



INDUSTRY TRAINING RELATIVE TO I-CAR® KNOWLEDGE AND SKILL AREAS

**AUTOMOTIVE COLLISION REPAIR INDUSTRY
KNOWLEDGE AND SKILLS PROTOCOL**

I-CAR PROFESSIONAL DEVELOPMENT PROGRAM™
INTER-INDUSTRY CONFERENCE ON AUTO COLLISION REPAIR

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DEFINITION OF COLUMNS

TERMINAL OBJECTIVE

A statement in specific and measurable terms that describes what the learner will be able to do as a result of engaging in a learning activity. Focused at the highest level of learning an individual will accomplish by completing the learning event.

ENABLING OBJECTIVE

Are supporting objectives for Terminal Objectives. Allow the Terminal Objective to be broken down into smaller, more manageable objectives. What he or she must do to accomplish the Terminal Objective

PROLEVEL

For each role within the I-CAR Professional Development Program (PDP), there are three levels of training, each referred to as an I-CAR ProLevel. Each level progressively builds upon prior learning to continually advance each professional's knowledge and skills.

OEM

Original Equipment Manufacturer – Original producer of a vehicles components, and so OEM car parts are identical to the parts used in producing a vehicle.

ALLIANCE

Recognize the accomplishments of training through approved training providers. Awarded training credit can be applied towards the I-CAR Gold Class Professionals and Platinum Individual designations.

ESTIMATOR

INDUSTRY SEGMENT – COLLISION REPAIR FACILITIES



ROLE DESCRIPTION

Inspects, analyzes and evaluates damaged vehicles to create a comprehensive and accurate damage report. This individual builds a relationship with vehicle owners, repairers and insurance personnel to negotiate costs and close customer sales. He or she uses computers to write estimates and works with computer software.

KNOWLEDGE AND SKILLS HIGH LEVEL OBJECTIVES

Inspect, analyze and evaluate damaged vehicles to create a comprehensive and accurate damage report.

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1A	1 / Gen Ed	Identify Vehicle Construction Materials	Estimator is able to identify all materials used for vehicle construction and explain where certain materials are commonly used.	Vehicle Construction Material Types		Chief Automotive – Design Based Repair – CHEM-00010 Axalta RPM – RPM Estimating Utilizing OEM Procedures – DPOP-00042
1B	1 / Gen Ed	Implement Cycle Time Best Practices	Estimator must be able to measure cycle time, identify waste in process, and look for methods to improve cycle time.	Understanding Cycle Time		AkzoNobel Coatings Inc - Cycle-time Processing Reduction (CPR) - ANOP-00017 PPG - MVP Production and Cycle Time Management - PPOP-00001
1C	1 / Gen Ed	Select Personal Protection Equipment	Estimator is able to select the correct gloves, respirators, hearing, and clothing based on work being performed.	Working Safely Around Hazardous Materials		Kent – Automotive Body Shop Safety – KAPM-00005
1D	1 / Gen Ed	Practice Workplace Safety	Estimator is able to use safety data sheet and labels, and practice general shop safety.	Workplace Safety		Kent – Automotive Body Shop Safety – KAPM-00005
1E	1 / Gen Ed	Protect Vehicle During Repairs	Estimator determines proper vehicle protection for work being performed such as use of welding blankets, interior protection, crash wrap, parts storage racks, and electrical system protection.	Vehicle Protection During the Repair Process		
1F	1 / Gen Ed	Use Proper Communication Techniques	Estimator practices good communication skills, including verbal, non-verbal, and written.	Communication in Today's Collision Repair Industry		
1G	1 / Gen Ed	Identify Hybrid Vehicles	Estimator can identify parts that are unique to hybrid vehicles, and list safety precautions and damage analysis considerations.	Hybrid Vehicle Identification and Damage Analysis		

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		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1H	1	Perform Damage Analysis on Unitized Structures	Estimator is able to identify parts of the unitized structure, identify damage based on vehicle measurements, explain collision energy management principles, and list repair considerations for unitized structures.	Damage Analysis of Unitized Structures – Front Damage Analysis of Unitized Structures – Center Damage Analysis of Unitized Structures – Rear Structural Damage Analysis – Structures		Axalta RPM – SMART/DPC Damage Analysis – DPOP-00003 Axalta RPM – DPS Damage Analysis I – DPOP-00003 Axalta RPM – DPS Damage Analysis II – DROP-00021 Chief Automotive – Structural Damage Analysis – CHEM-00003 FVTC – CDAT Analyzing and Estimating Structural Damage – FVTP-00003 FVTC – CDAT Non-Structural Repair Decisions – FVTP-00002
1I	1	Perform Damage Analysis on Full Frame Vehicles	Estimator is able to explain full-frame vehicle design, collision energy management principles, and list repair considerations.	Damage Analysis of Full Frame Vehicles		FVTC – CDAT Analyzing and Estimating Structural Damage
1J	1	Identify Recycled Parts Considerations	Estimator can locate vehicle maker position statements, repair consideration, parts grading, part usage considerations, part preparation, part sourcing, and list recycled parts best practices.	Recycled Parts Considerations		FVTC – CDAT Intro-To-Estimating – FVTP-00001
1K	1	Perform Restraints Systems Damage Analysis	Estimator is able to describe restraint system operation, locate repair information sources, identify parts, and make repair/replace recommendations.	Restraint Systems Operation Damage Analysis of Restraint Systems		FVTC – CDAT Non-Structural Repair Decisions – FVTP-00002
1L	1	Determine Refinish Considerations	Estimator is able to identify various automotive finishes and explain the repair process from the estimating perspective including materials used and finish systems.	Refinishing Overview		Axalta RPM – DPS Damage Analysis II – DROP-00021 Axalta RPM – RPM Estimating Utilizing OEM Procedures – DPOP-00042 Axalta – Axalta Refinishing today – DPPM-00005 FVTC – CDAT Non-Structural Repair Decisions – FVTP-00002 PPG – MVP Adv Collision Estimating Skills – PPOP-00005 Collision Advice – Estimating Best Practices – CAOP-00002

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		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1M	1	Perform Stationary Glass Damage Analysis	Estimator is able to identify different types of stationary glass, consideration for removal to access a repair area, glass repair considerations, ADAS implications, and part ordering considerations.	Damage Analysis of Stationary Glass		
1N	1	Perform Vehicle Check-in Process	Estimator is able to identify the different procedures when checking-in a vehicle for repair.	Vehicle Check-In Process		Axalta RPM – RPM Estimating Utilizing OEM Procedures – DPOP-00042
1O	1	Perform Damage Analysis on Interior Trim and Movable Roofs	Estimator is able to assess damage to a vehicle hard top, soft top, as well as interior trim and make repair or replace decisions.	Interior Trim and Convertible Top Damage Analysis		
1P	1	Explain Estimates and Supplements	Estimator is able to explain P-page usage, understand estimate terminology, interpret the estimate.	Basic Estimate Writing Estimating Guide Fundamentals – P-Pages		Axalta RPM – RPM Estimating Utilizing OEM Procedures – DPOP-00042 Collision Advice – 100% Disassembly – CAOP-00001 Collision Advice – Estimating Best Practices – CAOP-00002
2A	2	Write Estimates and Supplements	Estimator is able to explain the process for writing an estimate using blueprinting SOPs and manage the overall estimating process.	Writing the Estimate Blueprinting for the Estimator		
2B	2	Schedule the Repair	Estimator is able to schedule the repair based on repair size and current workload.	Schedule the Repair		Axalta RPM – Production Management 2.0 – DPOP-00045
2C	2	Perform Drivetrain Damage Analysis	Estimator is able to describe drivetrain system operation, locate repair information sources, identify parts, and make repair/replace recommendations.	Damage Analysis of Drivetrains		
2D	2	Perform Mechanical Brake System Damage Analysis	Estimator is able to describe mechanical brake system operation, locate repair information sources, identify parts, and make repair/replace recommendations.	Damage Analysis of Brake Systems Damage Analysis of Antilock Brake Systems (ABS)		

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		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
2E	2	Perform Damage Analysis of Driving Assist Systems	Estimator is able to describe driving assist system operation, locate repair information sources, identify parts, and make repair/replace recommendations.	Damage Analysis of Driving Assist Systems		
2F	2	Perform Steering and Suspension Damage Analysis	Estimator is able to describe steering and suspension system operation, locate repair information sources, identify parts, and make repair/replace recommendations.	Steering and Suspension Operation Damage Analysis of Steering and Suspension Systems		Chief Automotive – Adv Steering and Suspension Analysis – CHEM-00007 FVTC – CDAT Analyzing and Estimating Structural Damage – FVTP-00003
2G	2	Explain Basic Electrical Systems	Estimator is able to explain basic circuit construction, common electrical system failures, common troubleshooting steps, and repair considerations.	Basic Electronics for Estimators	GM Service Tech College – Electrical/Electronic Stage 1 – GMVM-00006	
2H	2	Perform Photo Documentation	Estimator is able to identify required photos, explain how to best use a camera for clear and well lit photo, shot composition, and standard operating procedures.	Capturing Quality Photos		
2I	2	Perform Damage Analysis of Vehicle Convenience Systems	Estimator is able to assess damage to vehicle convenience systems such as power seats.	Damage Analysis of Convenience System		
2J	2	Perform Air Conditioning Damage Analysis	Estimator is able to describe air conditioning system operation, locate repair information sources, identify parts, and make repair/replace recommendations.	Air Conditioning System Operation and Damage Analysis		
2K	2	Perform Heating and Cooling System Damage Analysis	Estimator is able to describe heating and cooling system operation, locate repair information sources, identify parts, and make repair/replace recommendations.	Heating and Cooling System Operation and Damage Analysis		

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		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
2L	2	Perform Lighting and Vision Assist Damage Analysis	Estimator is able to describe lighting and vision assist system operation, locate repair information sources, identify parts, and make repair/replace recommendations.	Damage Analysis of Lighting and Vision Assist		
3A	3	Coordinate the Repair Process	Estimator is able to coordinate the repair workflow for efficient shop performance, while managing customer expectations.	Coordinate the Repair Process		
3B	3	Perform Natural Causes Damage Analysis	Estimator is able to identify damage related to wind, hail, and flood damage and list repair or replace options for each.	Analyzing Damage from Natural Causes Analyzing Flood Damage		
3C	3	Perform Fire Damage Analysis	Estimator is able to examine damage related to smoke, heat, fire, and method used to extinguish and determine repairability.	Analyzing Fire Damage		
3D	3	Perform Vandalism Damage Analysis	Estimator is able to examine damage related to vandalism and make repair/replace decisions based on the extent of damage.	Analyzing Vandalism Damage		
3E	3	Perform Theft Damage Analysis	Estimator is able to examine damage related to theft and make repair/replace decisions based on the extent of damage.	Analyzing Theft Damage		
3F	3	Identify Administrative Processes	Estimator is able to work with customers, insurers, and technicians throughout the repair process, using proper organizational skills and following facility SOPs for all customer and insurer management communications.	Post Repair Process The Art and Science of Estimator Interactions		
3G	3	Perform Job File Management and Proper Documentation	Estimator is able to document the repair process for each job including service information, measurements, alignment numbers, etc.	The Art and Science of Estimator Interactions		

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		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
3H	3	Perform Quality Control	Estimator is able to perform a variety of quality control inspections during repairs and after the vehicle is complete.	Managing Quality Control		Axalta RPM – RPM Advanced Estimating Utilizing OEM Procedures – DPOP-00043

REFINISH TECHNICIAN

INDUSTRY SEGMENT – COLLISION REPAIR FACILITIES



ROLE DESCRIPTION

Prepares and applies paint to repaired vehicles to restore a vehicle's appearance to pre-accident condition. Duties may include final sanding, masking, color mixing and tinting, spray booth operations and applying primers, sealers and clear coats. He or she may need to blend color into adjacent panels for a better color match to the existing vehicle finish. This individual works with potentially hazardous materials, so attention to safety and personal protection is essential. Vehicles must be correctly prepared and refinished to ensure proper adhesion, color match and overall appearance.

KNOWLEDGE AND SKILLS HIGH LEVEL OBJECTIVES

Prepare and apply paint to repaired vehicles to restore a vehicle's appearance to pre-accident condition.

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1A	1 / Gen Ed	Implement Cycle Time Best Practices	Technician must be able to measure cycle time, identify waste in process, and look for methods to improve cycle time.	Understanding Cycle Time		AkzoNobel Coatings Inc — Cycle-time Processing Reduction (CPR) — ANOP-00017 PPG – MVP Production and Cycle Time Management – PPOP-00001
1B	1 / Gen Ed	Use Proper Communication Techniques	Technician practices good communication skills, including verbal, non-verbal, and written.	Communication in Today's Collision Repair Industry		
1C	1 / Gen Ed	Practice Workplace Safety	Technician is able to use safety data sheet and labels, and practice general shop safety.	Workplace Safety Safety Data Sheets and Labels		Kent — Automotive Body Shop Safety — KAPM-00005
1D	1 / Gen Ed	Select Personal Protection Equipment	Technician is able to select the correct gloves, respirators, hearing, and clothing based on work being performed.	Working Safely Around Hazardous Materials		Kent — Automotive Body Shop Safety — KAPM-00005 3M – Technical College Instructor Repair Process – 3MPM-00013
1E	1 / Gen Ed	Identify Vehicle Construction Materials	Technician is able to identify all materials used for vehicle construction and explain where certain materials are commonly used.	Vehicle Construction Material Types		
1F	1 / Gen Ed	Protect Vehicle During Repairs	Technician determines proper vehicle protection for work being performed such as use of welding blankets, interior protection, crash wrap, parts storage racks, and electrical system protection.	Vehicle Protection During the Repair Process		
1G	1 / Gen Ed	Comply with Environmental Protection Regulations	Technician is able to take steps to reduce hazardous waste and volatile organic compounds (VOC) using shop SOPs.	Hazardous Waste Disposal Hazardous Airborne Pollutant		

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1H	1	Prepare Surface for Refinishing	Technician is able to mix primer for repaired areas, block primer, and prepare a vehicle for paint (excluding masking).	Priming and Blocking Repaired Areas Preparing the Vehicle for Refinishing		3M – Paint Preparation for Productivity – Online – 3MPM-00006 Martin Senour/SW – Prep Technician Course – MSPM-00004/SWPM-00004 Martin Senour/SW – Perfecting Plastic Refinishing, Final Finishing, and Masking Techniques – MSPM-00018/SWPM-00018 Saint-Gobain – Body Panel Refinishing Training – SGPM-00002 Saint-Gobain – Automotive Refinishing Training – SGPM-00001 Saint-Gobain – Saint-Gobain School – SGPM-00013
1I	1	Apply Masking	Technician can identify types and uses of tapes, list types of vehicle spray covers, and perform a variety of masking techniques.	Masking		3M – Masking Solutions – 3MPM-00003 3M – Paint Preparation for Productivity – Online – 3MPM-00006 Martin Senour/SW – Prep Technician Course – MSPM-00004/SWPM-00004 Martin Senour/SW – Perfecting Plastic Refinishing, Final Finishing, and Masking Techniques – MSPM-00018/SWPM-00018 Saint-Gobain – Adhesives Refinishing Training – SGPM-00004 Saint-Gobain – Best Practices for Body Shop Repair – SGPM-00005 Saint-Gobain – Saint Gobain School – SGPM-00013 Saint-Gobain – Automotive Refinishing Training – SGPM-00001 Saint-Gobain – Paint Refinishing Training – SGPM-00003 Saint-Gobain – Paint Shop Best Practices – SGPM-00007
1J	1	Set Up Spray Gun	Technician is able to identify the different types of spray guns and explain maintenance, cleaning, and troubleshooting steps.	Spray Guns		Dan-Am company (SATA) – SATA Gun Overview and Maintenance – DAEM-00001 DeVilbiss – SprayMaster Paint Technician Class – DVPM-00001 Pro-Spray – Color Theory – PSPM-00003

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		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1K	1	Apply a Finish	Technician is able to apply primer, basecoat (colorcoat), and clearcoat.	Refinishing Application and Blending		BASF Corp – Glasurit Color Adjustment Techniques – BAPM-00014 BASF Corp – R-M Color Adjustment Techniques – BAPM-00012 Matrix Sys Automotive Finishes – Color Theory – MRPM-00003 Pro-Spray – Color Theory – PSPM-00003
1L	1	Maintain Mixing Room and Related Equipment	Technician is able to operate and maintain equipment commonly used in the mixing room.	Mixing Rooms and Equipment		

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		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
2A	2	Perform Mixing and Tinting	Technician is able to mix colorcoat according to the proper ratios and achieve the proper color match.	Basic Color Theory		3M – Paint Preparation for Productivity – Online – 3MPM-00006 AkzoNobel Coatings Inc. – Color Tinting Course – ANPM-00021 AkzoNobel Coatings Inc. – OE Paint Certification – Color Tinting – ANPM-00022 BASF Corp – Glasurit Color Adjustment Techniques – BAPM-00014 BASF Corp – R-M Color Adjustment Techniques – BAPM-00012 Axalta – 311 – Cromax color 2 – Color Matching Tech – DPPM-00037 Axalta – 304 – Cromax Pro Advanced Tri-Coat Course – DPPM-00031 Axalta – 301 – Cromax Mosaic Tri-Coat and Specialty Colors – DPPM-00027 Axalta – 301 – Cromax Pro Tri-Coat and Specialty Colors – DPPM-00027 Martin Senour/SW – Painter Cert and Color Adj – MSPM-00003/SWPM-00003 Martin Senour/SW – Color Adj and Blending – MSPM-00002/SWPM-00002 Martin Senour/SW – Color Adj and Blending – 2 Day – MSPM-00023/SWPM-00023 Martin Senour/SW – Color Match Simplicity – MSPM-00010/SWPM-00010 Matrix Sys Automotive Finishes – Color Theory – MRPM-00003 PPG – Nexa Eye for Color (2K HS, Aquabase Plus) – NAPM-00002 PPG – Color (Deltron, Global, Envirobase HP) – PPPM-00006 Pro-Spray – Color Theory – PSPM-00003 Valspar – DeBeer Refinish Color Theory Two Day – VRPM-00004

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
2B	2	Sand, Buff, and Polish	Technician is able to remove specific refinish defects, including overspray, and use the recommended techniques for buffing and polishing the finish.	Introduction to Sanding, Buffing, and Polishing Sanding, Buffing, and Polishing Hands-On Skills Development (Live hands-on)		3M – Paint Defect Removal and Polishing – Online – 3MPM-00007 3M – Technical College Instructor Repair Process – 3MPM-00013 Martin Senour/SW – Prep Technician Course – MSPM-00004/SWPM-00004 Presta – Sanding and Buffing – PEPM-00001 Saint-Gobain – Adhesives Refinishing Training – SGPM-00004 Saint-Gobain – Best Practices for Body Shop Repair – SGPM-00005 Saint-Gobain – Adhesives Refinishing Training – SGPM-00004 Saint-Gobain – Saint Gobain School – SGPM-00013 Saint-Gobain – Automotive Refinishing Training – SGPM-00001 Saint-Gobain – Paint Refinishing Training – SGPM-00003 Saint-Gobain – Paint Shop Best Practices – SGPM-00007
2C	2	Manage Paint Department	Technician can determine job schedules based on priority, review work orders, and plan paint color.	Refinish Planning		AkzoNobel Coatings Inc. – Implementing Repair Planning – ANOP-00019

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
3A	3	Application of Color Theory	Technician uses color theory to match color and tint a color when a color code does not provide an exact color match.	Color Theory Application		AkzoNobel Coatings Inc. – Color Tinting Course – ANPM-00021 AkzoNobel Coatings Inc. – OE Paint Certification – Color Tinting – ANPM-00022 AkzoNobel Coatings Inc. – Code to Color – ANPM-00023 BASF Corp – Glasurit Color Adjustment Techniques – BAPM-00014 BASF Corp – R-M Color Adjustment Techniques – BAPM-00012 Axalta – 311 – Cromax color 2 – Color Matching Tech – DPPM-00037 Axalta – 304 – Cromax Pro Advanced Tri-Coat Course – DPPM-00031 Axalta – 301 – Cromax Mosaic Tri-Coat and Specialty Colors – DPPM-00027 Axalta – 301 – Cromax Pro Tri-Coat and Specialty Colors – DPPM-00027 Martin Senour/SW – Painter Cert and Color Adj – MSPM-00003/SWPM-00003 Martin Senour/SW – Color Adj and Blending – MSPM-00002/SWPM-00002 Martin Senour/SW – Color Adj and Blending – 2 Day – MSPM-00023/SWPM-00023 Martin Senour/SW – Color Match Simplicity – MSPM-00010/SWPM-00010 Matrix Sys Automotive Finishes – Color Theory – MRPM-00003 PPG – Nexa Eye for Color (2K HS, Aquabase Plus) – NAPM-00002 PPG – Color (Deltron, Global, Envirobases HP) – PPPM-00006 Pro-Spray – Color Theory – PSPM-00003 Valspar – DeBeer Refinish Color Theory Two Day – VRPM-00004
3B	3	Identify and Remove Refinish Defects	Technician is able to identify defects such as color mismatch, solvent popping, and adhesion and provide solutions for removing the defects.	Understanding Refinish Defects – Part 1 Understanding Refinish Defects – Part 2 Refinish Defects Correction		

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		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
3C	3	Paint Maker Certification	Technician uses paint maker certification from alliance provider for proper application of a specific product.			AkzoNobel Coatings Inc. – Sikkens Advanced Prod Training – ANPM-00002 AkzoNobel Coatings Inc. – Sikkens Product Training – ANPM-00001 AkzoNobel Coatings Inc. – OE Paint Certification – ANPM-00020 AkzoNobel Coatings Inc. – Lesonal Product Training – ANPM-00018 AkzoNobel Coatings Inc. – Lesonal Advanced Product Training – ANPM-00019 BASF Corp – Glasurit Re-Certification – BAPM-00016 BASF Corp – R-M Re-Certification – BAPM-00015 BASF Corp – R-M Diamont/Onyx HD Certification – BAPM-00011 BASF Corp – Glasurit 22/55/90 Certification – BAPM-00013 Axalta – 101 – Field Certifications – DPPM-00021 Axalta – 201 – Cromax Certifications – DPPM- 00022 Axalta – 401 – Cromax Master Certification – DPPM-00034 Martin Senour/SW – Painter Cert and Color Adj – MSPM-00003/SWPM-00003 Martin Senour/SW – Pro/Base Refinish Sys Painter Cert – MSPM-00016/SWPM-00016 Martin Senour – Vortex Painter Cert – MSPM-00001 Martin Senour – Painter Cert – 2 Day Tec/ Vortex – MSPM-00021 Martin Senour/SW – National Account Painter Cert – MSPM-00011/SWPM-00011 Martin Senour/SW – Adv Painter Cert – MSPM-00020/SWPM-00020 Martin Senour – Vortex Application and Color Simplicity – MSPM-00014 Matrix Sys Automotive Finishes – Painter Product Cert – MRPM-00002 PPG – Conversion Envirobase HP – PPPM-00007

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3C	3	Paint Maker Certification	Technician uses paint maker certification from alliance provider for proper application of a specific product.			PPG – National MSO Painter Certification – PPPM-00008 PPG – National MSO Painter Recert – PPPM-00009 PPG – Certification (Deltron, global, Envirobase HP) – PPPM-00005 PPG – Recertification (Deltron, global, Envirobase HP) – PPPM-00006 PPG – Nexa Conversion Aquabase Plus – NAPM-00003 PPG – Nexa Certification (2K HS, Aquabase Plus) – NAPM-00001 PPG – Nexa Recertification (2K HS, Aquabase Plus) – NAPM-00004 Pro-Spray – National Rule Product – PSPM-00001 Pro-Spray – Low VOC Product – PSPM-00002 Valspar – DeBeer Refinish Water Base Two Day – VRPM-00003 Valspar – DeBeer Refinish Basic Two Day – VRPM-00002 Valspar – Valspar Refinish Basic Two Day – VRPM-00001

NON-STRUCTURAL TECHNICIAN

INDUSTRY SEGMENT – COLLISION REPAIR FACILITIES



ROLE DESCRIPTION

Restores damaged exterior panels to their original integrity, function and appearance. This technician uses hand tools and power tools to remove or repair damaged parts, and properly install new parts. He or she works with a variety of metals and plastics, as well as glass, electrical and mechanical parts. In many facilities, this technician is used in the disassembly and/or blueprinting process.

KNOWLEDGE AND SKILLS HIGH LEVEL OBJECTIVES

Restore damaged exterior panels to their original integrity, function and appearance.

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		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1A	1 / Gen Ed	Implement Cycle Time Best Practices	Technician must be able to measure cycle time, identify waste in process, and look for methods to improve cycle time.	Understanding Cycle Time		AkzoNobel Coatings Inc. – Cycle-time Processing Reduction (CPR) – ANOP-00017 PPG – MVP Production and Cycle Time Management – PPOP-00001
1B	1 / Gen Ed	Use Proper Communication Techniques	Technician practices good communication skills, including verbal, non-verbal, and written.	Communication in Today's Collision Repair Industry		
1C	1 / Gen Ed	Select Personal Protection Equipment	Technician is able to select the correct gloves, respirators, hearing, and clothing based on work being performed.	Working Safely Around Hazardous Materials		Kent – Automotive Body Shop Safety – KAPM-00005
1D	1 / Gen Ed	Identify Vehicle Construction Materials	Technician is able to identify all materials used for vehicle construction and explain where certain materials are commonly used.	Vehicle Construction Material Types		
1E	1 / Gen Ed	Practice Workplace Safety	Technician is able to use safety data sheet and labels, and practice general shop safety.	Workplace Safety Safety Data Sheets and Labels		Kent – Automotive Body Shop Safety – KAPM-00005
1F	1 / Gen Ed	Protect Vehicle During Repairs	Technician determines proper vehicle protection for work being performed such as use of welding blankets, interior protection, crash wrap, parts storage racks, and electrical system protection.	Vehicle Protection During the Repair Process		
1G	1 / Gen Ed	Comply with Environmental Protection Regulations	Technician is able to take steps to reduce hazardous waste and volatile organic compounds (VOC) using shop SOPs.	Hazardous Waste Disposal Hazardous Airborne Pollutant		
1H	1 / Gen Ed	Identify Hybrid Vehicles	Technician can identify parts that are unique to hybrid vehicles, and list safety precautions and damage analysis considerations.	Hybrid Vehicle Identification and Damage Analysis		
1I	1	Complete the Vehicle Teardown	Technician is able to remove interior and exterior trim, and bolt-on panels/assemblies following the blueprinting process.	Trim Removal and Installation Bolt-On Panels/Assemblies Removal and Installation		AkzoNobel Coatings Inc. – Cycle-time Processing Reduction (CPR) – ANOP-00017 Collision Advice – 100% Disassembly – CAOP-00001

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1J	1	Remove and Install Lamps	Technician is able to remove and install and aim lamp assemblies.	Bolt-On Panels/Assemblies Removal and Installation		
1K	1	Remove and Install Moveable Glass	Technician will list the different types of glass that can be used for door glass, sunroofs, explain removal and installation considerations and how adjustments can be made, and safety considerations while working with movable glass.	Movable Glass Removal and Installation		
1L	1	Remove and Install Steering System Parts	Technician can provide a high level explanation of operation, removal, installation of steering system components.	Steering System Overview		
1M	1	Remove and Install Suspension System Parts	Technician can provide a high level explanation of operation, removal, installation of suspension system components.	Suspension System Overview		
1N	1	Remove and Install Restraint System Parts	Technician can explain operation, removal, installation of restraint system components.	Restraint System Overview		
1O	1	Remove and Install Heating and Cooling System Parts	Technician can explain operation, removal, installation of heating and cooling system components.	Engine Cooling and A/C Systems Overview		
1P	1	Remove and Install Brake System Parts	Technician can explain operation, removal, installation of brake system components.	Brake System Overview Electronic Braking and Stability Control Systems Overview		
1Q	1	Prepare Panels for Installation	Technician can determine the proper method for preparing the preparation, attachment methods, and test-fitting the panel.	Panel Removal and Preparation for Installation		

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1R	1	Restore Seam Sealer	Technician is able to identify different seam sealer types, surface preparation, and use various tools and techniques to match the existing appearance.	Seam Sealer		Kent – Duplicating OEM Seam Sealers – KAPM-00002 3M – Corrosion Protection, Seam Sealers, and NVH – Online – 3MPM-00009 3M – Technical College Instructor Repair Process – 3MPM-00013
1S	1	Restore Corrosion Protection	Technician can determine when, where, and how to apply anti-corrosion compound and base primer.	Corrosion Protection		Kent – Restoring OEM Corrosion Protection – KAPM-00004 3M – Corrosion Protection, Seam Sealers, and NVH – Online - 3MPM-00009 3M – Technical College Instructor Repair Process – 3MPM-00013 WURTH USA – Corrosion Protection: Understanding Corrosion and HVLP System – WUPM-00001 SEM Products – Automotive Corrosion Protection – SEPM-00007
1T	1	Apply Weld-through Primer	Technician can determine when, where, and how to apply weld-through primer (WTP).	Corrosion Protection		
1U	1	Apply NVH Material and Foams	Technician can identify the different types of NVH materials, types of foams, and removal and application considerations.	Noise, Vibration, and Harshness (NVH) Materials		3M – Corrosion Protection, Seam Sealers, and NVH – Online – 3MPM-00009 LORD Corp Fusor – FUSOR 006 Sealing and Sound Control – LDPM-00006 SEM Products – SEM School – SEPM-00006 SEM Products – Automotive Foams and Sound Dampening – SEPM-00008

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1V	1	Use Adhesives	Technician can identify the types of adhesives, and explain removal and application considerations including cure time and surface preparation.	Adhesive Bonding	Volkswagen – Volkswagen High-Strength Steel Repair Process – VWVM-00001	3M – Panel Bonding Adhesive Solutions – 3MPM-00001 3M – Technical College Instructor Repair Process – 3MPM-00013 LORD Corp Fusor – FUSOR 008 Structural and Mechanical Bonding – LDPM-00008 Saint-Gobain – Saint-Gobain School – SGPM-00013 Saint-Gobain – Adhesives Refinishing Training – SGPM-00004 Saint-Gobain – Automotive Refinishing Training – SGPM-00001 Saint-Gobain – Metal Panel and Weld Bonding Best Practices – SGPM-00008 Saint-Gobain – Best Practices for Body Shop Repair – SGPM-00005 Saint-Gobain – Plastic Repair and Panel Bond – SGPM-00006 SEM Products – Adhesive, Rivet, and Weld Bonding – SEPM-00002 SEM Products – SEM School – SEPM-00006
1W	1	Manage Vehicle Teardown and the Blueprinting Process	Technician is able to explain a preliminary estimate, identify hidden damage, plan the repair, organize parts and hardware, and understand the supplement process.	Understanding the Estimate and Identifying Additional Damage Blueprinting for the Non-Structural Technician Parts and Hardware Storage and Organization		Martin Senour/SW – Improving Workshop Efficiency – MSPM-00012/SWPM-00012 PPG – MVP Green Belt Training – PPOP-00002 Collision Advice – 100% Disassembly – CAOP-00001
2A	2	Planning the Non-Structural Repair	Technician understands how to use SOPs and an develop a repair plan based on damage assessment.	Planning the Repair		
2B	2	Perform Quality Control	Technician understands how to use SOPs and an inspection checklists throughout the repair process to ensure fit and finish, quality welds, proper reinstallation of all parts, etc.	In-Process Quality Control Checks		

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
2C	2	Prepare Surface for Refinishing	Technician is able to prime repaired areas, block primer, and prepare a vehicle for paint (excluding masking).	Priming and Blocking Repaired Areas Preparing the Vehicle for Refinishing		3MPM – Paint Preparation for Productivity – Online – 3MPM-00006 Axalta – 102 – Cromax Surface Preparation – DPPM-00026 Martin Senour/SW – Prep Technician Course – MSPM-00004/SWPM-00004 Martin Senour/SW – Perfecting Plastic Refinishing, Final Finishing, and Masking TechniquesvMSPM-00018/SWPM-00018
2D	2	Apply Filler	Technician is able to prep an area, mix body filler according to recommendations, apply filler, and sand filler to match panel contour.	Body Filler		3M – Technical College Instructor Repair Process – 3MPM-00013
2E	2	Diagnose Wind, Noise, and Water Leaks	Technician is able to locate wind, noise, and water leaks that can occur following repairs.	In-Process Quality Control Checks		

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
2F	2	Perform Plastic Repair	Technician is able to prepare a plastic surface for single-sided repair, double-sided repair using adhesive, hot air welding, and nitrogen welding.	Plastic Repair – Single Sided Intro Two Sided Plastic Repairs and Plastic Welding Plastic Repair Hands-On Skills Development		3M – Plastic and Composites Repair System – 3MPM-00002 3M – Plastic Repair – Online – 3MPM-00008 3M – Technical College Instructor Repair Process – 3MPM-00013 Bonding Solutions Aftermarket Div – Pliogrip Plastic Repair Course – BSPM-00001 Kent – Automotive Plastic Repair – KAPM-00001 Kent – Automotive Plastic and Tab Repair – KAPM-00003 LORD Corp Fusor – FUSOR 002 Bumper Repair – LDPM-00002 Polyvance – Plastic Repair and Refinishing PR-02 – USPM-00002 Polyvance – One-Day Plastic Repair and Refinishing PR-04 – USPM-00004 Polyvance – Headlight Repair PR-03 – Online – USPM-00003 Saint-Gobain – Best Practices for Body Shop Repair – SGPM-00005 Saint-Gobain – Saint-Gobain School – SGPM-00013 Saint-Gobain – Adhesives Refinishing Training – SGPM-00004 Saint-Gobain – Automotive Refinishing Training – SGPM-00001 Saint-Gobain – Plastic Repair and Panel Bond – SGPM-00006 SEM Products – Plastic and Bumper Repair and Refinishing Certification – SEPM-00001
2G	2	Explain Composite Repair	Technician is able to identify repair considerations and repair types, prepare the surface for composite repair.	Composite Repair Overview		3M – Technical College Instructor Repair Process – 3MPM-00013

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
2H	2	Explain Door Skin Attachment Methods	Technician is able to identify the proper tools and steps for door skin removal, flange preparation, and installation of a replacement door skin.	Hem Flange Panel Replacement		
3A	3	Explain Non-Structural Metal Straightening	Technician is able to identify techniques to straighten steel and aluminum exterior body panels using application of heat, proper tool selection, a variety of repair techniques.	Steel Panel Repair 1 Aluminum Panel Repair Steel Panel Repair 2		
3B	3	Straighten Non-Structural Metal	Technician is able to straighten steel and aluminum exterior body panels using application of heat, proper tool selection, a variety of repair techniques.	Steel Panel Dent Removal Hands-On Skills Development 1 Steel Panel Dent Removal Hands-On Skills Development 2 Aluminum Panel Dent Removal Hands-On Skills Development		
3C	3	Perform Composite Repair	Technician is able to list repair considerations and repair types, prepare the surface for composite repair, and make the appropriate repair.	Composite Repair Hands-On Skills Development		
3D	3	Attach Door Skin	Technician is able to use the proper tools and steps for door skin removal, flange preparation, and installation of a replacement door skin.	Panel Installation Using a Hem Flange Hands-On Skills Development		

STRUCTURAL TECHNICIAN

INDUSTRY SEGMENT – COLLISION REPAIR FACILITIES



ROLE DESCRIPTION

Restores structural dimensions and structural integrity to collision damaged vehicles. He or she uses measuring and frame equipment to diagnose damage and to return damaged frame or unibody parts to manufacturer's specifications. Hand tools and power tools are used to remove or repair damaged parts, weld and properly install new parts. This individual works with a variety of materials and joining technologies used in automotive manufacturing such as, but not limited to, mild steels, high strength steels, ultra high strength steels, aluminum, carbon fiber, plastics, glass, electrical and mechanical parts and joining processes such as welding, rivet bonding, MIG brazing and spot welding.

KNOWLEDGE AND SKILLS HIGH LEVEL OBJECTIVES

Restore vehicle dimensions and structural integrity to collision-damaged vehicles.

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1A	1 / Gen Ed	Identify Vehicle Construction Materials	Technician is able to identify all materials used for vehicle construction and explain where certain materials are commonly used.	Vehicle Construction Material Types		
1B	1 / Gen Ed	Protect Vehicle During Repairs	Technician determines proper vehicle protection for work being performed such as use of welding blankets, interior protection, crash wrap, parts storage racks, and electrical system protection.	Vehicle Protection During the Repair Process		
1C	1 / Gen Ed	Select Personal Protection Equipment	Technician is able to select the correct gloves, respirators, hearing, and clothing based on work being performed.	Working Safely Around Hazardous Materials		Kent – Automotive Body Shop Safety – KAPM-00005
1D	1 / Gen Ed	Practice Workplace Safety	Technician is able to use safety data sheet and labels, and practice general shop safety.	Workplace Safety Safety Data Sheets and Labels		Kent – Automotive Body Shop Safety – KAPM-00005
1E	1 / Gen Ed	Comply with Environmental Protection Regulations	Technician is able to take steps to reduce hazardous waste and volatile organic compounds (VOC) using shop SOPs.	Hazardous Airborne Pollutant Hazardous Waste Disposal		
1F	1 / Gen Ed	Use Proper Communication Techniques	Technician practices good communication skills, including verbal, non-verbal, and written.	Communication in Today's Collision Repair Industry		
1G	1 / Gen Ed	Identify Hybrid Vehicles	Technician can identify parts that are unique to hybrid vehicles, and list safety precautions and damage analysis considerations.	Hybrid Vehicle Identification and Damage Analysis		
1H	1 / Gen Ed	Implement Cycle Time Best Practices	Technician must be able to measure cycle time, identify waste in process, and look for methods to improve cycle time.	Understanding Cycle Time		AkzoNobel Coatings Inc. – Cycle-time Processing Reduction (CPR) – ANOP-00017 PPG – MVP Production and Cycle Time Management – PPOP-00001

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1I	1	Remove and Install Stationary Glass	Technician can list the tools used and adhesive types, and explain cutout methods, surface preparation, ADAS considerations, as well as choose the proper glass, explain installation procedures, and cure times.	Fixed Glass Removal/Install		Equalizer – Equalizer Auto Glass Installation (Academy) – EQEM-00001
1J	1	Measure Vehicle	Technician is able to explain measurement principles, types of 3D measuring equipment, measuring system setup, and interpret the results.	Introduction to Three-Dimensional Measuring	Volkswagen – Volkswagen Body Alignment – VWVM-00003	Car-O-Liner – Computerized Electronic Measuring – Collision Damage Analysis and Repair – CLEM-000002 (KA and Skill) Car-O-Liner – Basic Computerized Measuring (In-Shop) Training – CLEM-00007 (KA and Skill) Chief Automotive – 6 Hour Computerized Measuring – CHEM-00011 Chief Automotive – Full Frame Analysis and Repair Planning – CHEM-00004 Chief Automotive – Unibody Analysis and Repair Planning – CHEM-00008 Chief Automotive – Computerized Measuring Training – CHEM-00005 Chief Automotive – Design Based Repair – CHEM-00010 FVTC – CDAT Analyzing and Estimating Structural Damage – FVTP-00003
1K	1	Identify Structural Steel	Technician is able to explain different steel types, where to find the information on steel identification, where different types of steel are commonly used, and repair considerations for the different steel types.	Advanced High-Strength Steel	Volkswagen – Volkswagen High-Strength Steel Repair Process – VWVM-00001	Chief Automotive – Design Based Repair – CHEM-00010
1L	1	Identify Aluminum	Technician is able to identify where aluminum is used on a vehicle, where to find the information with regard to aluminum repair, identify typical applications, and list repair considerations.	Aluminum Vehicle Overview		

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1M	1	Explain Rivet Bonding	Technician can list the types of rivet bonding, rivet replacement considerations, surface preparation, rivet removal, to perform rivet bonding following vehicle maker recommendations.	Introduction to Rivet Bonding	Porsche Cars of NA – P52 – 911 (991) Body and Structural Repair – PCVM-00001	Chief – Joining Technologies – CHEM-00014
1N	1	Explain Spot Welding	Technician is able to discuss surface preparation, determine power requirements, set up the welder and perform maintenance, to perform weld bonding.	Intro to STRSW	Volkswagen – Volkswagen Collision Welding Technology – VWVM-00004 Volkswagen – Volkswagen High-Strength Steel Repair Process – VWVM-00001 Volkswagen – Volkswagen Structural Repairs – VWVM-00002	Car-O-Liner – Resistance Welding Training Program – CLEM-00012 (KA and Skill) Pro Spot – i4 Resistance Spot Welding and MIG Steel Welding – PSEM-00001 (KA and Skill) Chief Automotive – STRSW Squeeze Type Resistance Welding Training – CHEM-00012 (KA and Skill) Chief Automotive – Joining Technologies – CHEM-00014
1O	1	Explain MIG Welding – Steel	Technician is able to discuss surface preparation, determine power requirements, set up the welder and perform maintenance, to perform a variety of GMA welds (plug, fillet, open butt, butt joint with backing).	Steel GMA Welding Theory	Tesla – Structural Repair Package – Online (KA) – TLVM-00003 Volkswagen – Volkswagen Collision Welding Technology – VWVM-00004 Volkswagen – Volkswagen Welding Expert – VWVM-00008	Lew Kinney – Weld Training and Certification – LKCP-00001 (KA and Skill)
1P	1	Explain MIG Welding – Aluminum	Technician is able discuss surface preparation for MIG welding aluminum, identify equipment power requirements, setup and use a welder, to make quality welds on aluminum.	Aluminum GMA Welding Theory		
2A	2	Perform Rivet Bonding	Technician can list the types of rivet bonding, rivet replacement considerations, surface preparation, rivet removal, and perform rivet bonding following vehicle maker recommendations.	Rivet Bonding Hands-On Skills Development	Porsche Cars of NA – P52 – 911 (991) Body and Structural Repair – PCVM-00001	Chief – Joining Technologies – CHEM-00014

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
2B	2	Perform Spot Welding	Technician is able to prepare the surface, determine power requirements, set up the welder and perform maintenance, use the welder properly and make acceptable spot welds, and perform weld bonding.	Squeeze-Type Resistance Spot Welding Hands-On Skills Development	Volkswagen – Volkswagen Collision Welding Technology – VWVM-00004 Volkswagen – Volkswagen High-Strength Steel Repair Process – VWVM-00001 Volkswagen – Volkswagen Structural Repairs – VWVM-00002	Car-O-Liner – Resistance Welding Training Program – CLEM-00012 (KA and Skill) Pro Spot – i4 Resistance Spot Welding and MIG Steel Welding – PSEM-00001 (KA and Skill) Chief Automotive – STRSW Squeeze Type Resistance Welding Training – CHEM-00012 (KA and Skill) Chief Automotive – Joining Technologies – CHEM-00014
2C	2	Perform MIG Welding – Steel	Technician is able to prepare the surface, determine power requirements, set up the welder and perform maintenance, use the welder, and make a variety of GMA welds (plug, fillet, open butt, butt joint with backing).	Training and Certification: Steel GMA Welding	Tesla – Structural Repair Package – Online (KA) – TLVM-00003 Volkswagen – Volkswagen Collision Welding Technology – VWVM-00004 Volkswagen – Volkswagen Welding Expert – VWVM-00008	Lew Kinney – Weld Training and Certification – LKCP-00001 (KA and Skill)
2D	2	Perform MIG Welding – Aluminum	Technician is able to prepare a surface for MIG welding aluminum, identify equipment power requirements, setup and use a welder, and make quality welds on aluminum.	Training and Certification: Aluminum GMA (MIG) Welding		
3A	3	Perform MIG Brazing	Technician is able to prepare the surface for MIG brazing, determine power requirements, set up the welder and perform maintenance, use the welder, and make a variety of welds.	Introduction to MIG Brazing MIG Brazing Hands-On Skills Development		
3B	3	Replace Parts at Factory Seams	Technician is able to identify factory attachment methods, removal recommendations, and installation considerations.	Part Replacement at Factory Seams		
3C	3	Perform Structural Straightening	Technician can identify anchoring locations, developed a pulling strategy, list safety considerations, and list the types of pulling equipment and how to use each.	Full Frame/Unitized Structure Pulling Overview Full Frame/Unitized Structure Pulling Strategy and Planning Measuring, Anchoring, and Pulling Strategies Hands-On Skills Development		Chief – Full Frame Analysis and Repair Planning – CHEM-00004 AND Chief – Unibody Analysis and Repair Planning – CHEM00008 FVTC – CDAT Analyzing and Estimating Structural Damage – FVTP-00003

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
3D	3	Perform Steel Part Sectioning	Technician is able to find and interpret sectioning procedures, identify types of joints used for sectioning, list types of attachment methods, use position statements when applicable, and make a section joint.	Sectioning Overview Sectioning Scenarios Training and Certification: Steel Sectioning	Volkswagen – Volkswagen High-Strength Steel Repair Process – VWVM-00001 Volkswagen – Volkswagen Structural Repairs – VWVM-00002	
3E	3	Perform Aluminum Part Sectioning	Technician is able to finding and Interpret aluminum sectioning procedures, identify vehicle maker position statements, list the types of joints, attachment methods, and make an aluminum section joint.	Aluminum Sectioning Hands-On Skills Development		

ELECTRICAL/DIAGNOSTICS TECHNICIAN

INDUSTRY SEGMENT – COLLISION REPAIR FACILITIES



ROLE DESCRIPTION

The Electrical/Diagnostics Technician follows OEM information for scanning and calibration during the collision repair process. The technician may perform a Pre-Repair Scan/Health Scan to capture codes, a Post-Repair Scan to identify and clear codes, and/or a Post-Repair Calibration/Initialization following the removal, installation, and/or repair of many safety and driver convenience system parts, or if there is damage to the mounting location(s), R&I or R&R of the cameras/sensors/mounting locations, R&I or R&R of parts in front of, or behind, cameras and/or sensors, or R&R or R&I of closure/trim panels.

KNOWLEDGE AND SKILLS HIGH LEVEL OBJECTIVES

Diagnose, calibrate and repair collision-related electrical component damage.

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1A	1 / Gen Ed	Identify Vehicle Construction Materials	Technician is able to identify all materials used for vehicle construction and explain where certain materials are commonly used.	Vehicle Construction Material Types		
1B	1 / Gen Ed	Protect Vehicle During Repairs	Technician determines proper vehicle protection for work being performed such as use of welding blankets, interior protection, crash wrap, parts storage racks, and electrical system protection.	Vehicle Protection During the Repair Process		
1C	1 / Gen Ed	Select Personal Protection Equipment	Technician is able to select the correct gloves, respirators, hearing, and clothing based on work being performed.	Working Safely Around Hazardous Materials		Kent – Automotive Body Shop Safety – KAPM-00005
1D	1 / Gen Ed	Practice Workplace Safety	Technician is able to use safety data sheet and labels, and practice general shop safety.	Workplace Safety Safety Data Sheets and Labels		Kent – Automotive Body Shop Safety – KAPM-00005
1E	1 / Gen Ed	Comply with Environmental Protection Regulations	Technician is able to take steps to reduce hazardous waste and volatile organic compounds (VOC) using shop SOPs.	Hazardous Airborne Pollutant Hazardous Waste Disposal		
1F	1 / Gen Ed	Use Proper Communication Techniques	Technician practices good communication skills, including verbal, non-verbal, and written.	Communication in Today's Collision Repair Industry		
1G	1 / Gen Ed	Identify Hybrid Vehicles	Technician can identify parts that are unique to hybrid vehicles, and list safety precautions and damage analysis considerations.	Hybrid Vehicle Identification and Damage Analysis		
1H	1 / Gen Ed	Implement Cycle Time Best Practices	Technician must be able to measure cycle time, identify waste in process, and look for methods to improve cycle time.	Understanding Cycle Time		AkzoNobel Coatings Inc. – Cycle-time Processing Reduction (CPR) – ANOP-00017 PPG – MVP Production and Cycle Time Management – PPOP-00001
1I	1	Remove and Install Bolt-on Parts	Technician is able to identify considerations for removing bolted on parts such as fuse blocks and splash shields.	Removing Panels and Assemblies for Mechanical Access Trim Removal and Installation		

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1J	1	Explain Basic Electrical Theory	Technician can explain electrical theory concepts such as ohms law, electrical current flow, and resistance. Identify the basic part of an electrical circuit.	Electrical Theory	GM Service Tech College – Electrical/ Electronic Stage 1 – GMVM-00006	
1K	1	Explain DVOM Operation	Technician is able to explain how a DVOM is used to measure voltage, resistance, and current.	Circuit Measurements with a Digital Volt Ohm Meter		
1L	1	Inspect Electrical Circuits for Damage	Technician is able to examine electrical circuits and determine damage.	Electrical Damage Inspection	GM Service Tech College – Electrical/ Electronic Stage 2 – GMVM-00007	
2A	2	Perform Mechanical Initial Inspection/ Damage Analysis	Technician is able to perform initial vehicle inspection, health scans, identifying areas of personal and vehicle safety.	Planning Mechanical Repairs		
2B	2	Troubleshoot a Basic Electrical Circuit	Technician is able to troubleshoot electrical circuits and electrical parts.	Troubleshooting Basic Electrical Circuits		
2C	2	Make Wire/ Connector Repairs	Technician is able to determine when wires can be repaired and common repair methods.	Wiring and Connector Service and Repairs		
2D	2	Identify Diagnostic Tools and Communication Codes to Perform Scans	Technician is able to understand vehicle communication networks and how to use scan tools to perform diagnostics.	Introduction to Diagnostics and Scan Tools Understanding Vehicle Communication Networks	GM Service Tech College – Electrical/ Electronic Stage 3 – GMVM-00008	
3A	3	Use Diagnostic Codes to Implement Repairs	Technician is able to understand vehicle communication networks, how control modules communicate with each other and sensors, determining a strategy for making electronic system repairs, troubleshooting, and how to use scan tools to perform diagnostics.	Electronic Systems Diagnostics and Repair Applying Your Diagnostic Skills 1 Applying Your Diagnostic Skills 2	GM Service Tech College – Electrical/ Electronic Stage 3 – GMVM-00008	

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
3B	3	Perform Electronic System Initializations and Calibrations	Technician is able to explain health scans, purpose of initializations and calibrations, and systems that commonly require initializations and calibrations.	Initialization and Calibration of Electronic Systems		
3C	3	Perform Module Programming	Technician is able to address the use of SAE standards for module programming, when control modules are programmed, and types of programming.	Control Module Programming Overview		

MECHANICAL TECHNICIAN

INDUSTRY SEGMENT – COLLISION REPAIR FACILITIES



ROLE DESCRIPTION

An Mechanical Technician diagnoses and repairs collision-related mechanical damage including – but not limited to – steering, suspension, air conditioning, engine, brake, restraint, and electrical systems. This individual uses measuring and alignment equipment to diagnose damage and return front and rear wheel alignments to manufacturer's specifications. Hand tools and power tools are used to remove or repair damaged parts and properly install new parts.

KNOWLEDGE AND SKILLS HIGH LEVEL OBJECTIVES

Diagnose and repair collision-related mechanical damage.

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1A	1 / Gen Ed	Identify Vehicle Construction Materials	Technician is able to identify all materials used for vehicle construction and explain where certain materials are commonly used.	Vehicle Construction Material Types		
1B	1 / Gen Ed	Protect Vehicle During Repairs	Technician determines proper vehicle protection for work being performed such as use of welding blankets, interior protection, crash wrap, parts storage racks, and electrical system protection.	Vehicle Protection During the Repair Process		Kent – Automotive Body Shop Safety – KAPM-00005
1C	1 / Gen Ed	Select Personal Protection Equipment	Technician is able to select the correct gloves, respirators, hearing, and clothing based on work being performed.	Working Safely Around Hazardous Materials		Kent – Automotive Body Shop Safety – KAPM-00005
1D	1 / Gen Ed	Practice Workplace Safety	Technician is able to use safety data sheet and labels, and practice general shop safety.	Workplace Safety Safety Data Sheets and Labels		Kent – Automotive Body Shop Safety – KAPM-00005
1E	1 / Gen Ed	Comply with Environmental Protection Regulations	Technician is able to take steps to reduce hazardous waste and volatile organic compounds (VOC) using shop SOPs.	Hazardous Airborne Pollutant Hazardous Waste Disposal		
1F	1 / Gen Ed	Use Proper Communication Techniques	Technician practices good communication skills, including verbal, non-verbal, and written.	Communication in Today's Collision Repair Industry		
1G	1 / Gen Ed	Identify Hybrid Vehicles	Technician can identify parts that are unique to hybrid vehicles, and list safety precautions and damage analysis considerations.	Hybrid Vehicle Identification and Damage Analysis		
1H	1 / Gen Ed	Implement Cycle Time Best Practices	Technician must be able to measure cycle time, identify waste in process, and look for methods to improve cycle time.	Understanding Cycle Time		AkzoNobel Coatings Inc. – Cycle-time Processing Reduction (CPR) – ANOP-00017 PPG – MVP Production and Cycle Time Management – PPOP-00001
1I	1	Remove and Install Bolt-on Parts	Technician is able to identify considerations for removing bolted on parts such as fuse blocks and splash shields.	Removing Panels and Assemblies for Mechanical Access Trim Removal and Installation		

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1J	1	Perform Restraint System Damage Analysis	Technician can explain how a restraint system operates and perform damage analysis on a system that has deployed.	Restraint Systems Operation Damage Analysis of Restraint Systems		
1K	1	Perform Air Conditioning System Damage Analysis	Technician is able to explain air conditioning system operation, information sources, repair/replace recommendations, and parts identification.	Air Conditioning System Operation and Damage Analysis	GM Service Tech College – Introduction to Air Conditioning – GMVM-00002	
1L	1	Perform Air Conditioning System Service	Technician is able to explain air conditioning system operation, information sources, repair/replace recommendations, and parts identification.	Air Conditioning System Service	GM Service Tech College – Introduction to Air Conditioning – GMVM-00002	
1M	1	Identify Advanced Vehicle Electronics	Technician is able to explain how advanced vehicle electronic systems operate.	Damage Analysis of Driving Assist Systems		
1N	1	Explain Operation and Damage Analysis on Suspension Systems	Technician is able to explain suspension system operation, information sources, repair/replace recommendations, and parts identification.	Suspension Systems Operation and Damage Analysis		
1O	1	Explain Operation and Damage Analysis on Basic Brake Systems	Technician is able to explain basic brake system operation, information sources, repair/replace recommendations, and parts identification.	Basic Brake System Operation and Damage Analysis		
1P	1	Perform Fuel, Exhaust, and Emission System Damage Analysis and Service	Technician can explain the fuel, exhaust, and emissions systems operation, information sources, repair/replace recommendations, and parts identification.	Fuel, Exhaust, and Emissions Operation and Damage Analysis		
2A	2	Perform Brake System Diagnostics and Repair	Technician can evaluate brake system problems, electronic and mechanical, to determine the cause and replace or repair parts accordingly.	Basic Brake System Troubleshooting and Service Brake System Electronics Operation and Damage Analysis		

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
2B	2	Perform Damage Analysis and Service on ADAS, Power Accessories, and Convenience Systems	Technician is able to explain how ADAS, power accessories, and convenience systems operate, identify system related parts, make repair and replace recommendations, and explain common service procedures for each system.	ADAS and Convenience Systems Overview and Service		
2C	2	Perform Mechanical Initial Inspection/ Damage Analysis	Technician is able to perform initial vehicle inspection, health scans, identifying areas of personal and vehicle safety.	Planning Mechanical Repairs		
2D	2	Perform Damage Analysis and Service on Suspension Systems	Technician is able to explain suspension system operation, information sources, repair/replace recommendations, and parts identification.	Suspension Systems Service		
2E	2	Perform Steering System Service	Technician is able to explain steering system operation, information sources, repair/replace recommendations, and parts identification.	Steering Systems Operation, Damage Analysis, and Service		
2F	2	Perform Fuel, Exhaust, and Emission System Damage Analysis and Service	Technician can explain the fuel, exhaust, and emissions systems operation, information sources, repair/replace recommendations, and parts identification.	Fuel, Exhaust, and Emissions Service		
2G	2	Perform Heating and Cooling Repair	Technician is able to explain heating and cooling systems and perform damage analysis.	Heating and Cooling System Operation and Damage Analysis		
2H	2	Perform Hybrid, Electric, and Alternative Fuel Vehicle Service	Technician is able to explain how to remove and replace components specific to hybrid, electric, and alternative fuel vehicles and can identify common repair diagnostics and service procedures.	Hybrid, Electric, and Alternative Fuel Vehicle Service		

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
2I	2	Explain Basic Electrical Theory	Technician can explain electrical theory concepts such as ohms law, electrical current flow, and resistance. Identify the basic part of an electrical circuit.	Electrical Theory	GM Service Tech College – Electrical/Electronic Stage 1 – GMVM-00006	
2J	2	Explain DVOM Operation	Technician is able to explain how a DVOM is used to measure voltage, resistance, and current.	Circuit Measurements with a Digital Volt Ohm Meter		
2K	2	Inspect Electrical Circuits for Damage	Technician is able to examine electrical circuits and determine damage.	Electrical Damage Inspection	GM Service Tech College – Electrical/Electronic Stage 2 – GMVM-00007	
2L	2	Troubleshoot a Basic Electrical Circuit	Technician is able to troubleshoot electrical circuits and electrical parts.	Troubleshooting Basic Electrical Circuits	GM Service Tech College – Electrical/Electronic Stage 2 – GMVM-00007	
2M	2	Make Wire / Connector Repairs	Technician is able to determine when wires can be repaired and common repair methods.	Wiring and Connector Service and Repairs		
2N	2	Use Diagnostic Codes to Implement Repairs	Technician is able to understand vehicle communication networks, how control modules communicate with each other and sensors, determining a strategy for making electronic system repairs, troubleshooting, and how to use scan tools to perform diagnostics.	Understanding Vehicle Communication Networks Introduction to Diagnostics and Scan Tools Electronic Systems Diagnostics and Repair	GM Service Tech College – Electrical/Electronic Stage 3 – GMVM-00008	
2O	2	Perform Electronic System Initializations and Calibrations	Technician is able to explain health scans, purpose of initializations and calibrations, and systems that commonly require initializations and calibrations.	Initialization and Calibration of Electronic Systems Control Module Programming Overview		
3A	3	Perform Air Conditioning System Repair	Technician is able to explain air conditioning system operation, information sources, repair/replace recommendations, and parts identification.	Air Conditioning System Troubleshooting		

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
3B	3	Perform Climate Control Troubleshooting and Service	Technician is able to explain how climate controls operate, and list the troubleshooting steps for malfunctioning systems. Also explain service procedures for removing and installing replacement parts.	Climate Control Overview, Troubleshooting, and Service		
3C	3	Perform Brake System Diagnostics and Repair	Technician is able to explain suspension system operation, information sources, repair/replace recommendations, and parts identification.	Brake System Electronics Service		
3D	3	Troubleshoot Restraint Systems	Technician is able to diagnose steps when a DTC shows a problem with the restraint system, including basic troubleshooting and following a vehicle maker's flowchart.	Restraint System Diagnostics and Service		
3E	3	Perform Steering System Service	Technician is able to explain steering system operation, information sources, repair/replace recommendations, and parts identification.	Power Steering Systems Operation, Damage Analysis, and Service		
3F	3	Perform Cooling Repair	Technician is able to troubleshoot and service cooling systems.	Cooling System Troubleshooting and Service		
3G	3	Perform Full-frame Replacement	Technician is able to explain frame construction, removal and installation of all related components, and safety considerations related to full-frame replacement.	Full-Frame Replacement		
3H	3	Diagnose Suspension Angle Problems	Technician can explain how to look at different suspension angles (camber, caster, toe) and determine the cause of improper suspension angles.	Steering and Suspension Diagnostics		
3I	3	Perform Powertrain and Driveline Service and Repair	Technician is able to evaluate powertrain and driveline system problems, electronic and mechanical, to determine the cause and replace or repair parts accordingly.	Powertrain and Driveline System Operation and Damage Analysis Powertrain and Driveline System Troubleshooting and Service		

PRODUCTION MANAGEMENT

INDUSTRY SEGMENT – COLLISION REPAIR FACILITIES



ROLE DESCRIPTION

Production Management is an integral component to the collision repair process serving to plan, manage and adjust workflow on a daily basis. This key role touches every part of a collision repair process and builds relationships across the repair cycle including customers, staff, insurance representatives, OE representatives and other relationships as necessary.

KNOWLEDGE AND SKILLS HIGH LEVEL OBJECTIVES

Oversee the process and staff to ensure efficient, safe repairs and excellent customer service from the time the car enters the shop to when the customer drives away.

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1A	1 / Gen Ed	Identify Vehicle Construction Materials	Technician is able to identify all materials used for vehicle construction and explain where certain materials are commonly used.	Vehicle Construction Material Types		
1B	1 / Gen Ed	Protect Vehicle During Repairs	Technician determines proper vehicle protection for work being performed such as use of welding blankets, interior protection, crash wrap, parts storage racks, and electrical system protection.	Vehicle Protection During the Repair Process		
1C	1 / Gen Ed	Select Personal Protection Equipment	Technician is able to select the correct gloves, respirators, hearing, and clothing based on work being performed.	Working Safely Around Hazardous Materials		Kent – Automotive Body Shop Safety – KAPM-00005
1D	1 / Gen Ed	Practice Workplace Safety	Technician is able to use safety data sheet and labels, and practice general shop safety.	Workplace Safety Safety Data Sheets and Labels		Kent – Automotive Body Shop Safety – KAPM-00005
1E	1 / Gen Ed	Comply with Environmental Protection Regulations	Technician is able to take steps to reduce hazardous waste and volatile organic compounds (VOC) using shop SOPs.	Hazardous Airborne Pollutant Hazardous Waste Disposal		
1F	1 / Gen Ed	Use Proper Communication Techniques	Technician practices good communication skills, including verbal, non-verbal, and written.	Communication in Today's Collision Repair Industry		
1G	1 / Gen Ed	Identify Hybrid Vehicles	Technician can identify parts that are unique to hybrid vehicles, and list safety precautions and damage analysis considerations.	Hybrid Vehicle Identification and Damage Analysis		
1H	1 / Gen Ed	Implement Cycle Time Best Practices	Technician must be able to measure cycle time, identify waste in process, and look for methods to improve cycle time.	Understanding Cycle Time		AkzoNobel Coatings Inc. – Cycle-time Processing Reduction (CPR) – ANOP-00017 PPG – MVP Production and Cycle Time Management – PPOP-00001
1I	1	Recall Principles of a Learning Culture	Production manager is able to explain the importance of a learning culture in a collision repair facility.	Learning Culture Overview		

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1J	1	Describe Job File Documentation Planning	Production manager is able to explain the job file review process, identify insurance needs, identify express jobs, and how to map vehicle damage.	Before the Repair Starts		BASF Corp – Adv Process Solutions (APS) Planning Session – BAOP-00008 PPG – MVP Parts Management – PPOP-00024
1K	1	Explain Job Assignments	Production manager is able to assign work based on staff capabilities.	Matching the Repair to the Team		BASF Corp – Adv Process Solutions (APS) Planning Session – BAOP-00008 Axalta RPM – Production Management 2.0 – DPOP-00045
1L	1	Analyze Workflow	Production manager is able to explain how supplements affect production, how to limit supplements, explain capacity for each department, etc.	Workflow Essentials		BASF Corp – Adv Process Solutions (APS) Planning Session – BAOP-00008 Axalta RPM – Production Management 2.0 – DPOP-00045
1M	1	Discuss Productivity Communication	Production manager is able to explain the importance of communication to and from staff and identify roadblocks to facility production.	Synchronizing Workflow Through Team Communication		BASF Corp – Paint Department Productivity – BAOP-00010 BASF Corp – Adv Process Solutions (APS) Planning Session – BAOP-00008 PPG – MVP Parts Management – PPOP-00024
1N	1	Examine Work-In-Process Workflow Solutions	Production manager is able to make on-the-fly changes to workflow based on problems typically associated with day-to-day operations.	Problem Solving for Workflow Changes		BASF Corp – Adv Process Solutions (APS) Planning Session – BAOP-00008 Axalta RPM – Production Management 2.0 – DPOP-00045
1O	1	Examine Quality Control Reviews	Production manager is able to implement policies and SOPs that focus on quality throughout the repair process.	Quality Is Your Business		
1P	1	Recall Business Enhancement Processes	Production manager is able to incorporate lean processes into daily operations, explain how facility maintenance can reduce downtime, and explain the importance of regulatory compliance.	Optimizing Processes, Equipment, and Compliance		Axalta RPM – Production Management 2.0 – DPOP-00045
1Q	1	Describe Performance Feedback and Coaching	Production manager is able to build a high-skilled team using leadership models, appropriate feedback, performance reviews and management systems.	Developing the Team and the Business		BASF Corp – Organizational Structure – BAOP-00011 Axalta RPM – Production Management 2.0 – DPOP-00045

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1R	1	Describe Managing a Shops Human Resource	Production manager is able to hire and manage a productive staff.	Refining the Team and the Business		
2A	2	Apply a Learning Culture to the Shop	Production manager is able to explain the importance of implementing a learning culture to increase productivity and work quality.	Implementing a Learning Culture		
2B	2	Apply a Learning Culture to the Shop	Production manager is able to hire staff that are committed to skills development and the organization.	Hiring to Support Your Shop's Learning Culture		Axalta RPM – RPM Gen Manager – Recruiting, Hiring, and Training – DROP-00030
2C	2	Describe New Talent Development	Production manager is able to recruit new talent into the repair facility by being actively involved in community events, job shadowing, and developing internal career paths.	Developing New Talent		
2D	2	Examine Cycle Time Improvement Solutions	Production manager is able to assess a shop's current cycle time to identify opportunities for improvement.	Improving Your Shop's Cycle Time		AkzoNobel Coatings Inc. – Cycle-time Processing Reduction (CPR) – ANOP-00017 PPG – MVP Production and Cycle Time Management – PPOP-00001
2E	2	Define the Blueprinting Process	Production manager is able to implement blueprinting processes and explain the benefit of blueprinting each vehicle that enters the work stream.	Gaining Efficiencies through Blueprinting		AkzoNobel Coatings Inc. – Cycle-time Processing Reduction (CPR) – ANOP-00017 Axalta RPM – DPS Production Management: Pre-Lean – DROP-00012 BASF Corp – Adv Process Solutions (APS) Planning Session – BAOP-00008 Martin Senour/SW – Improving Workshop Efficiency – MSPM-00012/SWPM-00012 PPG – MVP Green Belt Training – PPOP-00002 PPG – MVP Adv Collision Estimating Skills – PPOP-00005
2F	2	Identify In-Process Quality Control Standards	Production manager is able to build upon previous quality control standards to reduce cycle time and customer comebacks.	Strengthening Your In-Process Quality Controls		Axalta RPM – RPM Advanced Estimating Utilizing OEM Procedures – DPOP-00043

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
2G	2	Identify KPI Critical Factors	Production manager is able to evaluate shop key performance indicators to identify areas for improvement.	Speaking the KPI Language		BASF Corp – Adv Process Solutions (APS) Planning Session – BAOP-00008
2H	2	Examine Profit and Loss Statements	Production manager is able to make net and gross profit calculations, monitor the P&L statements for fluctuations, and discuss ways that positively impact sublet job gross profits.	Understanding Your Part in Profit and Loss		Axalta RPM – Gen Manager – Financial Management – DROP-00029 BASF Corp – Measuring and Improving Productivity – BAOP-00009 BASF Corp – Adv Process Solutions (APS) Planning Session – BAOP-00008
2I	2	Communicate to Build Vendor / Insurer Relationships	Production manager is able to foster and grow relationships with insurance companies and vendors to create a positive working environment.	Building Effective Vendor and Insurer Relationships		

AUTO PHYSICAL DAMAGE APPRAISER

INDUSTRY SEGMENT – INSURERS



ROLE DESCRIPTION

Inspect, analyze and evaluate damaged vehicles to create a comprehensive and accurate damage report. These individuals often travel to a vehicle's location, which may include tow facilities, repair facilities, dealerships and customer locations. They may also work in a company drive-in claims center and use computers to write estimates and use computer software to write estimates. Those in this role document all aspects of claims investigation and processing and follow company claims processes that account for a fair and accurate settlement, customer satisfaction and cost management.

KNOWLEDGE AND SKILLS HIGH LEVEL OBJECTIVES

Inspect, analyze and evaluate damaged vehicles to create a comprehensive and accurate damage report.

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1A	1 / Gen Ed	Identify Vehicle Construction Materials	Appraiser is able to identify all materials used for vehicle construction and explain where certain materials are commonly used.	Vehicle Construction Material Types		Chief Automotive – Design Based Repair – CHEM-00010 Axalta RPM – RPM Estimating Utilizing OEM Procedures – DPOP-00042
1B	1 / Gen Ed	Protect Vehicle During Repairs	Appraiser determines proper vehicle protection for work being performed such as use of welding blankets, interior protection, crash wrap, parts storage racks, and electrical system protection.	Vehicle Protection During the Repair Process		
1C	1 / Gen Ed	Practice Workplace Safety	Appraiser is able to use safety data sheet and labels, and practice general shop safety.	Workplace Safety		Kent – Automotive Body Shop Safety – KAPM-00005
1D	1 / Gen Ed	Select Personal Protection Equipment	Appraiser is able to select the correct gloves, respirators, hearing, and clothing based on work being performed.	Working Safely Around Hazardous Materials		Kent – Automotive Body Shop Safety – KAPM-00005
1E	1 / Gen Ed	Use Proper Communication Techniques	Estimator practices good communication skills, including verbal, non-verbal, and written.	Communication in Today's Collision Repair Industry		
1F	1 / Gen Ed	Identify Hybrid Vehicles	Appraiser can identify parts that are unique to hybrid vehicles, and list safety precautions and damage analysis considerations.	Hybrid Vehicle ID and Damage Analysis		
1G	1	Perform Damage Analysis on Unitized Structures	Appraiser is able to identify parts of the unitized structure, identify damage based on vehicle measurements, explain collision energy management principles, and list repair considerations for unitized structures.	Damage Analysis of Unitized Structures – Front Damage Analysis of Unitized Structures – Center Damage Analysis of Unitized Structures – Rear Structural Damage Analysis – Structures		Axalta RPM – SMART/DPC Damage Analysis – DPOP-00003 Axalta RPM – DPS Damage Analysis I – DPOP-00003 Axalta RPM – DPS Damage Analysis II – DROP-00021 Chief Automotive – Structural Damage Analysis – CHEM-00003 FVTC – CDAT Non-Structural Repair Decisions – FVTP-00002 FVTC – CDAT Analyzing and Estimating Structural Damage – FVTP-00003

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1H	1	Perform Damage Analysis on Full Frame Vehicles	Appraiser is able to explain full-frame vehicle design, collision energy management principles, and list repair considerations.	Damage Analysis of Full Frame Vehicles		
1I	1	Identify Recycled Parts Considerations	Appraiser can locate vehicle maker position statements, repair consideration, parts grading, part usage considerations, part preparation, part sourcing, and list recycled parts best practices.	Recycled Parts Considerations		FVTC – CDAT Intro-To-Estimating – FVTP-00001
1J	1	Perform Restraints Systems Damage Analysis	Appraiser is able to describe restraint system operation, locate repair information sources, identify parts, and make repair/replace recommendations.	Restraint Systems Operation Damage Analysis of Restraint Systems		FVTC – CDAT Non-Structural Repair Decisions – FVTP-00002
1K	1	Determine Refinish Considerations	Appraiser is able to identify various automotive finishes and explain the repair process from the estimating perspective including materials used and finish systems.	Refinishing Overview		FVTC – CDAT Non-Structural Repair Decisions – FVTP-00002 Axalta RPM – RPM Estimating Utilizing OEM Procedures – DPOP-00042 Collision Advice – Estimating Best Practices – CAOP-00002
1L	1	Perform Stationary Glass Damage Analysis	Appraiser is able to identify different types of stationary glass, consideration for removal to access a repair area, glass repair considerations, ADAS implications, and part ordering considerations.	Damage Analysis of Stationary Glass		
1M	1	Perform Damage Analysis on Interior Trim and Movable Roofs	Appraiser is able to assess damage to a vehicle hard top, soft top, as well as interior trim and make repair or replace decisions.	Interior Trim and Convertible Top Damage Analysis		

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
1N	1	Write Estimates	Appraiser is able to explain P-page usage, understand estimate terminology, interpret the estimate, and manage the overall estimating process.	Performing an Initial Vehicle Inspection Basic Estimate Writing Estimating Guide Fundamentals – P-Pages		FVTC – CDAT Intro-To-Estimating – FVTP-00001 PPG – MVP Fundamentals of Estimating – PPOP-00019 PPG – MVP Adv Collision Estimating Skills – PPOP-00005 Axalta RPM – RPM Estimating Utilizing OEM Procedures – DPOP-00042 Collision Advice – 100% Disassembly – CAOP-00001 Collision Advice – Estimating Best Practices – CAOP-00002
2A	2	Write Estimates and Supplements	Estimator is able to explain the process for writing an estimate using blueprinting SOPs and manage the overall estimating process.	Writing the Estimate		FVTC – CDAT Intro-To-Estimating – FVTP-00001 PPG – MVP Fundamentals of Estimating – PPOP-00019 PPG – MVP Adv Collision Estimating Skills – PPOP-00005
2B	2	Understanding Cycle Time	Appraiser is able to explain what cycle time is and how they can play a role in helping reduce shop cycle time.	Understanding Cycle Time as an Appraiser		AkzoNobel Coatings Inc. – Cycle-time Processing Reduction (CPR) – ANOP-00017 PPG – MVP Production and Cycle Time Management – PPOP-00001
2C	2	Perform Lighting and Vision Assist Damage Analysis	Appraiser is able to describe lighting and vision assist system operation, locate repair information sources, identify parts, and make repair/replace recommendations.	Damage Analysis of Lighting and Vision Assist		
2D	2	Perform Damage Analysis of Vehicle Convenience Systems	Appraiser is able to assess damage to vehicle convenience systems such as power seats.	Damage Analysis of Convenience System		
2E	2	Perform Air Conditioning Damage Analysis	Appraiser is able to describe air conditioning system operation, locate repair information sources, identify parts, and make repair/replace recommendations.	Air Conditioning System Operation and Damage Analysis		

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
2F	2	Perform Heating and Cooling System Damage Analysis	Appraiser is able to describe heating and cooling system operation, locate repair information sources, identify parts, and make repair/replace recommendations.	Heating and Cooling System Operation and Damage Analysis		
2G	2	Explain Basic Electrical Systems	Appraiser is able to explain basic circuit construction, common electrical system failures, common troubleshooting steps, and repair considerations.	Basic Electronics for Estimators	GM Service Tech College – Electrical/Electronic Stage 1 – GMVM-00006	
2H	2	Perform Vandalism Damage Analysis	Appraiser is able to examine damage related to vandalism and make repair/replace decisions based on the extent of damage.	Analyzing Vandalism Damage		
2I	2	Perform Theft Damage Analysis	Appraiser is able to examine damage related to theft and make repair/replace decisions based on the extent of damage.	Analyzing Theft Damage		
2J	2	Perform Steering and Suspension Damage Analysis	Appraiser is able to describe steering and suspension system operation, locate repair information sources, identify parts, and make repair/replace recommendations.	Steering and Suspension Operation Damage Analysis of Steering and Suspension Systems		Chief Automotive – Adv Steering and Suspension Analysis – CHEM-00007 FVTC – CDAT Analyzing and Estimating Structural Damage – FVTP-00003
2K	2	Perform Drivetrain Damage Analysis	Appraiser is able to describe drivetrain system operation, locate repair information sources, identify parts, and make repair/replace recommendations.	Damage Analysis of Drivetrains		
2L	2	Perform Mechanical Brake System Damage Analysis	Appraiser is able to describe mechanical brake system operation, locate repair information sources, identify parts, and make repair/replace recommendations.	Damage Analysis of Brake Systems Damage Analysis of Antilock Brake Systems		
2M	2	Perform Damage Analysis of Driving Assist Systems	Appraiser is able to describe driving assist system operation, locate repair information sources, identify parts, and make repair/replace recommendations.	Damage Analysis of Driving Assist Systems		

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
2N	2	Perform Natural Causes Damage Analysis	Appraiser is able to identify damage related to wind, hail, and flood damage and list repair or replace options for each.	Analyzing Damage from Natural Causes		
3A	3	Perform Natural Causes Damage Analysis	Appraiser is able to identify damage related to wind, hail, and flood damage and list repair or replace options for each.	Analyzing Flood Damage		
3B	3	Perform Fire Damage Analysis	Appraiser is able to examine damage related to smoke, heat, fire, and method used to extinguish and determine reparability.	Analyzing Fire Damage		
3C	3	Write Supplements	Appraiser is able to follow SOPs and add supplements to a job.	Writing a Repair Supplement		FVTC – CDAT Intro-To-Estimating – FVTP-00001 PPG – MVP Adv Collision Estimating Skills – PPOP-00005
3D	3	Perform Photo Documentation	Appraiser is able to identify required photos, explain how to best use a camera for clear and well lit photo, shot composition, and standard operating procedures.	Capturing Quality Photos		
3E	3	Determine Vehicle Repairability	Appraiser is able to assess whether the vehicle should be repaired based on the extent of damage.	Determining Overall Vehicle Repairability		
3F	3	Perform Administrative Tasks	Appraiser is able to manage market area and shop profiles, equipment and software maintenance, and manage customer relationships.	APDA Administration		
3G	3	Identify and Complete Total Loss Process	Appraiser is able to evaluate the condition report, explain the importance of good customer communication, process the vehicle, and explain the settlement process.	Completing the Total Loss Process		

REF	ProLevel	TERMINAL OBJECTIVES		TRAINING OPTIONS TO FULFILL THE PROTOCOL TERMINAL OBJECTIVES		
		Knowledge and Skill Area	Knowledge and Skill Area Definition	I-CAR Course	OEM Alliance Courses	Supplier/Other Alliance Courses
3H	3	Process Vehicle Salvage	Appraiser is able to determine salvage value, salvage inventory, and disposition of salvage.	Processing Vehicle Salvage		
3I	3	Perform Quality Control	Appraiser is able to perform a variety of quality control inspections during repairs and after the vehicle is complete.	Quality Control for the APDA		Axalta RPM – RPM Advanced Estimating Utilizing OEM Procedures – DPOP-00043

THE I-CAR VISION IS THAT **EVERY**
PERSON IN THE COLLISION REPAIR INDUSTRY HAS THE
INFORMATION, KNOWLEDGE AND SKILLS
REQUIRED TO PERFORM **COMPLETE, SAFE AND**
QUALITY REPAIRS FOR THE ULTIMATE BENEFIT
OF THE CONSUMER.



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