

Issued: September 29, 2017

**Program: Motor Vehicle Body Repairer (Metal and Paint)
(Automotive Collision Repair Technician)**

To: ITA Training Providers
Articulation Chair
System Liaison Person
School Districts

Subject: Motor Vehicle Body Repairer (Metal and Paint) (Automotive Collision Repair Technician) Program Update

OPSN No.: OPSN 2017 016

Effective Date: April 1, 2018

Summary of Change: Please be advised that a new Program Outline has been posted to the Industry Training Authority (ITA) [website](#).

Details: Beginning in 2018, the MVBR program will undergo a review and update as part of the national Harmonization Initiative. In BC, the Harmonized MVBR program will be **implemented in 2020**.

Prior to this Harmonization work, industry requested a review of the Program Outline to align the BC standard to the 2014 National Occupational Analysis (NOA) and to current industry practices. This program review was conducted in August 2017.

In anticipation of the upcoming Harmonization project, it was determined that the August 2017 review would be limited to:

- Review and revise the BC Automotive Collision Program Outline to align it with the Red Seal National Occupational Analysis (NOA) 2014
- Remove outdated content and replace with current content
- Revise the Suggested Time Allocations
- Review the Assessment Guidelines, including adding Achievement Criteria for some practical tasks

The following was out of scope for the August 2017 review, but will be evaluated during Harmonization:

- BC's Occupational Analysis Chart (OAC)
- Sequencing of training topics (i.e. the level a topic is covered in)
- Training duration (i.e. the number of hours per level)

Please see the chart below and the revised Program Outline (available on the [website](#)) for details of the changes.

More information on the Harmonization Initiative can be found [here](#).

For more information contact: Kathryn Rockwell
Program Development Officer
krockwell@itabc.ca

cc: All Staff



Automotive Collision Repair Technician (MVBR) Program Outline Review Details

Key

- Blue Text = Moved
- Green Text = New
- Red Text = Removed
- LT = Learning Task

Details of Changes

Section	Previous (2013)	Revised (2017)	Notes
Front pages	Based on NOA 2010	Based on NOA 2014	
Credentialing Model			No change
Occupational Analysis Chart			No change
Training Topics and Suggested Time Allocations			
Level 1 – Line C Oxyacetylene Procedures	4%	8%	Time moved from Line G
Level 1 – Line G Surface Preparation	16%	12%	Time moved to Line C
Level 2 – Line D Welding	8%	12%	Time moved from Line F
Level 2 – Line F Plastics and Composites	8%	4%	Time moved to Line D
Level 3			No change
Program Content – Level 1			
A1 Describe safe work practices		LT1 Identify hazards	New learning task
	LT1 Describe personal safety cautions and procedures	LT2 Describe personal safety cautions and procedures	PPE removed from content because it is covered in A5
	LT6 Describe hybrid safety	LT7 Describe hybrid and electric vehicle safety	New content
A3 Describe waste product handling		<ul style="list-style-type: none"> • Municipal/regional regulations • Vehicle fluids 	Added to content
A4 Describe WHMIS	Material Safety Data Sheets (MSDS)	Safety Data Sheets (SDS)	Terminology updated

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Section	Previous (2013)	Revised (2017)	Notes
	LT1 content <ul style="list-style-type: none"> • Hazardous Materials Information Review Act • Hazardous Materials Information Review Regulations 		Removed from content
	LT7 WHMIS symbols 1988	WHMIS Symbols 2015	Symbol list updated
		Added to content for LT8 <ul style="list-style-type: none"> • Paints • Isocyanates 	Added to content
A5 Describe PPE	LT5 Describe the required personal skills to reduce workplace hazards		Moved to A1
	LT6 Describe workplace safety and health regulations		Removed because this is covered in A6
A6 Describe WCB Standards and Regulations	LT1-5		Removed
		LT1 Describe rights and responsibilities LT2 Describe reporting of accidents LT3 Describe the main elements of WorkSafe LT4 Describe the workplace hazards identified by Worksafe	New LTs to replace previous
B3 Identify various fasteners		LT3 Remove and re-install reusable trim	New LT
B4 Describe organizational skills	LT2 Describe the use of manufacturers' specification and repair procedures	LT2 Describe the use of Original Equipment Manufactrueres' (OEM) specification and repair procedures	OEM added to name of LT and content revised



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Section	Previous (2013)	Revised (2017)	Notes
	LT3 Describe the process to prepare work area	Added to content for LT1 <ul style="list-style-type: none"> • Work area preparation <ul style="list-style-type: none"> ○ Tool selection and layout ○ Housekeeping 	LT removed and added as content bullet under LT1
	LT4 Identify the skills required to provide a safe work environment		LT removed because this topic is covered in Line A
		Achievement Criteria The learner will access and interpret OEM specifications and repair procedures.	New Achievement Criteria for B4
C2 Perform oxyacetylene procedures		Achievement Criteria The learner will perform oxyacetylene set up, cutting, heating and shut down.	New Achievement Criteria for C2
D3 Perform various MIG welds on sheet steel		Achievement Criteria The learner will perform a butt weld, a lap weld, and a plug weld.	New Achievement Criteria for D3
D4 Describe plasma arc cutting		Achievement Criteria The learner will perform a cut on 22 or 20 gauge steel.	New Achievement Criteria for D4
E1 Describe the characteristics of advanced and ultra-high strength steels		Added to content for LT3 <ul style="list-style-type: none"> • Yield strength • Tensile strength • Spring-back 	New content
E4 Describe minor sheet metal damage repair	LT3 Describe roughing procedures		Removed
		LT5 Demonstrate repair procedures	LT added
		Achievement Criteria The learner will repair minor sheet metal damage.	New Achievement Criteria for E4



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Section	Previous (2013)	Revised (2017)	Notes
F3 Demonstrate plastic repair techniques		<p style="color: green;">Achievement Criteria</p> <p style="color: green;">The learner will perform plastic repairs, including</p> <ul style="list-style-type: none"> <li style="color: green;">• Welded <li style="color: green;">• Adhesive 	New Achievement Criteria for F3
G3 Identify various spray booths		<p>Added to content for LT2</p> <ul style="list-style-type: none"> <li style="color: green;">• Magnehelic 	New content
G4 Demonstrate preparation for application of undercoats	LT2 Identify vehicle topcoat.		LT2 removed and added as content under LT1
	<p>Content removed from LT4 (3)</p> <ul style="list-style-type: none"> <li style="color: red;">• Trim removal <li style="color: red;">• Masking materials <li style="color: red;">• Masking techniques <li style="color: red;">• Masking removal <li style="color: red;">• Polishing compounds 		Removed
	<p>Content removed from LT5 (6)</p> <ul style="list-style-type: none"> <li style="color: red;">• Stripping materials 		Removed
	<p>Content removed from LT6</p> <ul style="list-style-type: none"> <li style="color: red;">• Orbital <li style="color: red;">• Random orbital <li style="color: red;">• Straight line 		Removed
	<p>Content removed from LT7(8)</p> <ul style="list-style-type: none"> <li style="color: red;">• Grinding <li style="color: red;">• Desired sanding outcomes 		Removed
G5 Demonstrate the application of undercoats/ primers		<p style="color: blue;">LTs and content</p> <p style="color: green;">restructured</p> <p style="color: green;">Technical Data Sheets (TDS) added</p>	
G6 Identify corrosion protection techniques	<p>Content removed from LT1</p> <ul style="list-style-type: none"> <li style="color: red;">• Conversion coating 		Removed
		<p>Content added to LT2</p> <ul style="list-style-type: none"> <li style="color: green;">• Hot spots 	New content

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Section	Previous (2013)	Revised (2017)	Notes
	Content removed from LT3 <ul style="list-style-type: none"> • Galvanizing compound when welding • Epoxy or self-etch primers • Light, medium, or heavy-bodied joint and seam sealers • Anti-corrosion compounds 	Content added to LT3 <ul style="list-style-type: none"> • Material and equipment selection • Application techniques • Quality control 	Content was redundant; already covered in LT1
H1 Identify auto body construction types	Content removed from LT1 <ul style="list-style-type: none"> • Unitized body (early) • Unitized stub frame 	Content added to LT1 <ul style="list-style-type: none"> • Space 	Content updated
H2 Describe panel alignment methods	Content removed from LT1 <ul style="list-style-type: none"> • Customer satisfaction 	Content added to LT1 <ul style="list-style-type: none"> • OEM and after-market parts 	
	LT2, LT3, LT4 combined and restructured into one LT	LT2 Perform panel alignment	Some content was redundant
		Achievement Criteria The learner will perform a panel alignment.	Achievement Criteria added to H2
H3 Describe body component servicing procedures	LT3 Describe the front end sheet metal components	Content added to LT3 <ul style="list-style-type: none"> • Rear end <ul style="list-style-type: none"> ○ Trunk ○ Hatch ○ Box ○ Tail gate 	“front end” removed Content added
	LT5 Describe the removal and installation of interior components	Content added to L4 <ul style="list-style-type: none"> • Removal • Installation 	LT5 removed and added as content in LT4
H5 Describe automotive laminated glass		LT2 Describe the removal and installation of laminated, structural glass	New LT
H6 Service non-structural glass	LT2 Describe removal and replacement procedures for an adhesive mounted fixed glass	LT2 Remove and replace non-bonded glass	LT Changed from theory to practical
		Achievement Criteria The learner will remove and replace non-bonded glass	Achievement Criteria added to H6



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Section	Previous (2013)	Revised (2017)	Notes
Program Content – Level 2			
D7 Perform various aluminum MIG welds		Achievement Criteria The learner will perform a lap weld and a plug weld.	Achievement Criteria added to D7
E5 Describe productive organizational skills	LT2 Describe the use of manufacturers' specifications		LT removed (covered in Level 1, B4 and in context)
E9 Demonstrate sheet metal repair procedures		Achievement Criteria The learner will perform a complex sheet metal repair.	Achievement Criteria added to E9
E10 Describe panel replacement and repair techniques	LT1 Describe damage analysis		LT removed (covered in Level 1, E4)
	LT4 Describe the procedure required to align a panel		Moved into content for LT3
	LT5 Describe the procedure required to apply and shape repair materials.		Moved into content for LT4
	LT6 Describe panel removal and installation procedures.		Moved into content for LT4
		LT4 Install door skin	LT added
		Achievement Criteria The learner will install a partial/simulated door skin (or equivalent).	Achievement Criteria added to E10
F6 Perform fiberglass and SMC repairs	LT1 Describe the methods of repairing different types of damage.		LT removed (covered in F5)
	LT3 Describe the methods for fiberglass and SMC panel replacement.		LT removed (covered in F5)
		Achievement Criteria The learner will perform a two-sided FRP repair.	Achievement Criteria added to F6



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Section	Previous (2013)	Revised (2017)	Notes
I1 Identify seat belt assemblies	LT3 Describe the procedures to remove interior panels and upholstery.		Moved into content for LT2
I4 Describe air conditioning service	LT3 Describe the Ozone Depleting Substance (ODS) regulations.		LT removed
I5 Identify vehicle systems	LT5 Identify the accessory component system and their functions.		LT removed (covered in I6)
I6 Identify electrical/electronic on-board procedures	LT5 Identify the safety precautions to be taken when working around electronic components on the automobile.		LT removed
		Achievement Criteria The learner will repair damaged wire.	Achievement Criteria added to I6
J1 Identify the various structural designs	LT3 Describe unitized-stub design.		LT removed
Program Content – Level 3			
J2 Identify collision theory			The learning tasks in this competency were re-structured and simplified.
J4 Identify measuring theory and gauging equipment		Achievement Criteria The learner will perform tram gauge measurements	Achievement Criteria added to J4
J5 Identify various measuring systems	LT2 Describe a laser measuring system		Moved into content for LT
	LT3 Describe a dedicated measuring system		Moved into content for LT2
J6 Identify unibody anchoring techniques	LT1 Describe the need for damage analysis		LT removed (covered in Level 1, E4)
	LT6 Identify rack anchor system		LT removed (covered in LT3)

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Section	Previous (2013)	Revised (2017)	Notes
	LT7 Identify weight support principles.		LT removed (covered in J4)
	LT7 Identify various measuring gauges		LT removed (covered in J4)
	LT8 Describe X-measurement techniques		LT removed (covered in J4)
	LT9 Describe length conversion techniques		LT removed (covered in J4)
J8 Describe straightening techniques	LT8 Describe rack pullers		LT removed (covered in LT7)
J10 Describe structural panel replacement procedures		<ul style="list-style-type: none"> • ICBC • I-Car 	Content added to LT1 and LT2
	LT3 Describe A and B pillar sectioning techniques		LT removed (covered in LT2)
	LT4 Describe floor pan and trunk floor sectioning techniques		LT removed (covered in LT2)
	LT5 Describe full-body sectioning techniques		LT removed (covered in LT2)
	LT6 Describe required specialty tools		LT removed (covered in A2,J8)
J11 Prepare a structural damage analysis sheet		Achievement Criteria The learner will document damage analysis	Achievement Criteria added to J11
J12 Demonstrate structural repair procedures		Achievement Criteria The learner will perform a structural repair.	Achievement Criteria added to J12
J13 Demonstrate closed box panel structural sectioning techniques		Achievement Criteria The learner will section a closed box, such as <ul style="list-style-type: none"> • Pillar • Rocker • Rail 	Achievement Criteria added to J13



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K1 Identify MacPherson strut	LT2 Describe the relationship between suspension location and body structural positioning		Moved into content for LT1
	LT3 Describe the effects of body misalignment on suspension positioning		Moved into content for LT1
K2 Identify short and long arm suspension systems		<ul style="list-style-type: none"> • Alignment angles <ul style="list-style-type: none"> ○ Poor handling ○ Parts wear 	Content added to LT1
K5 Describe rack and pinion steering systems		<ul style="list-style-type: none"> • Misalignment angles 	Content added to LT2
K6 Describe parallelogram steering systems		<ul style="list-style-type: none"> • Misalignment angles 	Content added to LT2
L1 Interpret estimating information	LT1 Describe the various flat rate times found in an estimating	LT1 Describe estimating terminology	LT replaced
	LT3 Describe the preparation of a damage estimate	LT3 Describe the parts of a damage estimate	LT replaced
	LT5 Describe required communication skills	LT5 Describe shop roles and responsibilities	LT replaced
M1 Identify preparation of various substrates and topcoats		LT1 Describe substrate and topcoat preparations	LT added
	LT1-LT13		Moved into content for LT1 (surface preparation was covered in Level 1, in Line G, and so most of the LTs in M1 were redundant)
M2 Describe mixing and application of primers		LT1 Describe mixing and application of undercoats/primers.	LT added
	LT1-LT3		Moved into content for LT1 (surface preparation was covered in Level 1, in Line G, and so most of the LTs in M1 were redundant)
M3 Describe refinishing corrosion protection methods		LT1 Describe the application of corrosion protection	LT added



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	LT1-LT3		Moved into content for LT1 (surface preparation was covered in Level 1, in Line G, and so most of the LTs in M1 were redundant)
M4 Describe the refinishing process		Achievement Criteria The learner will prepare and apply refinish materials.	Achievement Criteria added to M4
M5 Identify the detailing process	LT4 Describe overspray removal.		Moved into content for LT1
		LT4 Describe pre-delivery inspection	
Assessment Guidelines			
Assessment Guidelines			Moved from Appendices into the Program Content area
Assessment Guidelines – Level 1	C Oxy-Acetylene Welding Theory 8%	C Oxy-Acetylene Welding Theory 6%	Weighting changed
	F Plastics and Composites Theory 12%	F Plastics and Composites Theory 14%	Weighting changed
Assessment Guidelines – Level 2	F Plastics and Composites Theory 12% Practical 10%	F Plastics and Composites Theory 14% Practical 12%	Weighting changed
	I Mechanical Components Theory 14% Practical 7%	I Mechanical Components Theory 12% Practical 5%	Weighting changed
Assessment Guidelines – Level 3	J Structural repair Theory 27% Practical 79%	J Structural repair Theory 25% Practical 75%	Weighting changed
	K Suspension and Steering Theory 16% Practical 13%	K Suspension and Steering Theory 15% Practical 12%	Weighting changed
	L Insurance Estimating Theory 3% Practical 6%	L Insurance Estimating Theory 5% Practical 8%	Weighting changed

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Section	Previous (2013)	Revised (2017)	Notes
	M Refinishing Theory 4% Practical 2%	M Refinishing Theory 5% Practical 5%	Weighting changed
Training Provider Standards			
Shop Area		Ability to enclose a separate aluminum repair area (curtained etc.)	Requirement added
Shop Tools and Equipment – All Levels		<ul style="list-style-type: none"> • MIG welders capable of welding aluminum & Steel (8) • Heat guns (2) • Saturation roller (2) • Die Grinder (4) • Electrical stripper/crimper • Access to 8 up to date computer stations with all applicable software 	Requirements added
Shop Tools and Equipment – Level 1		<ul style="list-style-type: none"> • 220V Dent pulling station (DentFix) (1) • Nitrogen Plastic welder (1) 	Requirements added
Shop Tools and Equipment – Level 2		<ul style="list-style-type: none"> • Pulse welder (1) • Squeeze Type Resistance Spot Welder (1) 	Requirements added
Shop Tools and Equipment – Level 3	ADP estimating system	ICBC/BC private insurance compatible estimating system	Requirement updated
	Vehicle with unitized stub design		Requirement removed



Automotive Collision Repair Technician (MVBR) Program Outline Review Details

Section	Previous (2013)	Revised (2017)	Notes
Reference Materials	<p>Required Reference Materials Auto Body Repair Technology James Duffy 5th Edition</p> <p>Recommended Resources</p> <ul style="list-style-type: none">• None for this program	<p>Required Reference Materials Collision Repair and Refinishing: A foundation course for technicians Alfred Thomas and Michael Jund 3rd Edition ISBN-10: 13059943</p> <p>Recommended Resources www.i-car.ca www.tech-core.com</p>	References changed
Appendices			
Appendix A: Glossary		From NOA (2014)	Glossary added
Appendix B: Practical Assessments		Summary of all the Achievement Criteria	Summary added
Appendix C: Previous Contributors			Previous Contributors added