

# BMW

## Body & Paint Training

Course Description  
Catalog

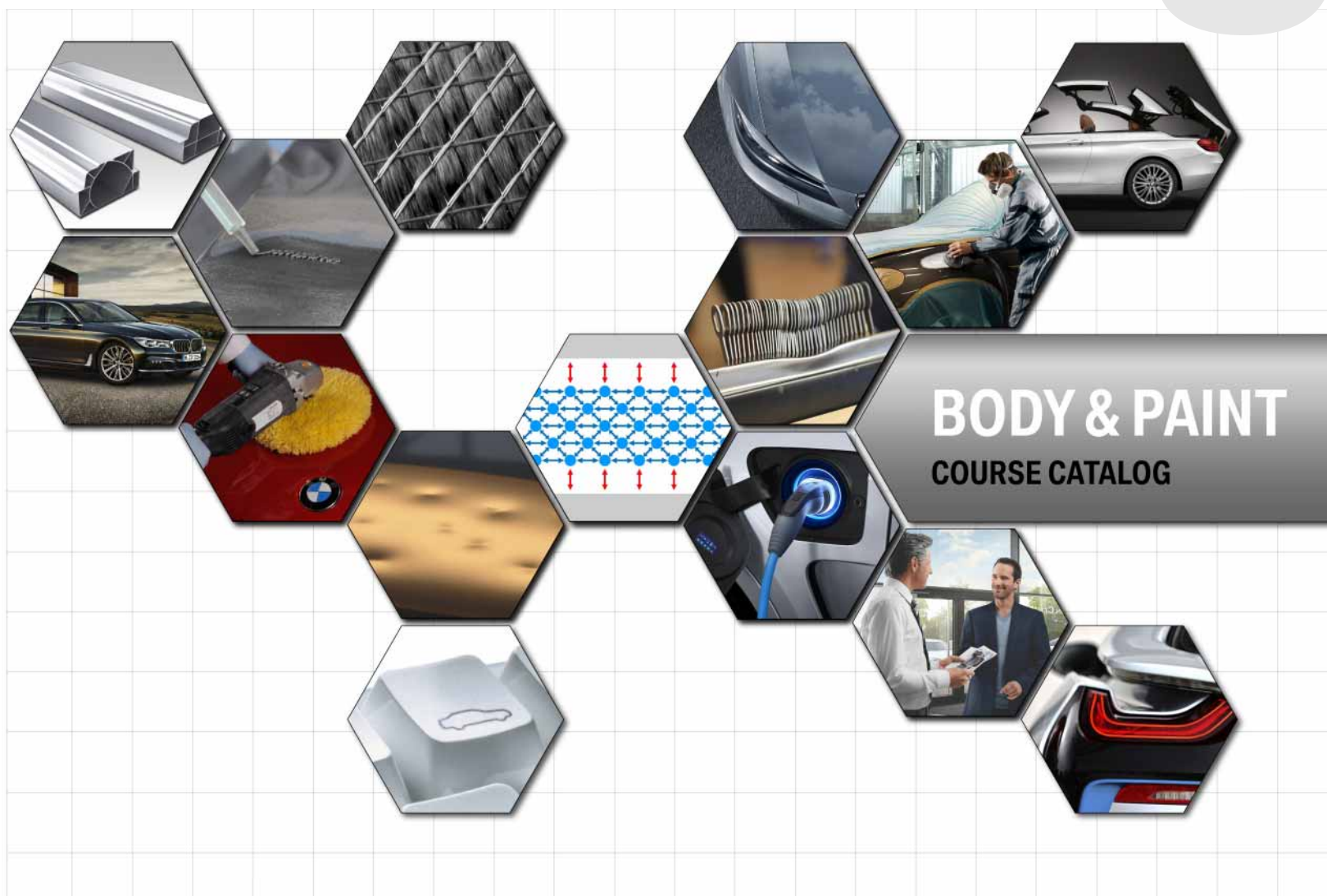
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# Training

## 2020 Course Catalog



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## Curriculum Levels

For 2020 and beyond, a new training strategy has been developed for collision centers. As part of a BMW Group global initiative, BMW Group University is implementing a tiered, or leveled approach to training. Collision center job roles have been broken down into levels and have been assigned corresponding curriculums. BMW Group vehicles are becoming increasingly complex, and it is our goal to ensure collision centers have the appropriate level of training.

### Levels Explained

Several metrics were used in the creation of curriculum levels. The three levels were created to ensure a proper mix of competencies at the collision center while still maintaining a high level of overall training.

#### Level 3

Level 3 is comprised of mainly online courses and our core instructor led courses. Collision center associates will gain fundamental knowledge of the BMW brand and its vehicles. Our fundamental series and product introduction courses are a part of Level 3.

#### Level 2

Level 2 is where training becomes more specialized. Associates can expect to find more challenging and skills based training in level 2. For the technician, we have further broken down Level 2 into Non-Structural and Structural training paths. This will allow the technician to focus more on the tasks they routinely perform.

#### Level 1

Level 1 is the top tier of training. Here the associate will find skills learned in previous trainings will be honed and further developed to ensure the collision center associate has all the tools necessary to perform at their best. For the technicians, level 1 continues the theme of Non-Structural and Structural paths. Technical training in level 1 will contain unique repair procedures that require great skill and attention to detail.

#### Specialist

Specialist curriculums can be found under the Collision Repair Technician job role (SB204 & SB506). Specialist courses contain tasks and operations that may not be routinely performed at the collision center. Service of a convertible top or structural repairs on low volume vehicles are examples of trainings found in the specialist category.

# 2020 BMW Collision Center Training Curriculum

## Manager & Assistant Manager

### Included Job Titles

- SB101 - Body Shop Manager
- SB501 - Contractor Body Shop Manager
- SB102 - Assistant Body Shop Manager
- SB502 - Contractor Assistant Body Shop Manager

Manager & Assistant Manager						
Level 1	<b>SB054</b> Collision Center Workshop Efficiency (available Q2 2020)					
	<b>SB0024</b> Collision Center Human Resource Management			<b>SB017B</b> Estimator Training for Small & Medium Damage Repair		
Level 2	OL1403A		OL1403B		OL1408A	
					OL1408H	
Level 3	<b>SB052</b> Promoting BMW Collision Repairs					
	OL5504	OL5505	OL1501A	OL1604A	OL1831a	OL1834a

# 2020 BMW Collision Center Training Curriculum

## Shop Foreman

### Included Job Titles

- SB201 - Body Shop Foreman
- SB503 - Contractor Body Shop Foreman

Shop Foreman										
Level 1	<div>SB026E</div> <div>BMW i Body Repair Level 2 &amp; 3</div>									
	<div>SB012</div> <div>Bonding &amp; Riveting Techniques</div>					<div>SB008A</div> <div>Aluminum Outer Panel Repair Techniques</div>				
	OL5510					OL5509				
Level 2	<div>SB005B</div> <div>Medium Damage Outer Panel Repair</div>					<div>SB033</div> <div>High Strength Steel Vehicle Repair</div>				
	<div>SB023</div> <div>Collision Advisor Sales Negotiation</div>					<div>SB005A</div> <div>Small Damage Outer Panel Repair</div>				
	<div>SB005E</div> <div>Plastic Restoration Techniques</div>									
Level 3	<div>SB031</div> <div>High Voltage Vehicle Body Repair</div>		<div>SB018</div> <div>Glass Repair and Replacement</div>		<div>SB026D</div> <div>BMW i Product Introduction &amp; Body Repair Level 1</div>		<div>SB017</div> <div>BMW Collision Advisor Training</div>		<div>-</div>	
	<div>SB025</div> <div>Online Resources for Collision Repair</div>		<div>SB032</div> <div>Fundamentals of Steel</div>		<div>SB028</div> <div>Fundamentals of Aluminum</div>		<div>SB029</div> <div>Fundamentals of Carbon</div>		<div>-</div>	
	OL5502	OL10-ST1710	OL1604A	WB618	OL1501A	OL1403A	OL1403B	OL1408A	OL1831a	-
	OL2042	VO325	OL5504	OL5505	OL5506	OL5501	OL5503	OL1408H	OL1834a	-

# 2020 BMW Collision Center Training Curriculum

## Estimator

### Included Job Titles

- SB202 - Body Shop Estimator
- SB504 - Contractor Body Shop Estimator

Estimator				
Level 1	<b>SB053</b> Assistance Systems for Collision Repair			
Level 2	<b>SB017B</b> Estimator Training for Small & Medium Damage Repair		<b>SB023</b> Collision Advisor Sales Negotiation	
	OL1604A	OL1831a	OL1403A	OL1408A
	OL1501A	OL1834a	OL1403B	OL1408H
Level 3	<b>SB036</b> Vehicle Body Construction			
	<b>SB025</b> Online Resources for Collision Repair		<b>SB017</b> BMW Collision Advisor Training	
	OL5504	OL5505	OL5506	OL5501
	OL5502	OL2042	VO325	OL5503

# 2020 BMW Collision Center Training Curriculum

## Apprentice Painter

### Included Job Titles

- SB303 - Apprentice Painter

Apprentice Painter			
Level 1	OL5501	OL5502	OL5506
Level 2	<div><div><div><b>SB002A</b></div><div>Refinishing Process Standards (National Rule)</div></div><div>OR</div><div><div><b>SB003A</b></div><div>Refinishing Process Standards (Low VOC)</div></div></div>		
	<div><div><b>SB006</b></div><div>Entry Level Detail Training</div></div>	<div><div><b>SB006A</b></div><div>Advanced Level Detail Training</div></div>	
Level 3	<div><div><b>SB030</b></div><div>Brand Values</div></div>		
	OL2042	OL5504	



# 2020 BMW Collision Center Training Curriculum

## Painter

### Included Job Titles

- SB203 - Body Shop Painter
- SB505 - Contractor Body Shop Painter

Painter							
Level 1	<div> <div> <b>SB001D</b> ColorSystem Frozen Finish Repair Training </div> <div>OR</div> <div> <b>SB001F</b> Matt Finish Vendor Training </div> </div>						
Level 2	<b>SB002C</b> ColorSystem Advanced Training (available Q2 2020)						
Level 3	<div> <div> <b>SB002B</b> New Generation ColorSystem Product Training (National Rule) </div> <div>OR</div> <div> <b>SB003B</b> New Generation ColorSystem Product Training (Low VOC) </div> <div>OR</div> <div> <b>SB001A</b> Vendor Paint Training </div> </div>						
	OL1501A	OL1604A	OL5504	OL5505	OL1403A	OL1403B	OL1408A
	OL1408H	OL1831a		OL1834a		-	

# 2020 BMW Collision Center Training Curriculum

## Apprentice Collision Repair Technician

Included Job Titles

- SB302 Apprentice Collision Repair Technician

Apprentice Collision Repair Technician					
Level 1	<b>SB031</b> High Voltage Vehicle Body Repair				
	OL5502	OL17-ST1710	OL5510	OL1403A	OL1403B
Level 2	<b>SB032</b> Fundamentals of Steel			<b>SB025</b> Online Resources for Collision Repair	
	OL5501		OL5503	OL1501A	VO325
Level 3	<b>SB030</b> Brand Values				
	OL2042		OL5504	OL5505	OL5506

# 2020 BMW Collision Center Training Curriculum

## Collision Repair Technician

### Included Job Titles

- SB204 - Collision Repair Technician
- SB506 - Contractor Collision Repair Technician

Collision Repair Technician								
Level 1	Non - Structural				Structural			
	<b>SB008A</b> Aluminum Outer Panel Repair Techniques				<b>SB026E</b> BMWi Body Repair Level 2&3			
					OL5509			
Level 2	Non - Structural				Structural			
	<b>SB005A</b> Small Damage Outer Panel Repair		<b>SB005B</b> Medium Damage Outer Panel Repair		<b>SB033</b> High Strength Steel Vehicle Repair		<b>SB012</b> Bonding & Riveting Techniques	
	<b>SB005E</b> Plastic Restoration Techniques				OL5510			
Level 3	<b>SB029</b> Fundamentals of Carbon				<b>SB026D</b> BMWi Product Introduction & Body Repair Level 1			
	<b>SB018</b> Glass Repair and Replacement		<b>SB031</b> High Voltage Vehicle Body Repair		<b>SB032</b> Fundamentals of Steel		<b>SB028</b> Fundamentals of Aluminum	
	OL1604A	OL1834a	WB618	OL1501A	OL1403A	OL1403B	OL1408A	OL1408H
	OL1831a	OL5503	OL5504	OL5505	OL5506	OL5501	OL5502	OL17-ST1710

Collision Repair Technician - Convertible Top Specialist				
Level 1	<b>SB034</b> Convertible Top Technology			
	OL5507		OL5508	

Collision Repair Technician - Diagnostic Specialist	
Level 1	<b>SB035</b> Introduction to Vehicle Scanning

# 2020 BMW Collision Center Training Curriculum

## Body Shop Combination

### Included Job Titles

- SB207 - Body Shop Combination
- SB508 - Contractor Body Shop Combination

Body Shop Combination										
Level 1	<b>SB001D</b> ColorSystem Frozen Finish Repair Training				<b>SB001F</b> Matt Finish Vendor Training					
	Non - Structural				Structural					
	<b>SB008A</b> Aluminum Outer Panel Repair Techniques				<b>SB026E</b> BMWi Body Repair Level 2 & 3					
					OL5509					
Level 2	<b>SB002B</b> New Generation ColorSystem Product Training (National Rule)				<b>SB003B</b> New Generation ColorSystem Product Training (Low VOC)			<b>SB001A</b> Vendor Paint Training		
	Non - Structural				Structural					
	<b>SB005A</b> Small Damage Outer Panel Repair		<b>SB005B</b> Medium Damage Outer Panel Repair		<b>SB033</b> High Strength Steel Vehicle Repair			<b>SB012</b> Bonding & Riveting Techniques		
	<b>SB005E</b> Plastic Restoration Techniques				OL5510					
Level 3	<b>SB002A</b> Refinishing Process Standards (National Rule)				<b>SB003A</b> Refinishing Process Standards (Low VOC)					
	<b>SB029</b> Fundamentals of Carbon				<b>SB026D</b> BMWi Product Introduction & Body Repair Level 1				-	
	<b>SB018</b> Glass Repair and Replacement		<b>SB031</b> High Voltage Vehicle Body Repair		<b>SB032</b> Fundamentals of Steel			<b>SB028</b> Fundamentals of Aluminum		
	OL1604A	OL1408H	WB618	OL1501A	OL1403A	OL1403B	OL1408A	OL1831a	-	-
	OL17-ST1710	OL5503	OL5504	OL5505	OL5506	OL5501	OL5502	OL1834a	-	-

# 2020 BMW Collision Center Training Curriculum

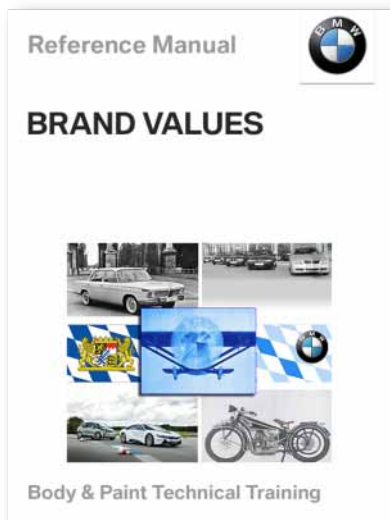
## Body Shop Parts Advisor

### Included Job Titles

- SB210 - Body Shop Parts Advisor
- SB510 - Contractor Body Shop Parts Advisor

Body Shop Parts Advisor			
Level 1	<b>SB017B</b> Estimator Training for Small & Medium Damage Repair		<b>SB023</b> Collision Advisor Sales Negotiation
	UO110		VO325
Level 2	<b>SB017</b> BMW Collision Advisor Training		<b>SB025</b> Online Resources for Collision Repair
	OL5022		OL5504
Level 3	<b>SB030</b> Brand Values		
	OL158	OL2042	OL5064

# BODY TRAINING



## SB030 - Brand Values

### Description:

The purpose of this course is to: Instill values in new and existing center associates that are consistent within the BMW Group. Participants will review the company's rich history and heritage to gain an understanding of the role that the BMW Center and service associates play in keeping BMW customers loyal to the brand.

**Prerequisites:** None

**Target Audience:** Collision Center new hires of all job codes

**Course Length:** 2-day

### Learning Objectives:

After the completion of this course the participant will be able to:

- Discuss BMW History and Heritage and explain how the BMW Center and the service associates play an important role in keeping BMW customers loyal to the Brand.
- Explain how technical and product knowledge as well as performing repairs of the highest quality contribute to enhancing BMW customer loyalty.
- Identify ways to maintain high levels of repair quality and produce repairs efficiently that meet BMW standards.

### Content:

- Brand Awareness
  - History & Heritage
  - Product Overview
  - Brand Identify & Customer Loyalty
  - Types of Behavior that support the brands
  - Customer Expectations
- Quality Standards and Customer Focus
  - Repair Accuracy
  - Repair Quality
- Repair Quality and Technician Efficiency
  - Performance Measurements
  - Repair Quality and Quantity
  - Compensation Plan Basics



## SB018 - Glass Repair and Replacement

### Description:

This instructor led course covers glass repair and replacement in all BMW vehicles. Participants will acquire the skills necessary to perform glass repairs, removal, and installations. Upon completion of this course, participants will have the knowledge necessary to determine when glass damage is repairable to BMW specifications and when glass replacement is required as well as acquiring the skills necessary to perform glass repairs and replacement safely and efficiently.

**Prerequisites:** None

**Target Audience:** Collision Repair Technicians

**Course Length:** 1-day

### Learning Objectives:

After the completion of this course the participant will be able to:

- Understand the application and usage of glass in BMW vehicles.
- Accurately assess glass damage to differentiate between repairable and non-repairable damage according to BMW standards.
- Use approved tools and materials to repair glass following BMW approved procedure.
- Perform removal and installation of body glass using the appropriate tools and procedures.

### Content:

- Understanding Glass
  - Market Opportunities for Glass Repair & Replacement
  - Composition of Glass
  - Types of Glass
  - Elements of the Glass Approval Marking
  - Integrated Features
  - Analyzing the Damage
  - Causes of Damage
  - Identifying Repairable & Non-Repairable Damage
- Glass Repair
  - Stone Chip Repair Considerations
  - The Glass Repair Kit
  - Safety
- Glass Replacement
  - Tools & Materials



## **SB028 - Fundamentals of Aluminum**

### **Description:**

The purpose of this course is to: Build fundamental skills and knowledge to process aluminum components to BMW specifications.

**Prerequisites:** OL5501 - Fundamentals of Aluminum

**Target Audience:** Collision Repair Technicians

**Course Length:** 1-day

### **Learning Objectives:**

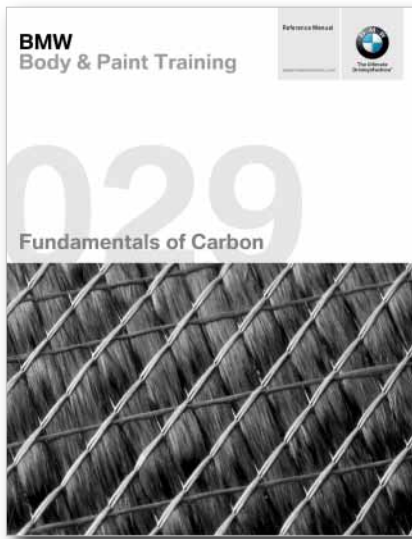
After the completion of this course the participant will be able to:

- Describe the history, usage, and advantages of aluminum components in regards to BMW vehicles.
- Describe the processes used by BMW to manufacture aluminum components.
- Examine the composition of and the properties of aluminum.
- Identify the correct tools, equipment, and processes for safe and effective aluminum repair.

### **Content:**

- Aluminum Introduction
  - History & BMW Aluminum Applications
- Manufacture
  - Design
- Properties of Aluminum
  - Mechanical Properties
  - Material Properties
- Repair Methods
  - Opening Bonded Aluminum Connections
  - Surface Prep Identification
  - Surface Preparation
  - Bonding
  - Repair Elements – Threads and Ground Pins





## **SB029 - Fundamentals of Carbon**

### **Description:**

The purpose of this course is to: Build fundamental skills and knowledge to process carbon fiber components to BMW specifications.

**Prerequisites:** OL5502 - Fundamentals of Carbon

**Target Audience:** Collision Repair Technicians

**Course Length:** 1-day

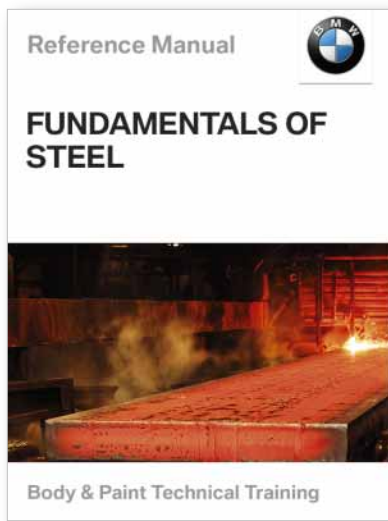
### **Learning Objectives:**

After the completion of this course the participant will be able to:

- Describe the history, usage, and advantages of carbon components in regards to BMW vehicles.
- Describe the composition of, and the processes used by BMW to manufacture carbon components.
- Examine the mechanical properties of carbon.
- Identify faults within a carbon component.
- Identify the correct tools, equipment, and processes for safe carbon repair.

### **Content:**

- Carbon Introduction
  - History & BMW Carbon Applications
  - Advantages & Economic Efficiency
- Manufacture
  - Fibers, Textiles
  - Layering & Laminates, Final Processing
- Properties of Carbon Fiber
  - Mechanical Properties
  - Material Properties
- Damage Analysis
  - Damage Assessment
- Repair Methods
  - Opening Bonded Carbon Connections
  - Surface Prep Identification
  - Surface Preparation
  - Bonding
  - Thread Repair Elements



## **SB032 - Fundamentals of Steel**

### **Description:**

The purpose of this course is to: Build fundamental skills and knowledge to process steel components to BMW specifications.

**Prerequisites:** OL5506 - Fundamentals of Steel

**Target Audience:** Collision Repair Technicians

**Course Length:** 1-day

### **Learning Objectives:**

After the completion of this course the participant will be able to:

- Describe the historical use, economic advantages, and the application of the material steel in BMW vehicles
- Understand the processes used by BMW to manufacture steel body components
- Examine the physical properties of steel
- Use the correct tools, equipment, and processes to perform safe and effective repairs on steel components
- Describe the methods in which steel surfaces are prepared prior to refinishing

### **Content:**

- Introduction
  - History & BMW Aluminum Applications
- Manufacture
  - Production
  - Alloys
  - Manufacturing Procedures
  - Production Joining Methods
- Properties of Steel
  - Mechanical & Material Properties
- Repair Methods
  - Surface Prep
  - Bonded, Welded, & Riveted Connections
  - Reinforcement Plates
  - Straightening
- Refinishing Prep
  - Surface Levelling



## **SB031 - High Voltage Vehicle Body Repair**

### **Description:**

The purpose of this course is to: Understand the design and operation of BMW hybrid and electric vehicles, & be able to safely perform body repair on vehicles with high voltage systems.

**Prerequisites:** OL17-ST1710 - Fundamentals of High Voltage Technology

**Target Audience:** Collision Repair Technicians

**Course Length:** 1-day

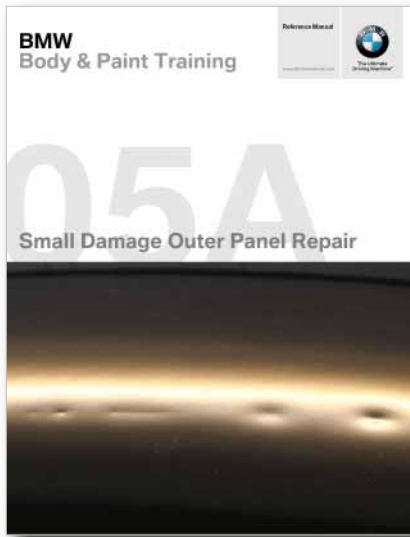
### **Learning Objectives:**

After the completion of this course the participant will be able to:

- Understand the drive unit configuration and identify the main features of hybrid and electric vehicles.
- Identify high voltage components and discuss their purpose.
- Identify safe working practices and the hazards associated with electricity in order to maintain a safe workshop environment.
- Prepare the vehicle and working environment for safe and successful body repairs.

### **Content:**

- Introduction to High Voltage Vehicles
  - History
  - Hybrid Classification
  - Generations
- High Voltage Components
  - Identification
  - High Voltage Interlock Loop
  - Connection Types
  - Potential Compensation
- Safety
  - Risk Assessment
  - Health Risks
  - High Voltage & the Human Body
- Preparation for Body Work
  - Vehicle Assessment
  - Service Disconnect



## **SB005A - Small Damage Outer Panel Repair**

### **Description:**

The purpose of this course is to: Increase the skills and ability to repair small sized damages on steel outer panels by implementing advanced repair techniques that uphold quality and efficiency of the repair process.

**Prerequisites:** None

**Target Audience:** Collision Repair Technicians

**Course Length:** 3-days

### **Learning Objectives:**

After the completion of this course the participant will be able to:

- Explain the effects and advantages of correctly repairing small damages to outer panels.
- Recognize different types of small damage and their characteristics in order to determine the difficulty, repair method, and time needed.
- Use light and contrast to accurately visualize the damage.
- Develop the fundamental skills for small damage repair.
- Perform proper knockdown technique and understand the necessary use in various situations.
- Demonstrate the different steps during small damage repair.
- Anticipate and understand various factors that can influence repair and select the best tool and/or repair system based on the type of damage and location.
- Demonstrate the different repair solutions and process steps for repairing larger damages with unique characteristics.
- Identify and practice the skills required to ensure successful dent repair skill development.
- Describe the repair process and the limitations associated with working on the vehicle.
- Identify the glue systems purpose, application, and limitations.
- Outline what should be considered before and after repair.

### **Content:**

- Introduction to Small Damage Repair
  - Identifying the best repair option
  - Opportunities for Collision Center
  - Technician Benefits
- Recognizing Dents
  - Types of Dents
  - Depth, Shape & Form
- Lighting
  - What is Light? (general contrast)

- Reflection
- Types of Light Stands
- Positioning, Distance, & Parallel
- Criss-Cross
- Head Position
- Tool Dynamics
  - Holding & Finding the Tool
  - Position, Pause, & Push (actually repairing the 1st dent. Finding the O)
- Knocking Down
  - Proper Use of the Knock Down (how to hold, hit)
  - Different Uses of the Knock Down (+ exercise knocking down, high spot/glue pull)
  - Reaction of the Material (exercise knocking down a mistake and opening a dent)
- Steps to Fixing a Dent
  - Pre-Push, Center Work, and Area Work
  - Repairing a Dent
  - Repairing a Crease or Line
- External Factors
  - Repair Zones on the Outer Body
  - Open Access Areas & Difficult or No-access Areas
  - Material Type
- Repairing Larger Dents
  - Large Dents
  - Dents Over Edges
  - Half Moon Dents Near Edges
  - Different Tool Variations / Pre-Push Technique
- Continued Skill Development
  - Positive Practice Environment
  - Maintaining Fundamentals & Skill development program
- Vehicle Work Dynamics
  - Vehicle Confines, Work Direction, & Light Position
  - Key Critical Guidelines
- Glue System
  - Components
  - Repair Process
- Final Finishing Touches
  - Surface Correction
  - Vehicle Protection



## **SB005B - Medium Damage Outer Panel Repair**

### **Description:**

The purpose of this course is to: Increase the skills and ability to repair medium sized damages on steel outer panels by implementing advanced repair techniques that uphold quality and efficiency of the repair process.

Participants will gain experience using BMW recommended tools and equipment including the Flatliner® repair solution.

**Prerequisites:** SB005A - Small Damage Outer Panel Repair

**Target Audience:** Collision Repair Technicians

**Course Length:** 2-days

### **Learning Objectives:**

After the completion of this course the participant will be able to:

- Explain the effects and advantages of correctly repairing damage to outer panels.
- Produce an accurate repair plan and identify the appropriate steps to ensure high quality efficient repair process.
- Build the hands on skills to efficiently repair medium damage.
- Outline the additional considerations during repair such as tool dynamics, bridge application, bit application and pulling methods, and the different welder settings and modes.

### **Content:**

- Outer Panel Repair Philosophy
  - Common Expectations and Desires
  - Opportunities to Increase Efficiency
  - Pros and Cons to Repair and Replace
- Repair Plan and Repair Process
  - Damage Identification
  - Repair Process
  - Damage Analysis
  - Repair Options
  - Preparation and Vehicle Protection
  - Planning for Removal of Coatings
- Medium Damage Repair
  - Damage Analysis & Identifying Welding Points
  - Applying the Bridge & Pulling the Damage (Upper Body Line)
  - Stabilizing and Edge & Pulling the Damage (Lower Body Line)
  - Finishing Work Using the Innopuller
  - Body Line, Stretched Zone and Crown
  - Large area Damage with Soft Body Line
  - Flat Surface Damage
  - Door Handle Area
- Additional Considerations for Damage Repair
  - Tool Dynamics
  - Bridge Application
  - Bit Application and Pulling Methods



## **SB005E - Plastic Restoration Techniques**

### **Description:**

This course will cover plastic outer panel repair techniques. Technicians attending must come prepared to work. Dress code: work clothes, no open-toed shoes.

**Prerequisites:** OL5504 – Punching Tool Set for Bumper PDC, PMA, & SVC

**Target Audience:** Collision Repair Technicians

**Course Length:** 2-days

### **Learning Objectives:**

After the completion of this course the participant will be able to:

- Understand the purpose and application of automotive plastics
- Evaluate damaged components to determine the required processes and procedures
- Define the procedure for replacing components and comprehend the methods in which they are fastened
- Define the procedures for repair of plastic components & successfully perform plastic repairs
- Perform the necessary steps to complete the physical repair in order for coating applications

### **Content:**

- Introduction
  - History & Applications
  - Material Properties
- Damage Assessment
  - Analysis
  - Repair Options
  - Repair Parameters
- Replace & Repair
  - Process Evaluation
  - Component Connections
  - Chemical Repair
  - Welded Repair
  - Factory Repair Kits
- Preparation for Refinishing
  - Sanding
  - Filler & Priming



## **SB008A - Aluminum Outer Panel Repair Techniques**

### **Description:**

This instructor led course covers the essential concepts behind aluminum outer panel repair. Throughout the course, the participant will be developing their skills by performing advanced repair methods by utilizing tools such as levers, glue, welding, & other advanced techniques. Upon completion of this course, the participants will be able to successfully remove damages to aluminum outer panels by using the appropriate repair method.

**Prerequisites:** SB028 - Fundamentals of Aluminum  
SB005A – Small Damage Outer Panel Repair  
SB005B – Medium Damage Outer Panel Repair

**Target Audience:** Collision Repair Technicians

**Course Length:** 2-days

### **Learning Objectives:**

After the completion of this course the participant will be able to:

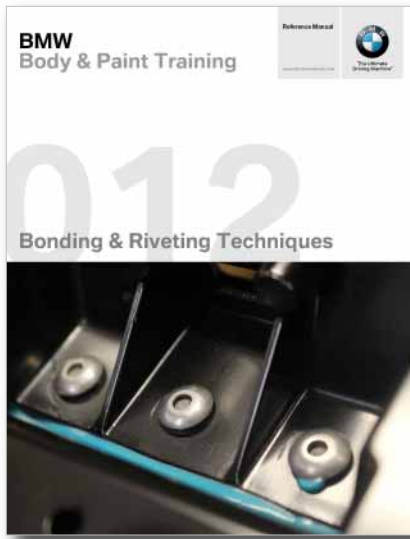
- Prioritize the key concepts prior to performing repairs to aluminum outer panels.
- Establish a knowledge base for the ideal repair process
- Understand the importance of how heat can affect the metal during repair
- Understand the process and repair damages using the Alu T-Hotbox
- Outline the pre-repair process and the methods used to repair different damage types by using studs in conjunction with pressure, & heat
- Perform proper knockdown technique and understand the necessary use in various situations
- Identify the glue system's purpose, application, and limitations.
- Demonstrate proper usage of lever type tools to return the panel to its original shape
- Describe and demonstrate the use of conventional body straightening tools
- Perform the necessary steps to complete the repair in order for coating

### **Content:**

- Working with Aluminum
  - Properties
  - Essentials
  - Lighting
- Aluminum Repair Process
  - Repair Standards
  - Repair Options
  - Tools & Equipment
  - Repair Planning
- Effect of Heat
  - Thermal Conductivity
  - Expansion and Contraction
  - Application and Monitoring of Heat



- Alu T-Hotbox
  - Technical Workings & Functions
  - Application
- Stud Welding Repair
  - Planning for Removal of Coatings
  - Welding Process
  - Single Dent
  - Body Line & Large Dent
- Knocking Down
  - Technique and Use
  - Reaction of the Material
- Glue System
  - Components
  - Repair Process
- Levers
  - Dynamics
  - Repairing Larger Dents
- Hammer & Dolly
  - Components
  - Process
- Preparation for Refinishing
  - Sanding the Repair



## **SB012 - Bonding & Riveting Techniques**

### **Description:**

The purpose of this course is to: Gain knowledge of bonded and riveted connections used in vehicle structures and demonstrate proficiency in performing a bonded and riveted repair.

**Prerequisites:** OL5510 - BMW Bonding & Riveting Techniques

**Target Audience:** Collision Repair Technicians

**Course Length:** 2-days

### **Learning Objectives:**

After the completion of this course the participant will be able to:

- Develop an understanding of how adhesives and rivets have been, and continue to be used in BMW repairs.
- Identify the components utilized in the bonding and riveting repair process.
- Demonstrate the ability to perform a bonded and riveted repair
- Explain the process for finishing the repair in preparation for coatings

### **Content:**

- Introduction
  - History
  - Process Overview
- Bonding & Riveting Technology
  - Adhesive Types
  - Rivet Types
  - Factory Connections
  - Tools & Equipment
  - Safety
- Repair Process
  - Repair Levels
  - Opening Connections
  - Connection Types
  - Surface Prep
  - Joining by Bonding & Riveting
- Finishing Work
  - Surface Refinement
  - Sealing



## SB033 - High Strength Steel Vehicle Repair

### Description:

The purpose of this course is to: In a safe and efficient manner, use advanced tools and techniques to identify damage and accurately perform structural repairs to high strength steel vehicles following BMW specifications.

**Prerequisites:** OL5506 - Fundamentals of Steel  
SB032 - Fundamentals of Steel

**Target Audience:** Collision Repair Technicians

**Course Length:** 3-days

### Learning Objectives:

After the completion of this course the participant will be able to:

- Understand the application and usage of HSS in BMW vehicles.
- Accurately assess damage and its repair requirements.
- Properly measure a vehicle to ensure the vehicle is repaired to dimensional specifications.
- Outline and understand the pre-requisites for repair to ensure BMW guidelines are adhered to.
- Comprehend and apply necessary procedures to perform replacement of HSS structural components.
- Identify how to finalize a repair to meet quality standards and employ technical methods to replicate a factory finish.

### Content:

- Understanding High Strength Steel
  - Characteristics
  - Material Mix
- Analyzing the Damage
  - Load Paths
  - Primary and Secondary Damage
  - Initial Measuring
- Bench Systems
  - Electronic Measuring
  - Pulling
- Planning the Repair
- Executing the Repair
  - Vehicle Protection
  - Opening and Removal
  - New Part Pre-Fit
  - Reinforcement Plates
  - Surface Preparation
  - New Part Installation
- Finishing Details
  - Fillers
  - Seam Sealer
  - Corrosion Protection



## SB026D - BMWi Product Introduction & Body Repair Level 1

### Description:

The purpose of this course is to; Obtain BMWi product knowledge in regards to the BMWi brand, safety, vehicle construction, operation, and drivetrain systems.

Build knowledge, skills, and ability to perform level 1 repairs and carry out special procedures in event of body damage to BMWi vehicles

**Prerequisites:** OL1403a - I01 Information  
 OL1403b - I01 Body Level 1  
 OL1408a - I12 Information  
 OL1408h - I12 Body Level 1  
 SB028 - Fundamentals of Aluminum  
 SB029 - Fundamentals of Carbon

**Target Audience:** Collision Repair Technicians

**Course Length:** 3-days

### Learning Objectives:

After the completion of this course the participant will be able to:

- Describe the BMW i sub brand and basic specifications for BMWi vehicles.
- Explain the safety precautionary measures when working on BMWi vehicles.
- Describe the new body concept and special characteristics of the passenger compartment.
- Understand the powertrain configurations of BMWi vehicles.
- State the basic operation of the braking and energy recovery systems of BMWi vehicles.
- Describe the heater circuit system of the BMW I01 vehicle.
- State the available charging modes for BMWi, and demonstrate the ability to identify the charging socket LED status indicators.
- Describe the conceptual design, scopes of repair work, and repair methods used in regards to the BMWi vehicles outer body skin.
- Perform damage assessment process, identify appropriate repair methods, and perform level 1 repair to the Life and Drive modules.
- Perform disassembly, installation and adjusting procedures at outer skin components and corresponding brackets correctly according to the repair instructions.

### Content:

BMWi Introduction

Technical Data

Body

LifeDrive Concept

Outer Skin Concept

Door Concept

Drivetrain

Overview of High Voltage Powertrain Components

Overview of I12/I15 Combustion Engine

- Role and Components of REX
- Chassis and Suspension
  - Brake Energy Regeneration - I01
  - Brake Energy Regeneration - I12/I15
- General Vehicle Electronics
  - 12v Vehicle Electrical System
  - Ground Connections
  - Emergency Charging/Diagnostics/Programming
- Heating
  - Heater Circuit in Standard Equipment
- Charging The High-Voltage Battery
  - Displays
- Skin Deep - Outer Body Skin
  - Scope of Level 1 Repairs
  - Outer Skin Design Concept and Repairability
- Body Adjustments - Bolt on Parts and Glass
  - Front and Rear Lid
  - Front/Rear Bumper Panel and Side Member Trim Panel Cover
  - Front/Rear Side Panels, Roof Frame Trim and Gutter Moldings
  - Front/Rear Doors and Door Glass
  - Bonded Glass



## **SB026E - BMWi Body Repair Level 2 & 3**

### **Description:**

The purpose of this course is to: Build knowledge, skills, and ability to perform structural repairs to BMWi vehicles.

**Prerequisites:** SB026 - i01 Product Introduction & Body Repair Level 1  
OR SB026D - BMWi Product Introduction & Body Repair Level 1  
SB028 - Fundamentals of Aluminum  
SB029 - Fundamentals of Carbon  
OL5509 - I12 & I15 Front Drive Module

**Target Audience:** Collision Repair Technicians

**Course Length:** 4-days

### **Learning Objectives:**

After the completion of this course the participant will be able to:

- Describe the service formats, scopes of repair work, and repair methods available in regards to I01 structural repairs.
- Describe the unique design elements of the Life and Drive modules, and identify the correct and safe repair procedures prior to handling the vehicle.
- Perform proper disassembly and installation of aluminum Drive Module components.
- Perform proper disassembly and installation of carbon fiber Life Module components.

### **Content:**

- Introduction
  - Service Formats and Scope of Body Repair Work
  - Explanation of "Body Repair Level 2 & 3"
  - Test Methods for Determining the Extent of Damages
  - Repair Areas on Life and Drive Modules
- Repair to Drive Module - Partial Front Section & Complete Rear (Practical Application)
  - Removal and Disassembly of Drive Module Components
  - Preparation of Drive Module Components
  - Installation of Drive Module Components
- Repair to Life Module - Rear Side Panel & A-Pillar (Practical Application)
  - Removal of Bonded Glass to Carbon
  - Removal of Life Module Components
  - Preparation of Life Module Components
  - Installation of Life Module Components



## **SB034 - Convertible Top Technology**

### **Description:**

Obtain current convertible top technology in retrospect to both convertible soft tops and hard tops. Build knowledge, skills, and the ability to perform all repair levels as well as carry out special procedures in the event of body damage to the convertible top, or its related components.

**Prerequisites:** OL5507 - Convertible Top Technology

**Target Audience:** Collision Repair Technicians

**Course Length:** 2-day

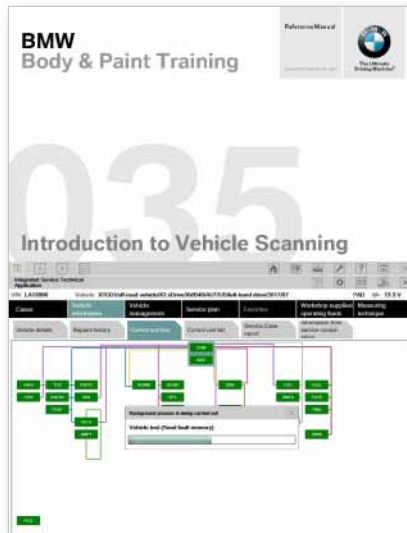
### **Learning Objectives:**

After the completion of this course the participant will be able to:

- Discuss the different model variants, the design and materials used in the construction of the convertible tops
- Recognize the different components that make up the convertible top
- Identify convertible top damage as well as service the convertible top and related components
- Recognize the adjustment points, servicing and specialized maintenance procedures for the convertible top

### **Content:**

- Introduction to BMW Convertibles
  - Remembering the Convertible Top
  - Convertible Body Structure
- Convertible Top Construction
  - Soft Top/Hard Top
  - Electrical Components
  - Convertible Top - Actuation Methods
  - Locks
  - Weather Seals
  - Rear Glass
- Removal and Installation
  - Soft Top/Hard Top Special Tools
  - Rollover Protection
  - R&I Procedure
- Adjustments
  - Soft Top/Hard Top Adjustments
  - Convertible Top Maintenance - Post Repair



## SB035 - Introduction to Vehicle Scanning

### Description:

The purpose of this course is to: Develop the necessary knowledge and skills to be able to perform fault code memory scanning and basic initialization of vehicle components commonly associated with collision repair.

**Prerequisites:** None

**Target Audience:** Collision Repair Technicians

**Course Length:** 2-days

### Learning Objectives:

After the completion of this course the participant will be able to:

- Understand the theoretical aspect of utilizing BMW diagnostic equipment to interpret and analyze control module performance
- Identify the hardware required to perform vehicle control module analysis.
- Examine software functionality and utilize the software to perform fault memory scanning.
- Demonstrate the ability to perform basic diagnostics and gain an understanding of a control module programming session

### Content:

Process Overview

User Interactivity

Coding, Programming, Customizing

Software Interfaces

Access & Support

Hardware

Battery Chargers

BMW Equipment

Web Based Equipment

Legacy Devices

Software

ISTA (P & D)

Service Functions

Process

Vehicle Test (include control unit tree & service functions)

Fault Memory

Diagnostics (convertible top bug and/or PDC bug)

Battery Registration

Initialization & Calibration

Coding & Programming





## **SB036 - Vehicle Body Construction**

### **Description:**

This instructor led course gives the participant knowledge of BMW vehicle body construction. Participants will become familiar with the various types of vehicle structural design and related repair considerations. They will gain an understanding of the materials used in design, how they are used in BMW vehicle construction and an overview of the unique repair processes required.

**Prerequisites:** None

**Target Audience:** Estimators / Collision Advisors

**Course Length:** 2-day

### **Learning Objectives:**

After the completion of this course the participant will be able to:

- Understand the types of structural design techniques used in BMW vehicle body construction.
- Understand the types of materials used in BMW vehicle body construction.
- Understand the location of materials throughout the vehicle body.
- Recognize BMW authorized repair procedures based on vehicle design, construction and material usage to help write thorough repair estimates

### **Content:**

- Introduction
  - History & BMW Applications
  - Advantages & Economic Efficiency
- Manufacture
  - Aluminum, Carbon, Steel
- Material Properties
- Construction Methods
- Damage Analysis
  - Damage Assessment
- Repair Methods

# PAINT TRAINING



## **SB002A - Refinishing Process Standards (National Rule)**

### **Description:**

The purpose of this course is to: Increase repair efficiency by implementing BMW process standards that ensure quality repair.

**Prerequisites:** None

**Target Audience:** Body Shop Painter, Apprentice Painter, and Paint Preppers located in National Rule areas

**Course Length:** 2-days

This instructor led course covers general information in regards to BMW refinishing process standards which apply to all approved paint lines in National Rule (non-VOC regulated) areas. Using BMW required and recommended equipment, the participants will learn the process steps and prepare panels in various conditions for undercoat and topcoat application. Time will also be allotted for spray gun operation, spray pattern troubleshooting, and application of undercoats. Upon completion of this course, the participants will have a firm understanding of the refinishing process standards set forth by BMW.

### **Learning Objectives:**

After the completion of this course the participant will be able to:

- Outline the necessary paint shop equipment and personal safety items needed to promote a defect free paint finish.
- Discuss the necessary protection measures for vehicle components and substrates during repair.
- Examine factory paint finishes and identify the unique repair processes that should be considered for each.
- List the appropriate preparation techniques and sanding tools that should be used for preparation of all substrates.
- List the appropriate preparation techniques and sanding tools that should be used prior to undercoat application.
- Identify the correct undercoats and application process for the scope of repair.
- Select the correct spray gun equipment and demonstrate proper set-up and trouble shooting.
- List the appropriate preparation techniques and sanding tools that should be used prior to basecoat / clearcoat application.
- Identify the appropriate defect elimination and polishing techniques that ensure the highest level of quality paint finish and appearance.

### **Content:**

- Paint Shop Equipment Requirements & Recommendations
  - Personal Safety Items
  - IR Lamps
  - Sanding Machines & Dust Extraction

- Air Supply
- Paint Mixing Room & Paint Mixing Equipment
- Cleaning & Tacking
- Spray Guns
- Additional Paint Shop Items

- **Vehicle Protection & Precautions**

- Paint Shop Workflow & Increasing Productivity
- Masking Techniques
- Notes on Hybrid & Electric Vehicles

- **General Information of Factory Finishes & Repair Standards**

- BMW Group Paint Codes
- Factory Paint Film Layers
- BMW Powder & Scratch Improved Clear Finishes
- Carbon Fiber
- Frozen Finishes
- Plastic Repair Guidelines & Repairing Plastic Parts Around Sensors

- **Preparation Techniques & Sanding Tools**

- Hand Sanding & Machine Sanding
- Random Orbital Dual Action (DA) Sanders
- Equipment & Abrasive Recommendation by Application

- **Preparation Techniques for Undercoat Application**

- Preparation Techniques for OEM Replacement Parts; E-Coat to Metal
- Preparation and Finishing Techniques for Feathering Layered Paintwork (Scratches/ Chips)
- Preparation and Finishing Techniques for Body Fillers and Polyester Repairs
- Preparation Techniques for Raw Plastic Substrates and Bumpers
- Preparation and Finishing Techniques for New OEM Primed Plastic Parts
- Preparation Techniques for Plastic Substrate, Repairs: Minor-Major

- **Spray Gun Equipment & Operation**

- Overview of Spray Gun Components
- Gun Cleaning & Maintenance
- Spray Gun Operation & Trouble Shooting
- Proper Selection of Gun & Fluid Tip

- **Undercoats**

- Corrosion Protection & Plastic Adhesion Promoter Primers
- Primers, Fillers, & Sealers
- Identify the Best Primer Selection for Each Substrate Situation
- Process Guidelines for Under Hood Cut-ins and Jamb Areas
- Process Guidelines for Areas Around Bonded Glass
- Undercoat Application

- **Preparation Techniques for Topcoat Application (Basecoat/Clearcoat)**

- Preparation Techniques for Primed Repair Areas
- Preparation Techniques for New OEM Parts with Primer Surfacer
- Preparation Techniques for Factory Clear Finishes
- Preparation Techniques for Scratch Improved Clear & Frozen Finishes

- **Defect Elimination & Polishing Techniques**

- Overview of Sanding Process for Refinishing Defect Elimination
- Overview of BMW Approved Polishing Products
- Overview of ColorSystem Polishing Process



## **SB002B - New Generation ColorSystem Product Training (National Rule)**

### **Description:**

The purpose of this course is to: Introduce the ColorSystem New Generation National Rule products and application process. This course has been developed for paint technicians of all experience levels.

**Prerequisites:** None

**Target Audience:** Body Shop Painters and Apprentice Painters located in National Rule areas

**Course Length:** 3-days

### **Learning Objectives:**

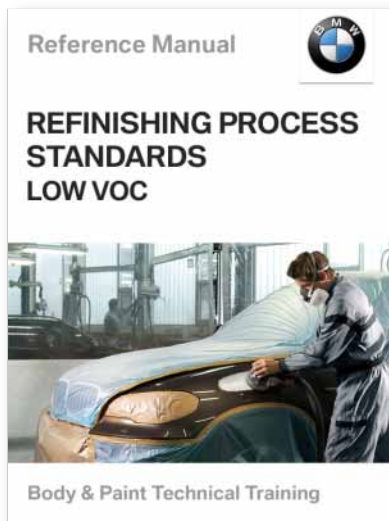
After the completion of this course, the participant will be able to:

- Identify the benefits of using the New Generation ColorSystem products
- Identify personal safety standards and outline the necessary paint shop equipment to promote a defect free paint finish
- Outline the new products available and highlight existing products
- Understand the characteristics of the new 7-Series HC Basecoat
- Identify the application variables associated with mixing and spraying New Generation Basecoat
- Demonstrate the correct identification and elimination of basecoat defects using the preferred methods
- Understand color tools and their relation to adjusting the color to match
- Outline and demonstrate the blending procedure with New Generation ColorSystem basecoat

### **Content:**

- Introduction to New Generation ColorSystem
  - Benefits to Shop
  - Benefits to Technician
  - Updates on Ordering / Shipping
  - New Manual Overview (highlight of new content)
- Paint Shop Equipment Requirements & Recommendations
  - Personal Safety Items
  - Spray Booth Function & Maintenance
  - Air Blowers for Waterborne Application
  - Paint Mixing Equipment
  - Color Tools
  - Cleaning & Tacking
  - Spray Guns
  - Additional Paint Shop Items
- ColorSystem Product Overview
  - Pre-treatment Products & Cleaners
  - Corrosion Protection

- Primers Fillers
- Sealers & Adhesion Promoters
- Plastic Primers, Sealers, & Adhesion Promoters
- Hardeners, Thinners, & Other Additives
- Clearcoat
- HC Basecoat 7-Series
  - Mixing Equipment & Toners
  - Shelf Life
  - Basecoat Additives
  - Drying Characteristics and Influences
- Surface Prep & Application Variables
  - Mix Ratios & Regulators
  - Panel Preparation for Basecoat Application
  - Spray Gun Review
  - Panel Application Details
  - Dry Times
  - Metallic Alignment
- Basecoat Defect Identification and Elimination
  - Identification
  - Elimination
- Color Adjustment & Color Tools
  - Basic Color Theory
  - Basic Tinting
  - Camera Systems - Acquire FX
- Blending Operations
  - Blend Processes
  - Blend Support Products
  - Prep of Blend Panel
  - Blending Operation



## **SB003A - Refinishing Process Standards (Low VOC)**

### **Description:**

The purpose of this course is to: Increase repair efficiency by implementing BMW process standards that ensure quality repair.

**Prerequisites:** None

**Target Audience:** Body Shop Painter, Apprentice Painter, and Paint Preppers located in Low VOC areas

**Course Length:** 2-days

This instructor led course covers general information in regards to BMW refinishing process standards which apply to all approved paint lines in VOC regulated areas. Using BMW required and recommended equipment, the participants will learn the process steps and prepare panels in various conditions for undercoat and topcoat application. Time will also be allotted for spray gun operation, spray pattern troubleshooting, and application of undercoats. Upon completion of this course, the participants will have a firm understanding of the refinishing process standards set forth by BMW.

### **Learning Objectives:**

After the completion of this course the participant will be able to:

- Outline the necessary paint shop equipment and personal safety items needed to promote a defect free paint finish.
- Discuss the necessary protection measures for vehicle components and substrates during repair.
- Examine factory paint finishes and identify the unique repair processes that should be considered for each.
- List the appropriate preparation techniques and sanding tools that should be used for preparation of all substrates.
- List the appropriate preparation techniques and sanding tools that should be used prior to undercoat application.
- Identify the correct undercoats and application process for the scope of repair.
- Select the correct spray gun equipment and demonstrate proper set-up and trouble shooting.
- List the appropriate preparation techniques and sanding tools that should be used prior to basecoat / clearcoat application.
- Identify the appropriate defect elimination and polishing techniques that ensure the highest level of quality paint finish and appearance.

### **Content:**

- Paint Shop Equipment Requirements & Recommendations
  - Personal Safety Items
  - IR Lamps
  - Sanding Machines & Dust Extraction

- Air Supply
- Paint Mixing Room & Paint Mixing Equipment
- Cleaning & Tacking
- Spray Guns
- Additional Paint Shop Items

- **Vehicle Protection & Precautions**

- Paint Shop Workflow & Increasing Productivity
- Masking Techniques
- Notes on Hybrid & Electric Vehicles

- **General Information of Factory Finishes & Repair Standards**

- BMW Group Paint Codes
- Factory Paint Film Layers
- BMW Powder & Scratch Improved Clear Finishes
- Carbon Fiber
- Frozen Finishes
- Plastic Repair Guidelines & Repairing Plastic Parts Around Sensors

- **Preparation Techniques & Sanding Tools**

- Hand Sanding & Machine Sanding
- Random Orbital Dual Action (DA) Sanders
- Equipment & Abrasive Recommendation by Application

- **Preparation Techniques for Undercoat Application**

- Preparation Techniques for OEM Replacement Parts; E-Coat to Metal
- Preparation and Finishing Techniques for Feathering Layered Paintwork (Scratches/ Chips)
- Preparation and Finishing Techniques for Body Fillers and Polyester Repairs
- Preparation Techniques for Raw Plastic Substrates and Bumpers
- Preparation and Finishing Techniques for New OEM Primed Plastic Parts
- Preparation Techniques for Plastic Substrate, Repairs: Minor-Major

- **Spray Gun Equipment & Operation**

- Overview of Spray Gun Components
- Gun Cleaning & Maintenance
- Spray Gun Operation & Trouble Shooting
- Proper Selection of Gun & Fluid Tip

- **Undercoats**

- Corrosion Protection & Plastic Adhesion Promoter Primers
- Primers, Fillers, & Sealers
- Identify the Best Primer Selection for Each Substrate Situation
- Process Guidelines for Under Hood Cut-ins and Jamb Areas
- Process Guidelines for Areas Around Bonded Glass
- Undercoat Application

- **Preparation Techniques for Topcoat Application (Basecoat/Clearcoat)**

- Preparation Techniques for Primed Repair Areas
- Preparation Techniques for New OEM Parts with Primer Surfacer
- Preparation Techniques for Factory Clear Finishes
- Preparation Techniques for Scratch Improved Clear & Frozen Finishes

- **Defect Elimination & Polishing Techniques**

- Overview of Sanding Process for Refinishing Defect Elimination
- Overview of BMW Approved Polishing Products
- Overview of ColorSystem Polishing Process



## **SB003B - New Generation ColorSystem Product Training (Low VOC)**

### **Description:**

The purpose of this course is to: Introduce the ColorSystem New Generation National Rule products and application process. This course has been developed for paint technicians of all experience levels.

**Prerequisites:** None

**Target Audience:** Body Shop Painters and Apprentice Painters located in Low VOC areas

**Course Length:** 3-days

### **Learning Objectives:**

After the completion of this course, the participant will be able to:

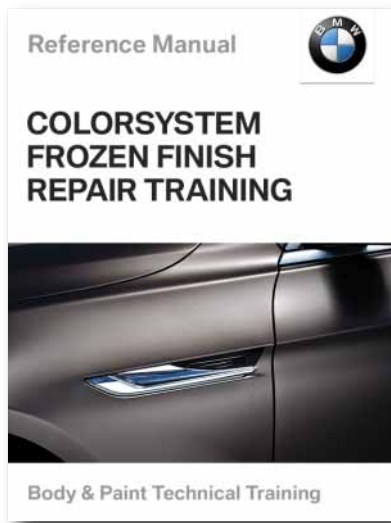
- Identify the benefits of using the New Generation ColorSystem products
- Identify personal safety standards and outline the necessary paint shop equipment to promote a defect free paint finish
- Outline the new products available and highlight existing products
- Understand the characteristics of the new 7-Series HC Basecoat
- Identify the application variables associated with mixing and spraying New Generation Basecoat
- Demonstrate the correct identification and elimination of basecoat defects using the preferred methods
- Understand color tools and their relation to adjusting the color to match
- Outline and demonstrate the blending procedure with New Generation ColorSystem basecoat

### **Content:**

- Introduction to New Generation ColorSystem
  - Benefits to Shop
  - Benefits to Technician
  - Updates on Ordering / Shipping
  - New Manual Overview (highlight of new content)
- Paint Shop Equipment Requirements & Recommendations
  - Personal Safety Items
  - Spray Booth Function & Maintenance
  - Air Blowers for Waterborne Application
  - Paint Mixing Equipment
  - Color Tools
  - Cleaning & Tacking
  - Spray Guns
  - Additional Paint Shop Items
- ColorSystem Product Overview
  - Pre-treatment Products & Cleaners
  - Corrosion Protection



- Primers Fillers
- Sealers & Adhesion Promoters
- Plastic Primers, Sealers, & Adhesion Promoters
- Hardeners, Thinners, & Other Additives
- Clearcoat
- HC Basecoat 7-Series
  - Mixing Equipment & Toners
  - Shelf Life
  - Basecoat Additives
  - Drying Characteristics and Influences
- Surface Prep & Application Variables
  - Mix Ratios & Regulators
  - Panel Preparation for Basecoat Application
  - Spray Gun Review
  - Panel Application Details
  - Dry Times
  - Metallic Alignment
- Basecoat Defect Identification and Elimination
  - Identification
  - Elimination
- Color Adjustment & Color Tools
  - Basic Color Theory
  - Basic Tinting
  - Camera Systems - Acquire FX
- Blending Operations
  - Blend Processes
  - Blend Support Products
  - Prep of Blend Panel
  - Blending Operation



## **SB001D - ColorSystem Frozen Finish (Matt Clear) Training**

### **Description:**

This course will cover proper repair processes and application of exterior matt clear finishes.

**Prerequisites:** SB002B - New Generation ColorSystem Product Training **or** SB003B - New Generation ColorSystem Product Training

**Target Audience:** Body Shop Painters and Apprentice Painters

**Course Length:** 3-days

### **Learning Objectives:**

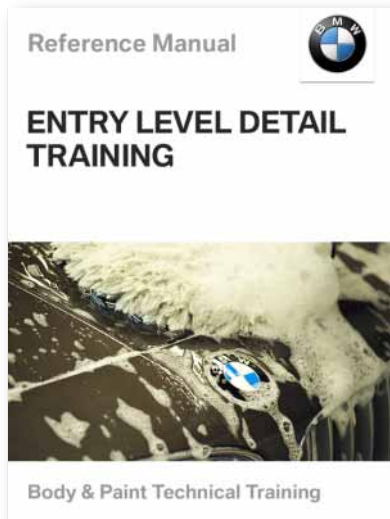
After the completion of this course, the participant will be able to:

- Outline the unique characteristics of an OEM Frozen Finish.
- Demonstrate the complete refinishing process for Frozen Finishes.
- Identify the proper care and maintenance required for Frozen Finish.

### **Content:**

- Introduction to BMW Frozen Finish
  - Features
  - Color Portfolio
  - Overview of Frozen Finish Products
- Refinishing Process
  - Surface Preparation
  - Mixing Basecoat and Frozen Clear
  - Matching Color & Matt / Gloss Level
  - Frozen Clear Application
- General Care & Maintenance
  - Washing & Waxing
  - Surface Contaminants & Available Care Products

# DETAIL TRAINING



## SB006 - Entry Level Detail Training

### Description:

Entry-Level Detailing is for Entry level detailers and recondition technicians of new/used vehicles.

**Prerequisites:** None

**Target Audience:** Detailers & Polishers

**Course Length:** 1-day

### Learning Objectives:

After the completion of this course, the participant will be able to:

- Identify and utilize proper personal and shop safety equipment.
- Identify procedures, precautions, and protection of various vehicle components.
- Use a systematic and time effective approach to prepare a vehicle for detailing.
- Understand, identify, and safely use detailing materials and chemicals.
- Effectively use equipment and tools for the detailing process.
- Prepare and clean interior and exterior areas of a vehicle.
- Understand the various buffing machines, buffing products and their capabilities.
- Perform a final detail quality control inspections on critical areas.

### Content:

- Introduction
- Safety
- Vehicle Preparation
  - Tools, Equipment & Chemicals
- Interior Preparation & Cleaning
  - Vacuum and Steam Systems
  - Leather Cleaning & Conditioning
- Buffing, Polishing, & Waxing
  - Use of Clay, Buffers, and Polishing Products
- Final Detailing & Inspection



## SB006A - Advanced Level Detail Training

### Description:

This two day course has been designed for detail and recondition technicians of new /used vehicles.

**Prerequisites:** SB006 - Entry Level Detail Training

**Target Audience:** Detailers & Polishers

**Course Length:** 2-days

### Learning Objectives:

After the completion of this course, the participant will be able to:

- Identify and understand factory and refinish paint technology
- Pinpoint various paint surface issues / defects and perform repairs
- Utilize a rotary buffer and buffing products to repair surface conditions
- Use an electronic gage to measure paint coating thickness
- Select materials and perform wet sanding to correct surface defects
- Perform headlight lens reconditioning using proper tools and equipment

### Content:

- Safety
- Paint Technology
  - Stages of paint application, materials, and their functions
- Paint Surface Conditions
  - Identify paint surface issues, severity, and corrective repair options
  - Identify and correct problems such as; chemical etching, industrial fallout, water spots, tree sap,etc.
- Wet Sanding
  - Removing minor surface defects by wet sanding.
  - Proper diagnosis, measuring, sanding techniques, and buffing of clear coats
  - Measuring paint with an electronic gage to determine thickness prior to and after sanding
- Advanced High-Speed Buffing
  - Understand the difference between rotary and orbital buffing
  - Practice the safe use of a rotary buffer, proper techniques, and choice of buffing pads
- Headlight Lens Reconditioning
  - Recondition and restore clarity to oxidized headlight lens

# NON TECHNICAL TRAINING



## **SB025 - BMW Online Resources for Collision Repair**

### **Description:**

This course will cover the use and application of BMW online resources such as ISTA, DCSNet, ICP, WebEPC, and CenterNet. Participants will utilize a PC to navigate the various BMW support applications to find technical information, identify BMW models, and service part availability.

**Prerequisites:** OL2042 - BMW History and Heritage

**Target Audience:** Body Shop Estimators

**Course Length:** 2-days

### **Learning Objectives:**

After the completion of this course the participant will be able to:

- Describe how BMW technical, vehicle, and customer information is organized, where it resides, and how it is accessed
- Research vehicle Service History including both completed warranty repairs and any open warranty claims, recall notices, and BMW campaign status as well as determining the warranty coverage that is still in effect
- Identify vehicle features including any standard and optional equipment installed at time of manufacture
- Understand the meaning of basic BMW abbreviations or acronyms and where to find the definitions for commonly used terms related to vehicle service and parts
- Develop a logical procedure to identify the vehicle and determine any key service requirements
- Know how to find information such as part numbers, parts diagrams, and parts prices for any service parts that may be required

### **Content:**

- Introduction
  - Online Resources - Developing a Repair Plan
  - CenterNet
  - Vehicle Information and Identification
  - BMW Group Classification
  - DCSnet
- Repair Details
  - WebKSD
  - WebISTA
- The Parts
  - WebEPC
  - DCSnet Parts Availability
- The BMW Associate
  - TMSi
  - Viewing the Training Transcript



## **SB017 - Collision Advisor Training**

### **Description:**

This program is designed to help the client advisor or estimator become more familiar with the repair procedures specified by BMW that should be utilized when performing body and paint service.

**Prerequisites:** SB025 - Online Resources for Collision Repair

**Target Audience:** Estimators / Collision Advisors

**Course Length:** 2-days

### **Learning Objectives:**

After the completion of this course the participant will be able to:

- Perform a thorough damage assessment on all BMW cars and SAVs, and be able develop a repair plan that minimizes vehicle down time and decreases the overall repair cycle time.
- Assure that the vehicle's function, appearance, safety, and durability will be restored and meet BMW specifications.
- Compile the necessary technical documentation preceding every vehicle diagnosis using BMW online resources.
- Recognize the added value of adequate research before engaging in any diagnostic process.
- Identify customer wants and needs to help assure customer satisfaction and continued brand loyalty.

### **Content:**

- The BMW Brand and its Clients
- Vehicle Lineup and Construction Features
  - Materials Science
  - Construction Features
  - General Vehicle Electronics
  - Replacement Parts Standards
- BMW Resources and Repair Standards
  - Developing a Repair Plan
  - BMW Position Statements
  - BMW Policy, Procedures, and Repair Standards
  - Structural Repair Guidelines (Steel & Aluminum)
  - Steering & Suspension
- Client and Insurance Interaction
  - Initial Client Contact
  - BMW Premium Aftersales Strategy
  - Explaining the Repairs
  - Selling the Repairs
  - Scheduling the Work
  - Work Authorizations
  - Interactions with Insurance Personnel



## **SB017B - Estimator Training for Small and Medium Outer Panel Repair**

### **Description:**

Increase participant's knowledge of small and medium outer panel damage repair solutions to assist in the creation of thorough damage reports or repair plans that comply with BMW repair guidelines. This will improve cycle time and enhance customer satisfaction and retention.

**Prerequisites:** None

**Target Audience:** Body Shop Managers & Estimators

**Course Length:** 1-day

### **Learning Objectives:**

After the completion of this course the participant will be able to:

- Explain the effects and advantages of correctly repairing small damages to outer panels.
- Recognize different types of small damage and their characteristics in order to determine the difficulty, repair method, and time needed.
- Use light and contrast to accurately visualize the damage.
- Anticipate and understand various factors that can influence repair and select the best tool and/or repair system based on the type of damage and location.
- Understand the different steps during small damage repair.
- Outline the factors that contribute to a positive practice environment and understand the importance of adhering to the technician development plan.
- Outline what should be considered before and after repair.
- Produce an accurate repair plan and identify the appropriate steps to ensure high quality efficient repair process.
- Outline what should be considered before and after repair.
- Outline the additional considerations and tips during repair such as tool dynamics, bridge application, bit application and pulling methods, and the different welder settings and modes.
- Identify the necessary safety equipment and BMW repair guidelines in regards to aluminum outer panel repair.
- Explain the processes used to repair small & medium damage on aluminum outer panels.
- Explain the correct finishing processes and corrosion protection measures that should be taken after repair of steel or aluminum outer panels.

### **Content:**

- Introduction to Small Damage Repair
  - Common Expectations and Desires
  - Choosing the Right Repair Method
  - Opportunities for the Collision Center
- Recognizing Dents
  - Types of Dents
  - Depth

**Continued on next page...**

Shape or Form

- Lighting
  - What is Light? (general contrast)
  - Reflection
  - Types of Light Stands
  - Positioning
- External Factors
  - Repair Zones on the Outer Body
  - Access Areas
  - Material Type
- Small Damage Repair
  - Dent Repair Steps
  - Repairing a Crease or Line, Larger Dents, and Dents Over Edges
  - Glue System Components
  - Glue System Repair Process
- Overview of Technician Continued Skill Development
  - Positive Practice Environment & Maintaining Fundamentals
  - Technician Skill Development Program
- Final Finishing Touches to Small Damage Repair
  - Surface Correction
  - Vehicle Protection
  - Hail Damage Dent Counting Methods
- Medium Outer Panel Repair Philosophy
  - Repair Options
  - Pros and Cons to Repair and Replace
  - Opportunities to Increase Productivity
- Repair Plan and Repair Process
  - Damage Identification
  - BMW Repair Standards (Steel Outer Panels)
  - Damage Analysis
  - Preparation and Vehicle Protection
  - Planning for Removal of Coatings
  - Repair Process Demonstration
- Additional Considerations for Damage Repair (Steel)
  - Tool Dynamics
  - Bridge Application
  - Bit Applications and Pulling Methods
  - Spot Welder Use
- Aluminum Outer Panel Repair
  - Safety Equipment
  - BMW Repair Standards (Aluminum Outer Panels)
- Small & Medium Damage Repair (Aluminum)
  - Small Damage Repair Tools and Process
  - Medium Damage Repair Tools and Repair Process
- Finishing Work and Corrosion Protection





## **SB024 - Collision Center Human Resource Management**

### **Description:**

This course will provide participants with understanding of how to grow a successful collision center team in a positive working environment.

**Prerequisites:** None

**Target Audience:** Body Shop Managers

**Course Length:** 2-days

### **Learning Objectives:**

After the completion of this course the participant will be able to:

- Improve the effectiveness of recruiting and hiring decisions
- Identify, understand, and utilize effective interviewing tactics
- Understand and be able to implement employee coaching techniques
- Recognize the importance of creating a positive workplace environment
- Develop effective compensation plans
- Have a better understanding of key Human Resource compliance issues

### **Content:**

- Introduction
  - Industry Statistics
- Recruiting, Hiring, and Developing Staff
  - Hiring Qualified Personnel
  - Turnover
  - Job Descriptions & The Hiring Process
  - Recruiting
  - BMW STEP Program
  - Employee Development and Coaching
- Creating the Best Work Environment
- Compensation Plans
  - The Goals of a Compensation Plan
  - Managing Expenses
  - Salary and Incentive Pay
- Legal Awareness



## SB023 - Collision Advisor Sales Negotiation

### Description:

This interactive course uses realistic case studies and real world problem solving to provide participants with sales and negotiations strategies. These strategies will help them present the complete damage repair to the customer as learned while attending SB017.

**Prerequisites:** SB017 - Collision Advisor Training

**Target Audience:** Estimators / Collision Advisors

**Course Length:** 2-days

### Learning Objectives:

After the completion of this course the participant will be able to:

- Identify and define customer handling procedures that are designed to achieve the highest levels of Customer Satisfaction
- Assure that all customer wants, needs, and expectations have been identified and that all identified wants and needs have been completely and thoroughly addressed
- Utilize a professional selling process that maximizes sales, productivity, profitability and customer retention, while providing best-in-class customer service
- Effectively sell body, paint, and other appearance services while answering customer inquiries and addressing customer concerns
- Utilize all relevant BMW online resources

### Content:

- The Role of the BMW Collision Advisor
  - Estimating and Selling Skills
  - The High Cost of Customer Defections
  - Closing Ratio
  - The Importance of Outstanding Customer Service
  - The Important Role of the Advisor
- Customer Service
  - Understanding Customer Satisfaction
  - What Customers Expect
  - Identifying Customer Expectations
  - Active Listening
  - Influencing Customer Expectations
  - Customer Satisfaction Measurement Basics
  - Influencing and Impacting Perception

- Effective Customer Handling Procedures
- Communication Tools
  - Telephone and Electronic Communication
- The Initial Consultation
  - The Initial Greeting
  - Personal Appearance
  - Workstations and Workplace Conditions
  - Personal Work Areas
  - Customer Accommodations
  - The Building Interior
  - Greeting the Customer
  - Determine Customer Needs
  - Customer Information Form
  - Identifying Customer Wants, Needs, and Expectations
  - Using Features and Benefits
  - Sales Support Materials
  - Credibility
- Closing the Sale
  - Getting the Customer's Commitment
  - Timing
  - Trial Close
  - Examples of Trial Close Questions
  - Handling Objections
  - Identifying Real Objections
  - When the Customer Says "Yes"
  - Asking for a Deposit
- The Repair Appointment and Vehicle Reception
  - Receiving the Vehicle
  - Customer Review Items
  - Collision Center Support Documents
- The Active Delivery
- Negotiation
  - Criteria for Effective Negotiation
  - Positional Bargaining
  - Soft Negotiating
  - The Alternative - Principled Negotiation
  - Best Alternative (BATNA)
  - Strategies When Negotiations Fail



## **SB052 - Promoting BMW Collision Repairs**

### **Description:**

This course will provide participants with the basics for promoting collision services at their centers.

**Prerequisites:** None

**Target Audience:** Body Shop Managers

**Course Length:** 2-days

### **Learning Objectives:**

After the completion of this course the participant will be able to:

- Identify and utilize BMW NA marketing resources
- Understand and effectively utilize social media outlets
- Identify the available BMW Asset Portal applications
- Assess and upgrade their Center's body and paint marketing program
- Discuss the benefits of the Insurance Partnership Program

### **Content:**

- BMW Resources
  - ASAP Portal
  - Marketing tools
  - Aftersales Support
- What Can The BMW Center Do
  - Do ITT Tool
  - Promotional Programs
  - Social Media
  - Brand Awareness
- Insurance Partnership Program (IPP)
  - Program Requirements
  - Program Benefits



## SB053 - Assistance Systems for Collision Repair

### Description:

This course will provide participants with a fundamental understanding of driver's assistance systems.

**Prerequisites:** None

**Target Audience:** Estimators / Collision Advisors

**Course Length:** 2-days

### Learning Objectives:

After the completion of this course the participant will be able to:

- Become familiar with the evolution of driver assistance systems and the role these systems will play in autonomous driving.
- Identify & understand the various sensor types utilized within BMW driver assistance systems.
- Determine the standard and optional driver assistance systems and packages unique to a vehicle's configuration
- Identify & outline the components, operating principles, and parameters necessary for the intended function.
- Perform a vehicle assessment to identify any driver assistance systems service requirements following a collision to ensure system readiness.

### Content:

Introduction

Autonomy Levels

Sensors

Sensor Groups

BMW Types

Locations

Limitations

Identification

Vehicle ID & what the vehicle has equipped

Where to find the info on the system (resources)

Option Package contents (what is included by option codes)

Systems

PDC

Camera Systems

DAS after the accident / Post Collision System Assessment & Inspection

Initial Inspection

Verification

# WEB BASED TRAINING

## **OL2042 - BMW History and Heritage**

In this course, we will look at the history of BMW and how you fit into our continued success.

Prerequisites: None

Units: 1

## **OL17-5021 - Intro to BMW Identification Systems and Driving Technology**

Are you challenged understanding the various BMW Group identification and numbering systems, or how various BMW driving technology features work? If so, this is the course for you.

The Identification Systems section uncovers most of BMW's mysterious codes, abbreviations and acronyms that we be referenced during your career with BMW.

Features & Technology explains how BMW defined the performance luxury vehicle market segment and continues to set the benchmark for automotive technology in our quest to remain "The Ultimate Driving Machine." Design features such as EfficientDynamics, ConnectedDrive and the various Driver Assistance Systems features are also presented. From there, the course moves on to present many of BMW's ground-breaking technologies in drivetrain, chassis and suspension, and body electronics.

Prerequisites: None

Units: 1

## **OL5501 - Fundamentals of Aluminum**

Communication of theoretical knowledge in connection with the material aluminum Introduction Manufacture Design Material properties Occupational safety Material processing. Course Length: 40 mins

Prerequisites: OT5501- Knowledge Status Check Preparation -  
Fundamentals of Aluminum

Units: 1

## **OL5502 - Fundamentals of Carbon**

Communication of theoretical knowledge in connection with the material carbon Introduction Manufacture Design Material properties Occupational safety Material processing. Course Length: 40 mins

Prerequisites: OT5502 - Knowledge Status Check Preparation -  
Fundamentals of Carbon

Units: 1

### **OL5503 - GRAV Repair**

This course is intended for collision repair technicians. This online training course will cover special handling characteristics light weight aluminum front section (GRAV) found on the E60, E61, E63 and E64. The video also focuses on repair precautions and specific procedures for the GRAV such as; cutting, cleaning, prep process, adhesive application and riveting. This course in conjunction with the instructor led training “SB028 – Fundamentals of Aluminum” is equivalent to the instructor led training SB011- GRAV Repair, which is no longer offered. Course Length: 1 hour 15 minutes

Prerequisites: OT5501 - Knowledge Status Check Preparation -  
Fundamentals of Aluminum  
OL5501 - Fundamentals of Aluminum

Units: 1.25

### **OL5504 - Punching Tool Set for Bumper PDC, PMA, & SVC**

The number of variants for replacement bumper covers will be reduced for several models. From mid 2013 on, only replacement bumpers without pre-punched holes for Park Distance Control (PDC), Parking Maneuvering Assistant (PMA) and Side View Camera (SVC) will be available. These holes will need to be punched by the technician. This video complements the repair instructions and provides an overview of the proper use of the newly developed multi-part punch tool. This video should also answer common questions from the workshop. Course Length: 10 minutes

Prerequisites: None

Units: 1

### **OL5505- Body Repair Level 1**

Disassembly and installation work on screwed and clipped outer skin components and their repair, taking into consideration the assistance and safety systems, as well as the vehicle glazing.

Prerequisites: None

Units: 1

### **OL5506- Fundamentals of Steel**

Communication of theoretical knowledge in connection with the material steel; Introduction, Manufacture, Design, Material properties , Occupational safety, and Material processing.

Prerequisites: None

Units: 1

### **OL5507- Convertible Top Technology**

The fundamental connections of the BMW convertible tops are explained in this course. We will cover body types, soft tops verse hardtops, their components and their actuator technologies.

Prerequisites: None

Units: 1

### **OL5508- F33 Retractable Hard Top Tips**

This web based training will show you some important tips for when performing removal and installation of the Retractable Hard Top on the F33.

Prerequisites: None

Units: 1

### **OL5509 - I12/I15 Front Drive Module**

This web based training will show you some important tips for when performing removal and installation of the front drive module of the i8 Coupe and i8 Roadster.

Prerequisites: None

Units: 1

### **OL5510 - Bonding & Riveting techniques**

Upon completion of this course, the student will have increased knowledge about the new body work repair method for adhesive bonding.

Prerequisites: None

Units: 1

### **OL1403A - I01 Product Introduction**

This web course is the introduction of the new BMW i3 (I01). It is an overview of the BMW i3 systems, functions and components. This WBT complements the information found in the ST1403 I01 Complete Vehicle (BMW i3 Introduction) training material.

Prerequisites: None

Units: 1

### **OL1403B - I01 Body Level 1**

This web course describes the Body Repair Level 1 procedures for the new BMW i3 (I01). It is an overview of the replacement of parts of the body outer panels and their reconditioning, the replacement of fixing rails and the replacement of bolted on body components. This WBT complements the information found in the ST1403 I01 Complete Vehicle (BMW i3 Body Repair Level 1) training material.

Prerequisites: None

Units: 1



### **OL1408A - I12 Introduction**

This web course is the introduction of the new BMW i8 (I12). It is an overview of the BMW i8 systems, functions and components. This WBT complements the information found in the ST1408 I12 Complete Vehicle (BMW i8 Introduction) training material.

Prerequisites:       None

Units:                1

### **OL1408H - I12 Body Repair Level 1**

This web course describes the Body Repair Level 1 procedures for the new BMW i8 (I12). It is an overview of the replacement of parts of the body outer panels and their reconditioning. This WBT complements the information found in the ST1408 I12 Complete Vehicle training material.

Prerequisites:       None

Units:                1

### **OL1501A - G12 Body Introduction**

The participant gets to know the highlights of the G11/G12 interior and exterior; Introduction, Bodyshell, Body Repair Level 1, and Interior equipment.

Prerequisites:       None

Units:                1

### **OL1607A - G12 PHEV High Voltage Components**

G12PHEV High-voltage Components Online Training Course introduces the G12 PHEV and describes the high voltage components of the G12 Plug in hybrid electric vehicle in detail. This WBT and covers the internal structure, the operation and special functions of the high voltage components.

Prerequisites:       None

Units:                1

### **OL1604A - G30 Body**

The participant gets to know the highlights of the G30 interior and exterior; Introduction, Bodyshell, Body Repair Level 1, and Interior equipment.

Prerequisites:       None

Units:                1

## **OL17 - ST1710 - Fundamentals of High Voltage Technology**

In this training video, you will learn about the basic structure, functionality and handling of hybrid electric vehicles. You will also get an overview on safety measures associated with performing work on Hybrid Vehicles.

Prerequisites: None

Units: 1

## **VO325 - Glass Repair and Replacement**

This online course is intended for workshop personnel that have contact with customers or insurance companies. Glass repair and replacement represents an opportunity to increase sales in your center and collision repair facility. Glass repair and replacement is just one more way we offer our customers a One-Stop Shop Solution. You MUST take the assessment at the end of this course in order to receive credit. Course Length 30 minutes

Prerequisites: None

Units: 1

## **UO110 - Managing Time the Easy Way**

This course discusses the topic of time management as applied in BMW center operations, and explains how efficient time management practices improve the quality of work in center operations and reduces frustration and stress. Included are techniques to create a realistic priority list and ways to handle “fires” as efficiently as possible. Course Length: 30 minutes

Prerequisites: None

Units: 1

## **VO720 - Identifying E93 Convertible Water Leaks**

VO720 video on demand demonstrates the correct process to identify and resolve convertible water leaks and identifies the resolution process.

Prerequisites: None

Units: 1

## **WB618 - Fundamentals of Air Conditioning**

This web based training course offers information on the basic principles of vehicle air conditioning systems. The course is approximately 2 hours in duration.

Prerequisites: None

Units: 1

## **Other Recommended Training Offerings**

Other recommended training offerings can be found within the TMSi website.

Required Body & Paint technical training criteria are subject to change and will be updated on an as-needed basis to support changes in BMW products as well as the national and global body & paint market.