type: none"> • Overspray
12.6 Perform vehicle clean-up; complete quality control using a checklist	<ul style="list-style-type: none"> • Vehicle clean-up

Domain 3: Customer Service

Instructional Time: 5-15%

STANDARD 14.0 Perform Estimation

14.1 Determine and record customer/vehicle owner information	<ul style="list-style-type: none"> • Customer/vehicle information
14.2 Identify and record vehicle identification number (VIN) information, including nation of origin, make, model, restraint system, body type, production date, engine type, and assembly plant	<ul style="list-style-type: none"> • Specific vehicle information
14.3 Identify and record vehicle options, including trim level, paint code, transmission, accessories, and modifications	<ul style="list-style-type: none"> • Vehicle paint code/options
14.4 Identify safety systems; determine replacement items	<ul style="list-style-type: none"> • Safety systems

14.5 Apply appropriate estimating and parts nomenclature (terminology)	<ul style="list-style-type: none"> Estimating terminology
14.6 Determine and apply appropriate estimating sequence	<ul style="list-style-type: none"> Estimate sequence
14.7 Utilize estimating guide procedure pages	<ul style="list-style-type: none"> Utilize Procedure pages
14.8 Apply estimating guide footnotes and headnotes as needed	<ul style="list-style-type: none"> Estimating guide Footnotes and Headnotes
14.9 Estimate labor value for operations requiring judgment	<ul style="list-style-type: none"> Operation Labor value judgement
14.10 Select appropriate labor value for each operation (structural, non-structural, mechanical, and refinish)	<ul style="list-style-type: none"> Labor values for operations
14.11 Select and price OEM parts; verify availability, compatibility, and condition	<ul style="list-style-type: none"> OEM parts information
14.12 Select and price alternative/optional OEM parts; verify availability	<ul style="list-style-type: none"> Alternative parts availability
14.13 Select and price aftermarket parts; verify availability, compatibility, and condition	<ul style="list-style-type: none"> Price and select alternative parts
14.14 Select and price recyclable/used parts; verify availability, compatibility and condition	<ul style="list-style-type: none"> Select and price used parts.
14.15 Select and price remanufactured, rebuilt, and reconditioned parts; verify availability, compatibility and condition	<ul style="list-style-type: none"> Select and price remanufactured parts
14.16 Determine price and source of necessary sublet operation	<ul style="list-style-type: none"> Price and source sublet operations
14.17 Determine labor value, prices, charges, allowances, or fees for non-included operations and miscellaneous items	<ul style="list-style-type: none"> Labor allowances for non-included operations
14.18 Recognize and apply overlap deductions, included operations, and addition	<ul style="list-style-type: none"> Recognize overlap, included and additional operations
14.19 Determine additional material and charges	<ul style="list-style-type: none"> Material charges
14.20 Determine refinishing material and charges	<ul style="list-style-type: none"> Refinish material charges.
14.21 Apply math skills to establish charges and totals	<ul style="list-style-type: none"> Math skills on estimate
14.22 Interpret computer-assisted and manually written estimates; verify the information is current	<ul style="list-style-type: none"> Interpret various types of estimates for current information
14.23 Identify procedural differences between computer-assisted systems and manually written estimates	<ul style="list-style-type: none"> Manual and computer estimates differences
14.24 Identify procedures to restore corrosion protection; establish labor values, and material charges	<ul style="list-style-type: none"> Labor charges for corrosion protection
14.25 Determine the cost effectiveness of the repair and determine the approximate vehicle retail, and repair value	<ul style="list-style-type: none"> Cost effectiveness of repair
14.26 Recognize the differences in estimation procedures when using different information provider systems	<ul style="list-style-type: none"> Differences in provider estimates

14.27 Verify accuracy of estimate compared to the actual repair and replacement operations	<ul style="list-style-type: none"> ● Accuracy of estimate compared to actual repair
STANDARD 16.0 Perform customer relations and selling skills	
16.1 Acknowledge and/or greet customer/client	<ul style="list-style-type: none"> ● Customer greeting
16.2 Listen to customer/client; collect information and identify customers/client's concerns, needs and expectations	<ul style="list-style-type: none"> ● Customer requests and compile important information/requests
16.3 Establish cooperative attitude with customer/client	<ul style="list-style-type: none"> ● Positive attitude
16.4 Identify yourself to customer/client; offer assistance	<ul style="list-style-type: none"> ● Professional skills: Identify yourself to customer and clients
16.5 Identify customer/client preferred communication method; follow up to keep customer/client informed about parts and the repair process	<ul style="list-style-type: none"> ● Professional skills: Contact methods to inform customer of progress
16.6 Recognize basic claims handling procedures; explain to customer/client	<ul style="list-style-type: none"> ● Utilizing claims handling procedures
16.7 Project positive attitude and professional appearance	<ul style="list-style-type: none"> ● Professional Skills: project professionalism
16.8 Provide and review warranty information	<ul style="list-style-type: none"> ● Warranty info
16.9 Provide and review technical and consumer protection information	<ul style="list-style-type: none"> ● Customer protection info
16.10 Estimate and explain duration of out-of-service time	<ul style="list-style-type: none"> ● Repair process and time to repair
16.11 Apply negotiation skills to obtain a mutual agreement	<ul style="list-style-type: none"> ● Mutual agreement for repair
16.12 Interpret and explain manual or computer-assisted estimate to customer/client	<ul style="list-style-type: none"> ● Estimate break down